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DMS-100 Family

# North American DMS-100

## Alarm Clearing and Performance Monitoring Procedures

Volume 2 of 4

LEC0015 and up Standard 14.02 May 2001

NORTEL NETWORKS™

DMS-100 Family

# North American DMS-100

Alarm Clearing and Performance Monitoring Procedures

Volume 2 of 4

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# 1 Procedures to clear an Input/output device alarm

## Introduction

This chapter provides alarm clearing procedures for the input/output device. Input/output device alarms appear under the IOD header of the alarm banner in the MAP. All procedures contain the following sections:

- Alarm display
- Indication
- Meaning
- Result
- Common procedures
- Action

### Alarm display

This section indicates how the MAP terminal displays the alarm.

### Indication

This section indicates the location of the alarm indication, the design of the alarm, the affected subsystem, and the alarm condition.

### Meaning

This section indicates the cause of the alarm.

### Results

This section describes the results of the alarm condition.

### Common procedures

This section lists common procedures used during the alarm clearing procedure. A common procedure is a series of steps repeated within maintenance procedures. The removal and replacement of a card are examples of a common procedure. The common procedures chapter in this NTP contains common procedures.

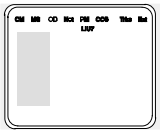
Do not use common procedures unless the step-action procedure directs you.

## Action

This section provides a summary flowchart of the alarm clearing procedure. A detailed step-action procedure follows the flowchart.

# IOD 2MPCOS CSS SPM minor

## Alarm display



```
CM    MS    IOD      Net   PM    CCS   Lns   Trks   Ext   APPL
.     .   2MPCOS.    .                 .     .     .     .     .
.               .    .                 .     .     .     .     .
```

## Indication

At the performance level of the MAP display, a carrier type preceded by a number appears under the IOD header of the alarm banner and a minor alarm indicator appears beneath it.

## Meaning

The DMS-Spectrum Peripheral Module (SPM) alarm system detects a threshold crossing alert (TCA) for the controlled slip seconds (CSS) performance parameter. The alarm system counts the number of DS-1 frames replicated or deleted because of timing differences between the SPM and the received signal. A TCA occurs when the CSS parameter count is greater than 4. The SPM clears the alarm when the parameter count is less than 1.

Log CARR811 relates to the CSS alarm. Table MNHSCARR contains the datafill related to the CSS alarm.

## Impact

Service is not affected. The CSS alarm applies to the DS-1P carrier type.

## Common procedures

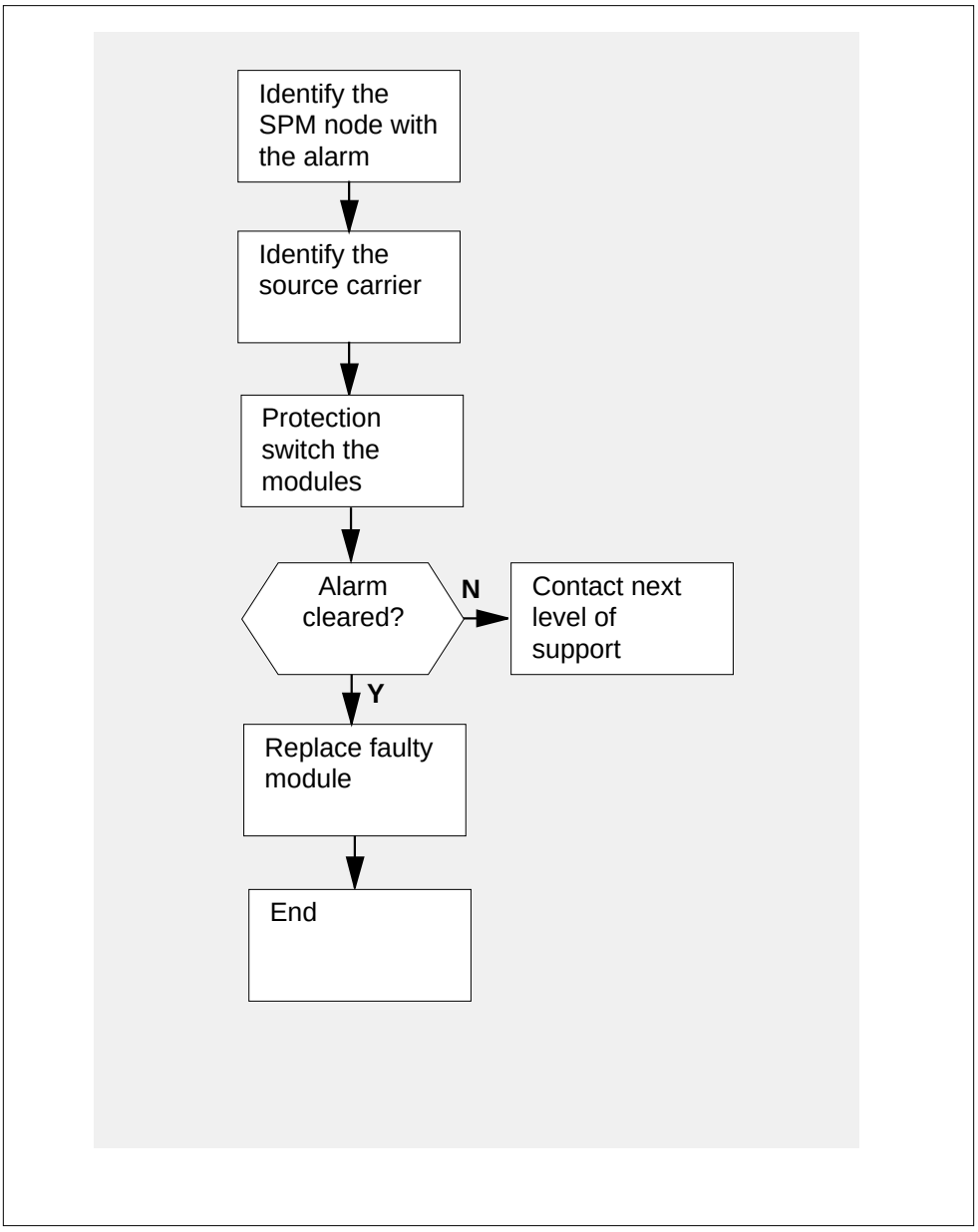
See “Accessing SPM alarms."

## Action

The following flowchart is only a summary of this procedure. Use the instructions in the step-action procedure that follows the flowchart to clear the alarm.

## Summary of clearing a CSS alarm

## IOD 2MPCOS CSS SPM
**minor** (continued)



# IOD 2MPCOS CSS SPM
## **minor** (continued)

### Clearing a CSS alarm

***At the MAP terminal***

**1** Access the carrier level of the MAP screen by typing

**`> MAPCI;MTC;TRKS;CARRIER`**

and pressing the Enter key.

*Example of a MAP screen:*

```
CLASS    ML   OS ALRM  SYSB  MANB UNEQ OFFL  CBSY PBSY  INSV
TRUNKS    1    0   28    28     0    0    0     0    0    50
TIMING    0    0    0     0     0    0    0     0    0     2
HSCARR    0    0    0     1     3    0    1     0    0   180

MTC:
TRKS:
CARRIER:
```

**2** Display all carrier alarms by typing

**`>DISP  ALARM`**

and pressing the Enter key.

*Example of a MAP screen:*

```
PM    NO CKT     PM    NO CKT     PM    NO CKT     PM    NO CKT
DTC    0  13     DTC    0  14     DTC    0  15     DTC    0  18
SPM   20  29     SPM   20  30     SPM   20  31     SPM   20  32


DISPLAYED BY CONDITION : ALARM
DISP:
MORE...
```

**3** Record the SPM number (NO) and circuit (CKT) number combinations.

**4** Post each SPM carrier circuit with an alarm by typing

**`>POST  SPM  spm_no  ckt_no`**

and pressing the Enter key.

*where*

**spm_no**
is the number of the SPM (0 to 63)

**ckt_no**
is the number of the circuit (0 to 181)

# IOD 2MPCOS CSS SPM
## **minor** (continued)

*Example of a MAP screen:*

```
STS1P
N  CLASS  SITE SPM STS1P  DS3P VT15P  DS1P CKT STATE  MA
0  HSCARR HOST  20     2     –     –     –  33 InSv   --


SIZE OF POSTED SET  :  30                    MORE...
```

**5** Access the PM level of the MAP screen by typing

**>MAPCI;MTC;PM**

and pressing the Enter key.

*Example of a MAP screen:*

```
    SysB    ManB    OffL    CBsy    ISTb    InSv
PM   1       1       1       3       2       12
```

**6** Post the SPMs by typing

**>POST SPM spm_no**

and pressing the Enter key.

*where*

**spm_no**
refers to number of the SPM (0 to 63)

*Example of a MAP screen:*

```
          SysB    ManB    OffL    CBsy    ISTb    InSv
  PM        7       2       2       2       9      16
 SPM        0       2       1       0       0       0

SPM   20  InSv  Loc: Site HOST Floor  1 Row A  FrPos 13

Shlf0 SL A Stat  Shlf0 SL A Stat  Shlf1 SL A Stat  Shlf1 SL A Stat
-----  1 – ----  CEM 1  8 I InSv  -----  1 – ----  -----  8 – ----
-----  2 – ----  OC3 0  9 A InSv  -----  2 – ----  -----  9 – ----
DSP 3  3 I InSv  OC3 1 10 I InSv  -----  3 – ----  ----- 10 – ----
-----  4 – ----  ----- 11 – ----  -----  4 – ----  ----- 11 – ----
-----  5 – ----  DSP12 12 A InSv  -----  5 – ----  ----- 12 – ----
-----  6 – ----  DSP13 13 A InSv  -----  6 – ----  ----- 13 – ----
CEM 0  7 A InSv  ----- 14 A InSv  -----  7 – ----  ----- 14 – ----
```

## IOD 2MPCOS CSS SPM
## **minor** (continued)

**7** Select the active OC3 module by typing

**>SELECT OC3 module_no**

and pressing the Enter key.

*where*

**module_no**
is the number of the OC-3 module (0 to 1)

*Example of a MAP screen:*

```
SPM 20    OC3 1      Act  InSv

Loc : Row E  FrPos  8 ShPos 24 ShId 0 Slot 10   Prot Grp : 1
Default Load: SPMLOAD                           Prot Role: Spare
```

**8** Access the protection level of the MAP screen by typing

**>PROT**

and pressing the Enter key.

**9** Do a manual protection switch with a module in the same protection group by typing

**>MANUAL from_unit_no to_unit_no**

and pressing the Enter key.

*where*

**from_unit_no**
is the number (0 to 27) of the module with the alarm

**to_unit_no**
is the number (0 to 27) of the inactive module in the same protection group

*Example of a MAP screen:*

```
SPM 20 OC3 1 Manual: Request has been submitted.
SPM 20 OC3 0 Manual: Command completed.
```

**10** Return to the carrier level of the MAP screen and list the alarms on the carrier by typing

**>LISTALM carrier_no**

and pressing the Enter key.

# IOD 2MPCOS CSS SPM
## **minor** (end)

**11** Determine whether the alarm has cleared.

| If the alarm list shows | Do |
|---|---|
| CSS | step 13 |
| None | step 12 |

**12** Replace the OC3 module. For detailed instructions, see “SPM NTLX71AA OC3 card” in the appropriate *Card Replacement Procedures*. When you complete the card replacement procedure, go to step 14.

**13** For further assistance, contact the personnel responsible for the next level of support.

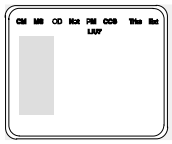
**14** You have completed this procedure. Return to the CI level of the MAP screen by typing

```
>QUIT ALL
```

and pressing the Enter key.

# IOD 2MPCOS CV SPM minor

## Alarm display



| CM | MS | IOD | Net | PM | CCS | Lns | Trks | Ext | APPL |
|---|---|---|---|---|---|---|---|---|---|
| . | . | **2MPCOS**. | . | | . | . | . | . | . |
| . | | **.** | **.** | | **.** | **.** | **.** | **.** | **.** |

## Indication

At the performance level of the MAP display, a carrier preceded by a number appears under the IOD header of the alarm banner and a minor alarm indicator appears beneath it.

## Meaning

The DMS-Spectrum Peripheral Module (SPM) alarm system detects a threshold crossing alert (TCA) for the coding violations (CV) and code violations far end (CVFE) performance parameter. The number of CVs detected has exceeded the daily limit. A TCA occurs when the CVs exceed 4430. The SPM clears the alarm when the CV parameter returns to 1732.

Log CARR811 relates to the CV and CVFE alarms. Table MNHSCARR contains the datafill related to the CV and CVFE alarms.

## Impact

Service is not affected.

The CV alarm applies to the following carrier classes:

- OC3P
- STS-3P
- STS-1P (near- and far-end)
- DS-3P
- VT-1.5P
- DS-1P

## Common procedures

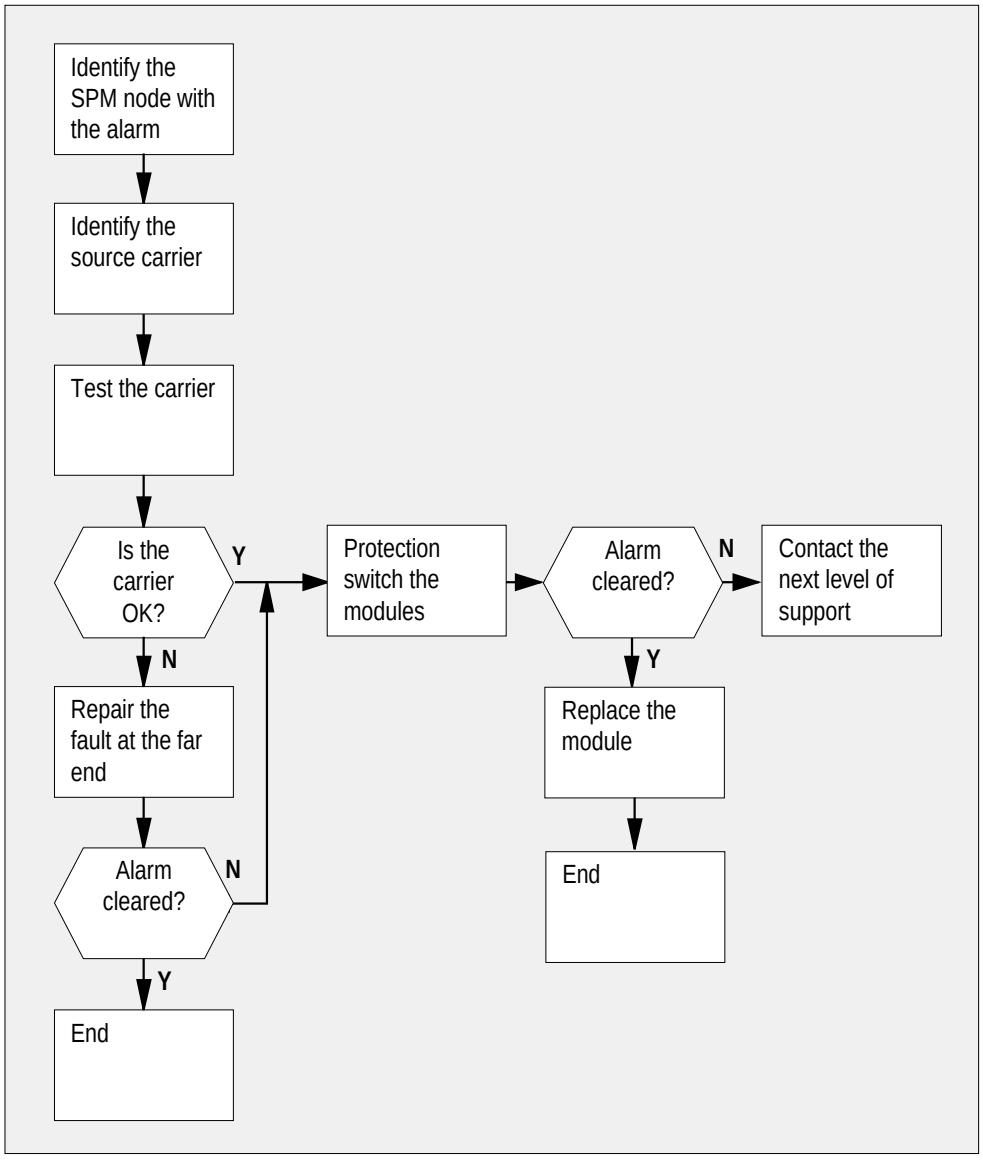
See “Accessing SPM alarms."

## IOD 2MPCOS CV SPM
**minor** (continued)

### Action

The following flowchart is only a summary of this procedure. Use the instructions in the step-action procedure that follows the flowchart to clear the alarm.

### Summary of clearing a CV alarm



# IOD 2MPCOS CV SPM
## **minor** (continued)

### Clearing a CV alarm

***At the MAP terminal***

**1** Access the carrier level of the MAP screen by typing

**`> MAPCI;MTC;TRKS;CARRIER`**

and pressing the Enter key.

*Example of a MAP screen:*

```
CLASS    ML   OS ALRM  SYSB  MANB UNEQ OFFL  CBSY PBSY  INSV
TRUNKS    1    0   28    28     0    0    0     0    0    50
TIMING    0    0    0     0     0    0    0     0    0     2
HSCARR    0    0    0     1     3    0    1     0    0   180

MTC:
TRKS:
CARRIER:
```

**2** Display all carrier alarms by typing

**`>DISP  ALARM`**

and pressing the Enter key.

*Example of a MAP screen:*

```
 PM    NO CKT     PM    NO CKT     PM    NO CKT     PM    NO CKT
 DTC    0  13     DTC    0  14     DTC    0  15     DTC    0  18
 SPM   20  29     SPM   20  30     SPM   20  31     SPM   20  32


 DISPLAYED BY CONDITION : ALARM
 DISP:
 MORE...
```

**3** Record the SPM number (NO) and circuit (CKT) number combinations.

**4** Post each SPM carrier circuit with an alarm by typing

**`>POST  SPM  spm_no  ckt_no`**

and pressing the Enter key.

*where*

# IOD 2MPCOS CV SPM
## **minor** (continued)

**spm_no**
is the number of the SPM (0 to 63)

**ckt_no**
is the number of the circuit (0 to 181)

*Example of a MAP screen:*

```
STS1P
N  CLASS  SITE SPM STS1P  DS3P VT15P  DS1P CKT STATE  MA
0  HSCARR HOST  20     2     –     –     –  33 InSv   --


SIZE OF POSTED SET  :  30                    MORE...
```

**5** Test the carrier by typing

**>TST carrier_no**

and pressing the Enter key.

*where*

**carrier_no**
is the number of the carrier (0 to 4)

**6** Determine whether the carrier signal is valid.

| If the test result shows | Do |
|---|---|
| test passed | step 9 |
| test failed | step 7 |

**7** Troubleshoot the carrier circuit according to your company procedures. When you have completed the procedure, return to this point.

***Note:*** Contact your next level of support if you are not familiar with the procedures required to troubleshoot carrier circuits.

***At the MAP terminal***

**8** List the alarms on the carrier by typing

**>LISTALM carrier_no**

and pressing the Enter key.

*where*

# IOD 2MPCOS CV SPM
## **minor** (continued)

**carrier_no**
is the number of the carrier (0 to 4)

| If the alarm list shows | Do |
|---|---|
| None | step 18 |
| CV | step 9 |

**9** Access the PM level of the MAP screen by typing

**>MAPCI;MTC;PM**

and pressing the Enter key.

*Example of a MAP screen:*

```
     SysB    ManB    OffL    CBsy    ISTb    InSv
PM    1       1       1       3       2      12
```

**10** Post the SPMs by typing

**>POST SPM spm_no**

and pressing the Enter key.

*where*

**spm_no**
refers to number of the SPM (0 to 63)

*Example of a MAP screen:*

```
          SysB    ManB    OffL    CBsy    ISTb    InSv
   PM       7       2       2       2       9      16
  SPM       0       2       1       0       0       0

SPM   20  InSv  Loc: Site HOST Floor  1 Row A  FrPos 13

Shlf0 SL A Stat  Shlf0 SL A Stat  Shlf1 SL A Stat  Shlf1 SL A Stat
-----  1 - ----  CEM 1  8 I InSv  -----  1 - ----  -----  8 - ----
-----  2 - ----  OC3 0  9 A InSv  -----  2 - ----  -----  9 - ----
DSP 3  3 I InSv  OC3 1 10 I InSv  -----  3 - ----  ----- 10 - ----
-----  4 - ----  ----- 11 - ----  -----  4 - ----  ----- 11 - ----
-----  5 - ----  DSP12 12 A InSv  -----  5 - ----  ----- 12 - ----
-----  6 - ----  DSP13 13 A InSv  -----  6 - ----  ----- 13 - ----
CEM 0  7 A InSv  ----- 14 A InSv  -----  7 - ----  ----- 14 - ----
```

## IOD 2MPCOS CV SPM
**minor** (continued)

**11** Select the active OC3 module by typing

**>SELECT OC3 module_no**

and pressing the Enter key.

*where*

**module_no**
is the number of the OC3 module (0 to 27)

*Example of a MAP screen:*

```
SPM 20    OC3 1      Act  InSv

Loc : Row E  FrPos  8 ShPos 24 ShId 0 Slot 10   Prot Grp : 1
Default Load: SPMLOAD                           Prot Role: Spare
```

**12** Access the protection level of the MAP screen by typing

**>PROT**

and pressing the Enter key.

**13** Do a manual protection switch with a module in the same protection group by typing

**>MANUAL from_unit_no to_unit_no**

and pressing the Enter key.

*where*

**from_unit_no**
is the number (0 to 27) of the module with the alarm.

**to_unit_no**
is the number (0 to 27) of the inactive module in the same protection group

*Example of a MAP screen:*

```
SPM 20 OC3 1 Manual: Request has been submitted.
SPM 20 OC3 0 Manual: Command completed.
```

**14** Return to the carrier level of the MAP screen and list the alarms on the carrier by typing

**>LISTALM carrier_no**

# IOD 2MPCOS CV SPM **minor** (end)

and pressing the Enter key.

**15** Determine whether the alarm has cleared.

| If the alarm list shows | Do |
|---|---|
| CV | step 17 |
| None | step 16 |

**16** Replace the OC3 module. For detailed instructions, see “SPM NTLX71AA OC3 card" in the appropriate *Card Replacement Procedures*. When you have completed the procedure, go to Step 18.

**17** For further assistance, contact the personnel responsible for the next level of support.

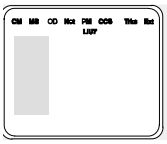
**18** You have completed this procedure. Return to the CI level of the MAP screen by typing

```
>QUIT  ALL
```

and pressing the Enter key.

# IOD 2MPCOS CVFE SPM minor

## Alarm display



| CM | MS | IOD | Net | PM | CCS | Lns | Trks | Ext | APPL |
|---|---|---|---|---|---|---|---|---|---|
| . | . | **2MPCOS**. | . | | . | . | . | . | . |
| . | | **.** | **.** | | **.** | **.** | **.** | **.** | **.** |

## Indication

At the performance level of the MAP display, a carrier preceded by a number appears under the IOD header of the alarm banner and a minor alarm indicator appears beneath it.

## Meaning

The DMS-Spectrum Peripheral Module (SPM) alarm system detects a threshold crossing alert (TCA) for the coding violations (CV) and code violations far end (CVFE) performance parameter. The number of CVs detected has exceeded the daily limit. A TCA occurs when the CVs exceed 4430. The SPM clears the alarm when the CV parameter returns to 1732.

Log CARR811 relates to the CV and CVFE alarms. Table MNHSCARR contains the datafill related to the CV and CVFE alarms.

## Impact

Service is not affected.

The CV alarm applies to the following carrier classes:

- OC3P
- STS-3P
- STS-1P (near- and far-end)
- DS-3P
- VT-1.5P
- DS-1P

## Common procedures

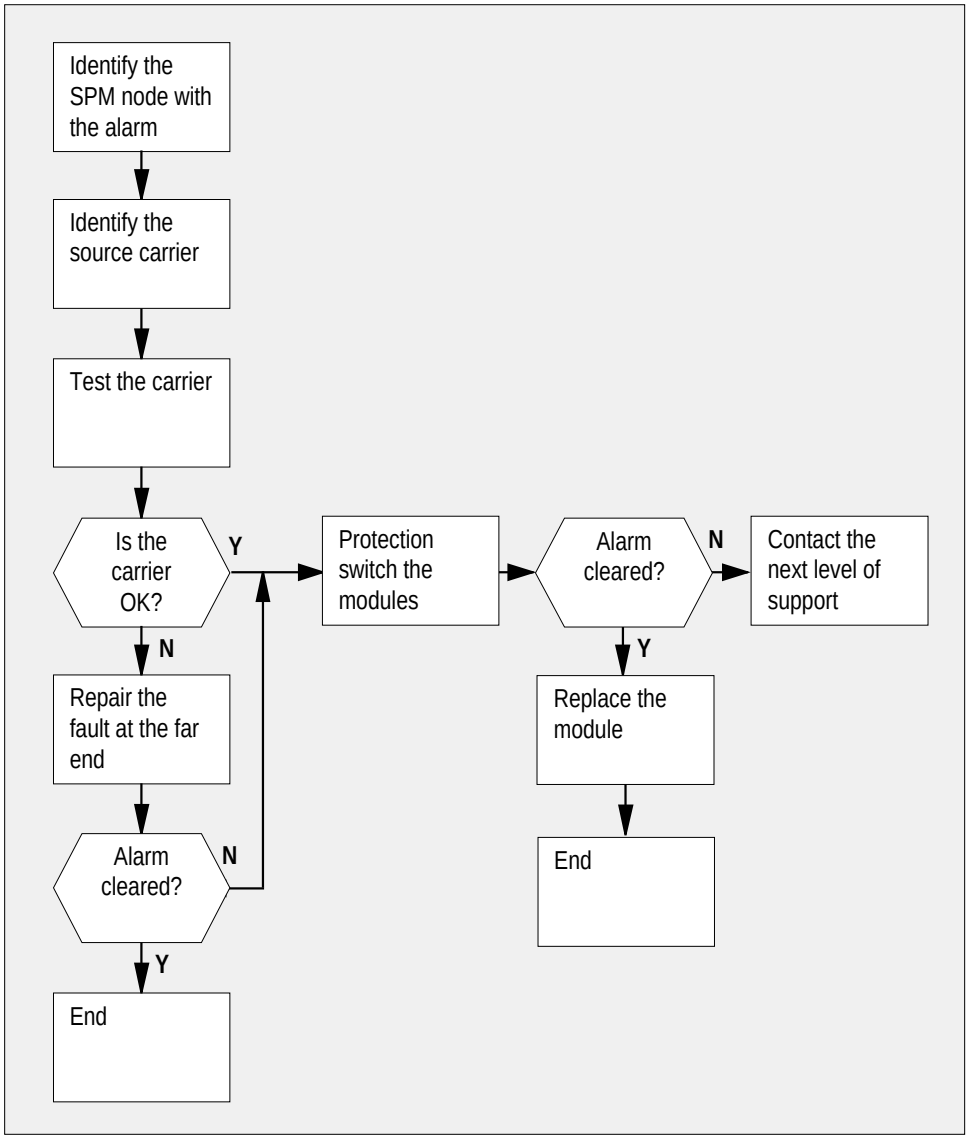
See “Accessing SPM alarms."

## IOD 2MPCOS CVFE SPM minor (continued)

## Action

The following flowchart is only a summary of this procedure. Use the instructions in the step-action procedure that follows the flowchart to clear the alarm.

## Summary of clearing a CVFE alarm



# IOD 2MPCOS CVFE SPM
## **minor** (continued)

### Clearing a CVFE alarm

***At the MAP terminal***

**1** Access the carrier level of the MAP screen by typing

**`> MAPCI;MTC;TRKS;CARRIER`**

and pressing the Enter key.

*Example of a MAP screen:*

```
CLASS    ML   OS ALRM  SYSB  MANB UNEQ OFFL  CBSY PBSY  INSV
TRUNKS    1    0   28    28     0    0    0     0    0    50
TIMING    0    0    0     0     0    0    0     0    0     2
HSCARR    0    0    0     1     3    0    1     0    0   180

MTC:
TRKS:
CARRIER:
```

**2** Display all carrier alarms by typing

**`>DISP  ALARM`**

and pressing the Enter key.

*Example of a MAP screen:*

```
PM    NO CKT     PM    NO CKT     PM    NO CKT     PM    NO CKT
DTC    0  13     DTC    0  14     DTC    0  15     DTC    0  18
SPM   20  29     SPM   20  30     SPM   20  31     SPM   20  32


DISPLAYED BY CONDITION : ALARM
DISP:
MORE...
```

**3** Record the SPM number (NO) and circuit (CKT) number combinations.

**4** Post each SPM carrier circuit with an alarm by typing

**`>POST  SPM  spm_no  ckt_no`**

and pressing the Enter key.

*where*

**spm_no**
is the number of the SPM (0 to 63)

**ckt_no**
is the number of the circuit (0 to 181)

*Example of a MAP screen:*

```
STS1P
N  CLASS  SITE SPM STS1P  DS3P VT15P  DS1P CKT STATE  MA
0  HSCARR HOST  20     2     –     –     –  33 InSv   --


SIZE OF POSTED SET  :  30                    MORE...
```

**5** Test the carrier by typing

**`>TST carrier_no`**

and pressing the Enter key.

*where*

**carrier_no**
is the number of the carrier (0 to 4)

**6** Determine whether the carrier signal is valid.

| If the test result shows | Do |
|---|---|
| test passed | step 9 |
| test failed | step 7 |

**7** Troubleshoot the carrier circuit according to your company procedures. When you have completed the procedure, return to this point.

***Note:*** Contact your next level of support if you are not familiar with the procedures required to troubleshoot carrier circuits.

***At the MAP terminal***

**8** List the alarms on the carrier by typing

**`>LISTALM carrier_no`**

and pressing the Enter key.

*where*

**carrier_no**
is the number of the carrier (0 to 4)

| If the alarm list shows | Do |
|---|---|
| None | step 18 |

# IOD 2MPCOS CVFE SPM
## **minor** (continued)

| If the alarm list shows | Do |
|---|---|
| CV | step 9 |

**9** Access the PM level of the MAP screen by typing

**>MAPCI;MTC;PM**

and pressing the Enter key.

*Example of a MAP screen:*

```
    SysB    ManB    OffL    CBsy    ISTb    InSv
PM   1       1       1       3       2      12
```

**10** Post the SPMs by typing

**>POST SPM spm_no**

and pressing the Enter key.

*where*

**spm_no**
refers to number of the SPM (0 to 63)

*Example of a MAP screen:*

```
          SysB    ManB    OffL    CBsy    ISTb    InSv
   PM       7       2       2       2       9      16
  SPM       0       2       1       0       0       0

SPM   20  InSv  Loc: Site HOST Floor  1 Row A  FrPos 13

Shlf0 SL A Stat  Shlf0 SL A Stat  Shlf1 SL A Stat  Shlf1 SL A Stat
-----  1 - ----  CEM 1  8 I InSv  -----  1 - ----  -----  8 - ----
-----  2 - ----  OC3 0  9 A InSv  -----  2 - ----  -----  9 - ----
DSP 3  3 I InSv  OC3 1 10 I InSv  -----  3 - ----  ----- 10 - ----
-----  4 - ----  ----- 11 - ----  -----  4 - ----  ----- 11 - ----
-----  5 - ----  DSP12 12 A InSv  -----  5 - ----  ----- 12 - ----
-----  6 - ----  DSP13 13 A InSv  -----  6 - ----  ----- 13 - ----
CEM 0  7 A InSv  ----- 14 A InSv  -----  7 - ----  ----- 14 - ----
```

**11** Select the active OC3 module by typing

**>SELECT OC3 module_no**

and pressing the Enter key.

## IOD 2MPCOS CVFE SPM
## **minor** (continued)

*where*

**module_no**
is the number of the OC3 module (0 to 27)

*Example of a MAP screen:*

```
SPM 20    OC3 1      Act  InSv

Loc : Row E  FrPos  8 ShPos 24 ShId 0 Slot 10   Prot Grp : 1
Default Load: SPMLOAD                           Prot Role: Spare
```

**12** Access the protection level of the MAP screen by typing

**>PROT**

and pressing the Enter key.

**13** Do a manual protection switch with a module in the same protection group by typing

**>MANUAL from_unit_no to_unit_no**

and pressing the Enter key.

*where*

**from_unit_no**
is the number (0 to 27) of the module with the alarm.

**to_unit_no**
is the number (0 to 27) of the inactive module in the same protection group

*Example of a MAP screen:*

```
SPM 20 OC3 1 Manual: Request has been submitted.
SPM 20 OC3 0 Manual: Command completed.
```

**14** Return to the carrier level of the MAP screen and list the alarms on the carrier by typing

**>LISTALM carrier_no**

and pressing the Enter key.

# IOD 2MPCOS CVFE SPM
## **minor** (end)

**15** Determine whether the alarm has cleared.

| If the alarm list shows | Do |
|---|---|
| CV | step 17 |
| None | step 16 |

**16** Replace the OC3 module. For detailed instructions, see “SPM NTLX71AA OC3 card" in the appropriate *Card Replacement Procedures*. When you have completed the procedure, go to Step 18.

**17** For further assistance, contact the personnel responsible for the next level of support.

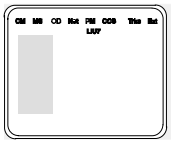
**18** You have completed this procedure. Return to the CI level of the MAP screen by typing

```
>QUIT  ALL
```

and pressing the Enter key.

# IOD 2MPCOS ES SPM minor

## Alarm display



| CM | MS | IOD | Net | PM | CCS | Lns | Trks | Ext | APPL |
|---|---|---|---|---|---|---|---|---|---|
| . | . | **2MPCOS**. | . | | . | . | . | . | . |
| . | | . | . | | . | . | . | . | . |

## Indication

At the performance level of the MAP display, a carrier preceded by a number appears under the IOD header of the alarm banner and a minor alarm indicator appears beneath it.

## Meaning

The DMS-Spectrum Peripheral Module (SPM) alarm system detects a threshold crossing alert (TCA) for the errored seconds (ES) and errored seconds far end (ESFE) performance parameters. The number of errored seconds detected has exceeded the daily limit. A TCA occurs when the errored seconds exceed 864. The SPM clears the alarm when the parameter returns to 346.

Log CARR811 relates to the ES and ESFE alarms. Table MNHSCARR contains the datafill related to the ES and ESFE alarms.

## Impact

Service is not affected.

The ES alarm applies to the following carrier classes:

- OC3P
- STS-3P
- STS-1P (near- and far-end)
- DS-3P
- VT-1.5P
- DS-1P

## Common procedures

See “Accessing SPM alarms."

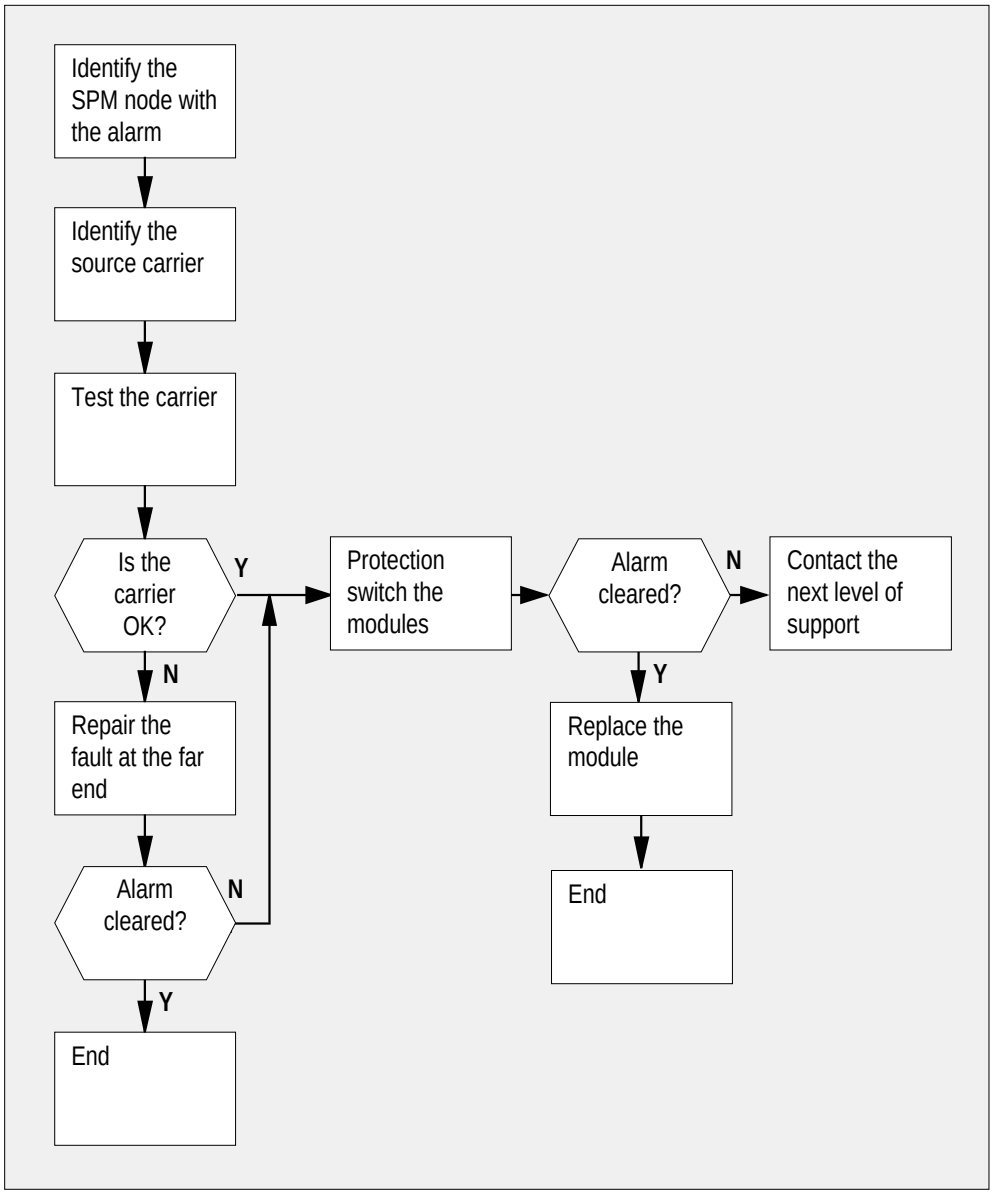
## IOD 2MPCOS ES SPM
**minor** (continued)

### Action

The following flowchart is only a summary of this procedure. Use the instructions in the step-action procedure that follows the flowchart to clear the alarm.

### Summary of clearing an ES alarm

## IOD 2MPCOS ES SPM
## **minor** (continued)




**Clearing an ES alarm**

***At the MAP terminal***

**1** Access the carrier level of the MAP screen by typing

## IOD 2MPCOS ES SPM
**minor** (continued)

**> MAPCI;MTC;TRKS;CARRIER**

and pressing the Enter key.

*Example of a MAP screen:*

```
CLASS    ML   OS ALRM  SYSB  MANB UNEQ OFFL  CBSY PBSY  INSV
TRUNKS    1    0   28    28     0    0    0     0    0    50
TIMING    0    0    0     0     0    0    0     0    0     2
HSCARR    0    0    0     1     3    0    1     0    0   180

MTC:
TRKS:
CARRIER:
```

**2** Display all carrier alarms by typing

**>DISP ALARM**

and pressing the Enter key.

*Example of a MAP screen:*

```
PM    NO CKT     PM    NO CKT     PM    NO CKT     PM    NO CKT
DTC    0  13     DTC    0  14     DTC    0  15     DTC    0  18
SPM   20  29     SPM   20  30     SPM   20  31     SPM   20  32


DISPLAYED BY CONDITION : ALARM
DISP:
MORE...
```

**3** Record the SPM number (NO) and circuit (CKT) number combinations.

**4** Post each SPM carrier circuit with an alarm by typing

**>POST SPM spm_no ckt_no**

and pressing the Enter key.

*where*

**spm_no**
is the number of the SPM (0 to 63)

**ckt_no**
is the number of the circuit (0 to 181)

*Example of a MAP screen:*

## IOD 2MPCOS ES SPM
## **minor** (continued)

**5** Test the carrier by typing

```
>TST  carrier_no
```

and pressing the Enter key.

*where*

**carrier_no**
is the number of the carrier (0 to 4)

**6** Determine whether the carrier signal is valid.

| If the test result shows | Do |
|---|---|
| test passed | step 9 |
| test failed | step 7 |

**7** Troubleshoot the carrier circuit according to your company procedures. When you have completed the procedure, return to this point.

***Note:*** Contact your next level of support if you are not familiar with the procedures required to troubleshoot carrier circuits.

***At the MAP terminal***

**8** List the alarms on the carrier by typing

```
>LISTALM  carrier_no
```

and pressing the Enter key.

*where*

**carrier_no**
is the number of the carrier (0 to 4)

| If the alarm list shows | Do |
|---|---|
| None | step 18 |
| ES | step 9 |

**9** Access the PM level of the MAP screen by typing

```
>MAPCI;MTC;PM
```

and pressing the Enter key.

*Example of a MAP screen:*

## IOD 2MPCOS ES SPM
**minor** (continued)

```
    SysB    ManB    OffL    CBsy    ISTb    InSv
PM   1       1       1       3       2      12
```

**10** Post the SPMs by typing

**>POST SPM spm_no**

and pressing the Enter key.

*where*

**spm_no**
refers to number of the SPM (0 to 63)

*Example of a MAP screen:*

```
          SysB    ManB    OffL    CBsy    ISTb    InSv
   PM       7       2       2       2       9      16
  SPM       0       2       1       0       0       0

SPM   20  InSv  Loc: Site HOST Floor  1 Row A  FrPos 13

Shlf0 SL A Stat  Shlf0 SL A Stat  Shlf1 SL A Stat  Shlf1 SL A Stat
-----  1 - ----  CEM 1  8 I InSv  -----  1 - ----  -----  8 - ----
-----  2 - ----  OC3 0  9 A InSv  -----  2 - ----  -----  9 - ----
DSP 3  3 I InSv  OC3 1 10 I InSv  -----  3 - ----  ----- 10 - ----
-----  4 - ----  ----- 11 - ----  -----  4 - ----  ----- 11 - ----
-----  5 - ----  DSP12 12 A InSv  -----  5 - ----  ----- 12 - ----
-----  6 - ----  DSP13 13 A InSv  -----  6 - ----  ----- 13 - ----
CEM 0  7 A InSv  ----- 14 A InSv  -----  7 - ----  ----- 14 - ----
```

**11** Select the active OC3 module by typing

**>SELECT OC3 module_no**

and pressing the Enter key.

*where*

**module_no**
is the number of the OC3 module (0 to 27)

*Example of a MAP screen:*

## IOD 2MPCOS ES SPM
## **minor** (continued)

```
SPM 20    OC3 1      Act  InSv

Loc : Row E  FrPos  8 ShPos 24 ShId 0 Slot 10   Prot Grp : 1
Default Load: SPMLOAD                           Prot Role: Spare
```

**12** Access the protection level of the MAP screen by typing

**>PROT**

and pressing the Enter key.

**13** Do a manual protection switch with a module in the same protection group by typing

**>MANUAL from_unit_no to_unit_no**

and pressing the Enter key.

*where*

**from_unit_no**
is the number (0 to 27) of the module with the alarm.

**to_unit_no**
is the number (0 to 27) of the inactive module in the same protection group

*Example of a MAP screen:*

```
SPM 20 OC3 1 Manual: Request has been submitted.
SPM 20 OC3 0 Manual: Command completed.
```

**14** Return to the carrier level of the MAP screen and list the alarms on the carrier by typing

**>LISTALM carrier_no**

and pressing the Enter key.

**15** Determine whether the alarm has cleared.

| If the alarm list shows | Do |
|---|---|
| ES | step 17 |
| None | step 16 |

## IOD 2MPCOS ES SPM
## **minor** (end)

**16** Replace the OC3 module. For detailed instructions, see “SPM NTLX71AA OC3 card" in the appropriate *Card Replacement Procedures*. When you have completed the procedure, go to Step 18.

**17** For further assistance, contact the personnel responsible for the next level of support.

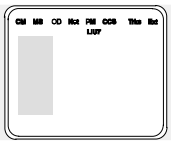
**18** You have completed this procedure. Return to the CI level of the MAP screen by typing

```
>QUIT  ALL
```

and pressing the Enter key.

# IOD 2MPCOS ESFE SPM minor

## Alarm display



| CM | MS | IOD | Net | PM | CCS | Lns | Trks | Ext | APPL |
|---|---|---|---|---|---|---|---|---|---|
| . | . | **2MPCOS**. | . | | . | . | . | . | . |
| . | | **.** | **.** | | **.** | **.** | **.** | **.** | **.** |

## Indication

At the performance level of the MAP display, a carrier preceded by a number appears under the IOD header of the alarm banner and a minor alarm indicator appears beneath it.

## Meaning

The DMS-Spectrum Peripheral Module (SPM) alarm system detects a threshold crossing alert (TCA) for the errored seconds (ES) and errored seconds far end (ESFE) performance parameters. The number of errored seconds detected has exceeded the daily limit. A TCA occurs when the errored seconds exceed 864. The SPM clears the alarm when the parameter returns to 346.

Log CARR811 relates to the ES and ESFE alarms. Table MNHSCARR contains the datafill related to the ES and ESFE alarms.

## Impact

Service is not affected.

The ES alarm applies to the following carrier classes:

- OC3P
- STS-3P
- STS-1P (near- and far-end)
- DS-3P
- VT-1.5P
- DS-1P

## Common procedures

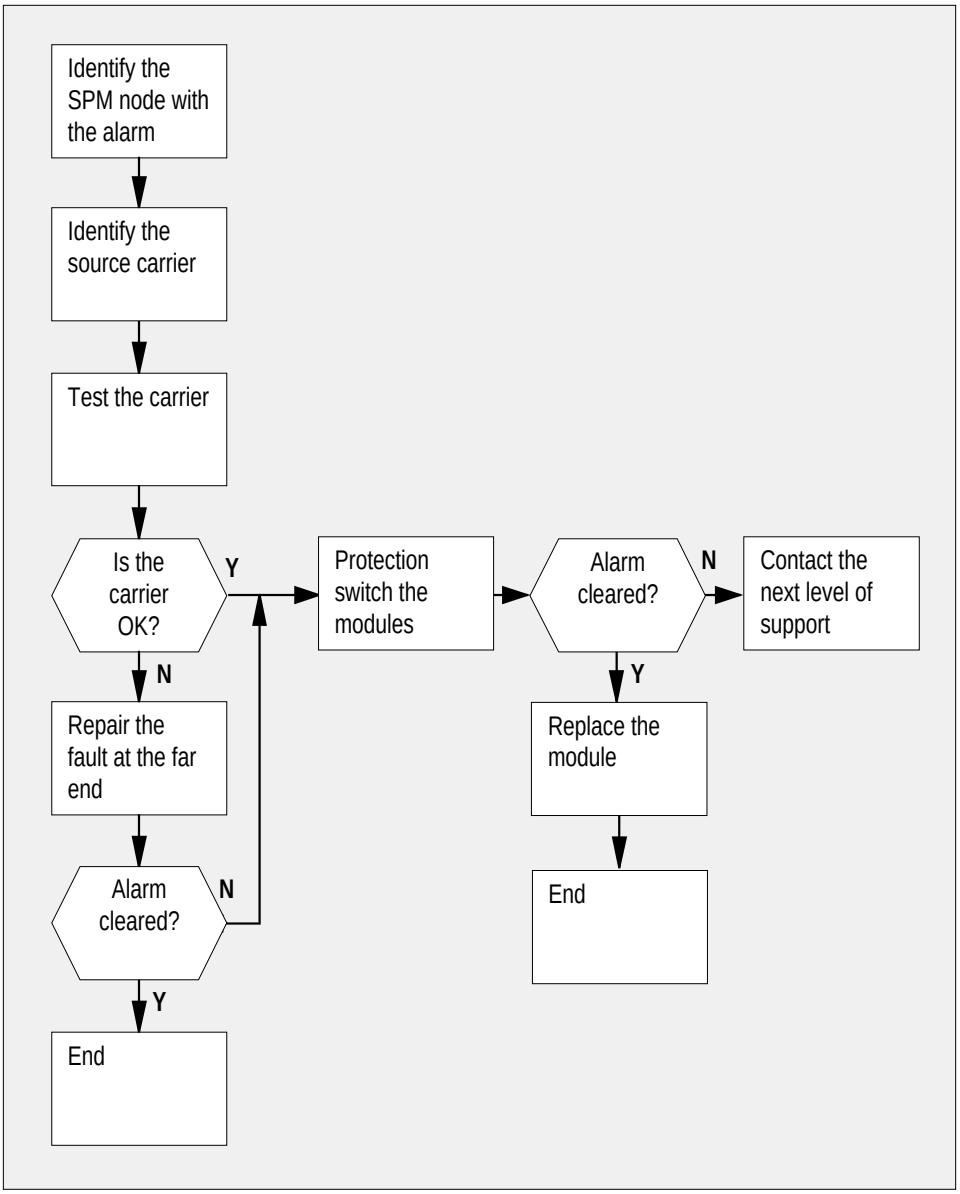
See “Accessing SPM alarms."

# IOD 2MPCOS ESFE SPM
**minor** (continued)

## Action

The following flowchart is only a summary of this procedure. Use the instructions in the step-action procedure that follows the flowchart to clear the alarm.

## Summary of clearing an ESFE alarm



# IOD 2MPCOS ESFE SPM
## **minor** (continued)

### Clearing an ESFE alarm

***At the MAP terminal***

**1** Access the carrier level of the MAP screen by typing

**> MAPCI;MTC;TRKS;CARRIER**

and pressing the Enter key.

*Example of a MAP screen:*

```
CLASS    ML   OS ALRM  SYSB  MANB UNEQ OFFL  CBSY PBSY  INSV
TRUNKS    1    0   28    28     0    0    0     0    0    50
TIMING    0    0    0     0     0    0    0     0    0     2
HSCARR    0    0    0     1     3    0    1     0    0   180

MTC:
TRKS:
CARRIER:
```

**2** Display all carrier alarms by typing

**>DISP ALARM**

and pressing the Enter key.

*Example of a MAP screen:*

```
PM    NO CKT     PM    NO CKT     PM    NO CKT     PM    NO CKT
DTC    0  13     DTC    0  14     DTC    0  15     DTC    0  18
SPM   20  29     SPM   20  30     SPM   20  31     SPM   20  32


DISPLAYED BY CONDITION : ALARM
DISP:
MORE...
```

**3** Record the SPM number (NO) and circuit (CKT) number combinations.

**4** Post each SPM carrier circuit with an alarm by typing

**>POST SPM spm_no ckt_no**

and pressing the Enter key.

*where*

**spm_no**
is the number of the SPM (0 to 63)

# IOD 2MPCOS ESFE SPM
## **minor** (continued)

**ckt_no**
is the number of the circuit (0 to 181)

*Example of a MAP screen:*

```
STS1P
N  CLASS  SITE SPM STS1P  DS3P VT15P  DS1P CKT STATE  MA
0  HSCARR HOST  20     2     –     –     –  33 InSv   --


SIZE OF POSTED SET  :  30                    MORE...
```

**5** Test the carrier by typing

**>TST carrier_no**

and pressing the Enter key.

*where*

**carrier_no**
is the number of the carrier (0 to 4)

**6** Determine whether the carrier signal is valid.

| If the test result shows | Do |
|---|---|
| test passed | step 9 |
| test failed | step 7 |

**7** Troubleshoot the carrier circuit according to your company procedures. When you have completed the procedure, return to this point.

***Note:*** Contact your next level of support if you are not familiar with the procedures required to troubleshoot carrier circuits.

***At the MAP terminal***

**8** List the alarms on the carrier by typing

**>LISTALM carrier_no**

and pressing the Enter key.

*where*

**carrier_no**
is the number of the carrier (0 to 4)

| If the alarm list shows | Do |
|---|---|
| None | step 18 |

## IOD 2MPCOS ESFE SPM
## **minor** (continued)

| If the alarm list shows | Do |
|---|---|
| ES | step 9 |

**9** Access the PM level of the MAP screen by typing

**>MAPCI;MTC;PM**

and pressing the Enter key.

*Example of a MAP screen:*

```
    SysB    ManB    OffL    CBsy    ISTb    InSv
PM   1       1       1       3       2      12
```

**10** Post the SPMs by typing

**>POST SPM spm_no**

and pressing the Enter key.

*where*

**spm_no**
refers to number of the SPM (0 to 63)

*Example of a MAP screen:*

```
          SysB    ManB    OffL    CBsy    ISTb    InSv
   PM       7       2       2       2       9      16
  SPM       0       2       1       0       0       0

SPM   20  InSv  Loc: Site HOST Floor  1 Row A  FrPos 13

Shlf0 SL A Stat  Shlf0 SL A Stat  Shlf1 SL A Stat  Shlf1 SL A Stat
-----  1 - ----  CEM 1  8 I InSv  -----  1 - ----  -----  8 - ----
-----  2 - ----  OC3 0  9 A InSv  -----  2 - ----  -----  9 - ----
DSP 3  3 I InSv  OC3 1 10 I InSv  -----  3 - ----  ----- 10 - ----
-----  4 - ----  ----- 11 - ----  -----  4 - ----  ----- 11 - ----
-----  5 - ----  DSP12 12 A InSv  -----  5 - ----  ----- 12 - ----
-----  6 - ----  DSP13 13 A InSv  -----  6 - ----  ----- 13 - ----
CEM 0  7 A InSv  ----- 14 A InSv  -----  7 - ----  ----- 14 - ----
```

**11** Select the active OC3 module by typing

**>SELECT OC3 module_no**

and pressing the Enter key.

*where*

# IOD 2MPCOS ESFE SPM
## **minor** (continued)

**module_no**
is the number of the OC3 module (0 to 27)

*Example of a MAP screen:*

```
SPM 20    OC3 1      Act  InSv

Loc : Row E  FrPos  8 ShPos 24 ShId 0 Slot 10   Prot Grp : 1
Default Load: SPMLOAD                           Prot Role: Spare
```

**12** Access the protection level of the MAP screen by typing

**>PROT**

and pressing the Enter key.

**13** Do a manual protection switch with a module in the same protection group by typing

**>MANUAL from_unit_no to_unit_no**

and pressing the Enter key.

*where*

**from_unit_no**
is the number (0 to 27) of the module with the alarm.

**to_unit_no**
is the number (0 to 27) of the inactive module in the same protection group

*Example of a MAP screen:*

```
SPM 20 OC3 1 Manual: Request has been submitted.
SPM 20 OC3 0 Manual: Command completed.
```

**14** Return to the carrier level of the MAP screen and list the alarms on the carrier by typing

**>LISTALM carrier_no**

and pressing the Enter key.

**15** Determine whether the alarm has cleared.

| If the alarm list shows | Do |
|---|---|
| ES | step 17 |
| None | step 16 |

## IOD 2MPCOS ESFE SPM **minor** (end)

**16** Replace the OC3 module. For detailed instructions, see “SPM NTLX71AA OC3 card" in the appropriate *Card Replacement Procedures*. When you have completed the procedure, go to Step 18.

**17** For further assistance, contact the personnel responsible for the next level of support.

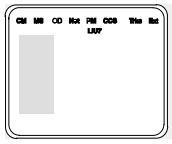
**18** You have completed this procedure. Return to the CI level of the MAP screen by typing

```
>QUIT  ALL
```

and pressing the Enter key.

# IOD 2MPCOS SEFS SPM minor

## Alarm display



| CM | MS | IOD | Net | PM | CCS | Lns | Trks | Ext | APPL |
|---|---|---|---|---|---|---|---|---|---|
| . | . | **2MPCOS**. | . | | . | . | . | . | . |
| . | | **.** | **.** | | **.** | **.** | **.** | **.** | **.** |

## Indication

At the performance level of the MAP display, a carrier preceded by a number appears under the IOD header of the alarm banner and a minor alarm indicator appears beneath it.

## Meaning

The DMS-Spectrum Peripheral Module (SPM) alarm system detects a threshold crossing alert (TCA) for the severely errored framing seconds (SEFS) performance parameter. The measured value for SEFS arriving at the OC3 module has exceeded the daily limit. A TCA occurs when the SEFS parameter exceeds a setting of 17. The SPM clears the alarm when the parameter returns to 7.

Log CARR811 relates to the SEFS alarm. Table MNHSCARR contains the datafill related to the SEFS alarm.

## Impact

Service is not affected.

The SEFS alarm applies to the OC3 Section carrier type.

## Common procedures

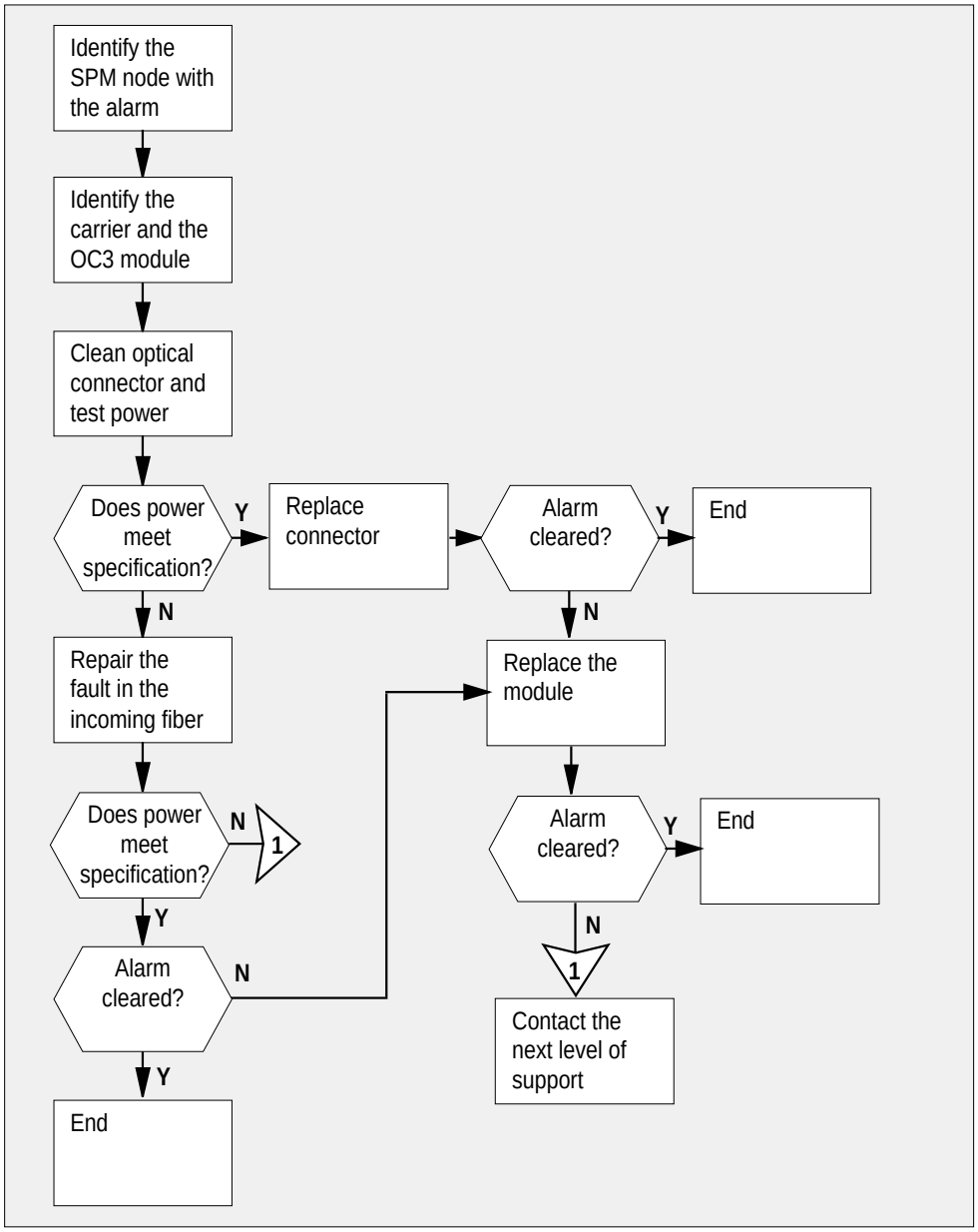
See “Accessing SPM alarms."

## Action

The following flowchart is only a summary of this procedure. Use the instructions in the step-action procedure that follows the flowchart to clear the alarm.

# IOD 2MPCOS SEFS SPM
**minor** (continued)

## Summary of clearing an SEFS alarm



# IOD 2MPCOS SEFS SPM
## **minor** (continued)

### Clearing an SEFS alarm

***At the MAP terminal***

**1** Access the carrier level of the MAP screen by typing

**> MAPCI;MTC;TRKS;CARRIER**

and pressing the Enter key.

*Example of a MAP screen:*

```
CLASS     ML    OS ALRM  SYSB  MANB UNEQ OFFL  CBSY PBSY  INSV
TRUNKS     1     0   28    28     0    0    0     0    0    50
TIMING     0     0    0     0     0    0    0     0    0     2
HSCARR     0     0    0     1     3    0    1     0    0   180

MTC:
TRKS:
CARRIER:
```

**2** Display all carrier alarms by typing

**>DISP ALARM**

and pressing the Enter key.

*Example of a MAP screen:*

```
PM    NO CKT     PM    NO CKT     PM    NO CKT     PM    NO CKT
DTC    0  13     DTC    0  14     DTC    0  15     DTC    0  18
SPM   20  29     SPM   20  30     SPM   20  31     SPM   20  32


DISPLAYED BY CONDITION : ALARM
DISP:
MORE...
```

**3** Record the SPM number (NO) and circuit (CKT) number combinations.

**4** Post the SPM OC3 carrier circuits by typing

**>POST SPM spm_no OC3S**

and pressing the Enter key.

*where*

**spm_no**
is the number of the SPM (0 to 63)

## IOD 2MPCOS SEFS SPM
## **minor** (continued)

*Example of a MAP screen:*

```
OC3S
N  CLASS  SITE SPM OC3RM  OC3S STS3L  CKT STATE  TR MA
0  HSCARR HOST  20     0     0     -    1 InSv   -- --
1  HSCARR HOST  20     1     0     -    6 InSv   -- --

SIZE OF POSTED SET  :  2                    MORE...
```

**5** List the alarms on each carrier by typing

**>LISTALM carrier_no**

and pressing the Enter key.

**6** Identify the carrier with the SEFS alarm. Identify its respective OC3 module by typing

**>DETAIL carrier_no**

and pressing the Enter key.

*Example of a MAP screen:*

```
Detail 1
SPM 20 Ckt 6 Name: SPM_0_OC3S_2
```

**7** Access the PM level of the MAP screen by typing

**>MAPCI;MTC;PM**

and pressing the Enter key.

*Example of a MAP screen:*

```
    SysB    ManB    OffL    CBsy    ISTb    InSv
PM   1       1       1       3       2      12
```

**8** Post the SPMs by typing

**>POST SPM spm_no**

and pressing the Enter key.

# IOD 2MPCOS SEFS SPM
## **minor** (continued)

*where*

**spm_no**
refers to number of the SPM (0 to 63)

*Example of a MAP screen:*

```
           SysB    ManB    OffL    CBsy    ISTb    InSv
   PM        7       2       2       2       9      16
  SPM        0       2       1       0       0       0

SPM   20  InSv  Loc: Site HOST Floor  1 Row A  FrPos 13

Shlf0 SL A Stat  Shlf0 SL A Stat  Shlf1 SL A Stat  Shlf1 SL A Stat
-----  1 - ----  CEM 1  8 I InSv  -----  1 - ----  -----  8 - ----
-----  2 - ----  OC3 0  9 A InSv  -----  2 - ----  -----  9 - ----
DSP 3  3 I InSv  OC3 1 10 I InSv  -----  3 - ----  ----- 10 - ----
-----  4 - ----  ----- 11 - ----  -----  4 - ----  ----- 11 - ----
-----  5 - ----  DSP12 12 A InSv  -----  5 - ----  ----- 12 - ----
-----  6 - ----  DSP13 13 A InSv  -----  6 - ----  ----- 13 - ----
CEM 0  7 A InSv  ----- 14 A InSv  -----  7 - ----  ----- 14 - ----
```

**9** Select the active OC3 module by typing

**>SELECT OC3 module_no**

and pressing the Enter key.

*where*

**module_no**
is the number of the OC3 module (0 to 1)

*Example of a MAP screen:*

```
  SPM 20    OC3 1      Act  InSv

  Loc : Row E  FrPos  8 ShPos 24 ShId 0 Slot 10   Prot Grp : 1
  Default Load: SPMLOAD                           Prot Role: Spare
```

**10** Determine whether the alarm condition applies to the active OC3 module.

| If the alarm applies to | Do |
|---|---|
| the active OC3 | step 11 |
| the inactive OC3 | step 13 |

**11** Access the protection level of the MAP screen by typing

## IOD 2MPCOS SEFS SPM
## **minor** (continued)

**>PROT**

and pressing the Enter key.

**12** Do a manual protection switch with a module in the same protection group by typing

**>MANUAL from_unit_no to_unit_no**

and pressing the Enter key.

*where*

**from_unit_no**
is the number (0 to 27) of the module with the alarm

**to_unit_no**
is the number (0 to 27) of the inactive module in the same protection group

*Example of a MAP screen:*

```
SPM 20 OC3 1 Manual: Request has been submitted.
SPM 20 OC3 0 Manual: Command completed.
```

**13** Remove the fiber connector from the receiver socket on the OC3 module. Clean the socket and the connector with compressed air. Use an optical power meter to measure the power at the receiver connector.

| If the power is | Do |
|---|---|
| above -34 dBm (for example, -30 dBm) | step 14 |
| below -34 dBm | step 15 |

**14** Plug the fiber optic connector into the receiver socket. Return to the carrier level of the MAP terminal and check if the alarm has cleared by typing

**>LISTALM carrier_no**

and pressing the Enter key.

| If the alarm list shows | Do |
|---|---|
| SEFS | step 18 |
| None | step 22 |

# IOD 2MPCOS SEFS SPM
## **minor** (continued)

**15** Troubleshoot the incoming fiber optic cable and the network according to your company procedures. When you have completed the procedure, return to this point.

***Note:*** Contact your next level of support if you are not familiar with the procedures required to troubleshoot fiber optic cables and network connections.

**16** Use an optical power meter to measure the power at the receiver connector.

| If the power is | Do |
|---|---|
| above -34 dBm (for example, -30 dBm) | step 17 |
| below -34 dBm | step 21 |

**17** Plug the fiber optic connector into the receiver socket. Return to the carrier level of the MAP terminal and check if the alarm has cleared by typing

```
>LISTALM  carrier_no
```

and pressing the Enter key.

| If the alarm list shows | Do |
|---|---|
| SEFS | step 18 |
| None | step 22 |

**18** Replace the OC3 module. For detailed instructions, see “SPM NTLX71AA OC3 card" in the appropriate *Card Replacement Procedures*.

**19** Return to the carrier level of the MAP screen and list the alarms on the carrier by typing

```
>LISTALM  carrier_no
```

and pressing the Enter key.

**20** Determine whether the alarm has cleared.

| If the alarm list shows | Do |
|---|---|
| SEFS | step 21 |
| None | step 22 |

**21** For further assistance, contact the personnel responsible for the next level of support.

## IOD 2MPCOS SEFS SPM **minor** (end)

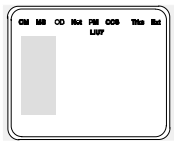
**22** You have completed this procedure. Return to the CI level of the MAP screen by typing

```
>QUIT  ALL
```

and pressing the Enter key.

# IOD 2MPCOS SES SPM minor

## Alarm display



| CM | MS | IOD | Net | PM | CCS | Lns | Trks | Ext | APPL |
|---|---|---|---|---|---|---|---|---|---|
| . | . | **2MPCOS**. | . | | . | . | . | . | . |
| . | | . | . | | . | . | . | . | . |

## Indication

At the performance level of the MAP display, a carrier preceded by a number appears under the IOD header of the alarm banner and a minor alarm indicator appears beneath it.

## Meaning

The DMS-Spectrum Peripheral Module (SPM) alarm system detects a threshold crossing alert (TCA) for the severely-errored seconds (SES) and severly-errored seconds far end (SESFE) performance parameters. The number of errored seconds detected has exceeded the daily limit. A TCA occurs when the errored seconds exceed the high level datafilled in table MNHSCARR for each carrier type. The SPM clears the alarm when the parameter returns to the low level datafilled in table MNHSCARR.

Log CARR811 relates to the SES and SESFE alarms. Table MNHSCARR contains the datafill related to the SES and SESFE alarms.

## Impact

Service is not affected.

The ES alarm applies to the following carrier classes:

- OC3P
- STS-3P
- STS-1P (near end and far end)
- DS-3P
- VT-1.5P
- DS-1P

## IOD 2MPCOS SES SPM
**minor** (continued)

### Common procedures

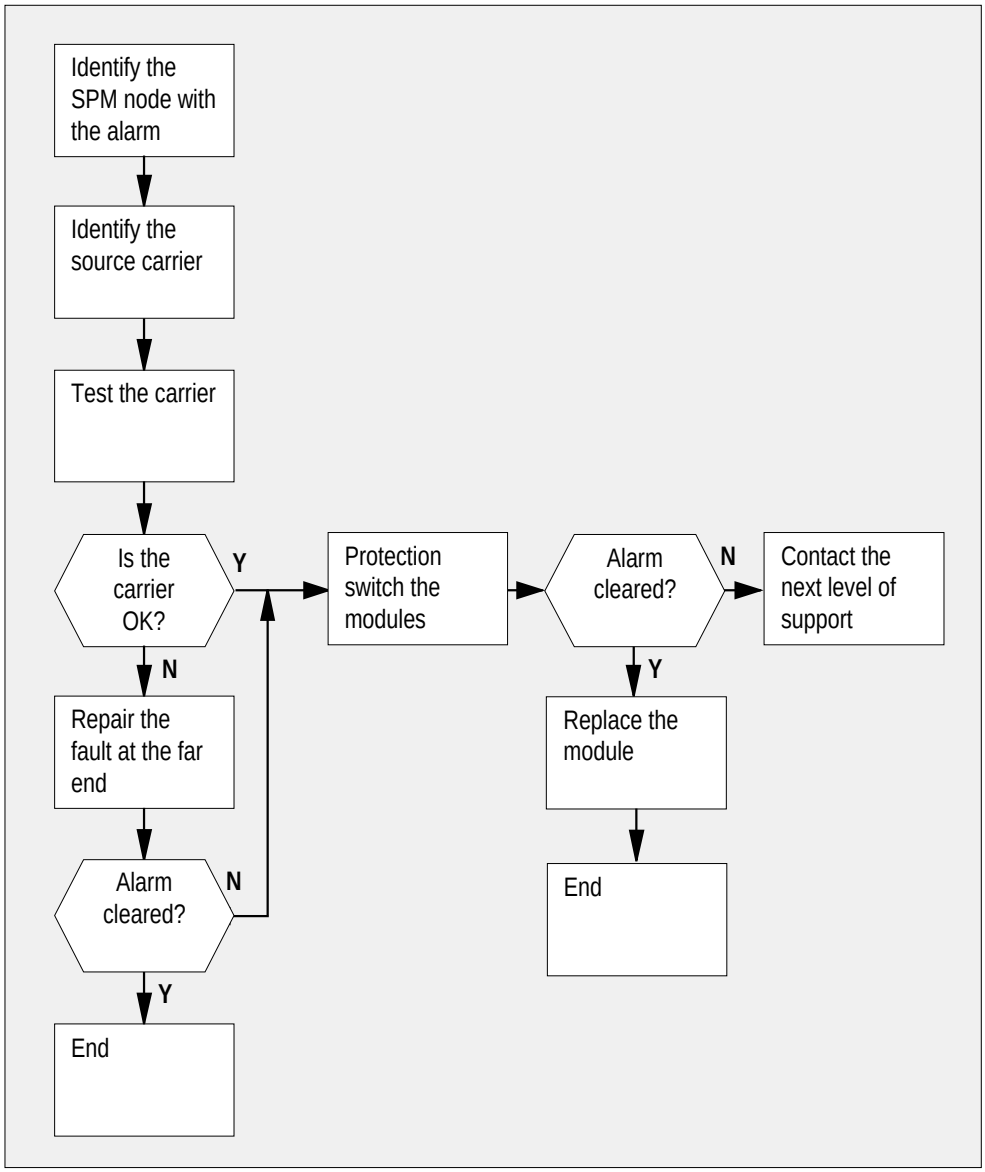
See “Accessing SPM alarms."

### Action

The following flowchart is only a summary of this procedure. Use the instructions in the step-action procedure that follows the flowchart to clear the alarm.

### Summary of clearing an SES alarm

# IOD 2MPCOS SES SPM
**minor** (continued)




**Clearing an SES alarm**

***At the MAP terminal***

**1** Access the carrier level of the MAP screen by typing

## IOD 2MPCOS SES SPM
## **minor** (continued)

**> MAPCI;MTC;TRKS;CARRIER**

and pressing the Enter key.

*Example of a MAP screen:*

```
CLASS    ML   OS ALRM  SYSB  MANB UNEQ OFFL  CBSY PBSY  INSV
TRUNKS    1    0   28    28     0    0    0     0    0    50
TIMING    0    0    0     0     0    0    0     0    0     2
HSCARR    0    0    0     1     3    0    1     0    0   180

MTC:
TRKS:
CARRIER:
```

**2** Display all carrier alarms by typing

**>DISP  ALARM**

and pressing the Enter key.

*Example of a MAP screen:*

```
PM    NO CKT     PM    NO CKT     PM    NO CKT     PM    NO CKT
DTC    0  13     DTC    0  14     DTC    0  15     DTC    0  18
SPM   20  29     SPM   20  30     SPM   20  31     SPM   20  32


DISPLAYED BY CONDITION : ALARM
DISP:
MORE...
```

**3** Record the SPM number (NO) and circuit (CKT) number combinations.

**4** Post each SPM carrier circuit with an alarm by typing

**>POST  SPM  spm_no  ckt_no**

and pressing the Enter key.

*where*

**spm_no**
is the number of the SPM (0 to 63)

**ckt_no**
is the number of the circuit (0 to 181)

*Example of a MAP screen:*

# IOD 2MPCOS SES SPM
## **minor** (continued)

```
                STS1P
N  CLASS  SITE SPM STS1P  DS3P VT15P  DS1P CKT STATE  MA
0  HSCARR HOST  20     2     –     –     –  33 InSv   --


SIZE OF POSTED SET  :  30                    MORE...
```

**5** Test the carrier by typing

**`>TST  carrier_no`**

and pressing the Enter key.

*where*

**carrier_no**
is the number of the carrier (0 to 4)

**6** Determine whether the carrier signal is valid.

| If the test result shows | Do |
|---|---|
| test passed | step 9 |
| test failed | step 7 |

**7** Troubleshoot the carrier circuit according to your company procedures. When you have completed the procedure, return to this point.

***Note:*** Contact your next level of support if you are not familiar with the procedures required to troubleshoot carrier circuits.

***At the MAP terminal***

**8** List the alarms on the carrier by typing

**`>LISTALM  carrier_no`**

and pressing the Enter key.

*where*

**carrier_no**
is the number of the carrier (0 to 4)

| If the alarm list shows | Do |
|---|---|
| None | step 18 |
| SES or SESFE | step 9 |

## IOD 2MPCOS SES SPM
## **minor** (continued)

**9** Access the PM level of the MAP screen by typing

**>MAPCI;MTC;PM**

and pressing the Enter key.

*Example of a MAP screen:*

```
     SysB    ManB    OffL    CBsy    ISTb    InSv
PM    1       1       1       3       2      12
```

**10** Post the SPMs by typing

**>POST SPM spm_no**

and pressing the Enter key.

*where*

**spm_no**
refers to number of the SPM (0 to 63)

*Example of a MAP screen:*

```
          SysB    ManB    OffL    CBsy    ISTb    InSv
  PM        7       2       2       2       9      16
 SPM        0       2       1       0       0       0

SPM   20  InSv  Loc: Site HOST Floor  1 Row A  FrPos 13

Shlf0 SL A Stat  Shlf0 SL A Stat  Shlf1 SL A Stat  Shlf1 SL A Stat
-----  1 - ----  CEM 1  8 I InSv  -----  1 - ----  -----  8 - ----
-----  2 - ----  OC3 0  9 A InSv  -----  2 - ----  -----  9 - ----
DSP 3  3 I InSv  OC3 1 10 I InSv  -----  3 - ----  ----- 10 - ----
-----  4 - ----  ----- 11 - ----  -----  4 - ----  ----- 11 - ----
-----  5 - ----  DSP12 12 A InSv  -----  5 - ----  ----- 12 - ----
-----  6 - ----  DSP13 13 A InSv  -----  6 - ----  ----- 13 - ----
CEM 0  7 A InSv  ----- 14 A InSv  -----  7 - ----  ----- 14 - ----
```

**11** Select the active OC3 module by typing

**>SELECT OC3 module_no**

and pressing the Enter key.

*where*

**module_no**
is the number of the OC3 module (0 to 27)

# IOD 2MPCOS SES SPM
## **minor** (continued)

*Example of a MAP screen:*

```
SPM 20    OC3 1      Act  InSv

Loc : Row E  FrPos  8 ShPos 24 ShId 0 Slot 10   Prot Grp : 1
Default Load: SPMLOAD                           Prot Role: Spare
```

**12** Access the protection level of the MAP screen by typing

**>PROT**

and pressing the Enter key.

**13** Do a manual protection switch with a module in the same protection group by typing

**>MANUAL from_unit_no to_unit_no**

and pressing the Enter key.

*where*

**from_unit_no**
is the number (0 to 27) of the module with the alarm.

**to_unit_no**
is the number (0 to 27) of the inactive module in the same protection group

*Example of a MAP screen:*

```
SPM 20 OC3 1 Manual: Request has been submitted.
SPM 20 OC3 0 Manual: Command completed.
```

**14** Return to the carrier level of the MAP screen and list the alarms on the carrier by typing

**>LISTALM carrier_no**

and pressing the Enter key.

**15** Determine whether the alarm has cleared.

| If the alarm list shows | Do |
|---|---|
| SES or SESFE | step 17 |

# IOD 2MPCOS SES SPM minor (end)

| If the alarm list shows | Do |
|---|---|
| None | step 16 |

**16** Replace the OC3 module. For detailed instructions, see “SPM NTLX71AA OC3 card" in the appropriate *Card Replacement Procedures*. When you have completed the procedure, go to Step 18.

**17** For further assistance, contact the personnel responsible for the next level of support.

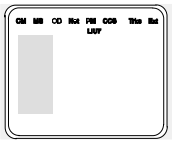
**18** You have completed this procedure. Return to the CI level of the MAP screen by typing

```
>QUIT  ALL
```

and pressing the Enter key.

# IOD 2MPCOS SESFE SPM minor

## Alarm display



| CM | MS | IOD | Net | PM | CCS | Lns | Trks | Ext | APPL |
|---|---|---|---|---|---|---|---|---|---|
| . | . | **2MPCOS**. | . | | . | . | . | . | . |
| . | | **.** | **.** | | **.** | **.** | **.** | **.** | **.** |

## Indication

At the performance level of the MAP display, a carrier preceded by a number appears under the IOD header of the alarm banner and a minor alarm indicator appears beneath it.

## Meaning

The DMS-Spectrum Peripheral Module (SPM) alarm system detects a threshold crossing alert (TCA) for the severely-errored seconds (SES) and severly-errored seconds far end (SESFE) performance parameters. The number of errored seconds detected has exceeded the daily limit. A TCA occurs when the errored seconds exceed the high level datafilled in table MNHSCARR for each carrier type. The SPM clears the alarm when the parameter returns to the low level datafilled in table MNHSCARR.

Log CARR811 relates to the SES and SESFE alarms. Table MNHSCARR contains the datafill related to the SES and SESFE alarms.

## Impact

Service is not affected.

The ES alarm applies to the following carrier classes:

- OC3P
- STS-3P
- STS-1P (near end and far end)
- DS-3P
- VT-1.5P
- DS-1P

## IOD 2MPCOS SESFE SPM
**minor** (continued)

### Common procedures

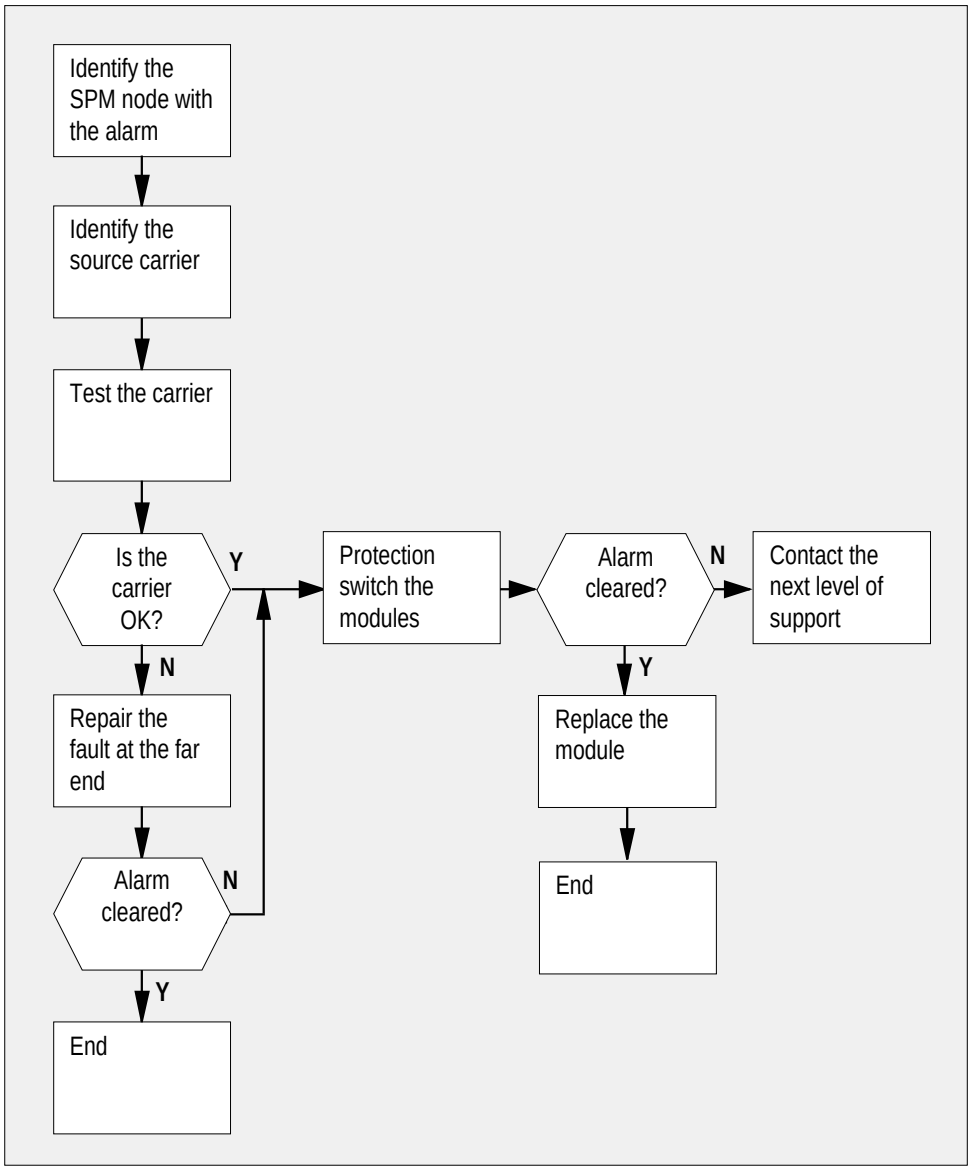
See “Accessing SPM alarms."

### Action

The following flowchart is only a summary of this procedure. Use the instructions in the step-action procedure that follows the flowchart to clear the alarm.

### Summary of clearing an SESFE alarm

# IOD 2MPCOS SESFE SPM
**minor** (continued)




**Clearing an SESFE alarm**

***At the MAP terminal***

**1** Access the carrier level of the MAP screen by typing

## IOD 2MPCOS SESFE SPM
## **minor** (continued)

**> MAPCI;MTC;TRKS;CARRIER**

and pressing the Enter key.

*Example of a MAP screen:*

```
CLASS    ML   OS ALRM  SYSB  MANB UNEQ OFFL  CBSY PBSY  INSV
TRUNKS    1    0   28    28     0    0    0     0    0    50
TIMING    0    0    0     0     0    0    0     0    0     2
HSCARR    0    0    0     1     3    0    1     0    0   180

MTC:
TRKS:
CARRIER:
```

**2** Display all carrier alarms by typing

**>DISP  ALARM**

and pressing the Enter key.

*Example of a MAP screen:*

```
PM    NO CKT     PM    NO CKT     PM    NO CKT     PM    NO CKT
DTC    0  13     DTC    0  14     DTC    0  15     DTC    0  18
SPM   20  29     SPM   20  30     SPM   20  31     SPM   20  32


DISPLAYED BY CONDITION : ALARM
DISP:
MORE...
```

**3** Record the SPM number (NO) and circuit (CKT) number combinations.

**4** Post each SPM carrier circuit with an alarm by typing

**>POST  SPM  spm_no  ckt_no**

and pressing the Enter key.

*where*

**spm_no**
is the number of the SPM (0 to 63)

**ckt_no**
is the number of the circuit (0 to 181)

*Example of a MAP screen:*

## IOD 2MPCOS SESFE SPM
**minor** (continued)

```
STS1P
N  CLASS  SITE SPM STS1P  DS3P VT15P  DS1P CKT STATE  MA
0  HSCARR HOST  20     2     –     –     –  33 InSv   --


SIZE OF POSTED SET  :  30                    MORE...
```

**5** Test the carrier by typing

**`>TST carrier_no`**

and pressing the Enter key.

*where*

**carrier_no**
is the number of the carrier (0 to 4)

**6** Determine whether the carrier signal is valid.

| If the test result shows | Do |
|---|---|
| test passed | step 9 |
| test failed | step 7 |

**7** Troubleshoot the carrier circuit according to your company procedures. When you have completed the procedure, return to this point.

***Note:*** Contact your next level of support if you are not familiar with the procedures required to troubleshoot carrier circuits.

**8** List the alarms on the carrier by typing

**`>LISTALM carrier_no`**

and pressing the Enter key.

*where*

**carrier_no**
is the number of the carrier (0 to 4)

| If the alarm list shows | Do |
|---|---|
| None | step 18 |
| SES or SESFE | step 9 |

**9** Access the PM level of the MAP screen by typing

**>MAPCI;MTC;PM**

and pressing the Enter key.

*Example of a MAP screen:*

```
      SysB    ManB    OffL    CBsy    ISTb    InSv
PM     1       1       1       3       2      12
```

**10** Post the SPMs by typing

**>POST SPM spm_no**

and pressing the Enter key.

*where*

**spm_no**
refers to number of the SPM (0 to 63)

*Example of a MAP screen:*

```
          SysB    ManB    OffL    CBsy    ISTb    InSv
   PM       7       2       2       2       9      16
  SPM       0       2       1       0       0       0

 SPM   20  InSv  Loc: Site HOST Floor  1 Row A  FrPos 13

 Shlf0 SL A Stat  Shlf0 SL A Stat  Shlf1 SL A Stat  Shlf1 SL A Stat
 -----  1 - ----  CEM 1  8 I InSv  -----  1 - ----  -----  8 - ----
 -----  2 - ----  OC3 0  9 A InSv  -----  2 - ----  -----  9 - ----
 DSP 3  3 I InSv  OC3 1 10 I InSv  -----  3 - ----  ----- 10 - ----
 -----  4 - ----  ----- 11 - ----  -----  4 - ----  ----- 11 - ----
 -----  5 - ----  DSP12 12 A InSv  -----  5 - ----  ----- 12 - ----
 -----  6 - ----  DSP13 13 A InSv  -----  6 - ----  ----- 13 - ----
 CEM 0  7 A InSv  ----- 14 A InSv  -----  7 - ----  ----- 14 - ----
```

**11** Select the active OC3 module by typing

**>SELECT OC3 module_no**

and pressing the Enter key.

*where*

**module_no**
is the number of the OC3 module (0 to 27)

*Example of a MAP screen:*

## IOD 2MPCOS SESFE SPM
**minor** (continued)

```
SPM 20    OC3 1      Act  InSv

Loc : Row E  FrPos  8 ShPos 24 ShId 0 Slot 10   Prot Grp : 1
Default Load: SPMLOAD                           Prot Role: Spare
```

**12** Access the protection level of the MAP screen by typing

**>PROT**

and pressing the Enter key.

**13** Do a manual protection switch with a module in the same protection group by typing

**>MANUAL from_unit_no to_unit_no**

and pressing the Enter key.

*where*

**from_unit_no**
is the number (0 to 27) of the module with the alarm.

**to_unit_no**
is the number (0 to 27) of the inactive module in the same protection group

*Example of a MAP screen:*

```
SPM 20 OC3 1 Manual: Request has been submitted.
SPM 20 OC3 0 Manual: Command completed.
```

**14** Return to the carrier level of the MAP screen and list the alarms on the carrier by typing

**>LISTALM carrier_no**

and pressing the Enter key.

**15** Determine whether the alarm has cleared.

| If the alarm list shows | Do |
|---|---|
| SES or SESFE | step 17 |
| None | step 16 |

## IOD 2MPCOS SESFE SPM minor (end)

**16** Replace the OC3 module. For detailed instructions, see “SPM NTLX71AA OC3 card" in the appropriate *Card Replacement Procedures*. When you have completed the procedure, go to Step 18.

**17** For further assistance, contact the personnel responsible for the next level of support.

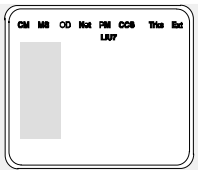
**18** You have completed this procedure. Return to the CI level of the MAP screen by typing

```
>QUIT  ALL
```

and pressing the Enter key.

# IOD 2MPCOS UAS SPM minor

## Alarm display




| CM | MS | IOD | Net | PM | CCS | Lns | Trks | Ext | APPL |
|---|---|---|---|---|---|---|---|---|---|
| . | . | **2MPCOS**. | . | | . | . | . | . | . |
| . | | . | . | | . | . | . | . | . |

## Indication

At the performance level of the MAP display, a carrier preceded by a number appears under the IOD header of the alarm banner and a minor alarm indicator appears beneath it.

## Meaning

The DMS-Spectrum Peripheral Module (SPM) alarm system detects a threshold crossing alert (TCA) for the unavailable seconds (UAS) and unavailable seconds far end (UASFE) performance parameters. The number of errored seconds detected has exceeded the daily limit. A TCA occurs when the unavailable seconds exceed the high level datafilled in table MNHSCARR for each carrier type. The SPM system clears the alarm when the parameter returns to the low level datafilled in table MNHSCARR.

Log CARR811 relates to the UAS and UASFE alarms. Table MNHSCARR contains the datafill related to the UAS and UASFE alarms.

## Impact

Service is not affected.

The ES alarm applies to the following carrier classes:

- OC3P
- STS-3P
- STS-1P (near end and far end)
- DS-3P
- VT-1.5P
- DS-1P

## Common procedures

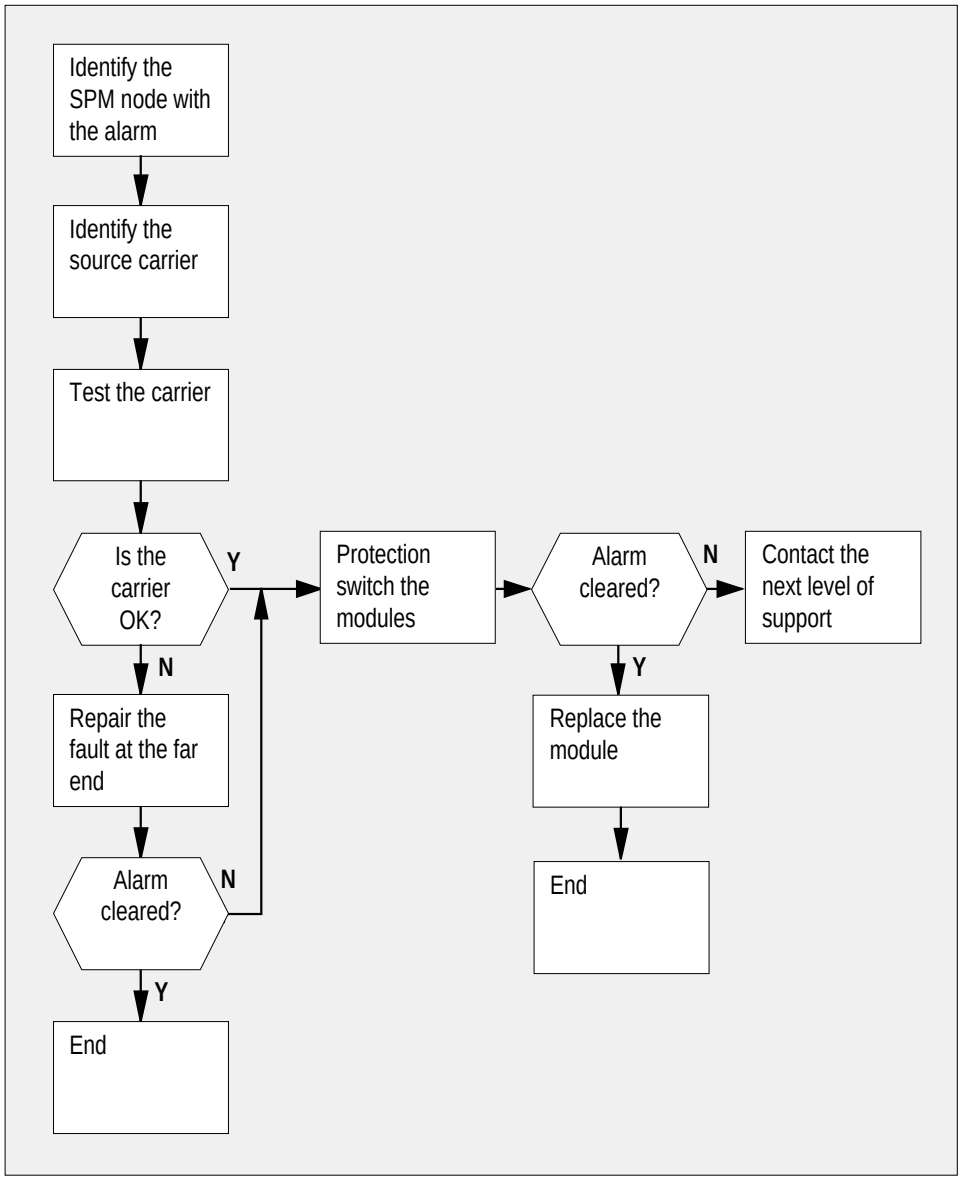
See “Accessing SPM alarms."

**IOD 2MPCOS UAS SPM**
**minor** (continued)

## Action

The following flowchart is only a summary of this procedure. Use the instructions in the step-action procedure that follows the flowchart to clear the alarm.

## Summary of clearing an UAS alarm



# IOD 2MPCOS UAS SPM
## **minor** (continued)

**Clearing a UAS alarm**

***At the MAP terminal***

**1** Access the carrier level of the MAP screen by typing

**> MAPCI;MTC;TRKS;CARRIER**

and pressing the Enter key.

*Example of a MAP screen:*

```
CLASS    ML   OS ALRM  SYSB  MANB UNEQ OFFL  CBSY PBSY  INSV
TRUNKS    1    0   28    28     0    0    0     0    0    50
TIMING    0    0    0     0     0    0    0     0    0     2
HSCARR    0    0    0     1     3    0    1     0    0   180

MTC:
TRKS:
CARRIER:
```

**2** Display all carrier alarms by typing

**>DISP ALARM**

and pressing the Enter key.

*Example of a MAP screen:*

```
PM    NO CKT     PM    NO CKT     PM    NO CKT     PM    NO CKT
DTC    0  13     DTC    0  14     DTC    0  15     DTC    0  18
SPM   20  29     SPM   20  30     SPM   20  31     SPM   20  32


DISPLAYED BY CONDITION : ALARM
DISP:
MORE...
```

**3** Record the SPM number (NO) and circuit (CKT) number combinations.

**4** Post each SPM carrier circuit with an alarm by typing

**>POST SPM spm_no ckt_no**

and pressing the Enter key.

*where*

## IOD 2MPCOS UAS SPM
## **minor** (continued)

**spm_no**
is the number of the SPM (0 to 63)

**ckt_no**
is the number of the circuit (0 to 181)

*Example of a MAP screen:*

```
STS1P
N  CLASS  SITE SPM STS1P  DS3P VT15P  DS1P CKT STATE  MA
0  HSCARR HOST  20     2     -     -     -  33 InSv   --


SIZE OF POSTED SET  :  30                    MORE...
```

**5** Test the carrier by typing

**>TST carrier_no**

and pressing the Enter key.

*where*

**carrier_no**
is the number of the carrier (0 to 4)

**6** Determine whether the carrier signal is valid.

| If the test result shows | Do |
|---|---|
| test passed | step 9 |
| test failed | step 7 |

**7** Troubleshoot the carrier circuit according to your company procedures. When you have completed the procedure, return to this point.

***Note:*** Contact your next level of support if you are not familiar with the procedures required to troubleshoot carrier circuits.

**8** List the alarms on the carrier by typing

**>LISTALM carrier_no**

and pressing the Enter key.

*where*

**carrier_no**
is the number of the carrier (0 to 4)

| If the alarm list shows | Do |
|---|---|
| None | step 18 |

# IOD 2MPCOS UAS SPM
## **minor** (continued)

| If the alarm list shows | Do |
|---|---|
| UAS or UASFE | step 9 |

**9** Access the PM level of the MAP screen by typing

**>MAPCI;MTC;PM**

and pressing the Enter key.

*Example of a MAP screen:*

```
     SysB    ManB    OffL    CBsy    ISTb    InSv
PM    1       1       1       3       2       12
```

**10** Post the SPMs by typing

**>POST SPM spm_no**

and pressing the Enter key.

*where*

**spm_no**
refers to number of the SPM (0 to 63)

*Example of a MAP screen:*

```
          SysB    ManB    OffL    CBsy    ISTb    InSv
   PM       7       2       2       2       9      16
  SPM       0       2       1       0       0       0

SPM   20  InSv  Loc: Site HOST Floor  1 Row A  FrPos 13

Shlf0 SL A Stat  Shlf0 SL A Stat  Shlf1 SL A Stat  Shlf1 SL A Stat
-----  1 - ----  CEM 1  8 I InSv  -----  1 - ----  -----  8 - ----
-----  2 - ----  OC3 0  9 A InSv  -----  2 - ----  -----  9 - ----
DSP 3  3 I InSv  OC3 1 10 I InSv  -----  3 - ----  ----- 10 - ----
-----  4 - ----  ----- 11 - ----  -----  4 - ----  ----- 11 - ----
-----  5 - ----  DSP12 12 A InSv  -----  5 - ----  ----- 12 - ----
-----  6 - ----  DSP13 13 A InSv  -----  6 - ----  ----- 13 - ----
CEM 0  7 A InSv  ----- 14 A InSv  -----  7 - ----  ----- 14 - ----
```

**11** Select the active OC3 module by typing

**>SELECT OC3 module_no**

and pressing the Enter key.

## IOD 2MPCOS UAS SPM
## **minor** (continued)

*where*

**module_no**
is the number of the OC3 module (0 to 27)

*Example of a MAP screen:*

```
SPM 20    OC3 1      Act  InSv

Loc : Row E  FrPos  8 ShPos 24 ShId 0 Slot 10   Prot Grp : 1
Default Load: SPMLOAD                           Prot Role: Spare
```

**12** Access the protection level of the MAP screen by typing

**>PROT**

and pressing the Enter key.

**13** Do a manual protection switch with a module in the same protection group by typing

**>MANUAL from_unit_no to_unit_no**

and pressing the Enter key.

*where*

**from_unit_no**
is the number (0 to 27) of the module with the alarm.

**to_unit_no**
is the number (0 to 27) of the inactive module in the same protection group

*Example of a MAP screen:*

```
SPM 20 OC3 1 Manual: Request has been submitted.
SPM 20 OC3 0 Manual: Command completed.
```

**14** Return to the carrier level of the MAP screen and list the alarms on the carrier by typing

**>LISTALM carrier_no**

and pressing the Enter key.

## IOD 2MPCOS UAS SPM
## **minor** (end)

**15** Determine whether the alarm has cleared.

| If the alarm list shows | Do |
|---|---|
| UAS or UASFE | step 17 |
| None | step 16 |

**16** Replace the OC3 module. For detailed instructions, see “SPM NTLX71AA OC3 card" in the appropriate *Card Replacement Procedures*. When you have completed the procedure, go to Step 18.

**17** For further assistance, contact the personnel responsible for the next level of support.

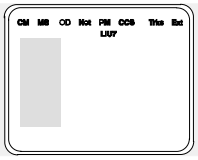
**18** You have completed this procedure. Return to the CI level of the MAP screen by typing

```
>QUIT  ALL
```

and pressing the Enter key.

# IOD 2MPCOS UASFE SPM minor

## Alarm display



| CM | MS | IOD | Net | PM | CCS | Lns | Trks | Ext | APPL |
|---|---|---|---|---|---|---|---|---|---|
| . | . | **2MPCOS**. | . | | . | . | . | . | . |
| . | | **.** | **.** | | **.** | **.** | **.** | **.** | **.** |

## Indication

At the performance level of the MAP display, a carrier preceded by a number appears under the IOD header of the alarm banner and a minor alarm indicator appears beneath it.

## Meaning

The DMS-Spectrum Peripheral Module (SPM) alarm system detects a threshold crossing alert (TCA) for the unavailable seconds (UAS) and unavailable seconds far end (UASFE) performance parameters. The number of errored seconds detected has exceeded the daily limit. A TCA occurs when the unavailable seconds exceed the high level datafilled in table MNHSCARR for each carrier type. The SPM system clears the alarm when the parameter returns to the low level datafilled in table MNHSCARR.

Log CARR811 relates to the UAS and UASFE alarms. Table MNHSCARR contains the datafill related to the UAS and UASFE alarms.

## Impact

Service is not affected.

The ES alarm applies to the following carrier classes:

- OC3P
- STS-3P
- STS-1P (near end and far end)
- DS-3P
- VT-1.5P
- DS-1P

## Common procedures

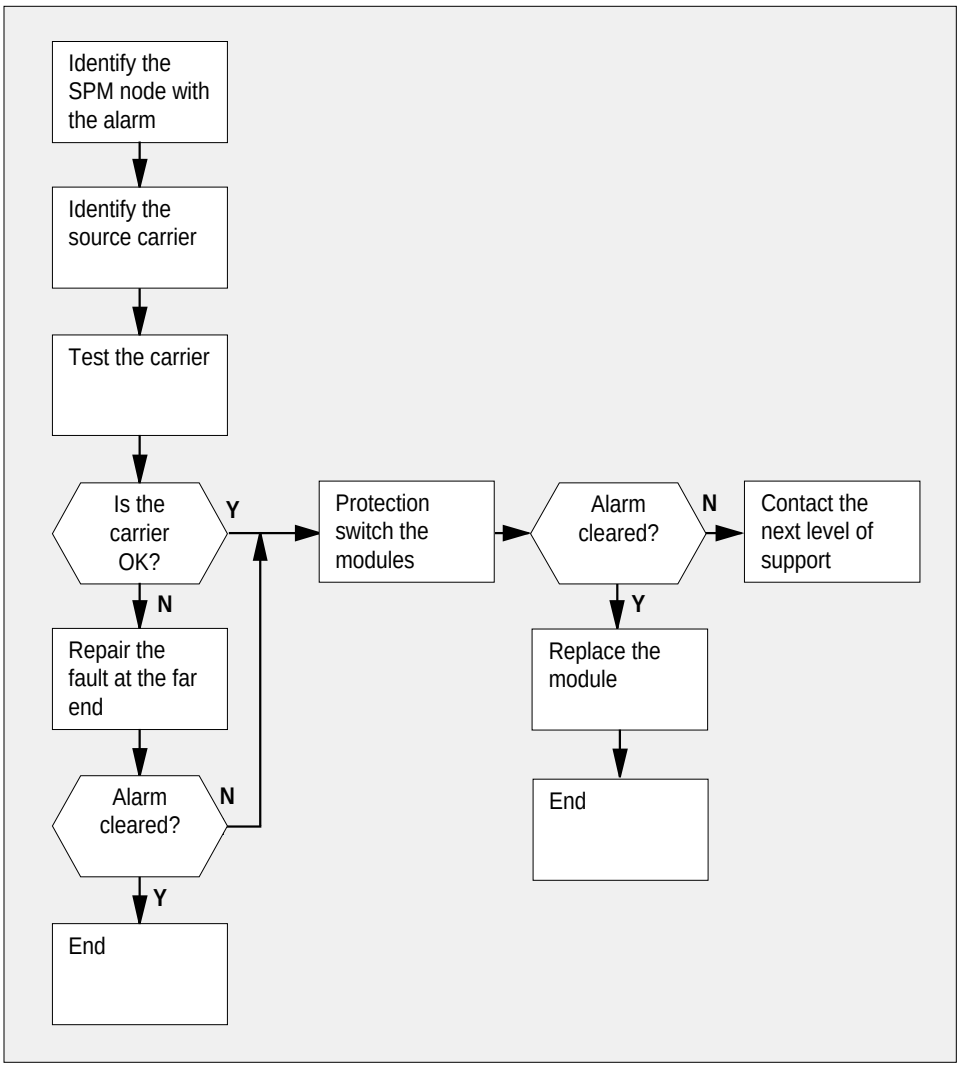
See “Accessing SPM alarms."

# IOD 2MPCOS UASFE SPM
**minor** (continued)

## Action

The following flowchart is only a summary of this procedure. Use the instructions in the step-action procedure that follows the flowchart to clear the alarm.

## Summary of clearing an UASFE alarm



# IOD 2MPCOS UASFE SPM
## **minor** (continued)

**Clearing a UASFE alarm**

***At the MAP terminal***

**1** Access the carrier level of the MAP screen by typing

**> MAPCI;MTC;TRKS;CARRIER**

and pressing the Enter key.

*Example of a MAP screen:*

```
CLASS    ML   OS ALRM  SYSB  MANB UNEQ OFFL  CBSY PBSY  INSV
TRUNKS    1    0   28    28     0    0    0     0    0    50
TIMING    0    0    0     0     0    0    0     0    0     2
HSCARR    0    0    0     1     3    0    1     0    0   180

MTC:
TRKS:
CARRIER:
```

**2** Display all carrier alarms by typing

**>DISP ALARM**

and pressing the Enter key.

*Example of a MAP screen:*

```
  PM    NO CKT     PM    NO CKT     PM    NO CKT     PM    NO CKT
  DTC    0  13     DTC    0  14     DTC    0  15     DTC    0  18
  SPM   20  29     SPM   20  30     SPM   20  31     SPM   20  32


  DISPLAYED BY CONDITION : ALARM
  DISP:
  MORE...
```

**3** Record the SPM number (NO) and circuit (CKT) number combinations.

**4** Post each SPM carrier circuit with an alarm by typing

**>POST SPM spm_no ckt_no**

and pressing the Enter key.

*where*

# IOD 2MPCOS UASFE SPM
## **minor** (continued)

**spm_no**
is the number of the SPM (0 to 63)

**ckt_no**
is the number of the circuit (0 to 181)

*Example of a MAP screen:*

```
STS1P
N  CLASS  SITE SPM STS1P  DS3P VT15P  DS1P CKT STATE  MA
0  HSCARR HOST  20     2     –     –     –  33 InSv   --


SIZE OF POSTED SET  :  30                    MORE...
```

**5** Test the carrier by typing

**>TST carrier_no**

and pressing the Enter key.

*where*

**carrier_no**
is the number of the carrier (0 to 4)

**6** Determine whether the carrier signal is valid.

| If the test result shows | Do |
|---|---|
| test passed | step 9 |
| test failed | step 7 |

**7** Troubleshoot the carrier circuit according to your company procedures. When you have completed the procedure, return to this point.

***Note:*** Contact your next level of support if you are not familiar with the procedures required to troubleshoot carrier circuits.

**8** List the alarms on the carrier by typing

**>LISTALM carrier_no**

and pressing the Enter key.

*where*

**carrier_no**
is the number of the carrier (0 to 4)

| If the alarm list shows | Do |
|---|---|
| None | step 18 |

## IOD 2MPCOS UASFE SPM
**minor** (continued)

| If the alarm list shows | Do |
|---|---|
| UAS or UASFE | step 9 |

**9** Access the PM level of the MAP screen by typing

**>MAPCI;MTC;PM**

and pressing the Enter key.

*Example of a MAP screen:*

```
    SysB    ManB    OffL    CBsy    ISTb    InSv
PM   1       1       1       3       2      12
```

**10** Post the SPMs by typing

**>POST SPM spm_no**

and pressing the Enter key.

*where*

**spm_no**
refers to number of the SPM (0 to 63)

*Example of a MAP screen:*

```
          SysB    ManB    OffL    CBsy    ISTb    InSv
  PM        7       2       2       2       9      16
 SPM        0       2       1       0       0       0

SPM   20  InSv  Loc: Site HOST Floor  1 Row A  FrPos 13

Shlf0 SL A Stat  Shlf0 SL A Stat  Shlf1 SL A Stat  Shlf1 SL A Stat
-----  1 - ----  CEM 1  8 I InSv  -----  1 - ----  -----  8 - ----
-----  2 - ----  OC3 0  9 A InSv  -----  2 - ----  -----  9 - ----
DSP 3  3 I InSv  OC3 1 10 I InSv  -----  3 - ----  ----- 10 - ----
-----  4 - ----  ----- 11 - ----  -----  4 - ----  ----- 11 - ----
-----  5 - ----  DSP12 12 A InSv  -----  5 - ----  ----- 12 - ----
-----  6 - ----  DSP13 13 A InSv  -----  6 - ----  ----- 13 - ----
CEM 0  7 A InSv  ----- 14 A InSv  -----  7 - ----  ----- 14 - ----
```

**11** Select the active OC3 module by typing

**>SELECT OC3 module_no**

and pressing the Enter key.

# IOD 2MPCOS UASFE SPM
## **minor** (continued)

*where*

**module_no**
is the number of the OC3 module (0 to 27)

*Example of a MAP screen:*

```
SPM 20    OC3 1      Act  InSv

Loc : Row E  FrPos  8 ShPos 24 ShId 0 Slot 10   Prot Grp : 1
Default Load: SPMLOAD                           Prot Role: Spare
```

**12** Access the protection level of the MAP screen by typing

**>PROT**

and pressing the Enter key.

**13** Do a manual protection switch with a module in the same protection group by typing

**>MANUAL from_unit_no to_unit_no**

and pressing the Enter key.

*where*

**from_unit_no**
is the number (0 to 27) of the module with the alarm.

**to_unit_no**
is the number (0 to 27) of the inactive module in the same protection group

*Example of a MAP screen:*

```
SPM 20 OC3 1 Manual: Request has been submitted.
SPM 20 OC3 0 Manual: Command completed.
```

**14** Return to the carrier level of the MAP screen and list the alarms on the carrier by typing

**>LISTALM carrier_no**

and pressing the Enter key.

# IOD 2MPCOS UASFE SPM **minor** (end)

**15** Determine whether the alarm has cleared.

| If the alarm list shows | Do |
|---|---|
| UAS or UASFE | step 17 |
| None | step 16 |

**16** Replace the OC3 module. For detailed instructions, see “SPM NTLX71AA OC3 card" in the appropriate *Card Replacement Procedures*. When you have completed the procedure, go to Step 18.

**17** For further assistance, contact the personnel responsible for the next level of support.

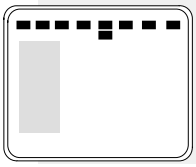
**18** You have completed this procedure. Return to the CI level of the MAP screen by typing

```
>QUIT  ALL
```

and pressing the Enter key.

# IOD DEVBnn
# critical, major, or minor

## Alarm display



| CM | MS | **IOD** | Net | PM | CCS | Lns | Trks | Ext | APPL |
|---|---|---|---|---|---|---|---|---|---|
| . | . | **DEVBnn** | . | . | . | . | . | . | . |

## Indication

At the MTC level of the MAP display, DEVB appears under the IOD header of the alarm banner. DEVB, followed by a number (nn), indicates a device driver critical, major, or minor alarm.

## Meaning

The DIRP utility failed to identify the device driver, DIRPDSON or DIRPTSON. Another possibility is that the device driver does not run. These failures are a result of damaged software or hardware that the device driver depends on.

## Result

If you repair the device driver immediately, the condition does not affect service. Failure to repair the device driver immediately results in loss of automatic message accounting (AMA) data.

## Common procedures

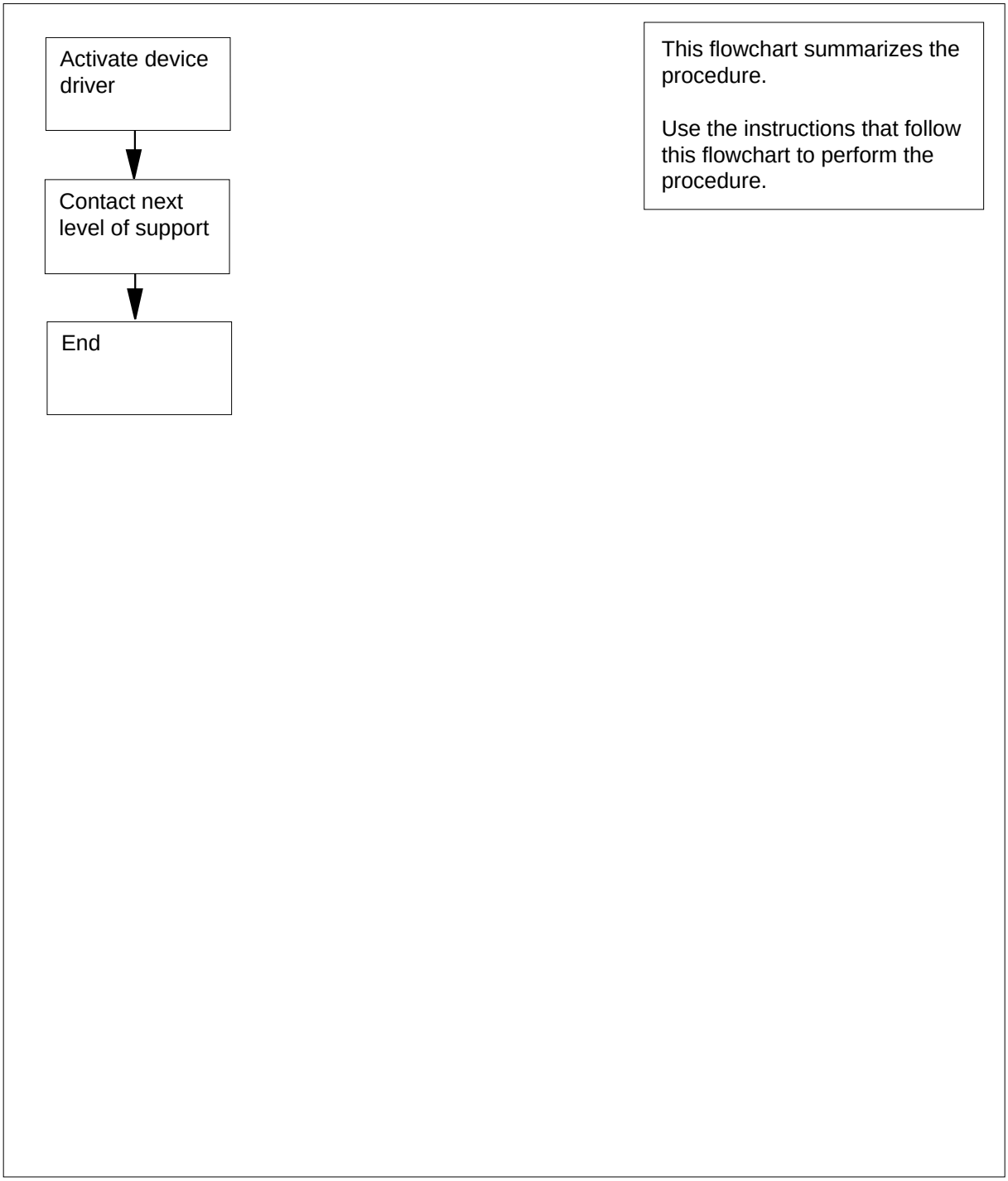
There are no common procedures.

## Action

The flowchart is a summary of the procedure. Use the instructions in the step-action procedure that follows the flowchart to clear the alarm.

# IOD DEVBnn
# critical, major, or minor (continued)

**Summary of Clearing an IOD DEVBnn critical, major, or minor alarm**



# IOD DEVBnn critical, major, or minor (end)

**Clearing a IOD DEVBnn critical, major, or minor alarm**

***At your current location***

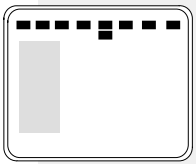
**1** Perform the correct procedure in *Recovery Procedures*. to activate the device driver. Complete the procedure and return to this point.

**2** For additional help, contact the next level of support.

**3** The procedure is complete.

# IOD DMNTnn minor

## Alarm display



| CM | MS | IOD | Net | PM | CCS | Lns | Trks | Ext | APPL |
|---|---|---|---|---|---|---|---|---|---|
| . | . | DMNTnn | . | . | . | . | . | . | . |

## Indication

At the MTC level of the MAP display, DMNT appears under the IOD header of the alarm banner. DMNT followed by a number (nn) indicates a demount minor alarm.

## Meaning

The transmission of a tape from a tape drive to a remote data center is complete. The number that follows DMNT represents the number of the tape drive with the tape.

## Result

Service is not affected.

## Common procedures

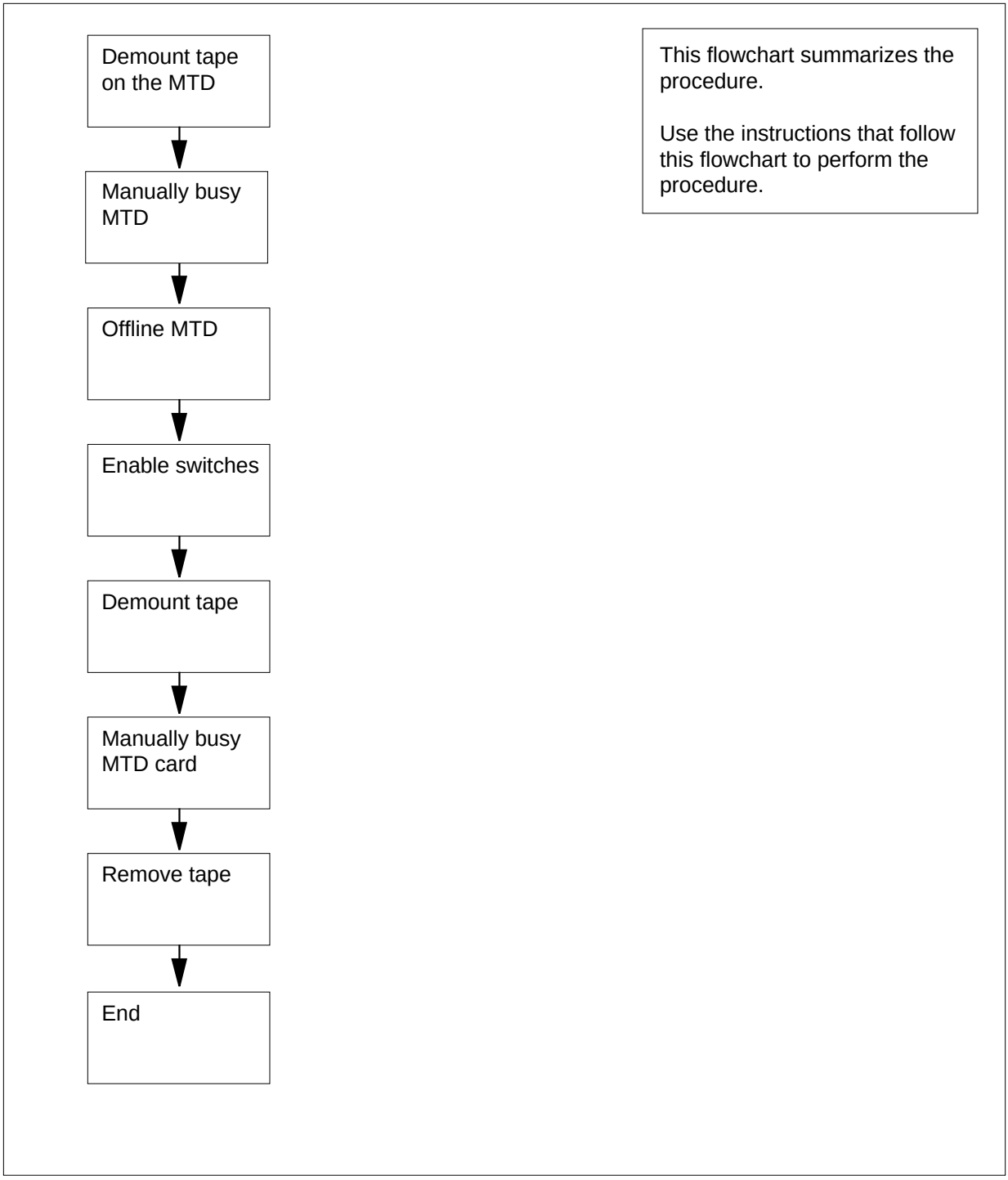
There are no common procedures.

## Action

The following flowchart is a summary of the procedure. Use the instructions in the step-action procedure that follows the flowchart to clear the alarm.

# IOD DMNTnn
# **minor** (continued)

**Summary of Clearing a IOD DMNTnn minor alarm**



# IOD DMNTnn
# minor (continued)

**Clearing a IOD DMNTnn minor alarm**

***At the MAP terminal***

**1** To access the Xfer (transfer) level of the MAP terminal, type

**>MAPCI;MTC;IOD;XFER**

and press the Enter key.

*Example of a MAP:*

```
IOD
IOC  0  1  2  3
STAT .  .  .  .

DIRP:        XFER: DMNT74  SLM :   .  NPO:   .   NX25:  .
MLP :   .    DPPP:   .   DPPU:   .   SCAI :
```

**2** To list the files that require demounting, type

**>QUERY  DMNT**

and press the Enter key.

**3** Record the number in the HOLDNO field of the MAP terminal. The volume name is in field FILE_LOCN. Match the two digits that appear in the alarm to the HOLDNO field.

**4** Determine from office records the magnetic tape drive (MTD) with the mounted tape.

**5** To demount the tape, type

**>DMNT**

and press the Enter key.

*where*

**nn**
is the number that appears in the alarm

**6** To post the configured controller system, type

**>IOC ioc_no**

and press the Enter key.

*where*

**ioc_no**
is the number of the affected IOC or IOM

*Example of an IOC MAP display:*

## IOD DMNTnn
## **minor** (continued)

```
DIRP: SMDR B XFER:   .   SLM :   .   NPO:   .   NX25:  .
MLP :   .    DPPP:   .   DPPU:   .   SCAI :

IOC  CARD     0    1    2    3    4    5    6    7   8
 0   PORT   0123 0123 0123 0123 0123 0123 0123 0123 0123
     STAT  .--- .--- ...P ..-- ..--  ---  ---  ---  ---
     TYPE   MTD  DDU  CONS  DLC  CONS
```

*Example of an IOM MAP display:*

```
DIRP: SMDR B XFER:   .   SLM :   .   NPO:   .   NX25:  .
MLP :   .    DPPP:   .   DPPU:   .   SCAI :

IOC   PORT 0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17
(IOM) STAT . . . - . . - - - .  -  -  -  -  -  -  -  -
0     TYPE C C C   C M       M                    S  S
           O O O   O T       P                    C  C
           N N N   N D       C                    S  S
```

| If the controller | Do |
|---|---|
| is IOC | step 7 |
| is IOM | step 8 |

**7** To post the affected MTD card, type

**>CARD card_no**

and press the Enter key.

*where*

**card_no**
is the number of the MTD card

*Example of a MAP display:*

```
Card 0   Unit     0
        User    system      Drive_state
        Status  Ready       On_line
```

Go to step 9.

**8** To post the affected IOM MTD port, type

**>PORT port_no**

and press the Enter key.

*where*

**port_no**
is the number of the MTD port

*Example of a MAP display:*

```
Port 5   MTD     0
        User    system      Drive_state
        Status  Ready       On_line
```

**9** To make the MTD manually busy, type

**>BSY**

and press the Enter key.

```
bsy
OK
```

| If the BSY command | Do |
|---|---|
| passed | step 10 |
| failed | step 11 |

**10** To place the MTD offline, type

**>OFFL**

and press the Enter key.

Go to step 14.

**11** Determine from office logs or from operating company personnel why you cannot busy the MTD.

| If Another user | Do |
|---|---|
| uses the MTD | step 12 |
| does not use the MTD | step 19 |

**12** When you have permission, continue this procedure.

**13** To enable the switches, type

**>INHIBIT mtd_no OFF**

and press the Enter key.

*where*

**mtd_no**
is the number of the available MTD

**14** To demount the tape, type

**>DEMOUNT tape_name**

and press the Enter key.

*where*

# IOD DMNTnn
# minor (end)

**tape_name**
is the name of the tape

**15** To make the MTD manually busy, type

**>BSY**

and press the Enter key.

```
bsy
OK
```

| If the BSY command | Do |
|---|---|
| passed | step 16 |
| failed | step 19 |

***At the switch***

**16** Remove the tape from the hub.

| If the tape | Do |
|---|---|
| contains OM or AMA data | step 17 |
| does not contain OM or AMA data | step 18 |

**17** Enter the tape volume serial number in the DIRPHOLD. Perform the correct procedure in the *Translations Guide*. Complete the procedure and return to this point.

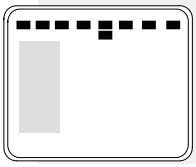
**18** Store the tape or prepare the tape for shipping.

**19** For additional help, contact the next level of support.

**20** The procedure is complete.

# IOD HOLDnn minor

## Alarm display



| CM | MS | IOD | Net | PM | CCS | Lns | Trks | Ext | APPL |
|---|---|---|---|---|---|---|---|---|---|
| . | . | HOLDnn | . | . | . | . | . | . | . |

## Indication

At the MTC level of the MAP display, HOLD appears under the IOD header of the alarm banner. HOLD followed by a number (nn) indicates a hold minor alarm.

## Meaning

A number of slots (nn) out of a possible 100 slots are free in table DIRPHOLD.

## Result

Service is not affected.

## Common procedures

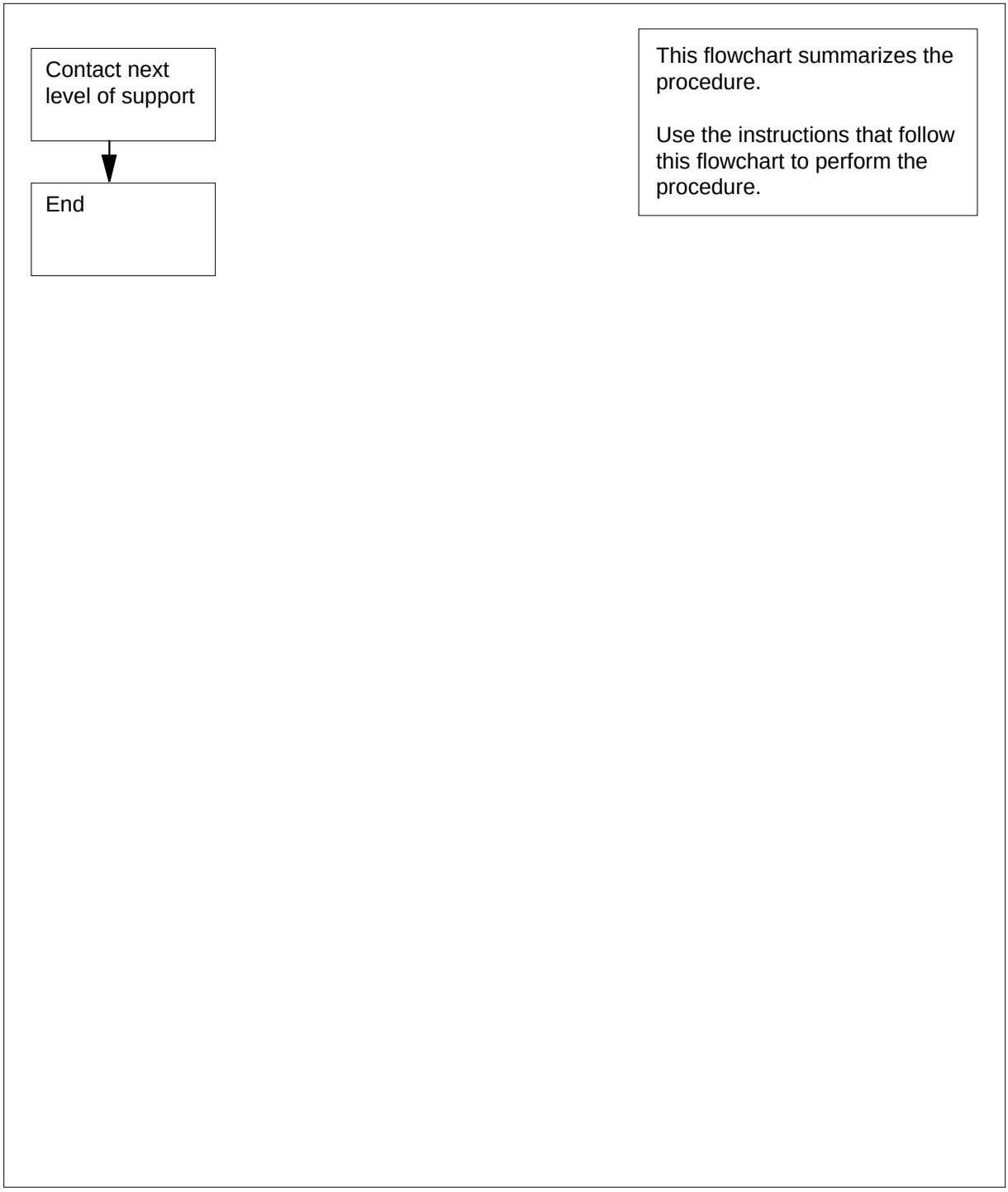
There are no common procedures.

## Action

The following flowchart is a summary of the procedure. Use the instructions in the step-action procedure that follows the flowchart to clear the alarm.

# IOD HOLDnn
# **minor** (continued)

**Summary of Clearing an IOD HOLDnn minor alarm**



# IOD HOLDnn minor (end)

**Clearing an IOD HOLDnn minor alarm**

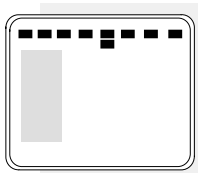
***At your Current Location***

**1** For additional help, contact the next level of support.

**2** The procedure is complete.

# IOD ITOC critical

## Alarm display



| CM | MS | IOD | Net | PM | CCS | Lns | Trks | Ext | APPL |
|---|---|---|---|---|---|---|---|---|---|
| . | . | ITOC *C* | . | . | . | . | . | . | . |

## Indication

At the MTC level of the MAP display, ITOC appears under the IOD header of the alarm banner. The ITOC indicates an image table of contents (ITOC) critical alarm.

## Meaning

Image files are not registered do not exist in the two computing module (CM) ITOCs. Image files are not registered in the two message switch (MS) ITOCs. Image files are not registered for both CM and for both MS ITOCs, of the system load module (SLM) disks.

## Result

A reload initiated during an ITOC critical alarm can cause a loss of service.

## Common procedures

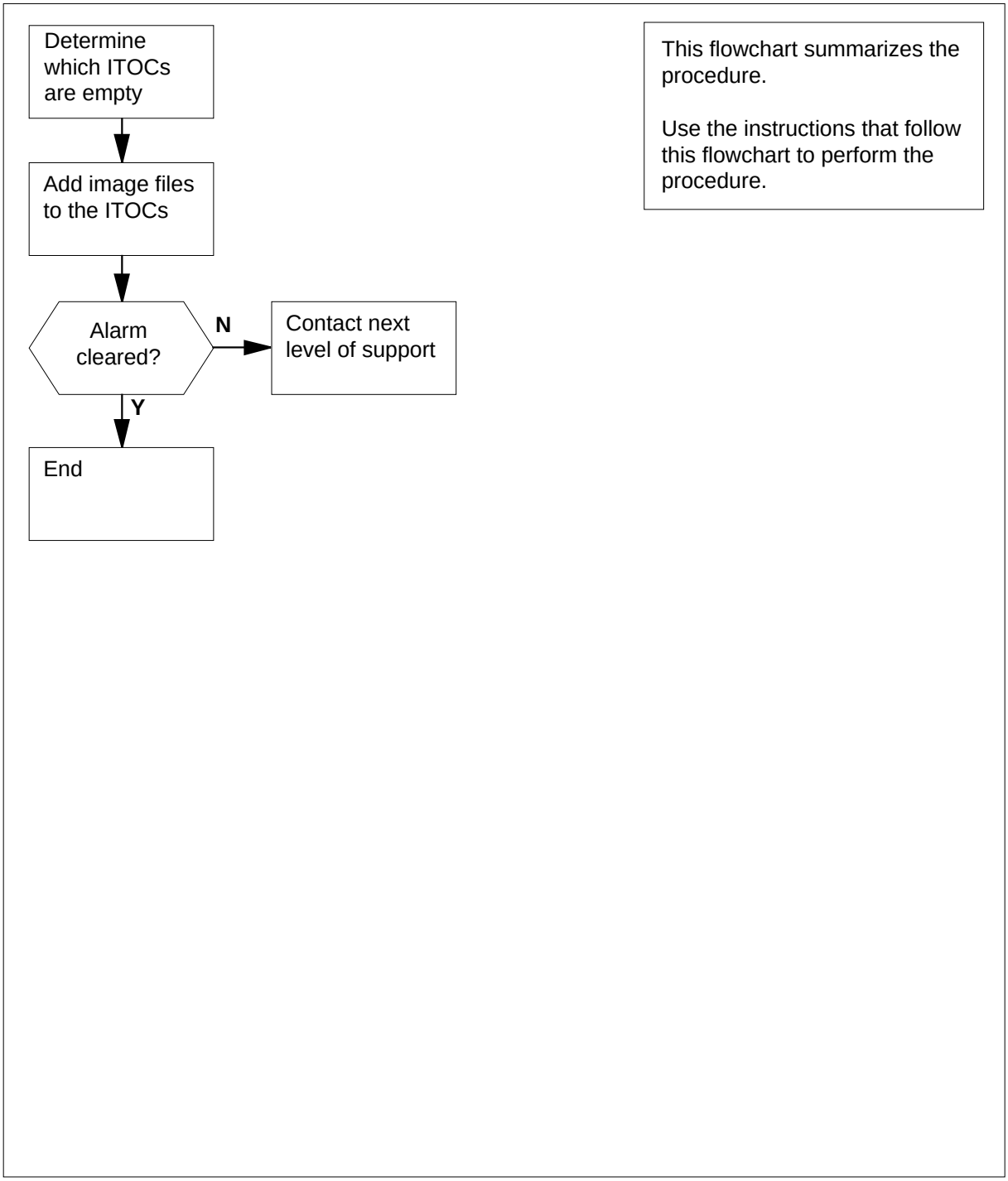
There are no common procedures.

## Action

The following flowchart is a summary of the procedure. Use the instructions in the step-action procedure that follows the flowchart to clear the alarm.

# IOD ITOC
## **critical** (continued)

**Summary of Clearing an IOD ITOC critical alarm**



# IOD ITOC
## **critical** (continued)

### Clearing an IOD ITOC alarm

***At the MAP terminal***

**1** To ensure that you are at the CI level of the MAP display, type

**>QUIT ALL**

and press the Enter key.

**2** To access the disk utility, type

**>DISKUT**

and press the Enter key.

**3** To list the volumes on the SLM disks, type

**>LISTVOLS CM**

and press the Enter key.

*Example of a MAP response:*

```
Volumes found on the node CM:
-----------------------------
NAME          TYPE   TOTAL     FREE   TOTAL   OPEN   ITOC   LARGEST
                    BLOCKS   BLOCKS   FILES  FILES  FILES FREE SEGMENT
-------------------------------------------------------------------------
S00DIMAGE1     STD  614389   142554      28      0      0     81715
S00DPMLOADS    STD  614389   137474      83      0      0     82386
S00DDLOG       STD    8185     4995      49      0      0       586
S01DIMAGE1     STD  614389    29436      39      0      0      7320
S00DPMLOADS    STD   51189      245     116      0      0        78
S01DDLOG       STD    8185      597      15      0      0       134

Total number of volumes found on node CM : 6
```

**4** Determine from office records the volumes that contain the CM and MS image files (one image volume for each disk).

**5** List the file information for the image volume on the disk of SLM 0. Type

**>LISTFL disk_volume_name**

and press the Enter key.

*where*

**disk_volume_name**
is the name of the disk of SLM 0 (S00D) and the name of the volume on S00D that contains the CM and MS image files

*Example input:*

**>LISTFL S00DIMAGE1**

*Example of a MAP response:*

```
File information for volume S00DIMAGE1:
{NOTE:  1 BLOCK = 512 BYTES }
------------------------------------------------------------
FILE NAME      O R I O O O FILE   MAX  NUM OF    FILE    LAST
               R E T P L L CODE   REC RECORDS    SIZE  MOFIFY
               G C O E D D        LEN      IN      IN    DATE
                  C N                    FILE   BLOCKS
------------------------------------------------------------
930215_CM      I F           0 1020    6957    13914 930215
930215_MS      I F           0 1020  176542   353084 930215
ERS35CG        O V           0  120     761      511 930212
APX35CG        0 V           0  120      52      511 930212
FPX35CG        0 V           0  120    3296     1023 930216
LRC35CG        0 V           0  120    4384     1535 930216
LCC35CG        0 V           0  120      83      511 930215
ASN1UI$LD      0 V           0  120      37      511 930129
LRS35CD        0 V           0  120     493      511 920109
LPX35CG        0 F           0  120      80      511 930212
930212_CM      0 V           0  120    6908    13914 930212
930212_MS      0 V           0  120  174029   353084 920212
```

**6** Determine if a registered CM image file exists in the ITOC for SLM 0.

***Note:*** The letter Y under the ITOC header confirms the file in the ITOC is registered. The area is blank if a registered file does not exist. The MAP response in step 5 does not contain an MS or CM image file in the ITOC.

| If a CM image file | Do |
|---|---|
| is registered | step 9 |
| is not registered | step 7 |

**7** Record the file name of the current CM image file.

***Note:*** In the MAP response in step 5, the current CM image file is 930215_CM.

**8** To add the current CM image file to the ITOC for SLM 0, type

**>SETBOOTFL `disk_volume_name` `file_name` CM 1 ACTIVE and press the Enter key.**

*where*

**disk_volume_name**
is the disk and volume name specified in step 5

**file_name**
is the name of the current CM image file

*Example input:*

```
>SETBOOTFL  S00DIMAGE1  930215_CM  CM  1  ACTIVE
```

*Example of a MAP response:*

## IOD ITOC
## **critical** (continued)

```
File 930215_CM in volume S00DIMAGE1 has been
registered in the Image Table Of Contents for CM on
SLM, unit 0 as entry number 1.
It is also registered as the active boot file.
```

**9** Determine if a registered MS image file exists in the ITOC for SLM 0.

| If an MS image file | Do |
|---|---|
| registered | step 12 |
| did not register | step 10 |

**10** Record the file name of the current MS image file.

***Note:*** In the example of a MAP response in step 5, the current MS image file is 930215_MS.

**11** To add the current MS image file to the ITOC for SLM 0, type

**`>SETBOOTFL disk_volume_name file_name MS 1 ACTIVE`**

and press the Enter key.

*where*

**disk_volume_name**
is the disk and volume name specified in step 5

**file_name**
is the name of the current MS image file

*Example input:*

**`>SETBOOTFL S00DIMAGE1 930215_MS MS 1 ACTIVE`**

*Example of a MAP response:*

```
File 930215_MS in volume S00DIMAGE1 has been
registered in the Image Table Of Contents for CM
on SLM, unit 0 as entry number 1.
It is also registered as the active boot file.
```

**12** To list the file information for the image volume on the disk of SLM 1, type

**`>LISTFL disk_volume_name`**

and press the Enter key.

*where*

**disk_volume_name**
is the name of the disk of SLM 1 (S01D) and the name of the volume on S01D that contains the CM and MS image files

*Example input:*

**`>LISTFL S01DIMAGE1`**

*Example of a MAP response:*

```
File information for volume S01DIMAGE1:
{NOTE:  1 BLOCK = 512 BYTES }
------------------------------------------------------------
FILE NAME      O R I O O O FILE   MAX  NUM OF    FILE    LAST
               R E T P L L CODE   REC RECORDS    SIZE  MOFIFY
               G C O E D D        LEN      IN      IN    DATE
                  C N                    FILE   BLOCKS
------------------------------------------------------------
930215_CM      I F           0  1020    6957    13914 930215
930215_MS      I F           0  1020  176542   353084 930215
ERS35CG        O V           0   120     761      511 930212
APX35CG        0 V           0   120      52      511 930212
FPX35CG        0 V           0   120    3296     1023 930216
LRC35CG        0 V           0   120    4384     1535 930216
LCC35CG        0 V           0   120      83      511 930215
ASN1UI$LD      0 V           0   120      37      511 930129
LRS35CD        0 V           0   120     493      511 920109
LPX35CG        0 F           0   120      80      511 930212
930212_CM      0 V           0   120    6908    13914 930212
930212_MS      0 V           0   120  174029   353084 920212
```

**13** Determine if a registered CM image file exists in the ITOC for SLM 1.

***Note:*** The MAP response in step 12 does not contain an MS or CM image file in the ITOC.

| If a CM image file | Do |
|---|---|
| registered | step 16 |
| did not register | step 14 |

**14** Record the file name of the current CM image file.

**15** To add the current CM image file to the ITOC for SLM 1, type

**`>SETBOOTFL disk_volume_name file_name CM 1 ACTIVE`**

and press the Enter key.

*where*

**disk_volume_name**
is the disk and volume name specified in step 12

**file_name**
is the name of the current CM image file

*Example input:*

**`>SETBOOTFL S01DIMAGE1 930215_CM CM 1 ACTIVE`**

*Example of a MAP response:*

```
File 930215_CM in volume S01DIMAGE1 has been
registered in the Image Table Of Contents for CM
on SLM, unit 1 as entry number 1.
It is also registered as the active boot file.
```

# IOD ITOC
# **critical** (end)

**16** Determine if an MS image file is registered in the ITOC for SLM 1.

| If an MS image file | Do |
|---|---|
| is registered | step 19 |
| is not registered | step 17 |

**17** Record the file name of the current MS image file.

**18** To add the current MS image file to the ITOC for SLM 1, type

**>SETBOOTFL disk_volume_name file_name MS 1 ACTIVE**

and press the Enter key.

*where*

**disk_volume_name**
is the disk and volume name specified in step 12

**file_name**
is the name of the current MS image file

*Example input:*

**>SETBOOTFL S01DIMAGE1 930215_MS MS 1 ACTIVE**

*Example of a MAP response:*

```
File 930215_MS in volume S01DIMAGE1 has been
registered in the Image Table Of Contents for
MS on SLM, unit 1 as entry number 1.
It is also registered as the active boot file.
```

**19** Determine if the ITOC critical alarm did clear.

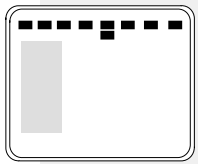
| If the alarm | Do |
|---|---|
| cleared | step 21 |
| did not clear | step 20 |

**20** For additional help, contact the next level of support.

**21** The procedure is complete.

# IOD ITOC minor

## Alarm display



| CM | MS | IOD | Net | PM | CCS | Lns | Trks | Ext | APPL |
|---|---|---|---|---|---|---|---|---|---|
| . | . | ITOC | . | . | . | . | . | . | . |

## Indication

At the MTC level of the MAP display, ITOC appears under the IOD header of the alarm banner. The ITOC indicates an image table of contents (ITOC) minor alarm.

## Meaning

Image files are registered in one of more computing module (CM) ITOC. Image files are also registered in one message switch (MS) ITOC. One of the two remaining ITOCs is empty.

## Result

Service is not affected.

## Common procedures

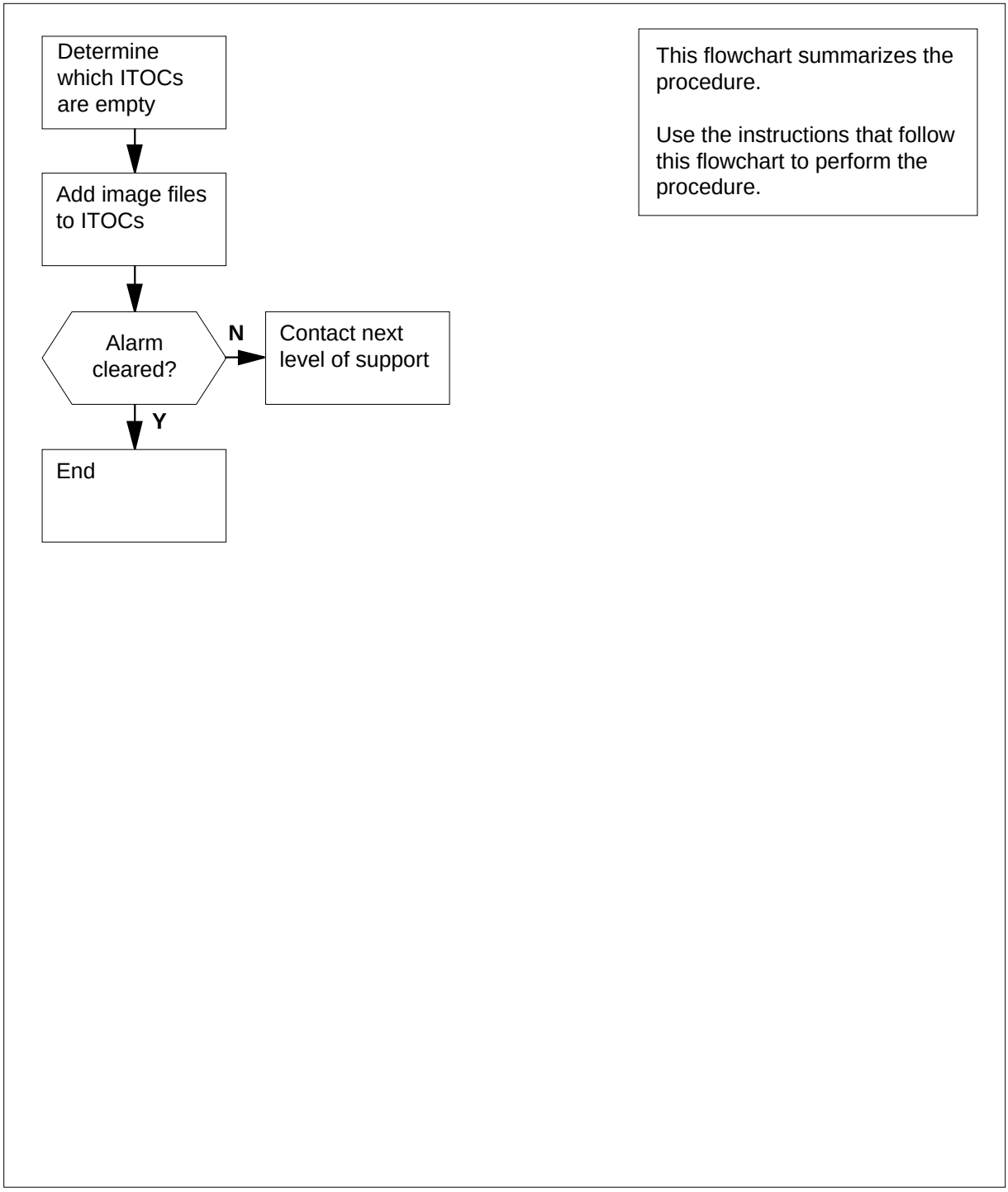
There are no common procedures.

## Action

The following flowchart is a summary of the procedure. Use the instructions in the step-action procedure that follows the flowchart to clear the alarm.

# IOD ITOC
## **minor** (continued)

**Summary of Clearing an IOD ITOC minor alarm**



# IOD ITOC
## **minor** (continued)

### Clearing an IOD ITOC minor alarm

***At the MAP terminal***

**1** To make sure that you are at the CI level of the MAP display, type

**>QUIT ALL**

and press the Enter key.

**2** To access the disk utility, type

**>DISKUT**

and press the Enter key.

**3** To list the volumes on the SLM disks, type

**>LISTVOLS CM**

and press the Enter key.

*Example of a MAP response:*

```
Volumes found on the node CM:
-----------------------------
NAME          TYPE   TOTAL     FREE   TOTAL   OPEN   ITOC   LARGEST
                    BLOCKS   BLOCKS   FILES  FILES  FILES FREE SEGMENT
-------------------------------------------------------------------------
S00DIMAGE1     STD  614389   142554      28      0      0     81715
S00DPMLOADS    STD  614389   137474      83      0      0     82386
S00DDLOG       STD    8185     4995      49      0      0       586
S01DIMAGE1     STD  614389    29436      39      0      0      7320
S00DPMLOADS    STD   51189      245     116      0      0        78
S01DDLOG       STD    8185      597      15      0      0       134

Total number of volumes found on node CM : 6
```

**4** Determine from office records the volumes that contain the CM and MS image files (one image volume for each disk).

**5** To list the file information for the image volume on the disk of SLM 0, type

**>LISTFL disk_volume_name**

and press the Enter key.

*where*

**disk_volume_name**
is the name of the disk of SLM 0 (S00D) and the name of the volume on S00D that contains the CM and MS image files

*Example input:*

**>LISTFL S00DIMAGE**

*Example of a MAP response:*

# IOD ITOC
## **minor** (continued)

```
File information for volume S00DIMAGE1:
{NOTE:  1 BLOCK = 512 BYTES }
------------------------------------------------------------
FILE NAME      O R I O O O FILE   MAX  NUM OF    FILE    LAST
               R E T P L L CODE   REC RECORDS    SIZE  MOFIFY
               G C O E D D        LEN      IN      IN    DATE
                  C N                    FILE   BLOCKS
------------------------------------------------------------
930215_CM      I F            0  1020    6957    13914 930215
930215_MS      I F            0  1020  176542   353084 930215
ERS35CG        O V            0   120     761      511 930212
APX35CG        0 V            0   120      52      511 930212
FPX35CG        0 V            0   120    3296     1023 930216
LRC35CG        0 V            0   120    4384     1535 930216
LCC35CG        0 V            0   120      83      511 930215
ASN1UI$LD      0 V            0   120      37      511 930129
LRS35CD        0 V            0   120     493      511 920109
LPX35CG        0 F            0   120      80      511 930212
930212_CM      0 V            0   120    6908    13914 930212
930212_MS      0 V            0   120  174029   353084 920212
```

**6** Determine the registration of a CM image file in the ITOC for SLM 0.

***Note:*** The letter Y under the ITOC header means that the file is registered in the ITOC. If the area is blank, a file that is registered is not present. In the MAP response in step 5, there is no registered MS or CM image file registered in the ITOC.

| If Status of a CM image file | Do |
|---|---|
| registered | step 10 |
| not registered | step 7 |

**7** Record the file name of the current CM image file.

***Note:*** In the MAP response in step 5, the current CM image file is 930215_CM.

**8** Add the current CM image file to the ITOC for SLM 0. Type

**`>SETBOOTFL disk_volume_name file_name CM 1 ACTIVE`**

and press the Enter key.

*where*

**disk_volume_name**
is the disk and volume name specified in step 5 file_name is the name of the current CM image file

*Example input:*

**`>SETBOOTFL S00DIMAGE1 930215_CM CM 1 ACTIVE`**

*Example of a MAP response:*

```
File 930215_CM in volume S00DIMAGE1 has been
registered in the Image Table Of Contents for CM
on SLM, unit 0 as entry number 1.

It is also registered as the active boot file.
```

**9** Determine if the ITOC minor alarm cleared.

| If the alarm | Do |
|---|---|
| cleared | step 24 |
| did not clear | step 10 |

**10** Determine if an MS image file is registered in the ITOC for SLM 0.

| If Status of the MS image file | Do |
|---|---|
| registered | step 14 |
| not registered | step 11 |

**11** Record the file name of the current MS image file.

**12** To add the latest MS image file to the ITOC for SLM 0, type

**`>SETBOOTFL disk_volume_name file_name MS 1 ACTIVE`**

and press the Enter key.

*where*

**disk_volume_name**
is the disk and volume name specified in step 5 file_name is the name of the latest MS image file

*Example input:*

**`>SETBOOTFL S00DIMAGE1 930215_MS MS 1 ACTIVE`**

*Example of a MAP response:*

```
File 930215_MS in volume S00DIMAGE1 has been
registered in the Image Table Of Contents for MS on
SLM, unit 0 as entry number 1.

It is also registered as the active boot file.
```

**13** Determine if the ITOC minor alarm cleared.

| If the alarm | Do |
|---|---|
| cleared | step 24 |
| did not clear | step 14 |

# IOD ITOC
## **minor** (continued)

**14** To list the file information for the image volume on the disk of SLM 1, type

**>LISTFL disk_volume_name**

and press the Enter key.

*where*

**disk_volume_name**
is the name of the disk of SLM 1 (S01D) and the name of the volume on S01D that contains the CM and MS image files

*Example input:*

**>LISTFL S01DIMAGE1**

*Example of a MAP response:*

```
File information for volume S01DIMAGE1:
{NOTE:  1 BLOCK = 512 BYTES }
------------------------------------------------------------
FILE NAME      O R I O O O FILE   MAX  NUM OF    FILE    LAST
               R E T P L L CODE   REC RECORDS    SIZE  MOFIFY
               G C O E D D        LEN      IN      IN    DATE
                  C N                    FILE   BLOCKS
------------------------------------------------------------
930215_CM      I F           0  1020    6957    13914 930215
930215_MS      I F           0  1020  176542   353084 930215
ERS35CG        O V           0   120     761      511 930212
APX35CG        0 V           0   120      52      511 930212
FPX35CG        0 V           0   120    3296     1023 930216
LRC35CG        0 V           0   120    4384     1535 930216
LCC35CG        0 V           0   120      83      511 930215
ASN1UI$LD      0 V           0   120      37      511 930129
LRS35CD        0 V           0   120     493      511 920109
LPX35CG        0 F           0   120      80      511 930212
930212_CM      0 V           0   120    6908    13914 930212
930212_MS      0 V           0   120  174029   353084 920212
```

**15** Determine if a CM image file is registered in the ITOC for SLM 1.

***Note:*** In the MAP response in step 14, a registered CM and MS image file is not in the ITOC.

| If a file | Do |
|---|---|
| is registered | step 19 |
| is not registered | step 16 |

**16** Record the file name of the current CM image file.

**17** To add the latest CM image file to the ITOC for SLM 1, type

**>SETBOOTFL disk_volume_name file_name CM 1 ACTIVE**

and press the Enter key.

*where*

**disk_volume_name**
is the disk and volume name specified in step 14 file_name is the name of the latest CM image file

*Example input:*

```
>SETBOOTFL  S01DIMAGE1  930215_CM  CM  1  ACTIVE
```

*Example of a MAP response:*

```
File 930215_CM in volume S01DIMAGE1 has been registered
in the Image Table Of Contents for CM on SLM, unit 1 as
entry number 1.

It is also registered as the active boot file.
```

**18** Determine if the ITOC minor alarm cleared.

| If the alarm | Do |
|---|---|
| cleared | step 24 |
| did not clear | step 19 |

**19** Determine if an MS image file registered in the ITOC for SLM 1.

| If a file | Do |
|---|---|
| is registered | step 22 |
| is not registered | step 20 |

**20** Record the file name of the latest MS image file.

**21** Add the latest MS image file to the ITOC for SLM 1. Type

```
>SETBOOTFL  disk_volume_name  file_name  MS  1  ACTIVE
```

and press the Enter key.

*where*

**disk_volume_name**
is the disk and volume name specified in step 14 file_name is the name of the current MS image file

*Example input:*

```
>SETBOOTFL  S01DIMAGE1  930215_MS  MS  1  ACTIVE
```

*Example of a MAP response:*

```
File 930215_MS in volume S01DIMAGE1 has been registered
in the Image Table Of Contents for MS on SLM, unit 1 as
entry number 1.

It is also registered as the active boot file.
```

## IOD ITOC
## **minor** (end)

**22** Determine if the ITOC minor alarm cleared.

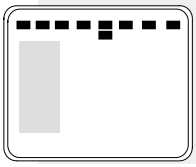
| If the alarm | Do |
|---|---|
| cleared | step 24 |
| did not clear | step 23 |

**23** For additional help, contact the next level of support.

**24** The procedure is complete.

# IOD KEEPn minor

## Alarm display



| CM | MS | **IOD** | Net | PM | CCS | Lns | Trks | Ext | APPL |
|---|---|---|---|---|---|---|---|---|---|
| . | . | **KEEPn** | . | . | . | . | . | . | . |

## Indication

At the MTC level of the MAP display, KEEP appears under the IOD header at the alarm banner. KEEP followed by a number (n) indicates a minor alarm for a keep file.

## Meaning

Retain the file on a recording device in the office, following transmission to a data center. The number that follows KEEP represents the number of the recording device.

## Result

Service is not affected.

## Common procedures

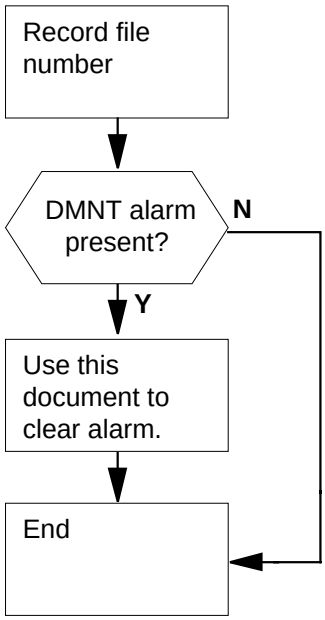
There are no common procedures

## Action

The following flowchart is a summary of the procedure. Use the instructions in the step-action procedure that follows the flowchart to clear the alarm.

# IOD KEEPn
# **minor** (continued)

**Summary of Clearing an IOD KEEPn minor alarm**




This flowchart summarizes the procedure.

Use the instructions that follow this flowchart to perform the procedure.

# IOD KEEPn minor (end)

### Clearing an IOD KEEPn minor alarm

***At the MAP terminal***

**1** To access the XFER (transfer) level of the MAP display, type

**>MAPCI;MTC;IOD;XFER**

and press the Enter key.

*Example of a MAP display:*

```
IOD
IOC  0  1  2  3
STAT .  .  .  .

DIRP:   .   XFER:   .   DVI :   .   DPPP:   .   DPPU:   .
NOP :   .   SLM :   .   NX25:   .   MLP :   .   SCAI:   .
```

**2** To record the number of the file that appears in the alarm, type

**>KEPT file_no**

and press the Enter key.

*where*

**file_no**
is the number of the file

| If a DMNT alarm | Do |
|---|---|
| appears | step 3 |
| does not appear | step 4 |

**3** Perform the procedure *Clearing an IOD DMNTn minor alarm* in this document to clear this alarm. Complete the procedure and return to this point.

**4** Determine if the KEEPn alarm cleared.

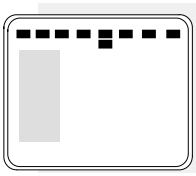
| If the KEEPn alarm | Do |
|---|---|
| cleared | step 6 |
| did not clear | step 5 |

**5** For additional help, contact the next level of support.

**6** The procedure is complete.

# IOD MPCLNK
# minor

## Alarm display



| CM | MS | IOD | Net | PM | CCS | Lns | Trks | Ext | APPL |
|---|---|---|---|---|---|---|---|---|---|
| . | . | MPCLNK | . | . | . | . | . | . | . |

## Indication

At the MTC level of the MAP display, MPCLNK appears under the IOD header of the alarm banner. MPCLNK indicates a minor alarm for a multiple protocol controller link on the input/output controller (IOC).

## Meaning

One or more multiple protocol controller links are system busy.

## Result

Loss of data can occur if the link becomes system busy during transmission.

## Common procedures

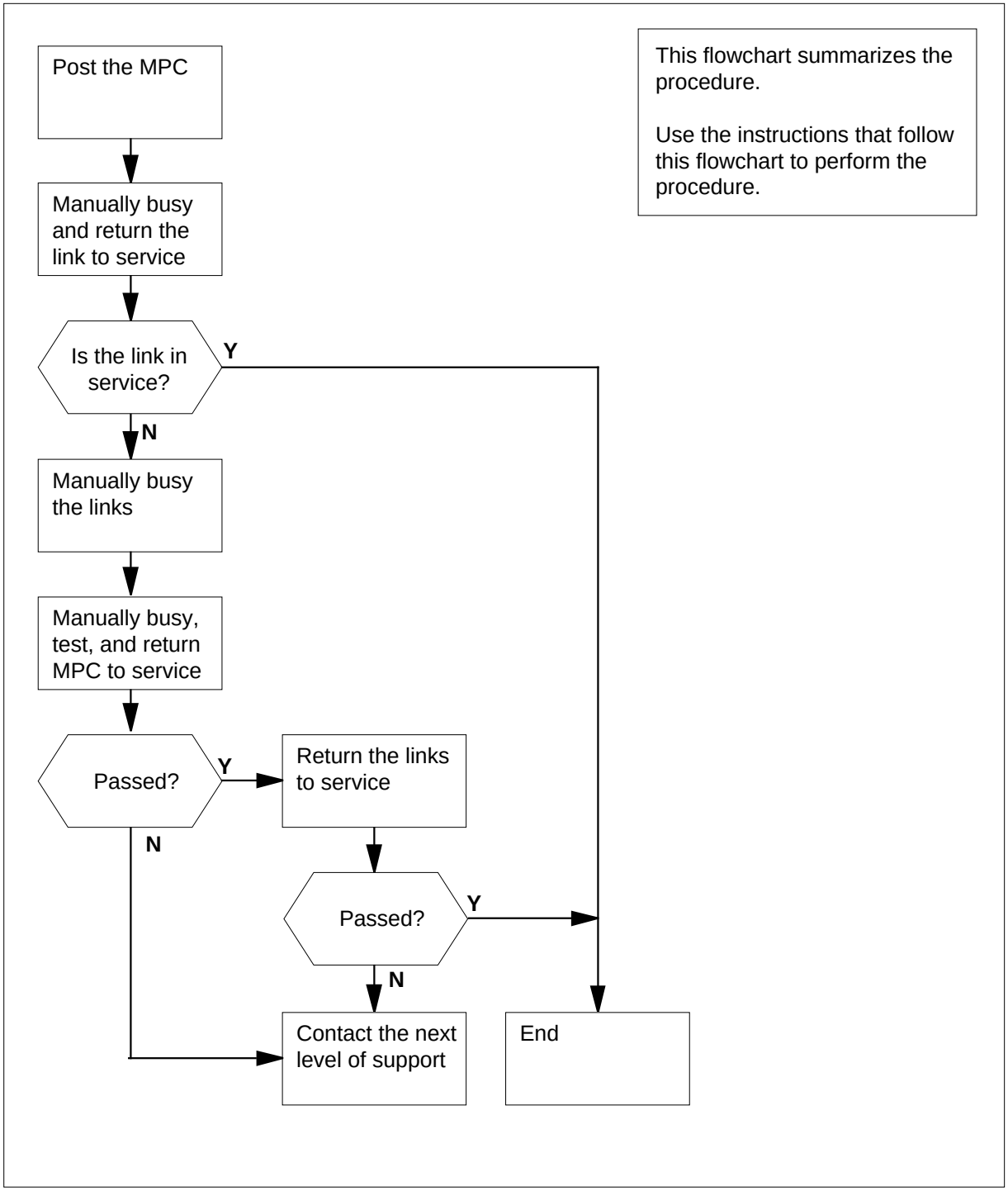
There are no common procedures.

## Action

The following flowchart is a summary of the procedure. Use the instructions in the step-action procedure that follows the flowchart to clear the alarm.

# IOD MPCLNK
# minor (continued)

**Summary of Clearing an IOD MPCLNK minor alarm on IOC**



# IOD MPCLNK
## **minor** (continued)

### Clearing an IOD MPCLNK minor alarm

***At the MAP Terminal***

**1** To access the IOD level of the MAP, type

**>MAPCI;MTC;IOD**

and press the Enter key.

*Example of a MAP display:*

```
IOD
IOC  0  1  2  3
STAT .  .  .  S

DIRP: SMDR B XFER:   .   SLM :   .   NPO:   .   NX25:  .
MLP :   .    DPPP:   .   DPPU:   .   SCAI :
```

**2** To post the configured controller system, type

**>IOC ioc_no**

and press the Enter key.

*where*

**ioc_no**
is the number of the affected IOC or IOM

*Example of a IOC MAP display:*

```
DIRP: SMDR B XFER:   .   SLM :   .   NPO:   .   NX25:  .
MLP :   .    DPPP:   .   DPPU:   .   SCAI :

IOC  CARD     0    1    2    3    4    5    6    7   8
 0   PORT   0123 0123 0123 0123 0123 0123 0123 0123 0123
     STAT  .--- .--- ...P ..-- ..--  ---  ---  ---  ---
     TYPE   MTD  DDU  CONS  DLC  CONS
```

*Example of a IOM MAP display:*

```
DIRP: SMDR B XFER:   .   SLM :   .   NPO:   .   NX25:  .
MLP :   .    DPPP:   .   DPPU:   .   SCAI :

IOC   PORT 0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17
(IOM) STAT . . . - . . - - - .  -  -  -  -  -  -  -  -
0     TYPE C C C   C M       M                   D  S
           O O O   O T       P                   D  C
           N N N   N D       C                   U  S
```

# IOD MPCLNK
## minor (continued)

| If the controller | Do |
|---|---|
| is IOC | step 4 |
| is IOM | step 3 |

**3** Perform the *IOD MPCLNK on an IOM* alarm clearing procedure for the input/output module (IOM) in this document.

**4** To post the affected MPC card, type

**>IOC ioc_no;CARD card_no**

and press the Enter key.

*Example of a MAP display:*

```
DIRP: SMDR B XFER:   .   SLM :   .   NPO:   .   NX25:  .
MLP :   .    DPPP:   .   DPPU:   .   SCAI :

IOC  CARD     0    1    2    3    4    5    6    7   8
 0   PORT   0123 0123 0123 0123 0123 0123 0123 0123 0123
     STAT  .--- .--- ...P ..-- ..--  ---  ---  ---  ---
     TYPE   MTD  DDU  CONS  DLC  CONS
```

**5** To make all the links on the affected MPC manually busy, type

**>BSY  LINKS**

and press the Enter key.

| If the BSY command | Do |
|---|---|
| passed | step 31 |
| failed | step 6 |

**6** To make the MPC card manually busy, type

**>BSY ALL Force**

and press the Enter key.

*Example of MAP response:*

```
bsy
OK
```

**7** To test the MPC card, type

**>TST**

## IOD MPCLNK
## **minor** (continued)

and press the Enter key.

| If the TST command | Do |
|---|---|
| passed | step 30 |
| failed, and the system generated a card list | step 8 |
| failed, as a result of the following response that appeared at the MAP terminal: `REQUEST FAILED, MPC LOGS MAY HAVE MORE INFO` | step 32 |

**8** Replace the multiprotocol controller card. Perform the correct procedure in *Card Replacement Procedures.* Complete the procedure and return to this point.

**9** To download the MPC binary file to the MPC card, type

**`>DOWNLD`**

and press the Enter key.

| If the DOWNLD command | Do |
|---|---|
| passed | step 30 |
| failed, and the download file parameter was not specified | step 10 |
| failed, and a background download to an MPC occurred | step 32 |

**10** To determine the name of the binary file for the MPC card, type

**`>QMPC`**

and press the Enter key.

**11** Determine from office records if the MPC binary file is on tape, IOC disk, or SLM disk.

| If the binary file | Do |
|---|---|
| is on tape | step 12 |
| is on IOC disk | step 18 |
| is on SLM disk | step 20 |

# IOD MPCLNK
## minor (continued)

**12** Obtain the tape that contains the MPC binary file and load the tape on an available MTD tape.

**13** To mount the tape, type

**>MOUNT mtd_no**

and press the Enter key.

*where*

**mtd_no**
is the number of the available MTD

**14** To verify that the MPC binary file is present, type

**>LIST**

and press the Enter key.

| If the tape | Do |
|---|---|
| contains the MPC binary file | step 17 |
| does not contain the MPC binary file | step 15 |

**15** To demount the tape, type

**>DEMOUNT tape_name**

and press the Enter key.

*where*

**tape_name**
is the name of the tape

**16** Determine from office records the tape that contains the MPC binary file.

Go to step 12.

**17** To download the MPC binary file to the MPC card, type

**>DOWNLD**

and press the Enter key.

| If the DOWNLD command | Do |
|---|---|
| passed | step 30 |
| failed | step 32 |

**18** Determine from office records the IOC disk volume that contains the MPC binary file.

**19** To verify that the MPC binary file is available on the IOC disk volume, type

**>DISKUT;LIV vol_name ALL**

and press the Enter key.

## IOD MPCLNK
## **minor** (continued)

*where*

**vol_name**
is the name of the volume that contains the MPC binary file

| If the binary file | Do |
|---|---|
| is available | step 22 |
| is not available | step 32 |

**20** Determine from office records the SLM disk volume that contains the MPC binary file.

**21** To verify that the MPC binary file is available on the SLM disk volume, type

**`>DISKUT;LF  vol_name`**

and press the Enter key.

*where*

**vol_name**
is the name of the volume that contains the MPC binary file

*Example of a MAP display:*

```
File information for volume S01DVOL1
{NOTE: 1 BLOCK = 512 BYTES}
-----------------------------------------------------------------
LAST   File    O R  I    O    FILE  NUM OF   MAX  FILE NAME
MODIFY CODE    R E  T    P    SIZE RECORDS   REC
DATE           G C  O    E      IN      IN   LEN
                    C    N  BLOCKS    FILE
-----------------------------------------------------------------
930325   0     I F  Y       201570  100785   1020  MBCS34CR_CM
930325   0     I F  Y         9754    4877   1020  MBCS34CR_MS
930326   0     I F  Y         5334    2667   1020  LRC34CR
930226   0     O F  Y         7460    3730   1024  ELI34CR
930326   0     O F  Y         2396    1198   1024  EDH34CR
930319   0     I F  Y         9104    4552   1020  LPX34CR
930319   0     I F  Y         6634    3317   1020  NRS34CR
921204   0     I F  Y         7284    3642   1020  XRX34CR
931206   0     O F  Y          162    1504     55  LCME34U
921208   0     O F  Y         1432     716   1024  DCH34CR
```

| If the binary file | Do |
|---|---|
| is available | step 22 |
| is not available | step 32 |

**22** Determine from table PMLOADS if the data entries of the MPC binary file contain the correct load device. Type

**`>TABLE  PMLOADS;POSITION  file_name;LIST`**

and press the Enter key.

*where*

**file_name**
is the name of the MPC binary file

**23** Determine if the MPC binary file data entries contain the correct load device.

| If MPC binary file data entries | Do |
|---|---|
| contain the correct load device | step 30 |
| do not contain the correct load device | step 24 |
| can not find the tuple | step 26 |

**24** To change the device type to the correct load device, type

**`>CHANGE DEVICE dev_type vol_name`**

and press the Enter key.

*where*

**dev_type**
is an MTD, IOC disk, or SLM disk

**vol_name**
is the name of the IOC volume or SLM disk volume

**25** To confirm the tuple change, type

**`>Y`**

and press the Enter key.

Go to step 17 in this procedure.

**26** To add the MPC binary file to table PMLOADS, type

**`>ADD file_name dev_type vol_name`**

and press the Enter key.

*where*

**file_name**
is the name of the MPC binary file

**dev_type**
is an MTD, IOC disk, or SLM disk

**vol_name**
is the name of the IOC volume or SLM disk volume

**27** To confirm the addition, type

**`>Y`**

and press the Enter key.

**28** To quit table PMLOADS and the disk utility, type

**`>QUIT;QUIT`**

# IOD MPCLNK
## minor (end)

and press the Enter key.

**29** To download the binary file to the MPC card, type

**>DOWNLD**

and press the Enter key.

| If the DOWNLD command | Do |
|---|---|
| passed | step 30 |
| failed | step 32 |

**30** To return the MPC card to service, type

**>RTS**

and press the Enter key.

| If the RTS command | Do |
|---|---|
| passed | step 31 |
| failed | step 32 |
| failed, and part of the response included `REQUEST FAILED, MPC LOGS MAY HAVE MORE INFO` | step 32 |

**31** To return the MPC links to service, type

**>RTS LINKS**

and press the Enter key.

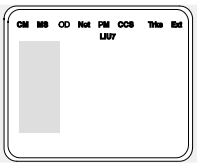
| If the RTS command | Do |
|---|---|
| passed | step 33 |
| failed | step 32 |

**32** For additional help, contact the next level of support.

**33** The procedure is complete.

# IOD MPCLNK on an IOM minor

## Alarm display



| CM | MS | IOD | Net | PM | CCS | Lns | Trks | Ext | APPL |
|---|---|---|---|---|---|---|---|---|---|
| . | . | **MPCLNK.** | **.** | | **.** | **.** | **.** | **.** | **.** |

## Indication

MPCLNK appears at the IOD level of the MAP display. MPCLNK indicates a minor alarm for the multiple protocol controller link on the input/output module (IOM).

## Meaning

One or more multiple protocol controller links are system-busy.

## Result

If the link becomes system busy during transmission, loss of data can occur.

## Common procedures

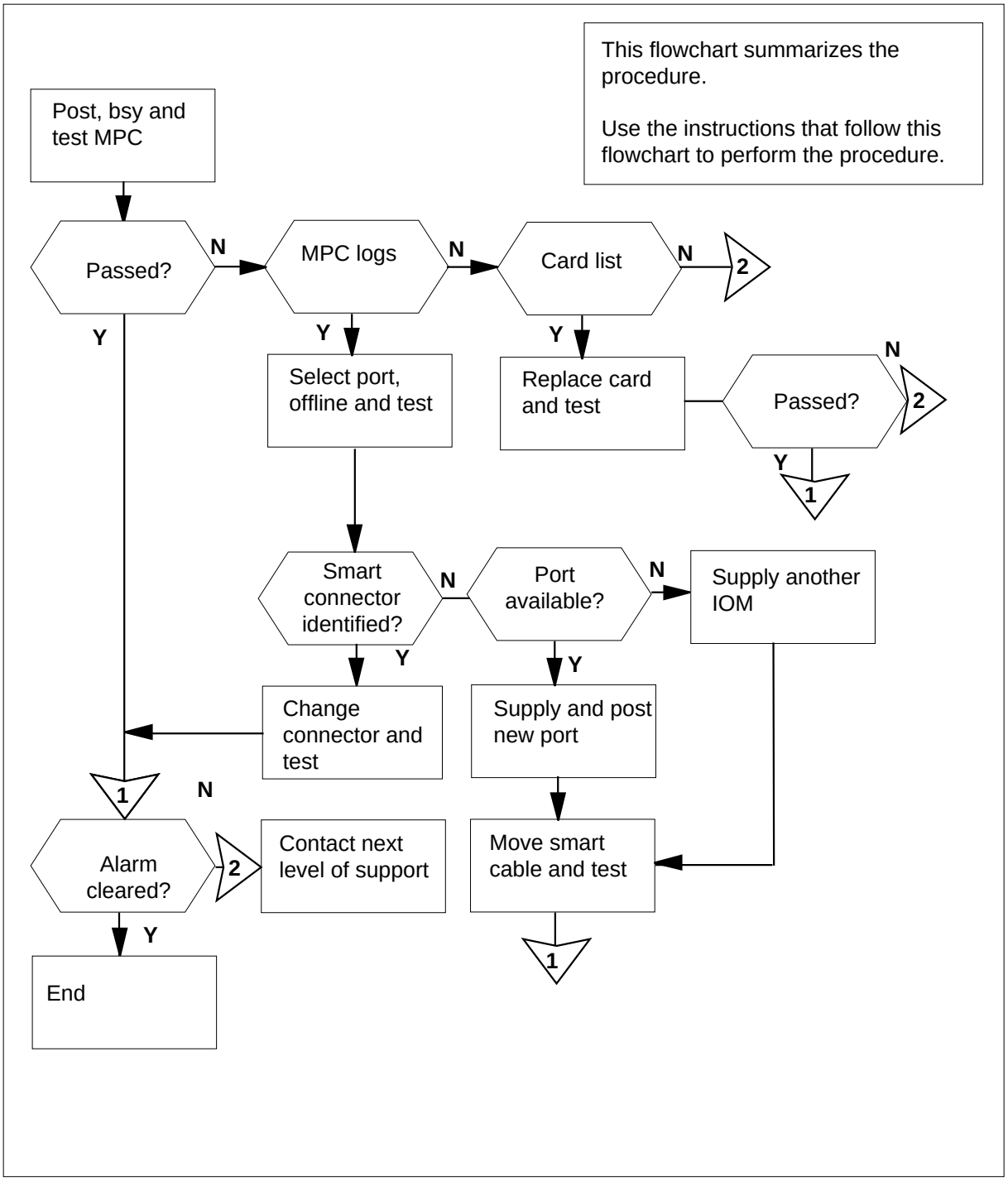
There are no common procedures.

## Action

The flowchart is a summary of the procedure. Use the instructions in the step-action procedure that follows the flowchart to clear the alarm.

# IOD MPCLNK on an IOM
## **minor** (continued)

**Summary of Clearing an IOD MPCLNK on an IOM alarm**



# IOD MPCLNK on an IOM
**minor** (continued)

### Clearing an IOD MPCLNK on an IOM alarm

**ATTENTION**
Proceed only if a step in the *IOD MPCLNK in an IOC minor* alarm clearing procedure directed you to this procedure.

***At the MAP***

**1** To access the IOD level of the MAP display, type

**>MAPCI;MTC;IOD**

and press the Enter key.

*Example of a MAP display:*

```
IOD
IOC  0  1  2  3
STAT .  .  .  S

DIRP: SMDR B XFER:   .   SLM :   .   NPO:   .   NX25:  .
MLP :   .    DPPP:   .   DPPU:   .   SCAI :
```

**2** To post the configured controller system, type

**>IOC ioc_no**

and press the Enter key.

*where*

**ioc_no**
is the number of the affected IOM

*Example of a IOM MAP display:*

```
DIRP: SMDR B XFER:   .   SLM :   .   NPO:   .   NX25:  .
MLP :   .    DPPP:   .   DPPU:   .   SCAI :

IOC   PORT 0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17
(IOM) STAT . . . – . . – – – .  –  –  –  –  –  –  –  –
0     TYPE C C C   C M       M                   D  S
           O O O   O T       P                   D  C
           N N N   N D       C                   U  S
```

**3** To post the affected IOM MPC port, type

**>PORT  port_no**

and press the Enter key.

## IOD MPCLNK on an IOM
## **minor** (continued)

*where*

**port_no**
is the port number of the MPC device

*Example of a MAP:*

```
Port 3   Unit     1
        User   SYSTEM   PROTOCOL    LINK
        Status  Ready   X2584       COMACT ENABLD
```

**4** To manually busy the MPC, type

**>BSY**

and press the Enter key.

*Example of MAP response:*

```
bsy
OK
```

**5** To test the MPC, type

**>TST**

and press the Enter key.

| If the TST command | Do |
|---|---|
| passed | step 35 |
| failed, and the system generated a card list | step 31 |
| failed, and the system generated MPC logs | step 6 |

**6** To place the MPC offline, type

**>OFFL**

and press the Enter key.

**7** To return to the IOC level of the MAP display, type

**>QUIT**

and press the Enter key.

**8** To make the IOM MPC port manually busy, type

**>BSY PORT port_no**

and press the Enter key.

*where*

**port_no**
is the number of the MPC port

## IOD MPCLNK on an IOM **minor** (continued)

*Example of MAP response:*

```
bsy
OK
```

**9** To place the IOM MPC port offline, type

**>OFFL PORT port_no**

and press the Enter key.*where*

**port_no**
is the number of the MPC port

**10** To test the IOM MPC port, type

**>TST PORT port_no**

and press the Enter key.

*where*

**port_no**
is the port number of the MPC device

*Example of MAP response:*

```
Failed
Site  Flr  Rpos  Bay_Id  Shf  Description  Slot  EqPEC
HOST  01    A05  ISME 03  32    IOC         03   FX30AA

Check and replace smart connector for port 3 (FX34, FX35)
```

| If an identified smart connector | Do |
|---|---|
| is present | step 11 |
| is not present | step 13 |

# IOD MPCLNK on an IOM
## **minor** (continued)

***At the back of the ISM shelf***

**11**

**WARNING**
**Static electricity damage**
Wear a wrist strap that connects to the wrist-strap grounding point of a modular supervisory panel (MSP) to handle circuit cards. The wrist strap protects the cards against static electricity damage.

Locate the smart cable that connects the MPC port on the paddle board and the associated MPC device. Check the smart connector LED. Replace the smart connector.

***Note:*** When you connect the smart connector to the IOM, the color of the LED changes from red to orange to green. In normal operation, the LED should stay green.

**12** To test the smart connector, type

**`>TST PORT port_no`**

and press the Enter key.

*where*

**port_no**
is the port number of the MPC device

*Example of MAP response:*

```
Failed
Site  Flr  Rpos  Bay_Id  Shf  Description  Slot  EqPEC
HOST  01    A05  ISME 03  32    IOC         03   FX30AA
```

| If the smart connector | Do |
|---|---|
| passes | step 26 |
| fails | step 13 |

**13** Go to step 2. Select an open IOM port and return to this point.

| If | Do |
|---|---|
| a port is available on the posted IOM controller | step 14 |
| a port is available on another IOM | step 28 |

## IOD MPCLNK on an IOM **minor** (continued)

| If | Do |
|---|---|
| another IOC is not available | step 30 |

**14**

**CAUTION**
**Provisioning changes**
You can require the help of the provisioning administrator before you proceed with the following provisioning changes.

To determine from table IOC if the open port contains the correct load device, type

**>TABLE IOC**

and press the Enter key.

**15** To access table MPCLINK, type

**>TABLE MPCLINK**

and press the Enter key.

**16** Delete the link tuple for the affected port.

**17** To access table MPC, type

**>TABLE MPC**

and press the Enter key.

*Example of a MPC table:*

```
Table: MPC
MPCNO       MPCIOC      IOCCCT      EQ          DNDFILE
  1           3           2       FX30AA        IOM$LOAD
```

**18** Delete the tuple for the affected port.

**19** To access table MPC, type

**>TABLE MPC**

and press the Enter key.

*Example of a MPC table:*

```
Table: MPC
MPCNO       MPCIOC      IOCCCT      EQ          DNDFILE
  1           3           2       FX30AA        IOM$LOAD
```

**20** Add the tuple for the spare IOM port selected in step13.

## IOD MPCLNK on an IOM
## **minor** (continued)

**21** To access table MPCLINK, type

**>TABLE MPCLINK**

and press the Enter key.

**22** Add the link tuple for the spare IOM port selected in step 13.

**23** To post the new IOM MPC port, type

**>PORT port_no**

and press the Enter key.

*where*

**port_no**
is the number of the MPC port

*Example of a MAP display:*

```
 Port 3   Unit     1
         User   SYSTEM   PROTOCOL    LINK
         Status  Ready   X2584       COMACT ENABLD
```

**24** To make the MPC manually busy, type

**>BSY**

and press the Enter key.

*Example of MAP response:*

```
bsy
OK
```

***At the back of the ISM shelf***

**25**

**WARNING**
**Static electricity damage**
Wear a wrist strap that connects to the wrist-strap grounding point of a modular supervisory panel (MSP) to handle circuit cards. The wrist strap protects the cards against static electricity damage.

Locate the smart cable that connects the MPC port on the paddle board and the associated MPC device. Disconnect the smart cable. Connect the smart cable to the new MPC port.

Go to step 35.

**26** To manually busy the port for the MPC device, type

**>BUSY PORT port_no**

*where*

## IOD MPCLNK on an IOM
## **minor** (continued)

**port_no**
is the number of the MPC port

*Example of MAP response:*

```
bsy
OK
```

**27** To return the MPC port to service, type

**`>RTS PORT  port_no`**

and press the Enter key.

*where*

**port_no**
is the number of the MPC port

Go to step 35.

**28** To post another configured controller system, type

**`>IOC ioc_no`**

and press the Enter key.

*where*

**ioc_no**
is the number of the affected IOM

*Example of a IOM MAP:*

```
DIRP: SMDR B XFER:   .   SLM :   .   NPO:   .   NX25:  .
MLP :   .    DPPP:   .   DPPU:   .   SCAI :

IOC   PORT 0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17
(IOM) STAT . . . – . . – – – .  –  –  –  –  –  –  –  –
0     TYPE C C C   C M       M                    D  S
           O O O   O T       P                    D  C
           N N N   N D       C                    U  S
```

**29** Select an open IOM port on the new controller.

| If a port | Do |
|---|---|
| is available | step 14 |
| is not available | step 30 |

## IOD MPCLNK on an IOM
**minor** (continued)

**30**

**WARNING**
**Provisioning changes**
You need the help of the provisioning administrator before you proceed with the following provisioning changes.

You must provide another IOM module. Consult your provisioning administrator to add and provision another IOM controller card.

Go to step 37.

**31** Perform the correct procedure in *Card Replacement Procedures* to replace the first card on the list. Complete the procedure and return to this point.

**32** To test the IOM card, type

**>TST**

and press the Enter key.

*Example of MAP response:*

```
Failed
Site  Flr  Rpos  Bay_Id  Shf  Description  Slot  EqPEC
HOST  01    A05  ISME 03  32    IOC         03   FX30AA
```

| If the test | Do |
|---|---|
| passes | step 34 |
| fails, and you did not replace all cards | step 33 |
| fails, and you replaced all cards | step 38 |

**33** Perform the correct procedure in *Card Replacement Procedures* to replace the second card on the list. Complete the procedure and return to this point.

Go to step 32.

**34** To post the affected IOM MPC port, type

**>PORT port_no**

*where*

**port_no**
is the number of the MPC port

*Example of a MAP:*

## IOD MPCLNK on an IOM **minor** (end)

```
Port 9   Unit     1
        User   SYSTEM   PROTOCOL    LINK
       Status  Ready    X2584       COMACT ENABLED
```

**35** To return the IOM MPC to service, type

**>RTS**

and press the Enter key.

| If the alarm | Do |
|---|---|
| cleared | step 38 |
| changed to another alarm | step 36 |
| did not clear | step 37 |

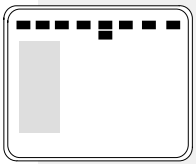
**36** Perform the correct alarm clearing procedure in this document. Complete the procedure and return to this point.

**37** For additional help, contact the next level of support.

**38** The procedure is complete.

# IOD nCKEr
# minor

## Alarm display



| CM | MS | IOD | Net | PM | CCS | Lns | Trks | Ext | APPL |
|---|---|---|---|---|---|---|---|---|---|
| . | . | 1CKEr | . | . | . | . | . | . | . |

## Indication

At the MTC level of the MAP display, a number and CKEr appears under the I/O device (IOD) header of the alarm banner. The CKEr indicates a circuit error alarm in the input/out controller (IOC).

## Meaning

The disconnetion of a minimum of one IOD occurs. The number preceding CKEr is the number of disconnected IODs.

You can disable the CKEr alarm for a disconnected IOD. To disable the IOD, change the entry for the device in field CKERDISC in table TERMDEV to N. For additional information, refer to the description of table TERMDEV in the Data Schema section of *Translations Guide*.

## Result

The system generates the CKEr alarm for an IOD disconnected at the IOC.

## Common procedures

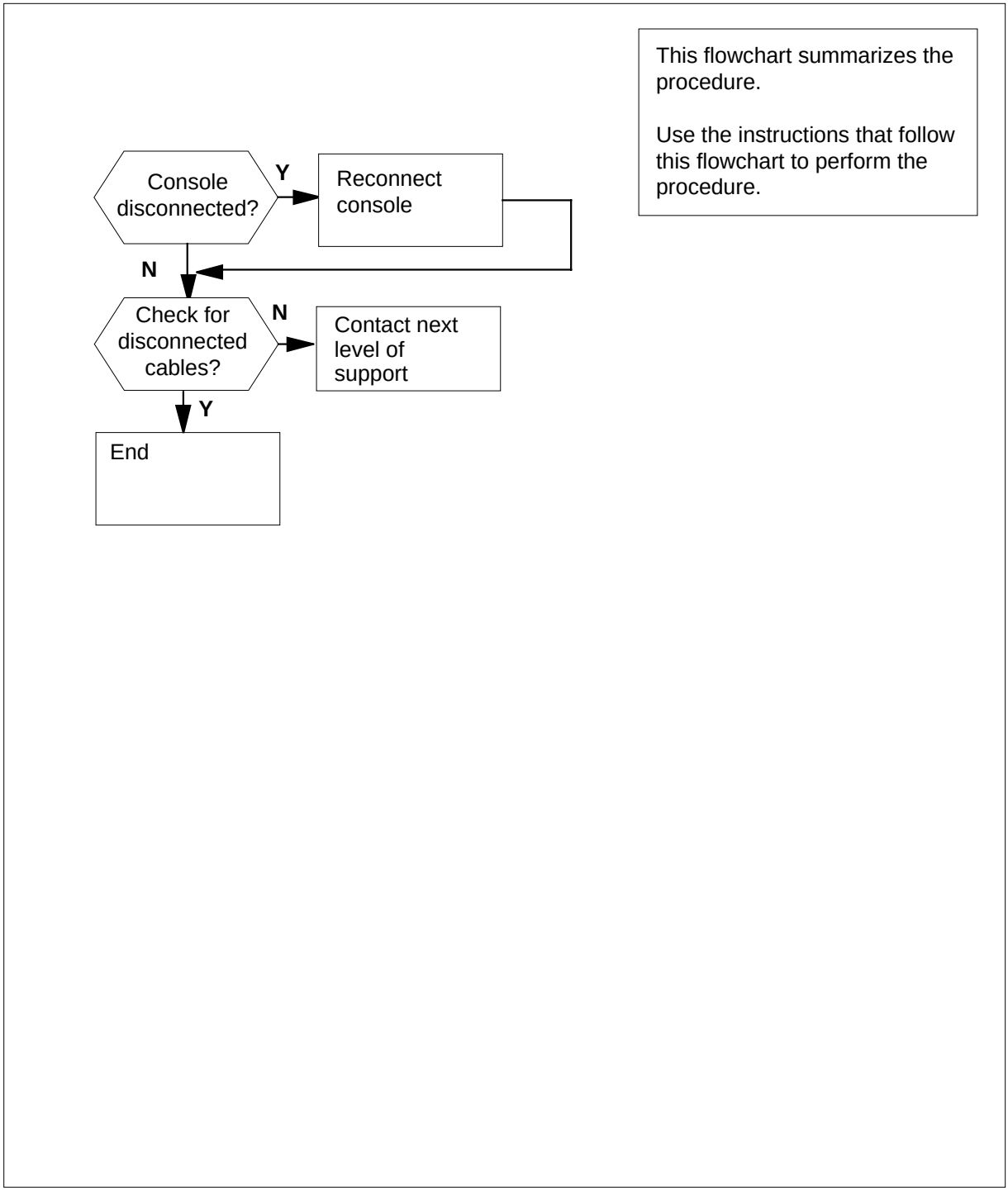
There are no common procedures.

## Action

The following flowchart is a summary of the procedure. Use the instructions in the step-action procedure that follows the flowchart to clear the alarm.

# IOD nCKEr
# **minor** (continued)

**Summary of Clearing an IOD nCKEr minor alarm**



# IOD nCKEr
## **minor** (continued)

### Clearing an IOD nCKEr minor alarm

***At the MAP terminal***

**1** To access the IOD level of the MAP display, type

**>MAPCI;MTC;IOD**

and press the Enter key.

*Example of a MAP display:*

```
IOD
IOC  0  1  2  3
STAT .  .  .  S

DIRP: SMDR B XFER:   .   SLM :   .   NPO:   .   NX25:  .
MLP :   .    DPPP:   .   DPPU:   .   SCAI :
```

**2** To post the configured controller system, type

**>IOC ioc_no**

and press the Enter key.

*where*

**ioc_no**
is the number of the affected IOC or IOM

*Example of a IOC MAP display:*

```
DIRP: SMDR B XFER:   .   SLM :   .   NPO:   .   NX25:  .
MLP :   .    DPPP:   .   DPPU:   .   SCAI :

IOC  CARD     0    1    2    3    4    5    6    7   8
 0   PORT   0123 0123 0123 0123 0123 0123 0123 0123 0123
     STAT  .--- .--- ...P ..-- ..--  ---  ---  ---  ---
     TYPE   MTD  DDU  CONS  DLC  CONS
```

*Example of a IOM MAP display:*

```
DIRP: SMDR B XFER:   .   SLM :   .   NPO:   .   NX25:  .
MLP :   .    DPPP:   .   DPPU:   .   SCAI :

IOC   PORT 0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17
(IOM) STAT . . . - . . - - - .  -  -  -  -  -  -  -  -
0     TYPE C C C   C M       M                   D  S
           O O O   O T       P                   D  C
           N N N   N D       C                   U  S
```

# IOD nCKEr
## minor (continued)

| If the controller | Do |
|---|---|
| is IOM | step 3 |
| is IOC | step 4 |

**3** Perform the *IOD nCKEr on an IOM* alarm clearing procedure for the input/output module (IOM) in this document.

**4** To display the state of the console devices, type

**`>LISTDEV  CONS`**

and press the Enter key.

*Example of a MAP response:*

```
CONS ID  CONSTYPE  STATUS   IOC.CARD/PORT
 MAP      VT100       .         0.2
 RD030    VT100       .         0.2
 RD040    VT100       .         0.4
 RD041    VT100       .         0.4
 RP042    KSR       Disc        0.4
 RP061    KSR         .         0.6
 RV062    VT100       .         0.6
 RV063    VT100       .         1.2
 RD140    VT100       .         1.4
 RD141    VT100       .         1.4
 RP142    KSR         .         1.4
 RV160    VT100       .         1.6
 RV163    VT100       .         1.6
 RD045    VT100       .         2.0
 RD046    VT100       .         2.0
 RD050    VT100       .         2.0
 RD051    VT100       .         2.0
 RP200    VT100       .         2.1
 RP203    VT100       .         2.1
 RP205    VT100       .         2.2
 RP206    VT100       .         3.0
 RD31     VT100       .         3.0
 RD32     VT100       .         3.1
 RD33     VT100       .         3.1
 RD34     VT100       .         3.1
 RD35     VT100       .         3.1
 RD36     VT100       .         3.2
```

## IOD nCKEr
## **minor** (continued)

**5** Record the IOC number and card number for each console device that is in a state of disconnection (Disc).

| If | Do |
|---|---|
| one IOC has disconnected console device | step 7 |
| more than one IOC has disconnected console device | step 6 |

**6** Choose an IOC to work on.

**7** To access the MAP display for the IOC, type

**`>IOC ioc_number`**

and press the Enter key.

*where*

**ioc_no**
is the number of the affected IOC or IOM

*Example of a IOC MAP display:*

```
DIRP: SMDR B XFER:   .   SLM :   .   NPO:   .   NX25:  .
MLP :   .    DPPP:   .   DPPU:   .   SCAI :

IOC  CARD     0    1    2    3    4    5    6    7   8
 0   PORT   0123 0123 0123 0123 0123 0123 0123 0123 0123
     STAT  .--- .--- ...P ..-- ..--  ---  ---  ---  ---
     TYPE   MTD  DDU  CONS  DLC  CONS
```

| If you recorded | Do |
|---|---|
| one card that associates with the IOC in step 5. | step 9 |
| more than one card that associates with the IOC in step 5. | step 8 |

**8** Choose a IOC terminal controller card to use.

**9** To post the terminal controller card, type

**`>CARD  card_no`**

and press the Enter key.

*where*

**card_no**
is the number of the terminal controller card (0 to 8)

*Example of a MAP response:*

## IOD nCKEr
## minor (continued)

```
Card   4   Ckt      0         1         2         3
Status              .       Disc        .         –
Cons Id          RD040     RD041     RP042
ConType          VT100     VT100     KSR
```

***Note:*** Identify disconnected circuits (links) by a state of Disc in the status field.

***At the back of IOC shelf***

**10** Locate the terminal controller card. Determine if disconnection of any of the cables to the associated console device occurred.

| If disconnection occurs for | Do |
|---|---|
| a minimum of one cable | step 11 |
| no cables | step 16 |

**11** Reconnect the cables.

***Note:*** Connection of the associated console device can occur at the remote end with an RS232 connector. In this condition, make sure the connector is seated correctly.

***At the MAP terminal***

**12** From the MAP display for the posted terminal controller card, determine the state of the links you reconnected.

| If | Do |
|---|---|
| all links are in service (.) | step 13 |
| a minimum of one link is not in service | step 16 |

**13** Determine if other IOCs with disconnected console devices exist.

***Note:*** You recorded this information in step 5.

| If other IOCs with disconnected console devices | Do |
|---|---|
| exist | step 6 |
| do not exist | step 14 |

**14** Determine if the CKEr alarm cleared.

| If the alarm | Do |
|---|---|
| cleared | step 17 |

## IOD nCKEr
## **minor** (end)

| If the alarm | Do |
|---|---|
| changed to another alarm | step 15 |
| did not clear | step 16 |

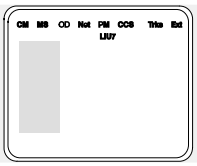
**15** Perform the correct procedure in this document to clear the alarm.

**16** For additional help, contact the next level of support.

**17** The procedure is complete.

# IOD nCKEr on an IOM minor

## Alarm display



| CM | MS | IOD | Net | PM | CCS | Lns | Trks | Ext | APPL |
|---|---|---|---|---|---|---|---|---|---|
| . | . | **1CKEr.** | **.** | **.** | **.** | **.** | **.** | **.** | **.** |

## Indication

At the MTC level of the MAP display, a number and CKEr appear under the IOD header of the alarm banner. The CKEr indicates a circuit error alarm in the input/output module (IOM).

## Meaning

A minimum of one I/O device is in a disconnected state. The number that precedes CKEr indicates the number of disconnected I/O devices.

To disable the CKEr alarm for a disconnected I/O device on an IOM, change the data entry. The data entry for the device is in field CKERDISC in table TERMDEV to N. For additional information, refer to the description of table TERMDEV in the Data Schema section of *Translations Guide*.

If the port connects to a modem that is currently idle, the disconnected status is normal. You can disable the alarm in the field CKERDISC in table TERMDEV to N.

## Result

The CKEr alarm generates for an I/O device disconnected at the input/output module (IOM).

## Common procedures

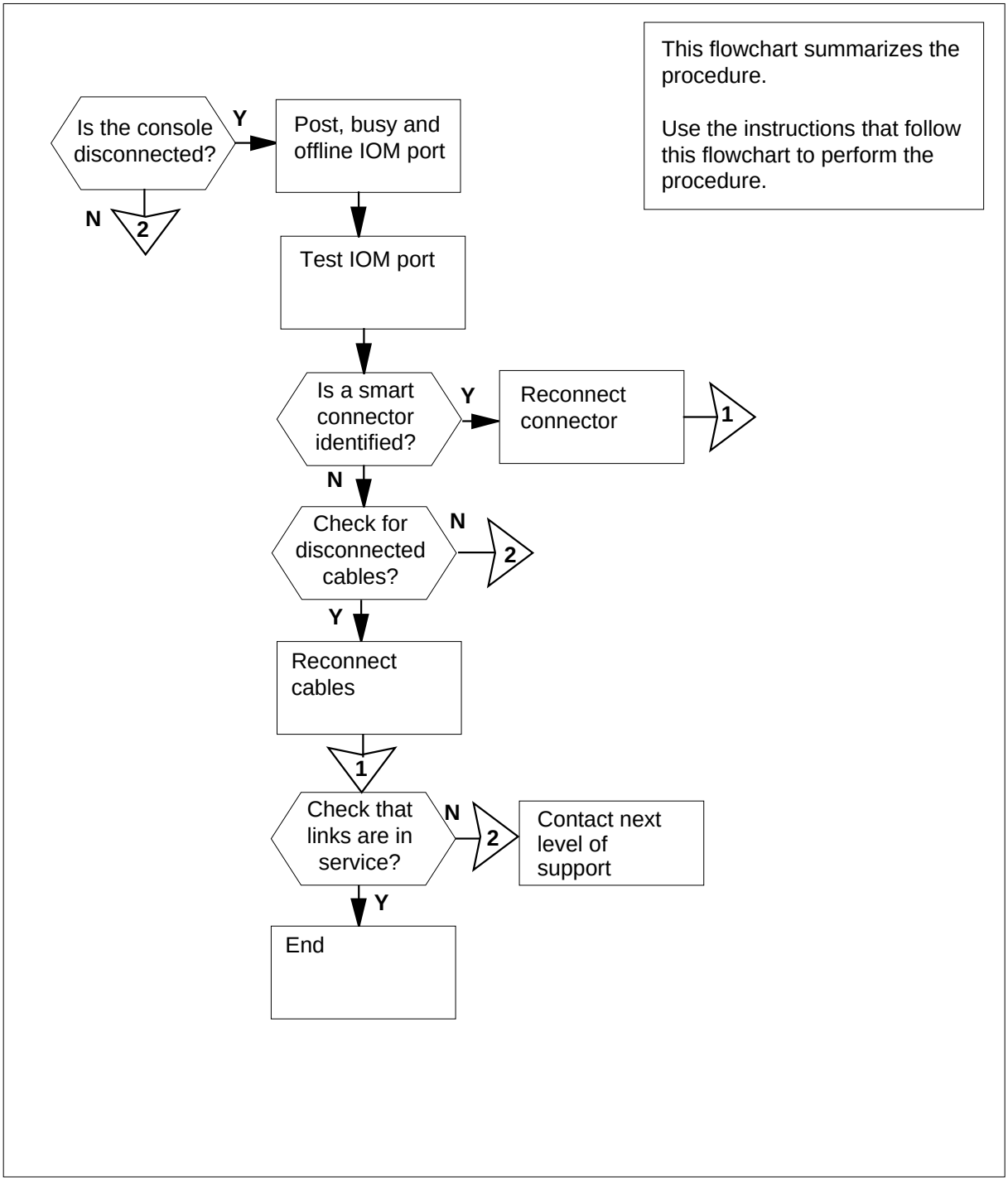
There are no common procedures.

## Action

This procedure contains a summary flowchart and a list of steps. Use the flowchart to review the procedure. Follow the steps to perform the procedure.

# IOD nCKEr on an IOM
**minor** (continued)

**Summary of How to clear an IOD nCKEr on an IOM minor alarm**



# IOD nCKEr on an IOM **minor** (continued)

**How to clear an IOD nCKEr on an IOM alarm**

***At the MAP terminal***

**1** To access the I/O device (IOD) level of the MAP, type

**>MAPCI;MTC;IOD**

and press the Enter key.

*Example of a MAP display:*

```
IOD
IOC  0  1  2  3
STAT .  .  .  S

DIRP: SMDR B XFER:   .   SLM :   .   NPO:   .   NX25:  .
MLP :   .    DPPP:   .   DPPU:   .   SCAI :
```

**2** To display the state of the console devices, type

**>LISTDEV  CONS**

and press the Enter key.

*Example of a MAP response:*

## IOD nCKEr on an IOM
**minor** (continued)

```
CONS ID  CONSTYPE  STATUS   IOC.CARD/PORT
 MAP      VT100       .         0.2
 RD030    VT100       .         0.2
 RD040    VT100       .         0.4
 RD041    VT100       .         0.4
 RP042    KSR       Disc        0.4
 RP061    KSR         .         0.6
 RV062    VT100       .         0.6
 RV063    VT100       .         1.2
 RD140    VT100       .         1.4
 RD141    VT100       .         1.4
 RP142    KSR         .         1.4
 RV160    VT100       .         1.6
 RV163    VT100       .         1.6
 RD045    VT100       .         2.0
 RD046    VT100       .         2.0
 RD050    VT100       .         2.0
 RD051    VT100       .         2.0
 RP200    VT100       .         2.1
 RP203    VT100       .         2.1
 RP205    VT100       .         2.2
 RP206    VT100       .         3.0
 RD31     VT100       .         3.0
 RD32     VT100       .         3.1
 RD33     VT100       .         3.1
 RD34     VT100       .         3.1
 RD35     VT100       .         3.1
 RD36     VT100       .         3.2
```

**3** Record the input/output module (IOM) number and port number for each console device with a state of Disc (disconnected).

| If | Do |
|---|---|
| one IOM has a disconnected console device | step 5 |
| more than one IOM has a disconnected console device | step 4 |

**4** Choose an IOM to work on.

**5** To post the configured controller system, type

**`>IOC ioc_no`**

and press the Enter key.

*where*

# IOD nCKEr on an IOM **minor** (continued)

**ioc_no**
is the number of the affected IOM

*Example of a IOM MAP display:*

```
DIRP: SMDR B XFER:   .   SLM :   .   NPO:   .   NX25:  .
MLP :   .    DPPP:   .   DPPU:   .   SCAI :

IOC   PORT 0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17
(IOM) STAT . . . – . . – – – .  –  –  –  –  –  –  –  –
0     TYPE C C C   C M       M                    D  S
           O O O   O T       P                    D  C
           N N N   N D       C                    U  S
```

| If you | Do |
|---|---|
| recorded one port for the IOM in step 3. | step 7 |
| recorded more than one port for the IOM in step 3. | step 6 |

**6** Choose an IOM port to work on.

**7** To post the terminal controller port, type

**>PORT port_no**

and press the Enter key.

*where*

**port_no**
is the port number of the terminal controller device (0 to 15)

*Example of a MAP response:*

```
Port   2   Status      Disc
           Cons Id    1CONS
           ConType    VT100
```

***Note:*** A state of Disc in the status field identifies the disconnected circuits (links).

**8** To busy the console, type

**>BSY**

and press the Enter key.

*Example of MAP response:*

```
bsy
OK
```

## IOD nCKEr on an IOM
## **minor** (continued)

**9** To offline the console, type

**>OFFL**

and press the Enter key.

**10** To return to the IOC level of the MAP display, type

**>QUIT**

and press the Enter key.

**11** To manually busy the IOM controller port, type

**>BSY PORT port_no**

and press the Enter key.

*Example of MAP response:*

```
bsy
OK
```

**12** To offline the IOM controller port, type

**>OFFL PORT port_no**

and press the Enter key.

**13** To test the IOM controller port, type

**>TST  PORT port_no**

and press the Enter key.

*where*

**port_no**
is the number of the port

*Example of MAP response:*

```
Failed
Site  Flr  Rpos  Bay_Id  Shf  Description  Slot  EqPEC
HOST  01    A05  ISME 03  32    IOC         03   FX30AA

Check and replace smart connector for port 5 (FX36)
```

| If an identified smart connector | Do |
|---|---|
| is present | step 14 |
| is not present | step 15 |

# IOD nCKEr on an IOM minor (continued)

***At the back of ISM shelf***

**14**

**DANGER**
**Static electricity damage**
Wear a wrist strap that connects to a wrist-strap grounding point of a modular supervisory panel (MSP) while handling circuit cards. The wrist strap protects the cards against static electricity damage.

Locate the smart cable that connects to the CONS port identified in the MAP response in step 13. Reconnect the RS232 smart connector.

Go to step 17.

**15** Locate the console cables between the console port and the RS232 smart connectors. Locate the console port on the paddleboard at the backplane. Locate the RS232 smart connectors at the associated console device. Determine if any disconnected console cables are present.

***Note:*** In the event of a cabinetized ISM (CISM), the cables from the controller paddleboard connect to a splitter unit on the ISM bulkhead. Other cables connect the splitter unit to the associated console device through RS232 smart connectors.

| If | Do |
|---|---|
| a minimum of one disconnected cable is present | step16 |
| no disconnected cables are present | step 26 |

**16** Reconnect the cables.

***Note:*** If an RS232 smart connector connects the associated console device to the remote end, make sure that the connector sits correctly.

***At the MAP terminal***

**17** To manually busy the IOM controller port, type

```
>BSY PORT port_no
```

and press the Enter key.

**18** To return the IOM controller port to service, type

```
>RTS PORT port_no
```

## IOD nCKEr on an IOM
**minor** (continued)

and press the Enter key.

| If the RTS command | Do |
|---|---|
| passed | step 19 |
| failed | step 26 |

**19** To post the terminal port, type

**>PORT port_no**

and press the Enter key.

**20** To busy the terminal, type

**>BSY**

and press the Enter key.

*Example of MAP response:*

```
bsy
OK
```

**21** To return the terminal to service, type

**>RTS**

and press the Enter key.

**22** From the MAP display for the posted IOM, determine the state of the links that you reconnected.

| If | Do |
|---|---|
| the state of all links is in service (.) | step 23 |
| a minimum of one link is not in service | step 26 |

**23** Determine if other IOMs with disconnected console devices are present.

***Note:*** You recorded this information in step 3.

| If other IOMs with disconnected console devices | Do |
|---|---|
| are present | step 4 |
| are not present | step 24 |

## IOD nCKEr on an IOM **minor** (end)

**24** Determine if the CKEr alarm cleared.

| If the alarm | Do |
|---|---|
| cleared | step 27 |
| changed to another alarm | step 25 |
| did not clear | step 26 |

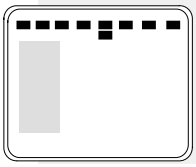
**25** Perform the correct alarm clearing procedure in this document.

**26** For additional help, contact the next level of support.

**27** The procedure is complete.

# IOD nCKOS major or minor

## Alarm display



| CM | MS | IOD | Net | PM | CCS | Lns | Trks | Ext | APPL |
|---|---|---|---|---|---|---|---|---|---|
| . | . | nCKOS | . | . | . | . | . | . | . |

## Indication

At the IOD level of the MAP display, a number (n) precedes CKOS. CKOS indicates a major or minor circuit out-of-service alarm.

## Meaning

One or more circuits or ports are out of service. The number that precedes CKOS indicates the number of circuits or ports that are out of service. The circuit controls one of the four ports on the IOC controller card. Each of these ports connects to a terminal (for example, a MAP terminal or a printer).

## Result

Service stops to any device associated with an out-of-service circuit or port.

## Common procedures

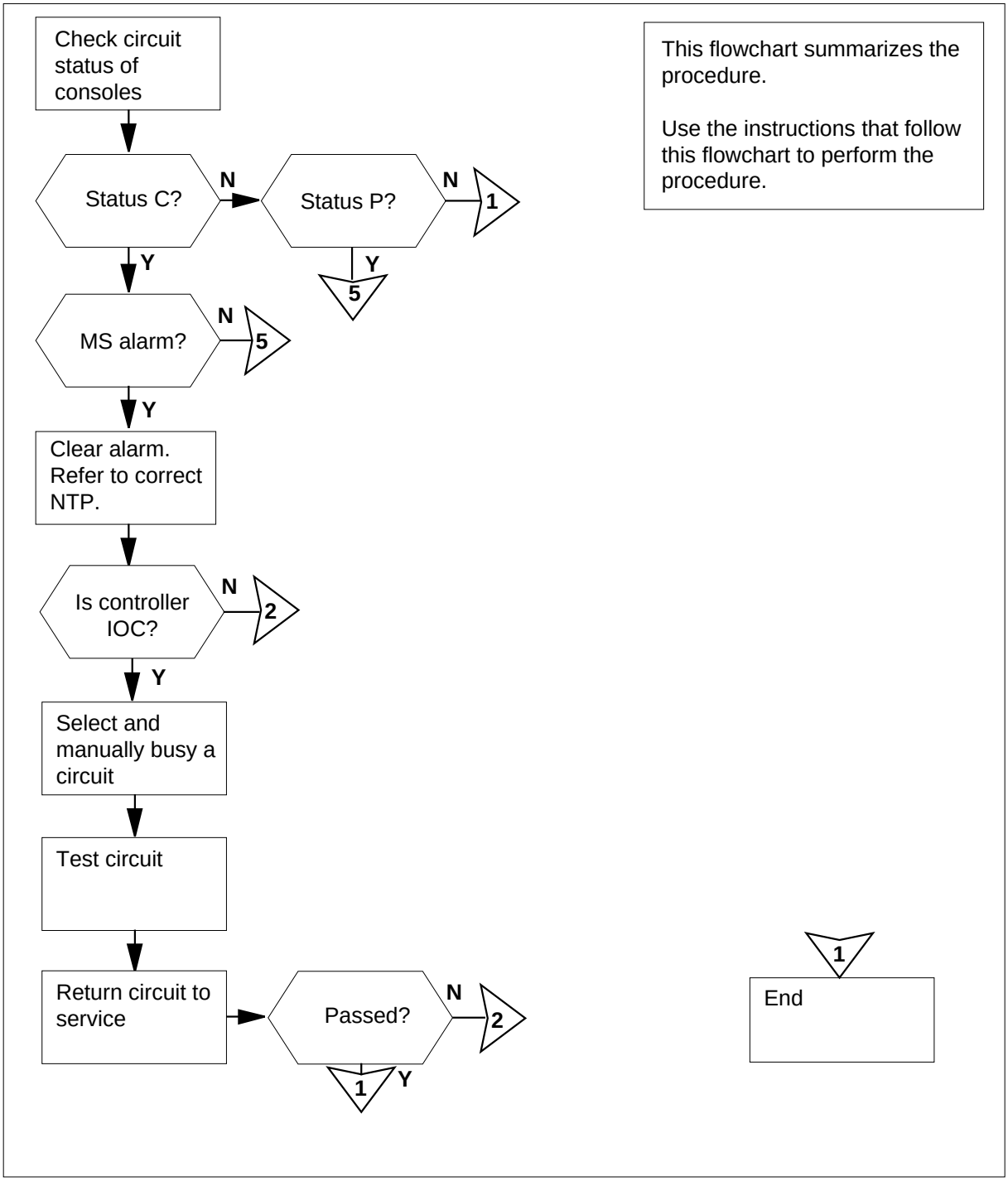
There are no common procedures.

## Action

The flowchart is a summary of the procedure. Use the instructions in the step-action procedure that follows the flowchart to clear the alarm.

# IOD nCKOS
# major or minor (continued)

**Summary of Clearing an IOD nCKOS major or minor alarm on an IOC**



# IOD nCKOS
# major or minor (continued)

### Clearing an IOD nCKOS major or minor alarm

***At the MAP terminal***

**1** To access the IOD level of the MAP display, type

**>MAPCI;MTC;IOD**

and press the Enter key.

*Example of a MAP display:*

```
 IOD
 IOC  0  1  2  3
 STAT .  .  .  S

 DIRP: SMDR B  XFER:  .    SLM :  .  NPO:  .    NX25: .
 MLP::  .      DPPP:  .    DPPU:  . SCAI:  .
```

**2** Determine if an audible alarm is present.

| If an audible alarm | Do |
|---|---|
| is present | step 3 |
| is not present | step 4 |

**3** To silence the alarm, type

**>SIL**

and press the Enter key.

**4** To determine the configuration of the controller system, type

**>IOC  ioc_no**

and press the Enter key.

*where*

**ioc_no**
is the number of the affected IOC or IOM

*Example of a IOC MAP display:*

```
DIRP: SMDR B XFER:   .   SLM :   .   NPO:   .   NX25:  .
MLP :   .    DPPP:   .   DPPU:   .   SCAI :

IOC  CARD     0    1    2    3    4    5    6    7   8
 0   PORT   0123 0123 0123 0123 0123 0123 0123 0123 0123
     STAT  .--- .--- ...P ..-- ..--  ---  ---  ---  ---
     TYPE   MTD  DDU  CONS  DLC  CONS
```

*Example of a IOM MAP display:*

# IOD nCKOS
# major or minor (continued)

```
DIRP: SMDR B XFER:   .   SLM :   .   NPO:   .   NX25:  .
MLP :   .    DPPP:   .   DPPU:   .   SCAI :

IOC   PORT 0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17
(IOM) STAT . . . – . . – – – .  –  –  –  –  –  –  –  –
0     TYPE C C C   C M       M                    S  S
           O O O   O T       P                    C  C
           N N N   N D       C                    S  S
```

| If the controller | Do |
|---|---|
| is IOM | step 5 |
| is IOC | step 6 |

**5** Perform the *IOD nCKOS on an IOM* alarm clearing procedure for the input/output module (IOM) in this document.

**6** Record the port status display for each console.

| If the port status | Do |
|---|---|
| is C (C-side busy) | step 7 |
| is P (P-side busy) | step 10 |

**7** The C-side links to the console are out of service. Determine if an alarm exists under the MS header.

| If an alarm under the MS header | Do |
|---|---|
| is present | step 8 |
| is not present | step 10 |

**8** Perform the correct procedure in this document to clear the alarm. Complete the procedure and return to this point.

**9** Determine from the MAP display if the alarm under the MS header cleared.

| If the alarm | Do |
|---|---|
| cleared | step 10 |
| did not clear | step 32 |

**10** List the console cards that have P status.

| If the P status | Do |
|---|---|
| affects one card (IOC) | step 12 |

## IOD nCKOS
## major or minor (continued)

| If the P status | Do |
|---|---|
| affects more than one card | step 11 |

**11** From the list you recorded in step 10, choose one console card to work on.

**12** To post the affected IOC console card, type

**>CARD card_no**

and press the Enter key.

*where*

**card_no**
is the number of the affected console card

*Example of a MAP response:*

```
Card 1  Unit    0
        User    system          Drive_State
        Status  Ready           on_line
```

| If the port status | Do |
|---|---|
| is SYSb | step 13 |
| is OFFL | step 28 |
| is ManB | step 29 |

**13** List the IOC circuits that are system busy.

| If | Do |
|---|---|
| one circuit is busy | step 15 |
| more than one circuit are system busy | step 14 |

**14** From the list, choose one circuit to work on.

**15** To make the IOC circuit manually busy, type

**>BSY circuit_no**

and press the Enter key.

*where*

**circuit_no**
is the number of the circuit

*Example of MAP response:*

```
bsy
OK
```

## IOD nCKOS
## major or minor (continued)

**16** To test the circuit, type

**>TST circuit_no**

and press the Enter key.

*where*

**circuit_no**
is the number of the circuit

| If the TST command | Do |
|---|---|
| passed | step 30 |
| failed, and the system generated a card list | step 17 |
| failed, and the system did not generate a card list | step |

**17** Record the location, description, slot number, product engineering code (PEC), and PEC suffix of the cards on the card list.

**18** Perform the correct procedure in *Card Replacement Procedure*.to replace the card. Complete the procedure and return to this point.

**19** To test the circuit, type

**>TST circuit_no**

and press the Enter key.

*where*

**circuit_no**
is the number of the circuit

| If the TST command | Do |
|---|---|
| passed | step 30 |
| failed, and the system generated a card list | step 20 |
| failed, and the system did not generate a card list | step 22 |

**20** Perform the correct procedure in *Card Replacement Procedures* to replace the next card. Complete the procedure and return to this point.

**21** Go to step 19.

**22** From your MAP display, record the console ID and console type.

**23** Determine from office records the correct data set configuration for the console.

## IOD nCKOS
## major or minor (continued)

**24** Check the console to make sure that that the console runs correctly and does not have problems.

**25** Check the external switch settings on the console.

| Switch | Setting |
|---|---|
| Power | ON |
| Local/Online | Online |
| Baud Rate | 1200 (or as required - see IS3X01) |
| Parity | No Parity |
| Full Duplex/Half Duplex | Full Duplex |

| If the external switch settings | Do |
|---|---|
| are correct | step 27 |
| are not correct | step 26 |

**26** Change the external switch setting according to the table in step 25. Complete the procedure and return to this point.

**27** To test the circuit, type

**`>TST circuit_no`**

and press the Enter key.

*where*

**circuit_no**
is the number of the circuit

| If the TST command | Do |
|---|---|
| passed | step 30 |
| failed | step 32 |

**28** Consult office records or operating company personnel. Determine the reason that the circuit is offline. If you have permission, manually busy the circuit. To manually busy the circuit, type

**`>BSY circuit_no`**

and press the Enter key.

*where*

**circuit_no**
is the number of the circuit

## IOD nCKOS
## major or minor (continued)

**29** To test the manually-busy circuit, type

**>TST circuit_no**

and press the Enter key.

*where*

**circuit_no**
is the number of the circuit

| If the TST command | Do |
|---|---|
| passed | step 30 |
| failed, and the system generated a card list | step 17 |
| failed, and the system did not generate a card list | step 20 |

**30** To return the circuit to service, type

**>RTS circuit_no**

and press the Enter key.

*where*

**circuit_no**
is the number of the circuit

| If the RTS command | Do |
|---|---|
| passed, and all circuits are in service | step 31 |
| passed, and one or more circuits are out of service | step 12 |
| failed | step 32 |

**31** Determine from the MAP display if the *nCKOS major or minor* alarm cleared.

| If the alarm | Do |
|---|---|
| cleared | step 33 |
| did not clear, and other consoles are out of service | step 6 |
| did not clear, and all consoles are in service | step 32 |

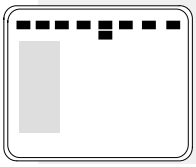
## IOD nCKOS
## **major or minor** (end)

**32** For additional help, contact the next level of support.

**33** The procedure is complete.

# IOD nCKOS on an IOM major or minor

## Alarm display



| CM | MS | IOD | Net | PM | CCS | Lns | Trks | Ext | APPL |
|---|---|---|---|---|---|---|---|---|---|
| . | . | nCKOS | . | . | . | . | . | . | . |

## Indication

At the IOD level of the MAP display, CKOS preceded by a number (n) indicates a major or minor port out-of-service alarm.

## Meaning

One or more ports are out of service. The number that precedes CKOS indicates how many ports are out of service. Each of these ports is connected to a terminal, such as a MAP terminal or a printer.

## Impact

Service is discontinued to any device associated with an out-of-service circuit or port.

## Common procedures

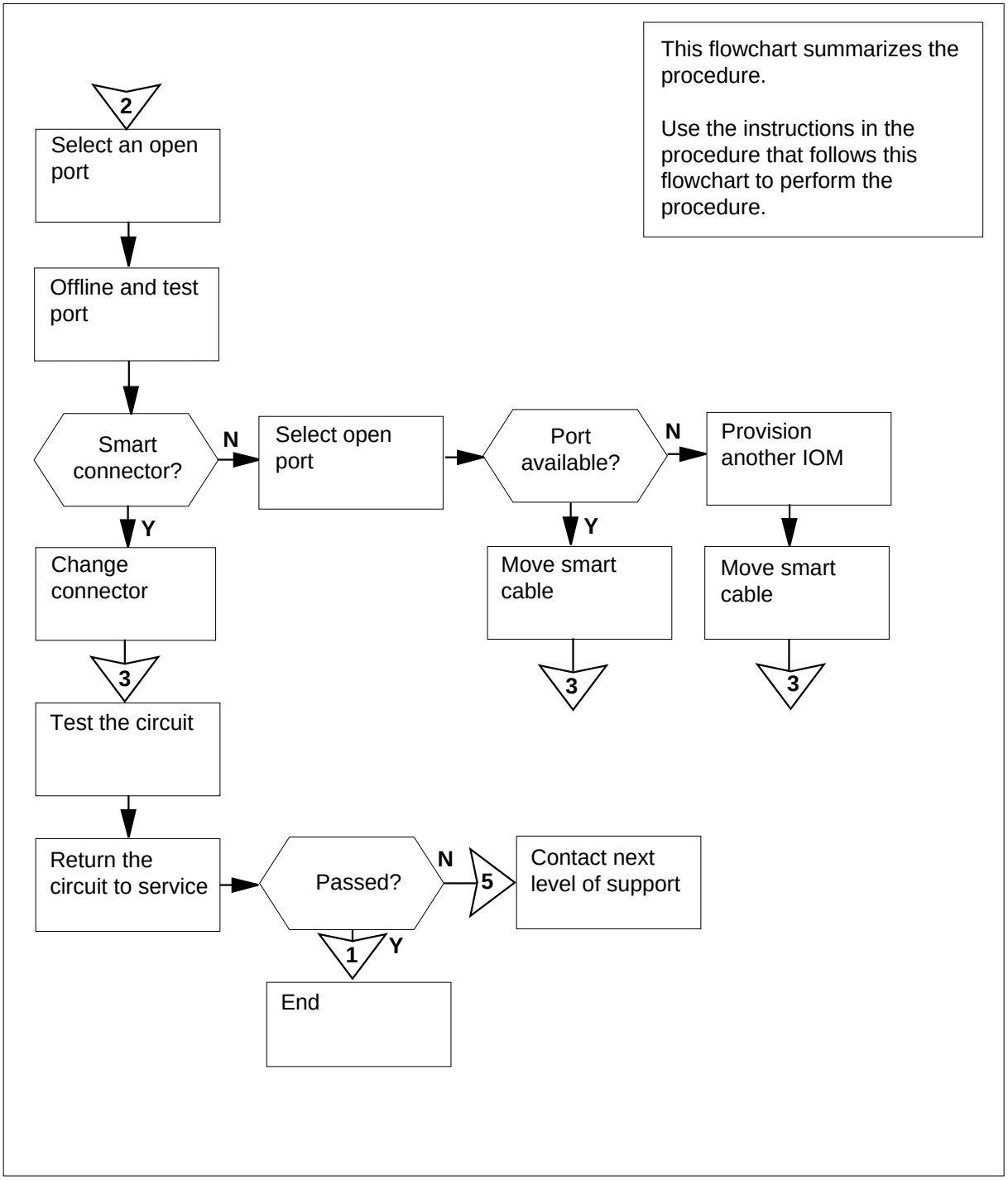
Not applicable

## Action

The following flowchart is only a summary of the procedure. Use the instructions in the step-action procedure that follows the flowchart to clear the alarm.

# IOD nCKOS on an IOM major or minor (continued)

**Summary of clearing an IOD nCKOS on an IOM alarm**



# IOD nCKOS on an IOM major or minor (continued)

### Clearing a/an IOD nCKOS on an IOM alarm

**ATTENTION**
Proceed only if you have been directed to this procedure from a step in the *IOD nCKOS in an IOC minor* alarm clearing procedure.

***At the MAP terminal***

**1** Access the IOD level of the MAP display by typing

**>MAPCI;MTC;IOD**

and pressing the Enter key.

*Example of a MAP display:*

```
IOD
IOC  0  1  2  3
STAT .  .  .  S

DIRP: SMDR B  XFER:  .    SLM :  .  NPO:  .    NX25: .
MLP::  .      DPPP:  .    DPPU:  . SCAI:  .
```

**2** Determine if an audible alarm exists.

| If an audible alarm | Do |
|---|---|
| exists | step 3 |
| does not exists | step 4 |

**3** Silence the alarm by typing

**>SIL**

and pressing the Enter key.

**4** Determine the configuration of the controller system by typing

**>IOC  ioc_no**

and pressing the Enter key.

*where*

**ioc_no**
is the number of the affected IOM

*Example of a IOM MAP display:*

## IOD nCKOS on an IOM
## **major or minor** (continued)

```
DIRP: SMDR B XFER:   .   SLM :   .   NPO:   .   NX25:  .
MLP :   .    DPPP:   .   DPPU:   .   SCAI :

IOC   PORT 0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17
(IOM) STAT . . . – . . – – – .  –  –  –  –  –  –  –  –
0     TYPE C C C   C M       M                    S  S
           O O O   O T       P                    C  C
           N N N   N D       C                    S  S
```

**5** Record the port status display for each console.

| If the port status is | Do |
|---|---|
| C (C-side busy) | step 6 |
| P (P-side busy) | step 9 |

**6** The C-side links to the console are out of service. Determine if there is an alarm under the MS header.

| If an alarm under the MS header | Do |
|---|---|
| exists | step 7 |
| does not exist | step 8 |

**7** Clear the alarm by performing the appropriate procedure in this document. When you have completed the procedure, return to this point.

**8** Determine from the MAP display if the alarm under the MS header has cleared.

| If the alarm | Do |
|---|---|
| cleared | step 9 |
| did not clear | step 51 |

**9** Record the IOM console ports that have P status.

| If the P status affects | Do |
|---|---|
| one port | step 11 |
| more than one port | step 10 |

**10** Select one port to work from the list recorded in step 9.

**11** Post the affected IOM console port by typing

**`>PORT port_no`**

and pressing the Enter key.

## IOD nCKOS on an IOM major or minor (continued)

*where*

**port_no**
is the port number of the affected console device

*Example of a MAP response:*

```
Port 2  Status
        Cons Id       MAP
        ConType       CYB
```

| If the device status is | Do |
|---|---|
| SYSb | step 12 |
| Offl | step 47 |
| Text ManB | step 45 |

**12** Manually busy the console by typing

**>BSY**

and pressing the Enter key.

*Example of MAP response:*

```
bsy
OK
```

**13** Test the console by typing

**>TST**

and pressing the Enter key.

| If the TST command | Do |
|---|---|
| passed | step 49 |
| failed, and a card list was generated | step 36 |
| failed, and a card list was not generated | step 14 |

**14** Offline the terminal by typing

**>OFFL**

and pressing the Enter key.

**15** Return to the IOC level of the MAP display by typing

**>QUIT**

and pressing the Enter key.

## IOD nCKOS on an IOM
## **major or minor** (continued)

**16** Manually busy the console port by typing

**>BSY PORT port_no**

and pressing the Enter key.

**circuit_no**
is the number of the circuit

*Example of MAP response:*

```
bsy
OK
```

**17** Offline the busied console port by typing

**>OFFL PORT port_no**

and pressing the Enter key.

**18** Test the console port by typing

**>TST  PORT port_no**

and pressing the Enter key.

*where*

**circuit_no**
is the number of the circuit

*Example of MAP response:*

```
Failed
Site  Flr  Rpos  Bay_Id  Shf  Description  Slot  EqPEC
HOST  01    A05  ISME 03  32    IOC         03   FX30AA

Check smart connector for port 5
```

| If a smart connector is | Do |
|---|---|
| identified | step 19 |
| not identified | step 21 |

# IOD nCKOS on an IOM major or minor (continued)

***At the rear of the ISM shelf***

**19**

**DANGER**
**Static electricity damage**
Wear a wrist strap connected to the wrist-strap grounding point of a modular supervisory panel (MSP) while handling circuit cards. This protects the cards against damage by static electricity.

Locate the PERTEC smart connector mounted on an L-shaped bracket close to the tape drive and check the smart connector LED. Replace the smart connector.

***Note:*** When you connect the smart connector to the IOM, the color of the LED changes from red to orange to green. In normal operation, the LED should stay green.

**20** Test the smart connector by typing

**`>TST PORT port_no`**

and pressing the Enter key.

*where*

**port_no**
is the port number of the MPC device

*Example of MAP response:*

```
Failed
Site  Flr  Rpos  Bay_Id  Shf  Description  Slot  EqPEC
HOST  01    A05  ISME 03  32    IOC         03   FX30AA
```

| If the smart connector | Do |
|---|---|
| passes | step 29 |
| fails | step 21 |

***At the MAP terminal***

**21** Go to step 4, select an open IOM port and return to this point.

| If a port is | Do |
|---|---|
| available on the posted IOM controller | step 23 |
| available on another IOM | step 32 |

## IOD nCKOS on an IOM
## major or minor (continued)

| If a port is | Do |
|---|---|
| there is no other IOM available | step 34 |

**22**

**CAUTION**
**Provisioning changes**
You may require the assistance of the provisioning administrator before proceeding with the following provisioning changes.

Determine from table IOC if the open port is datafilled with the correct load device by typing

**>TABLE IOC**

and pressing the Enter key.

**23** Go to table CONS by typing

**>TABLE TERMDEV**

and pressing the Enter key.

**24** Delete the tuple associated with the affected port and add the tuple for the spare IOM port selected in step 21.

**25** Post the new IOM CONS port by typing

**>PORT port_no**

and pressing the Enter key.

*where*

**port_no**
is the number of the CONS port

*Example of a MAP display:*

```
Port 2  Status
        Cons Id       MAP
        ConType       CYB
```

**26** Manually busy the new console by typing

**>BSY**

and pressing the Enter key.

*Example of MAP response:*

```
bsy
OK
```

# IOD nCKOS on an IOM major or minor (continued)

***At the rear of the ISM shelf***

**27**

**DANGER**
**Static electricity damage**
Wear a wrist strap connected to the wrist-strap grounding point of a modular supervisory panel (MSP) while handling circuit cards. This protects the cards against damage by static electricity.

Locate the smart cable connecting the CONS port on the paddleboard and the associated CONS device. Disconnect the smart cable and connect it to the new CONS port selected in step 21.

**28** Go to step 40.

**29** Manually busy the console port by typing

**`>BSY PORT port_no`**

and pressing the Enter key.

*where*

**port_no**
is the port number of the CONS device

*Example of MAP response:*

```
bsy
OK
```

**30** Return the console port to service by typing

**`>RTS PORT port_no`**

and pressing the Enter key.

*where*

**port_no**
is the port number of the CONS device

**31** Go to step 36.

**32** Post another configured controller system by typing

**`>IOC ioc_no`**

and pressing the Enter key.

*where*

**ioc_no**
is the number of the affected IOM

*Example of a IOM MAP display:*

## IOD nCKOS on an IOM
## major or minor (continued)

```
DIRP: SMDR B XFER:   .   SLM :   .   NPO:   .   NX25:  .
MLP :   .    DPPP:   .   DPPU:   .   SCAI :

IOC   PORT 0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17
(IOM) STAT . . . - . . - - - .  -  -  -  -  -  -  -  -
0     TYPE C C C   C M       M                    S  S
           O O O   O T       P                    C  C
           N N N   N D       C                    S  S
```

**33** Select an open IOM port on the new controller.

| If there is a port | Do |
|---|---|
| available | step 22 |
| not available | step 34 |

**34**

**CAUTION**
**Provisioning changes**
You will require the assistance of the provisioning administrator before proceeding with the following provisioning changes.

There will be a requirement to provision another IOM module. Consult your provisioning administrator about provisioning another IOM controller card.

**35** Go to step 51.

**36** Replace the card by performing the appropriate procedure in *Card Replacement Procedures.* When you have completed the procedure, return to this point.

**37** Test the IOM card by typing

**>TST**

and pressing the Enter key.

*Example of MAP response:*

```
Failed
Site  Flr  Rpos  Bay_Id  Shf  Description  Slot  EqPEC
HOST  01    A05  ISME 03  32    IOC         03   FX30AA
```

| If the test | Do |
|---|---|
| passes | step 41 |

# IOD nCKOS on an IOM major or minor (continued)

| If the test | Do |
|---|---|
| fails, and all cards have not been replaced | step 38 |
| failed, and all cards have been replaced | step 51 |

**38** Replace the next card on the list by performing the appropriate procedure in *Card Replacement Procedures.* When you have completed the procedure, return to this point. Go to step 37.

**39** Go to step 37.

**40** Post the console port by typing

```
>PORT port_no
```

and pressing the Enter key.

*where*

**port_no**
is the port number of the console device

**41** From your MAP display, record the console ID and console type.

**42** Determine from office records the correct data set configuration for the console.

**43** Check the console to ensure that it is running properly and there are no physical problems.

**44** Check the external switch settings on the console.

| Switch | Setting |
|---|---|
| Power | On |
| Local/OnLine | OnLine |
| Baud Rate | 1200 (or as required - see IS3X01) |
| Parity | No Parity |
| Full Duplex/Half Duplex | Full Duplex |

| If the external switch settings are | Do |
|---|---|
| correct | step 46 |
| not correct | step 45 |

## IOD nCKOS on an IOM
## major or minor (continued)

**45** Change the external switch setting as per the table in step 44. When you have completed the procedure return to this point.

**46** Test the console device by typing

**>TST**

and pressing the Enter key.

*where*

**port_no**
is the port number of the console device

| If the TST command | Do |
|---|---|
| passed | step 49 |
| failed | step 51 |

**47** Determine from office records or from office personnel why the console is offline. When permissible, manually busy the console by typing

**>BSY**

and pressing the Enter key.

**48** Test the manually busy console by typing

**>TST**

and pressing the Enter key.

| If the TST command | Do |
|---|---|
| passed | step 49 |
| failed, and a card list was generated | step 36 |
| failed, and a card list was not generated | step 51 |

**49** Return the console to service by typing

**>RTS**

and pressing the Enter key.

| If the RTS command | Do |
|---|---|
| passed | step 50 |
| failed | step 51 |

# IOD nCKOS on an IOM major or minor (end)

**50** Determine from the MAP display if the *nCKOS major or minor* alarm has cleared.

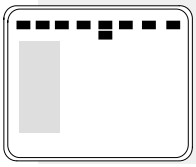
| If the alarm | Do |
|---|---|
| cleared | step 52 |
| did not clear, and there are other consoles out of service | step 10 |
| did not clear, and all consoles are in service | step 51 |

**51** For further assistance, contact the personnel responsible for the next level of support.

**52** You have completed this procedure.

# IOD nDDUOS
# major or minor

## Alarm display



| CM | MS | IOD | Net | PM | CCS | Lns | Trks | Ext | APPL |
|---|---|---|---|---|---|---|---|---|---|
| . | . | nDDUOS | . | . | . | . | . | . | . |

## Indication

At the IOD level of the MAP display, DDUOS [preceded by a number (n)] indicates a DDU major or minor alarm.

## Meaning

One or more disk drive units (DDU) are out of service. The number that precedes DDUOS indicates the number DDUs out of service.

## Result

You cannot record files to the tape or DDU. You cannot download files from the tape or DDU.

## Common procedures

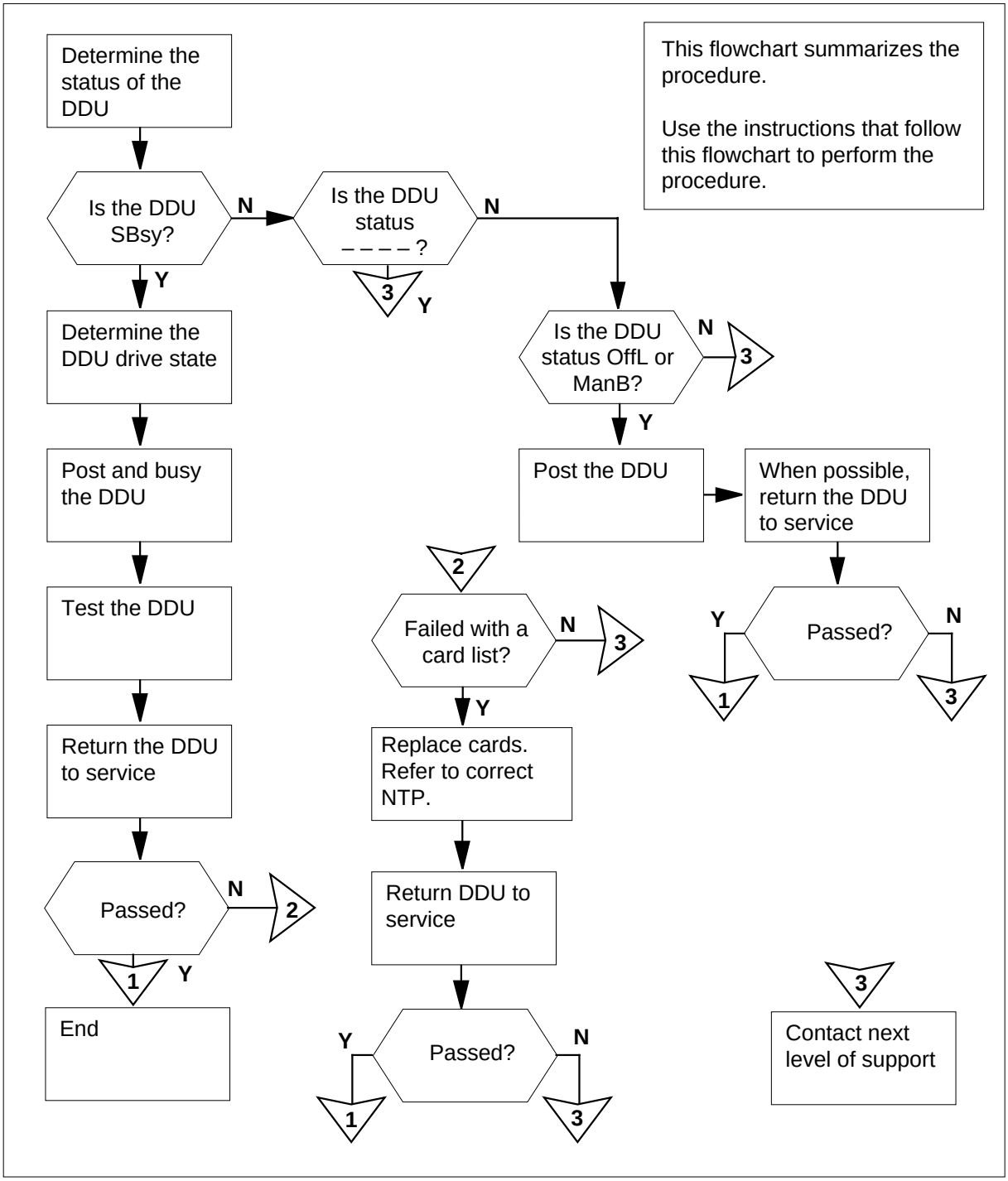
There are no common procedures.

## Action

The flowchart is a summary of the procedure. Use the instructions in the step-action procedure that follows the flowchart to clear the alarm.

# IOD nDDUOS major or minor (continued)

**Summary of Clearing an IOD nDDUOS major or minor alarm**



# IOD nDDUOS
# major or minor (continued)

### Clearing an IOD nDDUOS major or minor alarm

***At the MAP terminal***

**1** To access the IOD level of the MAP display, type

**>MAPCI;MTC;IOD**

and press the Enter key.

*Example of a MAP:*

```
IOD
IOC  0  1  2  3
STAT .  .  .  S

DIRP: SMDR B XFER:   .   SLM :   .   NPO:   .   NX25:  .
MLP :   .    DPPP:   .   DPPU:   .   SCAI :
```

**2** Determine if an audible alarm is present.

| If an audible alarm | Do |
|---|---|
| is present | step 3 |
| is not present | step 4 |

**3** To silence the alarm, type

**>SIL**

and press the Enter key.

**4** Determine if there is an FSP alarm under the EXT header of the MAP display.

| If an FSP alarm is | Do |
|---|---|
| present | step 5 |
| not present | step 7 |

**5** Perform the appropriate alarm clearing procedure in this document. When you have completed the procedure, return to this point.

**6** Determine if the DDUOS alarm under the IOD header of the MAP display has cleared.

| If the DDUOS alarm is | Do |
|---|---|
| present | step 7 |
| not present | step 74 |

# IOD nDDUOS
# major or minor (continued)

**7** To determine the configured controller system, type

**>IOC ioc_no**

and press the Enter key.

*where*

**ioc_no**
is the number of the affected IOC or input/output module (IOM)

*Example of a IOC MAP display:*

```
IOD
IOC  0  1  2  3
STAT .  .  .  S

DIRP: SMDR B XFER:   .   SLM :   .   NPO:   .   NX25:  .
MLP :   .    DPPP:   .   DPPU:   .   SCAI :

IOC  CARD     0    1    2    3    4    5    6    7   8
 0   PORT   0123 0123 0123 0123 0123 0123 0123 0123 0123
     STAT  .--- .--- ...P ..-- ..--  ---  ---  ---  ---
     TYPE   MTD  DDU  CONS  DLC  CONS
```

*Example of a IOM MAP display:*

```
 IOD
 IOC  0  1  2  3
 STAT .  .  .  S

 DIRP: SMDR B XFER:   .   SLM :   .   NPO:   .   NX25:  .
 MLP :   .    DPPP:   .   DPPU:   .   SCAI :

 IOC   PORT 0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17
 (IOM) STAT . . . - . . - - - .  -  -  -  -  -  -  -  -
 0     TYPE C C C   C M       M                   D  S
            O O O   O T       P                   D  C
            N N N   N D       C                   U  S
```

| If the controller | Do |
|---|---|
| is IOM | step 8 |
| is IOC | step 9 |

**8** Perform the *IOD nDDUOS on an IOM* alarm clearing procedure for the input/output module (IOM) in this document.

**9** To display the status of the DDU, type

**>LISTDEV DDU**

and press the Enter key.

## IOD nDDUOS
## major or minor (continued)

**10** From the status display, determine the status of the DDU.

| If the status | Do |
|---|---|
| is SysB | step 11 |
| is _ _ _ _ _ | step 73 |
| is OffL or ManB | step 61 |

**11** Examine the drive state of the system busy DDU.

| If the drive state | Do |
|---|---|
| is ONLINE | step 12 |
| is DISCONNECTED | step 20 |
| has DRIVE FAULTS | step 28 |
| is SPINNING | step 32 |
| is SPINNING DOWN | step 35 |
| is SPUN DOWN | step 43 |
| is UNKNOWN | step 52 |

**12** To post the NT1X55 DDU controller card, type

**>IOC ioc_no;CARD card_no**

and press the Enter key.

*where*

**ioc_no**
is the number of the affected IOC

**card_no**
is the number of the DDU controller card

**13** To make the DDU card manually busy, type

**>BSY**

and press the Enter key.

*Example of MAP response:*

```
bsy
OK
```

**14** To test the DDU card, type

**>TST**

## IOD nDDUOS
## major or minor (continued)

and press the Enter key.

| If the TST command | Do |
|---|---|
| passed | step 17 |
| failed, and the system generated a card list | step 15 |
| failed, and the system did not generate a card list | step 73 |

**15** Record the location, description, slot number and the product engineering code (PEC), and PEC suffix of the cards on the card list.

**16** Perform the correct procedure in *Card Replacement Procedures* to replace the first card on the list. Complete the procedure and return to this point.

**17** To return the DDU device to service, type

**>RTS**

and press the Enter key.

| If the RTS command | Do |
|---|---|
| passed | step 71 |
| failed, and you did not replace all cards noted in step 15 | step 18 |
| failed, and you replaced all cards noted in step 15 | step 73 |

**18** Perform the correct procedure in *Card Replacement Procedures*. to replace the next card on the list. Complete the procedure and return to this point.

**19** Go to step 17.

***At the equipment shelf***

**20** Inspect the DDU cabling and power supply.

| If the cables and power supply | Do |
|---|---|
| are in good working order | step 22 |
| has faults | step 21 |

**21** Refer to office installation guides to replace the signal cabling to the DDU, or adjust the power supply to the DDU. Complete this task and return to this point.

**22** To test the DDU, type

**>TST**

## IOD nDDUOS
## major or minor (continued)

and press the Enter key.

| If the TST command | Do |
|---|---|
| passed | step 25 |
| failed, and the system generated a card list | step 23 |
| failed, and the system did not generate a card list | step 33 |

**23** Record the location, description, slot number, PEC, and PEC suffix of the cards on the card list.

**24** Perform the correct procedure in *Card Replacement Procedures*. to replace the first card on the list. Complete the procedure and return to this point.

**25** To return the DDU to service, type

**>RTS**

and press the Enter key.

| If the RTS command | Do |
|---|---|
| passed | step 71 |
| failed, and you did not replace all cards noted in step 23 | step 26 |
| failed, and you replaced all cards noted in step 23 | step 73 |

**26** Perform the correct procedure in *Card Replacement Procedures*. to replace the next card on the list. Complete the procedure and return to this point.

**27** Go to step 25.

**28** To post the NT1X55 DDU controller card, type

**>IOC ioc_no;CARD card_no**

and press the Enter key.

*where*

**ioc_no**
is the number of the affected IOC

**card_no**
is the card number

**29** To make the NT1X55 DDU controller card manually busy, type

**>BSY**

and press the Enter key.

# IOD nDDUOS
# major or minor (continued)

*Example of MAP response:*

```
bsy
OK
```

***At the equipment shelf***

**30** Perform the correct procedure in *Routine Maintenance Procedures* to clear the optical sensors on the DDU. Complete the procedure and return to this point.

**31** Go to step 20.

**32** Wait 3 min for the DDU to spin up to speed.

| If the status of the DDU | Do |
|---|---|
| changes to ONLINE | step 71 |
| does not change to ONLINE | step 33 |

**33** Perform the correct procedure in *Trouble locating and clearing procedures* to replace the DDU. Complete the procedure and return to this point.

**34** Go to step 36.

**35** Consult office records or operating company personnel. Determine the reason that the DDU spins down. Wait 3 min for the spinning DDU to stop.

**36** To return the DDU card to service, type

**`>IOC ioc_no;CARD card_no;RTS`**

and press the Enter key.

*where*

**ioc_no**
is the number of the affected IOC

**card_no**
is the number of the DDU controller card

| If the RTS command | Do |
|---|---|
| passed | step 71 |
| failed, and the system generated a card list | step 37 |
| failed, and the system did not generate a card list | step 73 |

**37** Record the location, description, slot number, PEC, and PEC of the card(s) on the card list.

**38** Perform the correct procedure in *Card Replacement Procedures* to replace the first card on the list. Complete the procedure and return to this point.

## IOD nDDUOS
## major or minor (continued)

**39** To test the DDU, type

**>TST**

and press the Enter key.

| If the TST command | Do |
|---|---|
| passed | step 42 |
| failed, and you did not replace all cards noted in step 37 | step 40 |
| failed, and you replaced all cards noted in step 37 | step 73 |

**40** Perform the correct procedure in *Card Replacement Procedures* to replace the next card on the list. Complete the procedure and return to this point.

**41** Go to step 39.

**42** To return the DDU card to service, type

**>RTS**

and press the Enter key.

| If the RTS command | Do |
|---|---|
| passed | step 71 |
| failed | step 73 |

**43** To post and busy the DDU controller card, type

**>IOC ioc_no;CARD card_no;BSY**

and press the Enter key.

*where*

**ioc_no**
is the number of the affected IOC

**card_no**
is the card number

*Example of MAP response:*

```
bsy
OK
```

**44** Determine from office records or from operating company personnel the reason that the DDU was spun down.

**45** To return the DDU card to service, type

**>RTS**

## IOD nDDUOS
## major or minor (continued)

and press the Enter key.

| If the RTS command | Do |
|---|---|
| passed | step 71 |
| failed, and the system generated a card list | step 46 |
| failed, and the system did not generate a card list | step 73 |

**46** Record the location, description, slot number, PEC, and PEC suffix of the cards on the card list.

**47** Perform the correct procedure in *Card Replacement Procedures* to replace the first card on the list. Complete the procedure and return to this point.

**48** To test the DDU, type

**>TST**

and press the Enter key.

| If the TST command | Do |
|---|---|
| passed | step 51 |
| failed, and you did not replace all cards noted in step 46 | step 49 |
| failed, and you replaced all cards noted in step 46 | step 73 |

**49** Perform the correct procedure in *Card Replacement Procedures* to replace the next card on the list. Complete the procedure and return to this point.

**50** Go to step 48.

**51** To return the DDU card to service, type

**>RTS**

and press the Enter key.

| If the RTS command | Do |
|---|---|
| passed | step 71 |
| failed | step 73 |

**52** To post the DDU controller card, type

**>IOC ioc_no;CARD card_no**

and press the Enter key.

## IOD nDDUOS
## major or minor (continued)

*where*

**ioc_no**
is the number of the affected IOC

**card_no**
is the card number

**53** To make the DDU controller card manually busy, type

**>BSY**

and press the Enter key.

*Example of MAP response:*

```
bsy
OK
```

**54** To test the DDU card, type

**>TST**

and press the Enter key.

| If the TST command | Do |
|---|---|
| passed | step 60 |
| failed, and the system generated a card list | step 55 |
| failed, and the system did not generate a card list | step 73 |

**55** Record the location, description, slot number, PEC, and PEC suffix of the cards on the card list.

**56** Perform the correct procedure in *Card Replacement Procedures* to replace the first card on the list. Complete the procedure and return to this point.

**57** To test the DDU card, type

**>TST**

and press the Enter key.

| If the TST command | Do |
|---|---|
| passed | step 60 |
| failed, and you did not replace all cards noted in step 55 | step 58 |
| failed, and you replaced all cards noted in step 55 | step 73 |

## IOD nDDUOS
## major or minor (continued)

**58** Perform the correct procedure in *Card Replacement Procedures* to replace the next card on the list. Complete the procedure and return to this point.

**59** Go to step 57.

**60** To return the DDU card to service, type

**>RTS**

and press the Enter key.

| If the RTS command | Do |
|---|---|
| passed | step 71 |
| failed | step 73 |

**61** To post the DDU controller card, type

**>IOC ioc_no;CARD card_no**

and press the Enter key.

*where*

**ioc_no**
is the number of the affected IOC

**card_no**
is the card number

**62** Determine from office records or from operating company personnel if the DDU is offline or manual busy.

| If the DDU | Do |
|---|---|
| is offline | step 63 |
| is manual busy | step 64 |

**63** To make the DDU manually busy, type

**>BSY**

and press the Enter key.

*Example of MAP response:*

```
bsy
OK
```

**64** To return the DDU to service, type

**>RTS**

and press the Enter key.

| If the RTS command | Do |
|---|---|
| passed | step 71 |

## IOD nDDUOS
## major or minor (continued)

| If the RTS command | Do |
|---|---|
| failed, and the system generated a card list | step 65 |
| failed, and the system did not generate a card list | step 73 |

**65** Record the location, description, slot number, PEC, and PEC suffix of the cards on the card list.

**66** Perform the correct procedure in *Card Replacement Procedures* to replace the first card on the list. Complete the procedure and return to this point.

**67** To test the DDU, type

**>TST**

and press the Enter key.

| If the TST command | Do |
|---|---|
| passed | step 70 |
| failed, and you did not replace all cards noted in step 65 | step 68 |
| failed, and you replaced all cards noted in step 65 | step 73 |

**68** Perform the correct procedure in *Card Replacement Procedures* to replace the next card on the list. Complete the procedure and return to this point.

**69** Go to step 67.

**70** To return the DDU to service, type

**>RTS**

and press the Enter key.

| If the RTS command | Do |
|---|---|
| passed | step 71 |
| failed | step 73 |

**71** Check under the IOD banner on your MAP display to determine if the nDDUOS major or minor alarm cleared.

| If the nDDUOS alarm | Do |
|---|---|
| cleared | step 74 |
| changed to another alarm | step 72 |

# IOD nDDUOS major or minor (end)

| If the nDDUOS alarm | Do |
|---|---|
| did not clear | step 73 |

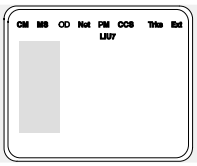
**72** Perform the correct procedure in this document to clear the alarm. Complete the procedure and go to step 71.

**73** For additional help, contact the next level of support.

**74** The procedure is complete.

# IOD nDDUOS on an IOM major or minor

## Alarm display



| CM | MS | IOD | Net | PM | CCS | Lns | Trks | Ext | APPL |
|---|---|---|---|---|---|---|---|---|---|
| . | . | **nDDUOS.** | **.** | | **.** | **.** | **.** | **.** | **.** |

## Indication

At the MTC level of the MAP display, DDUOS appears under the IOD header of the alarm banner. DDUOS preceded by a number (n) indicates a DDU major or minor alarm on the IOM.

## Meaning

One or more disk drive units (DDU) are out of service. The number that precedes DDUOS indicates how many DDUs are out of service.

## Impact

No files can be recorded to or downloaded from tape or DDU.

## Common procedures

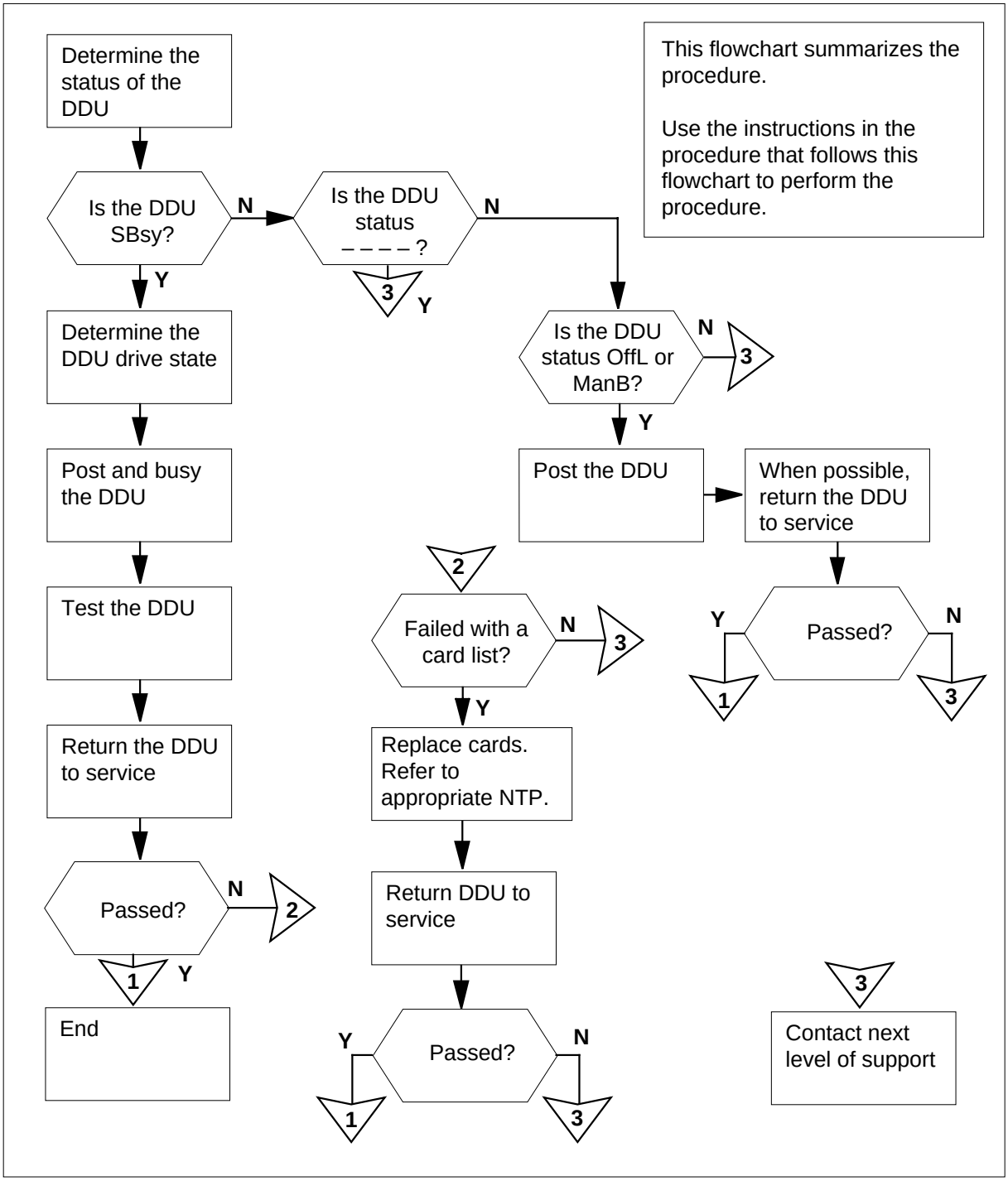
Not applicable

## Action

The following flowchart is only a summary of the procedure. Use the instructions in the step-action procedure that follows the flowchart to clear the alarm.

# IOD nDDUOS on an IOM major or minor (continued)

**Summary of Clearing an IOD nDDUOS on an IOM major or minor alarm**



# IOD nDDUOS on an IOM
# major or minor (continued)

### Clearing a/an IOD nDDUOS on an IOM alarm

**ATTENTION**

Proceed only if you have been directed to this procedure from a step in the *IOD nDDUOS in an IOC minor* alarm clearing procedure.

***At the MAP***

**1** Access the IOD level of the MAP display by typing

**>MAPCI;MTC;IOD**

and pressing the Enter key.

*Example of a MAP display:*

```
IOD
IOC  0  1  2  3
STAT .  .  .  S

DIRP: SMDR B XFER:   .   SLM :   .   NPO:   .   NX25:  .
MLP :   .    DPPP:   .   DPPU:   .   SCAI :
```

**2** Determine if an audible alarm exists.

| If an audible alarm | Do |
|---|---|
| exists | step 3 |
| does not exist | step 4 |

**3** Silence the alarm by typing

**>SIL**

and pressing the Enter key.

**4** Post the IOM controller system by typing

**>IOC ioc_no**

and pressing the Enter key.

*where*

**ioc_no**
is the number of the affected IOM

*Example of a IOM MAP display:*

## IOD nDDUOS on an IOM major or minor (continued)

```
IOD
IOC  0  1  2  3
STAT .  .  .  S

DIRP: SMDR B XFER:   .   SLM :   .   NPO:   .   NX25:  .
MLP :   .    DPPP:   .   DPPU:   .   SCAI :

IOC   PORT 0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17
(IOM) STAT . . . – . . – – – .  –  –  –  –  –  –  –  –
0     TYPE C C C   C M       M                    D  S
           O O O   O T       P                    D  C
           N N N   N D       C                    U  S
```

**5** Display the status of the disk drive unit (DDU) by typing

**>LISTDEV DDU**

and pressing the Enter key.

*Example of a MAP display*

```
DDU     USER    STATUS   IOC   CARD  PORT   DRIVE STATE
 1     System   Ready     0      3    0     On Line
 6     System   Offl      3      –   16     --------
```

**6** From the status display, determine the status of the DDU.

| If the status is | Do |
|---|---|
| SysB | step 7 |
| _ _ _ _ _ | step 64 |
| OffL or ManB | step 52 |

**7** Examine the drive state of the system busy DDU.

| If the drive state is | Do |
|---|---|
| ONLINE | step 8 |
| DISCONNECTED | step 23 |
| DRIVE FAULTS | step 27 |
| SPINNING | step 26 |
| SPINNING DOWN | step 29 |
| SPUN DOWN | step 36 |

## IOD nDDUOS on an IOM
## major or minor (continued)

| If the drive state is | Do |
|---|---|
| UNKNOWN | step 44 |

**8** Post the DDU port on the IOM by typing

**`>IOC ioc_no;PORT port_no`**

and pressing the Enter key.

*where*

**port_no**
is the number of the DDU port

**9** Manually busy the DDU IOM port by typing

**`>BSY PORT port_no`**

and pressing the Enter key.

**port_no**
is the number of the DDU port

*Example of MAP response:*

```
bsy
OK
```

**10** Test the DDU port by typing

**`>TST`**

and pressing the Enter key.

| If the TST command | Do |
|---|---|
| passed | step 61 |
| failed, and a card list was generated | step 11 |
| failed, and no card list was generated | step 64 |

**11** Record the location, description, slot number and the product engineering code (PEC), including suffix, of the cards on the card list.

**12** Replace the first card on the list by performing the appropriate procedure in *Card Replacement Procedures*. When you have completed the procedure, return to this point.

**13** Test the DDU device to service by typing

**`>TST`**

## IOD nDDUOS on an IOM major or minor (continued)

and pressing the Enter key.

| If the TST command | Do |
|---|---|
| passed | step 61 |
| failed, and you have not replaced all the cards noted in step 11 | step 14 |
| failed, and you have replaced all the cards noted in step 11 | step 64 |

**14** Replace the next card on the list by performing the appropriate procedure in *Card Replacement Procedures*. When you have completed the procedure, return to this point.

**15** Go to step 13.

***At the equipment shelf***

**16**

**DANGER**
**Static electricity damage**
Wear a wrist strap connected to the wrist-strap grounding point of a modular supervisory panel (MSP) while handling circuit cards. This protects the cards against damage by static electricity.

Check the NTFX40 SCSI cable connecting the NTFX31 paddleboard to the backplate pins of slot 4 and reconnect.

***Note:*** The plug-in 3.5-in. (89mm) DDU is located on the NTFX32 IOM storage media card in slot 4 and 5 of the ISM shelf. The cabling for the storage media card connects the DDU to the NTFX31 paddleboard located in slot 3 at the rear of the ISM shelf.

***At the MAP terminal***

**17** Test the DDU by typing

**>TST**

and pressing the Enter key.

| If the TST command | Do |
|---|---|
| passed | step 61 |

## IOD nDDUOS on an IOM
## major or minor (continued)

| If the TST command | Do |
|---|---|
| failed, and a card list was generated | step 18 |
| failed, and a card list was not generated | step 64 |

**18** Record the location, description, slot number and PEC, including suffix, of the cards on the card list.

**19** Replace the first card on the list by performing the appropriate procedure in *Card Replacement Procedures*. When you have completed the procedure, return to this point.

**20** Test the DDU to service by typing

**>TST**

and pressing the Enter key.

| If the TST command | Do |
|---|---|
| passed | step 61 |
| failed, and you have not replaced all the cards noted in step 18 | step 21 |
| failed, and you have replaced all the cards noted in step 18 | step 64 |

**21** Replace the next card on the list by performing the appropriate procedure in *Card Replacement Procedures*. When you have completed the procedure, return to this point.

**22** Go to step 20.

**23** Post the DDU port on the IOM by typing

**>IOC ioc_no;PORT  port_no**

and pressing the Enter key.

*where*

**port_no**
is the number of the DDU port

**24** Manually busy the DDU by typing

**>BSY**

and pressing the Enter key.

*Example of MAP response:*

## IOD nDDUOS on an IOM major or minor (continued)

```
bsy
OK
```

**25** Go to step 16.

**26** Wait for a few minutes while the DDU is spinning up to speed.

| If status of the DDU | Do |
|---|---|
| changes to ONLINE | step 62 |
| does not change to ONLINE | step 64 |

**27** Replace the DDU by performing the appropriate procedure in *Trouble Locating and Clearing Procedures*. When you have completed the procedure, return to this point.

**28** Go to step 23.

**29** Determine from office records or from office personnel why the DDU is spinning down. Wait for a few minutes for the DDU to stop spinning.

**30** When permissible, return the DDU device to service by typing

**`>IOC ioc_no;PORT port_no;RTS`**

and pressing the Enter key.

*where*

**ioc_no**
is the number of the affected IOC

**port_no**
is the number of the IOM DDU port

| If the RTS command | Do |
|---|---|
| passed | step 62 |
| failed, and a card list was generated | step 31 |
| failed, and a card list was not generated | step 64 |

**31** Record the location, description, slot number, and PEC, including suffix, of the card(s) on the card list.

**32** Replace the first card on the list by performing the appropriate procedure in *Card Replacement Procedures*. When you have completed the procedure, return to this point.

**33** Test the DDU by typing

**`>TST`**

## IOD nDDUOS on an IOM
## major or minor (continued)

and pressing the Enter key.

| If the TST command | Do |
|---|---|
| passed | step 61 |
| failed, and you have not replaced all the cards noted in step 31 | step 34 |
| failed, and you have replaced all the cards noted in step 31 | step 64 |

**34** Replace the next card on the list by performing the appropriate procedure in *Card Replacement Procedures*. When you have completed the procedure, return to this point.

**35** Go to step 33.

**36** Post and busy the DDU device on the IOM by typing

**`>IOC ioc_no;PORT port_no;BSY`**

and pressing the Enter key.

*where*

**ioc_no**
is the number of the affected IOM

**port_no**
is the number of the DDU port

*Example of MAP response:*

```
bsy
OK
```

**37** Determine from the office records or from office personnel why the DDU was spun down.

**38** When permissible, return the DDU to service by typing

**`>RTS`**

and pressing the Enter key.

| If the RTS command | Do |
|---|---|
| passed | step 62 |
| failed, and a card list was generated | step 39 |
| failed, and no card list was generated | step 64 |

## IOD nDDUOS on an IOM major or minor (continued)

**39** Record the location, description, slot number and PEC, including suffix, of the cards on the card list.

**40** Replace the first card on the list by performing the appropriate procedure in *Card Replacement Procedures*. When you have completed the procedure, return to this point.

**41** Test the DDU by typing

**>TST**

and pressing the Enter key.

| If the TST command | Do |
|---|---|
| passed | step 61 |
| failed, and you have not replaced all the cards noted in step 39 | step 42 |
| failed, and you have replaced all the cards noted in step 39 | step 64 |

**42** Replace the next card on the list by performing the appropriate procedure in *Card Replacement Procedures*. When you have completed the procedure, return to this point.

**43** Go to step 41.

**44** Post the DDU device on the IOM by typing

**>IOC ioc_no;PORT port_no**

and pressing the Enter key.

*where*

**ioc_no**
is the number of the affected IOM

**port_no**
is the number of the DDU port

**45** Manually busy the DDU port by typing

**>BSY**

and pressing the Enter key.

*Example of MAP response:*

```
bsy
OK
```

**46** Test the DDU by typing

**>TST**

## IOD nDDUOS on an IOM
## major or minor (continued)

and pressing the Enter key.

| If the TST command | Do |
|---|---|
| passed | step 61 |
| failed, and a card list was generated | step 47 |
| failed, and no card list was generated | step 64 |

**47** Record the location, description, slot number and PEC, including suffix, of the cards on the card list.

**48** Replace the first card on the list by performing the appropriate procedure in *Card Replacement Procedures*. When you have completed the procedure, return to this point.

**49** Test the DDU by typing

**>TST**

and pressing the Enter key.

| If the TST command | Do |
|---|---|
| passed | step 61 |
| failed, and you have not replaced all the cards noted in step 47 | step 50 |
| failed, and you have replaced all the cards noted in step 47 | step 64 |

**50** Replace the next card on the list by performing the appropriate procedure in *Card Replacement Procedures*. When you have completed the procedure, return to this point.

**51** Go to step 49.

**52** Post the DDU device on the IOM by typing

**>IOC ioc_no;PORT port_no**

and pressing the Enter key.

*where*

**ioc_no**
is the number of the affected IOM

**port_no**
is the number of the DDU port

## IOD nDDUOS on an IOM major or minor (continued)

**53** Determine from office records or from office personnel whether the DDU is offline or manual busy.

| If the DDU is | Do |
|---|---|
| offline | step 54 |
| manual busy | step 55 |

**54** Manually busy the DDU by typing

**>BSY**

and pressing the Enter key.

*Example of MAP response:*

```
bsy
OK
```

**55** Return the DDU to service by typing

**>RTS**

and pressing the Enter key.

| If the RTS command | Do |
|---|---|
| passed | step 62 |
| failed, and a card list was generated | step 56 |
| failed, and no card list was generated | step 64 |

**56** Record the location, description, slot number and PEC, including suffix, of the cards on the card list.

**57** Replace the first card on the list by performing the appropriate procedure in *Card Replacement Procedures*. When you have completed the procedure, return to this point.

**58** Test the DDU by typing

**>TST**

and pressing the Enter key.

| If the TST command | Do |
|---|---|
| passed | step 61 |
| failed, and you have not replaced all the cards noted in step 57 | step 59 |

# IOD nDDUOS on an IOM major or minor (end)

| If the TST command | Do |
|---|---|
| failed, and you have replaced all the cards noted in step 57 | step 64 |

**59** Replace the next card on the list by performing the appropriate procedure in *Card Replacement Procedures*. When you have completed the procedure, return to this point.

**60** Go to step 58.

**61** Return the DDU to service by typing

**>RTS**

and pressing the Enter key.

| If the RTS command | Do |
|---|---|
| passed | step 62 |
| failed | step 64 |

**62** Check under the IOD banner on your MAP display to determine if the nDDUOS major or minor alarm has cleared.

| If the nDDUOS alarm | Do |
|---|---|
| cleared | step 65 |
| changed to another alarm | step 63 |
| did not clear | step 64 |

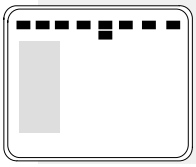
**63** Perform the appropriate alarm clearing procedure in this document. When you have completed the procedure, go to step 65.

**64** For further assistance, contact the personnel responsible for the next level of support.

**65** You have completed this procedure.

# IOD nDPCOS minor

## Alarm display



| CM | MS | IOD | Net | PM | CCS | Lns | Trks | Ext | APPL |
|---|---|---|---|---|---|---|---|---|---|
| . | . | **nDPCOS** | . | . | . | . | . | . | . |

## Indication

At the MTC level of the MAP display, DPCOS appears under the IOD header of the alarm banner. DPCOS preceded by a number (n) indicates a DATAPAC controller alarm.

## Meaning

One or more DATAPAC controllers are out of service. The number that precedes DPCOS indicates how many DATAPAC controllers are out of service.

## Result

Data cannot transfer to and from the IOC shelf.

## Common procedures

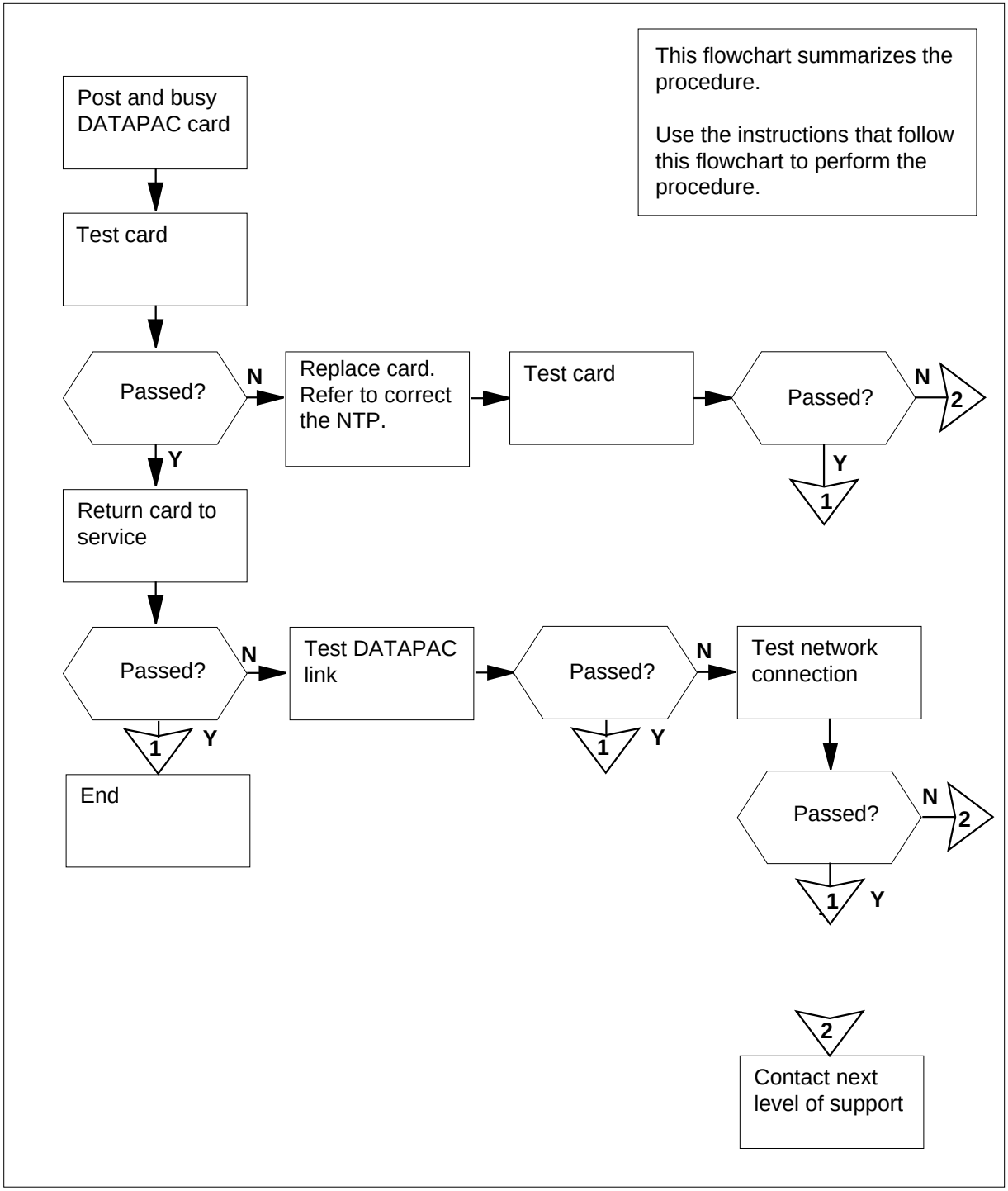
There are no common procedures.

## Action

The following flowchart is a summary of the procedure. Use the instructions in the step-action procedure that follows the flowchart to clear the alarm.

# IOD nDPCOS
## **minor** (continued)

**Summary of Clearing an IOD nDPCOS minor alarm**



# IOD nDPCOS
# minor (continued)

### Clearing an IOD nDPCOS minor alarm

***At the MAP terminal***

**1** To access the IOD level of the MAP display, type

**>MAPCI;MTC;IOD**

and press the Enter key.

*Example of a MAP:*

```
IOD
IOC  0  1  2  3
STAT .  .  .  .
DIRP:  .    XFER:  .    DVI :  .    DPPP:  .    DPPU:  .
NOP :  .    SLM :  .    NX25:  .    MLP:   .    SCAI:
```

**2** Determine if an audible alarm exists.

| If an audible alarm | Do |
|---|---|
| is present | step 3 |
| is not present | step 4 |

**3** To silence the alarm, type

**>SIL**

and press the Enter key.

**4** To display the status of the affected DATAPAC card, type

**>LISTDEV dpac**

and press the Enter key.

*where*

**dpac**
is the number of the DATAPAC card

**5** From the status display, determine the affected IOC number and DATAPAC controller card number.

**6** To post the NT1X67 DATAPAC controller card, type

**>IOC ioc_no; CARD card_no**

and press the Enter key.

*where*

**ioc_no**
is the number of the affected IOC

**card_no**
is the number of the affected controller card

## IOD nDPCOS
## **minor** (continued)

**7** To manually busy the affected NT1X67 DATAPAC controller card, type

**>BSY**

and press the Enter key.

**8** To test the NT1X67 DATAPAC controller card, type

**>TST**

and press the Enter key.

| If the TST command | Do |
|---|---|
| passed | step 9 |
| failed, and a card list generated | step 10 |
| failed, and a card list did not generate | step 17 |

**9** To return the NT1X67 DATAPAC controller card to service, type

**>RTS**

and press the Enter key.

| If the RTS command | Do |
|---|---|
| passed | step 15 |
| failed | step 13 |

**10** Replace the NT1X67 DATAPAC controller card. Perform the correct procedure in *Card Replacement Procedures*. Complete the procedure and return to this point.

**11** To test the new NT1X67 DATAPAC controller card, type

**>TST**

and press the Enter key.

| If the TST command | Do |
|---|---|
| passed | step 12 |
| failed | step 17 |

**12** To return the NT1X67 DATAPAC controller card to service, type

**>RTS**

and press the Enter key.

| If the RTS command | Do |
|---|---|
| passed | step 15 |

# IOD nDPCOS minor (end)

| If the RTS command | Do |
|---|---|
| failed | step 13 |

**13** To test the DATAPAC link, type

**>DISC;DISC;DISC**

and press the Enter key.

| If the test | Do |
|---|---|
| passed | step 15 |
| failed | step 14 |

**14** To test the network connection, type

**>CON node chan**

and press the Enter key.

*where*

**node**
is the number of the switch within the DATAPAC network

**chan**
is the DATAPAC virtual channel

| If the test | Do |
|---|---|
| passed | step 15 |
| failed | step 17 |

**15** Check under the IOD banner on your MAP display to determine if the nDPCOS minor alarm cleared.

| If the alarm | Do |
|---|---|
| cleared | step 18 |
| changed to another alarm | step 16 |
| did not clear | step 17 |

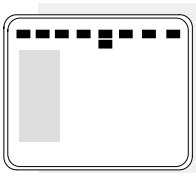
**16** Perform the correct procedure in this document to clear the alarm. Complete the procedure and go to step 15.

**17** For additional help, contact the next level of support.

**18** The procedure is complete.

# IOD nIOCOS
# major or minor

## Alarm display



| CM | MS | **IOD** | Net | PM | CCS | Lns | Trks | Ext | APPL |
|---|---|---|---|---|---|---|---|---|---|
| . | . | **nIOCOS** | . | . | . | . | . | . | . |

## Indication

At the MTC level of the MAP display, IOCOS appears under the IOD header of the alarm banner. IOCOS preceded by a number (n) indicates an IOCOS major or minor alarm.

## Meaning

More than one input/output controllers (IOCs) are out of service. The number that precedes IOCOS indicates the number of IOCs out of service.

## Result

All devices associated with the IOC that is out of service lost communication with the switch.

## Common procedures

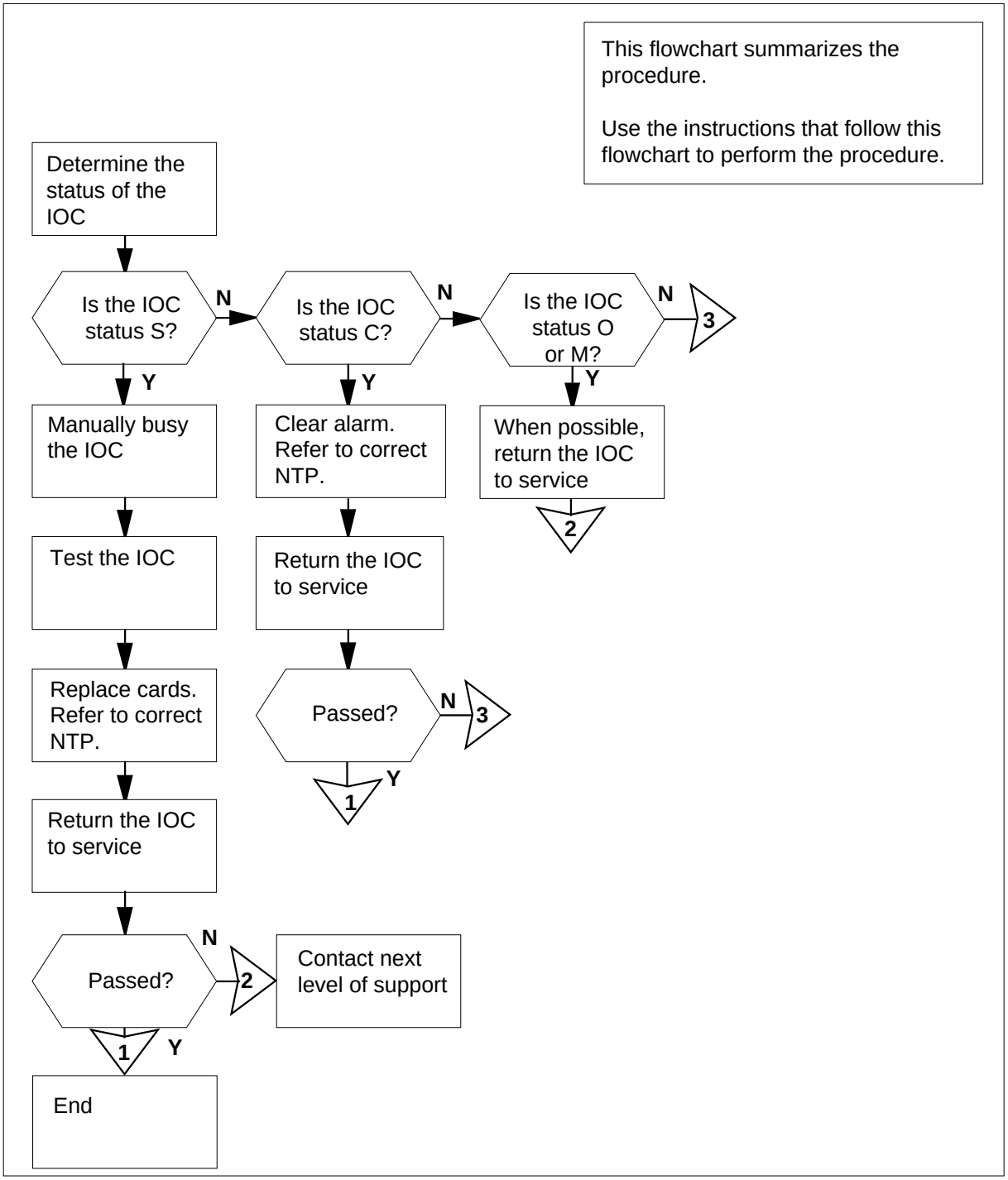
There are no common procedures.

## Action

The flowchart is a summary of the procedure. Use the instructions in the step-action procedure that follows the flowchart to clear the alarm.

# IOD nIOCOS
# major or minor (continued)

**Summary of Clearing an IOD nIOCOS major or minor alarm**



# IOD nIOCOS
# major or minor (continued)

### Clearing an IOD nIOCOS major or minor alarm

***At the MAP terminal***

**1** To access the IOD level of the MAP display, type

**>MAPCI;MTC;IOD**

and press the Enter key.

*Example of a MAP display:*

```
IOD
IOC  0  1  2  3
STAT .  .  .  S

DIRP: SMDR B XFER:   .   SLM :   .   NPO:   .   NX25:  .
MLP :   .    DPPP:   .   DPPU:   .   SCAI :
```

**2** Determine if the audible alarm is present.

| If the audible alarm | Do |
|---|---|
| is present | step 3 |
| is not present | step 4 |

**3** To silence the alarm, type

**>SIL**

and press the Enter key.

**4** To determine the configuration of the controller system, type

**>IOC  ioc_no**

and press the Enter key.

*where*

**ioc_no**
is the number of the affected IOC or IOM

*Example of an IOC MAP display:*

# IOD nIOCOS
# major or minor (continued)

```
IOD
IOC  0  1  2  3
STAT .  .  .  S

DIRP: SMDR B XFER:   .   SLM :   .   NPO:   .   NX25:  .
MLP :   .    DPPP:   .   DPPU:   .   SCAI :

IOC  CARD     0    1    2    3    4    5    6    7   8
 0   PORT   0123 0123 0123 0123 0123 0123 0123 0123 0123
     STAT  .--- .--- ...P ..-- ..--  ---  ---  ---  ---
     TYPE   MTD  DDU  CONS  DLC  CONS
```

*Example of an IOM MAP display:*

```
IOD
IOC  0  1  2  3
STAT .  .  .  S

DIRP: SMDR B XFER:   .   SLM :   .   NPO:   .   NX25:  .
MLP :   .    DPPP:   .   DPPU:   .   SCAI :

IOC   PORT 0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17
(IOM) STAT . . . - . . - - - . -  -  -  -  -  -  -  -
0     TYPE C C C   C M       M                   D  S
           O O O   O T       P                   D  C
           N N N   N D       C                   U  S
```

| If the controller | Do |
|---|---|
| is IOC | step 6 |
| is IOM | step 5 |

**5** Perform the *IOD nIOCOS on an IOM* alarm clearing procedure for the input/output module (IOM) in this document.

**6** Determine the status of the affected IOC.

| If the status | Do |
|---|---|
| is S (system busy) | step 7 |
| is C (C-side busy) | step 21 |
| is O (offline) or M (manual busy) | step 22 |

**7** To make the affected IOC manually busy, type

```
>IOC  ioc_no;BSY  IOC
```

## IOD nIOCOS
## major or minor (continued)

and press the Enter key.

*where*

**ioc_no**
is the number of the affected IOC

*Example of MAP response:*

```
bsy
OK
```

***At the equipment shelf***

**8** Check to see if the fault indicator lamp is lit on the power converter cards.

| If the fault indicator lamp | Do |
|---|---|
| is lit | step 9 |
| is not lit | step 10 |

**9** Perform the correct procedure in *Card Replacement Procedures* to replace the power converter cards. Complete the procedure and return to this point.

**10** To test the IOC, type

**>TST IOC**

and press the Enter key.

| If the TST command | Do |
|---|---|
| passed | step 14 |
| failed, and the system generated a card list | step 11 |
| failed, and the system did not generate a card list | step 19 |

**11** Record the location, description, slot number, and product engineering code (PEC), and PEC suffix of the cards on the card list.

***At the equipment shelf***

**12** Perform the correct procedure in *Card Replacement Procedures* to replace the first card on the list. Complete the procedure and return to this point.

# IOD nIOCOS
# major or minor (continued)

***At the MAP terminal***

**13** To test the IOC, type

**>TST IOC**

and press the Enter key.

| If the TST command | Do |
|---|---|
| passed | step 14 |
| failed, and you did not replace all cards noted in step 11 | step 15 |
| failed, and you replaced all cards noted in step 11 | step 25 |

**14** To return the IOC to service, type

**>RTS IOC**

and press the Enter key.

| If the RTS command | Do |
|---|---|
| passed | step 23 |
| failed | step 25 |

***At the equipment shelf***

**15** Perform the correct procedure in *Card Replacement Procedures* to replace the next card on the list. Complete the procedure and return to this point.

***At the MAP terminal***

**16** To test the IOC, type

**>IOC ioc_no;TST IOC**

and press the Enter key.

*where*

**ioc_no**
is the number of the affected IOC

| If the TST command | Do |
|---|---|
| passed | step 20 |
| failed, and you did not replace all cards in the list recorded in step 11 | step 17 |

## IOD nIOCOS
## major or minor (continued)

| If the TST command | Do |
|---|---|
| failed, and you replaced all cards in the list recorded in step 11 | step 18 |

***At the equipment shelf***

**17** Perform the correct procedure in *Card Replacement Procedures* to replace the next card on the list. Complete the procedure and go to step 16.

**18** Check the output voltages on the power converter card. If the voltages are not correct, adjust the voltages.

***At the MAP terminal***

**19** To test the IOC, type

```
>TST  IOC
```

and press the Enter key.

| If the TST command | Do |
|---|---|
| passed | step 20 |
| failed | step 25 |

**20** To start the IOC again, type

```
>RTS  IOC
```

and press the Enter key.

| If the RTS command | Do |
|---|---|
| passed | step 23 |
| failed | step 25 |

**21** Perform the correct procedure in this document to clear the alarm. Complete the procedure and return to this point.

**22** Consult office logs or operating company personnel. Determine the reason that the IOC is offline or manually busy. To return the IOC to service, type

```
>IOC ioc_no;RTS IOC
```

and press the Enter key.

*where*

**ioc_no**
is the number of the affected IOC

| If the RTS command | Do |
|---|---|
| passed | step 23 |

# IOD nIOCOS major or minor (end)

| If the RTS command | Do |
|---|---|
| failed | step 25 |

**23** Check under the IOD banner on your MAP display to determine if the nIOCOS major or minor alarm cleared.

| If the alarm | Do |
|---|---|
| cleared | step 26 |
| changed to another alarm | step 24 |
| did not clear | step 25 |

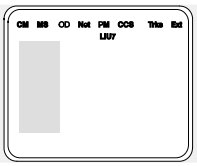
**24** Perform the correct procedure in this document to clear the alarm. Complete the procedure and go to step 23.

**25** For additional help, contact the next level of support.

**26** The procedure is complete.

# IOD nIOCOS on an IOM major or minor

## Alarm display



| CM | MS | IOD | Net | PM | CCS | Lns | Trks | Ext | APPL |
|---|---|---|---|---|---|---|---|---|---|
| . | . | **nIOCOS** | **.** | | **.** | **.** | **.** | **.** | **.** |

## Indication

At the MTC level of the MAP display, IOCOS appears under the IOD header of the alarm banner. IOCOS, preceded by a number (n), indicates an IOCOS major or minor alarm.

## Meaning

One input/output module or more than one input/output modules (IOMs) are out of service. The number that precedes IOCOS indicates the number of out of service IOMs.

## Result

All devices with an IOM that is not in service lost communication with the switch.

## Common procedures

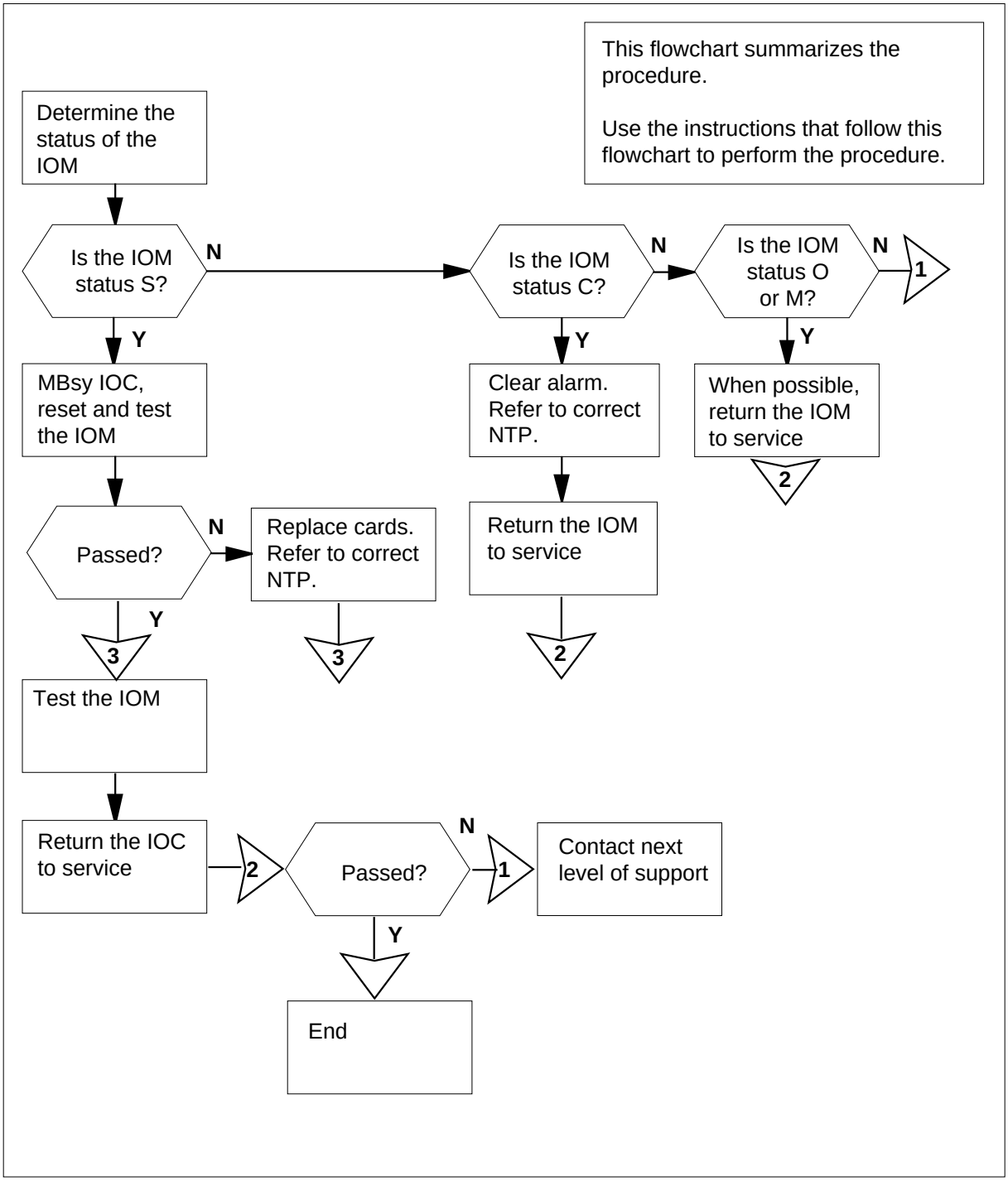
There are no common procedures.

## Action

The flowchart is a summary of the procedure. Use the instructions in the step-action procedure that follows the flowchart to clear the alarm.

# IOD nIOCOS on an IOM major or minor (continued)

**Summary of Clearing an IOD nIOCOS on an IOM alarm**



# IOD nIOCOS on an IOM **major or minor** (continued)

### Clearing an IOD nIOCOS on an IOM alarm

> **ATTENTION**
> Proceed only if a step in the *IOD nIOCOS in an IOC minor* alarm clearing procedure directed you to this procedure

***At the MAP terminal***

**1** To access the IOD level of the MAP display, type

**>MAPCI;MTC;IOD**

and press the Enter key.

*Example of a MAP display:*

```
IOD
IOC  0  1  2  3
STAT .  .  .  S

DIRP: SMDR B XFER:   .   SLM :   .   NPO:   .   NX25:  .
MLP :   .    DPPP:   .   DPPU:   .   SCAI :
```

**2** Determine if the audible alarm is present.

| If the audible alarm | Do |
|---|---|
| is present | step 3 |
| is not present | step 4 |

**3** To silence the alarm, type

**>SIL**

and press the Enter key.

**4** To determine the configuration of the controller system, type

**>IOC  ioc_no**

and press the Enter key.

*where*

**ioc_no**
is the number of the affected IOM

*Example of an IOM MAP :*

## IOD nIOCOS on an IOM major or minor (continued)

```
IOD
IOC  0  1  2  3
STAT .  .  .  S

DIRP: SMDR B XFER:   .   SLM :   .   NPO:   .   NX25:  .
MLP :   .    DPPP:   .   DPPU:   .   SCAI :

IOC   PORT 0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17
(IOM) STAT . . . – . . – – – .  –  –  –  –  –  –  –  –
0     TYPE C C C   C M       M                    D  S
           O O O   O T       P                    D  C
           N N N   N D       C                    U  S
```

**5** Determine the status of the affected IOM.

| If the status | Do |
|---|---|
| is S (system busy) | step 6 |
| is C (C-side busy) | step 15 |
| is O(offline) | step 16 |
| is M (manual busy) | step 16 |

**6** To manually busy the IOM, type

**>BSY IOC**

and press the Enter key.

*Example of MAP response:*

```
bsy
OK
```

**7** To test the IOM controller card, type

**>TST IOC**

and press the Enter key.

*Example of MAP response:*

```
Failed
Site  Flr  Rpos  Bay_Id  Shf  Description  Slot  EqPEC
HOST  01    A05  ISME 03  32    IOC         03   FX30AA
```

| If the TST command | Do |
|---|---|
| passed | step 14 |

## IOD nIOCOS on an IOM
## major or minor (continued)

| If the TST command | Do |
|---|---|
| failed, and the system generated a card list | step 8 |
| failed, and the system did not generate a card list | step 19 |

**8** To reset the IOM processor card, type

**>RESET IOC**

and press the Enter key.

Wait ten seconds.

*Example of MAP response:*

```
This process may cause sever problems with IO devices
Please confirm “YES”, “Y” or “NO” “N”

Enter “Y”
```

**9** To test the IOM, type

**>TST IOC**

and press the Enter key.

*Example of MAP response:*

```
Failed
Site  Flr  Rpos  Bay_Id  Shf  Description  Slot  EqPEC
HOST  01    A05  ISME 03  32    IOC         03   FX30AA
```

| If the TST command | Do |
|---|---|
| passed | step 14 |
| failed, and the system generated a card list | step 10 |
| failed, and the system did not generate a card list | step 19 |

**10** Record the location, description, slot number, and product engineering code (PEC), and PEC suffix of the cards on the card list.

***At the equipment shelf***

**11** Perform the correct procedure in *Card Replacement Procedures*. to replace the first card on the list. Complete the procedure and return to this point.

# IOD nIOCOS on an IOM major or minor (continued)

***At the MAP terminal***

**12** To test the IOM, type

**>TST IOC**

and press the Enter key.

| If the TST command | Do |
|---|---|
| passed | step 14 |
| failed, and you did not replace all cards noted in step 10 | step 13 |
| failed, and you replaced all cards noted in step 10 | step 19 |

***At the equipment shelf***

**13** Perform the correct procedure in *Card Replacement Procedures*. to replace the next card on the list. Complete the procedure and return to this point.

***Note:*** The splitter unit NTFX39 can require a replacement. Go to the next level of support.

***At the MAP terminal***

**14** To return the IOC to service, type

**>RTS IOC**

and press the Enter key.

| If the RTS command | Do |
|---|---|
| passed | step 20 |
| failed | step 19 |

**15** To clear the alarm, perform the correct procedure in this document. Complete the procedure and return to this point.

**16** Consult office logs or operating company personnel. Determine the reason that the IOC is offline or manually busy. To return the IOC to service, type

**>IOC ioc_no;RTS IOC**

and press the Enter key.

*where*

**ioc_no**
is the number of the affected IOC

| If the RTS command | Do |
|---|---|
| passed | step 20 |

## IOD nIOCOS on an IOM major or minor (end)

| If the RTS command | Do |
|---|---|
| failed | step 19 |

**17** Check under the IOD banner on your MAP display to determine if the nIOCOS major or minor alarm cleared.

| If the alarm | Do |
|---|---|
| cleared | step 20 |
| changed to another alarm | step 18 |
| did not clear | step 19 |

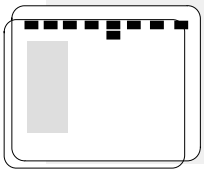
**18** Perform the correct alarm clearing procedure in this document. Complete the correct procedure and go to step 17.

**19** For additional help, contact the next level of support.

**20** The procedure is complete.

# IOD nMPCOS in an IOC major or minor

## Alarm display



| CM | MS | IOD | Net | PM | CCS | Lns | Trks | Ext | APPL |
|---|---|---|---|---|---|---|---|---|---|
| . | . | nMPCOS | . | . | . | . | . | . | . |

## Indication

At the MTC level of the MAP display, MPCOS appears under the IOD header of the alarm banner. MPCOS preceded by a number (n) indicates a multiple protocol controller major or minor alarm.

## Meaning

One or more multiple protocol controllers or ports are out of service. The number that precedes MPCOS indicates the number of input/ouput controller (IOC) multiple protocol controllers or input/output module(IOM) controller ports that are out of service.

## Impact

Multiple controller cards on the IOC shelf or ports on the IOM controller on the integrated service module (ISM) are out of service. Access to the switch by remote terminals is lost for any affected cards or ports.

## Common procedures

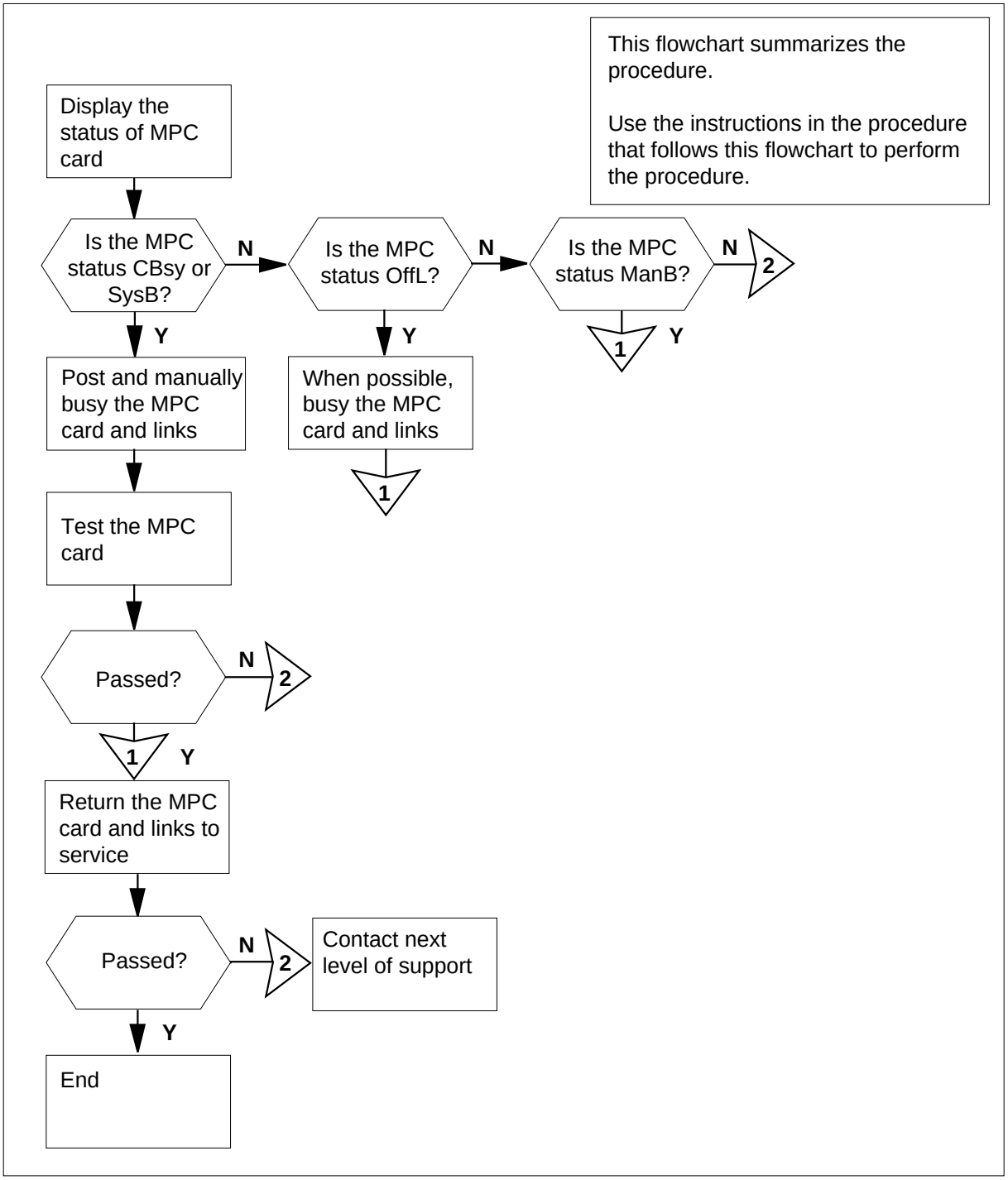
Not applicable

## Action

The following flowchart is only a summary of the procedure. Use the instructions in the step-action procedure that follows the flowchart to clear the alarm.

# IOD nMPCOS in an IOC major or minor (continued)

**Summary of Clearing an IOD nMPCOS in an IOC major or minor alarm in an IOC**



# IOD nMPCOS in an IOC major or minor (continued)

### Clearing an IOD nMPCOS in an IOC major or minor alarm

***At the MAP***

**1** Access the IOD level of the MAP display by typing

**>MAPCI;MTC;IOD**

and pressing the Enter key.

*Example of a MAP display:*

```
IOD
IOC  0  1  2  3
STAT .  .  .  S

DIRP: SMDR B XFER:   .   SLM :   .   NPO:   .   NX25:  .
MLP :   .    DPPP:   .   DPPU:   .   SCAI :
```

**2** Determine if an audible alarm exists.

| If an audible alarm | Do |
|---|---|
| exists | step 3 |
| does not exist | step 4 |

**3** Silence the alarm by typing

**>SIL**

and pressing the Enter key.

**4** Post the controller system configured by typing

**>IOC ioc_no**

and pressing the Enter key.

*where*

**ioc_no**
is the number of the affected IOC or IOM

*Example of an IOC MAP display:*

```
DIRP: SMDR B XFER:   .   SLM :   .   NPO:   .   NX25:  .
MLP :   .    DPPP:   .   DPPU:   .   SCAI :

IOC  CARD     0    1    2    3    4    5    6    7   8
 0   PORT   0123 0123 0123 0123 0123 0123 0123 0123 0123
     STAT  .--- .--- ...P ..-- ..--  ---  ---  ---  ---
     TYPE   MTD  DDU  CONS  DLC  CONS
```

*Example of an IOM MAP display:*

## IOD nMPCOS in an IOC
## major or minor (continued)

```
DIRP: SMDR B XFER:   .   SLM :   .   NPO:   .   NX25:  .
MLP :   .    DPPP:   .   DPPU:   .   SCAI :

IOC   PORT 0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17
(IOM) STAT . . . – . . – – – .  –  –  –  –  –  –  –  –
0     TYPE C C C   C M       M                    D  S
           O O O   O T       P                    D  C
           N N N   N D       C                    U  S
```

| If the controller is an | Do |
|---|---|
| IOC | step 6 |
| IOM | step 5 |

**5** Perform the *IOD nMPCOS on an IOM* alarm clearing procedure for the input/output module (IOM).

**6** Display the status of the multiprotocol controller (MPC) card that has one or more P-side busy ports by typing

**`>IOC  ioc_no;LISTDEV  MPC`**

and pressing the Enter key.

*where*

**ioc_no**
is the number of the affected IOC

**7** From the MAP display, determine the status of the MPC card.

| If the status is | Do |
|---|---|
| `CBusy` (C-side busy) or `SysB` (system busy) | step 8 |
| `OffL` (offline) | step 36 |
| `ManB` (manual busy) | step 39 |

**8** Post the affected MPC card by typing

**`>CARD  card_no`**

and pressing the Enter key.

*where*

**card_no**
is the number of the MPC card

*Example of a MAP response:*

## IOD nMPCOS in an IOC major or minor (continued)

```
Card 1   Unit          0
         User      system          Drive_State
         Status      Ready          on_line
```

**9** Manually busy all the links on the affected MPC card by typing

**>BSY LINKS**

and pressing the Enter key.

| If the BSY command | Do |
|---|---|
| passed | step 11 |
| failed | step 10 |

**10** The MPC ports are being used by other users. Instruct all users to log off, and when they are logged off, attempt to manually busy the MPC links again by typing

**>BSY LINKS**

and pressing the Enter key.

| If the BSY command | Do |
|---|---|
| passed | step 11 |
| failed, and all users have logged off | step 44 |

**11** Manually busy the affected MPC card by typing

**>BSY**

and pressing the Enter key.

*Example of MAP response:*

```
bsy
OK
```

**12** Test the MPC card by typing

**>TST**

and pressing the Enter key.

| If the TST command | Do |
|---|---|
| passed | step 40 |
| failed, and a card list was generated | step 13 |

## IOD nMPCOS in an IOC
## major or minor (continued)

| If the TST command | Do |
|---|---|
| failed, because the following response appeared at the MAP display: `REQUEST FAILED, MPC LOGS MAY HAVE MORE INFO` | step 44 |

**13** Replace the NT1X89 multiprotocol controller card by performing the appropriate procedure in *Card Replacement Procedures*. When you have completed the procedure, return to this point.

**14** Download the MPC binary file to the MPC card by typing

**`>DOWNLD`**

and pressing the Enter key.

| If the DOWNLD command | Do |
|---|---|
| passed | step 40 |
| failed, and the download file parameter was not specified | step 15 |
| failed, and a background download to an MPC RTS occurred | step 44 |

**15** Determine the name of the binary file for the MPC card by typing

**`>QMPC`**

and pressing the Enter key.

**16** Determine from office records whether the MPC binary file is on tape, IOC disk or SLM disk.

| If the binary file is on | Do |
|---|---|
| tape | step 17 |
| IOC disk | step 23 |
| SLM disk | step 25 |

**17** Obtain the tape containing the MPC binary file and load the tape on an available MTD.

**18** Mount the tape by typing

**`>MOUNT mtd_no`**

and pressing the Enter key.

*where*

**mtd_no**
is the number of the available MTD

## IOD nMPCOS in an IOC major or minor (continued)

**19** Verify that the MPC binary file is present by typing

**>LIST**

and pressing the Enter key.

| If the tape | Do |
|---|---|
| contains the MPC binary file | step 22 |
| does not contain the MPC binary file | step 20 |

**20** Demount the tape by typing

**>DEMOUNT tape_name**

and pressing the Enter key.

*where*

**tape_name**
is the name of the tape

**21** Determine from office records which tape contains the MPC binary file.

Return to step 17.

**22** Download the MPC binary file to the MPC card or IOM port by typing

**>DOWNLD**

and pressing the Enter key.

| If the DOWNLD command | Do |
|---|---|
| passed | step 40 |
| failed | step 44 |

**23** Determine from office records which IOC disk volume contains the MPC binary file.

**24** Verify that the MPC binary file is available on the IOC disk volume by typing

**>DSKUT;LIV vol_name ALL**

and pressing the Enter key.

*where*

**vol_name**
is the name of the volume containing the MPC binary file

| If the binary file is | Do |
|---|---|
| available | step 27 |
| not available | step 44 |

# IOD nMPCOS in an IOC
# major or minor (continued)

**25** Determine from office records which SLM disk volume contains the MPC binary file.

**26** Verify that the MPC binary file is available on the SLM disk volume by typing

**`>DISKUT;LF  vol_name`**

and pressing the Enter key.

*where*

**vol_name**
is the name of the volume containing the MPC binary file

*Example of a MAP display:*

```
File information for volume S01DVOL1
{NOTE: 1 BLOCK = 512 BYTES}
------------------------------------------------------------
LAST   File    O R  I    O    FILE  NUM OF   MAX  FILE NAME
MODIFY CODE    R E  T    P    SIZE RECORDS   REC
DATE           G C  O    E      IN      IN   LEN
                    C    N  BLOCKS    FILE
------------------------------------------------------------
930325   0     I F  Y       201570  100785   1020  MBCS34CR_CM
930325   0     I F  Y         9754    4877   1020  MBCS34CR_MS
930326   0     I F  Y         5334    2667   1020  LRC34CR
930226   0     O F  Y         7460    3730   1024  ELI34CR
930326   0     O F  Y         2396    1198   1024  EDH34CR
930319   0     I F  Y         9104    4552   1020  LPX34CR
930319   0     I F  Y         6634    3317   1020  NRS34CR
921204   0     I F  Y         7284    3642   1020  XRX34CR
931206   0     O F  Y          162    1504     55  LCME34U
921208   0     O F  Y         1432     716   1024  DCH34CR
```

| If the binary file is | Do |
|---|---|
| available | step 27 |
| not available | step 44 |

**27** Check table PMLOADS to verify that the MPC binary file has been datafilled with the correct load device by typing

**`>TABLE  PMLOADS;POSITION  file_name;LIST`**

and pressing the Enter key.

*where*

**file_name**
is the name of the MPC binary file

## IOD nMPCOS in an IOC major or minor (continued)

**28** Determine if the MPC binary file has been datafilled correctly with the proper load device.

| If the MPC binary file has | Do |
|---|---|
| been datafilled with the correct load device | step 35 |
| not been datafilled with the correct load device | step 29 |
| you cannot find the tuple | step 32 |

**29** Change the device type to the correct load device by typing

**>CHANGE DEVICE dev_type vol_name**

and pressing the Enter key.

*where*

**dev_type**
is an MTD, IOC disk, or SLM disk

**vol_name**
is the name of the IOC volume or SLM disk volume

**30** Confirm the tuple change by typing

**>Y**

and pressing the Enter key.

**31** Go to step 35.

**32** Add the MPC binary file to table PMLOADS by typing

**>ADD file_name dev_type vol_name**

and pressing the Enter key.

*where*

**file_name**
is the name of the MPC binary file

**dev_type**
is an MTD, IOC disk, or SLM disk

**vol_name**
is the name of the IOC volume or SLM disk volume

**33** Confirm the addition by typing

**>Y**

and pressing the Enter key.

**34** Quit table PMLOADS and the disk utility by typing

**>QUIT;QUIT**

and pressing the Enter key.

## IOD nMPCOS in an IOC
## **major or minor** (continued)

**35** Download the binary file to the MPC card by typing

**>DOWNLD**

and pressing the Enter key.

| If the DOWNLD command | Do |
|---|---|
| passed | step 40 |
| failed | step 44 |

**36** Post the affected MPC card by typing

**>CARD card_no**

and pressing the Enter key.

*where*

**card_no**
is the number of the MPC card

*Example of a MAP display:*

```
Card 1   Unit          0
         User      system          Drive_State
         Status      Ready          on_line
```

**37** Determine from office records or office personnel why the MPC card is offline. When permissible, manually busy the MPC card by typing

**>BSY**

and pressing the Enter key.

**38** Manually busy the MPC links by typing

**>BSY LINKS**

and pressing the Enter key.

Go to step 40.

**39** Determine from office records or from office personnel why the MPC card is manually busy, and when permissible post the MPC card by typing

**>CARD card_no**

and pressing the Enter key.

*where*

**card_no**
is the number of the busied card

*Example of a MAP response:*

```
Card 1   Unit          0
         User      system          Drive_State
         Status      Ready          on_line
```

# IOD nMPCOS in an IOC major or minor (end)

**40** Return the MPC card to service by typing

**>RTS**

and pressing the Enter key.

| If the RTS command | Do |
|---|---|
| passed | step 41 |
| failed | step 44 |
| failed, and part of the MAP display was *REQUEST FAILED, MPC LOGS MAY HAVE MORE INFO* | step 44 |

**41** Return the MPC links to service by typing

**>RTS LINKS**

and pressing the Enter key.

| If the RTS LINKS command | Do |
|---|---|
| passed | step 45 |
| failed | step 44 |

**42** Check under the IOD banner of the MAP display to determine if the nMPCOS major or minor alarm cleared.

| If the alarm | Do |
|---|---|
| cleared | step 45 |
| changed to another alarm | step 43 |
| did not clear | step 44 |

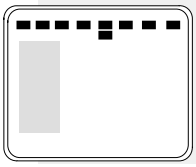
**43** Perform the appropriate alarm clearing procedure in this document. When you have completed the procedure, go to step 42.

**44** For further assistance, contact the personnel responsible for the next level of support.

**45** You have completed this procedure.

# IOD nMPCOS on an IOM major or minor

## Alarm display



| CM | MS | IOD | Net | PM | CCS | Lns | Trks | Ext | APPL |
|---|---|---|---|---|---|---|---|---|---|
| . | . | nMPCOS | . | . | . | . | . | . | . |

## Indication

At the MTC level of the MAP display, MPCOS appears under the IOD header in the alarm banner. MPCOS [preceded by a number (n)] indicates an input/output module (IOM) major or minor alarm.

## Meaning

One or more IOM controller ports are out of service. The number that precedes MPCOS indicates the number of IOM controller ports out of service.

## Result

Multiple controller ports in the IOM controller on the integrated services module (ISM) shelf are out of service. Loss of access to the switch by remote terminals is a result.

## Common procedures

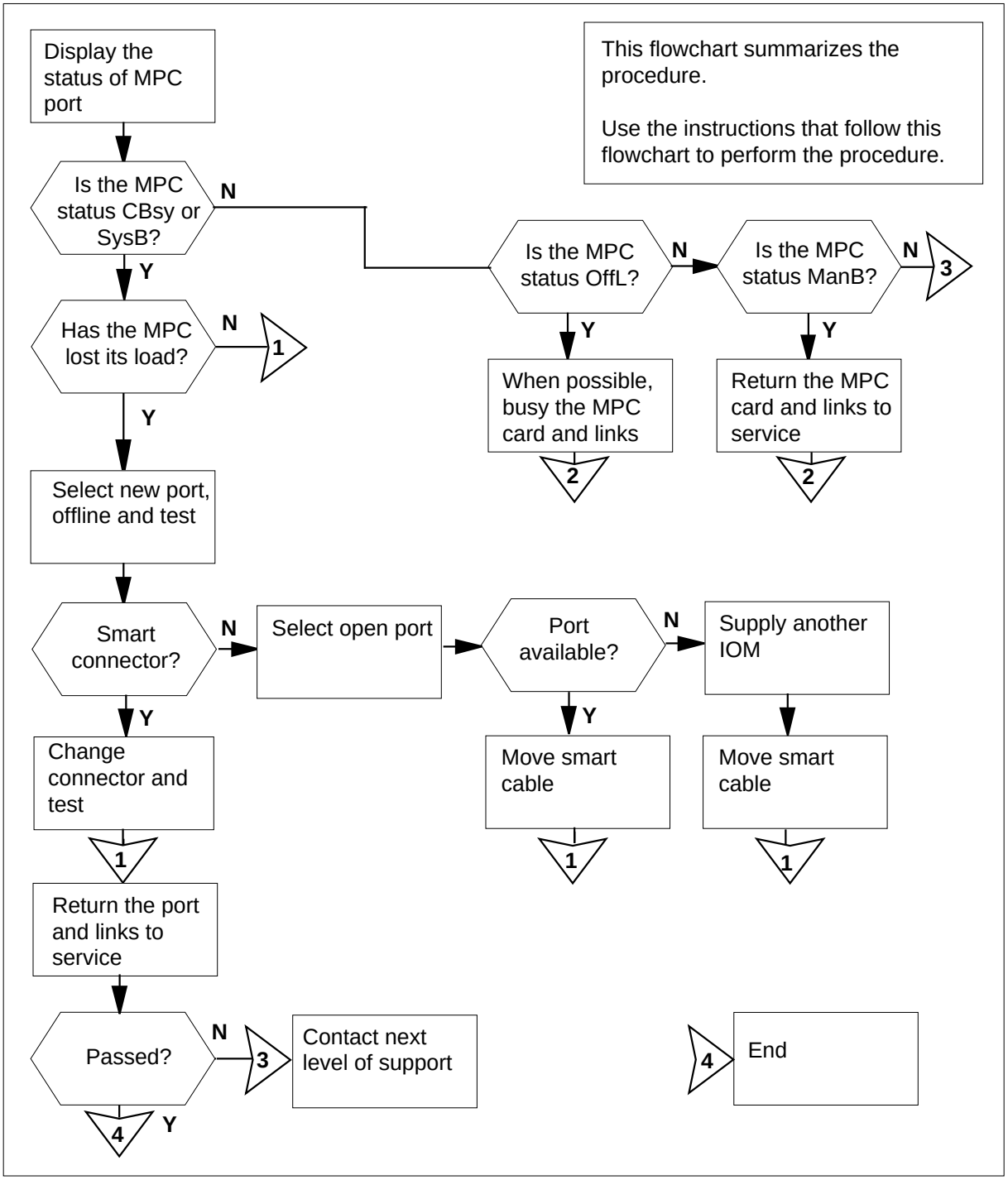
There are no common procedures.

## Action

The flowchart is a summary of this procedure. Use the instructions in the step-action procedure that follows the flowchart to clear the alarm.

# IOD nMPCOS on an IOM major or minor (continued)

**Summary of Clearing an IOD nMPCOS on an IOM major or minor alarm**



# IOD nMPCOS on an IOM major or minor (continued)

### Clearing an IOD nMPCOS on an IOM major or minor alarm

**ATTENTION**
Proceed only if a step in the *IOD nMPCOS in an IOC major or minor* alarm clearing procedure directs you to.

***At the MAP terminal***

**1** To post the configured controller system, type

**>IOC ioc_no**

and press the Enter key.

*where*

**ioc_no**
is the number of the affected IOM

*Example of a IOM MAP display:*

```
DIRP: SMDR B XFER:   .   SLM :   .   NPO:   .   NX25:  .
MLP :   .    DPPP:   .   DPPU:   .   SCAI :

IOC   PORT 0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17
(IOM) STAT . . . – . . – – – .  –  –  –  –  –  –  –  –
0     TYPE C C C   C M       M                    S  S
           O O O   O T       P                    C  C
           N N N   N D       C                    S  S
```

**2** From the MAP display, determine the status of the IOM port.

| If the status | Do |
|---|---|
| is CBusy (C-side busy) or SysB (system busy) | step 3 |
| is OffL (offline) | step 40 |
| is ManB (manual busy) | step 42 |

**3** To display the status of the IOM controller, type

**>QIOM**

and press the Enter key.

*Example of a IOM MAP display:*

## IOD nMPCOS on an IOM major or minor (continued)

```
Port IOC: 0 Node_no: 6; Status: SBSY; State: DNLDED
Table IOC File: IOMR0001 on D00DV002
IOM load on board: IOMR0001; Auto_Load: ON
Site Flr  Rpos  Bay_id  Shf  Description  Slot  EqPEC
HOST 01   A05   ISME 03 32   IOC           03   FX30BA
Port Info: (C-CON, M-MPC, D-DDU, T-MTD, s-SCSI, F-Fault
PORT  0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17
      C C C – C T – – – M  –  –  –  –  –  – sD sT
      . . . . . . . . . F  .  .  .  .  .  .  .  .
```

**4** Determine the following information from the MAP response:

- the status of the IOM controller
- data entry in table IOC
- the state of the autoload

| If the IOM controller | Do |
|---|---|
| has no load, and autoload is ON | step 5 |
| has no load, and autoload is OFF | step 7 |
| loaded | step 8 |

**5** Wait for 2 min for the audit procedure to work. The process will make three attempts before the failure to load is complete.

| If the IOM controller | Do |
|---|---|
| loaded | step 8 |
| did not load | step 6 |

**6** Review log IOD610 and verify that the load file is correct and available.

**7** Determine from table IOC if the open port contains the correct load device. If necessary, enter the correct load file in table IOC again.

***Note:*** The input/output controller (IOC) audit must put into effect auto_downloading every two minutes for three reports that follow in sequence.

| If the IOM controller | Do |
|---|---|
| loaded | step 8 |
| did not load | step 46 |

**8** To post the affected IOM MPC port , type

```
>PORT  port_no
```

## IOD nMPCOS on an IOM
## major or minor (continued)

and press the Enter key.

*where*

**port_no**
is the port number of the MPC device

*Example of a MAP:*

```
Port 9   Unit     1
        User   SYSTEM   PROTOCOL    LINK
       Status  Ready    X2584       COMACT ENABLED
```

**9** To manually busy the affected MPC,type

**>BSY**

and press the Enter key.

*Example of MAP response:*

```
bsy
OK
```

**10** To test the MPC, type

**>TST**

and press the Enter key.

| If the TST command | Do |
|---|---|
| passed | step 43 |
| failed, and the system generated a card list | step 37 |
| failed, and the system generated MPC logs | step 11 |

**11** To put the MPC offline, type

**>OFFL**

and press the Enter key.

**12** To return to the IOC level of the MAP display, type

**>QUIT**

and press the Enter key.

**13** To busy the IOM MPC port, type

**>BSY PORT port_no**

and press the Enter key.

*Example of MAP response:*

## IOD nMPCOS on an IOM major or minor (continued)

```
bsy
OK
```

**14** To place the MPC port offline, type

**>OFFL PORT  port_no**

and press the Enter key.

**15** To test the IOM MPC port, type

**>TST PORT  port_no**

and press the Enter key.

*where*

**port_no**
is the port number of the MPC device

*Example of MAP response:*

```
Failed
Site  Flr  Rpos  Bay_Id  Shf  Description  Slot  EqPEC
HOST  01    A05  ISME 03  32    IOC         03   FX30AA

Check and replace smart connector for port 9 (FX34, FX35)
```

**16** Determine if the test identified smart connectors.

| If the test | Do |
|---|---|
| identified smart connectors | step 17 |
| did not identify smart connectors | step 20 |

# IOD nMPCOS on an IOM
# major or minor (continued)

***At the back of the ISM shelf***

**17**

**WARNING**
**Static electricity damage**
When you handle smart connectors, wear a wrist strap that connects to a wrist-strap grounding point. The grounding point is on a frame supervisory panel (FSP) or a modular supervisory panel (MSP). The wrist strap protects against static electricity damage.

Locate the smart cable that connects the MPC paddleboard port and the associated MPC device. Check the LED on the smart connector.

***Note:*** The IOM powers the LED on the smart connector. If the smart connector does not connect to the IOM, the LED is off.

**18** Disconnect the 6-pin teledapt connector on the IOM side and the 25-pin connector on the MPC side. Replace the smart connector. Connect the 6- and 25-pin connectors again.

***Note:*** When you connect the smart connector to the IOM, the color of the LED changes from red to orange to green. In normal operation, the LED should stay green.

**19** To test the smart connector, type

**`>TST PORT port_no`**

and press the Enter key.

*where*

**port_no**
is the port number of the MPC device

*Example of MAP response:*

```
Failed
Site  Flr  Rpos  Bay_Id  Shf  Description  Slot  EqPEC
HOST  01    A05  ISME 03  32    IOC         03   FX30AA
```

| If the smart connector | Do |
|---|---|
| passes | step 43 |
| fails | step 20 |

## IOD nMPCOS on an IOM major or minor (continued)

**20** Go to step 1. Select an open IOM port and return to this point.

| If | Do |
|---|---|
| a port is not available on the posted IOM | step 21 |
| a port is available on another IOC | step 34 |
| no other IOC is available | step 46 |

**21**

> **CAUTION**
> **Help with provisioning changes**
> You can require the help of the provisioning administrator before you proceed with the following provisioning changes.

To determine from table IOC if the open port contains the correct load device, type

**>TABLE IOC**

and press the Enter key.

**22** To access table MPCLINK, type

**>TABLE MPCLINK**

and press the Enter key.

**23** Delete the link tuple for the affected port.

**24** To access table MPC, type

**>TABLE MPC**

and press the Enter key.

**25** Delete the tuple for the affected port.

**26** To access table MPC, type

**>TABLE MPC**

and press the Enter key.

**27** Add the link tuple for the spare IOM port selected in step 20.

**28** To access table MPCLINK, type

**>TABLE MPCLINK**

and press the Enter key.

Add the tuple for the spare IOM port selected in step 20.

## IOD nMPCOS on an IOM
## major or minor (continued)

*Example of a MPC table:*

```
Table: MPC
MPCNO       MPCIOC      IOCCCT      EQ          DNDFILE
  1           3           2       FX30AA        IOM$LOAD
```

**29** To post the selected MPC, type

**>PORT port_no**

and press the Enter key.

*where*

**port_no**
is the number of the IOM MPC port

*Example of a MAP:*

```
Port 9   Unit     1
        User   SYSTEM   PROTOCOL    LINK
       Status  Ready    X2584       COMACT ENABLED
```

**30** To make the MPC manually busy, type

**>BSY**

and press the Enter key.

*Example of MAP response:*

```
bsy
OK
```

***At the back of the ISM shelf***

**31**

**WARNING**
**Static electricity damage**
When you handle smart connectors, wear a wrist strap that connects to a wrist-strap grounding point. The grounding point is on a frame supervisory panel (FSP) and the modular supervisory panel (MSP). The wrist-strap protects the smart connectors against static electricity damage.

Locate the smart cable that connects the MPC port on the paddleboard and the associated MPC device. Disconnect the 6-pin teledapt connector on the IOM side and the 25-pin connector on the MPC side. Replace the smart connector. Connect the 6- and 25-pin connectors again.

***Note:*** When you connect the smart connector to the IOM, the color of the LED changes from red to orange to green. In normal operation, the LED should stay green.

# IOD nMPCOS on an IOM major or minor (continued)

***At the MAP terminal***

**32** To post the MPC port, type

**>PORT port_no**

and press the Enter key.

**port_no**
is the number of the selected MPC port

*Example of MAP response:*

```
bsy
OK
```

**33** To return the MPC to service, type

**>RTS**

and press the Enter key.

| If the RTS command | Do |
|---|---|
| passed | step 47 |
| failed | step 46 |

**34** To post another controller system, type

**>IOC ioc_no**

and press the Enter key.

*where*

**ioc_no**
is the number of the affected IOM

*Example of an IOM MAP display:*

```
DIRP: SMDR B XFER:   .   SLM :   .   NPO:   .   NX25:  .
MLP :   .    DPPP:   .   DPPU:   .   SCAI :

IOC   PORT 0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17
(IOM) STAT . . . – . . – – – .  –  –  –  –  –  –  –  –
0     TYPE C C C   C M       M                   S  S
           O O O   O T       P                   C  C
           N N N   N D       C                   S  S
```

**35** Select an open IOM port on the new controller selected in step 34.

| IfA port | Do |
|---|---|
| is available | step 21 |
| is not available | step 36 |

## IOD nMPCOS on an IOM
## major or minor (continued)

**36**

**CAUTION**
**Provisioning changes**
You need the help of the provisioning administrator before you proceed with the following provisioning changes.

You need to provision another IOM module. Consult your provisioning administrator to add an IOM controller card.

Go to step 46.

**37** Perform the correct procedure in *Card Replacement Procedures* to replace the first card on the list. Complete the procedure and return to this point.

**38** To test the card, type

**>TST**

and press the Enter key.

*Example of a MAP display:*

```
Failed
Site  Flr  Rpos  Bay_Id  Shf  Description  Slot  EqPEC
HOST  01    A05  ISME 03  32    IOC         03   FX30AA
```

| If the test | Do |
|---|---|
| passes | step 43 |
| fails, you did not replace all cards | step 39 |
| fails, you replaced all cards | step 46 |

**39** Perform the correct procedure in *Card Replacement Procedures* to replace the next card from the list. Complete the procedure and go to step 38.

**40** To post the affected IOM MPC port, type

**>PORT port_no**

and press the Enter key.

*where*

**port_no**
is the number of the MPC port

*Example of a MAP:*

# IOD nMPCOS on an IOM major or minor (continued)

```
Port 9   Unit     1
        User   SYSTEM   PROTOCOL    LINK
      Status   Ready    X2584       COMACT ENABLED
```

**41** Consullt office records or operating company personnel. Determine the reason that the IOM port is offline. To manually busy the port, type

**>BSY**

and press the Enter key.

*Example of MAP response:*

```
bsy
OK
```

Go to step 43.

**42** Consult office records or from operating company personnel. Determine the reason that the MPC port is manually busy. To post the MPC port, type

**>PORT port_no**

and press the Enter key.

*where*

**port_no**
is the number of the busied port

*Example of a MAP response:*

```
Port 9   Unit     1
        User   SYSTEM   PROTOCOL    LINK
      Status   Ready    X2584       COMACT ENABLED
```

**43** To return the IOM MPC to service, type

**>RTS**

and press the Enter key.

| If the RTS command | Do |
|---|---|
| passed | step 44 |
| failed | step 46 |

**44** Check under the IOD banner of the MAP display to determine if the nMPCOS major or minor alarm cleared.

| If the alarm | Do |
|---|---|
| cleared | step 47 |
| changed to another alarm | step 45 |

## IOD nMPCOS on an IOM major or minor (end)

| If the alarm | Do |
|---|---|
| did not clear | step 46 |

**45** Perform the correct procedure in this document to clear the alarm. Complete the procedure and return to this point.

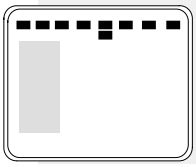
Go to step 44.

**46** For additional help, contact the next level of support.

**47** The procedure is complete.

# IOD nMTDOS in an IOC minor

## Alarm display



| CM | MS | IOD | Net | PM | CCS | Lns | Trks | Ext | APPL |
|---|---|---|---|---|---|---|---|---|---|
| . | . | nMTDOS | . | . | . | . | . | . | . |

## Indication

At the IOD level of the MAP display, a number (n) and MTDOS indicate a minor alarm. The MTDOS can indicate a minor alarm for a magnetic tape drive (MTD) and a digital audio tape (DAT).

## Meaning

One or more tape drives or digital audio tapes are out of service. The number that precedes MTDOS indicates the quantity of the out of service MTDs or DATs.

## Result

Loss of billing data occurs when the DIRP utility uses MTD or DAT to record billing data. Files can not download or record to or from tape when the DIRP utility does not use the MTD or DAT.

## Common procedures

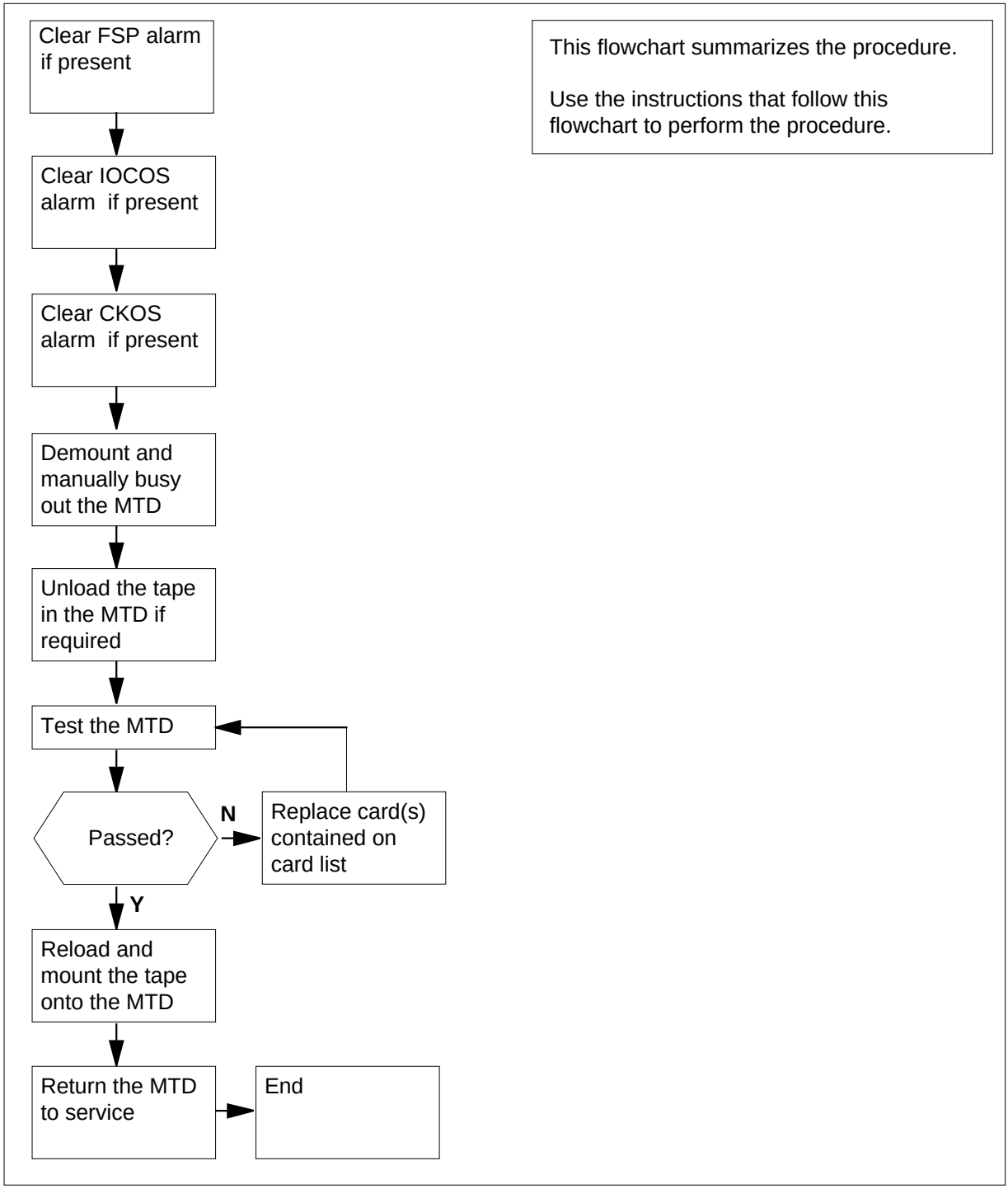
There are no common procedures.

## Action

The following flowchart is a summary of the procedure. Use the instructions in the step-action procedure that follows the flowchart to clear the alarm.

# IOD nMTDOS in an IOC
**minor** (continued)

**Summary of Clearing an IOD nMTDOS in an IOC minor alarm**



# IOD nMTDOS in an IOC **minor** (continued)

**Clearing an IOD nMTDOS in an IOC minor alarm**

***At the MAP terminal***

**1** To access the IOD level of the MAP display, type

**`>MAPCI;MTC;IOD`**

and press the Enter key.

*Example of a MAP display:*

```
IOD
IOC  0  1  2  3
STAT .  .  .  .
DIRP:   .    XFER:   .    DVI :   .    DPPP:   .    DPPU:   .
NOP :   .    SLM :   .    NX25:   .    MLP :   .    SCAI:   .
```

**2** Determine if an audible alarm exists.

| If the alarm | Do |
|---|---|
| exists | step 3 |
| does not exist | step 10 |

**3** To silence the alarm, type

**`>SIL`**

and press the Enter key.

**4** Determine if an FSP alarm appears under the EXT header of the MAP display.

| If the alarm is | Do |
|---|---|
| present | step 5 |
| not present | step 6 |

**5** Perform the appropriate alarm clearing procedure in this document. When you have completed the procedure, return to this point.

| If the MTDOS alarm | Do |
|---|---|
| cleared | step 39 |
| did not clear | step 6 |

**6** Determine if there is an nIOCOS alarm.

| If the alarm is | Do |
|---|---|
| present | step 7 |

# IOD nMTDOS in an IOC
## **minor** (continued)

| If the alarm is | Do |
|---|---|
| not present | step 8 |

**7** Perform the procedure *Clearing an nIOCOS major or minor alarm* in this document to clear this alarm. Complete the procedure and return to this point.

| If the MTDOS alarm | Do |
|---|---|
| cleared | step 39 |
| did not clear | step 8 |

**8** Determine if there is an nCKOS alarm.

| If the alarm is | Do |
|---|---|
| present | step 9 |
| not present | step 10 |

**9** Perform the procedure *Clearing an nCKOS major or minor alarm* in this document to clear this alarm. Complete the procedure and return to this point.

| If the MTDOS alarm | Do |
|---|---|
| did clear | step 39 |
| did not clear | step 10 |

**10** To display the status of all the magnetic tape drives (MTD), type

**`>LISTDEV MTD`**

and press the Enter key.

**11** From the status display, determine the status of the MTD.

| If the status | Do |
|---|---|
| is *SysB* (system busy) | step 12 |
| is *OffL* (offline) or *ManB* (manual busy) | step 33 |

**12** To post the IOC connected to the MTD, type

**`>IOC ioc_no`**

and press the Enter key.

*where*

# IOD nMTDOS in an IOC **minor** (continued)

**ioc_no**
is the number of the affected IOC

*Example of a MAP display:*

```
DIRP: SMDR B XFER:   .   SLM :   .   NPO:   .   NX25:  .
MLP :   .    DPPP:   .   DPPU:   .   SCAI :

IOC  CARD     0    1    2    3    4    5    6    7   8
 0   PORT   0123 0123 0123 0123 0123 0123 0123 0123 0123
     STAT  .--- .--- ...P ..-- ..--  ---  ---  ---  ---
     TYPE   MTD  DDU  CONS  DLC  CONS
```

*Example of a IOM MAP display:*

```
DIRP: SMDR B XFER:   .   SLM :   .   NPO:   .   NX25:  .
MLP :   .    DPPP:   .   DPPU:   .   SCAI :

IOC   PORT 0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17
(IOM) STAT . . . – . . – – – .  –  –  –  –  –  –  –  –
0     TYPE C C C   C M       M                    D  S
           O O O   O T       P                    D  C
           N N N   N D       C                    U  S
```

| If the device | Do |
|---|---|
| is MTD (IOC) | step 14 |
| is MTD (IOM) | step 13 |
| is DAT (IOM) | step 13 |

**13** Perform the *IOD nMTDOS on an IOM* alarm clearing procedure for the input/output module (IOM) in this document.

**14** To post the affected MTD, type

**>CARD card_no**

and press the Enter key.

*where*

**card_no**
is the number of the affected card

*Example of a MAP response:*

```
Card 1   Unit          0
         User      system          Drive_State
         Status      Ready          on_line
```

# IOD nMTDOS in an IOC
## **minor** (continued)

**15** Make sure that the MTD demounted.

| IfStatus of the MTD | Do |
|---|---|
| is demounted | step 18 |
| is not demounted | step 16 |

**16** To demount the MTD, type

**>DEMOUNT tape_name**

and press the Enter key.

*where*

**tape_name**
is the name of the tape

**17** To manually busy the MTD, type

**>BSY**

and press the Enter key.

*Example of MAP response:*

```
bsy
OK
```

***At the equipment shelf***

**18** Determine if the MTD contains a loaded tape.

| If the MTD | Do |
|---|---|
| contains a loaded tape | step 19 |
| does not contain a loaded tape | step 20 |

**19** Unload the tape on the MTD.

# IOD nMTDOS in an IOC **minor** (continued)

***At the MAP terminal***

**20**

**WARNING**
**Possible loss of MTD data**
Make sure the MTD does not contain a loaded tape. If you test the MTD with a loaded tape you can destroy data on the tape.

To test the MTD, type

**>TST**

and press the Enter key.

| If the TST command | Do |
|---|---|
| passed | step 21 |
| failed, and a card list generated | step 24 |
| failed, and a card list did not generate | step 38 |

**21** Load the tape on the MTD. Perform the correct procedure in *Routine Maintenance Procedures*. Complete the procedure and return to this point.

**22** To reload and mount the tape, type

**>MOUNT mtd_no**

and press the Enter key.

*where*

**mtd_no**
is the number of the MTD

**23** To return the MTD to service, type

**>RTS**

and press the Enter key.

| If the RTS command | Do |
|---|---|
| passed | step 36 |
| failed, and the system generated a card list | step 24 |

**24** Record the location, description, slot number, product engineering code (PEC) and the PEC suffix of the cards on the card list.

## IOD nMTDOS in an IOC
## **minor** (continued)

**25** Replace the first card on the list. Perform the correct procedure in *Card Replacement Procedures*. Complete the procedure and return to this point.

***Note:*** If the input/output message processor card requires replacement, make sure that the IOC that contains the card is manual busy.

**26** To test the MTD, type

**>TST**

and press the Enter key.

| If the TST command | Do |
|---|---|
| passed | step 29 |
| failed, and you did not replace all the cards in the list recorded in step 24 | step 27 |
| failed, and you replaced all the cards in the list recorded in step 24. | step 30 |

**27** Replace the next card on the list. Perform the correct procedure in *Card Replacement Procedures*. Complete the procedure and return to this point.

**28** Go to step 26.

**29** To return the MTD to service, type

**>RTS**

and press the Enter key.

| If the RTS command | Do |
|---|---|
| passed | step 36 |
| failed | step 30 |

***At the equipment shelf***

**30** Check the cables to the MTD for faults.

| If the cables | Do |
|---|---|
| has faults | step 31 |
| does not have faults | step 38 |

**31** Refer to your office installation manuals to change the cabling to the MTD.

# IOD nMTDOS in an IOC minor (continued)

***At the MAP terminal***

**32** To return the MTD to service, type

**>RTS**

and press the Enter key.

| If the RTS command | Do |
|---|---|
| passed | step 36 |
| failed | step 38 |

**33** Determine from office records or operating company personnel why the MTD is offline or manual busy. When acceptable, return the MTD to service.

| If the MTD | Do |
|---|---|
| is offline | step 34 |
| is manual busy | step 35 |

**34** To manually busy the MTD card, type

**>BSY**

and press the Enter key.

**35** To return the MTD to service, type

**>IOC ioc_no;CARD card_no;RTS**

and press the Enter key.

*where*

**ioc_no**
is the number of the affected IOC

**card_no**
is the number of the MTD card

| If the RTS command | Do |
|---|---|
| passed | step 36 |
| failed | step 38 |

**36** Determine if the nMTDOS minor alarm cleared.

| If the alarm | Do |
|---|---|
| cleared | step 39 |
| changed to another alarm | step 37 |
| did not clear | step 38 |

## IOD nMTDOS in an IOC
## **minor** (end)

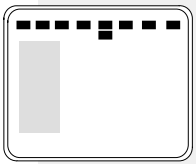
**37** Perform the correct procedure in this document to clear the alarm. Complete the procedure and do step 36.

**38** For additional help, contact the next level of support.

**39** The procedure is complete.

# IOD nMTDOS on an IOM minor

## Alarm display



| CM | MS | IOD | Net | PM | CCS | Lns | Trks | Ext | APPL |
|---|---|---|---|---|---|---|---|---|---|
| . | . | nMTDOS | . | . | . | . | . | . | . |

## Indication

At the IOD level of the MAP display, a number (n) and MTDOS indicate a minor alarm on an integrated services module (ISM). The minor alarm is for a magnetic tape drive (MTD) and digital audio tape (DAT).

## Meaning

One tape drive or digital audio tape is not in service. The number that precedes MTDOS indicates the number of MTDs or DATS not in service.

## Result

A loss of billing data occurs if the DIRP utility uses the MTD or DAT to record billing data. If the DIRP utility does not use the MTD or DAT, files can not download to or from tape.

## Common procedures

There are no common procedures.

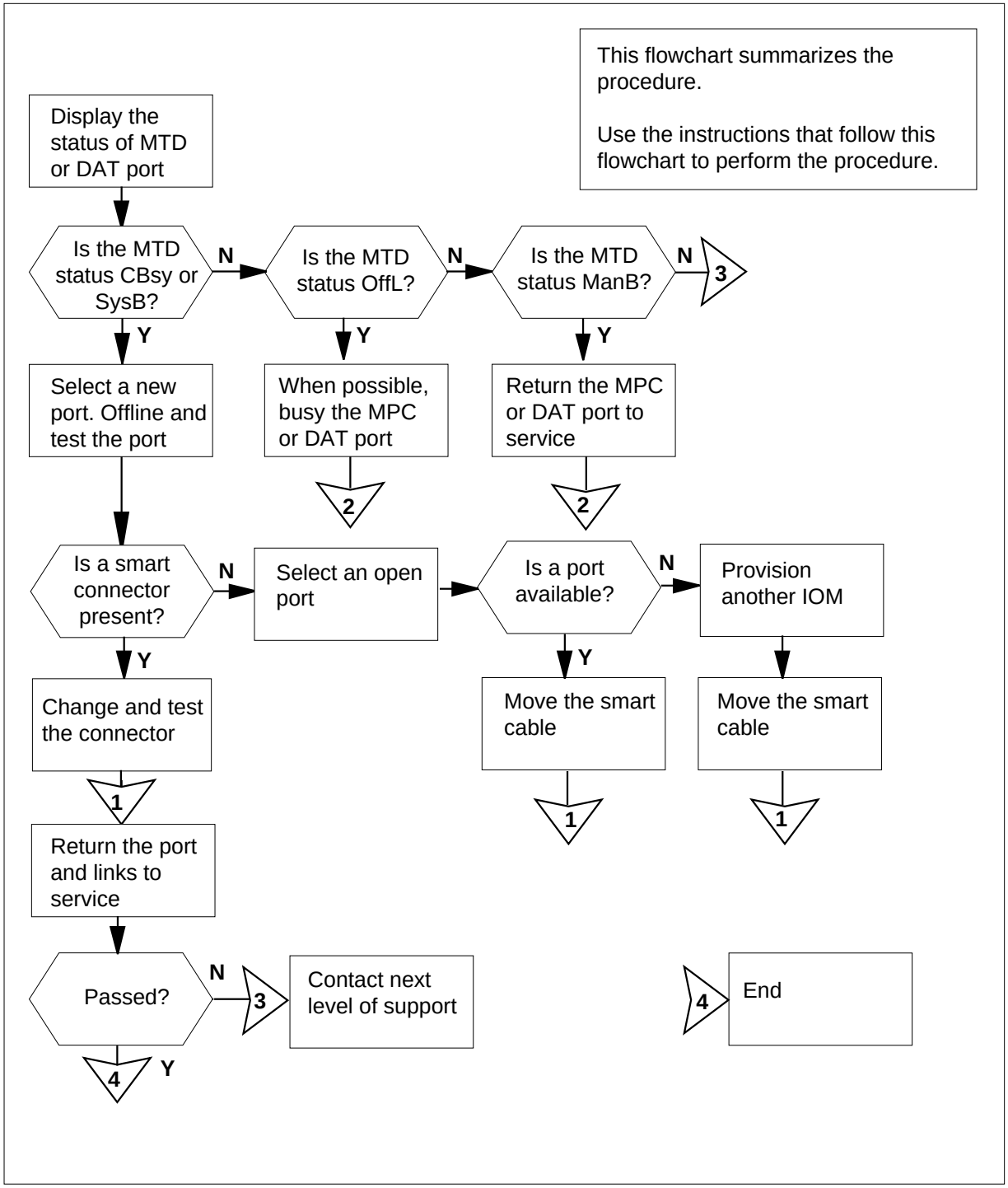
## Action

The following flowchart is a summary of the procedure. Use the instructions in the step-action procedure that follows the flowchart to clear the alarm.

Do not proceed to the common procedure unless the step-action procedure directs you to go.

# IOD nMTDOS on an IOM
**minor** (continued)

**Summary or Clearing an IOD nMTDOS on an IOM minor alarm**



# IOD nMTDOS on an IOM minor (continued)

### Clearing an IOD nMTDOS on an IOM minor alarm

**ATTENTION**

The step in the *IOD nMTDOS in an IOC minor* alarm clearing procedure directs you to this procedure. Do not proceed at any other time.

***At the MAP terminal***

**1** To post the controller system connected to the magnetic tape drives (MTD) or digital audio drive (DAT), type

**>IOC ioc_no**

and press the Enter key.

*where*

**ioc_no**
is the number of the affected IOM

*Example of an IOM MAP display:*

```
DIRP: SMDR B XFER:   .   SLM :   .   NPO:   .   NX25:  .
MLP :   .    DPPP:   .   DPPU:   .   SCAI :

IOC   PORT 0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17
(IOM) STAT . . . – . . – – – .  –  –  –  –  –  –  –  –
0     TYPE C C C   C M       M                    S  S
           O O O   O T       P                    C  C
           N N N   N D       C                    S  S
```

**2** To display the status of all the MTD or the DAT, type

**>LISTDEV MTD**

and press the Enter key.

*Example of a MAP display:*

**3** From the status display, determine the status of the MTD or DAT.

| If the status | Do |
|---|---|
| is *SysB* MTD | step 4 |
| is *SysB* DAT | step 6 |
| is *CBsy* (C-side busy) | step 58 |
| is *OffL* (offline) or *ManB* (manual busy) | step 60 |

## IOD nMTDOS on an IOM
## **minor** (continued)

**4** To post the affected MTD port, type

**>PORT port_no**

and press the Enter key.

*where*

**port_no**
is the number of the affected MTD (0-15)

*Example of a MAP display:*

```
Port 5    MTD    0              DevType
         TapeName                User
         Status        Idle
```

**5** Go to step 7.

**6** Post the affected DAT port, type

**>PORT port_no**

and press the Enter key.

*where*

**port_no**
is the number of the affected DAT port (16-17)

*Example of a MAP display:*

```
Port 16    MTD     0            DevType         DAT
(SCSI)   TapeName                User
         Status        Idle
```

**7** Make sure the MTD or DAT is demounted.

| If the MTD or DAT | Do |
|---|---|
| is demounted | step 9 |
| is not demounted | step 8 |

**8** To demount the MTD or DAT, type

**>DEMOUNT tape_name**

and press the Enter key.

*where*

**tape_name**
is the name of the tape

**9** To manually busy the MTD or DAT, type

**>BSY**

and press the Enter key.

*Example of MAP response:*

## IOD nMTDOS on an IOM
## **minor** (continued)

```
bsy
OK
```

| If the device | Do |
|---|---|
| is MTD | step 10 |
| is DAT | step 13 |

***At the equipment shelf***

**10** Determine if the MTD contains a loaded tape.

| If the MTD | Do |
|---|---|
| contains a loaded tape | step 11 |
| does not contain a loaded tape | step 19 |

**11** Unload the tape on the MTD from the drive unit.

**12** Go to step 19.

***At the ISM shelf***

**13** Determine if the storage media card NTFX32AA contains a DAT cartridge in the drive unit.

| If the NTFX32AA | Do |
|---|---|
| contains a cartridge | step 14 |
| does not contain a cartridge | step 15 |

**14**

**DANGER**
**Ejection of a tape cartridge**
Force eject a cartridge a last resort to recover a cartridge. Never use this method as a quick way to eject the cartridge. You can lose data and the tape can format wrong.

Press the unload button at the front of the unit to remove the DAT cartridge. The DAT LED flashes during the removal of the tape.

***Note:*** The drive performs an unload sequence. The drive rewinds the tape to the beginning of partition (BOP) for partition 0. If the tape is write-enabled, the drive writes a copy of the tape log back to tape. The drive rewinds the tape to the start of the media. The drive removes the thread and ejects the tape from the mechanism.

## IOD nMTDOS on an IOM
**minor** (continued)

**15** Locate the DAT drive on the media card NTFX32AA slots 4 and 5 of the ISM shelf. Check the LEDs for the current condition of the DAT unit.

| IfThe DAT clean/attention lights | Do |
|---|---|
| are on | step 16 |
| are off | step 19 |

**16** The status of the DAT LEDs indicates that the drive heads require cleaning. The DAT LEDs also indicates when a cartridge is not useful. Clean the drive heads or change the cartridge. Perform the correct procedure in *Routine Maintenance Procedures* to clean the drive heads or to change the cartridge. Return to this point

| IfThe DAT clean/attention lights | Do |
|---|---|
| are off | step 19 |
| are not off | step 17 |

**17** The DAT unit requires replacement. Perform the correct procedure in *Trouble Locating and Clearing Procedures* to replace the DAT. Return to this point.

**18** Go to step19

***At the MAP terminal***

**19**

**WARNING**
**Loss of MTD or DAT data**
Make sure the MTD or the DAT drive on the storage media card NTFX32 do not contain the tape. If you test a MTD or DAT that contain a tape, you can damage data on the tape.

To test the MTD or DAT devices, type

**>TST**

and press the Enter key.

| If the TST command | Do |
|---|---|
| passed | step 46 |
| failed test, controller okay | step 46 |
| failed, (MTD) port CFG fail | step 22 |
| failed, (DAT) port CFG fail | step 20 |

## IOD nMTDOS on an IOM
**minor** (continued)

| If the TST command | Do |
|---|---|
| failed, and a card list was generated | step 51 |
| failed, and a card list was not generated | step 65 |

**20** Ensure that the media storage card NTFX32 and the DAT drive NTFX32AA are mounted. Refer to the appropriate procedure in *Trouble Locating and Clearing Procedures* and return to this point.

**21** Go to step 46.

**22** To place the MTD offline, type

**>OFFL**

and press the Enter key.

**23** To return to the IOC level of the MAP display, type

**>QUIT**

and press the Enter key.

**24** To make the MTD port manually busy, type

**>BSY PORT port_no**

and press the Enter key.

*where*

**port_no**
is the number of the MTD port

*Example of MAP response:*

```
bsy
OK
```

**25** To place the affected MTD port offline, type

**>OFFL PORT port_no**

and press the Enter key.

*where*

**port_no**
is the number of the MTD port

**26** To test the MTD port, type

**>TST PORT port_no**

and press the Enter key.

*where*

**port_no**
is the number of the MTD port

## IOD nMTDOS on an IOM
**minor** (continued)

*Example of MAP response:*

```
Failed
Site  Flr  Rpos  Bay_Id  Shf  Description  Slot  EqPEC
HOST  01    A05  ISME 03  32    IOC         03   FX30AA

Check smart connector for port 5
```

| If a SMART connector | Do |
|---|---|
| is identified | step 27 |
| is not identified | step 33 |

***At the back of the ISM shelf***

**27** Locate the PERTEC SMART connector mounted on an L-shaped bracket near the tape drive. Check the SMART connector LED. Replace the SMART connector.

**28** To test the SMART connector, type

**`>TST PORT port_no`**

and press the Enter key.

*where*

**port_no**
is the port number of the MPC device

*Example of MAP response:*

```
Failed
Site  Flr  Rpos  Bay_Id  Shf  Description  Slot  EqPEC
HOST  01    A05  ISME 03  32    IOC         03   FX30AA
```

| If the SMART connector | Do |
|---|---|
| passes | step 29 |
| fails | step 33 |

**29** Manually busy the MTD port by typing

**`>BSY PORT port_no`**

and pressing the Enter key.

*where*

**port_no**
is the port number of the MTD device

**30** Return the MTD port to service by typing

**`>RTS PORT port_no`**

and pressing the Enter key.

*where*

**port_no**
is the port number of the MTD device

**31** Post the MTD port by typing

**>PORT port_no**

and pressing the Enter key.

*where*

**port_no**
is the port number of the MTD device

**32** Go to step 57.

**33** Go to step 2, select an open IOM port and return to this point.

| If a port is | Do |
|---|---|
| available on the posted IOM controller | step 35 |
| available on another IOM controller | step 42 |
| there is no other IOM controller available | step 44 |

**34**

**WARNING**
**Assistance in provisioning changes**
Contact the provisioning administrator if you require support before you proceed with the following provision changes.

To determine from table IOC if the open port contains the correct load device, type

**>TABLE IOC**

and press the Enter key.

**35** To access the table MTD, type

**>TABLE MTD**

and press the Enter key.

**36** Delete the tuple associated with the affected port.

**37** Add the tuple for the spare IOM port selected in step 33.

## IOD nMTDOS on an IOM
## **minor** (continued)

**38** To post the new IOM MTD port, type

**>PORT port_no**

and press the Enter key.

*where*

**port_no**
is the number of the MPC port

*Example of a MAP display:*

```
Port 6   MTD     0              DevType     DAT
(SCSI)   TapeName               User
         Status  Idle
```

**39** To make the IOM MTD port manually busy, type

**>BSY**

and press the Enter key.

*Example of MAP response:*

```
bsy
OK
```

***At the back of the ISM shelf***

**40**

**WARNING**
**Static electricity damage**
When you handle SMART connectors, wear a wrist strap that connects to the wrist-strap grounding point. A grounding point is on a frame supervisory panel (FSP) or a modular supervisory panel (MSP). The wrist strap protects the connectors against static electricity damage.

Locate the SMART cable that connects to the MTD port on the paddle board and the associated MTD device. Disconnect the SMART cable and connect it to the new MTD port.

Go to step 41.

**41** To return the MTD to service, type

**>RTS**

and press the Enter key.

| If the RTS command | Do |
|---|---|
| passed | step 47 |

# IOD nMTDOS on an IOM
## **minor** (continued)

| If the RTS command | Do |
|---|---|
| failed, no port available | step 42 |

**42** To post another controller system, type

**>IOC ioc_no**

and press the Enter key.

*where*

**ioc_no**
is the number of the affected IOM

*Example of an IOM MAP:*

```
DIRP: SMDR B XFER:   .   SLM :   .   NPO:   .   NX25:  .
MLP :   .    DPPP:   .   DPPU:   .   SCAI :

IOC   PORT 0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17
(IOM) STAT . . . – . . – – – .  –  –  –  –  –  –  –  –
0     TYPE C C C   C M       M                    S  S
           O O O   O T       P                    C  C
           N N N   N D       C                    S  S
```

**43** Select an open IOM port on the new controller.

| If A port | Do |
|---|---|
| is available | step 34 |
| is not available | step 44 |

**44**

**WARNING**
**Provisioning changes**
Contact the provisioning administrator if you require support before you proceed with the following provision changes.

Provision another IOM module. Consult your provisioning administrator about the addition of an IOM controller card.

**45** Go to step 65.

**46** To return the MTD to service, type

**>RTS**

## IOD nMTDOS on an IOM
## **minor** (continued)

and press the Enter key.

| If the RTS command | Do |
|---|---|
| passed | step 47 |
| failed, and the system generated a card list g | step 50 |

**47** Perform the correct procedure in *Routine Maintenance Procedures*. to load the tape on the MTD or DAT unit. Complete the procedure and return to this point.

**48** To reload and mount the tape, type

**`>MOUNT mtd_no`**

and press the Enter key.

*where*

**mtd_no**
is the number of the MTD

**49** Go to step 63.

**50** Test the MTD by typing

**`>TST PORT port_no`**

and pressing the Enter key.

*where*

**port_no**
is the port number of the MTD device

*Example of MAP response:*

```
Failed
Site  Flr  Rpos  Bay_Id  Shf  Description  Slot  EqPEC
HOST  01    A05  ISME 03  32    IOC         03   FX30AA
```

| If the TST command | Do |
|---|---|
| passes | step 56 |
| failed with a card list | step 51 |
| failed without a card list | step 65 |

**51** Record the location, description, slot number, product engineering code (PEC) and PEC suffix of the cards on the list.

**52** Perform the correct procedure in *Card Replacement Procedures* to replace the first card on the list. Complete the procedure and return to this point.

***Note:*** If the input/output message processor card requires replacement, first make sure that the IOM is manual busy.

## IOD nMTDOS on an IOM
## **minor** (continued)

**53** To test the MTD or DAT units, type

**>TST**

and press the Enter key.

| If the TST command | Do |
|---|---|
| passes | step 56 |
| failed, and you did not replace all the cards in the list recorded in step 51 | step 54 |
| failed, and you did replace all the cards in the list recorded in step 51 | step 65 |

**54** Perform the correct procedure in *Card Replacement Procedures* to replace the next card on the list. Complete the procedure and return to this point.

**55** Go to step 53.

**56** Perform the correct procedure in *Routine Maintenance Procedures*. to load the tape on the MTD or DAT unit. Complete the procedure and return to this point.

**57** To return the MTD or DAT to service, type

**>RTS**

and press the Enter key.

| If the RTS command | Do |
|---|---|
| passed | step 63 |
| failed | step 65 |

**58** To post the controller system connected to the MTD, type

**>IOC ioc_no**

and press the Enter key.

*where*

**ioc_no**
is the number of the affected IOM

*Example of a IOM MAP display:*

## IOD nMTDOS on an IOM
**minor** (continued)

```
IOD
IOC  0  1  2  3
STAT .  .  .  S

DIRP: SMDR B XFER:   .   SLM :   .   NPO:   .   NX25:  .
MLP :   .    DPPP:   .   DPPU:   .   SCAI :

IOC   PORT 0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17
(IOM) STAT . . . – . . – – – .  –  –  –  –  –  –  –  –
0     TYPE C C C   C M       M                    S  S
           O O O   O T       P                    C  C
           N N N   N D       C                    S  S
```

| If the IOM | Do |
|---|---|
| is in service | step 66 |
| is not in service | step 59 |

**59** Perform the procedure *Clearing an nIOCOS major or minor alarm* in this document to clear this alarm. Complete the procedure and return to this point.

| If the alarm | Do |
|---|---|
| cleared | step 66 |
| did not clear | step 65 |

**60** Determine from office records or from operating company personnel why the MTD or DAT is offline or manual busy. When acceptable, return the MTD or DAT to service.

| If the MTD or DAT | Do |
|---|---|
| is offline | step 61 |
| is manual bsy | step 62 |

**61** To make the MTD or DAT port manually busy, type

**>BSY**

and press the Enter key.

**62** To return the MTD or DAT to service, type

**>IOC  ioc_no;PORT port_no;RTS**

and press the Enter key.

*where*

# IOD nMTDOS on an IOM **minor** (end)

**ioc_no**
is the number of the affected IOM

**port_no**
is the number of the MTD or DAT port

| If the RTS command | Do |
|---|---|
| passed | step 66 |
| failed | step 65 |

**63** Determine if the nMTDOS minor alarm cleared.

| If the alarm | Do |
|---|---|
| cleared | step 66 |
| changed to another alarm | step 64 |
| did not clear | step 65 |

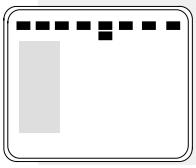
**64** Perform the correct procedure in this document to clear the alarm. Complete the procedure and go to step 66.

**65** For additional help, contact the next level of support.

**66** The procedure is complete.

# IOD nnAMA
# critical, major, or minor

## Alarm display



| CM | MS | IOD | Net | PM | CCS | Lns | Trks | Ext | APPL |
|---|---|---|---|---|---|---|---|---|---|
| . | . | **nnAMA** | . | . | . | . | . | . | . |

## Indication

At the IOD level of the MAP, a number (nn) precedes AMA. The AMA indicates an AMA critical, an AMA major, or an AMA minor alarm. For clearing AMA alarms in a network with a DPP subassembly, refer to *Distributed Processing Maintenance Procedures Guide*, 297-1001-547.

## Meaning

The DIRP utility cannot open enough recording files to meet the number of files specified in the DIRPSSYS table. The number that precedes AMA indicates the number of files required to satisfy the minimum number of files for the subsystem. The DIRPSSYS table specifies the number of files.

## Result

Backup recording of automatic message accounting (AMA) data is not available.

## Common procedures

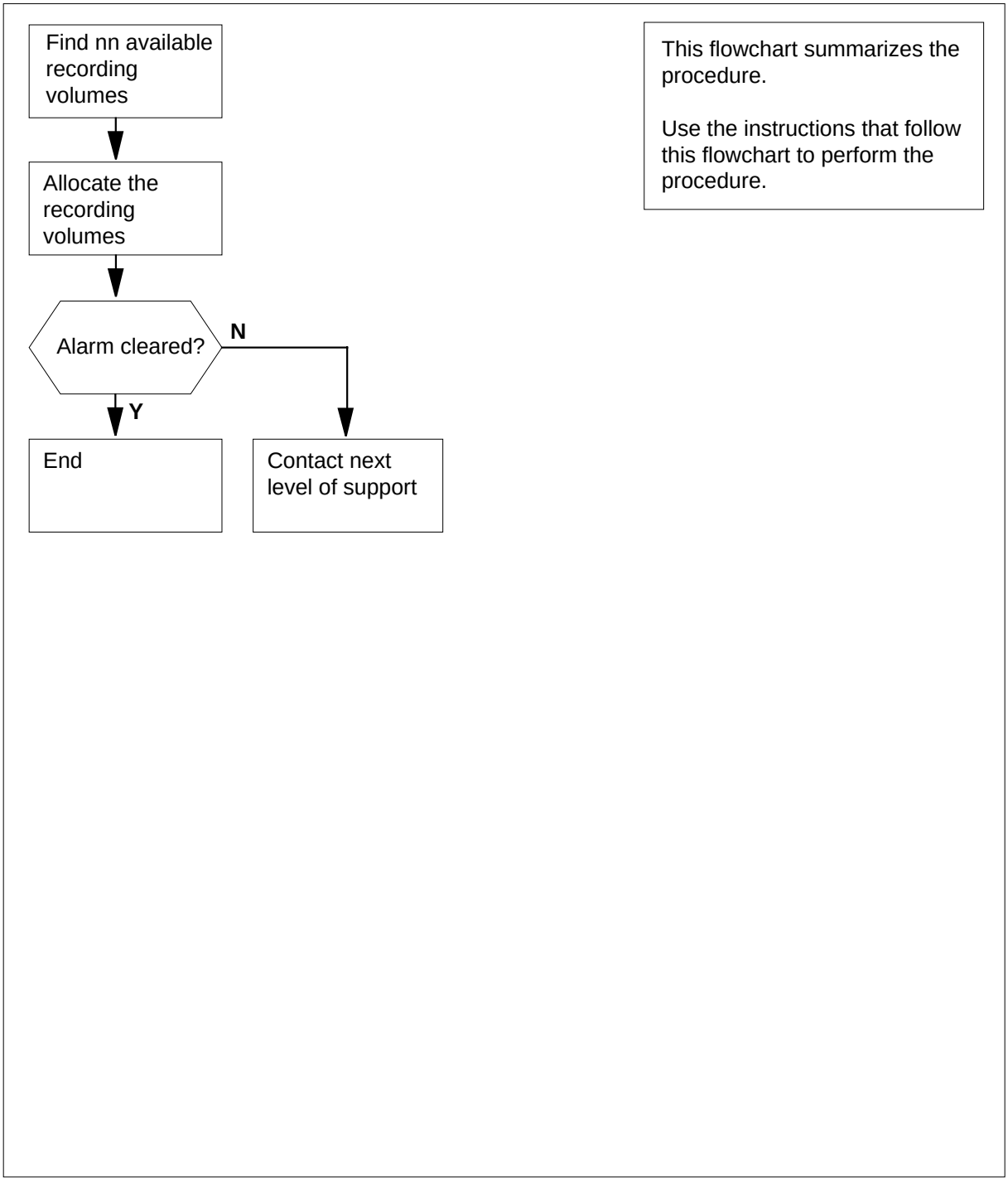
This procedure refers to *Allocating a volume*.

## Action

The flowchart is a summary of the procedure. Use the instructions in the step-action procedure that follows the flowchart to clear the alarm.

# IOD nnAMA
# critical, major, or minor (continued)

**Summary of Clearing an IOD nnAMA critical, major, or minor alarm**



# IOD nnAMA
# critical, major, or minor (continued)

### Clearing an IOD nnAMA critical, major, or minor alarm

**ATTENTION**

For clearing AMA alarms in a network with a DPP subassembly, refer to *Distributed Processing Maintenance Procedures Guide*, 297-1001-547.

***At the MAP terminal***

**1** Record the value of nn in the AMA subsystem alarm indicator under the IOD header of the MAP display.

**2** Check local office records for available recording volumes that are acceptable for AMA subsystem recording. You need the same number of available volumes as the nn value determined in step 1.

**3** Record the volume name(s) of the available recording volumes determined in step 2.

**4** To access the DIRP level of the MAP display, type

**`>MAPCI;MTC;IOD;DIRP`**

and press the Enter key.

*Example of a MAP display:*

```
IOD
IOC  0  1  2
STAT .  L  .

DIRP: HOLD00 XFER:  .   DVI :  .   DPPP:  .   DPPU:   .
NOP :   .    SLM :  .   NX25:  .   MLP :  .   SCAI:   .
```

**5** To allocate one of the additional recording volumes, perform the procedure *How to allocate a volume* in this document. You determined which recording volumes are acceptable in step 2. Complete the procedure and return to this point.

**6** Determine if you need to allocate another volume.

| If you | Do |
|---|---|
| need to allocate another volume | step 5 |
| do not need to allocate another volume | step 7 |

**7** Determine if the nnAMA critical, nnAMA major, or nnAMA minor alarm cleared.

| If the alarm | Do |
|---|---|
| cleared | step 9 |
| did not clear | step 8 |

**8** For additional help, contact the next level of support.

**9** The procedure is complete.

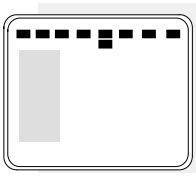
## Silencing Audible DPP alarms

A site can use DDP as an AMA. To clear a DPP alarm enter the following information at the DMS-100 MAP terminal.

```
>SIL (cr)
```

# IOD nnJF
# critical, major, or minor

## Alarm display



| CM | MS | **IOD** | Net | PM | CCS | Lns | Trks | Ext | APPL |
|---|---|---|---|---|---|---|---|---|---|
| . | . | **nnJF** | . | . | . | . | . | . | . |

## Indication

At the IOD level of the MAP, a number (nn) precedes JF. JF indicates a journal file critical, major, or minor alarm.

## Meaning

The DIRP utility cannot open enough recording files to meet the number of files specified in the DIRPSSYS table. The number that precedes JF indicates the number of files needed to satisfy the minimum number of files. The DIRPSSYS table specifies the number of files.

## Result

The system loses records of changes made to data tables or service orders of the DMS-100 Family systems. The records of changes are on disk or tape.

## Common procedures

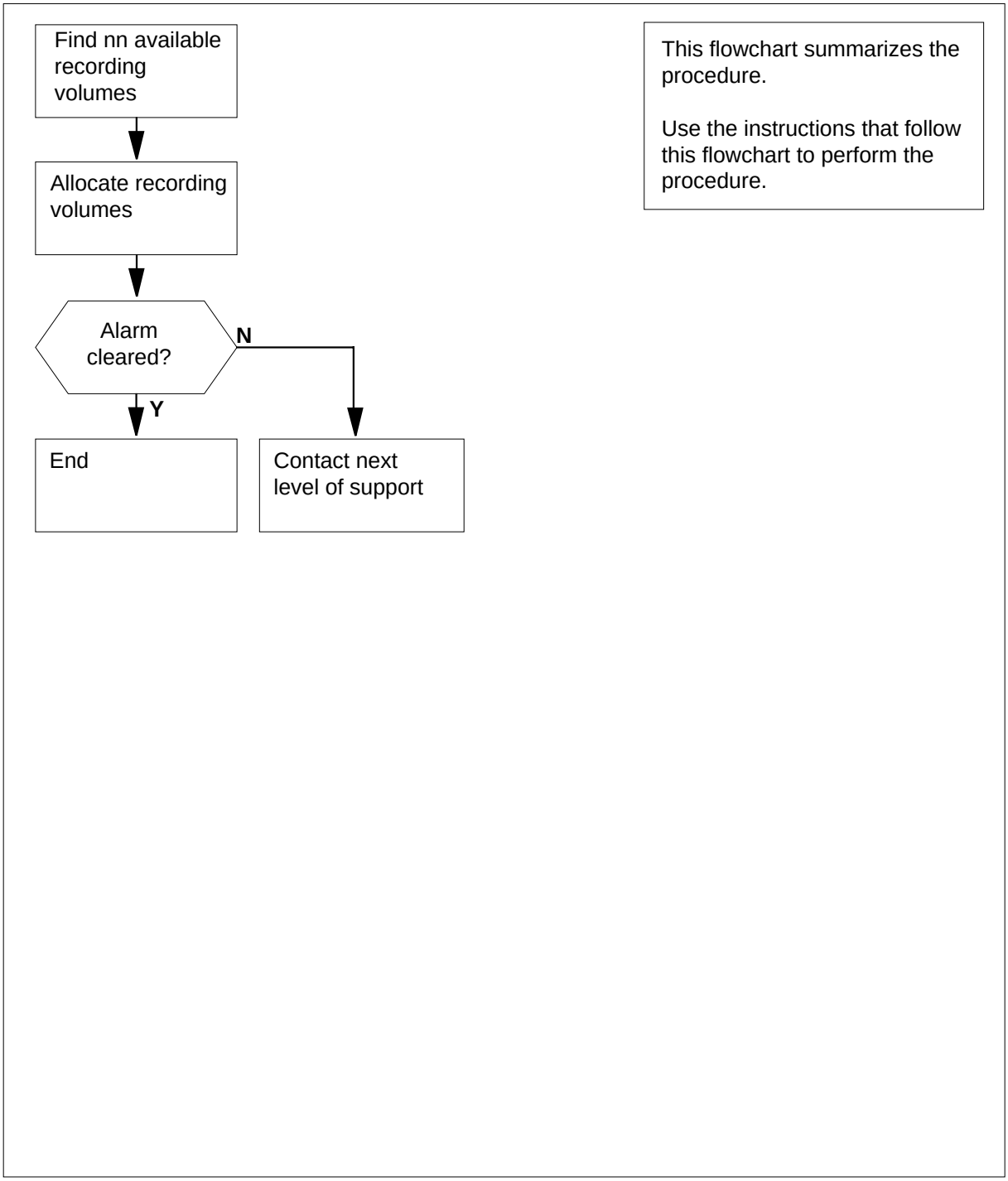
This procedure refers *Allocating a volume*.

## Action

The flowchart is a summary of the procedure. Use the instructions in the step-action procedure that follows the flowchart to clear the alarm.

# IOD nnJF
# critical, major, or minor (continued)

**Summary of Clearing an IOD nnJF critical, major, or minor alarm**



# IOD nnJF
# critical, major, or minor (continued)

**Clearing an IOD nnJF critical, major, or minor alarm**

**CAUTION**
**Possible loss or damage of JF data**
If you do not use this procedure or follow this procedure exactly, you can lose or corrupt your JF data.

***At the MAP terminal***

**1** Record the value of nn in the JF alarm indicator under the IOD header of the MAP display.

**2** Check local office records for available recording volumes that are acceptable for JF subsystem recording. You need the same number of available volumes as the nn value determined in step 1.

**3** Record the volume name(s) of the available recording volumes determined in step 2.

**4** To access the DIRP level of the MAP display, type

**>MAPCI;MTC;IOD;DIRP**

and press the Enter key.

*Example of a MAP display:*

```
IOD
IOC  0  1  2
STAT .  L  .
DIRP: HOLD00 XFER:   .   DVI :   .   DPPP:   .   DPPU:  .
NOP :   .   SLM :   .    NX25:   .   MLP :   .   SCAI:  .
```

**5** To determine the volumes now mounted for JF, type

**>QUERY JF VOLUMES**

and press the Enter key.

*Example of a MAP display:*

```
SSNAME SSNO SEQNO ROTATES POOLNO PARLPOOL EMERGENCY
JF        0     1       3      4  NONE    ***YES***

REGULAR VOLUME(S)
VOL# VOLNAME    STATE   IOC CARD VOL FSEG ROOM VLID FILES
  21 D010JF     READY     1    1   8    4    4 2828 S1
  22 D000JF     READY     0    1   2    0    0 2802 A
```

# IOD nnJF
# critical, major, or minor (end)

**6** If any volumes have problems, where a fault occurred, the STATE is “INERROR". A significant reduction in recording capacity occurs when a fault takes a volume out of service. This fault is a common cause of shortage of files.

**7** If the STATE is READY for all the volumes, you need to allocate additional volumes.

**8** If you need to allocate any volumes, allocate one of the additional recording volumes determined in step 2. To allocate a volume, perform the procedure *How to allocate a volume* in this document. Complete the procedure and return to this point.

**9** Determine if you need to allocate another volume. You must find free space on a disk to format as an additional JF volume. Go to step 11.

| If you | Do |
|---|---|
| need to allocate another volume | step 8 |
| do not need to allocate another volume | step 10 |

**10** Determine if the nnJF alarm cleared.

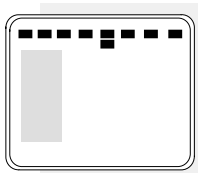
| If the alarm | Do |
|---|---|
| cleared | step 12 |
| did not clear | step 11 |

**11** For additional help, contact the next level of support.

**12** The procedure is complete.

# IOD nnOM
# critical, major, or minor

## Alarm display



| CM | MS | **IOD** | Net | PM | CCS | Lns | Trks | Ext | APPL |
|---|---|---|---|---|---|---|---|---|---|
| . | . | **nnOM** | . | . | . | . | . | . | . |

## Indication

At the IOD level of the MAP display, a number (nn) and OM indicate an operational measurement (OM) critical, major or minor alarm

## Meaning

The DIRP utility cannot open enough recording files to meet the number of files specified in the DIRPSSYS table.

## Result

The operating system loses measurement data and cannot collect or display the data. Measurement data forms the base for decisions about maintenance, traffic, accounting, and supplies. The number that precedes OM indicates the number of files required to satisfy the minimum number of files for this subsystem. The DIRPSSYS table specifies the minimum number of files.

## Common procedures

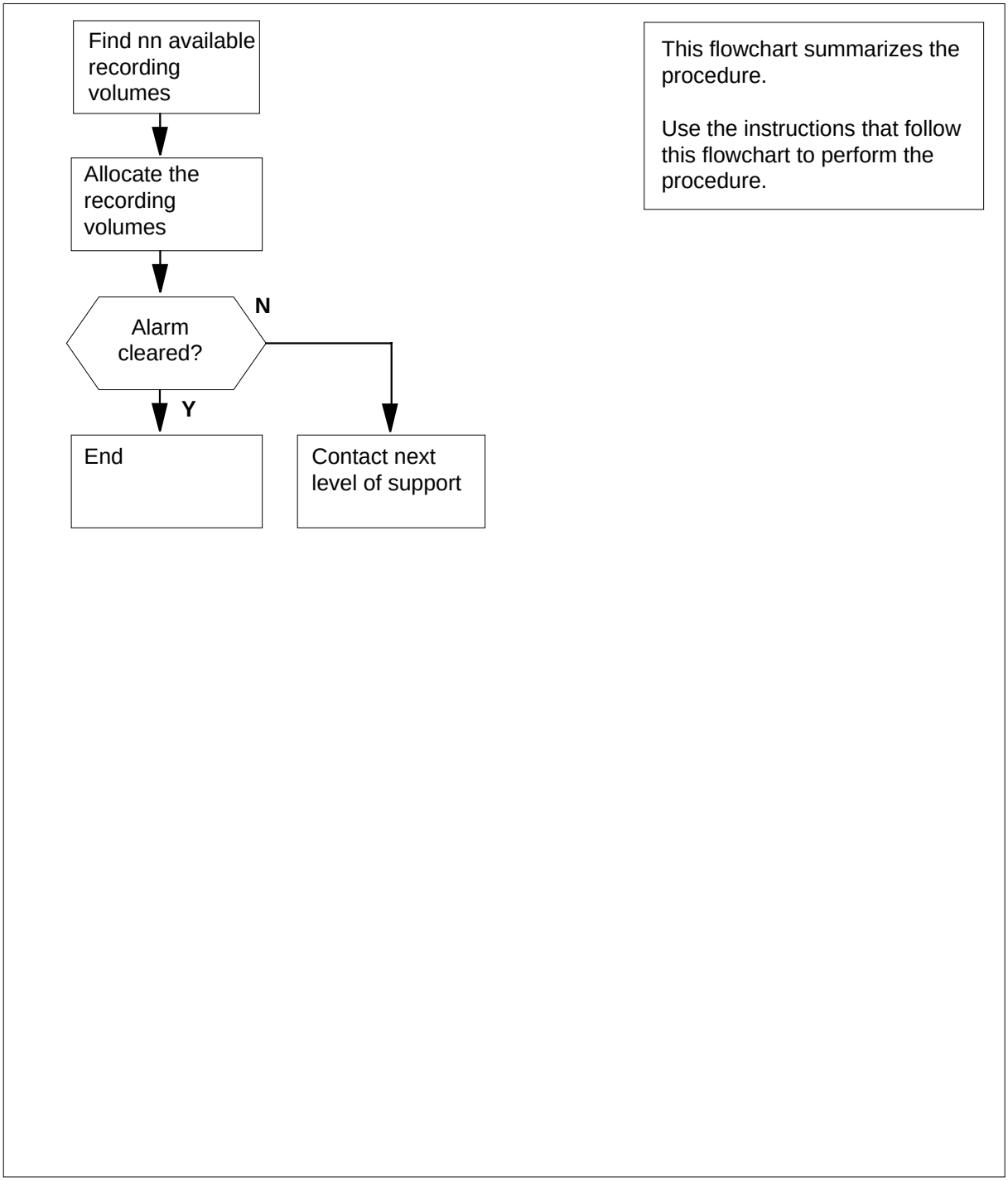
This procedure refers to *Allocating a volume*.

## Action

The flowchart is a summary of the procedure. Use the instructions in the step-action procedure that follows the flowchart to clear the alarm.

# IOD nnOM
# critical, major, or minor (continued)

**Summary of Clearing an IOD nnOM critical, major, or minor alarm**



# IOD nnOM
# critical, major, or minor (continued)

**Clearing an IOD nnOM critical, major, or minor alarm**

**CAUTION**
**Possible loss or damage of OM data**
If you do not use this procedure or follow this procedure correctly, you can lose or corrupt your OM data.

**WARNING**
**Possible loss or damage of OM data**
If you do not use this procedure or follow this procedure correctly, you can lose or corrupt your OM data.

***At the MAP terminal***

**1** Record the value of nn in the OM alarm indicator under the IOD header of the MAP display.

**2** Check local office records for available recording volumes that are acceptable for OM subsystem recording. You need the same number of available volumes as the nn value determined in step 1.

**3** Record the volume name(s) of the available recording volume(s) determined in step 2.

**4** To access the DIRP level of the MAP display, type

**`>MAPCI;MTC;IOD;DIRP`**

and press the Enter key.

*Example of a MAP display:*

```
IOD
IOC  0  1  2
STAT .  L  .
DIRP: HOLD00 XFER:   .   DVI :   .   DPPP:   .   DPPU:  .
NOP :   .   SLM :   .   NX25:   .   MLP :   .   SCAI:   .
```

**5** Allocate one of the additional recording volumes determined in step 2. To allocate the volume, perform the procedure *Allocating a volume* in this document. Complete the procedure and return to this point.

# IOD nnOM critical, major, or minor (end)

**6** Determine if you need to allocate another volume.

| If you | Do |
|---|---|
| need to allocate another volume | step 5 |
| do not need to allocate another volume | step 7 |

**7** Determine if the nnOM critical, major, or minor alarm cleared.

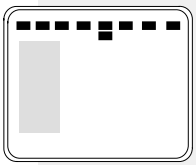
| If the alarm | Do |
|---|---|
| cleared | step 9 |
| did not clear | step 8 |

**8** For additional help, contact the next level of support.

**9** The procedure is complete.

# IOD NO AMA on device type DISK critical

## Alarm display



| CM | MS | IOD | Net | PM | CCS | Lns | Trks | Ext | APPL |
|---|---|---|---|---|---|---|---|---|---|
| . | . | **NO AMA** | . | . | . | . | . | . | . |
| | | ***C*** | | | | | | | |

## Indication

At the IOD level of the MAP display, NO AMA indicates a NO AMA critical alarm. Follow this procedure for device type DISK. For device type TAPE, follow the procedure *Clearing an IOD NO AMA on device type TAPE critical alarm*. For clearing NO AMA alarms in a network with a DPP subassembly, refer to *Distributed Processing Maintenance Procedures Guide*, 297-1001-547.

## Meaning

Files are not available to record from the AMA subsystem.

## Result

Loss of billing information.

## Common procedures

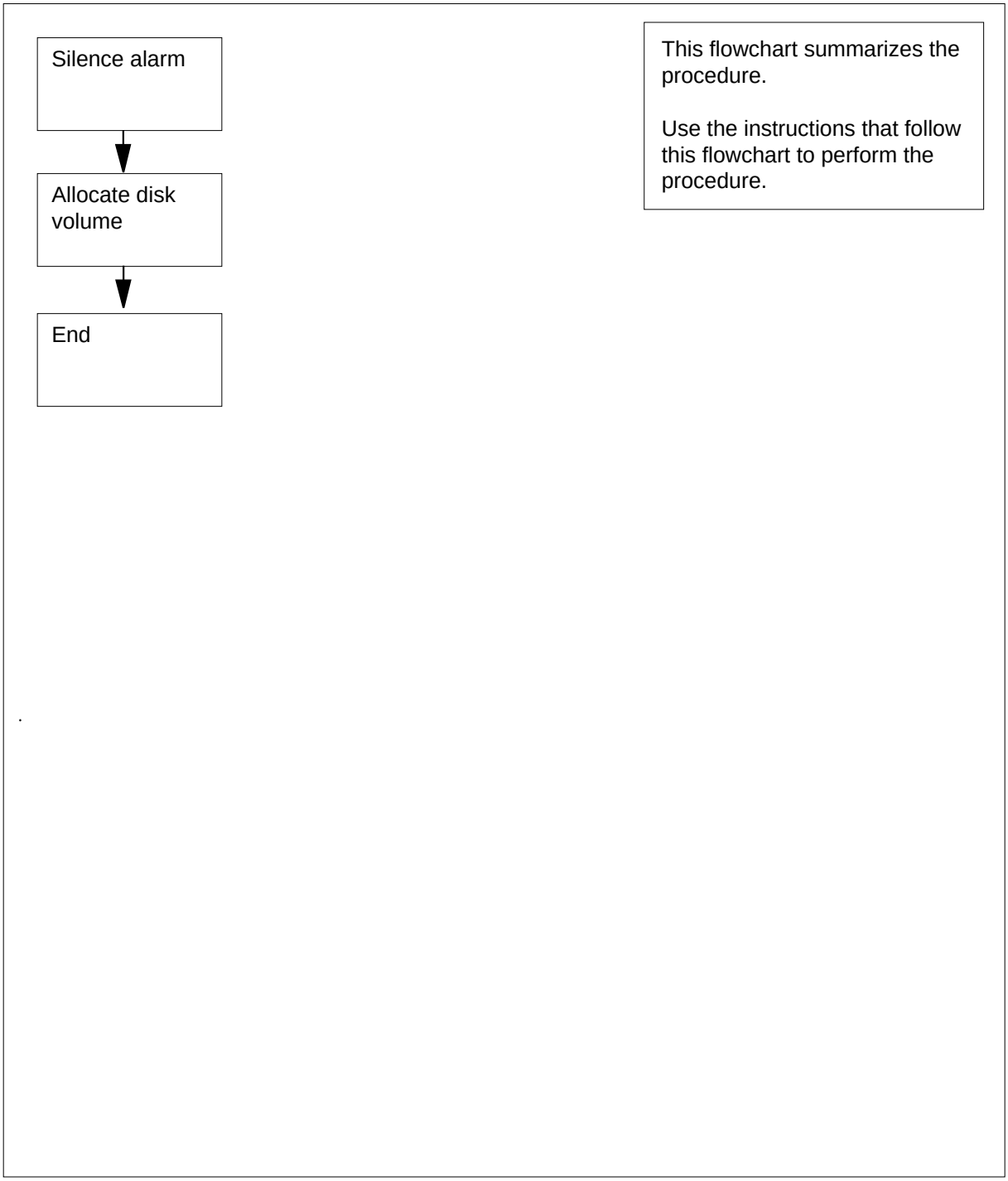
There are no common procedures.

## Action

The following flowchart is a summary of the procedure. Use the instructions in the step-action procedure that follows the flowchart to clear the alarm.

# IOD NO AMA on device type DISK critical (continued)

**Summary of Clearing an IOD NO AMA on device type DISK critical alarm**



# IOD NO AMA on device type DISK critical (continued)

**Clearing an IOD NO AMA on device type DISK critical alarm**

**CAUTION**
**Possible loss or corruption of AMA data**
Use this procedure or follow it exactly. Not doing so will lose or damage automatic message accounting (AMA) data. The operating company uses AMA data to produce billings. Loss or damage of AMA data results in revenue loss for the operating company.

**ATTENTION**
For clearing NO AMA alarms in a network with a DPP subassembly, refer to *Distributed Processing Maintenance Procedures Guide*, 297-1001-547.

***At the MAP terminal***

**1** To access the DIRP level of the MAP display, type

**>MAPCI;MTC;IOD;DIRP**

and press the Enter key.

*Example of a MAP:*

```
IOD
IOC  0  1  2
STAT .  L  .

DIRP: HOLD00 XFER:   .   SLM :   .   NPO:   .   NX25:  .
MLP :   .    DPPP:   .   DPPU:   .   SCAI :
```

**2** To silence the audible alarm, type

**>SIL**

and press the Enter key.

**3** Inform your maintenance support group of the condition.

| If your maintenance group | Do |
|---|---|
| instructs you to continue this procedure | step 4 |

## IOD NO AMA on device type DISK **critical** (continued)

| If your maintenance group | Do |
|---|---|
| instructs you not to continue this procedure | step 31 |

**4** Determine the amount of available space in the AMA subsystem. Type

**>QUERY AMA SPACE**

and press the Enter key.

*Example of a MAP response:*

```
SSNAME SSNO  SEQNO ROTATES POOLNO PARLPOOL EMERGENCY
AMA       0      1       2      0         6 ***YES***

REGULAR SPACE
VOL# VOLNAME STATE          SEGS   EXP  UNEXP  TOTAL
```

**5** To query the volumes now mounted in the subsystem, type

**>QUERY AMA VOLUMES**

and press the Enter key.

*Example of a MAP response:*

```
SSNAME SSNO  SEQNO ROTATES POOLNO PARLPOOL EMERGENCY
AMA       0      1       2      0         6 ***YES***

REGULAR VOLUME(S)
VOL# VOLNAME  STATE        IOC CARD VOL FSEG ROOM VLID
FILES
              NONE
              NONE
```

**6** Record the pool number.

***Note:*** The pool number appears under the POOLNO header. The MAP response in step 5 shows a pool number of 0.

**7** To access the DIRPPOOL table, type

**>TABLE DIRPPOOL**

and press the Enter key.

*Example of a MAP response:*

```
MACHINES NOT IN SYNC – DMOS NOT ALLOWED
JOURNAL FILE UNAVAILABLE – DMOS NOT ALLOWED
TABLE: DIRPPOOL
```

**8** To position the tuple for the subsystem REGULAR pool, type

**>POSITION n;LIST**

# IOD NO AMA on device type DISK
## **critical** (continued)

and press the Enter key.

*where*

**n**
is the pool number noted in step 5

*Example of a MAP response:*

```
POOLNO POOLNAME POOLTYPE DEVTYPE VOLUME0 VOLUME1 VOLUME2
VOLUME3 VOLUME4 VOLUME5 VOLUME6 VOLUME7 VOLUME8 VOLUME9
VOLUME10 VOLUME11 VOLUME12 VOLUME13 VOLUME14 VOLUME15
VOLUME16 VOLUME17 VOLUME18 VOLUME19 VOLUME20 VOLUME21
VOLUME22 VOLUME23
0       AMAPOOL   REGULAR    DISK       $       $       $
      $       $       $       $      $       $       $
       $        $        $        $        $        $
       $        $        $        $        $        $
       $       $
```

**9** Record the device type shown in the DEVTYPE field for later use.

***Note:*** The device type is under the DEVTYPE header. The MAP response in step 8 shows the device type as DISK.

**10** To exit the DIRPPOOL table, type

**>LEAVE**

and press the Enter key.

**11** Determine from office records the location of an available disk recording volume used with AMA. Record the volume name.

**12** Determine if a disk volume is available.

| If a disk volume | Do |
|---|---|
| is available | step 18 |
| is not available | step 13 |

**13** To post the configured controller system, type

**>IOC ioc_no**

and press the Enter key.

*where*

**ioc_no**
is the number of the affected IOC or IOM

*Example of a IOC MAP display*

# IOD NO AMA on device type DISK **critical** (continued)

```
DIRP: SMDR B XFER:   .   SLM :   .   NPO:   .   NX25:  .
MLP :   .    DPPP:   .   DPPU:   .   SCAI :

IOC  CARD     0    1    2    3    4    5    6    7   8
 0   PORT   0123 0123 0123 0123 0123 0123 0123 0123 0123
     STAT  .--- .--- ...P ..-- ..--  ---  ---  ---  ---
     TYPE   MTD  DDU  CONS  DLC  CONS
```

*Example of a IOM MAP display:*

```
DIRP: SMDR B XFER:   .   SLM :   .   NPO:   .   NX25:  .
MLP :   .    DPPP:   .   DPPU:   .   SCAI :

IOC   PORT 0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17
(IOM) STAT . . . - . . - - - . -  -  -  -  -  -  -  -
0     TYPE C C C   C M       M                    D  S
           O O O   O T       P                    D  C
           N N N   N D       C                    U  S
```

| If the controller | Do |
|---|---|
| is IOC | step 14 |
| is IOM | step 15 |

**14** To post the Card level, type

**>CARD card_no**

and press the Enter key.

*where*

**card_no**
is the card number determined in step 13

*Example of a MAP response:*

```
Card 1   Unit          0
         User      system          Drive_State
         Status      Ready          on_line
```

Go to step 16.

**15** To post the Port level, type

**>PORT port_no**

and press the Enter key.

*where*

**port_no**
is the port number determined in step 13

## IOD NO AMA on device type DISK
## **critical** (continued)

*Example of a MAP response:*

```
Port 1   Unit          0
         User      system          Drive_State
         Status      Ready          on_line
```

**16** To determine the available volumes, type

**>ALLOC**

and press the Enter key.

*Example of a MAP response:*

```
VOLID VOL_NAME SERIAL_NO BLOCKS ADDR TYPE R/O  FILES_OPEN
0     IMAGE    2800      65535  D000   0   NO       0
1     XPMLOADS 2801      45000  D000   0   NO       0
2     PMLOADS  2802      10000  D000   0   NO       0
3     MPCLOADS 2803       5000  D000   0   NO       0
4     MTCE     2804      10000  D000   0   NO       0
5     MISC     2805      10000  D000   0   NO       0
6     AMA      2806       5000  D000   0   NO       0
7     OM       2807       5000  D000   0   NO       0
8     JF       2808       5000  D000   0   NO       0
```

**17** Determine if a disk volume is available.

| If a disk volume | Do |
|---|---|
| is available | step 18 |
| is not available | step 31 |

**18** To allocate the disk volume, type

**>DIRP;MNT AMA vol_name**

and press the Enter key.

*where*

**vol_name**
is the disk volume name

*Example of a MAP response:*

```
UPDATING VOLUME INFORMATION FOR vol_name:  VOLUME nn IN
REGULAR POOL n, pool_name
PLEASE CONFIRM (”YES” OR ”NO”)
```

**19** Determine if you need to allocate the volume.

| If you | Do |
|---|---|
| need to allocate the volume | step 21 |

## IOD NO AMA on device type DISK critical (continued)

| If you | Do |
|---|---|
| do not need to allocate the volume | step 20 |

**20** To halt the allocation, type

**>NO**

and press the Enter key.

Go to step 32.

**21** To confirm the allocation, type

**>YES**

and press the Enter key.

*Example of a MAP response:*

```
REGULAR VOLUME vol_name ALLOCATED
```

**22** Allow one minute for the DIRP to allocate the volume.

**23** Determine if the NO AMA on device type DISK critical alarm under the IOD level of the MAP display cleared.

| If the alarm | Do |
|---|---|
| cleared | step 26 |
| did not clear | step 24 |

**24** Determine from office records the location of another available disk volume that you did not try.

**25** Determine if another disk volume is available.

| If another disk volume | Do |
|---|---|
| is available | step 18 |
| is not available | step 31 |

**26** Determine if an nnAMA alarm is present under the IOD header of the MAP display.

| If an alarm | Do |
|---|---|
| is present | step 27 |
| is not present | step 32 |

**27** Clear the nnAMA alarm. Perform the procedure *How to clear an nnAMA critical, major, or minor alarm* in this document. Complete the procedure and return to this point.

## IOD NO AMA on device type DISK **critical** (end)

**28** Determine if the NO AMA on device type DISK critical, major, or minor alarm cleared.

| If the alarm | Do |
|---|---|
| cleared | step 32 |
| changed to another alarm | step 29 |
| did not clear | step 31 |

**29** Perform the correct procedure in this document to clear the alarm. Complete the procedure and return to this point.

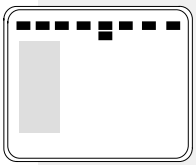
**30** Go to step 28.

**31** For additional help, contact the next level of support.

**32** The procedure is complete.

# IOD NO AMA on device type TAPE critical

## Alarm display



| CM | MS | IOD | Net | PM | CCS | Lns | Trks | Ext | APPL |
|---|---|---|---|---|---|---|---|---|---|
| . | . | NO AMA *C* | . | . | . | . | . | . | . |

## Indication

At the IOD level of the MAP display, NO AMA indicates a NO AMA critical alarm. Follow this procedure for device type TAPE. For device type DISK, follow the procedure *Clearing an IOD NO AMA on device type DISK critical alarm*. For clearing NO AMA alarms in a network with a DPP subassembly, refer to *Distributed Processing Maintenance Procedures Guide*, 297-1001-547.

## Meaning

There are no files available to record data from the subsystem.

## Result

Loss of billing information.

## Common procedures

The following common procedures refer to:

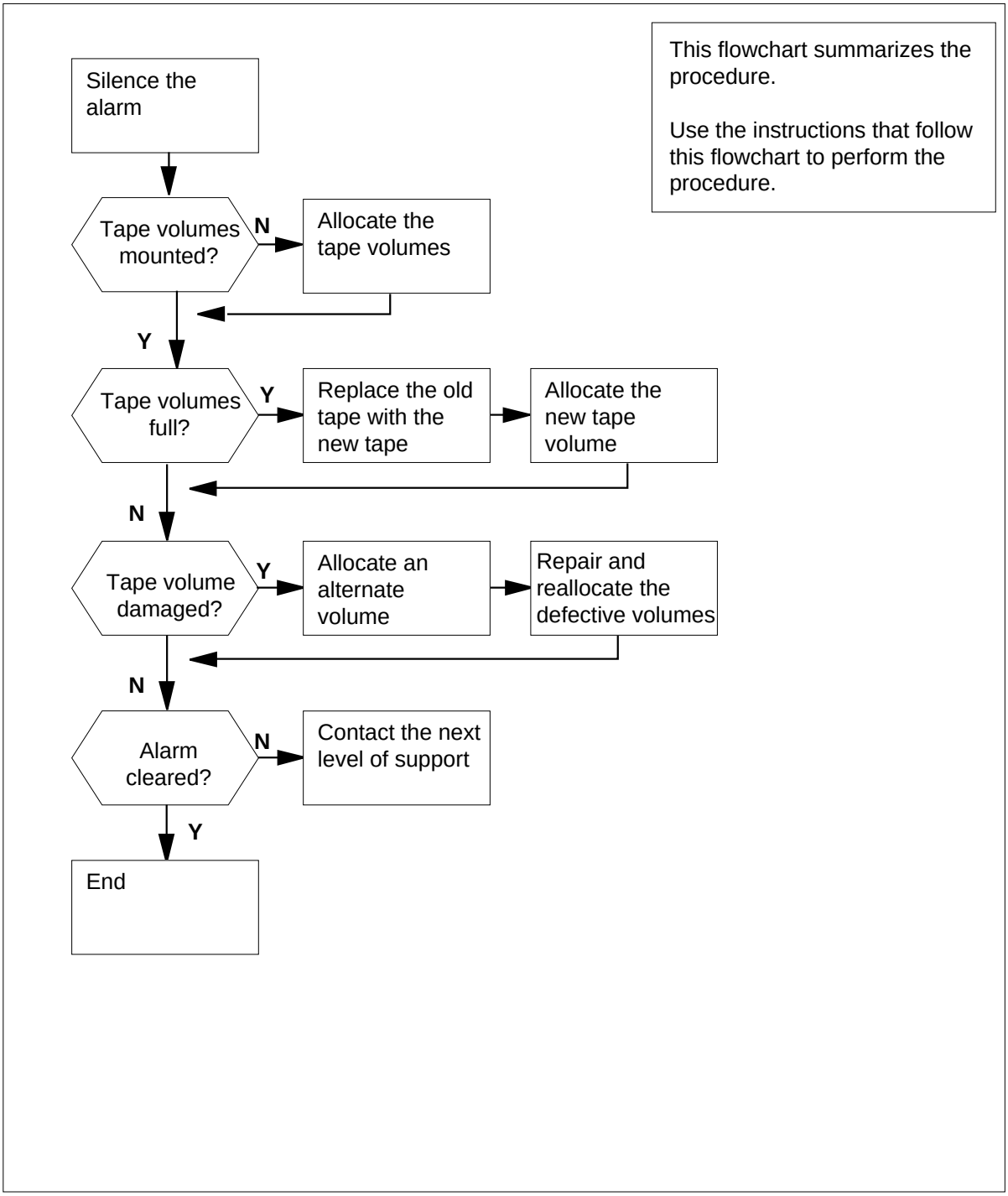
- *Allocating a volume*
- *Deallocating a volume*
- *Resetting a volume*

## Action

The following flowchart is a summary of the procedure. Use the instructions in the step-action procedure that follow the flowchart to clear the alarm.

# IOD NO AMA on device type TAPE critical (continued)

**Summary of Clearing an IOD NO AMA on device type TAPE critical alarm**



# IOD NO AMA on device type TAPE critical (continued)

**Clearing an IOD NO AMA on device type TAPE critical alarm**

**CAUTION**
**Possible loss or corruption of AMA data**
Use this procedure or follow it exactly. Not doing so will lose or corrupt automatic message accounting (AMA) data. The operating company uses AMA data to produce billings. Loss or damage of AMA data results in revenue loss for the operating company.

**ATTENTION**
For clearing NO AMA alarms in a network with a DPP subassembly, refer to *Distributed Processing Maintenance Procedures Guide*, 297-1001-547.

***At the MAP***

**1** To access the DIRP level of the MAP display, type

**>MAPCI;MTC;IOD;DIRP**

and press the Enter key.

*Example of a MAP display:*

```
IOD
IOC  0  1  2
STAT .  L  .

DIRP: HOLD00 XFER:  .   SLM :  .   NPO:  .   NX25:   .
MLP :   .    DPPP :  .  DPPU:  .  SCAI :  .   .
```

**2** To silence the audible alarm, type

**>SIL**

and press the Enter key.

**3** Inform your maintenance support group of the condition.

| If your maintenance group instructs you | Do |
|---|---|
| to continue this procedure | step 4 |
| not to continue this procedure | step 72 |

## IOD NO AMA on device type TAPE
## **critical** (continued)

**4** To query the status of the subsystem files, type

**>QUERY AMA FILES**

and press the Enter key.

*Example of a MAP response:*

```
SSNAME SSNO  SEQNO ROTATES POOLNO PARLPOOL EMERGENCY
AMA       0      1       2      0        6 ***YES***

REGULAR
FILE(S)  STATE VOLUME RECCOUNT BLOCK  E  V  V_B VLID FNUM
FRN#
ACTIVE   NONE
STANDBY1 NONE
```

**5** Examine the status of the files in the AMA subsystem.

**6** Determine the number of volumes required for the AMA subsystem. Count the number of active and reserve files displayed. Record this number for later use.

**7** To query the volumes now mounted in the subsystem, type

**>QUERY AMA VOLUMES**

and press the Enter key.

*Example of a MAP response:*

```
SSNAME SSNO  SEQNO ROTATES POOLNO PARLPOOL EMERGENCY
AMA       0      1       2      0        6 ***YES***

REGULAR VOLUME(S)
VOL# VOLNAME  STATE        IOC CARD VOL FSEG ROOM VLID
FILES
22        T0  INERROR        0    0   0  N/A    0 2400
23        T1  INERROR        2    1   0  N/A    0 2400
```

**8** Record the pool number and the status of the normal volumes.

***Note:*** The MAP response in the last step shows a pool number of 0, and two normal volumes mounted. The response marked the normal volumes as INERROR.

**9** Determine if mounted volumes that are normal are present.

| If any normal volumes | Do |
|---|---|
| mounted | step 25 |
| did not mount | step 10 |

**10** To access table DIRPPOOL , type

**>TABLE DIRPPOOL**

## IOD NO AMA on device type TAPE critical (continued)

and press the Enter key.

**11** To position the tuple for the normal pool of the subsystem, type

**>POSITION n;LIST**

and press the Enter key.

*where*

**n**
is the pool number noted in step 8

*Example of a MAP response:*

```
POOLNO POOLNAME POOLTYPE DEVTYPE VOLUME0 VOLUME1 VOLUME2
VOLUME3 VOLUME4 VOLUME5 VOLUME6 VOLUME7 VOLUME8 VOLUME9
VOLUME10 VOLUME11 VOLUME12 VOLUME13 VOLUME14 VOLUME15
VOLUME16 VOLUME17 VOLUME18 VOLUME19 VOLUME20 VOLUME21
VOLUME22 VOLUME23
0      AMAPOOL  REGULAR    TAPE        $       $       $
      $       $      $       $        $       $       $
       $        $        $        $         $         $
       $        $        $        $         $         $
      T1       T2
```

**12** Record the device type shown in field DEVTYPE.

***Note:*** The MAP response in the last step shows the DEVTYPE of TAPE.

**13** To exit the DIRPPOOL table, type

**>QUIT**

and press the Enter key.

| If the tape drive | Do |
|---|---|
| is MTD | step14 |
| is DAT | step 15 |

**14** Determine from office records the location of an available magnetic tape drive (MTD) for AMA recording. Record the MTD number.

Go to step 16.

**15** Determine from office records the location of an available digital audio tape (DAT) drive for AMA recording. Record the DAT number.

**16** Determine if another tape drive is available.

| If another tape drive | Do |
|---|---|
| is available (MTD) | step 17 |
| is available (DAT) | step 18 |

# IOD NO AMA on device type TAPE
## **critical** (continued)

| If another tape drive | Do |
|---|---|
| is not available | step 72 |

**17** Load a tape on the MTD. Refer to *Magnetic Tape Reference Manual*, 297-1001-118 and return to this point.

**18**

**WARNING**
**Tape cartridges**
Use cartridges with the DDS logo. The DAT drive unit supports DDS/DDS-1 cartridges only and rejects DDS-2 cartridges during the load operation.

Insert the tape cartridge into the drive. The drive automatically takes the cartridge and performs a load sequence.

**19** To allocate the tape volume on the MTD, type

**`>MNT AMA tn`**

and press the Enter key.

*where*

**tn**
is the MTD number

*Example of a MAP response:*

```
UPDATING VOLUME INFORMATION FOR Tn:  VOLUME nn IN REGULAR
POOL n, pool_name
PLEASE CONFIRM (”YES” OR ”NO”)
```

**20** Determine if you want to continue with the volume allocation.

| If you | Do |
|---|---|
| want to continue | step 22 |
| do not want to continue | step 21 |

**21** To halt the allocation, type

**`>NO`**

and press the Enter key.

Go to step 73.

**22** To confirm the allocation, type

**`>YES`**

and press the Enter key.

## IOD NO AMA on device type TAPE critical (continued)

*Example of a MAP response:*

```
REGULAR VOLUME vol_name ALLOCATED
```

**23** Determine if the `NO AMA on device type TAPE` critical alarm cleared.

| If the alarm | Do |
|---|---|
| cleared | step 67 |
| did not clear | step 24 |

**24** Determine from office records if another magnetic tape drive or digital audio tape drive is available.

| If another tape drive | Do |
|---|---|
| is available (MTD) | step 17 |
| is available (DAT) | step 18 |
| is not available | step 72 |

**25** Determine from the volume the name of the recording device type used for the allocated volumes.

***Note:*** Tn is the standard name for tape volumes.

**26** Determine if any volumes are in the INERROR state.

| If any volumes | Do |
|---|---|
| are in the INERROR state | step 27 |
| are not in the INERROR state | step 58 |

**27** Determine from the DIRP logs why INERROR marks the volumes. Type

**`>LOGUTIL`**

and press the Enter key.

**28** To record the logs, type

**`>STARTDEV dev_type ADDREPS dev_name DIRP`**

and press the Enter key.

*where*

**dev_type**
is the type of device in use

**dev_name**
is the name of the printer or visual display unit

*Example of a MAP response:*

## IOD NO AMA on device type TAPE
## **critical** (continued)

```
ONE REPORT ADDED
```

**29** When you determine why the INERROR condition occurred. To exit the log utility, type

**>QUIT**

and press the Enter key.

**30** Determine if the voume is INERROR because of a volume-full condition or because of a device error.

| If the volume | Do |
|---|---|
| is INERROR and the reason is the volume is full | step 31 |
| is INERROR and the reason is a device error | step 35 |

**31** Deallocate the tape volume. Refer to common procedure *Deallocating a volume* in this document. Complete the procedure and return to this point.

| If the tape drive | Do |
|---|---|
| is MTD | step 32 |
| is DAT | step 33 |

**32** Unload the full tape from the drive. Label the tape and store it according to your local procedures. Load a new tape acceptable for the subsystem recording on the drive. Perform the correct procedure in *Magnetic Tape Reference Manual,* 297-1001-118. Complete the procedure and return to this point.

**33**

**CAUTION**
**Possible loss of data**
Force eject a cartridge only at a last resort to recover a cartridge. Never use this method as a quick way to eject the cartridge. If you use this method as a quick way of ejecting the cartridge, you can lose data. This method can also cause a tape to format in the wrong manner.

Remove the full tape cartridge from the drive. Press the unload button at the front of the unit.

***Note:*** The drive will perform an unload sequence. The tape is rewound to the beginning of partition (BOP) for partition 0. If the tape is write enabled, the drive writes a copy of the tape log back to the tape. The drive rewinds

# IOD NO AMA on device type TAPE critical (continued)

the tape to the beginning of media. The drive rewrites to the tape from the mechanism and eject the tape.

**34** Determine if replacement of more tape volumes is to occur.

| If more tape volumes | Do |
|---|---|
| need replacement | step 31 |
| do not need replacement | step 19 |

**35** Reset the INERROR volume. Perform the common procedure *How to reset a volume* in this document. Complete the procedure and return to this point.

**36** Determine if more volumes need to reset.

| If more volumes | Do |
|---|---|
| are to be reset | step 35 |
| are not to be reset | step 37 |

**37** To query the subsystem again and verify the status of the reset volumes, type

**>QUERY AMA VOLUMES**

and press the Enter key.

*Example of a MAP response:*

```
SSNAME SSNO SEQNO ROTATES POOLNO PARLPOOL EMERGENCY
AMA       0     1       0      0  NONE    ***YES***
REGULAR VOLUME(S)
VOL# VOLNAME  STATE          IOC CARD VOL FSEG ROOM VLID
FILES
```

**38** Determine if the INERROR volumes reset correctly.

| If the INERROR volumes | Do |
|---|---|
| reset correctly | step 46 |
| did not reset correctly | step 39 |

**39** Determine from office records if another recording volume is available. The MTD or DAT unit that is now in use can have faults.

| If another tape drive | Do |
|---|---|
| is available (MTD) | step 17 |
| is available (DAT) | step 18 |
| is not available (MTD) | step 40 |

## IOD NO AMA on device type TAPE
**critical** (continued)

| If another tape drive | Do |
|---|---|
| is not available (DAT) | step 41 |

**40** Repair the recording device that has faults. Perform the correct procedure in *Recovery Procedures*. Complete repairs of the device that has faults and return to this point.

Go to step 42.

**41** Replace the DAT unit that has faults. Perform the correct procedure in *Trouble and Locating Procedures*. Complete the repairs of the device that has faults and return to this point.

**42** Reset the repaired volume. Perform the common procedure *How to reset a volume* in this document. Complete the procedure and return to this point.

**43** Determine if more volumes need to reset.

| If more volumes | Do |
|---|---|
| are to be reset | step 42 |
| are not to be reset | step 44 |

**44** Query the subsystem again and verify the status of the reset volume(s). Type

**>QUERY AMA VOLUMES**

and press the Enter key.

*Example of a MAP response:*

```
SSNAME SSNO SEQNO ROTATES POOLNO PARLPOOL EMERGENCY
AMA       0     1       0      0  NONE    ***YES***
REGULAR VOLUME(S)
VOL# VOLNAME  STATE          IOC CARD VOL FSEG ROOM VLID
FILES
```

**45** Determine if the repaired volumes reset.

| If the repaired volumes | Do |
|---|---|
| reset | step 46 |
| did not reset (MTD) | step 47 |
| did not reset (DAT) | step 48 |

**46** Determine if the NO AMA alarm cleared.

| If the alarm | Do |
|---|---|
| cleared | step 67 |

# IOD NO AMA on device type TAPE critical (continued)

| If the alarm | Do |
|---|---|
| did not clear (MTD) | step 47 |
| did not clear (DAT) | step 48 |

**47** Obtain enough blank or expired tapes for the number of tape volumes that you allocate again. Make sure each tape has a write-enable ring attached.

Go to step 49.

**48**

**CAUTION**
**Tape cartridges**
Use cartridges marked with the DDS logo. The DAT drive unit supports only DDS/DDS-1 cartridges and rejects DDS-2 cartridges during the load operation.

Obtain enough blank or expired cartridges for the number of tape volumes that you allocate again.

**49** Select a tape volume to deallocate and record the MTD or DAT number.

**50** Deallocate the selected volume. Perform the common procedure *Deallocating a volume* in this document. Complete the procedure and return to this point.

**51** Unload the tape from the deallocated MTD or DAT. Marked INERROR this volume can have data errors.

| If the tape drive | Do |
|---|---|
| is MTD | step 52 |
| is DAT | step 54 |

**52** Label and store this tape according to local procedure. Perform the correct procedure in *Magnetic Tape Reference Manual*, 297-1001-118. Complete the procedure and return to this point.

**53** Load a blank or expired tape on the unloaded MTD. Perform the correct procedure in *Magnetic Tape Reference Manual*, 297-1001-118. Complete the procedure and return to this point.

Go to step 55.

## IOD NO AMA on device type TAPE
## **critical** (continued)

**54**

**WARNING**
**Labeling of tape cartridges**
Cartridge labels must be firmly stuck to the recessed label area on the cartridge to prevent a jam of the mechanism.

Label and store the cartridge according to local procedure. Make sure that labels are not:

- peeling off
- over the edge of the label area
- stuck on top of another label

**55** Allocate the volume. Perform the common procedure *Allocating a volume* in this document. Complete the procedure and return to this point.

**56** Allow 1 min for the DIRP utility to allocate the volumes.

**57** Determine if more volumes move.

| If more volumes | Do |
|---|---|
| require allocation (MTD) | step 47 |
| require allocation (DAT) | step 48 |
| do not require allocation | step 66 |

**58** To deallocate the disk volume, type

**`>DMNT AMA vol_name`**

and press the Enter key.

*where*

**vol_name**
is the name of the disk volume

*Example of a MAP response:*

```
UPDATING VOLUME INFORMATION FOR
vol_name:  VOLUME nn IN REGULAR POOL n, pool_name
PLEASE CONFIRM (”YES” OR ”NO”):
```

**59** Determine if you want to continue with the volume deallocation.

| If you want the volume deallocation | Do |
|---|---|
| to continue | step 61 |

## IOD NO AMA on device type TAPE **critical** (continued)

| If you want the volume deallocation | Do |
|---|---|
| not to continue | step 60 |

**60** To halt the deallocation, type

**>NO**

and press the Enter key.

Go to step 73.

**61** To confirm the deallocation, type

**>YES**

and press the Enter key.

*Example of a MAP response:*

```
REGULAR VOLUME vol_name WILL BE TAKEN OUT OF DIRP AS SOON
AS POSSIBLE
```

**62** To allocate the disk volume, type

**>MNT AMA vol_name**

and press the Enter key.

*where*

**vol_name**
is the name of the disk volume

*Example of a MAP response:*

```
UPDATING VOLUME INFORMATION FOR
vol_name:  VOLUME nn IN REGULAR POOL n, pool_name
PLEASE CONFIRM (”YES” OR ”NO”):
```

**63** Determine if you want to continue with the volume allocation.

| If you want the volume allocation | Do |
|---|---|
| to continue | step 65 |
| not to continue | step 64 |

**64** To halt the allocation, type

**>NO**

and press the Enter key.

Go to step 73.

**65** To confirm the allocation, type

**>YES**

# IOD NO AMA on device type TAPE critical (end)

and press the Enter key.

*Example of a MAP response:*

```
REGULAR VOLUME vol_name ALLOCATED
```

**66** Determine if the NO AMA alarm cleared.

| If the alarm | Do |
|---|---|
| cleared | step 67 |
| did not clear | step 72 |

**67** Determine if an nnAMA alarm is present under the IOD header of the MAP display.

| If the alarm | Do |
|---|---|
| is present | step 68 |
| is not present | step 73 |

**68** Clear the nnAMA alarm. Perform the procedure *Clearing an IOD nnAMA critical, major, or minor alarms* in this document. Complete the procedure and return to this point.

**69** Determine if the NO AMA on the device type TAPE critical alarm cleared.

| If the alarm | Do |
|---|---|
| cleared | step 73 |
| changed to another alarm | step 70 |
| did not clear | step 72 |

**70** Perform the correct procedure in this document to clear the alarm. Complete the procedure and return to this point.

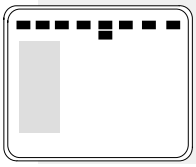
**71** Go to step 69.

**72** For additional help, contact the next level of support.

**73** The procedure is complete.

# IOD NOssys on device type DISK critical, major, or minor

## Alarm display



| CM | MS | IOD | Net | PM | CCS | Lns | Trks | Ext | APPL |
|---|---|---|---|---|---|---|---|---|---|
| . | . | NOssys *C* | . | . | . | . | . | . | . |

## Indication

At the IOD level of the MAP display, NOssys indicates a NOssys critical, major, or minor alarm. Follow this procedure for device type DISK. For critical alarms on device type TAPE, follow *Clearing an IOD NOssys on device type TAPE critical alarm*.

## Meaning

Files are not available to record data from the subsystem. The abbreviation ssys represents the affected subsystem. Affected subsystems can include journal file (JF), operational measurement (OM), station message detail recording (SMDR), and automatic message accounting (AMA).

## Result

If the NOssys is a NO AMA or NO SMDR alarm, loss of billing data occurs. If the NO ssys is an alarm that affects any other subsystem, the loss of switch information occurs. Each subsystem contains the following data:

- The JF subsystem records changes made to data tables or service orders.
- The OM subsystem collects and shows measurement data on the operating system.
- The AMA subsystem collects and records billing data of long distance calls that the subscriber dialed.

## Common Procedures

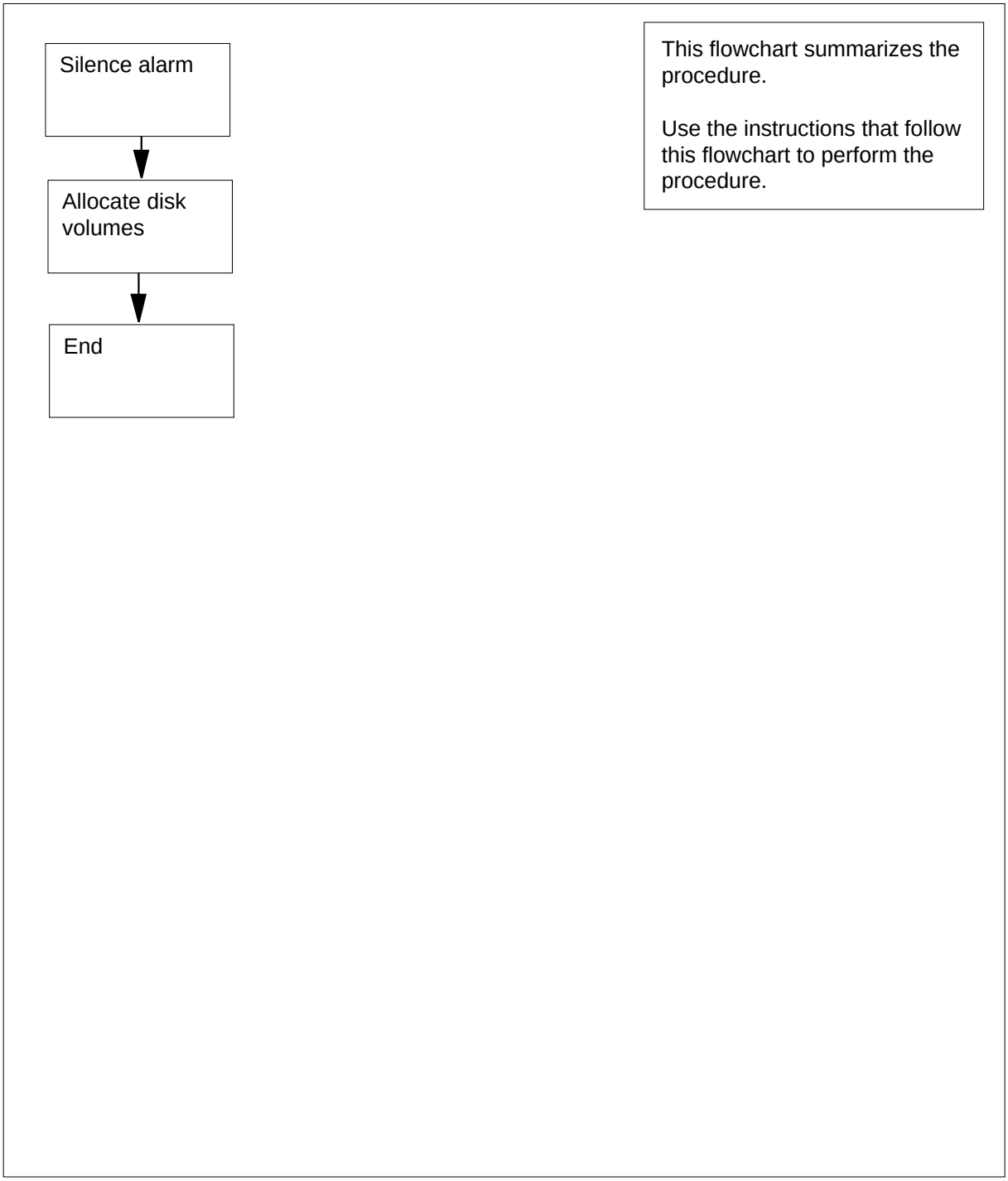
There are no common procedures.

## Action

The flowchart is a summary of the procedure. Use the instructions in the step-action procedure that follows the flowchart to clear the alarm.

# IOD NOssys on device type DISK critical, major, or minor (continued)

**Summary of Clearing an IOD NOssys on device type DISK critical, major, or minor alarm**



# IOD NOssys on device type DISK critical, major, or minor (continued)

**Clearing a IOD NOssys on device type DISK critical, major, or minor alarm**

**CAUTION**
**Possible loss or damage of AMA data**
Use this procedure or follow it exactly. Not doing so will lose or corrupt automatic message accounting (AMA) data. The operating company uses AMA data to produce billings. Loss or damage of AMA data results in revenue loss for the operating company.

***At the MAP terminal***

**1** To access the DIRP level of the MAP display, type

**>MAPCI;MTC;IOD;DIRP**

and press the Enter key.

*Example of a MAP display:*

```
IOD
IOC  0  1  2  3
STAT .  L  .  .

DIRP: HOLD00 XFER:   .   SLM :   .   NPO:   .   NX25:  .
MLP :   .    DPPP:   .   DPPU:   .   SCAI :
```

**2** To silence the audible alarm, type

**>SIL**

and press the Enter key.

**3** Contact your maintenance support group immediately. Notify the maintenance group of the condition.

| If your maintenance group instructs you | Do |
|---|---|
| to continue this procedure | step 4 |
| not to continue this procedure | step 30 |

**4** To determine the amount of available space in the subsystem, type

**>QUERY ssys SPACE**

and press the Enter key.

*where*

## IOD NOssys on device type DISK critical, major, or minor (continued)

**ssys**
is the affected subsystem

*Example of a MAP response:*

```
SSNAME SSNO  SEQNO ROTATES POOLNO PARLPOOL EMERGENCY
ssys     0      1       2      0        6   ***YES***

REGULAR SPACE
THE SPACE OPTION IS NOT SUPPORTED BY THE DEVICE
USED FOR REGULAR RECORDING BY THIS SUBSYSTEM.
```

**5** To query the volumes now mounted in the subsystem, type

**>QUERY ssys VOLUMES**

and press the Enter key.

*where*

**ssys**
is the subsystem affected

*Example of a MAP response:*

```
SSNAME SSNO  SEQNO ROTATES POOLNO PARLPOOL EMERGENCY
ssys       0    1       2      0        6  **YES***

REGULAR VOLUME(S)
VOL# VOLNAME  STATE        IOC CARD VOL FSEG ROOM VLID
VLID FILES
              NONE
              NONE
```

**6** Record the pool number.

***Note:*** The pool number is under the POOLNO header. For example, the MAP response in step 5 shows a pool number of 0.

**7** To access table DIRPPOOL, type

**>TABLE DIRPPOOL**

and press the Enter key.

*Example of a MAP response:*

```
MACHINES NOT IN SYNC – DMOS NOT ALLOWED
JOURNAL FILE UNAVAILABLE – DMOS NOT ALLOWED
TABLE: DIRPPOOL
```

**8** To position the tuple for the subsystem REGULAR pool, type

**>POSITION n;LIST**

and press the Enter key.

*where*

## IOD NOssys on device type DISK critical, major, or minor (continued)

**n**
is the pool number noted in step 5

*Example of a MAP response:*

```
POOLNO POOLNAME POOLTYPE DEVTYPE VOLUME0 VOLUME1 VOLUME2
VOLUME3 VOLUME4 VOLUME5 VOLUME6 VOLUME7 VOLUME8 VOLUME9
VOLUME10 VOLUME11 VOLUME12 VOLUME13 VOLUME14 VOLUME15
VOLUME16 VOLUME17 VOLUME18 VOLUME19 VOLUME20 VOLUME21
VOLUME22 VOLUME23
0      ssysPOOL  REGULAR    DISK        $       $       $
      $       $       $       $       $       $       $
       $       $       $       $       $       $       $
       $       $       $       $       $       $       $
      T1      T2
```

**9** Record the device type shown in the DEVTYPE field for later use.

***Note:*** The device type appears under the DEVTYPE header. For example, the MAP response in step 8 shows a DEVTYPE of DISK.

**10** To exit table DIRPPOOL, type

**>LEAVE**

and press the Enter key.

**11** Determine from office records the location of an available disk recording volume. Record the volume name.

**12** Determine if a disk volume is available.

| If a disk volume | Do |
|---|---|
| is available | step 18 |
| is not available | step 30 |

**13** To post the configured controller system, type

**>IOC ioc_no**

and press the Enter key.

*where*

**ioc_no**
is the number of the affected IOC or IOM

*Example of a IOC MAP display:*

## IOD NOssys on device type DISK critical, major, or minor (continued)

```
DIRP: HOLD00 XFER:   .   SLM :   .   NPO:   .   NX25:  .
MLP :   .    DPPP:   .   DPPU:   .   SCAI :

IOC  CARD     0    1    2    3    4    5    6    7   8
 0   PORT   0123 0123 0123 0123 0123 0123 0123 0123 0123
     STAT  .--- .--- ...- .--.  P--P P--  .--  ---  ---
     TYPE   MTD DDU  CONS CONS  CONS CONS MPC  MPC  CONS
```

*Example of a IOM MAP display:*

```
DIRP: HOLD00 XFER:   .   SLM :   .   NPO:   .   NX25:  .
MLP :   .    DPPP:   .   DPPU:   .   SCAI :

IOC   PORT 0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17
(IOM) STAT . . . - . . - - - .  -  -  -  -  -  -  -  -
0     TYPE M D C   C C       M M                 D  S
           T D O   O O       P P                 D  C
           D U N   N N       C C                 U  S
```

| If the device | Do |
|---|---|
| is IOC | step 14 |
| is IOM | step 15 |

**14** To post the DDU, type

**>CARD card_no**

and press the Enter key.

*where*

**card_no**
is the number of the terminal controller card (0 to 8)

*Example of a MAP response:*

```
Card   1   Unit        0
           User     system     Drive_State
           Status    Ready     On_line
```

Go to step 16.

**15** To post the DDU, type

**>PORT port_no**

and press the Enter key.

*where*

**port_no**
is the number of the terminal controller port (0 to 15)

## IOD NOssys on device type DISK critical, major, or minor (continued)

*Example of a MAP response:*

```
 Port   1   Unit        0
             User     system     Drive_State
             Status    Ready     On_line
```

**16** To determine the available volumes, type

**>ALLOC**

and press the Enter key.

*Example of a MAP response:*

```
VOLID VOL_NAME SERIAL_NO BLOCKS ADDR TYPE R/O FILES_OPEN
0     IMAGE    2800      65535  D000   0   NO  0
1     XPMLOADS 2801      45000  D000   0   NO  0
2     PMLOADS  2802      10000  D000   0   NO  0
3     MPCLOADS 2803       5000  D000   0   NO  0
4     MTCE     2804      10000  D000   0   NO  0
5     MISC     2805      10000  D000   0   NO  0
6     AMA      2806       5000  D000   0   NO  0
7     OM       2807       5000  D000   0   NO  0
8     JF       2808       5000  D000   0   NO  0
```

**17** Determine if a disk volume is available.

| If a disk volume | Do |
|---|---|
| is available | step 18 |
| is not available | step 30 |

**18** To allocate the disk volume, type

**>DIRP;MNT ssys vol_name**

and press the Enter key.

*where*

**ssys**
is the affected subsystem

**vol_name**
is the disk volume name

*Example of a MAP response:*

```
UPDATING VOLUME INFORMATION FOR vol_name:   VOLUME nn
IN REGULAR POOL n, pool_name
PLEASE CONFIRM (”YES” OR ”NO”)
```

## IOD NOssys on device type DISK critical, major, or minor (continued)

**19** Determine if you need to allocate the volume

| If you | Do |
|---|---|
| need to allocate the volume | step 21 |
| do not need to allocate the volume | step 20 |

**20** To halt the allocation, type

**>NO**

and press the Enter key.

Go to step 31.

**21** To confirm the allocation, type

**>YES**

and press the Enter key.

*Example of a MAP response:*

```
REGULAR VOLUME vol_name ALLOCATED
```

**22** Allow approximately 1 min for the DIRP utility to allocate the volumes.

**23** Determine if the NO ssys alarm cleared.

| If the alarm | Do |
|---|---|
| cleared | step 25 |
| did not clear | step 24 |

**24** Determine from office records the location of another available disk volume that is available.

| If another disk volume | Do |
|---|---|
| is available | step 18 |
| is not available | step 30 |

**25** Determine if an nnJF, nnOM, or nnAMA alarm is present under the IOD header of the MAP display.

| If an nnJF, nnOM, or nnAMA alarm | Do |
|---|---|
| is present | step 26 |
| is not present | step 31 |

## IOD NOssys on device type DISK critical, major, or minor (end)

**26** Use the correct procedure in this document to clear the nnJF, nnOM, or nnAMA alarm. Complete the procedure and return to this point.

**27** Determine if a NOssys on device type DISK critical, major, or minor alarm cleared.

| If the alarm | Do |
|---|---|
| cleared | step 31 |
| changed to another alarm | step 28 |
| did not clear | step 30 |

**28** Perform the correct procedure in this document to clear the alarm. Complete the procedure and return to this point.

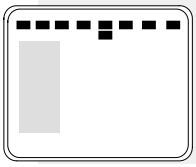
**29** Go to step 27.

**30** For additional help, contact the next level of support.

**31** The procedure is complete.

# IOD NOssys on device type TAPE critical

## Alarm display



| CM | MS | IOD | Net | PM | CCS | Lns | Trks | Ext | APPL |
|---|---|---|---|---|---|---|---|---|---|
| . | . | NOssys | . | . | . | . | . | . | . |
| | | *C* | | | | | | | |

## Indication

At the IOD level of the MAP, NO ssys indicates a NO ssys alarm. Follow this procedure for critical alarms on device type TAPE. For critical alarms on device type DISK, follow the correct procedure. The correct procedure is *Clearing an IOD NOssys on device type DISK critical, major, or minor alarm*.

## Meaning

There are no files available to record data from the subsystem. The abbreviation ssys represents the affected subsystem. Affected subsystems can include JF, OM, SMDR, and AMA.

## Result

If the NO ssys is a NO AMA or NO SMDR alarm, loss of billing data occurs. If the NO ssys is an alarm that affects any other subsystem, switch information loss occurs. The following data associates with each subsystem.

- The JF subsystem records changes made to data tables or service orders
- The OM subsystem collects and displays measurement data on the operating system.
- The AMA subsystem collects and records billing data of subscriber dialed long distance calls

## Common procedures

The following common procedures refer to:

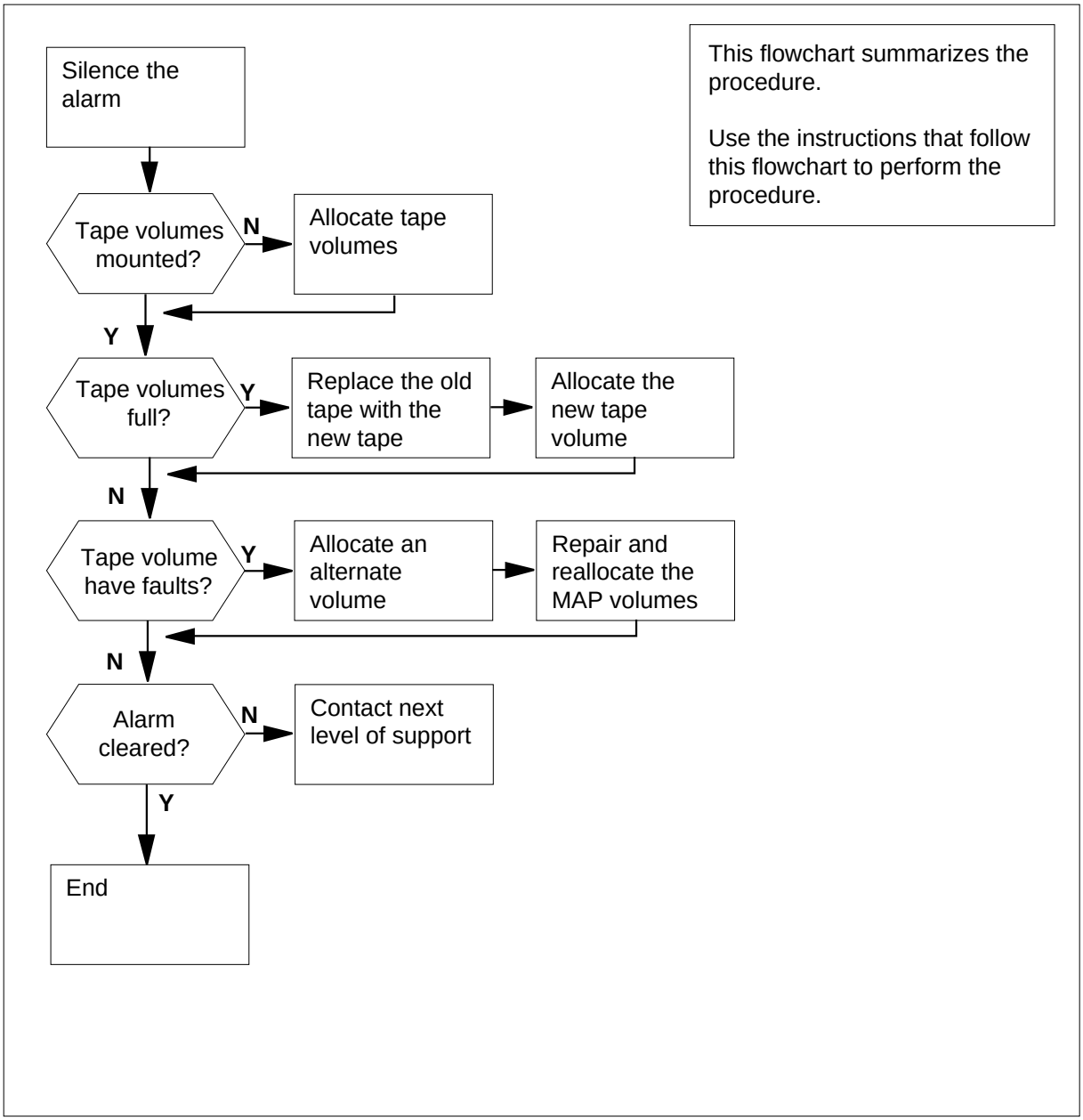
- *Allocating a volume*
- *Deallocating a volume*
- *Resetting a volume*

# IOD NOssys on device type TAPE critical (continued)

## Action

The following flowchart is a summary of the procedure. Use the instructions in the step-action procedure that follow the flowchart to clear the alarm.

**Summary of Clearing an IOD NOssys on device type TAPE critical alarm**



# IOD NOssys on device type TAPE **critical** (continued)

### Clearing an IOD NOssys on device type TAPE critical alarm

***At the MAP terminal***

**1** To access the DIRP level of the MAP display, type

**>MAPCI;MTC;IOD;DIRP**

and press the Enter key.

*Example of a MAP display:*

```
IOD
IOC  0  1  2
STAT .  L  .

DIRP: HOLD00 XFER:  .   SLM :  .   NPO:  .   NX25:   .
MLP :   .    DPPP :  .  DPPU:  .  SCAI :  .   .
```

**2** To silence the audible alarm, type

**>SIL**

and press the Enter key.

**3** Inform your maintenance support group of the condition.

| If your maintenance group instructs you | Do |
|---|---|
| to continue this procedure | step 4 |
| not to continue this procedure | step 68 |

**4** To query the status of the subsystem files, type

**>QUERY ssys FILES**

and press the Enter key.

*where*

**ssys**
is the affected subsystem

*Example of a MAP response:*

```
SSNAME SSNO  SEQNO ROTATES POOLNO PARLPOOL EMERGENCY
ssys     0      1       2      0        6   REGULAR
FILE(S)  STATE VOLUME RECCOUNT BLOCK  E  V  V_B
VLID FNUM FRN#
ACTIVE   NONE
STANDBY1 NONE
```

**5** Examine the status of the files in the ssys subsystem.

## IOD NOssys on device type TAPE critical (continued)

**6** Determine the number of volumes required for the subsystem. Count the number of active and auxiliary files displayed. Record this number for later use.

**7** To query the volumes now mounted in the subsystem, type

**>QUERY ssys VOLUMES**

and press the Enter key.

*where*

**ssys**
the affected subsystem

*Example of a MAP response:*

```
SSNAME SSNO  SEQNO ROTATES POOLNO PARLPOOL EMERGENCY
ssys       0    1       2      0        6  **YES***

REGULAR VOLUME(S)
VOL# VOLNAME  STATE        IOC CARD VOL FSEG ROOM VLID
FILES
22        T0  INERROR        0    0   0  N/A    0 2400
23        T1  INERROR        2    1   0  N/A    0 2400
```

**8** Record the pool number and the status of the normal volumes.

***Note:*** The MAP response in step 7 shows a pool number of 0. The MAP response also shows two REGULAR volumes mounted and marked INERROR.

**9** Determine if any REGULAR volumes mounted.

| If any regular volumes | Do |
|---|---|
| mounted | step 26 |
| did not mount | step 10 |

**10** To access table DIRPPOOL, type

**>TABLE DIRPPOOL**

and press the Enter key.

*Example of a MAP response:*

```
MACHINES NOT IN SYNC – DMOS NOT ALLOWED
JOURNAL FILE UNAVAILABLE – DMOS NOT ALLOWED
TABLE: DIRPPOOL
```

**11** To position the tuple for the subsystem REGULAR pool, type

**>POSITION pool_no;LIST**

and press the Enter key.

*where*

## IOD NOssys on device type TAPE
## **critical** (continued)

**pool_no**
is the pool number noted in step 7

*Example of a MAP response:*

```
POOLNO POOLNAME POOLTYPE DEVTYPE VOLUME0 VOLUME1 VOLUME2
VOLUME3 VOLUME4 VOLUME5 VOLUME6 VOLUME7 VOLUME8 VOLUME9
VOLUME10 VOLUME11 VOLUME12 VOLUME13 VOLUME14 VOLUME15
VOLUME16 VOLUME17 VOLUME18 VOLUME19 VOLUME20 VOLUME21
VOLUME22 VOLUME23
0      ssysPOOL  REGULAR    TAPE        $       $       $
       $     $      $         $         $       $       $
       $        $        $        $         $         $
       $        $        $        $         $         $
      T1       T2
```

**12** For later use, record the device type shown in the DEVTYPE field.

***Note:*** The MAP response in step 11 shows a DEVTYPE as TAPE.

**13** To exit table DIRPPOOL, type

**>LEAVE**

and press the Enter key.

| If an tape drive | Do |
|---|---|
| is MTD | step 14 |
| is DAT | step 15 |

**14** Determine from office records the location of an available magnetic tape drive (MTD) for subsystem recording. Record the MTD number for later use.

Go to step 16.

**15** Determine from office records the location of an available digital audio tape (DAT) drive for AMA recording. Record the DAT number.

**16** Determine if another tape drive is available.

| If another tape drive | Do |
|---|---|
| is available (MTD) | step 17 |
| is available (DAT) | step 18 |
| is not available | step 68 |

**17** Perform the correct procedure in *Magnetic Tape Reference Manual*, 297-1001-118. to load a tape on the MTD. Complete the procedure and return to this point.

## IOD NOssys on device type TAPE critical (continued)

**18**

**DANGER**
**Tape cartridges**
Use cartridges marked with the DDS logo. The DAT drive unit supports only DDS/DDS-1 cartridges and rejects DDS-2 cartridges during the load operation.

Insert the tape cartridge into the drive. The drive automatically takes the cartridge and performs a load sequence.

**19** To allocate the tape volume on the MTD, type

**>MNT ssys tn**

and press the Enter key.

*where*

**ssys**
is the affected subsystem

**tn**
is the MTD number

*Example of a MAP response:*

```
UPDATING VOLUME INFORMATION FOR Tn:  VOLUME nn IN
REGULAR POOL n, pool_name
PLEASE CONFIRM (”YES” OR ”NO”)
```

**20** Determine the volume that you will allocate.

| If the volume | Do |
|---|---|
| needs allocation | step 22 |
| does not need allocation | step 21 |

**21** To halt the allocation, type

**>NO**

and press the Enter key.

Go to step 69.

**22** To confirm the allocation, type

**>YES**

and press the Enter key.

*Example of a MAP response:*

```
REGULAR VOLUME vol_name ALLOCATED
```

## IOD NOssys on device type TAPE
## **critical** (continued)

**23** Allow 1 min for the DIRP utility to allocate the volumes.

**24** Determine if the NO ssys alarm cleared.

| If the alarm | Do |
|---|---|
| cleared | step 63 |
| did not clear | step 25 |

**25** Determine from office records if another tape drive is available.

| If another tape drive | Do |
|---|---|
| is available (MTD) | step 17 |
| is available (DAT) | step 18 |
| is not available | step 68 |

**26** Determine from the recording device type used for the allocated volumes from the volume name.

***Note:*** Tn is the name for tape volumes.

**27** Determine if any volumes are in the INERROR state.

| If any volumes | Do |
|---|---|
| are in the INERROR state | step 28 |
| are not in the INERROR state | step 60 |

**28** Determine from the DIRP logs why the volumes have the INERROR marks. Type

**`>LOGUTIL`**

and press the Enter key.

**29** To record of the logs, type

**`>STARTDEV dev_type;ADDREPS dev_name DIRP`**

and press the Enter key.

*where*

**dev_type**
is the type of device in use

**dev_name**
is the name of the printer or visual display unit

*Example of a MAP response:*

```
ONE REPORT ADDED
```

## IOD NOssys on device type TAPE critical (continued)

**30** When you determine the reason for the INERROR condition, exit the log utility. Type

**>QUIT**

and press the Enter key.

**31** Determine if the volume is in the INERROR state because of a volume full condition or a device error.

| If the volume | Do |
|---|---|
| is in the INERROR state and the reason is the volume is full | step 32 |
| is in the INERROR state and the reason is a device error | step 37 |

**32** Deallocate the tape volume. Perform the common procedure *Deallocating a volume* in this document. Complete the procedure and return to this point.

| If the tape drive | Do |
|---|---|
| is MTD | step 33 |
| is DAT | step 35 |

**33** Unload the full tape from the drive. Label the tape and store it according to your local procedures.

**34** Load a new tape acceptable for subsystem recording on the drive. Perform the correct procedure in *Magnetic Tape Reference Manual*, 297-1001-118. Complete the procedure and return to this point.

Go to step 36.

**35**

**DANGER**
**Possible loss of data**
Force eject a cartridge only at a last resort to recover a cartridge. Never use the method as a quick way of ejecting the cartridge. If you use this method as a quick way of ejecting the cartridge, you can lose data. This method can also cause a tape to format wrong.

To remove the full tape cartridge from the drive, press the unload button at the front of the unit.

***Note:*** The drive performs an unload sequence. The drive rewinds the tape to the beginning of partition (BOP) for partition 0. If the tape is write enabled, the drive writes a copy of the tape log back to tape. The drive

## IOD NOssys on device type TAPE
## **critical** (continued)

then rewinds the tape to the beginning of media. The drive unthreads the tape from the mechanism and ejects the tape.

**36** Determine if you need to replace more tape volumes.

| If you | Do |
|---|---|
| need to replace more tape volumes | step 32 |
| do not need to replace any more tape volumes | step 19 |

**37** Reset the INERROR volume. Perform the common procedure *Resetting a volume* in this document. Complete the procedure and return to this point.

**38** Determine if more volumes need to be reset.

| If you | Do |
|---|---|
| need to reset more volumes | step 37 |
| do not need to reset any more volumes | step 39 |

**39** Query the subsystem again and verify the status of the reset volumes. Type

**`>QUERY ssys VOLUMES`**

and press the Enter key.

*where*

**ssys**
is the affected subsystem

*Example of a MAP response:*

```
SSNAME SSNO SEQNO ROTATES POOLNO PARLPOOL EMERGENCY
AMA       0     1      0     0   NONE   ***YES*** REGULAR
VOLUME(S)
VOL# VOLNAME STATE IOC CARD VOL FSEG ROOM VLID FILES
```

**40** Determine if the INERROR you reset the volumes correctly.

| If the INERROR volumes | Do |
|---|---|
| reset correctly | step 48 |
| did not reset correctly | step 41 |

## IOD NOssys on device type TAPE critical (continued)

**41** Determine from office records if another available recording volume is present. The MTD or DAT unit now in use can have faults.

| If a different drive | Do |
|---|---|
| is available (MTD) | step 17 |
| is available (DAT) | step 18 |
| is not available (MTD) | step 42 |
| is not available (DAT) | step 43 |

**42** Repair the recording device if it has faults. Perform the correct procedure in *Recovery Procedures*. Complete the procedure and return to this point.

Go to step 44.

**43** Repair or replace the DAT unit that has faults. Perform the correct procedure in *Trouble and Locating Procedures.* When replacement of the damaged drive unit is complete, return to this point.

**44** Reset the repaired volume. Perform the common procedure *Resetting a volume* in this document. Complete the procedure and return to this point.

**45** Determine if more volumes need to be reset.

| If you | Do |
|---|---|
| need to reset more volumes | step 44 |
| do not need to reset any more volumes | step 46 |

**46** To query the subsystem again and verify the status of the reset volume(s). Type

**`>QUERY ssys VOLUMES`**

and press the Enter key.

*where*

**ssys**
is the affected subsystem

*Example of a MAP response:*

```
SSNAME SSNO SEQNO ROTATES POOLNO PARLPOOL EMERGENCY
AMA       0     1       0      0  NONE   ***YES*** REGULAR
VOLUME(S)
VOL# VOLNAME STATE IOC CARD VOL FSEG ROOM VLID FILES
```

## IOD NOssys on device type TAPE
## **critical** (continued)

**47** Determine if the repaired volumes reset.

| If the repaired volumes | Do |
|---|---|
| reset | step 48 |
| did not reset (MTD) | step 49 |
| did not reset (DAT) | step 50 |

**48** Determine if the NO ssys alarm cleared.

| If the alarm | Do |
|---|---|
| cleared | step 63 |
| did not clear (MTD) | step 49 |
| did not clear (DAT) | step 50 |

**49** Obtain enough blank or expired tapes for the number of tape volumes that you allocate again. Make sure that each tape has a write enable ring attached.

Go to step 51.

**50**

**DANGER**
**Tape cartridges**
Use cartridges marked with the DDS logo. The DAT drive unit will support only DDS/DDS-1 cartridges and will reject DDS-2 cartridges during the load operation.

Obtain the correct amount of blank or expired cartridges for the number of tape volumes that you allocate again.

**51** Select a tape volume to deallocate and record the MTD or DAT number.

**52** Deallocate the selected volume. Perform the common procedure *Deallocating a volume* in this document. Complete the procedure and return to this point.

**53** Unload the tape from the deallocated MTD or DAT. This INERROR volume can contain data errors.

| If the tape drive | Do |
|---|---|
| is MTD | step 54 |
| is DAT | step 56 |

## IOD NOssys on device type TAPE critical (continued)

**54** Label and store this tape according to your local office procedure. Also, you can perform the correct procedure in *Magnetic Tape Reference Manual,* 297-1001-118. Complete the procedure and return to this point.

**55** Load a blank or expired tape on the unloaded MTD. Perform the correct procedure in *Magnetic Tape Reference Manual,* 297-1001-118. Complete the procedure and return to this point.

Go to step 57.

**56**

**DANGER**
**Labeling of tape cartridges**
Cartridge labels must be firmly stuck to the inner label area on the cartridge. You can prevent a mechanism jam if the cartridge labels are stuck to the inner label area on the cartridge.

Label and store the cartridge according to local procedure. Ensure that labels are not:

- peeling off
- over the edge of the label area
- stuck on top of another label

**57** Allocate the volume. Perform the common procedure *Allocating a volume* in this document. Complete the procedure and return to this point.

**58** Allow one minute for the DIRP utility to allocate the volumes.

**59** Determine if you have to allocate more volumes.

| IfMore volumes | Do |
|---|---|
| to be allocated (MTD) | step 49 |
| to be allocated (DAT) | step 50 |
| not to be allocated | step 65 |

**60** Deallocate the volume. Perform the common procedure *Deallocating a volume* in this document. Complete the procedure and return to this point.

**61** Allocate the volume. Perform the common procedure *Allocating a volume* in this document. Complete the procedure and return to this point.

**62** Allow one minute for the DIRP utility to allocate the volumes.

## IOD NOssys on device type TAPE critical (end)

**63** Determine if an nnJF, nnOM, or nnAMA alarm appears under the IOD header of the MAP.

| If | Do |
|---|---|
| an nnJF, nnOM, or nnAMA alarm | step 64 |
| no nnJF, nnOM, or nnAMA alarm | step 65 |

**64** Clear the nnJF, nnOM, or nnAMA alarm. Perform the correct procedure in this document. When the procedure is complete, return to this point.

**65** Determine if the NO ssys on device type TAPE critical alarm cleared.

| If the alarm | Do |
|---|---|
| cleared | step 69 |
| changed to another alarm | step 66 |
| did not clear | step 68 |

**66** Perform the correct procedure in this document to clear the alarm. Complete the procedure and return to this point.

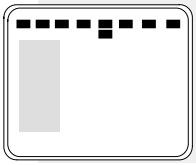
**67** Go to step 65.

**68** For additional help, contact the next level of support.

**69** The procedure is complete.

# IOD nSVC critical

## Alarm display



| CM | MS | IOD | Net | PM | CCS | Lns | Trks | Ext | APPL |
|---|---|---|---|---|---|---|---|---|---|
| . | . | 1SVC *C* | . | . | . | . | . | . | . |

## Indication

At the MTC level of the MAP display, a number precedes SVC under the IOD header of the alarm banner. The SVC indicates an alarm for a switched virtual circuit (SVC). The SVC indicates the number of switched virtual circuits in alarm condition.

## Meaning

A failure of an X.25 link indicates a network operations protocol (NOP) application is not available

A remote user logged into a switch on an X.25 link. The user disconnected without first logging out of the NOP session.

The terminal at the remote end of the associated multiprotocol controller (MPC) link reboots during an NOP session. The rebooting of the MPC link causes the X.25 link to go out of service.

## Result

The X.25 link is not available.

## Common procedures

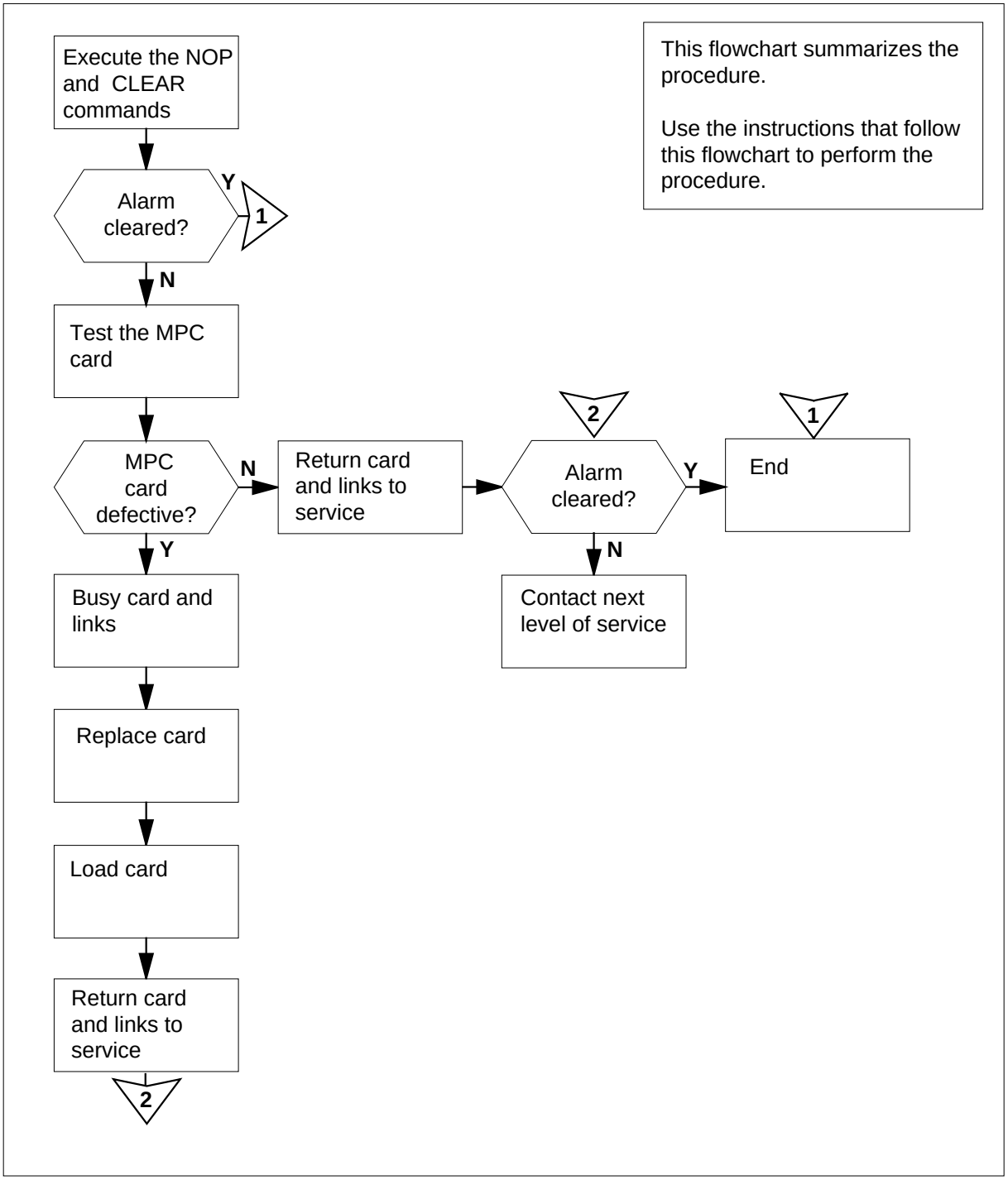
There are no common procedures.

## Action

The following flowchart is a summary of the procedure. Use the instructions in the step-action procedure that follows the flowchart to clear the alarm.

# IOD nSVC
# **critical** (continued)

**Summary of Clearing an IOD nSVC critical alarm**



# IOD nSVC
# **critical** (continued)

### Clearing an IOD nSVC critical alarm

***At the MAP terminal***

**1** To access the NOP level of the MAP display, type

**>MAPCI;MTC;IOD;NOP**

and press the Enter key.

*Example of a MAP display:*

```
IOD
IOC  0  1  2  3  4  5
STAT .  O  .  O  L  S

DIRP: NO AMA XFER:   .      SLM : SLMoff NX25:   .    MLP :   .
NOP : 1 SVC  DPPP:   .    DPPU:   .              SCAI:   .
                        1
 SE: 0123456789012
ST: LLLLLLLL.....
 ----------------
SESS
  ?
NOP:
```

**2** To attempt to clear the alarm, type

**>CLEAR**

and press the Enter key.

| If the alarm | Do |
|---|---|
| cleared | step 16 |
| did not clear | step 3 |

**3** To access the IOD level of the MAP display, type

**>QUIT**

and press the Enter key.

*Example of a MAP display:*

```
IOD
IOC  0   1   2   3
STAT .   .   .   .

 DIRP: NO AMA XFER:   .    SLM : SLMoff NX25:   .    MLP :   .
 NOP : 1 SVC  DPPP:   .    DPPU:   .    SCAI:   .

IOD:
```

# IOD nSVC
## **critical** (continued)

**4** Post the MPC card (NT1X62) associated with the affected X.25 link. Type

**`>IOC ioc_no;CARD card_no`**

and press the Enter key.

*where*

**ioc_no**
is the number of the associated IOC (0 to 11)

**card_no**
is the number of the associated MPC card

*Example of a MAP display:*

```
IOC CARD   0   1    2    3    4     5     6     7   8
      0
1  PORT 0123 0123 0123 0123 0123  0123  0123  0123  0123
   STAT .... .--- ...- .--- ....  .---  ....  .---  ....
   TYPE CONS DDU  CONS MPC  CONS  MPC   CONS  MPC   CONS
Card 3   Unit     3
        User   SYSTEM BOARD LINK0 LINK1 LINK2 LINK3
        Status  Ready COMACT UNEQ UNEQ  ENABLD UNEQ
```

**5** Determine the state of the MPC card.

| If the state of the card | Do |
|---|---|
| is MANB | step 7 |
| is OFFL | step 13 |
| is other than listed here | step 6 |

***Note:*** The card state appears under the BOARD header of the MAP display.

**6**

**WARNING**
**Loss of service**
When you busy the MPC card and its ports, all active NOP sessions associated with the card will disconnect.

To make the card and its links manually busy, type

**`>BSY ALL FORCE`**

## IOD nSVC
## **critical** (continued)

and press the Enter key.

| If the BSY command | Do |
|---|---|
| passed | step 7 |
| failed | step 15 |

**7** To test the MPC card, test

**>TST**

and press the Enter key.

| If the TST command | Do |
|---|---|
| passed | step 11 |
| failed, a card list generated, and the MPC card listed | step 8 |
| other than listed here | step 15 |

**8** To place the MPC card offline, type

**>OFFL ALL FORCE**

**9** Perform the procedure *Replacing a card* in *Card Replacement Procedures.* to replace the MPC card. Complete the procedure and return to this point.

**10** To load the MPC card, type

**>DOWNLD**

and press the Enter key.

| If the DOWNLD command | Do |
|---|---|
| passed | step 11 |
| failed | step 15 |

**11** To return the MPC card and its links to service, type

**>RTS ALL**

and press the Enter key.

| If the RTS command | Do |
|---|---|
| passed | step 12 |
| failed | step 14 |

## IOD nSVC
## **critical** (end)

**12** Determine if the alarm cleared.

| If the alarm | Do |
|---|---|
| cleared | step 16 |
| did not clear | step 14 |

**13** Consult operating company personnel to determine why the card is offline. Continue as directed by office persons.

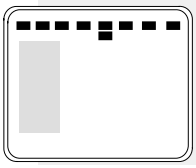
**14** Obtain copies of IOD, MPC and NOP log reports.

**15** For additional help, contact the next level of support.

**16** The procedure is complete.

# IOD PnnVnn minor

## Alarm display



| CM | MS | **IOD** | Net | PM | CCS | Lns | Trks | Ext | APPL |
|---|---|---|---|---|---|---|---|---|---|
| . | . | **PnnVnn** | . | . | . | . | . | . | . |

## Indication

At the IOD level of the MAP display, P followed by a number (nn) and V followed by a number (nn) indicate a minor alarm. Pnn Vnn indicates a minor alarm for a pool volume.

## Meaning

Vnn identifies the recording volume. The recording volume is in the recording pool. Pnn identifies the recording pool. The recording volume has less than 1 Mbyte of free space. The DIRP utility marks the recording volume INERROR.

## Result

Service is not affected.

## Common procedures

This procedure refers to the following common procedures:

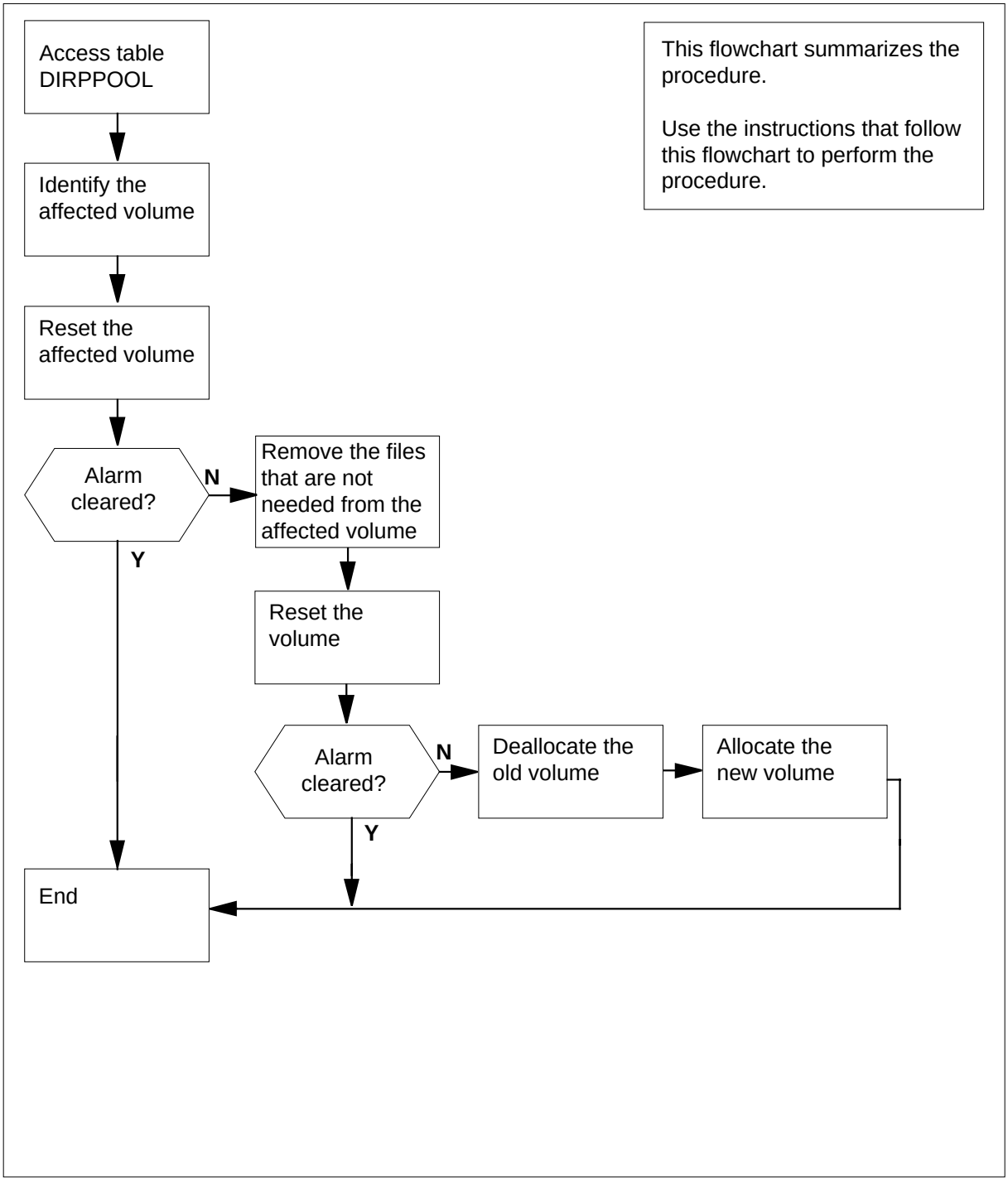
- *Allocating a volume*
- *Deallocating a volume*
- *Resetting a volume*

## Action

The following flowchart is a summary of the procedure. Use the instructions in the step-action procedure that follows the flowchart to clear the alarm.

# IOD PnnVnn
## **minor** (continued)

**Summary of Clearing an IOD PnnVnn minor alarm**



### Clearing an IOD PnnVnn minor alarm

***At the MAP terminal***

**1**

**DANGER**
**Possible loss or corruption of AMA data**
Use this procedure or follow it exactly. Not doing so will lose or damage automatic message accounting (AMA) data. The operating company uses AMA data to produce billings. Loss or damage of AMA data results in revenue loss for the operating company.

To access the MTC level of the MAP display, type

**>MAPCI;MTC**

and press the Enter key.

**2** To silence the audible alarm, type

**>SIL**

and press the Enter key.

**3** Note and record the time the alarm occurred. Note the pool and volume numbers indicated by nn in the PnnVnn alarm.

**4** To access the DIRPPOOL table, type

**>TABLE DIRPPOOL**

and press the Enter key.

*Example of a MAP response:*

```
MACHINES NOT IN SYNC – DMOS NOT ALLOWED
JOURNAL FILE UNAVAILABLE – DMOS NOT ALLOWED
TABLE: DIRPPOOL
```

**5** To locate the pool number associated with this alarm, type

**>POSITION pool_no**

and press the Enter key.

*where*

**pool_no**
is the pool number (nn)

*Example of a MAP response:*

## IOD PnnVnn
## **minor** (continued)

```
  0 AMAPOOL REGULAR  TAPE  $      $      $      $
  $        $        $      $      $      $      $     $
  $        $        $      $      $      $      $     $
  $        $        $      $
```

**6** To list the pool number and pool name associated with this alarm, type

**>POSITION pool_no;LIST**

and press the Enter key.

*where*

**pool_no**
is the pool number (nn)

*Example of a MAP response:*

```
POOLNO POOLNAME POOLTYPE DEVTYPE VOLUME0 VOLUME1 VOLUME2
VOLUME3 VOLUME4 VOLUME5 VOLUME6 VOLUME7 VOLUME8 VOLUME9
VOLUME10 VOLUME11 VOLUME12 VOLUME13 VOLUME14 VOLUME15
VOLUME16 VOLUME17 VOLUME18 VOLUME19 VOLUME20 VOLUME21
VOLUME22 VOLUME23
0 AMAPOOL REGULAR  TAPE  $      $      $      $
$        $        $      $      $      $      $     $
$        $        $      $      $      $      $     $
$        $        $      $
```

**7** Record the pool name that appears under the POOLNAME field.

***Note:*** In the MAP response in the previous step, the POOLNAME is AMAPOOL.

**8** Record the name of the affected volume under VOLUMEnn2.

***Note:*** nn2 is the DIRPPOOL table volume number indicated in the alarm.

**9** To exit the DIRPPOOL table, type

**>LEAVE**

and press the Enter key.

**10** To access the DIRPSSYS table, type

**>TABLE DIRPSSYS**

and press the Enter key.

*Example of a MAP response:*

```
MACHINES NOT IN SYNC – DMOS NOT ALLOWED
JOURNAL FILE UNAVAILABLE – DMOS NOT ALLOWED
TABLE: DIRPSSYS
```

**11** To list the tuples, type

**>LIST ALL**

and press the Enter key.

**12** To record the subsystem name under the header SSYSNAME.

*Example of a MAP response:*

```
SSYSNAME READRITE NUMFILES MINFILES POOLNAME FILENAME ALARM0 ALARM1
ALARM2 ALARM3 RETPD CRETPD PARLPOOL PARCONC MANDPALM FILEDATE SHEDDAYS
SHEDBASE SHEDINCR ROTACLOS AUTOXFER SPACROTE MAXDFSIZ PRIORTIO
------------------------------------------------------------------
AMA        Y        1        0  AMAPOOL             $     NA     NA
NA     NA    30     30        $       N       NA   OPENED  NNNNNNN
0 NOROTATE     NONE     NONE        N       64        YDLOG        Y
    1        0 DLOGPOOL            $     NA     NA
NA     NA     0      0 DLOGPARL       N       NA FIRSTACT  NNNNNNN
0 NOROTATE     BOTH     NONE        N        6        NJF         Y
  1        0   JFPOOL              $     NA     NA
NA     NA   499    499        $       N       NA   OPENED  NNNNNNN
0 NOROTATE     NONE     NONE        N       64        YOM         Y
  1        0   OMPOOL              $     MN     NA
NA     NA    30     30        $       N       NA   OPENED  NNNNNNN
0 NOROTATE     NONE     NONE        N       64        Y
```

**13** To exit the DIRPSSYS table, type

**>LEAVE**

and press the Enter key.

**14** To access the DIRP level of the MAP display, type

**>IOD;DIRP**

and press the Enter key.

*Example of a MAP display:*

```
IOD
IOC  0  1  2
STAT .  L  .

DIRP: HOLD00 XFER:  .   DVI :   .   DPPP:  .   DPPU:  .
NOP :   .    SLM :  .   NX25:  .    MLP :  .   SCAI:  .
```

**15** For this volume, determine if the alarm occurs a second time within 5 min.

| If | Do |
|---|---|
| this is the second time in 5 minutes that the alarm has occurred | step 34 |
| this is not the second time in 5 minutes that the alarm has occurred | step 16 |

# IOD PnnVnn
## minor (continued)

**16** Perform the common procedure *Resetting a volume* in this document to reset the affected volume. Complete the procedure and return to this point.

**17** Determine if the PnnVnn alarm cleared.

| If the alarm | Do |
|---|---|
| cleared | step 55 |
| did not clear | step 18 |

**18** The next step depends on the type of volume in use.

| If the volume in use | Do |
|---|---|
| is an SLM volume | step 19 |
| is a DDU volume | step 21 |

**19** To access the disk utility, type

**>DISKUT**

and press the Enter key.

**20** To list the files on the affected volume, type

**>LISTFL vol_name**

and press the Enter key.

*where*

**vol_name**
is the name of the volume (nn)

*Example of a MAP response:*

```
FILE NAME       O R I O O V FILE   MAX    NUM OF    FILE    LAST
                R E T P L L CODE   REC   RECORDS    SIZE  MODIFY
                G C O E D D        LEN        IN      IN    DATE
                    C N                       FILE  BLOCKS
-------------------------------------------------------------------
R9708160000300M  0 F            0  2048       164     766  970818
R9708180000360M  0 F            0  2048       164     766  970819
R970820000041OM  0 F            0  2048       164     766  970821
R970822000047OM  0 F            0  2048       164     766  970823
```

Go to step 23.

**21** To access the disk utility, type

**>DSKUT**

and press the Enter key.

**22** To list the files on the affected volume, type

**>LISTVOL vol_name ALL**

and press the Enter key.

*where*

**vol_name**
is the name of the volume (nn)

*Example of a MAP response:*

```
>DSKUT
DSKUT:
>LISTVOLDO200M
2 files in the volume.
ListVol may take up to 2 seconds.
R9708190000360M
R9708240000530M
```

**23** To leave the disk utility, type

**>QUIT**

and press the Enter key.

**24** Determine if the subsystem records to tape or disk.

| If the subsystem | Do |
|---|---|
| records to tape | step 25 |
| records to disk | step 27 |

**25** To remove any files that are not needed from the affected volume, type

**>CLEANUP VOLUME vol_name**

and press the Enter key.

*where*

**vol_name**
is the name of the volume (nn)

**26** Perform the common procedure *Resetting a volume* in this document to reset the affected volume. Complete the procedure and go to step 29.

**27** Perform the common procedure *Deallocating a volume* in this document to deallocate the volume. Complete the procedure and return to this point.

**28** Perform the common procedure *Allocating a volume* in this document to allocate the volume. Complete the procedure and return to this point.

**29** Determine if the PnnVnn alarm cleared.

| If the alarm | Do |
|---|---|
| cleared | step 55 |
| did not clear | step 30 |

**30** Check office records for an available recording volume.

**31** Perform the common procedure *Deallocating a volume* in this document to deallocate the full volume. Complete the procedure and return to this point.

## IOD PnnVnn
## **minor** (continued)

**32** Perform the common procedure *Allocating a volume* in this document to allocate a new volume. Complete the procedure and return to this point.

**33** Determine if the PnnVnn alarm cleared.

| If the alarm | Do |
|---|---|
| cleared | step 55 |
| did not clear | step 54 |

**34** Contact your maintenance support group and inform them about the condition.

| If your maintenance support group instructs you | Do |
|---|---|
| to continue this procedure | step 35 |
| not to continue this procedure | step 54 |

**35** Perform the common procedure *Deallocating a volume* in this document to deallocate the affected volume. Complete the procedure and return to this point.

**36** Perform the common procedure *Allocating a volume* in this document to attempt to allocate the affected volume again. Complete the procedure and return to this point.

**37** Determine if the volume allocated again.

| If the volume | Do |
|---|---|
| allocated again | step 38 |
| did not allocate again | step 39 |

**38** Determine if the PnnVnn alarm cleared.

| If the alarm | Do |
|---|---|
| cleared | step 55 |
| did not clear | step 39 |

**39** Perform the common procedure *Deallocating a volume* in this document to deallocate the affected volume. Complete the procedure and return to this point.

**40** The next step depends on the type of volume in use.

| If the volume in use | Do |
|---|---|
| is an SLM volume | step 41 |

# IOD PnnVnn
## minor (continued)

| If the volume in use | Do |
|---|---|
| is a DDU volume | step 43 |

**41** To access the disk utility, type

**>DISKUT**

and press the Enter key.

Go to step 44.

**42** To list the files on the affected volume, type

**>LISTFL vol_name**

and press the Enter key.

*where*

**vol_name**
is the name of the volume (nn)

*Example of a MAP response:*

```
FILE NAME       O R I O O V FILE   MAX    NUM OF    FILE    LAST
                R E T P L L CODE   REC   RECORDS    SIZE  MODIFY
                G C O E D D        LEN        IN      IN    DATE
                    C N                     FILE  BLOCKS

R9708160000300M  0 F            0  2048       164     766  970818
R9708180000360M  0 F            0  2048       164     766  970819
R970820000041OM  0 F            0  2048       164     766  970821
R970822000047OM  0 F            0  2048       164     766  970823
```

**43** To access the disk utility, type

**>DSKUT**

and press the Enter key.

**44** To list the files on the affected volume, type

**>LISTVOL vol_name ALL**

and press the Enter key.

*where*

**vol_name**
is the name of the volume (nn)

*Example of a MAP response:*

```
>DSKUT
 DSKUT:
>LISTVOLDO200M
2 files in the volume.
ListVol may take up to 2 seconds.
R970819000036OM
R970824000053OM
```

# IOD PnnVnn
# **minor** (end)

**45** To leave the disk utility, type

**>QUIT**

and press the Enter key.

**46** Determine if the subsystem records to tape or disk.

| If the subsystem | Do |
|---|---|
| records to tape | step 51 |
| records to disk | step 47 |

**47** To remove any files that are not needed from the affected volume, type

**>CLEANUP VOLUME vol_name**

and press the Enter key.

*where*

**vol_name**
is the name of the volume (nn)

**48** Determine from office records the location of an available disk volume for recording subsystem data.

**49** Perform the common procedure *Allocating a volume* in this document to allocate the affected volume again. Complete the procedure and return to this point.

**50** Go to step 53.

**51** Perform the common procedure *Deallocating a volume* in this document to deallocate the tape volume. Complete the procedure and return to this point.

**52** Perform the common procedure *Allocating a volume* in this document to allocate the tape volume. Complete the procedure and return to this point.

**53** Determine if the PnnVnn alarm cleared.

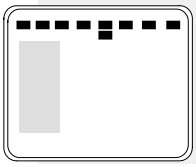
| If the alarm | Do |
|---|---|
| cleared | step 55 |
| did not clear | step 54 |

**54** For additional help, contact the next level of support.

**55** The procedure is complete.

# IOD POOLnn minor

## Alarm display



| CM | MS | IOD | Net | PM | CCS | Lns | Trks | Ext | APPL |
|---|---|---|---|---|---|---|---|---|---|
| . | . | POOLnn | . | . | . | . | . | . | . |

## Indication

At the IOD level of the MAP display, POOL followed by a number (nn) indicates a pool minor alarm.

## Meaning

The data entries in table DIRPPOOL contain a pool. The data entries in table DIRPSSYS do not contain a pool.

## Result

Service is not affected.

## Common procedures

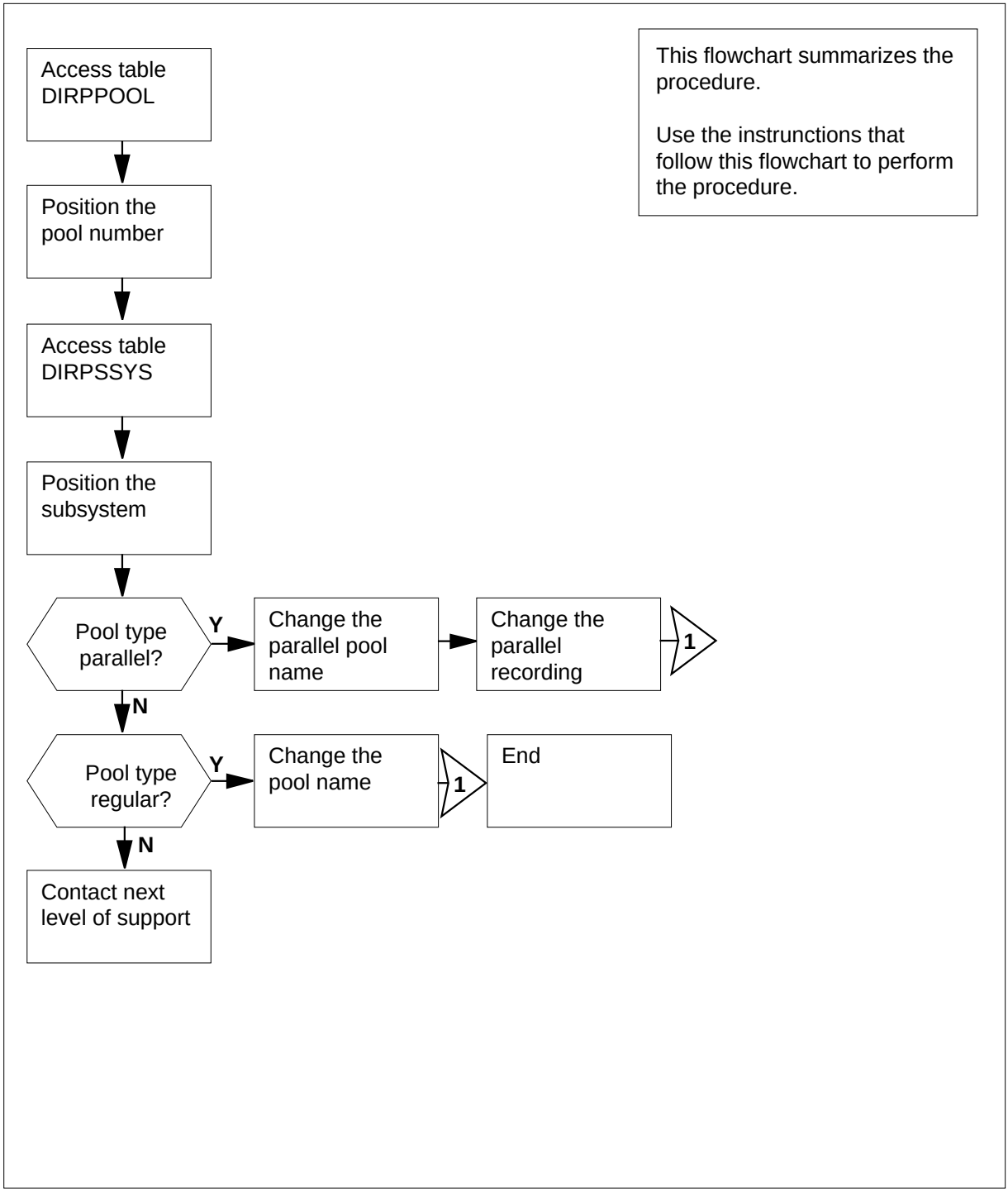
There are no common procedures.

## Action

The flowchart is a summary of the procedure. Use the instructions in the step-action procedure to clear the alarm.

# IOD POOLnn
## **minor** (continued)

**Summary of Clearing an IOD POOLnn minor alarm**



# IOD POOLnn
## minor (continued)

### Clearing an IOD POOLnn minor alarm

***At the MAP terminal***

**1** Record the pool number in the alarm (nn is the pool number).

**2** To access the DIRPPOOL table, type

**>TABLE DIRPPOOL**

and press the Enter key.

*Example of a MAP response:*

```
MACHINES NOT IN SYNC – DMOS NOT ALLOWED
JOURNAL FILE UNAVAILABLE – DMOS NOT ALLOWED
TABLE: DIRPPOOL
```

**3** To position the tuple for the subsystem REGULAR pool, type

**>POSITION pool_no;LIST**

and press the Enter key.

*where*

**pool_no**
is the pool number (nn)

*Example of a MAP response:*

```
POOLNO POOLNAME POOLTYPE DEVTYPE VOLUME0 VOLUME1 VOLUME2
VOLUME3 VOLUME4 VOLUME5 VOLUME6 VOLUME7 VOLUME8 VOLUME9
VOLUME10 VOLUME11 VOLUME12 VOLUME13 VOLUME14 VOLUME15
VOLUME16 VOLUME17 VOLUME18 VOLUME19 VOLUME20 VOLUME21
VOLUME22 VOLUME23
0      ssysPOOL  REGULAR    TAPE        $       $       $
      $       $      $       $        $       $       $
       $        $        $        $        $        $
       $        $        $        $        $        $
      T1       T2
```

**4** Record the device type shown in the DEVTYPE field, the pool name shown in the POOLNAME field, and the pool number shown in the POOLNO field.

***Note:*** For example in the MAP response in the previous step, the device type is TAPE, the pool name is ssysPOOL, and the pool number is 0.

**5** To exit the DIRPPOOL table, type

**>LEAVE**

and press the Enter key.

**6** To access table DIRPSSYS, type

**>TABLE DIRPSSYS**

and press the Enter key.

# IOD POOLnn
## minor (continued)

*Example of a MAP response:*

```
MACHINES NOT IN SYNC – DMOS NOT ALLOWED
JOURNAL FILE UNAVAILABLE – DMOS NOT ALLOWED
TABLE: DIRPSSYS
```

**7** To position on the subsystem, type

**>POSITION ssys;LIST**

and press the Enter key

*where*

**ssys**
is the name of the subsystem.

*Example of a MAP response:*

```
SYSNAME READWRITE NUMFILES MINFILES POOLNAME     FILENAME ALARM0 ALARM1
ALARM2 ALARM3 RETPD CRETPD PARLPOOL PARCONC MANDPALM FILEDATE SHEDDAYS
SHEDBASE SHEDINCR ROTACLOS AUTOXFER SPACROTE MAXDFSIZ PRORTID

   AMA        Y        1        0  AMADISK            $     NA     NA
  NA     NA     0      0        $        N      NA   OPENED  NNNNNNN
    14  NOROTATE    BOTH     FULL        N      64    Y
```

**8** Determine if the pool type is parallel.

| If the pool type | Do |
|---|---|
| is parallel | step 10 |
| is not parallel | step 9 |

**9** Determine if the pool type is regular.

| If the pool type | Do |
|---|---|
| is regular | step 13 |
| is not regular | step 21 |

**10** To change the name of the parallel pool, type

**>CHANGE PARLPOOL pool_name**

and press the Enter key.

*where*

**pool_name**
is the pool name determined in step 4

*Example of a MAP response:*

```
MACHINES NOT IN SYNC – DMOS NOT ALLOWED
JOURNAL FILE UNAVAILABLE – DMOS NOT ALLOWED
ENTER Y TO CONTINUE PROCESSING OR N TO QUIT
```

**11** To confirm the command, type

**>Y**

and press the Enter key.

**12** To change the parallel recording, type

**>CHANGE PARCON Y**

and press the Enter key.

*Example of a MAP response:*

```
TYPE OF PARLPOOL IS POOLNAMESR
TYPE  IS  POOLNAMESR
{AMAPOOL,OMPOOL,JFPOOL,OCCPOOL,OCCDISK,DLOGPOOL,
DLOGPARL$}
PARLPOOL:
```

Go to step 18.

**13** To change the pool name, type

**>CHANGE POOLNAME pool_name**

and press the Enter key.

*where*

**pool_name**
is the pool name determined in step 4

**14** Determine if you want to continue to change the pool name.

| If you | Do |
|---|---|
| want to continue | step 15 |
| do not want to continue | step 16 |

**15** To confirm the change, type

**>YES**

and press the Enter key.

Go to step 18.

**16** To halt the change, type

**>NO**

and press the Enter key.

## IOD POOLnn
## **minor** (end)

**17** To leave the table, type

**>LEAVE**

and press the Enter key.

Go to step 22.

**18** To leave the table, type

**>LEAVE**

and press the Enter key.

**19** To return to the DIRP level of the MAP display, type

**>MAPCI;MTC;IOD;DIRP**

and press the Enter key.

**20** Determine if the POOLnn alarm cleared.

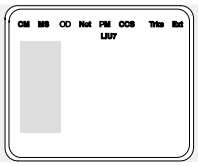
| If the alarm | Do |
|---|---|
| cleared | step 22 |
| did not clear | step 21 |

**21** For additional help, contact the next level of support.

**22** The procedure is complete.

# IOD SCAX25
# major

## Alarm display



| CM | MS | IOD | Net | PM | CCS | Lns | Trks | Ext | APPL |
|---|---|---|---|---|---|---|---|---|---|
| . | . | **SCAX25** | **.** | **.** | **.** | **.** | **.** | **.** | **.** |

## Indication

At the IOD level of the MAP (maintenance and administration position) display, SCAX25 indicates a fault with the IOC link for CompuCALL.

## Meaning

A problem exists

- inside the central office (CO) with connections at the host
- outside the CO with either
  - — the data link or
  - — the customer premises equipment (CPE)

If the problem is inside the CO, the CO maintenance personnel need

- to check physical connections
- to verify the session is logged on
- to perform a continuity test for a switch-computer application interface (SCAI)

If the problem is outside the CO, the CO maintenance personnel must contact the appropriate field service personnel. Inform the field service personnel that a problem exists with either the data link or the CPE.

## Impact

The CompuCALL session cannot be activated.

## Common procedures

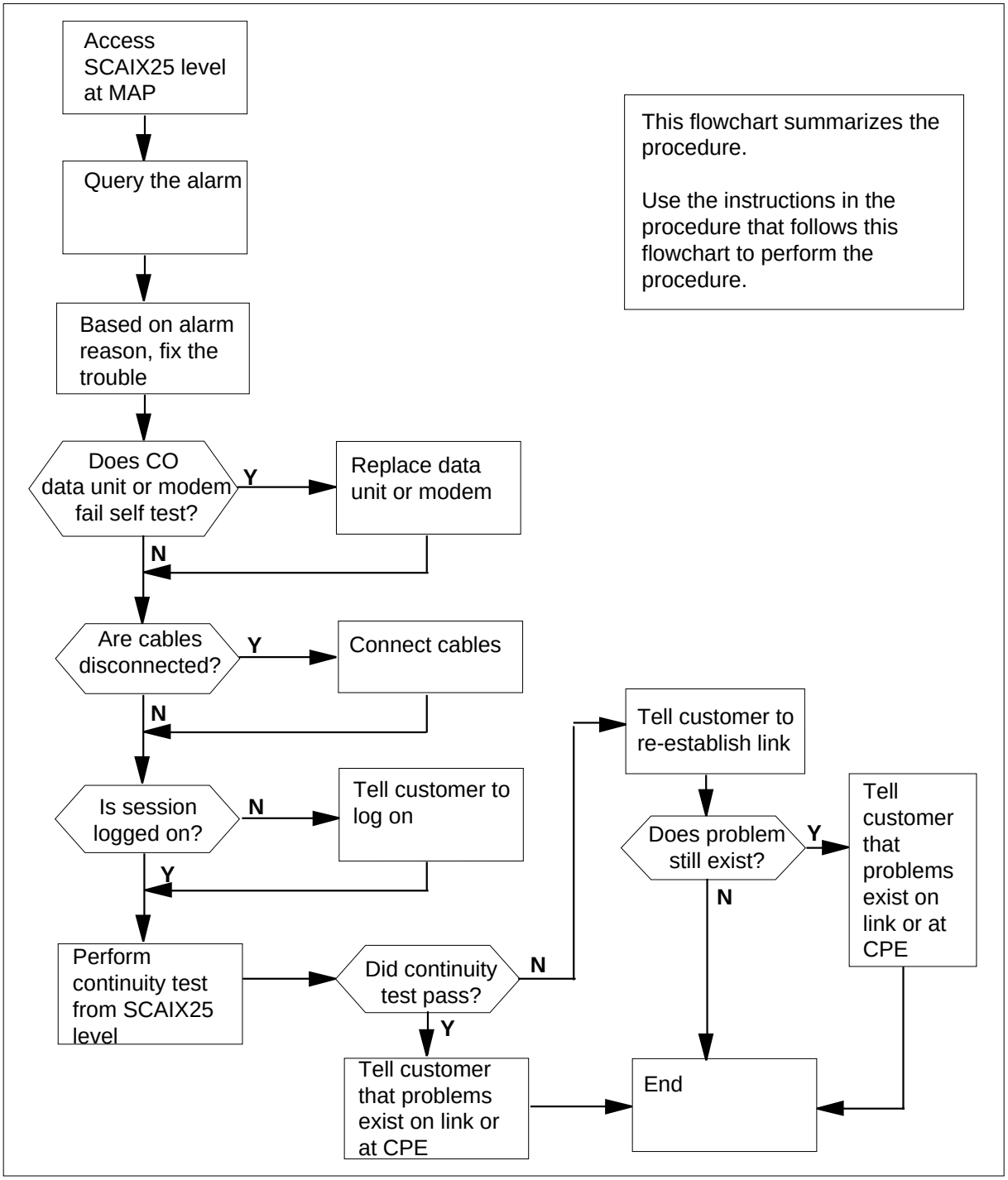
Not applicable

## Action

The following flowchart is only a summary of the procedure. Use the instructions in the step-action procedure that follows the flowchart to clear the alarm.

# IOD SCAX25
## **major** (continued)

**Summary of clearing an IOD SCAX25 alarm**



### Clearing an IOD SCAX25 alarm

***At the MAP terminal***

**1** Access the SCAIX25 level of the MAP display by typing

**>MAPCI;MTC;IOD;SCAIX25**

and pressing the Enter key.

**2** Query the alarms by entering

**>QUERY ALARM**

and pressing the Enter key.

*Example of a MAP display:*

```
Status      M L C   Remote_ DNA     Protocol    Reason
CRIT        0 2 1   01208097        DMS LVL3    reset
```

**3** Check the text in the Reason field. The MAP display states the SCAI link is clear or states a reason for a problem.

| If the reason displayed is | Do |
|---|---|
| iDMS LVL3 reset | step 4 |
| multiprotocol controller (MPC) SysBusied | step 4 |
| MPC link reset | step 4 |
| SCAI application clear | step 5 |
| Host call cleared | step 9 |
| Host LVL3 reset | step 9 |

**4** Exit the SCAIX25 MAP level by typing

**>QUIT**

and pressing the Enter key.

# IOD SCAX25
## **major** (continued)

***At the IOD shelf***

**5** To verify the operation of the CO data unit, perform a self test on the NT4X25 data unit.

Lift the flip-up lid of the data unit. Toggle the self-test/normal option switch to the self-test position and then toggle it back to the normal position.

You will hear a short beep. After a short delay, all light-emitting diodes (LED) on the data unit illuminate for approximately four seconds.

If the directory number LEDs flash, the system indicates a self-test failure.

You will hear a short beep. All LEDs turn off except the power LED.

| If the CO data unit | Do |
|---|---|
| fails the self test | step 6 |
| passes the self test | step 7 |

**6** Replace the data unit with a new data unit.

**7** Check for disconnected cables between the MPC circuit pack and the data unit or modem. Also check between the data unit or modem and the jack.

The 32-pin connector of the cable connects to either port 2 or port 3 of the MPC circuit pack.

The 25-pin connector of the cable connects to the data unit or modem.

The data unit or modem connects to the jack by a cable with RJ11 connectors. If the connect light on the data unit flashes, either the data unit is bad or you must disconnect the cable.

| If you | Do |
|---|---|
| find disconnected cables | step 8 |
| do not find disconnected cables | step 9 |

**8** Connect the disconnected cables.

***At the MAP terminal***

**9** The problem is not located inside the CO.

Access the IOD level of the MAP display by typing

```
>MAPCI;MTC;IOD
```

and pressing the Enter key.

**10** Post the MPC by typing

```
>IOC n;CARD y
```

and pressing the Enter key.

*where*

**n**
is the number of the IOC shelf the MPC resides

**y**
is the number of the MPC card

**11** Determine if the session is logged on. An“ L" means the session is logged on.

| If the session | Do |
|---|---|
| is not logged on | step 12 |
| is logged on | step 13 |

**12** Inform the subscriber the session is not logged on. The subscriber must log on to clear the problem.

Go to step 18.

**13** Access the SCAIX25 level of the MAP display by typing

**>SCAIX25**

and pressing the Enter key.

**14** Perform an SCAI continuity test by typing

**>SCAITEST**

and pressing the Enter key.

| If the test | Do |
|---|---|
| fails | step 15 |
| passes | step 16 |

**15** Tell the subscriber to establish the link again and to log on.

| If the trouble | Do |
|---|---|
| still exists | step 17 |
| no longer exists | step 18 |

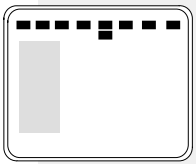
**16** Inform operating company personnel a problem is present in the data link outside the CO or with the customer premises equipment.

**17** For additional help, contact the next level of support.

**18** You have successfully completed this procedure.

# IOD SENDn
# minor

## Alarm display



| CM | MS | IOD | Net | PM | CCS | Lns | Trks | Ext | APPL |
|---|---|---|---|---|---|---|---|---|---|
| . | . | SENDn | . | . | . | . | . | . | . |

## Indication

At the IOD level of the MAP display, SEND followed by a number (n) indicates a SENDn minor alarm.

## Meaning

Data tape on a recording device requires transport to a remote data center. The number after SEND represents the number of the recording device that holds the mounted tape.

## Result

Service is not affected.

## Common procedures

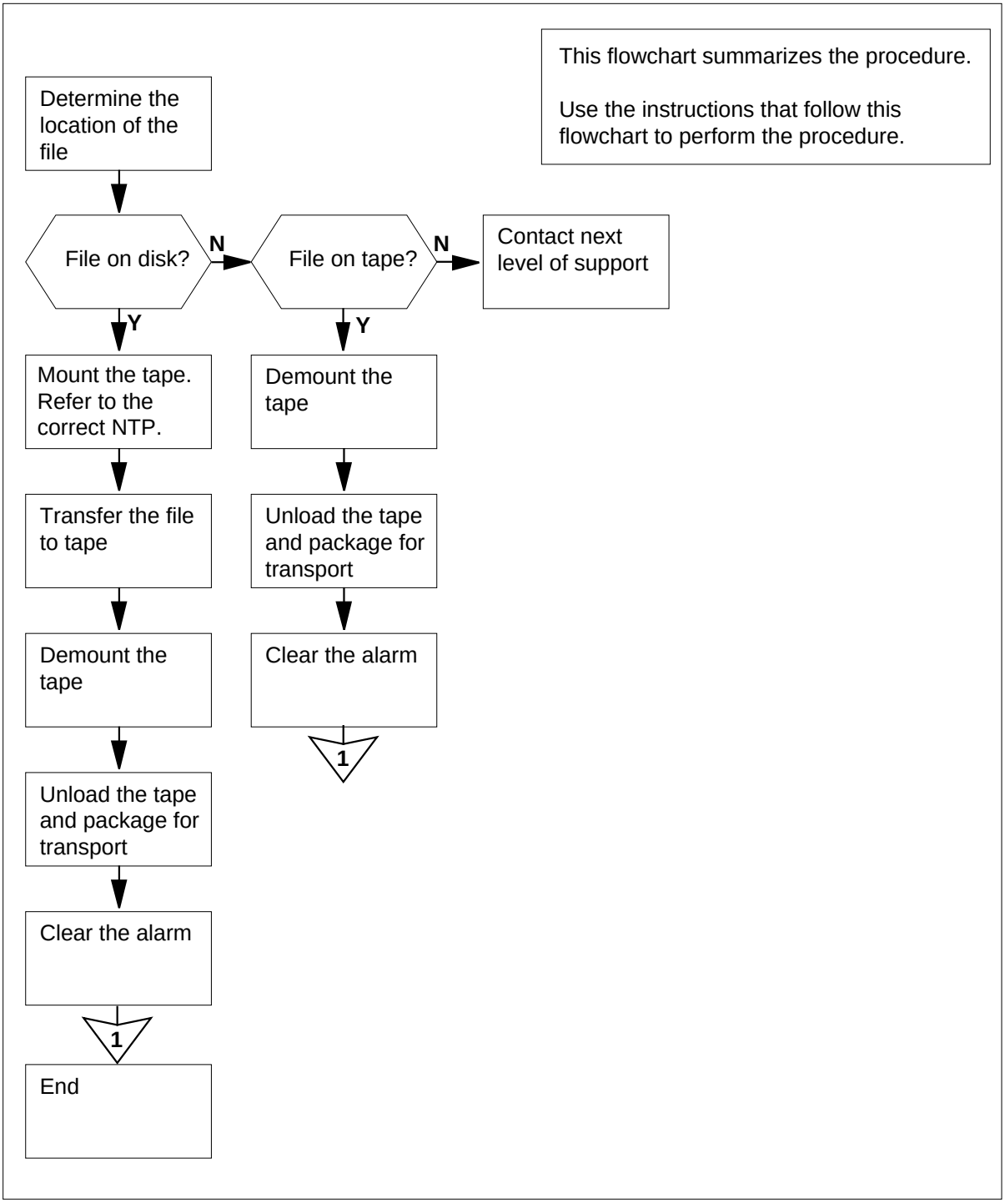
This procedure refers to *How to allocate a volume.*

## Action

The flowchart is a summary of the procedure. Use the instructions in the step-action procedure to clear the alarm.

# IOD SENDn
# **minor** (continued)

**Summary of Clearing an IOD SENDn minor alarm**



# IOD SENDn
## minor (continued)

### Clearing an IOD SENDn minor alarm

***At the MAP terminal***

**1** To access the transfer (XFER) level of the MAP display, type

```
>MAPCI;MTC;IOD;XFER
```

and press the Enter key.

**2** To list the files requested by the data center, type

```
>QUERY  SENT
```

and press the Enter key.

**3** Determine where the file is stored. Note the number in the HOLDNO field, and the volume name in the FILE_LOCN field.

| If the file storage | Do |
|---|---|
| is on disk | step 4 |
| is on tape | step 11 |

**4** Determine from office records the location of an available magnetic tape drive (MTD). Record the MTD number.

**5** Perform the correct procedure in *Routine Procedures* to mount the tape. Complete the procedure and return to this point.

**6** Transfer the file to tape. Use the file noted in step 2. Type

```
>DIRPCOPY  file_name  dev_name
```

and press the Enter key.

*where*

**file_name**
is the name of the file noted in step 2

**dev_name**
is the name of the device the file is on

**7** To demount the tape from the MTD, type

```
>DIRPCOPY  tape_name  dev_name
```

and press the Enter key.

*where*

**tape_name**
is the name of the tape the file is on

**dev_name**
is the name of the device

***At the shelf***

**8** Unload the tape from the MTD and package the tape. Transport the tape to a remote data center.

# IOD SENDn
## minor (continued)

***At the MAP terminal***

**9** To clear the alarm, type

**>SENT nn**

and press the Enter key.

*where*

**nn**
is the number that appears in the alarm

**10** Determine if the SENDn alarm cleared.

| If the alarm | Do |
|---|---|
| cleared | step 22 |
| did not clear | step 2 |

**11** Determine from office records the MTD holds the tape.

**12** To access the DIRP level of the MAP display, type

**>DIRP**

and press the Enter key.

**13** To determine if the file that will transfer is the active file, type

**>QUERY ssys FILE**

and press the Enter key.

*where*

**ssys**
is the affected subsystem

| If the file | Do |
|---|---|
| is active | step 14 |
| is not active | step 16 |

**14** To allocate the DIRP disk recording volumes, perform the common procedure *Allocating a volume* in this document. Complete the procedure and return to this point.

**15** To make the new volume the active volume, type

**>ROTATE ssys_name REGULAR**

and press the Enter key.

*where*

**ssys_name**
is the affected subsystem

**16** To demount the tape, type

**>DMNT ssys_name vol_name**

# IOD SENDn
# **minor** (end)

and press the Enter key.

*where*

**ssys_name**
is the affected subsystem

**vol_name**
is the name of the volume

***At the shelf***

**17** Unload the tape from the MTD. Prepare to transport the tape to the remote data center.

***At the MAP terminal***

**18** To access the XFER level of the MAP display, type

**>XFER**

and press the Enter key.

**19** To clear the SENDn alarm, type

**>SENT nn**

and press the Enter key.

*where*

**nn**
is the number that appears in the alarm

**20** Determine if the SENDn alarm cleared.

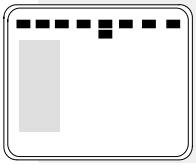
| If the alarm | Do |
|---|---|
| cleared | step 22 |
| did not clear | step 21 |

**21** For additional help, contact the next level of support.

**22** The procedure is complete.

# IOD SLMbsy major

## Alarm display



| CM | MS | IOD | Net | PM | CCS | Lns | Trks | Ext | APPL |
|---|---|---|---|---|---|---|---|---|---|
| . | . | **SLMbsy M** | . | . | . | . | . | . | . |

## Indication

At the MTC level of the MAP display, SLMbsy appears under the IOD header of the alarm banner. The SLMbsy indicates an SLMbsy major alarm.

## Meaning

At least one system load module (SLM) is system busy.

## Result

If one SLM is system busy, service can continue. For service to continue, the b7otable computing module (CM) and message switch (MS) files must be on the in service SLM. Service loss occurs if a reload initiates and both SLMs are system busy. Service loss can occur if the only bootable CM and MS files are located on a system busy SLM.

If one SLM is system busy and the in-service SLM has enough recording volumes, the system maintains billing service information. If both SLMs are system busy, loss of billing service information occurs. If one SLM is system busy, and the other does not have enough recording volumes, loss of billing service information occurs. Automatic message accounting (AMA) is an example of billing service information.

## Common procedures

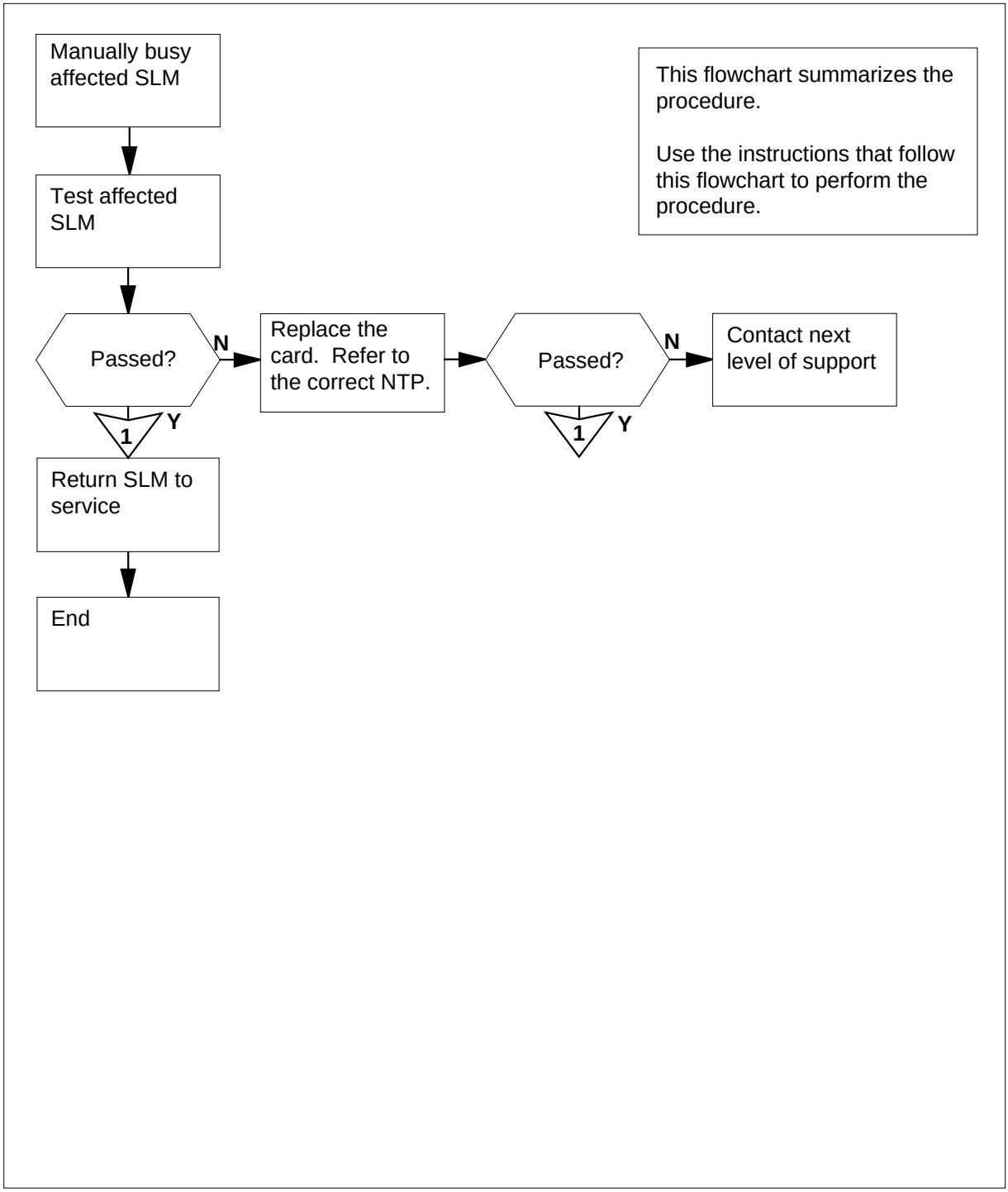
There are no common procedures.

## Action

The following flowchart is a summary of the procedure. Use the instructions in the step-action procedure that follows the flowchart to clear the alarm.

# IOD SLMbsy
## major (continued)

**Summary of Clearing an IOD SLMbsy major alarm**



# IOD SLMbsy major (continued)

**Clearing an IOD SLMbsy major alarm**

***At the MAP terminal***

**1** To access the SLM level of the MAP display, type

**>MAPCI;MTC;IOD;SLM**

and press the Enter key.

*Example of a MAP display:*

```
IOD
IOC  0  1  2  3
STAT .  .  .  .

DIRP:   .   XFER:   .   DVI :   .   DPPP:   .   DPPU:
NOP :   .   SLM :   .   NX25:   .   MLP :   .   SCAI:

SLM   0  1
Stat  S  .

SLM 0 primary           device      TAPE        DISK
                        status        .           .
                        drive       idle        on line
                        user                    SYSTEM
```

**2** Determine the state of the SLMs.

***Note:*** The letter S to the right side of the SLM stat header means that the associated SLM is system busy. A dot means that the SLM is in service.

| If state of | Do |
|---|---|
| both SLMs is s | step 21 |
| one SLM is s | step 3 |

**3** Determine which SLM is the primary SLM.

***Note:*** The line under the SLM stat header shows the primary SLM. The other SLM is, by default, the secondary SLM. In step 1, the primary SLM is SLM 0.

**4** Determine if the system busy SLM is the primary or secondary SLM.

| If the system busy SLM | Do |
|---|---|
| is the primary SLM | step 5 |
| is the secondary SLM | step 8 |

**5** To access the CMMNT level of the MAP display, type

**>CM;CMMNT**

# IOD SLMbsy
## major (continued)

and press the Enter key.

*Example of a MAP display:*

```
CM  Sync  Act  CPU0  CPU1  Jam  Memory  CMMnt  MC  PMC
 0   no  cpu 0  .     .     yes   .       .     .    .

Traps:       Per minute =     0      Total =     5

AutoLdev:    Primary = SLM 0 DISK  Secondary = SLM 1 DISK

Image Restartable = No image test since last restart

Next image restart type =  WARM

Last CM REXTST executed

System memory in kbytes as of  14:39:07
Memory(kbytes): Used =105984 Avail = 12800 Total = 118784
```

**6** To change the primary autoload device to a device in the other SLM, type

**>AUTOLD SLM slm_number device_type**

and press the Enter key.

*where*

**slm_number**
is the number of the SLM that is not system busy (0 or 1)

**device_type**
is the type of SLM device (DISK or TAPE)

*Example input:*

**>AUTOLD SLM 1 DISK**

*Example of a MAP response:*

```
                              New autoload route has been set.
```

**7** Determine which SLM is the secondary SLM.

***Note:*** The secondary SLM appears to the right side of the AutoLdev header. In step 5, the secondary SLM is SLM 1.

***At the SLM shelf***

**8** Determine if the secondary SLM has a tape cartridge.

| If a tape cartridge | Do |
|---|---|
| is present | step 9 |
| is not present | step 10 |

## IOD SLMbsy
## major (continued)

**9** Remove the tape cartridge from the SLM and store the cartridge.

**10** Insert a blank tape cartridge.

***At the MAP terminal***

**11** To access the secondary SLM, type

**`>IOD;SLM slm_number`**

and press the Enter key.

*where*

**slm_number**
is the number of the SLM (0 or 1) containing the secondary autoload device

**12** To make the secondary SLM manually busy, type

**`>BSY`**

and press the Enter key.

| If the BSY command | Do |
|---|---|
| passed | step 13 |
| failed | step 21 |

**13** To test the secondary SLM, type

**`>TST`**

and press the Enter key.

| If the TST command | Do |
|---|---|
| passed | step 17 |
| failed, and the system generated a card list | step 14 |

**14** Record the location, description, slot number, product engineering code (PEC) and PEC suffix of the first card on the list.

**15** Perform the correct card replacement procedure in *Card Replacement Procedures*. Complete the procedure and return to this point.

**16** Go to step 18.

**17** To return the SLM to service, type

**`>RTS`**

and press the Enter key.

| If the RTS command | Do |
|---|---|
| passed | step 18 |
| failed | step 21 |

# IOD SLMbsy
# major (end)

**18** Determine if the other SLM is system busy.

| If the state of the other SLM | Do |
|---|---|
| is s | step 5 |
| is not s | step 19 |

**19** Determine if the SLMbsy major alarm cleared.

| If the alarm | Do |
|---|---|
| cleared | step 22 |
| did not clear | step 21 |
| changed to another alarm | step 20 |

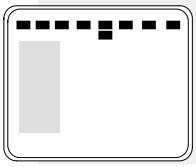
**20** Perform the correct alarm clearing procedure.

**21** For additional help, contact the next level of support.

**22** The procedure is complete.

# IOD SLMbsy minor

## Alarm display



| CM | MS | IOD | Net | PM | CCS | Lns | Trks | Ext | APPL |
|---|---|---|---|---|---|---|---|---|---|
| . | . | SLMbsy | . | . | . | . | . | . | . |

## Indication

At the MTC level of the MAP display, SLMbsy appears under the IOD header of the alarm banner. The SLMbsy indicates an SLMbsy minor alarm.

## Meaning

One system load module (SLM) is control-side (C-side) or manual busy.

## Result

Service is not affected.

## Common procedures

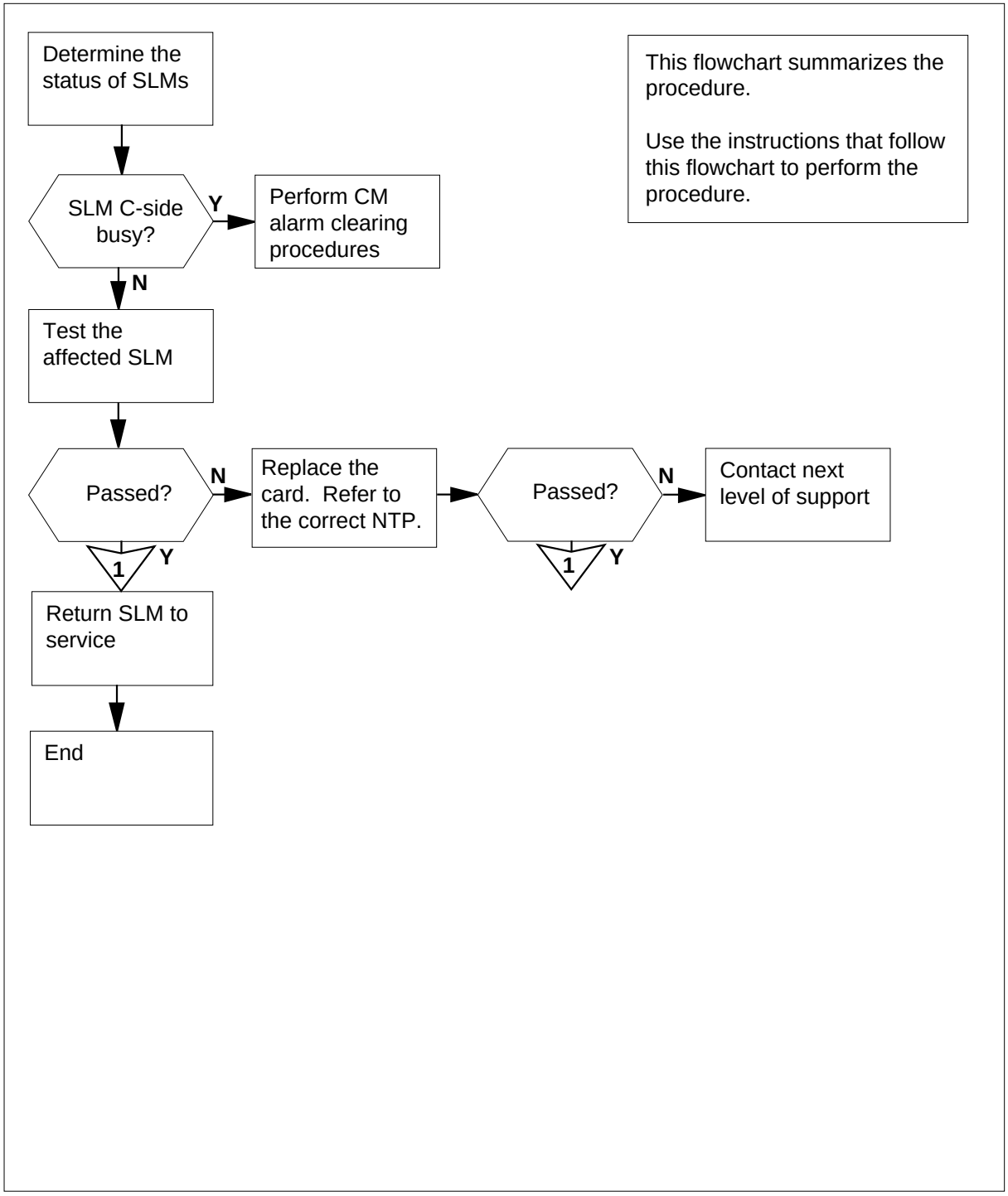
There are no common procedures.

## Action

The flowchart is a summary of the procedure. Use the instructions in the step-action procedure to clear the alarm.

# IOD SLMbsy
## **minor** (continued)

**Summary of Clearing an IOD SLMbsy minor alarm**



# IOD SLMbsy
# minor (continued)

### Clearing an IOD SLMbsy minor alarm

***At the MAP terminal***

**1** To access the SLM level of the MAP display, type

**`>MAPCI;MTC;IOD;SLM`**

and press the Enter key.

*Example of a MAP display:*

```
IOD
IOC  0  1  2  3
STAT .  .  .  .

DIRP:   .   XFER:   .   DVI :   .   DPPP:   .   DPPU:
NOP :   .   SLM :   .   NX25:   .   MLP :   .   SCAI:

SLM   0  1
Stat  S  .

SLM 0 primary           device      TAPE        DISK
                        status        .           .
                        drive       idle        on line
                        user                    SYSTEM
```

**2** Determine the state of the SLMs.

***Note:*** The letter C on the right of the SLM Stat header means that the associated SLM is C-side busy. The letter M indicates the SLM is manual busy. A dot indicates the SLM is in service.

| If state of | Do |
|---|---|
| one SLM is C | step 20 |
| both SLMs are C | step 21 |
| one SLM is M | step 3 |
| both SLMs are M | step 7 |

**3** Determine which SLM is the primary SLM.

***Note:*** The entry under the SLM Stat header shows the primary SLM. The other SLM is the secondary SLM. In the MAP display in step 1, the primary SLM is SLM 0.

**4** Determine if the manual busy SLM is the primary or secondary SLM.

| If the manual busy SLM | Do |
|---|---|
| is the primary SLM | step 5 |

## IOD SLMbsy
## **minor** (continued)

| If the manual busy SLM | Do |
|---|---|
| is the secondary SLM | step 8 |

**5** To access the CMMNT level of the MAP display, type

**>CM;CMMNT**

and press the Enter key.

*Example of a MAP display:*

```
CM  Sync  Act  CPU0  CPU1  Jam  Memory  CMMnt  MC  PMC
 0   no  cpu 0  .     .     yes   .       .     .    .

Traps:       Per minute =     0      Total =     5

AutoLdev:    Primary = SLM 0 DISK  Secondary = SLM 1 DISK

Image Restartable = No image test since last restart

Next image restart type =  WARM

Last CM REXTST executed

System memory in kbytes as of  14:39:07
Memory(kbytes): Used =105984 Avail = 12800 Total = 118784
```

**6** To change the primary autoload device to a device in the other SLM , type

**>AUTOLD SLM slm_number device_type**

and press the Enter key.

*where*

**slm_number**
is the number of the SLM that is not manual busy (0 or 1)

**device_type**
is the SLM device type (DISK or TAPE)

*Example input:*

**>AUTOLD SLM 1 DISK**

*Example of a MAP response:*

```
New autoload route has been set.
```

**7** Determine which SLM is the secondary SLM.

***Note:*** The entry under the SLM Stat header indicates the primary SLM. The other SLM is the secondary SLM. In the MAP display in step 1, the secondary SLM is SLM 1.

# IOD SLMbsy
**minor** (continued)

***At the SLM shelf***

**8** Determine if the secondary SLM holds a tape cartridge.

| If the secondary SLM | Do |
|---|---|
| contains a tape cartridge | step 9 |
| does not contain a tape cartridge | step 10 |

**9** Remove the tape cartridge from the SLM and store the cartridge.

**10** Insert a blank tape cartridge.

***At the MAP terminal***

**11** To access the secondary SLM, type

**`>IOD;SLM slm_number`**

and press the Enter key.

*where*

**slm_number**
is the number of the secondary SLM (0 or 1)

**12** To test the secondary SLM, type

**`>TST`**

and press the Enter key.

| If the TST command | Do |
|---|---|
| passed | step 16 |
| failed, and a card list generates | step 13 |

**13** Record the location, description, slot number, product engineering code (PEC), and PEC suffix of the first card on the list.

**14** Perform the correct card replacement procedure in *Card Replacement Procedures*. Complete the procedure and return to this point.

**15** Go to step 17.

**16** To return the secondary SLM to service, type

**`>RTS`**

and press the Enter key.

| If the RTS command | Do |
|---|---|
| passed | step 17 |
| failed | step 22 |

# IOD SLMbsy
# **minor** (end)

**17** Determine if the other SLM is manual busy.

| If the state of the other SLM | Do |
|---|---|
| is M | step 5 |
| is not M | step 18 |

**18** Determine if the SLMbsy minor alarm cleared.

| If the alarm | Do |
|---|---|
| cleared | step 23 |
| changed to another alarm | step 19 |
| did not clear | step 22 |

**19** Perform the correct procedure in this document to clear an alarm.

**20** Perform the procedure *Clearing a CM PMCTbl minor alarm* described in this document.

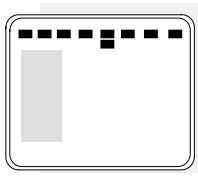
**21** Perform the procedure *Clearing a CM PMCFlt major alarm* described in this document.

**22** For additional help, contact the next level of support.

**23** The procedure is complete.

# IOD SLMoff minor

## Alarm display



| CM | MS | IOD | Net | PM | CCS | Lns | Trks | Ext | APPL |
|---|---|---|---|---|---|---|---|---|---|
| . | . | **SLMoff** | . | . | . | . | . | . | . |

## Indication

At the MTC level of the MAP display, SLMoff appears under the IOD header of the alarm banner. The SLMoff indicates an SLMoff minor alarm.

## Meaning

One system load module (SLM) is offline.

## Result

Service continues if one SLM is offline and a computing module (CM) and message switch (MS) files can boot. The CM and MS can boot when they are on the in-service SLM. An initiated reload can cause the loss of service when both SLMs are offline. The loss of service also occurs when only bootable CM or MS files are on an offline SLM.

If one SLM is offline and an in-service SLM that contains enough recording volumes can maintain billing service information. An example of billing service information is automatic message accounting (AMA) data. The loss of billing service information occurs when both SLMs are offline. The loss of billing service information also occurs when the correct amount of recording volumes are not on the in-service SLM.

## Common procedures

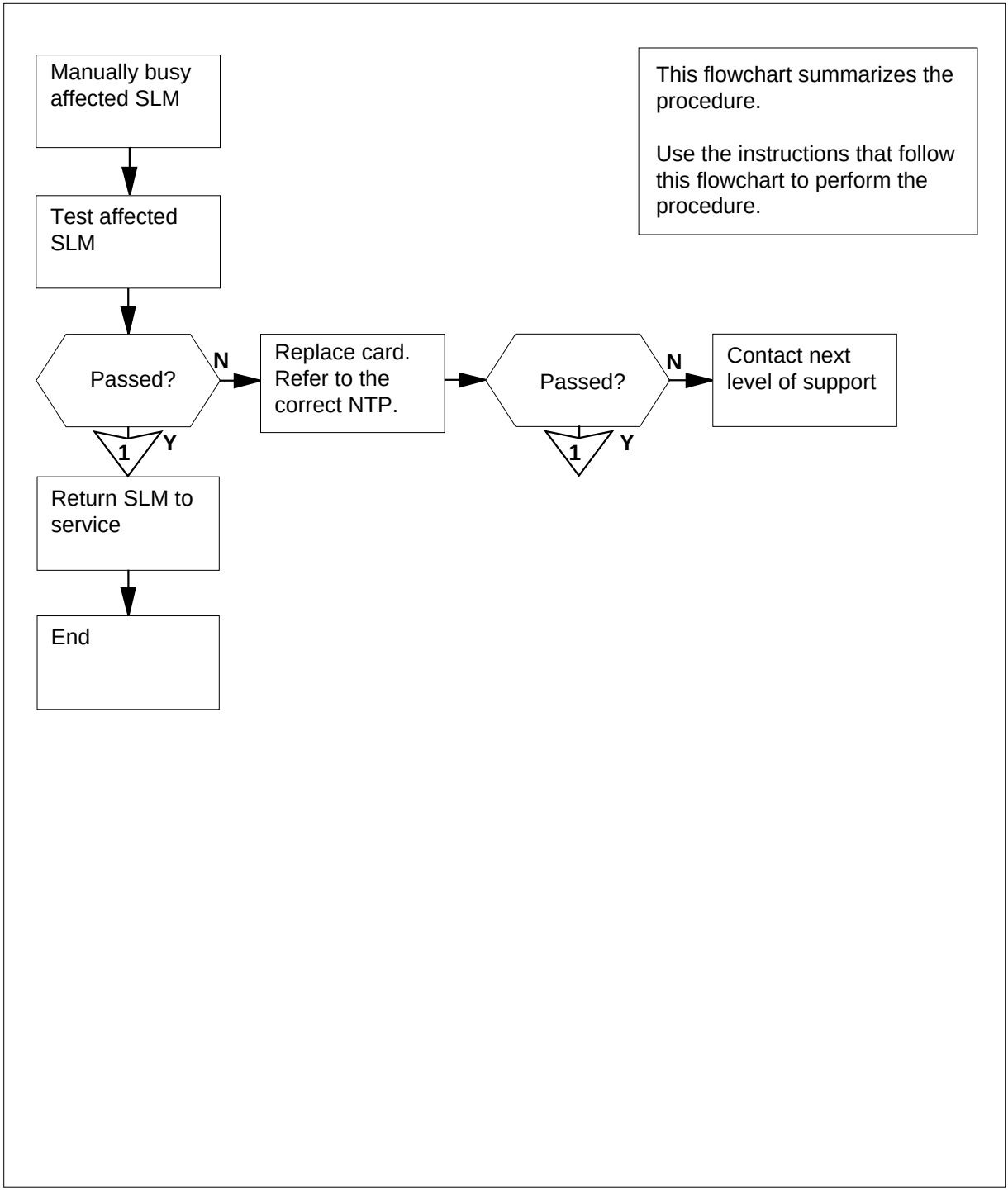
There are no common procedures.

## Action

The flowchart is a summary of the procedure. Use the instructions in the step-action procedure to clear the alarm.

# IOD SLMoff
## **minor** (continued)

**Summary of Clearing a CM SLMLim minor alarm**



# IOD SLMoff
# minor (continued)

### Clearing an IOD SLMoff minor alarm

***At the MAP terminal***

**1** Maintenance persons have put one or both SLMs offline. Determine if you can return the SLMs to service.

| If you | Do |
|---|---|
| have permission to return the SLMs to service | step 2 |
| do not have permission to return the SLMs to service | step 23 |

***At the MAP terminal***

**2** To access the SLM level of the MAP display, type

**`>MAPCI;MTC;IOD;SLM`**

and press the Enter key.

*Example of a MAP display:*

```
IOD
IOC  0  1  2  3
STAT .  .  .  .

DIRP:  .    XFER:  .    DVI:  .    DPPP:  .    DPPU:  .
NOP:  .     SLM:  .     NX25:  .   MLP:  .     SCAI:  .

SLM   0  1
Stat  O  .

SLM 0   primary     device      TAPE            DISK
                    status        .               .
                    drive       idle            on line
                    user                        SYSTEM
```

**3** Determine the status of the SLMs.

***Note:*** The letter O on the right of the SLM Stat header indicates that the associated SLM is offline. A dot means that the SLM is in service.

| If the state of | Do |
|---|---|
| both SLMs is O | step 8 |
| one SLM is O | step 4 |

# IOD SLMoff
## minor (continued)

**4** Determine which SLM is the primary SLM.

***Note:*** The entry under the SLM Stat header indicates the primary SLM; the other SLM is the secondary SLM. In the MAP in step 2, the primary SLM is SLM 0.

**5** Determine if the offline SLM is the primary or secondary SLM.

| If the offline SLM | Do |
|---|---|
| is the primary SLM | step 6 |
| is the secondary SLM | step 9 |

**6** To access the CMMNT level of the MAP display, type

**`>CM;CMMNT`**

and press the Enter key.

*Example of a MAP display:*

```
CM   Sync  Act  CPU0  CPU1  Jam  Memory  CMMnt  MC  PMC
 0    no  cpu 0  .     .     yes   .       .     .    .

Traps:       Per minute =     0      Total =     5

AutoLdev:    Primary = SLM 0 DISK  Secondary =  SM 1 DISK

Image Restartable = No image test since last restart

Next image restart type =  WARM

Last CM REXTST executed

System memory in kbytes as of  14:39:07
Memory(kbytes):Used = 105984 Avail = 12800 Total = 118784
```

**7** To change the primary autoload device to a device in the other SLM , type

**`>AUTOLD SLM slm_number device_type`**

and press the Enter key.

*where*

**slm_number**
is the number of the SLM that is not offline (0 or 1)

**device_type**
is the type of SLM device (DISK or TAPE)

*Example input*

**`>AUTOLD SLM 1 DISK`**

# IOD SLMoff
## minor (continued)

**8** Determine which SLM is the secondary SLM.

***Note:*** The secondary SLM is on the right of the AutoLdev header. In step 6, the secondary SLM is SLM 1.

***At the SLM***

**9** Determine if the secondary SLM holds a tape cartridge.

| If a tape cartridge | Do |
|---|---|
| is present | step 10 |
| is not present | step 11 |

**10** Remove the tape cartridge from the SLM and store the cartridge.

**11** Insert a blank tape cartridge.

***At the MAP terminal***

**12** To access the secondary SLM, type

**`>IOD;SLM slm_number`**

and press the Enter key.

*where*

**slm_number**
is the number of the secondary SLM (0 or 1)

**13** To manually busy the secondary SLM, type

**>BSY**

and press the Enter key.

| If the BSY command | Do |
|---|---|
| passed | step 14 |
| failed | step 22 |

**14** To test the secondary SLM, type

**>TST**

and press the Enter key.

| If the TST command | Do |
|---|---|
| passed | step 18 |
| failed, and the system generated a card list | step 15 |

**15** Record the location, description, slot number, product engineering code (PEC), and PEC suffix of the first card on the list.

## IOD SLMoff
## **minor** (end)

**16** Perform the correct card replacement procedure in *Card Replacement Procedures*. Complete the procedure and return to this point.

**17** Go to step 19.

**18** To return the SLM to service, type

**>RTS**

and press the Enter key.

| If the RTS command | Do |
|---|---|
| passed | step 19 |
| failed | step 22 |

**19** Determine if the other SLM is offline.

| If the state of the other SLM | Do |
|---|---|
| is O | step 6 |
| is not O | step 20 |

**20** Determine if the SLMoff minor alarm cleared.

| If the alarm | Do |
|---|---|
| cleared | step 23 |
| changed to another alarm | step 21 |
| did not clear | step 22 |

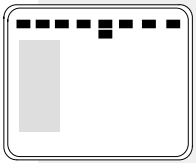
**21** Perform the correct alarm clearing procedure in this document.

**22** For additional help, contact the next level of support.

**23** The procedure is complete.

# IOD SLMtbl minor

## Alarm display



| CM | MS | IOD | Net | PM | CCS | Lns | Trks | Ext | APPL |
|---|---|---|---|---|---|---|---|---|---|
| . | . | **SLMtbl** | . | . | . | . | . | . | . |

## Indication

At the MTC level of the MAP display, SLMtbl appears under the IOD header of the alarm banner. SLMtbl indicates an SLMtbl minor alarm.

## Meaning

At least one system load module (SLM) is in-service trouble.

## Result

The condition does not affect service.

## Common procedures

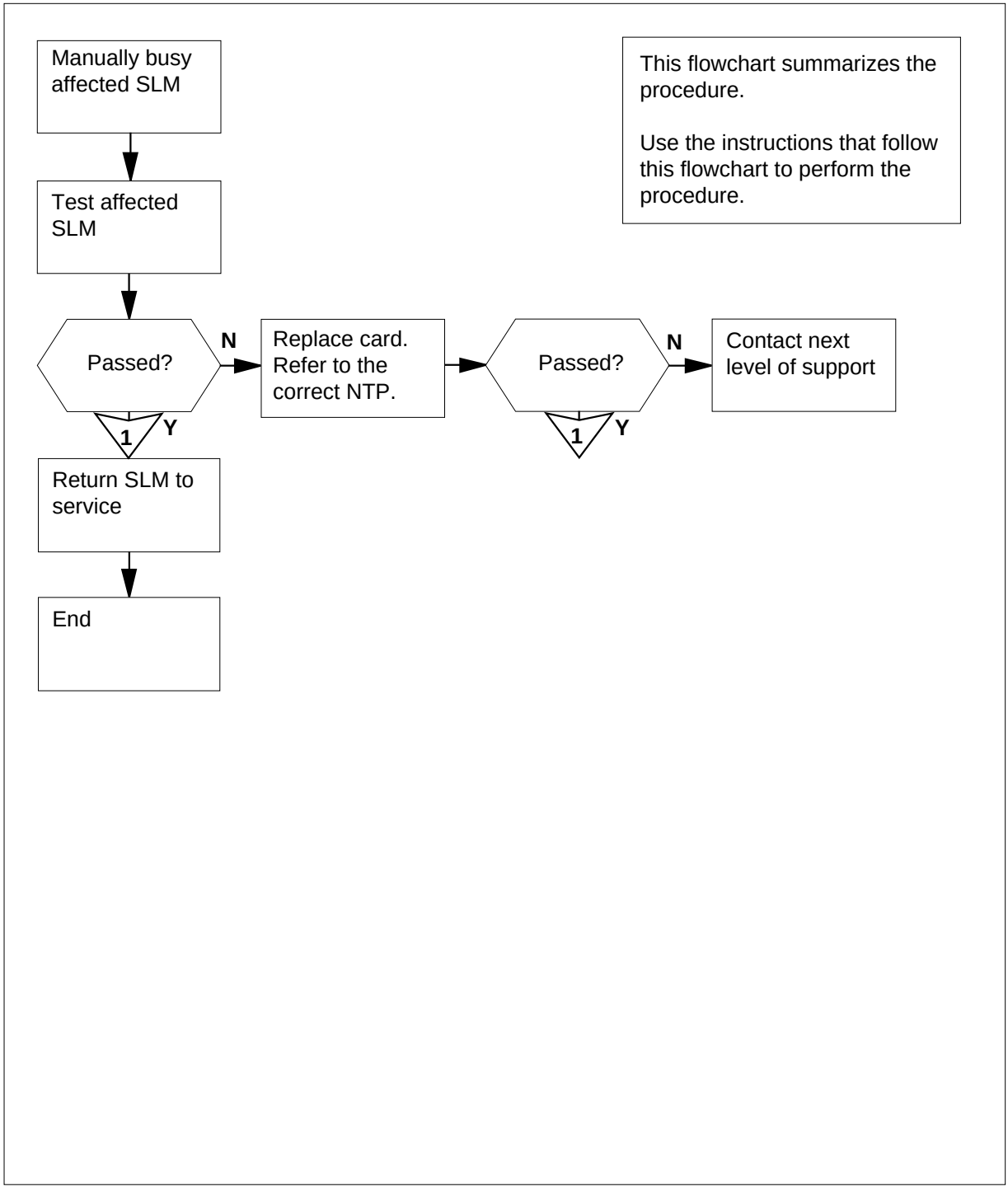
There are no common procedures.

## Action

The flowchart is a summary of the procedure. Use the instructions in the step-action procedure that follows the flowchart to clear the alarm.

# IOD SLMtbl
## minor (continued)

**Summary of Clearing an IOD SLMtbl minor alarm**



# IOD SLMtbl
# minor (continued)

### Clearing an IOD SLMtbl minor alarm

***At the MAP terminal***

**1** To access the SLM level of the MAP display, type

**`>MAPCI;MTC;IOD;SLM`**

and press the Enter key.

*Example of a MAP display:*

```
IOD
IOC  0  1  2  3
STAT .  .  .  .

DIRP:  .    XFER:  .    DVI:  .    DPPP:  .   DPPU:  .
NOP :  .    SLM :   .   NX25:   .  MLP :   .  SCAI:
.

SLM   0  1
Stat  I  .

SLM 0   primary     device      TAPE        DISK
                    status        .           .
                    drive       idle        on line
                    user                    SYSTEM
```

**2** Determine the state of the SLMs.

***Note:*** The letter I on the right side of the SLM Stat header means that the associated SLM is in-service trouble. A dot means that the SLM is in service.

| If state of | Do |
|---|---|
| both SLMs are I | step 7 |
| one SLM is I | step 3 |

**3** Determine the SLM that is the primary SLM.

***Note:*** The entry under the SLM Stat header shows the primary SLM; the other SLM is the secondary SLM. In the example MAP display in step 1, the primary SLM is SLM 0.

**4** Determine if the SLM with in-service trouble is the primary or secondary SLM.

| If the SLM with in-service trouble | Do |
|---|---|
| is the primary SLM | step 5 |
| is the secondary SLM | step 8 |

## IOD SLMtbl
## **minor** (continued)

**5** To access the CMMNT level of the MAP display, type

**>CM;CMMNT**

and press the Enter key.

*Example of a MAP display:*

```
CM   Sync  Act  CPU0  CPU1  Jam  Memory  CMMnt  MC  PMC
 0    no  cpu 0  .     .     yes   .       .     .    .

Traps:       Per minute =     0      Total =     5

AutoLdev:    Primary = SLM 0 DISK  Secondary = SLM 1 DISK

Image Restartable = No image test since last restart

Next image restart type =  WARM

Last CM REXTST executed

System memory in kbytes as of  14:39:07
Memory(kbytes):Used = 105984 Avail = 12800 Total = 118784
```

**6** To change the primary autoload device to a device in the other SLM, type

**>AUTOLD SLM slm_number device_type**

and press the Enter key.

*where*

**slm_number**
is the number of the SLM that is in service (0 or 1)

**device_type**
is the type of SLM device (DISK or TAPE)

*Example input:*

**>AUTOLD SLM 1 DISK**

**7** Determine the SLM that is the secondary SLM.

***Note:*** The entry under the SLM Stat header shows the primary SLM. The other SLM is the secondary SLM. In the example MAP display in step 1, the secondary SLM is SLM 1.

***At the SLM shelf***

**8** Determine if the secondary SLM contains a tape cartridge.

| Ifa tape cartridge | Do |
|---|---|
| is present | step 9 |
| is not present | step 10 |

# IOD SLMtbl
## minor (continued)

**9** Remove the tape cartridge from the SLM and store the cartridge.

**10** Insert a blank tape cartridge.

***At the MAP display***

**11** To access the secondary SLM, type

**`>IOD;SLM slm_number`**

and press the Enter key.

*where*

**slm_number**
is the number of the secondary SLM (0 or 1)

**12** To make the secondary SLM manually busy, type

**>BSY**

and press the Enter key.

| If the BSY command | Do |
|---|---|
| passed | step 13 |
| failed | step 12 |

**13** To test the secondary SLM, type

**>TST**

and press the Enter key.

| If the TST command | Do |
|---|---|
| passed | step 17 |
| failed, and the system generated a card list | step 14 |

**14** Record the location, description, slot number, product engineering code (PEC), and PEC suffix of the first card on the list.

**15** Perform the correct procedure in *Card Replacement Procedures*. Complete the procedure and return to this point.

**16** Go to step 18.

**17** To enable the secondary SLM , type

**>RTS**

and press the Enter key.

| If the RTS command | Do |
|---|---|
| passed | step 18 |
| failed | step 21 |

## IOD SLMtbl
## **minor** (end)

**18** Determine if the other SLM has in-service trouble.

| If the state of the other SLM | Do |
|---|---|
| is I | step 5 |
| is . (dot) | step 19 |

**19** Determine if the other SLM has in-service trouble.

| If the alarm | Do |
|---|---|
| cleared | step 22 |
| changed to another alarm | step 20 |
| did not clear | step 21 |

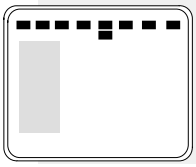
**20** Perform the correct alarm clearing procedure in this document.

**21** For additional help, contact the next level of support.

**22** The procedure is complete.

# IOD ssys B critical

## Alarm display



| CM | MS | IOD | Net | PM | CCS | Lns | Trks | Ext | APPL |
|---|---|---|---|---|---|---|---|---|---|
| . | . | ssys B C | . | . | . | . | . | . | . |

## Indication

At the IOD level of the MAP display, ssys B alarm indicates a ssys B critical alarm.

## Meaning

When a DIRPSSYS table does not contain entered data, or data deletes from the table, a subsystem failure occurs. The abbreviation ssys represents the affected subsystem.

## Result

If you need to, you can perform a warm restart to activate the subsystem after you enter data in the tables. Warm restarts disrupt the normal function of the core.

## Common procedures

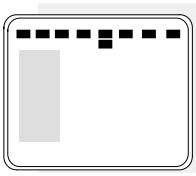
There are no common procedures.

## Action

Contact the next level of support.

# IOD ssys B minor

## Alarm display



| CM | MS | IOD | Net | PM | CCS | Lns | Trks | Ext | APPL |
|---|---|---|---|---|---|---|---|---|---|
| . | . | ssys B | . | . | . | . | . | . | . |

## Indication

At the IOD level of the MAP display, ssys B alarm indicates a ssys B minor alarm.

## Meaning

The subsystem failed to bond to the DIRP utility, or does not run. A common reason for the failures is that the DIRPSSYS table data entries do not contain the subsystem. The abbreviation ssys represents the affected subsystem. Affected subsystems can include journal file (JF), operational measurements (OM), Station-Message Detail Recording (SMDR), and automatic message accounting (AMA).

## Result

This procedure can cause an interruption in service.

Perform this procedure during off-peak hours. To activate the subsystem after you enter the tables, perform a warm restart. Warm restarts disrupt the normal function of the core.

## Common procedures

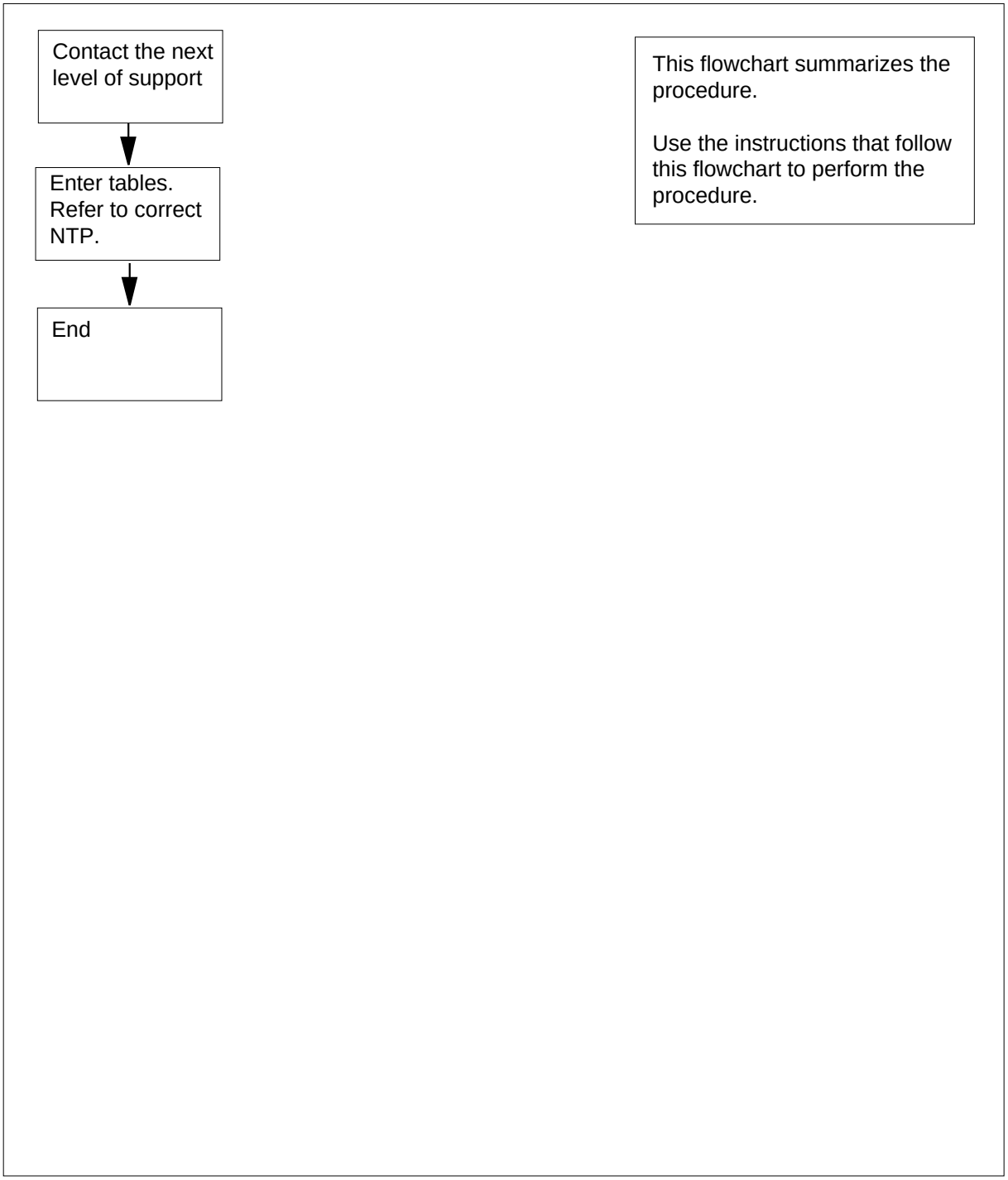
There are no common procedures.

## Action

The flowchart is a summary of the procedure. Use the instructions in the step-action procedure that follows the flowchart to clear the alarm.

# IOD ssys B minor (continued)

**Summary of Clearing an IOD ssys B minor alarm**



# IOD ssys B
# **minor** (end)

**Clearing an IOD ssys B minor alarm**

**CAUTION**
**Service interruption**
Perform this procedure during off-peak hours. You must perform a warm restart to activate the subsystem after you enter tables. Warm restarts disrupt the normal function of the core.

***At the MAP terminal***

**1** To enter tables DIRPPOOL and DIRPSSYS, perform the correct procedures in the *Translations Guide*. Complete the procedure and return to this point.

**2** Determine if the ssys B alarm cleared.

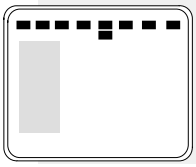
| If the alarm | Do |
|---|---|
| cleared | step 4 |
| did not clear | step 3 |

**3** For additional help, contact the next level of support.

**4** The procedure is complete.

# IOD ssys E minor

## Alarm display



| CM | MS | **IOD** | Net | PM | CCS | Lns | Trks | Ext | APPL |
|---|---|---|---|---|---|---|---|---|---|
| . | . | **ssys E** | . | . | . | . | . | . | . |

## Indication

At the IOD level of the MAP display, ssys E indicates a ssys E minor alarm.

## Meaning

The DIRP utility completed an emergency rotation of the normal files of the indicated subsystem. The abbreviation ssys represents the affected subsystem. Affected subsystems can include journal file (JF), operational measurements (OM), and automatic message accounting (AMA).

## Result

The condition does not affect service.

## Common procedures

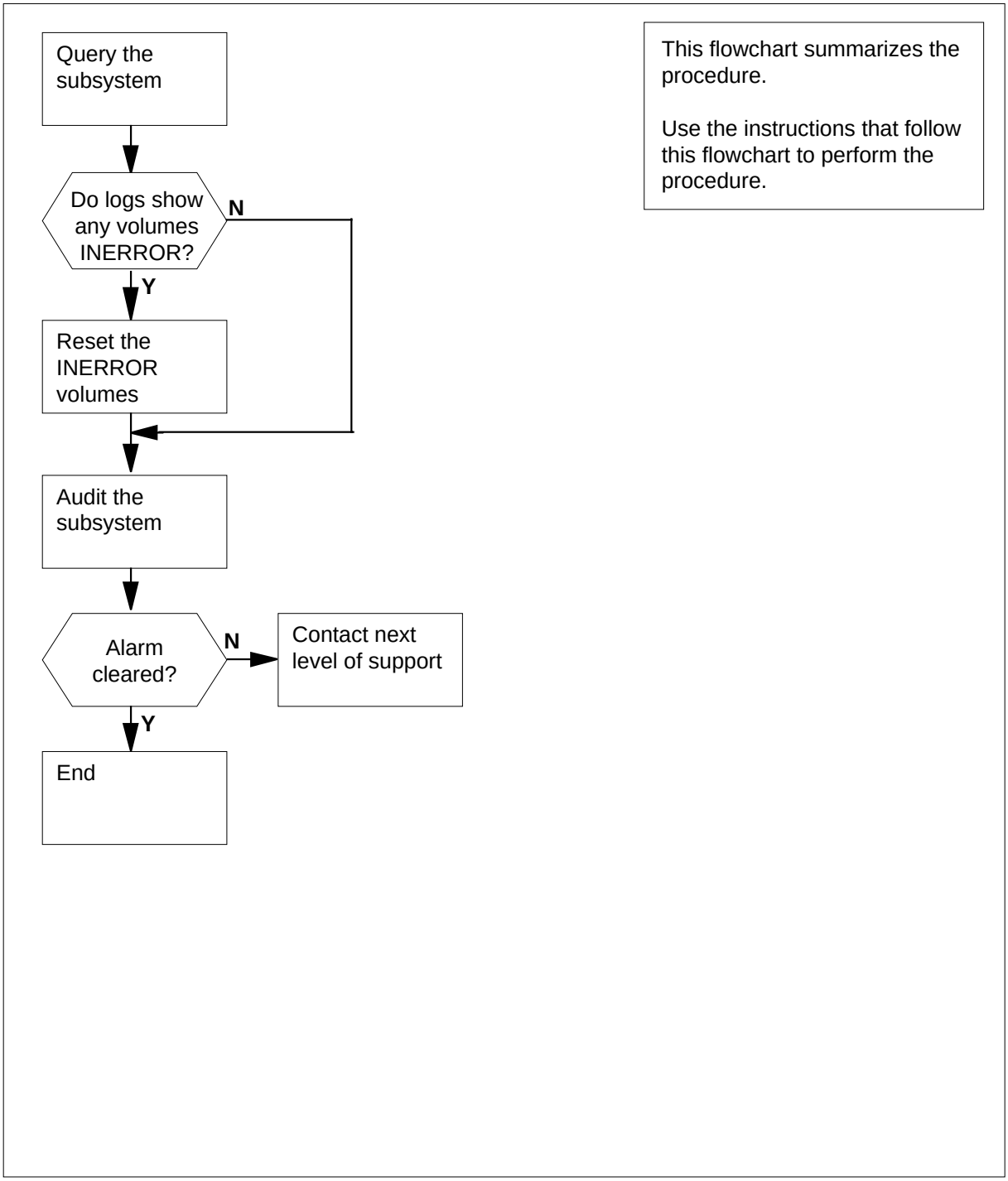
This procedure refers to *Resetting a volume*.

## Action

The flowchart is a summary of the procedure. Use the instructions in the step-action procedure that follows the flowchart to clear the alarm.

# IOD ssys E
# **minor** (continued)

**Summary of Clearing an IOD ssys E minor alarm**



# IOD ssys E
# **minor** (continued)

### Clearing an IOD ssys E minor alarm

***At the MAP terminal***

**1** To access the DIRP level of the MAP display, type

**>MAPCI;MTC;IOD;DIRP**

and press the Enter key.

**2** To query the subsystem, type

**>QUERY ssys ALL**

and press the Enter key.

*where*

**ssys**
is the affected subsystem

*Example of a MAP response:*

```
SSNAME SSNO SEQNO ROTATES POOLNO PARLPOOL EMERGENCY
AMA       0       1        2       0         9

REGULAR
FILE (S)  STATE  VOLUME   RECCOUNT   BLOCK   E   V
V_B   VLID  FNUM   FRN#
ACTIVE    AVAIL    D000AMA        1       1   0  23
NO    2806  001F   A132
STANDBY1  AVAIL    D010AMA        0       0   0  23
NO    2806  0020   20BF
```

**3** Determine if volumes are in the INERROR state.

| If any volumes | Do |
|---|---|
| are in the INERROR state | step 4 |
| are not in the INERROR state | step 5 |

**4** Perform the common procedure *Resetting a volume* in this document to reset the INERROR volumes. Complete the procedure and return to this point.

**5** To audit the subsystem that the alarm indicated, type

**>AUDIT ssys**

and press the Enter key.

*where*

**ssys**
is the subsystem

# IOD ssys E
# **minor** (end)

*Example of a MAP response:*

```
SENDING REQUEST TO SUBSYSTEM
DO YOU WANT THE SUBSYSTEM EMERGENCY INDICATOR TURNED OFF?
PLEASE CONFIRM ( YES OR NO ):
```

**6** To confirm the emergency indicator is OFF, type

**> YES**

and press the Enter key.

*MAP response:*

```
REQUEST SENT TO SUBSYSTEM, CHECK DIRP LOG FOR DETAILS
```

**7** Determine if the ssys E alarm cleared.

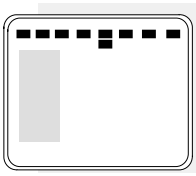
| If the alarm | Do |
|---|---|
| cleared | step 9 |
| did not clear | step 8 |

**8** For additional help, contact the next level of support.

**9** The procedure is complete.

# IOD ssys F minor

## Alarm display



| CM | MS | IOD | Net | PM | CCS | Lns | Trks | Ext | APPL |
|---|---|---|---|---|---|---|---|---|---|
| . | . | ssys F | . | . | . | . | . | . | . |

## Indication

At the IOD level of the MAP display, ssys F alarm indicates a ssys F minor alarm.

## Meaning

More than 24 subsystems tried to bind into the DIRP utility. The abbreviation ssys represents the affected subsystem. Affected subsystems can include journal file (JF), operational measurements (OM), and automatic message accounting (AMA).

## Result

The condition does not affect service.

## Common procedures

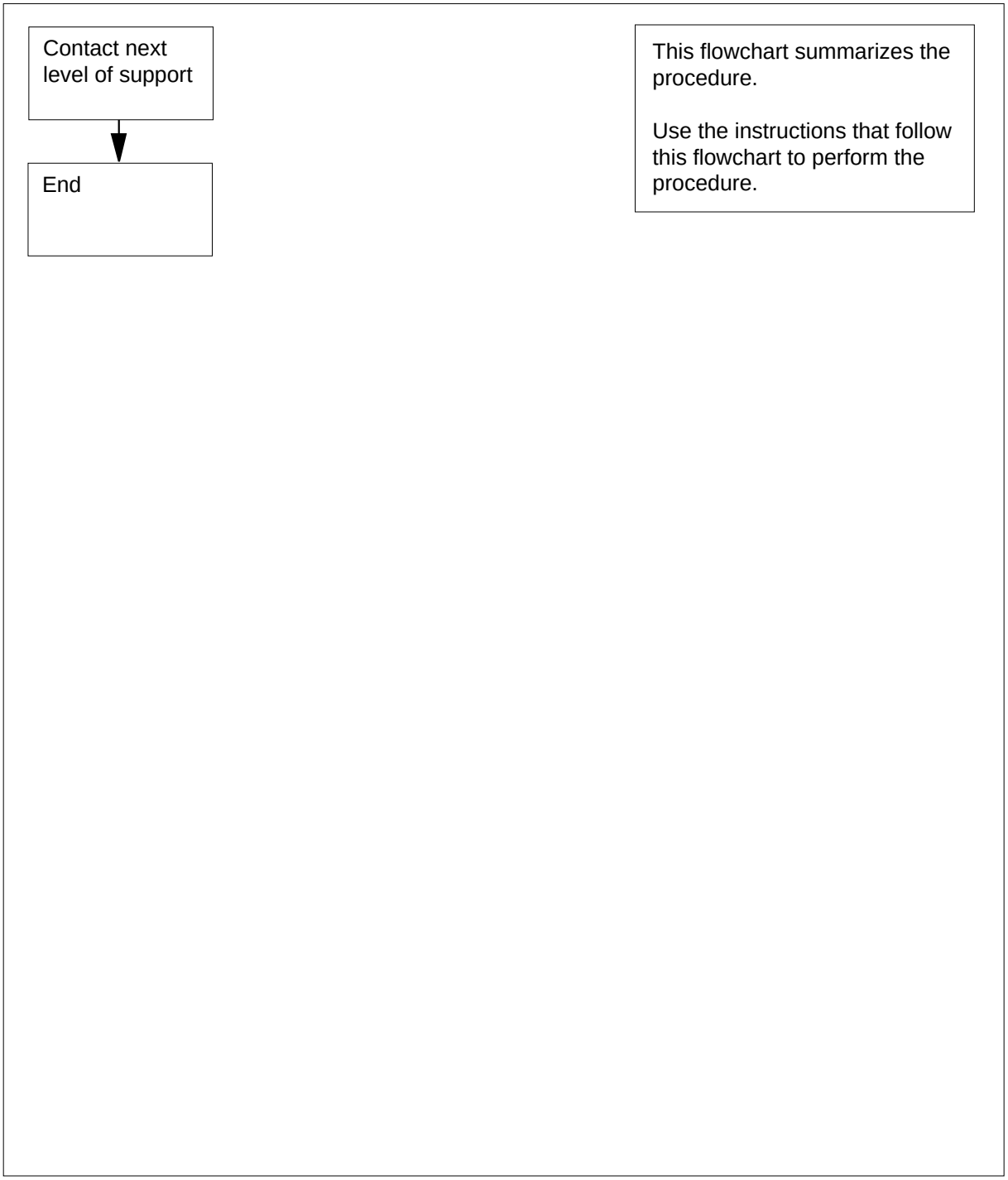
There are no common procedures.

## Action

The flowchart is a summary of the procedure. Use the instructions in the step-action procedure that follows the flowchart to clear the alarm.

# IOD ssys F
# **minor** (continued)

**Summary of Clearing an IOD ssys F minor alarm**



# IOD ssys F minor (end)

**How to clear an IOD  ssys F minor alarm**

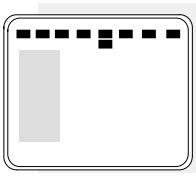
***At your current location***

**1** For additional help, contact the next level of support.

**2** The procedure is complete.

# IOD ssys I minor

## Alarm display



| CM | MS | IOD | Net | PM | CCS | Lns | Trks | Ext | APPL |
|---|---|---|---|---|---|---|---|---|---|
| . | . | ssys I | . | . | . | . | . | . | . |

## Indication

At the IOD level of the MAP, ssys I indicates an ssys I minor alarm.

## Meaning

The ACTIVE and STANDBY 1 volumes in the indicated subsystem are on the same input/output controller (IOC). The abbreviation ssys represents the affected subsystem. Affected subsystems can include journal file (JF), operational measurements (OM), and automatic message accounting (AMA).

## Result

The condition does not affect service.

## Common procedures

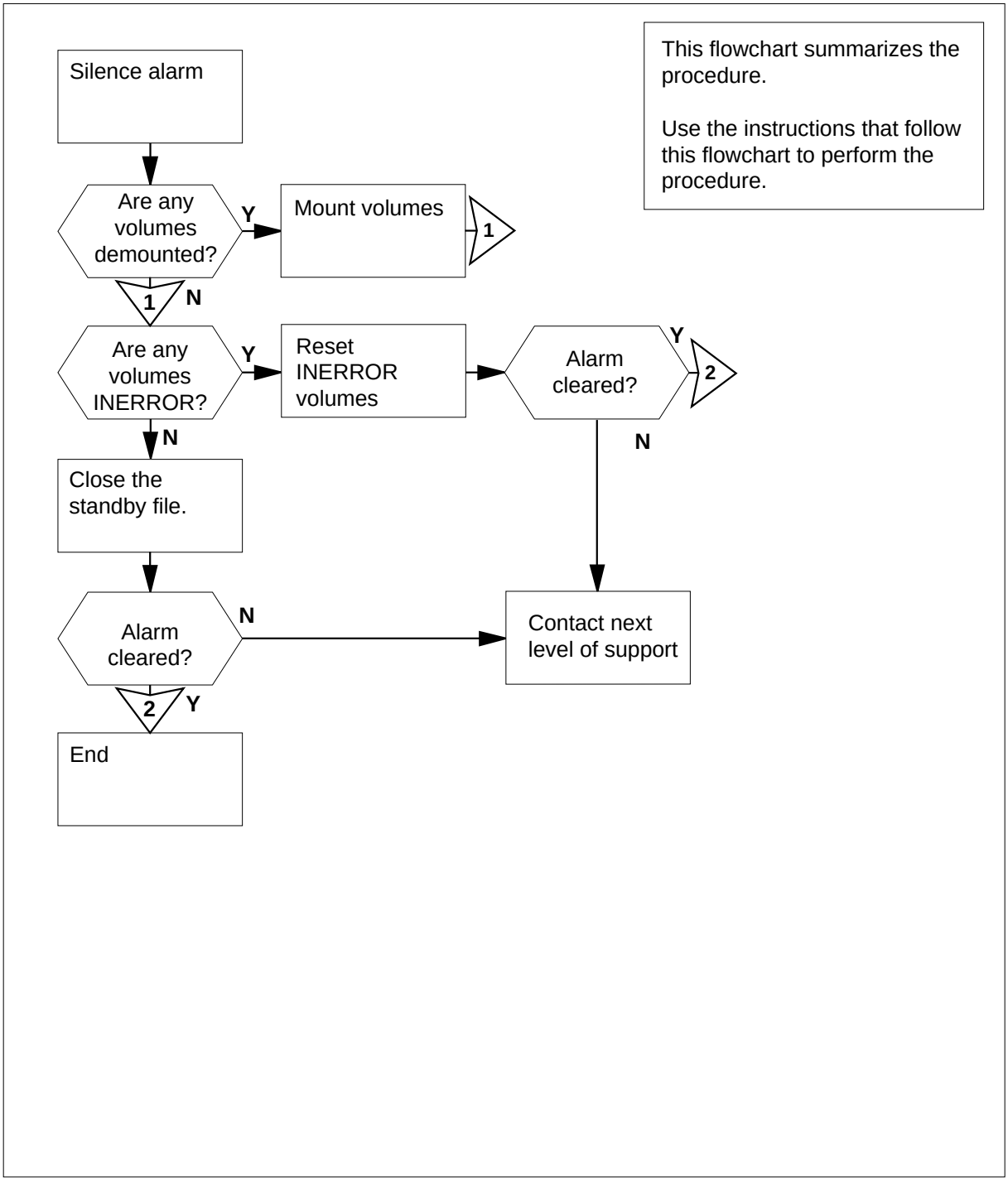
This procedure refers to *Resetting a volume.*

## Action

The flowchart is a summary of the procedure. Use the instructions in the step-action procedure that follows the flowchart to clear the alarm.

# IOD ssys I minor (continued)

**Summary of Clearing an IOD ssys I minor alarm**



# IOD ssys I
# **minor** (continued)

**Clearing an IOD ssys I minor alarm**

**CAUTION**
**Possible loss or damage of AMA data**
Use this procedure or follow it exactly. Not doing so will lose or corrupt automatic message accounting (AMA) data. The operating company uses AMA data to produce billings. Loss or damage of AMA data results in revenue loss for the operating company.

***At the MAP terminal***

**1** To access the DIRP level of the MAP display, type

```
>MAPCI;MTC;IOD;DIRP
```

and press the Enter key.

**2** To silence the audible alarm, type

```
>SIL
```

and press the Enter key.

**3** Determine from office records or from operating company personnel if any volumes are in the demounted state.

| If volumes | Do |
|---|---|
| are in the demounted state | step 4 |
| are not in the demounted state | step 10 |

**4** Determine the reason that the volume is in the demounted state. When possible, go to the next step in this procedure.

**5** Determine if the volume is a parallel volume.

| If the volume | Do |
|---|---|
| is not a parallel volume | step 6 |
| is a parallel volume | step 7 |

**6** To mount the demounted volume, type

```
>MNT  ssys  vol_name
```

and press the Enter key.

*where*

**ssys**
is the affected subsystem

**vol_name**
is the name of the volume

*Example input*

```
>MNT  AMA  S01DAMA1
```

**7** To mount the demounted volume, type

```
>MNT  ssys  vol_name  PARALEL
```

and press the Enter key.

*where*

**ssys**
is the affected subsystem

**vol_name**
is the name of the volume

*Example input*

```
>MNT  AMA  S01DAMA1  PARALEL
```

**8** Repeat steps 4 through 7 until you mount all demounted volumes. Go to the next step in this procedure.

**9** To query the subsystem, type

```
>QUERY ssys ALL
```

and press the Enter key.

*where*

**ssys**
is the affected subsystem

*Example of a MAP response:*

```
SSNAME   SSNO   SEQNO  ROTATES  POOLNO   PARLPOOL  EMERGENCY
AMA         0       1        2       0          9

REGULAR
 FILE(S)     STATE  VOLUME     RECCOUNT  BLOCK  E   V  V_B   VLID
FNUM  FRN#
ACTIVE       AVAIL  D000AMA           1      1  0  23
NO    2806   001F  A132
STANDBY1     AVAIL  D010AMA           0      0  0  23
NO    2806   0020  20BF
```

**10** Determine if any volumes are in the INERROR state.

| If any volumes | Do |
|---|---|
| are in the INERROR state | step 11 |
| are not in the INERROR state | step 13 |

# IOD ssys I
# **minor** (end)

**11** To reset the INERROR volumes, perform the common procedure *Resetting a volume* in this document. Complete the procedure and return to this point.

**12** Determine if the INERROR volumes changed to READY status.

| If the INFERROR volumes | Do |
|---|---|
| changed to READY status | step 14 |
| did not change to READY status | step 15 |

**13** To close the standby file, type

**>CLOSE ssys STDBY 1**

and press the Enter key.

*where*

**ssys**
is the affected subsystem

***Note:*** If you close the standby file, the DIRP must open a new standby file on another IOC.

**14** Determine if the ssys I alarm cleared.

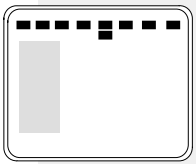
| If the alarm | Do |
|---|---|
| cleared | step 16 |
| did not clear | step 15 |

**15** For additional help, contact the next level of support.

**16** The procedure is complete.

# IOD ssys MP or ssys P critical

## Alarm display



| CM | MS | IOD | Net | PM | CCS | Lns | Trks | Ext | APPL |
|---|---|---|---|---|---|---|---|---|---|
| . | . | **ssys P** | . | . | . | . | . | . | . |
| | | ***C*** | | | | | | | |

## Indication

At the IOD level of the MAP display, ssys MP indicates critical alarms for an ssys MP. The ssys P alarm indicates critical alarms for an ssys P.

## Meaning

The parallel file assigned to the subsystem indicated by the alarm is not recording. The abbreviation ssys represents the affected subsystem. There can be an change in the JF, OM, and AMA subsystems.

## Result

Loss of backup files of billing data.

## Common procedures

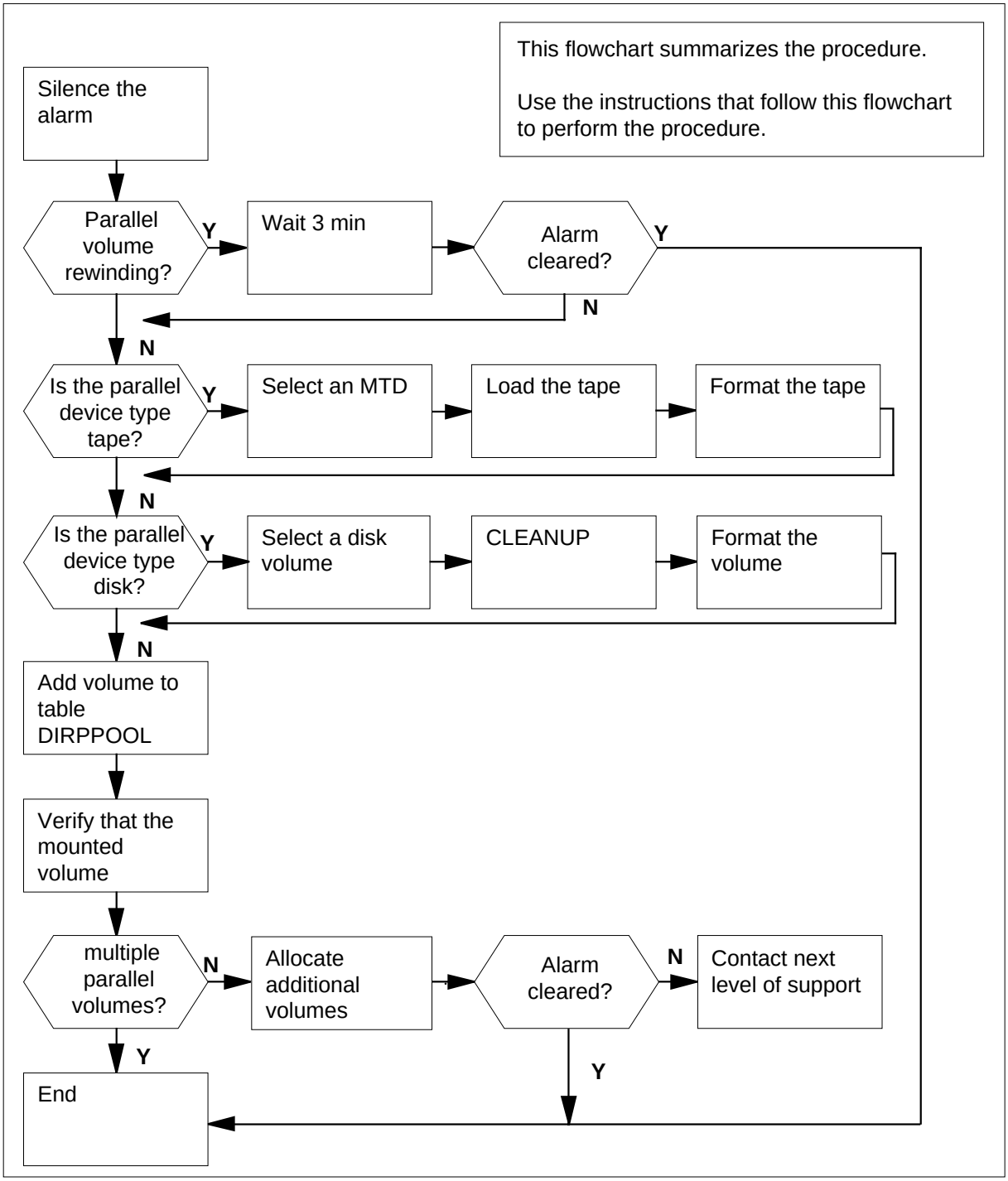
This procedure refers to *Allocating a volume* and *Resetting a volume*.

## Action

The following flowchart is a summary of the procedure. Use the instructions in the step-action procedure that follows the flowchart to clear the alarm.

# IOD ssys MP or ssys P critical (continued)

**Summary of Clearing an IOD ssys MP or ssys P critical alarm**



# IOD ssys MP or ssys P critical (continued)

### Clearing an IOD ssys MP or ssys P critical alarm

***At the MAP terminal***

**1**

**CAUTION**
**Possible loss or corruption of AMA data**
Use this procedure or follow it exactly. Not doing so will lose or damage automatic message accounting (AMA) data. The operating company uses AMA data to produce billings. Loss or damage of AMA data results in revenue loss for the operating company.

To access the DIRP level of the MAP menu, type

**>MAPCI;MTC;IOD;DIRP**

and press the Enter key.

*Example of a MAP:*

```
IOD
IOC  0  1  2
STAT .  L  .

DIRP: HOLD00 XFER:   .  DVI :   .   DPPP:   .   DPPU:   .
NOP :   .   SLM :   .   NX25:   .   MLP :   .   SCAI:   .
```

**2** To silence the audible alarm, type

**>SIL**

and press the Enter key.

**3** To query the subsystem, type

**>QUERY ssys ALL**

and press the Enter key.

*where*

**ssys**
is the subsystem

*Example of a MAP response:*

## IOD ssys MP or ssys P
## **critical** (continued)

```
FILE(S)STATE VOLUME RECCOUNT BLOCK E V V_B VLID FNUM FRN#
ACTIVE AVAIL D000AMA  1     1  0  23  NO  2806  001F A132
STANDBY1 AVAIL D010AMA 0    0  0  23  NO   2806 0020 20BF

PARALLEL FILE STATE VOLUME BLOCK E  V  V_B VLID FNUM FRN#
B910130174616AMA  AVAIL T0   0  0   0  YES  2400
```

**4** Record the status of the parallel volume.

**5** Determine if the active parallel volume mounted.

| If the active parallel volume | Do |
|---|---|
| mounted | step 6 |
| did not mount | step 21 |

**6** Determine if multiple parallel volumes are in use.

| IfMultiple parallel volumes | Do |
|---|---|
| used | step 7 |
| not used | step 10 |

**7** To query the subsystem to determine the number of parallel volumes that moved, type

**`>QUERY ssys ALL`**

and press the Enter key.

*where*

**ssys**
is the subsystem

*Example of a MAP response:*

```
FILE(S)STATE VOLUME RECCOUNT BLOCK E V V_B VLID FNUM FRN#
ACTIVE AVAIL D000AMA  1     1  0  23  NO  2806  001F A132
STANDBY1 AVAIL D010AMA 0    0  0  23  NO   2806 0020 20BF

PARALLEL FILE STATE VOLUME BLOCK E  V  V_B VLID FNUM FRN#
B910130174616AMA  AVAIL T0   0  0   0  YES  2400
```

**8** Determine if enough recording volumes were allocated to the parallel recording pool.

| If enough recording volumes | Do |
|---|---|
| were allocated | step 10 |

## IOD ssys MP or ssys P critical (continued)

| If enough recording volumes | Do |
|---|---|
| were not allocated | step 9 |

**9** Perform the common procedure *Allocating a volume* in this document to allocate additional volumes. Complete the procedure and return to this point.

**10** Determine if the status of the active parallel volume is RWIND.

| If the status | Do |
|---|---|
| is RWIND | step 12 |
| is not RWIND | step 11 |

**11** Determine if the status of the parallel volume is INERROR.

| If the status | Do |
|---|---|
| is INERROR | step 14 |
| is not INERROR | step 13 |

**12** Wait for the rewind to complete. The rewind takes 3 min. Continue to QUERY the subsystem to monitor the parallel volume status.

**13** Determine if the ssys P alarm cleared.

| If the alarm | Do |
|---|---|
| cleared | step 39 |
| did not clear | step 5 |

**14** Reset the INERROR volume. Perform the common procedure *Resetting a volume* in this document. Complete the procedure and return to this point.

**15** To verify that the INERROR volume changed from INERROR to AVAIL , type

**`>QUERY ssys ALL`**

and press the Enter key.

*where*

**ssys**
is the subsystem

*Example of a MAP response:*

```
FILE(S)STATE VOLUME RECCOUNT BLOCK E V V_B VLID FNUM FRN#
ACTIVE AVAIL D000AMA  1     1  0  23  NO  2806  001F A132
STANDBY1 AVAIL D010AMA 0    0  0  23  NO   2806 0020 20BF

PARALLEL FILE STATE VOLUME BLOCK E  V  V_B VLID FNUM FRN#
B910130174616AMA  AVAIL T0   0  0   0  YES  2400
```

## IOD ssys MP or ssys P
## **critical** (continued)

**16** Determine if the reset was successful.

| If the reset | Do |
|---|---|
| was successful | step 20 |
| was not successful | step 17 |

**17** Check the IOD alarm header on the MAP display for an IOC alarm.

| If an IOC alarm | Do |
|---|---|
| is present | step 19 |
| is not present | step 18 |

**18** Contact the next level of support to restore the INERROR volume(s).

Go to step 15.

**19** Perform the correct procedure in *Recovery Procedures*. to clear the alarm. Complete the procedure and return to this point.

**20** Determine if the ssys P alarm cleared.

| If the alarm | Do |
|---|---|
| cleared | step 39 |
| did not clear | step 38 |

**21** To determine the recording device type used for subsystem parallel recording, type

**`>QUERY ssys ALL`**

and press the Enter key.

*where*

**ssys**
is the subsystem

*Example of a MAP response:*

```
FILE(S)STATE VOLUME RECCOUNT BLOCK E V V_B VLID FNUM FRN#
ACTIVE AVAIL D000AMA  1     1  0  23  NO  2806  001F A132
STANDBY1 AVAIL D010AMA 0    0  0  23  NO   2806 0020 20BF

PARALLEL FILE STATE VOLUME BLOCK E  V  V_B VLID FNUM FRN#
B910130174616AMA  AVAIL T0   0  0   0  YES  2400
```

**22** Record the pool number shown in the POOLNO field.

**23** To access table DIRPPOOL, type

**`>TABLE DIRPPOOL`**

## IOD ssys MP or ssys P critical (continued)

and press the Enter key.

*Example of a MAP response:*

```
MACHINES NOT IN SYNC – DMOS NOT ALLOWED
JOURNAL FILE UNAVAILABLE – DMOS NOT ALLOWED
TABLE: DIRPPOOL
```

**24** To determine the recording device type used for the subsystem parallel pool, type

**>POSITION pool_no; LIST**

and press the Enter key.

*where*

**pool_no**
is the pool number found in step 22

*Example of a MAP response:*

```
POOLNO POOLNAME POOLTYPE DEVTYPE  VOLUME0  VOLUME1
VOLUME2  VOLUME3 VOLUME4  VOLUME5  VOLUME6  VOLUME7
VOLUME8  VOLUME9 VOLUME10 VOLUME11 VOLUME12 VOLUME13
VOLUME14 VOLUME15 VOLUME16 VOLUME17 VOLUME18 VOLUME19
VOLUME20 VOLUME21 VOLUME22 VOLUME23

0  AMAPOOL  REGULAR  TAPE     $     $     $      $   $
  $      $     $       $      $      $      $  $      $
   $     $       $      S      $      $
$      $     $     $
```

**25** Record the value in the DEVTYPE field.

***Note:*** The MAP response in the preceding step shows the device type in the DEVTYPE field is TAPE.

**26** To exit the DIRPPOOL table, type

**>LEAVE**

and press the Enter key.

**27** Determine if the parallel device is tape or disk.

| If the parallel device | Do |
|---|---|
| is tape | step 28 |
| is disk | step 31 |

**28** Select a magnetic tape drive (MTD) used for parallel data. Record the MTD number.

**29** Mount a tape acceptable for recording parallel subsystem data on the selected MTD. Perform the correct procedure in *Magnetic Tape Reference Manual*, 297-1001-118. Complete the procedure and return to this point.

## IOD ssys MP or ssys P
## **critical** (continued)

**30** Go to step 34.

**31** Select a disk volume for parallel subsystem recording. Determine from office records the name of the volume.

**32** To enter the disk utility, type

**>DISKUT**

and press the Enter key.

**33** To list the files on the selected disk volume, type

**>LIST vol_name ALL**

and press the Enter key.

*where*

**vol_name**
is the volume name

*Example of a MAP response:*

```
Volume information for SLM disk 0
Volume      Modify      Total   No. of      ITOC
Name        Date        No. of  Open        Files
            Y/M/D       Files   Files
---------   -------     ------- -------     ----
S00Dvol1    870122       876       2          15
S00Dvol2    861121        14      14           0
S00Dvol3    861121         0       0           0
S00Dvol4    861121      2048     100           0
S00Dvol5    861121         1       0           1
```

**34** To allocate the volume, perform the common procedure *Allocating a volume* in this document. Complete the procedure and return to this point.

**35** To query the subsystem, type

**>QUERY ssys ALL**

and press the Enter key.

*where*

**ssys**
is the subsystem

*Example of a MAP response:*

```
FILE(S)STATE VOLUME RECCOUNT BLOCK E V V_B VLID FNUM FRN#
ACTIVE AVAIL D000AMA  1     1  0  23  NO  2806  001F A132
STANDBY1 AVAIL D010AMA 0    0  0  23  NO   2806 0020 20BF

PARALLEL FILE STATE VOLUME BLOCK E  V  V_B VLID FNUM FRN#
B910130174616AMA  AVAIL T0   0  0   0  YES  2400
```

## IOD ssys MP or ssys P **critical** (end)

**36** Determine if the parallel volume allocated.

| If the parallel volume | Do |
|---|---|
| allocated | step 37 |
| did not allocate | step 38 |

**37** Determine if the ssys P or ssys MP alarm cleared.

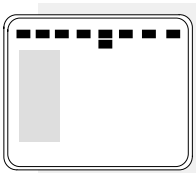
| If the alarm | Do |
|---|---|
| cleared | step 39 |
| did not clear | step 38 |

**38** For additional help, contact the next level of support.

**39** The procedure is complete.

# IOD XMITn minor

## Alarm display



| CM | MS | IOD | Net | PM | CCS | Lns | Trks | Ext | APPL |
|---|---|---|---|---|---|---|---|---|---|
| . | . | XMITn | . | . | . | . | . | . | . |

## Indication

At the IOD level of the MAP display, XMIT (transmit) followed by a number (n) indicates that an XMITn minor alarm exists.

## Meaning

A remote data center requested transmission of a file from a recording device. The number that follows XMIT represents the number of the recording device that holds the file.

## Result

The condition does not affect service.

## Common procedures

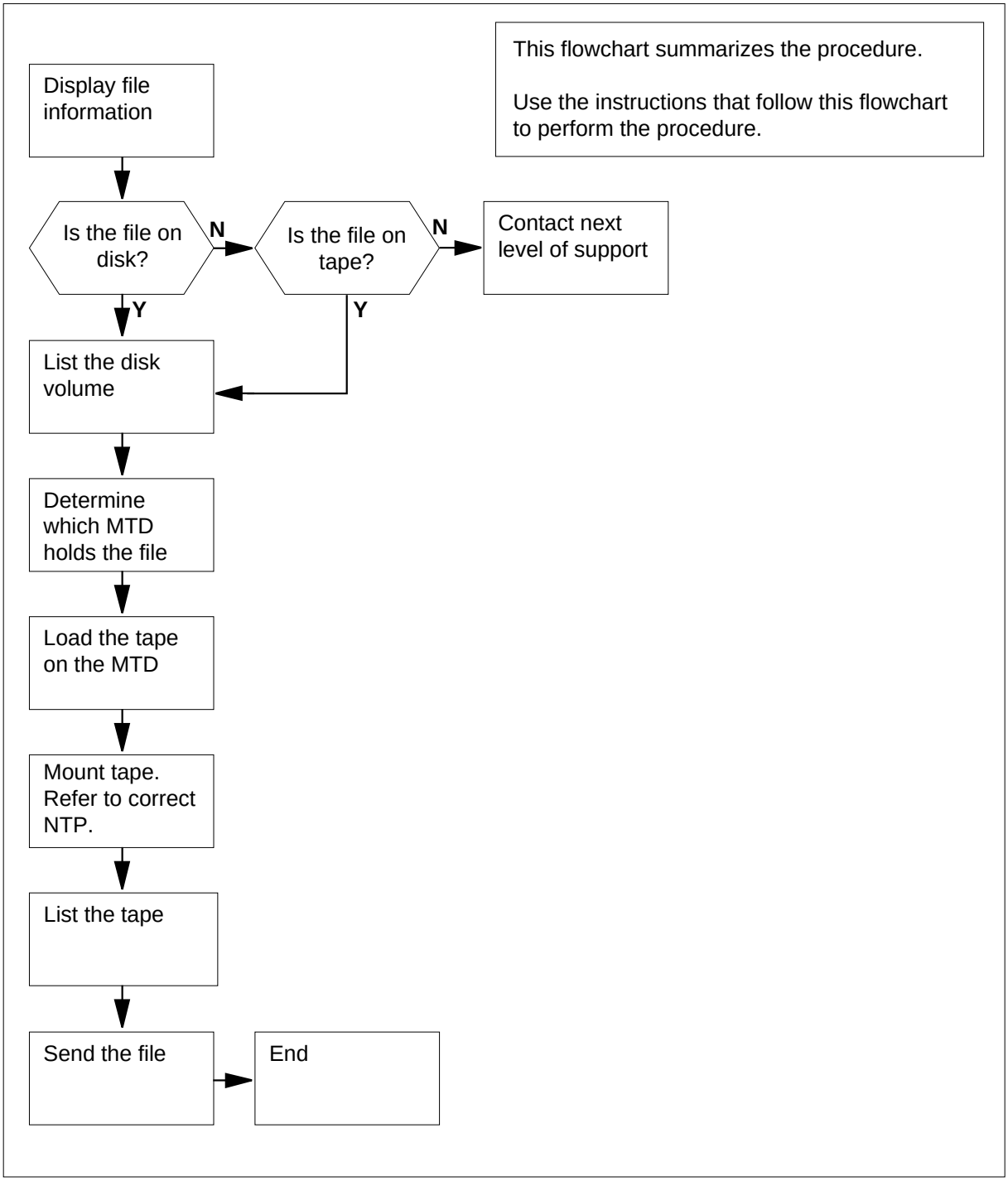
There are no common procedures.

## Action

The flowchart is a summary of the procedure. Use the instructions in the step-action procedure that follows the flowchart to clear the alarm.

# IOD XMITn
# minor (continued)

**Summary of Clearing an IOD XMITn minor alarm**



# IOD XMITn
## minor (continued)

### Clearing an IOD XMITn minor alarm

***At the MAP terminal***

**1** To access the XFER (transfer) level of the MAP display, type

**`>MAPCI;MTC;IOD;XFER`**

and press the Enter key.

**2** To display information about the file on the recording device, type

**`>QUERY XMIT dphd_index`**

and press the Enter key.

*where*

**dphd_index**
is a value for dirphold index (0 to 99)

**3** To determine the location of the stored file, note the data in the FILE_LOCN.

| If the file | Do |
|---|---|
| is on disk | step 4 |
| is on tape | step 6 |

**4** To access the disk utility software, type

**`>DISKUT`**

and press the Enter key.

**5** To list the volume on the disk, type

**`>LISTVOLS vol_name ALL`**

and press the Enter key.

*where*

**vol_name**
is the name of the disk volume

*Example of a MAP response:*

```
Volume information for SLM disk 0
Volume          Modify      Total          No. of  ITOC
Name            Date        No. of         Open    Files
                Y/M/D       Files          Files
---------       -------     --------       ------- ----
S00dvol1        870122       876             2      15
S00Dvol2        861121        14            14       0
S00Dvol3        861121         0             0       0
S00Dvol4        861121      2048           100       0
S00Dvol5        861121         1             0       1
```

**6** Determine from office records the location of the magnetic tape drive (MTD) that holds the file.

**7** Perform the correct procedure in *Routine Procedures* to mount the tape.. Complete the procedure and return to this point.

**8** To list the tape, type

**`>LIST  mtd_no`**

and press the Enter key.

*where*

**mtd_no**
is the number of the MTD

**9** To send the file, type

**`>XMIT  nn`**

and press the Enter key.

*where*

**nn**
is the number that appears in the alarms

**10** Determine if the XMITn alarm cleared.

| If the alarm | Do |
|---|---|
| cleared | step 12 |
| did not clear | step 11 |

**11** For additional help, contact the next level of support.

**12** The procedure is complete.

# 2 Lines alarm clearing procedures

## Introduction

This chapter contains lines alarm clearing procedures. Lines alarms appear under the Lns header of the alarm banner in the MAP. All the procedures contain the following sections:

- Alarm display
- Indication
- Meaning
- Result
- Common procedures
- Action

### Alarm display

This section indicates how the alarm appears at the MAP terminal.

### Indication

This section indicates:

- the location of the alarm indication
- the image of the alarm
- the affected subsystem
- the seriousness of the alarm

### Meaning

This section indicates the cause of the alarm.

### Result

This section describes the result of the alarm condition.

### Common procedures

This section lists common procedures used during the alarm clearing procedure. A common procedure is a series of steps repeated within

maintenance procedures. Card removal and replacement is an example of a common procedure. Common procedures appear in the common procedures chapter in this NTP.

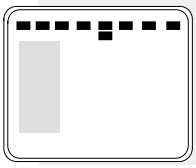
Do not use common procedures unless the step-action procedure directs you to the common procedure.

## Action

This section provides a summary flowchart of the alarm clearing procedure. A detailed step-action procedure follows the flowchart.

# Lns DF
# Major

## Alarm display



| CM | MS | IOD | Net | PM | CCS | **Lns DF M** | Trks | Ext | APPL |
|---|---|---|---|---|---|---|---|---|---|
| . | . | . | . | . | . | | . | . | . |

## Indication

A DF appears under the Lns header in the MAP display for the subsystem status.

## Meaning

A diagnostic failure (DF) alarm indicates that two or more line circuits have alarms in the same class. The classes are critical, major, or minor. The alarms are SDIAG, DIAG, NDIAG, FAC, MSET, MCARD, UCARD, or QDIAG.

## Result

The condition affects subscriber service. You must correct the condition.

## Common procedures

This procedure refers to *Clearing lines alarms*.

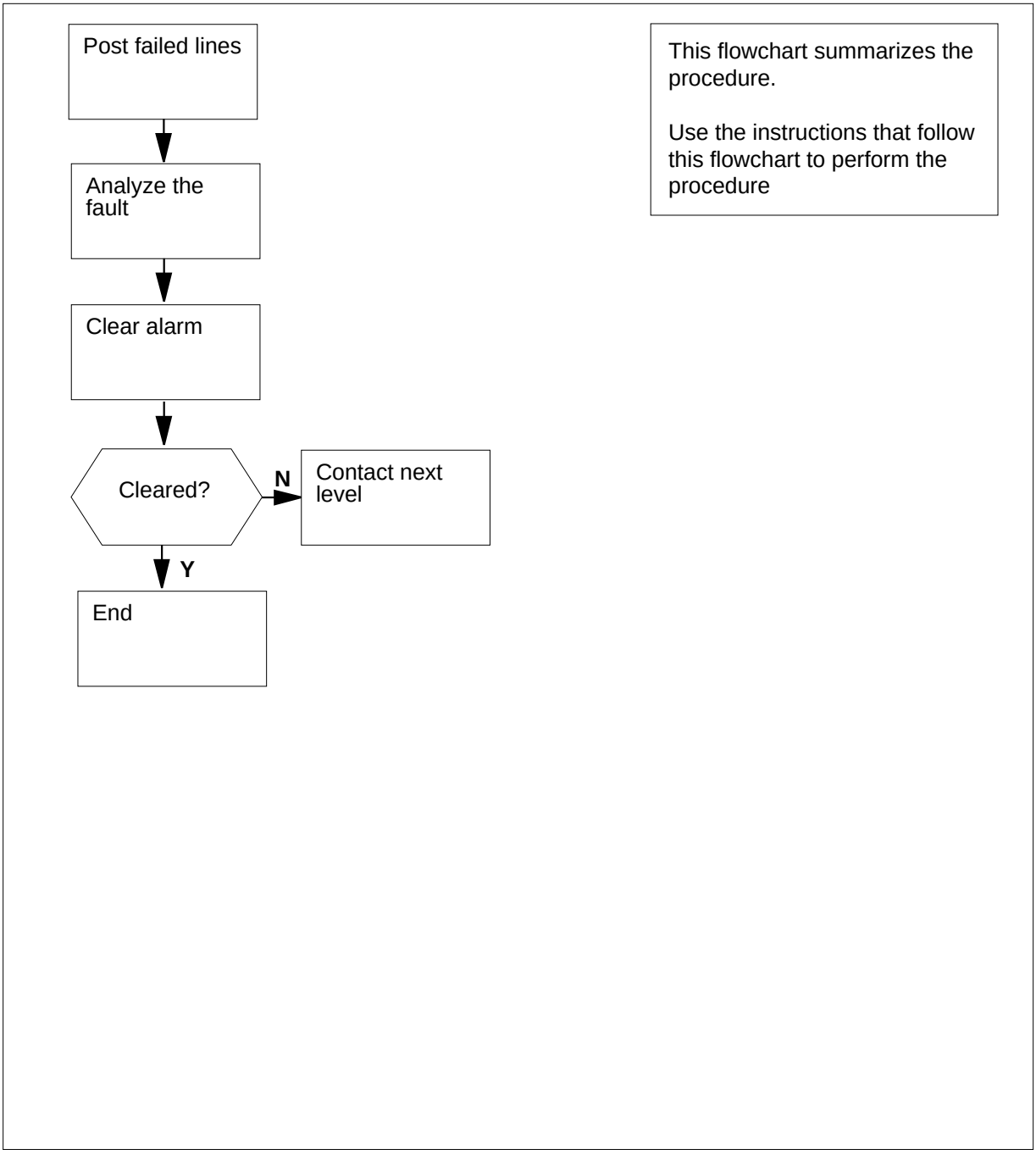
Do not go to the common procedure unless the step-action procedure directs you to the common procedure.

## Action

This procedure contains a summary flowchart and a list of steps. Use the flowchart to review the procedure. Follow the steps to perform the procedure.

# Lns DF
# **Major** (continued)

**Summary of Clearing an Lns DF Major alarm**



# Lns DF
## Major (continued)

### Clearing an Lns DF Major alarm

***At the MAP display:***

**1** To access the LTP level of the MAP display, type

**>MAPCI;MTC;LNS;LTP**

and press the Enter key.

**2** To post the lines that have a diagnostic failure , type

**>POST DF**

and press the Enter key.

*Example of a MAP response:*

```
POST      DF  DELQ          BUSYQ     PREFIX

LCC  PTY RNG.....LEN.......... DN       STA F S LTA TE
IBN          REM1 00 0 00 06  7224345   IDL D
```

**3** Note the failure code that appears under the F header (in bold in the response in the MAP example in the previous step). Check the following information for the meaning of the failure code.

| If Failure Code | Do Check the Meaning |
|---|---|
| is D | the DIAG test failed |
| is F | the DIAG test failed |
| is S (N/A for ISDN) | the SDIAG test failed |
| is N | the SDIAG test passed on the line that has faults |
| is m | the DIAG test detected a missing keyset or network termination 1 (NT1) |
| is M | the DIAG test detected a missing line card |
| is Q | there is a call processing error |
| is I | there is a major incoming message overload (ICMO) |
| is i | there is a minor incoming message overload (ICMO) |
| is l | the keyset line failed the loopback test at the terminal |

## Lns DF
## **Major** (end)

**4** Perform the procedure *Clearing lines alarm*s. Complete the procedure and return to this point.

**5** Check the MAP to see if the DF major alarm cleared.

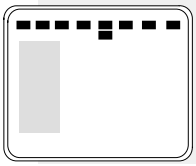
| If the DF major alarm | Do |
|---|---|
| cleared | step 7 |
| did not clear | step 6 |

**6** For additional help, contact the next level of support.

**7** The procedure is complete.

# Lns DIAG
# critical, major, or minor

## Alarm display



| CM | MS | IOD | Net | PM | CCS | **Lns** | Trks | Ext | APPL |
|---|---|---|---|---|---|---|---|---|---|
| . | . | . | . | . | . | **DIAG** | . | . | . |
| | | | | | | **M** | | | |

## Indication

The DIAG appears under the Lns header in the MAP display for subsystem status.

## Meaning

The diagnostic (DIAG) alarm indicates that a number of lines failed the extended diagnostic test.

## Result

The impact on subscriber service depends on the type of the failure. For example, a call can continue when a noise problem affects the quality of service. A test failure for transhybrid loss or flux cancellation results in loss of service until you correct the fault.

## Common procedures

This procedure refers to *Clearing lines alarms*.

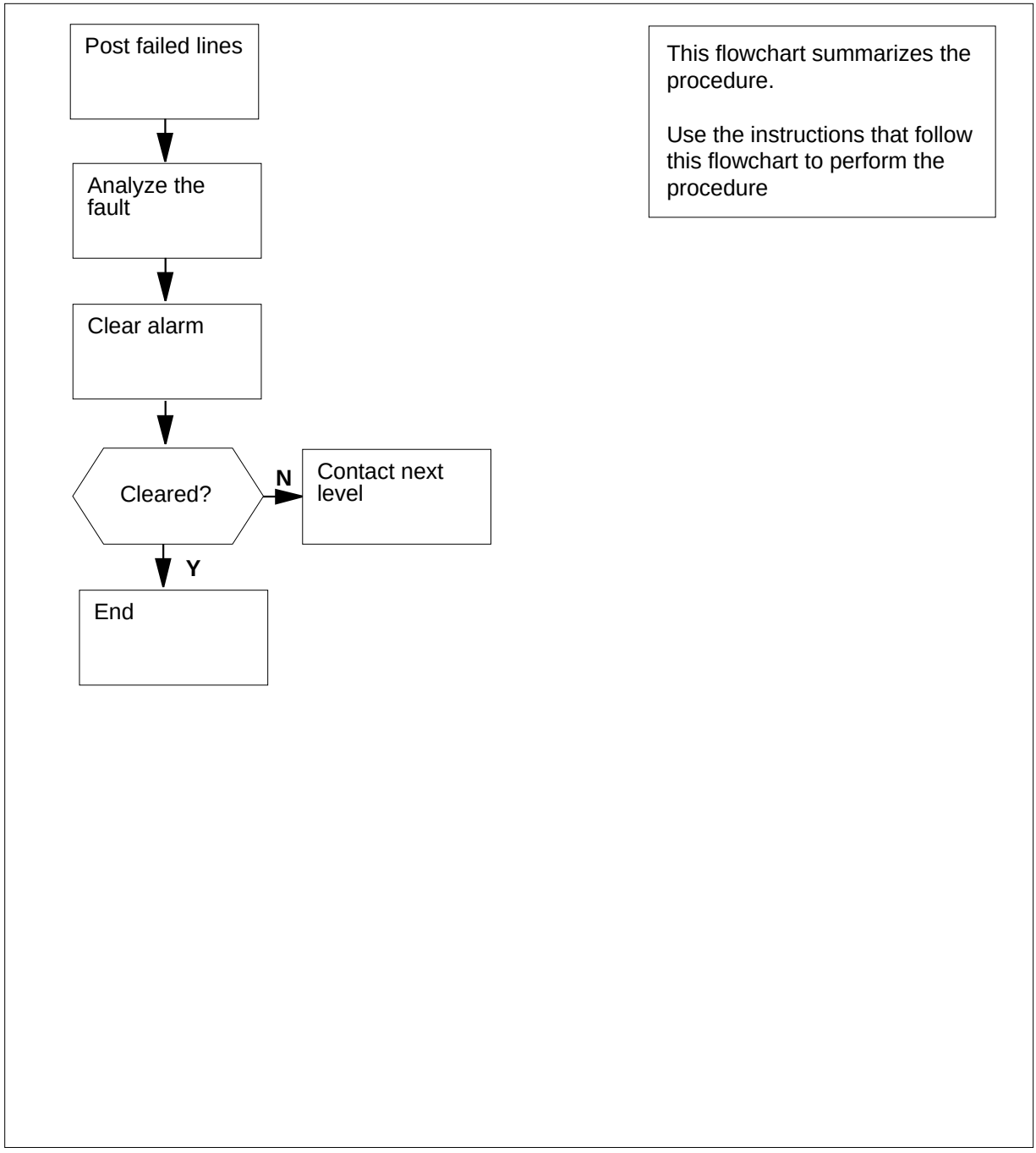
Do not go to the common procedure unless the step-action procedure directs you to the common procedure.

## Action

This procedure contains a summary flowchart and a list of steps. Use the flowchart to review the procedure. Follow the steps to perform the procedure.

# Lns DIAG
# critical, major, or minor (continued)

**Summary of Clearing an Lns DIAG critical, major, or minor alarm**



# Lns DIAG
# critical, major, or minor (continued)

**Clearing an Lns DIAG critical, major, or minor alarm**

***At the MAP:***

**1** To access the LTP level of the MAP display, type

**>MAPCI;MTC;LNS;LTP**

and press the Enter key.

**2** To post the lines that have a diagnostic failure, type

**>POST DF D**

and press the Enter key.

*Example of a MAP response:*

```
POST     DF D    DELQ         BUSYQ     PREFIX

LCC  PTY RNG.....LEN.......... DN       STA F S LTA TE
IBN          REM1 00 0 00 06  7224345   IDL D
```

**3** Note the failure code that appears under the F header (in bold in the response in the MAP example in the previous step). Check the following information for the meaning of the failure code.

| If Failure Code | Do Check the Meaning |
|---|---|
| is D | the DIAG test failed |
| is F | the DIAG test failed |
| is S (N/A for ISDN) | the SDIAG test failed |
| is N | the SDIAG test passed on the line that has faults |
| is m | the DIAG test detected a missing keyset or network termination 1 (NT1) |
| is M | the DIAG test detected a missing line card |
| is Q | a call-processing error is present |
| is I | a major incoming message overload (ICMO) is present |
| is i | a minor incoming message overload (ICMO) is present |
| is l | the keyset line failed the loopback test at the terminal |

## Lns DIAG
## critical, major, or minor (end)

**4** Perform the procedure *Clearing lines alarms.* Complete the procedure and return to this point.

**5** Check the MAP display to see if the DIAG major alarm cleared.

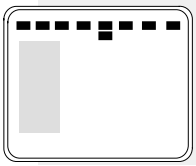
| If the DIAG major alarm | Do |
|---|---|
| cleared | step 7 |
| did not clear | step 6 |

**6** For additional help, contact the next level of support.

**7** The procedure is complete.

# Lns FAC major

## Alarm display



| CM | MS | IOD | Net | PM | CCS | **Lns** | Trks | Ext | APPL |
|---|---|---|---|---|---|---|---|---|---|
| . | . | . | . | . | . | **FAC** | . | . | . |
| | | | | | | **M** | | | |

## Indication

An FAC appears under the Lns header in the MAP subsystem status display for the MAP.

## Meaning

A facility (FAC) alarm indicates the number of line circuits that failed the facility check reached the threshold.

## Result

The impact on subscriber service depends on the type of the failure. For example, a call can continue even when a noise problem affects the quality of service. A test failure for a transhybrid loss or flux cancellation results in loss of service until correction of the fault occurs.

## Common procedures

This procedure refers to *Clearing Lines alarms*

Do not use the common procedure unless the step-action procedure directs you to the common procedure.

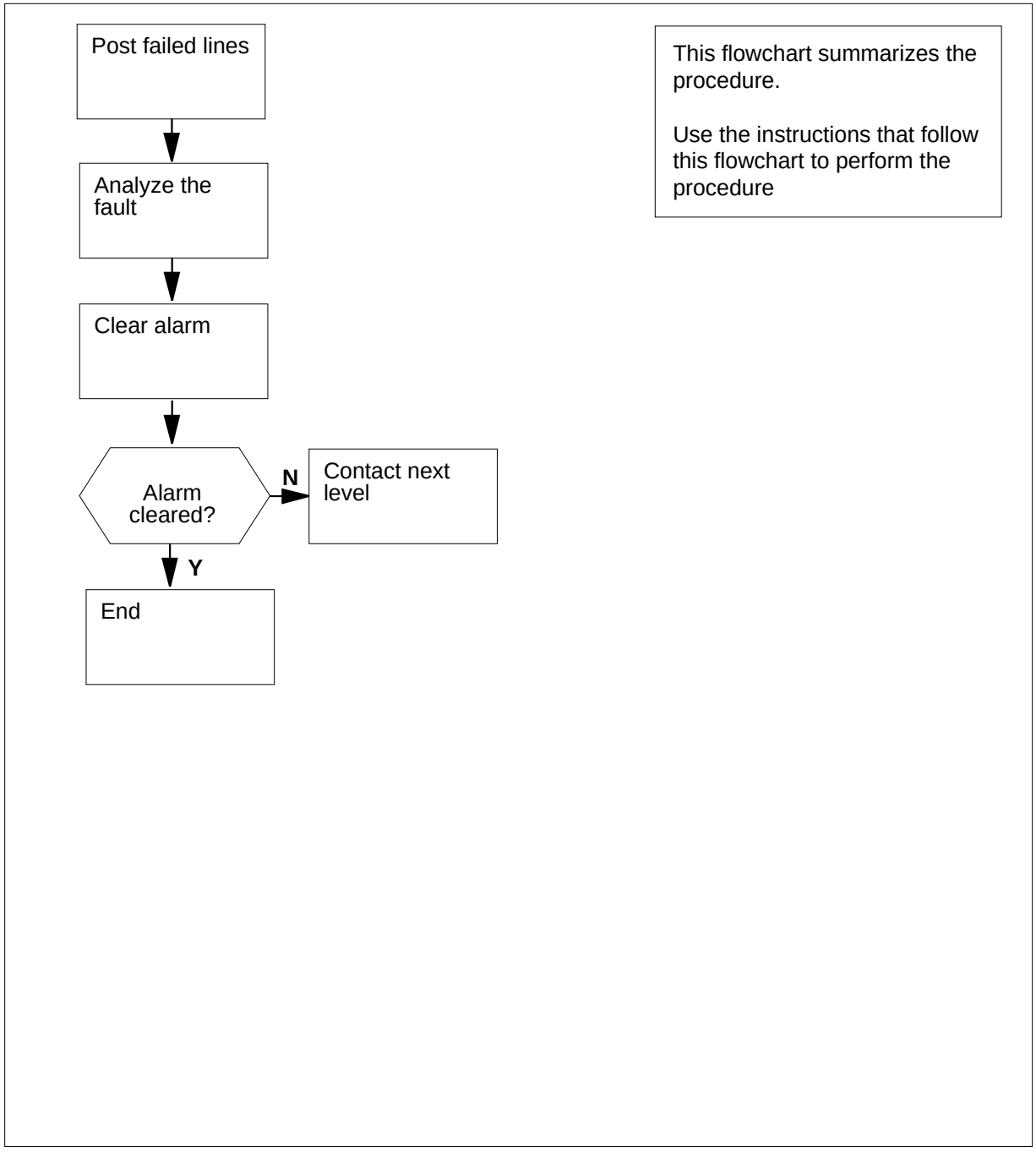
## Action

This procedure contains a summary flowchart and a list of steps. Use the flowchart to review the procedure. Follow the steps to perform the procedure.

***Note:*** If the card in the HAZ state is a WLC (World Line Card - 6X17BA), the cause of the HAZard condition must clear first. A DIAGnosis is not allowed on a 6X17BA while it is in the HAZ state.

# Lns FAC
# **major** (continued)

**Summary of Clearing an Lns FAC major alarm**



# Lns FAC
## **major** (continued)

### Clearing an Lns FAC major alarm

***At the MAP display:***

**1** To access the line test position (LTP) level of the MAP display, type

**>MAPCI;MTC;LNS;LTP**

and press the Enter key.

**2** To post the lines that have a diagnostic failure, type

**>POST DF F**

and press the Enter key.

*Example of a MAP response:*

```
POST     DF F    DELQ         BUSYQ     PREFIX

LCC  PTY RNG.....LEN.......... DN       STA F S LTA TE
IBN          REM1 00 0 00 06  7224345   IDL D
```

**3** Note the failure code that appears under the F header (in bold in the response in the MAP display example in the previous step). Check the following information for the meaning of that failure code.

| If Failure Code | Do Check the Meaning |
|---|---|
| is D | the DIAG test failed |
| is F | the DIAG test failed |
| is S (N/A for ISDN) | the SDIAG test failed |
| is N | the SDIAG test passed on the line that has faults |
| is m | the DIAG test detected a missing keyset or network termination 1 (NT1) |
| is M | the DIAG test detected a missing line card |
| is Q | a call-processing error is present |
| is I | a major incoming message overload (ICMO) is present |
| is i | a minor incoming message overload (ICMO) is present |
| is l | the keyset line failed the loopback test at the terminal |

## Lns FAC
## **major** (end)

**4** Perform the procedure *Clearing Lines alarms*. Complete the procedure and return to this point.

**5** Check the MAP display to see if the FAC major alarm cleared.

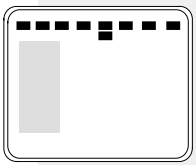
| If the FAC major alarm | Do |
|---|---|
| cleared | step 7 |
| did not clear | step 6 |

**6** For additional help, contact the next level of support.

**7** The procedure is complete.

# Lns HZD major

## Alarm display



| CM | MS | IOD | Net | PM | CCS | **Lns HZD M** | Trks | Ext | APPL |
|---|---|---|---|---|---|---|---|---|---|
| . | . | . | . | . | . | | . | . | . |

## Indication

An HZD appears under the Lns header in the subsystem status for the MAP.

## Meaning

A hazard (HZD) alarm indicates a line hazard. For example, a world line card (WLC) can have leakage resistance or foreign line voltage. The HZD alarm also indicates that the cutoff relay is in operation to isolate the line card. The HZD alarm reports that a condition is present. The system clears the hazard and the alarm. This procedure provides information about the alarm.

## Result

The affected line is out of service until the hazard condition clears.

## Common procedures

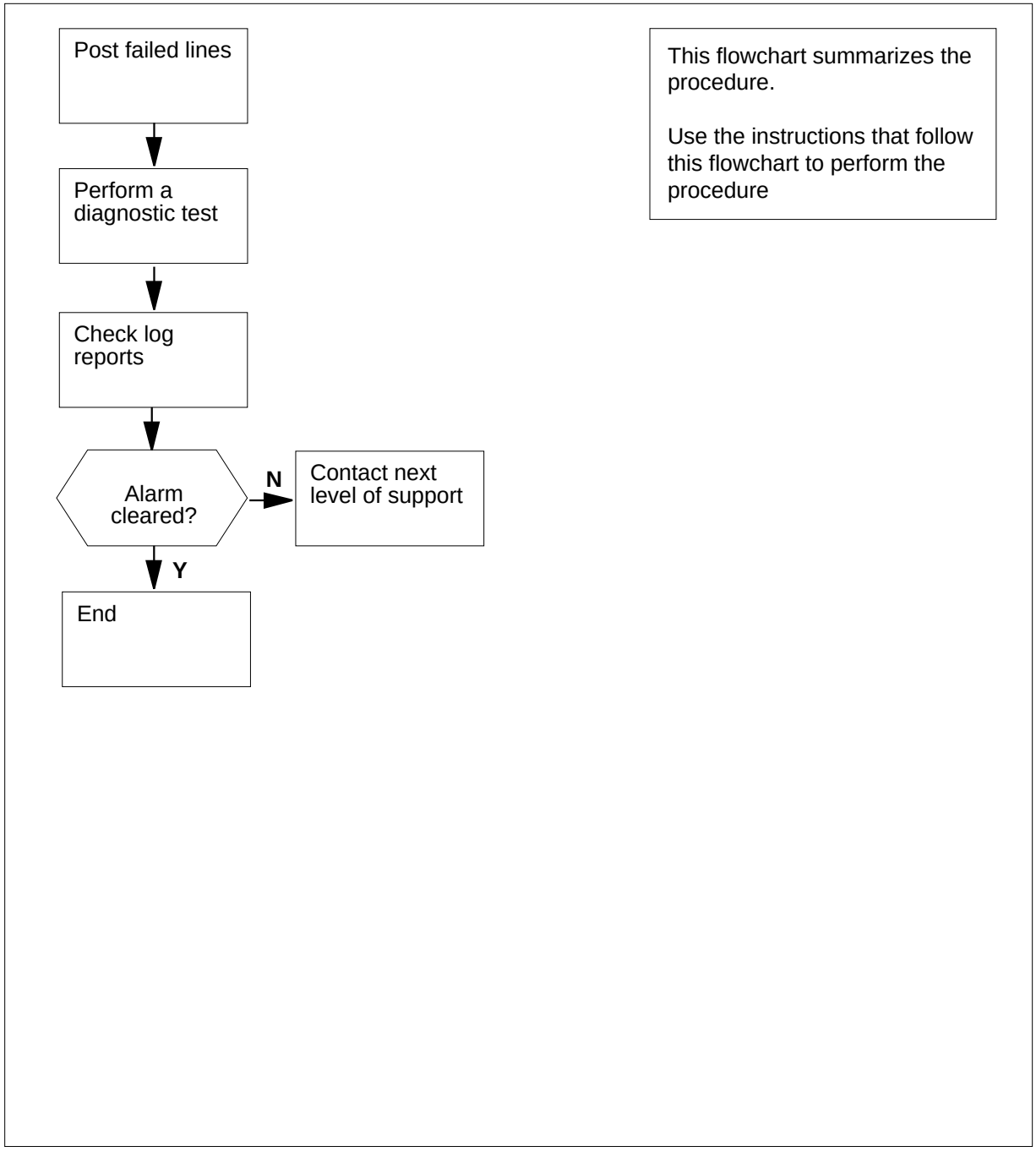
There are no common procedures.

## Action

This procedure contains a summary flowchart and a list of steps. Use the flowchart to review the procedure. Follow the steps to perform the procedure.

# Lns HZD
# **major** (continued)

**Summary of Clearing an Lns HZD major alarm**



# Lns HZD
## major (continued)

### Clearing an Lns HZD major alarm

***At the MAP terminal***

**1** To access the LTP level of the MAP display, type

**>MAPCI;MTC;LNS;LTP**

and press the Enter key.

**2** To post the lines that have a diagnostic failure, type

**>POST S HAZ**

and press the Enter key.

*Example of a MAP response:*

```
POST     S HAZ DELQ       BUSYQ     PREFIX

LCC  PTY RNG.....LEN.......... DN       STA F S LTA TE
IBN          REM1 00 0 00 06  7224345   IDL D
```

**3** Note the failure code that appears under the F header (in bold in the response in the MAP example in the previous step). Check the following information for the meaning of that failure code.

| If Failure Code | Do Check the Meaning |
|---|---|
| is D | the DIAG test failed |
| is F | the DIAG test failed |
| is S (N/A for ISDN) | the SDIAG test failed |
| is N | the SDIAG test passed on the line that has faults |
| is m | the DIAG test detected a missing keyset or network termination 1 (NT1) |
| is M | the DIAG test detected a missing line card |
| is Q | a call processing error is present |
| is I | a major incoming message overload (ICMO) is present |
| is i | a minor incoming message overload (ICMO) is present |
| is l | the keyset line failed the loopback test at the terminal |

# Lns HZD
# **major** (end)

**4** To perform a diagnostic test on each line, type

**>DIAG**

and press the Enter key.

*Example of a MAP response:*

```
***LINE132 AUG01 10:15:57 2356 TBL
     LEN HOST 15 1 9 27 DN 3511005
     REASON = Line Hazard Condition Found
     INFO =      N/A  Vac    N/A Ohms      N/A Vdc
     ACTION TAKEN = Cut-off Relay Operated
     ACTION REQUIRED    Check Facility
     CARD CODE = 6X17AA
```

**5** Check the log report displayed on the MAP terminal as a result of the Diag command.

A LINE132 log provides details about the line hazard and is for information purposes only. When the system clears the alarm, the system generates a LINE133 log.

| If the system | Do |
|---|---|
| generated a 132 log | step 6 |
| generated a 133 log | step 9 |

**6** Wait 30 min to perform another diagnostic test, type

**>DIAG**

and press the Enter key.

**7** Check the log report displayed on the MAP terminal as a result of the Diag command.

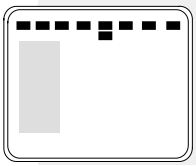
| If a LINE | Do |
|---|---|
| 132 log generated | step 8 |
| 133 log generated | step 9 |

**8** For additional help, contact the next level of support.

**9** The procedure is complete.

# Lns IMAJ major

## Alarm display



| CM | MS | IOD | Net | PM | CCS | **Lns IMAJ M** | Trks | Ext | APPL |
|---|---|---|---|---|---|---|---|---|---|
| . | . | . | . | . | . | | . | . | . |

## Indication

The IMAJ appears under the Lns header in the MAP subsystem status display.

## Meaning

An incoming message overload major (IMAJ) alarm indicates that lines with an incoming message overload (ICMO) reached a major threshold.

## Result

The condition affects subscriber service for electronic business set (EBS) and datapath lines until you correct the condition.

## Common procedures

This procedure refers to *Clearing Lines alarms*.

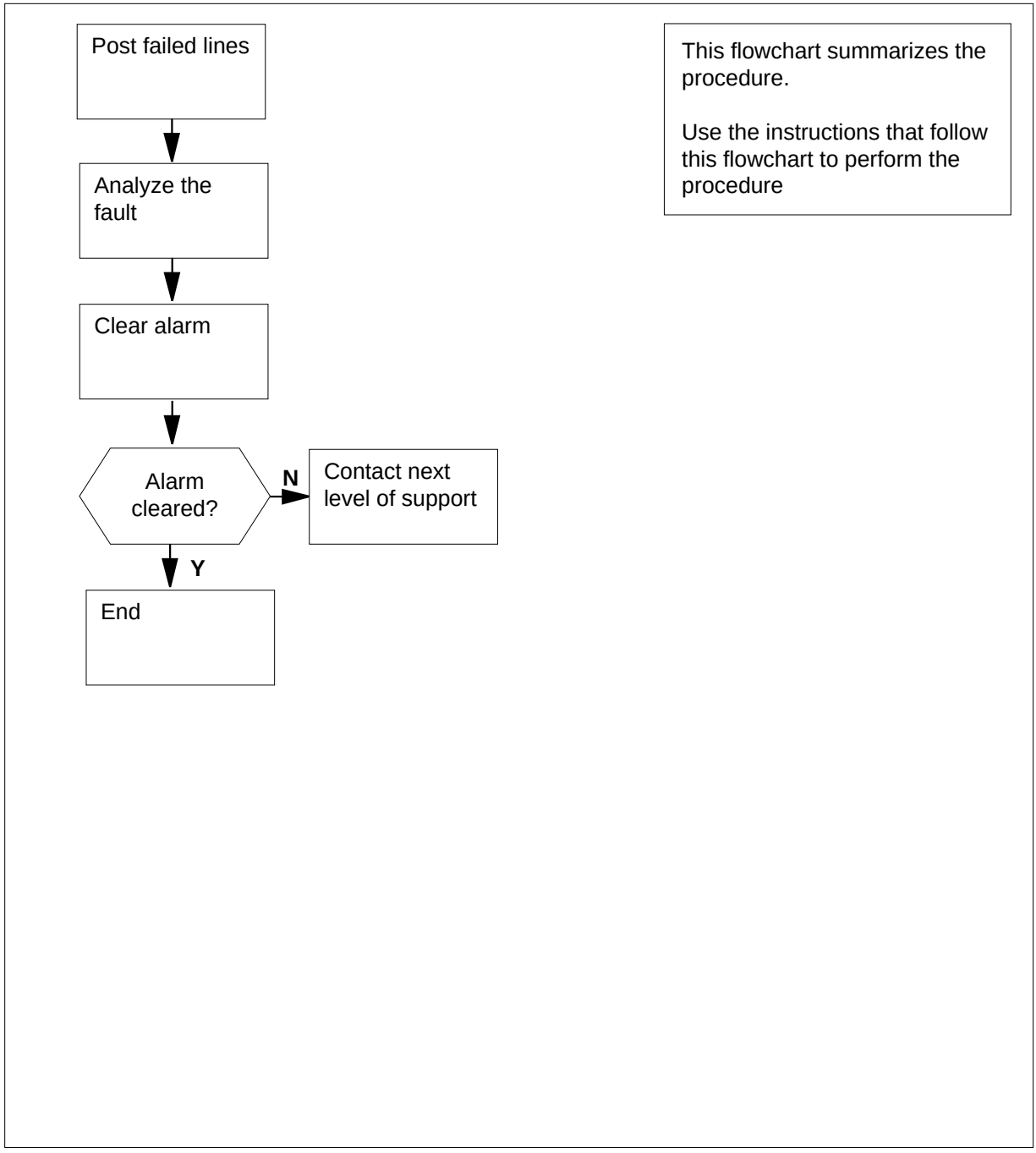
Do not proceed to the common procedure unless the step-action procedure directs you to go.

## Action

This procedure contains a summary flowchart and a list of steps. Use the flowchart to review the procedure. Follow the steps to perform the procedure.

# Lns IMAJ
## **major** (continued)

**Summary of Clearing an Lns IMAJ major alarm**



# Lns IMAJ
## major (continued)

### Clearing an Lns IMAJ major alarm

***At the MAP terminal:***

**1** To access the LTP level of the MAP display, type

**>MAPCI;MTC;LNS;LTP**

and press the Enter key.

**2** To post the lines that have a diagnostic failure, type

**>POST DF IMAJ**

and press the Enter key.

Example of a MAP response:

```
POST     DF IMAJ    DELQ        BUSYQ       PREFIX

LCC  PTY RNG.....LEN.......... DN       STA F S LTA TE
IBN          REM1 00 0 00 06  7224345   IDL D
```

**3** Note the failure code that appears under the F header. The code appears in bold for the response in the MAP example of the previous step. To determine the meaning of the failure code, use the following information.

| If Failure Code | Do Check the Meaning |
|---|---|
| is D | the DIAG test failed |
| is F | the DIAG test failed |
| is S (N/A for ISDN) | the SDIAG test failed |
| is N | the SDIAG test passed on the line that had faults earlier |
| is m | the DIAG test detected a missing keyset or network termination 1 (NT1) |
| is M | the DIAG test detected a missing line card |
| is Q | a call-processing error is present |
| is I | a major Incoming message overload (ICMO) is present |
| is i | a minor Incoming message overload (ICMO) is present |
| is l | the keyset line failed the loopback test at the terminal |

## Lns IMAJ
## **major** (end)

**4** Perform the procedure *Clearing Lines alarms*. Return to this point.

**5** Determine from the MAP display if the IMAJ major alarm cleared.

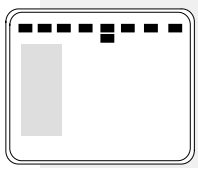
| If the IMAJ alarm | Do |
|---|---|
| cleared | step 7 |
| did not clear | step 6 |

**6** For additional help, contact the next level of support.

**7** The procedure is complete.

# Lns IMIN major

## Alarm display



| CM | MS | IOD | Net | PM | CCS | **Lns** | Trks | Ext | APPL |
|---|---|---|---|---|---|---|---|---|---|
| . | . | . | . | . | . | **IMIN** | . | . | . |

## Indication

The IMIN appears under the Lns header in the MAP subsystem status display.

## Meaning

An incoming message overload minor (IMIN) alarm indicates that the lines with incoming message overload (ICMO) alarms reached the minor threshold.

## Result

The condition affects subscriber service until you correct the condition.

## Common procedures

This procedure refers to *Clearing Lines alarms*.

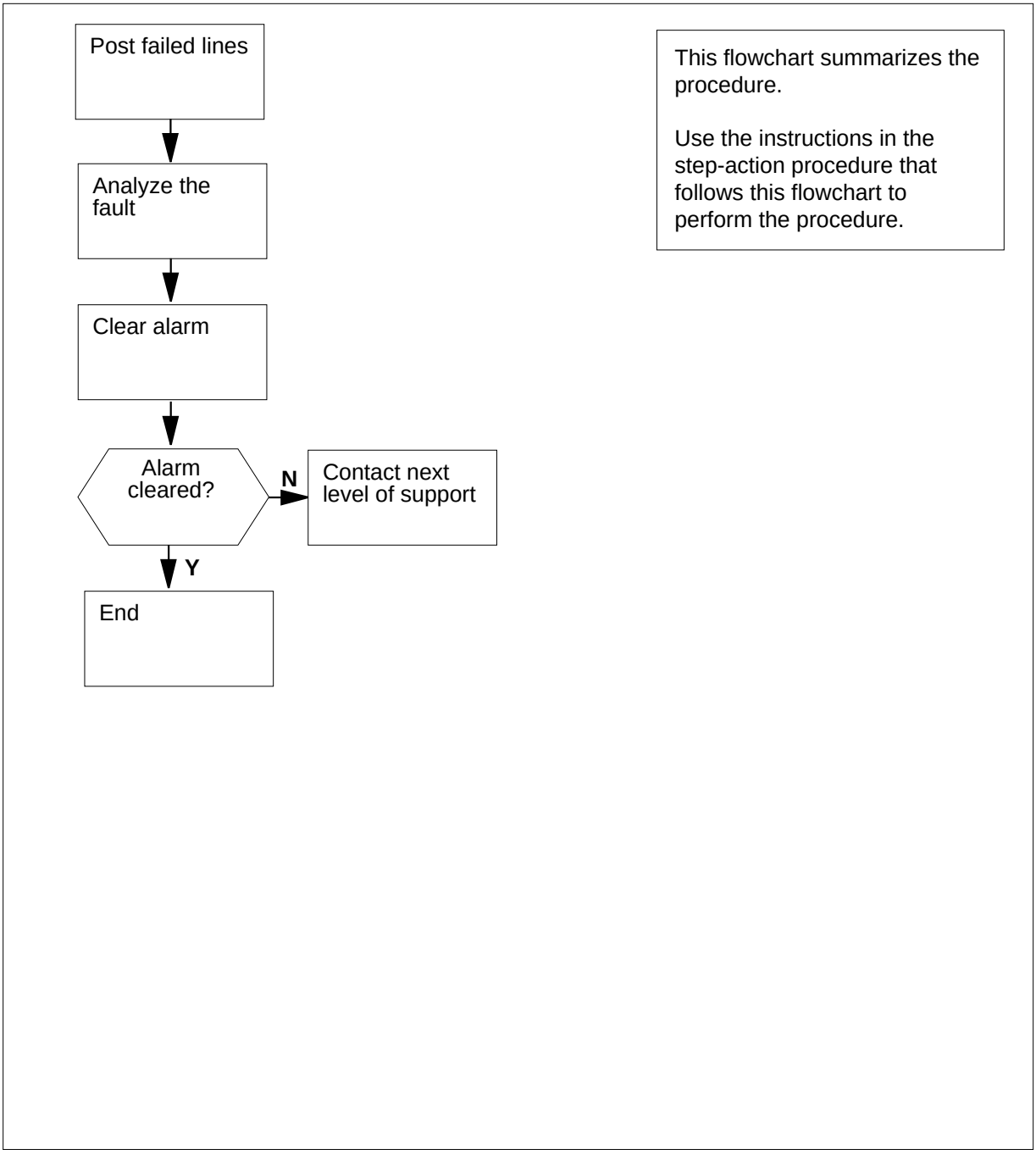
Do not proceed to the common procedure unless the step-action procedure directs you to go.

## Action

This procedure contains a summary flowchart and a list of steps. Use the flowchart to review the procedure. Follow the steps to perform the procedure.

# Lns IMIN
# major (continued)

**Summary of clearing an Lns IMIN major alarm**



# Lns IMIN
## major (continued)

### Clearing an Lns IMIN major alarm

***At the MAP terminal:***

**1** To access the LTP level of the MAP display, type

**>MAPCI;MTC:LNS;LTP**

and press the Enter key.

**2** To post the lines that have a diagnostic failure, type

**>POST DF IMIN**

and press the Enter key.

*Example of a MAP response:*

```
POST     DF IMIN    DELQ        BUSYQ       PREFIX

LCC  PTY RNG.....LEN.......... DN       STA F S LTA TE
IBN          REM1 00 0 00 06  7224345   IDL D
```

**3** Note the failure code that appears under the F header. The code appears in bold for the response in the MAP example of the previous step. To determine the meaning of the failure code, use the following information.

| If Failure Code | Do Check the Meaning |
|---|---|
| is D | the DIAG test failed |
| is F | the DIAG test failed |
| is S (N/A for ISDN) | the SDIAG test failed |
| is N | the SDIAG test passed on line that had faults earlier |
| is | the DIAG test detected a missing keyset or network termination 1 (NT1) |
| is M | the DIAG test detected a missing line card |
| is Q | a call-processing error is present |
| is I | a major Incoming message overload (ICMO) is present |
| is i | a minor Incoming message overload (ICMO) is present |
| is l | the keyset line failed the loopback test at the terminal |

## Lns IMIN
## **major** (end)

**4** Perform the procedure *Clearing Lines Alarms*. Return to this point.

**5** Determine from the MAP display if the IMIN minor alarm cleared.

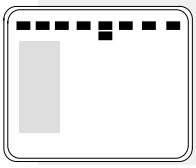
| If the IMIN alarm | Do |
|---|---|
| cleared | step 7 |
| did not clear | step 6 |

**6** For additional help, contact the next level of support.

**7** The procedure is complete.

# Lns LCARD major

## Alarm display



| CM | MS | IOD | Net | PM | CCS | **Lns** | Trks | Ext | APPL |
|---|---|---|---|---|---|---|---|---|---|
| . | . | . | . | . | . | **LCARD M** | . | . | . |

## Indication

The LCARD appears under the Lns header in the MAP subsystem status display.

## Meaning

A keyset loopback activated at the line card (LCARD) alarm indicates that key telephone set (keyset) lines failed a loopback test.

## Result

The condition affects subscriber service until the replacement or repair of the card.

## Common procedures

This procedure refers *Clearing Lines alarms*.

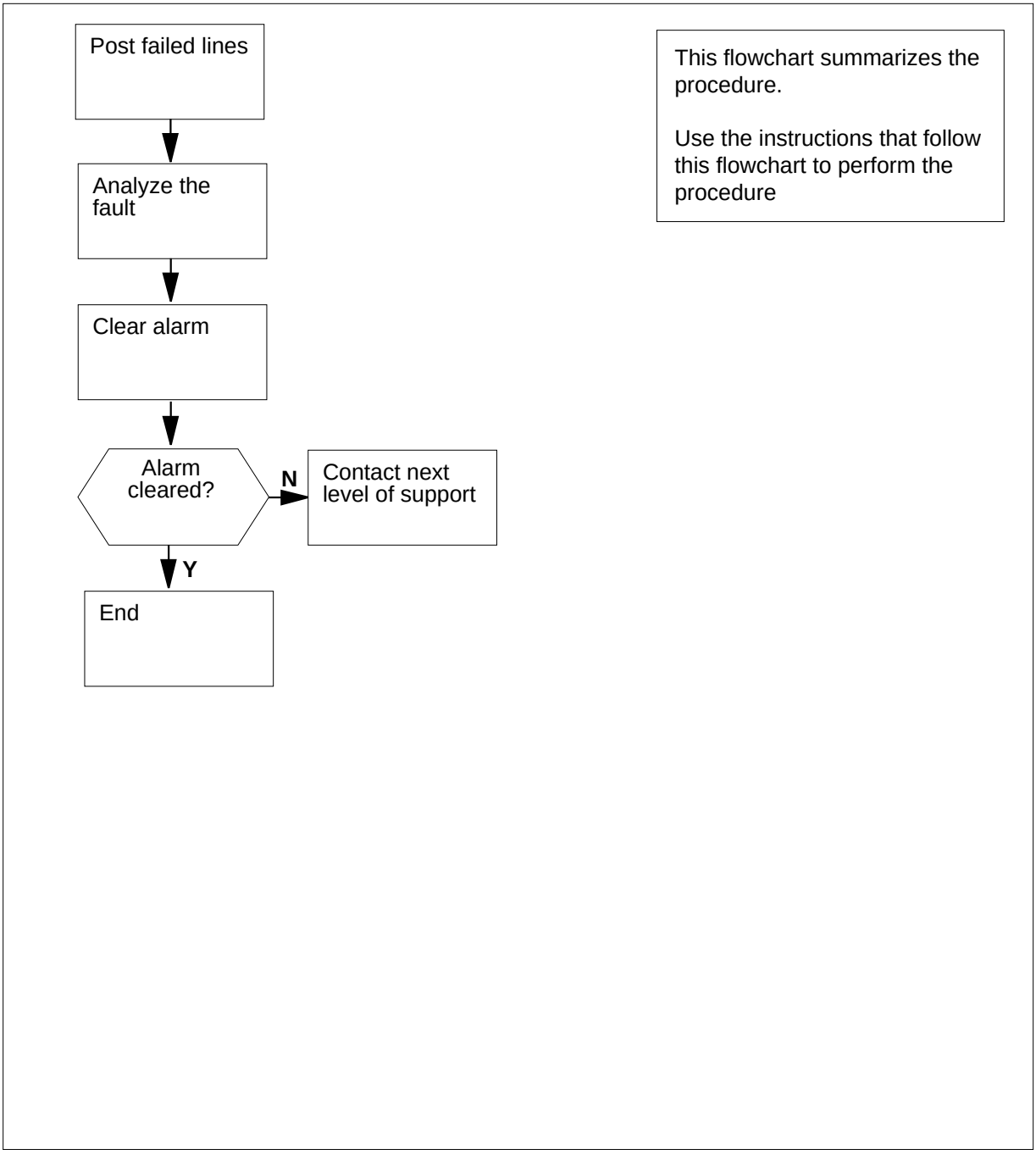
Do not go to the common procedure unless the step-action procedure directs you.

## Action

This procedure contains a summary flowchart and a list of steps. Use the flowchart to review the procedure. Follow the steps to perform the procedure.

# Lns LCARD
## **major** (continued)

**Summary of clearing an Lns LCARD major alarm**



# Lns LCARD
## major (continued)

### Clearing an Lns LCARD major alarm

***At the MAP terminal:***

**1** To access the LTP level of the MAP display, type

**>MAPCI;MTC;LNS;LTP**

and press the Enter key.

**2** To post the lines that have a diagnostic failure, type

**>POST DF LCARD**

and press the Enter key.

*Example of a MAP response*:

```
POST      DF LCARD    DELQ       BUSYQ       PREFIX

LCC  PTY RNG.....LEN.......... DN       STA F S LTA TE
IBN          REM1 00 0 00 06  7224345   IDL D
```

**3** Note the failure code that appears under the F header. The code appears in bold for the response in the MAP example of the previous step. To determine the meaning of the failure code, use the following information.

| If Failure Code | Do Check the Meaning |
|---|---|
| is D | the DIAG test failed |
| is F | the DIAG test failed |
| is S (N/A for ISDN) | the SDIAG test failed |
| is N | the SDIAG test passed on the line that had faults earlier |
| is m | the DIAG test detected a missing keyset or network termination 1 (NT1) |
| is M | the DIAG test detected a missing line card |
| is Q | a call-processing error is present |
| is I | a major Incoming message overload (ICMO) is present |
| is i | a minor Incoming message overload (ICMO) is present |
| is l | the keyset line failed the loopback test at the terminal |

## Lns LCARD
## **major** (end)

**4** Perform the procedure *Clearing Lines alarms*. Return to this point.

**5** Determine from the MAP display to see if the DF major alarm cleared.

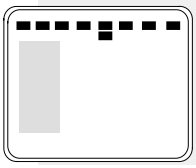
| If the LCARD major alarm | Do |
|---|---|
| cleared | step 7 |
| did not clear | step 6 |

**6** For additional help, contact the next level of support.

**7** This procedure is complete.

# Lns LSET major

## Alarm display



| CM | MS | IOD | Net | PM | CCS | **Lns** | Trks | Ext | APPL |
|---|---|---|---|---|---|---|---|---|---|
| . | . | . | . | . | . | **LSET** | . | . | . |
| | | | | | | **M** | | | |

## Indication

The LSET appears under the Lns header in the MAP subsystem status display.

## Meaning

A keyset loopback activated at set (LSET) alarm indicates that key telephone set (keyset) lines failed a loopback test.

## Result

The condition affects subscriber service until the replacement or repair of the telephone set.

## Common procedures

This procedure refers to *Clearing Lines alarms*.

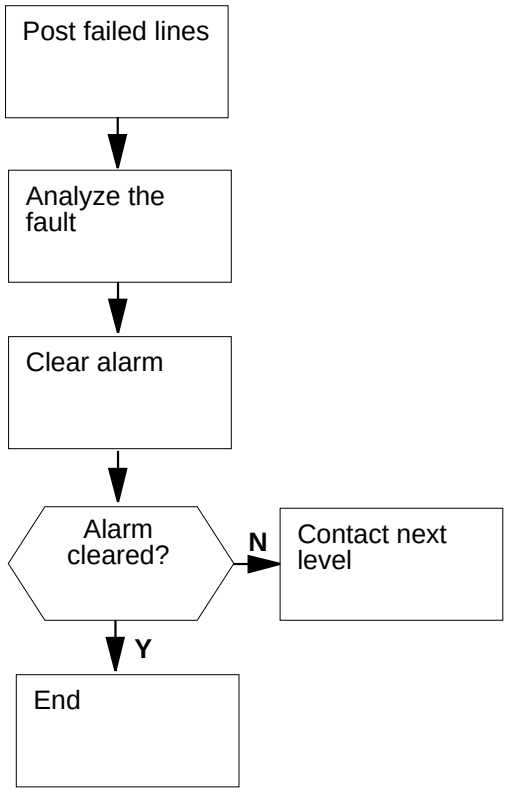
Do not proceed to the common procedure unless the step-action procedure directs you to go.

## Action

This procedure contains a summary flowchart and a list of steps. Use the flowchart to review the procedure. Follow the steps to perform the procedure.

# Lns LSET
## **major** (continued)

**Summary of clearing an Lns LSET major alarm**




This flowchart summarizes the procedure.

Use the instructions that follow this flowchart to perform the procedure.

# Lns LSET
## major (continued)

### Clearing an Lns LSET major alarm

***At the MAP terminal:***

**1** To access the LTP level of the MAP display, type

**>MAPCI;MTC;LNS;LTP**

and press the Enter key.

**2** To post the lines that have a diagnostic failure, type

**>POST DF LSET**

and press the Enter key.

*Example of a MAP response:*

```
POST     DF LSET     DELQ       BUSYQ       PREFIX

LCC  PTY RNG.....LEN.......... DN       STA F S LTA TE
IBN          REM1 00 0 00 06  7224345   IDL D
```

**3** Note the failure code that appears under the F header. The code appears in bold for the response in the MAP example of the previous step. To determine the meaning of the failure code, use the following information.

| If Failure Code | Do Check the Meaning |
|---|---|
| is D | the DIAG test failed |
| is F | the DIAG test failed |
| is S (N/A for ISDN) | the SDIAG test failed |
| is N | the SDIAG test passed on the line that had faults earlier |
| is m | the DIAG test detected a missing keyset or network termination 1 (NT1) |
| is M | the DIAG test detected a missing line card |
| is Q | a call-processing error is present |
| is I | a major Incoming message overload (ICMO) is present |
| is i | a minor Incoming message overload (ICMO) is present |
| is l | the keyset line failed the loopback test at the terminal |

## Lns LSET
## **major** (end)

**4** Perform the procedure *Clearing Lines alarms*. Return to this point.

**5** Determine from the MAP display if the LSET major alarm cleared.

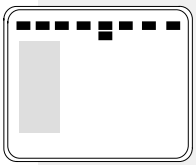
| If the LSET major alarm | Do |
|---|---|
| cleared | step 7 |
| did not clear | step 6 |

**6** For additional help, contact the next level of support.

**7** This procedure is complete.

# Lns MCARD critical, major, or minor

## Alarm display



| CM | MS | IOD | Net | PM | CCS | **Lns** | Trks | Ext | APPL |
|---|---|---|---|---|---|---|---|---|---|
| . | . | . | . | . | . | **MCARD M** | . | . | . |

## Indication

The MCARD appears under the Lns header in the MAP subsystem status display.

## Meaning

A missing card (MCARD) alarm indicates that lines have missing line cards.

## Impact

The condition affects subscriber service until replacement or repair of the card.

## Common procedures

This procedure refers to *Clearing Lines alarms*.

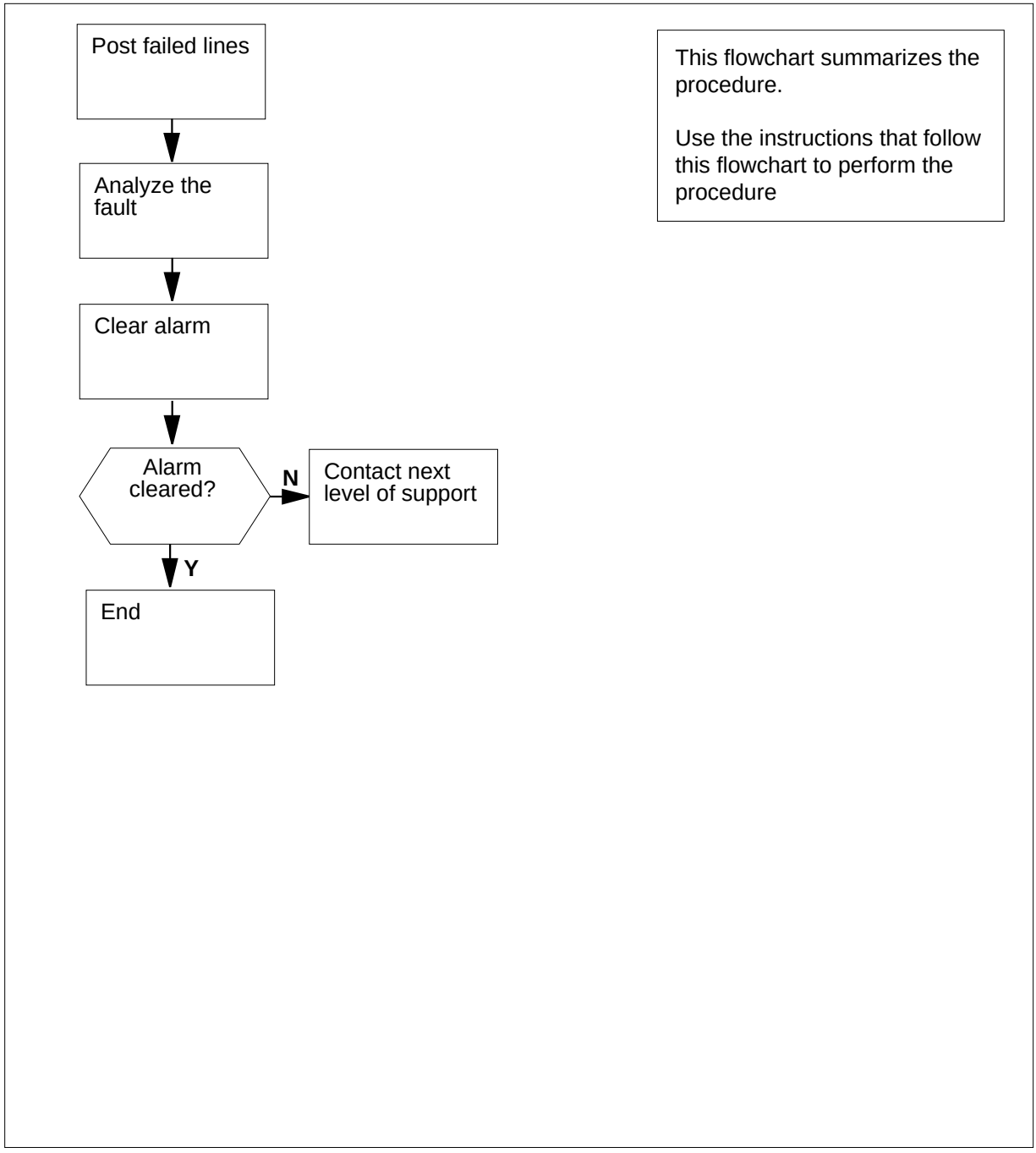
Do not proceed to the common procedure unless the step-action procedure directs you to go.

## Action

This procedure contains a summary flowchart and a list of steps. Use the flowchart to review the procedure. Follow the steps to perform the procedure.

# Lns MCARD
# critical, major, or minor (continued)

**Summary of Clearing an Lns MCARD critical, major, or minor alarm**



# Lns MCARD
# critical, major, or minor (continued)

**Clearing an Lns MCARD critical, major, or minor alarm**

***At the MAP terminal:***

**1** To access the LTP level of the MAP display, type

**>MAPCI;MTC;LNS;LTP**

and press the Enter key.

**2** To post the lines that have a diagnostic failure, type

**>POST DF MCARD**

and press the Enter key.

*Example of a MAP response:*

```
POST      DF MCARD    DELQ       BUSYQ       PREFIX

LCC  PTY RNG.....LEN.......... DN       STA F S LTA TE
IBN          REM1 00 0 00 06  7224345   IDL D
```

**3** Note the failure code that appears under the F header. The code appears in bold for the response in the MAP example of the previous step. To determine the meaning of the failure code, use the following information.

| If Failure Code | Do Check the Meaning |
|---|---|
| is D | the DIAG test failed |
| is F | the DIAG test failed |
| is S (N/A for ISDN) | the SDIAG test failed |
| is N | the SDIAG test passed on the line that had faults earlier |
| is m | the DIAG test detected a missing keyset or network termination 1 (NT1) |
| is M | the DIAG test detected a missing line card |
| is Q | a call-processing error is present |
| is I | a major Incoming message overload (ICMO) is present |
| is i | a minor Incoming message overload (ICMO) is present |
| is l | the keyset line failed the loopback test at the terminal |

## Lns MCARD
## critical, major, or minor (end)

**4** Perform the procedure *Clearing Lines alarms*. Return to this point.

**5** Determine from the MAP display f the MCARD major alarm cleared.

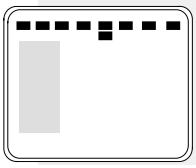
| If the MCARD major alarm | Do |
|---|---|
| cleared | step 7 |
| did not clear | step 6 |

**6** For additional help, contact the next level of support.

**7** The procedure is complete.

# Lns MSET major

## Alarm display



| CM | MS | IOD | Net | PM | CCS | **Lns** | Trks | Ext | APPL |
|---|---|---|---|---|---|---|---|---|---|
| . | . | . | . | . | . | **MSET M** | . | . | . |

## Indication

The MSET appears under the Lns heading in the MAP subsystem status display.

## Meaning

A missing set (MSET) alarm indicates that lines do not have telephone sets.

## Result

The condition affects subscriber service until replacement or repair of the telephone set.

## Common procedures

This procedure refers to *Clearing Lines alarms*.

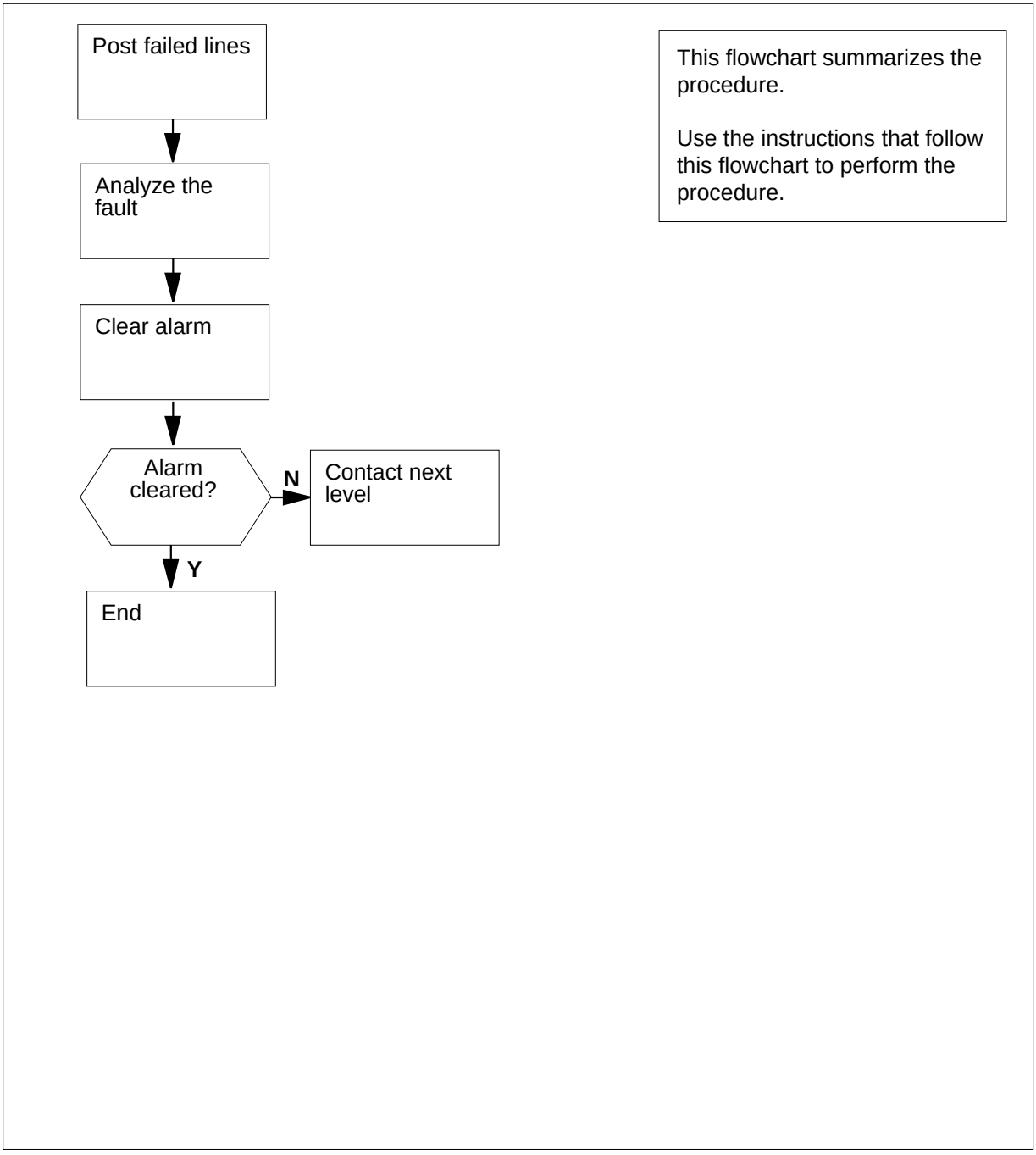
Do not proceed to the common procedure unless the step-action procedure directs you to go.

## Action

This procedure contains a summary flowchart and a list of steps. Use the flowchart to review the procedure. Follow the steps to perform the procedure.

# Lns MSET
## major (continued)

**Summary of clearing an Lns MSET major alarm**



# Lns MSET
## major (continued)

### Clearing an Lns MSET major alarm

***At the MAP terminal:***

**1** To access the LTP level of the MAP display, type

**>MAPCI;MTC;LNS;LTP**

and press the Enter key.

**2** To post the lines that have a diagnostic failure, type

**>POST DF MSET**

and press the Enter key.

*Example of a MAP response:*

```
POST      DF MSET     DELQ       BUSYQ       PREFIX

LCC  PTY RNG.....LEN.......... DN       STA F S LTA TE
IBN          REM1 00 0 00 06  7224345   IDL D
```

**3** Note the failure code that appears under the F header. The code appears in bold for the response in the MAP example of the previous step. To determine the meaning of the failure code, use the following information.

| If Failure Code | Do Check the Meaning |
|---|---|
| is D | the DIAG test failed |
| is F | the DIAG test failed |
| is S (N/A for ISDN) | the SDIAG test failed |
| is N | the SDIAG test passed on the line that had faults earlier |
| is m | the DIAG test detected a missing keyset or network termination 1 (NT1) |
| is M | the DIAG test detected a missing line card |
| is Q | a call-processing error is present |
| is I | a major Incoming message overload (ICMO) is present |
| is i | a minor Incoming message overload (ICMO) is present |
| is l | the keyset line failed the loopback test at the terminal |

## Lns MSET
## **major** (end)

**4** Perform the procedure *Clearing Lines alarms*. Return to this point.

**5** Determine from the MAP display if the MSET major alarm cleared.

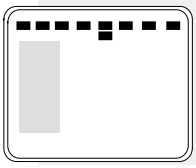
| If the MSET major alarm | Do |
|---|---|
| cleared | step 7 |
| did not clear | step 6 |

**6** For additional help, contact the next level of support.

**7** The procedure is complete.

# Lns NDIAG major

## Alarm display



| CM | MS | IOD | Net | PM | CCS | **Lns NDIAG M** | Trks | Ext | APPL |
|---|---|---|---|---|---|---|---|---|---|
| . | . | . | . | . | . | | . | . | . |

## Indication

The NDIAG appears under the Lns header in the MAP subsystem status display.

## Meaning

An NDIAG alarm indicates that lines passed a diagnostic test after a previous diagnostic failure. The lines require an extended diagnostic test to clear the alarm.

## Result

This condition affects subscriber service if a D or F failure flag associates with the line. If any other failure flag associates with the line, the condition does not affect subscriber service.

## Common procedures

This procedure refers to *Clearing Lines alarms*.

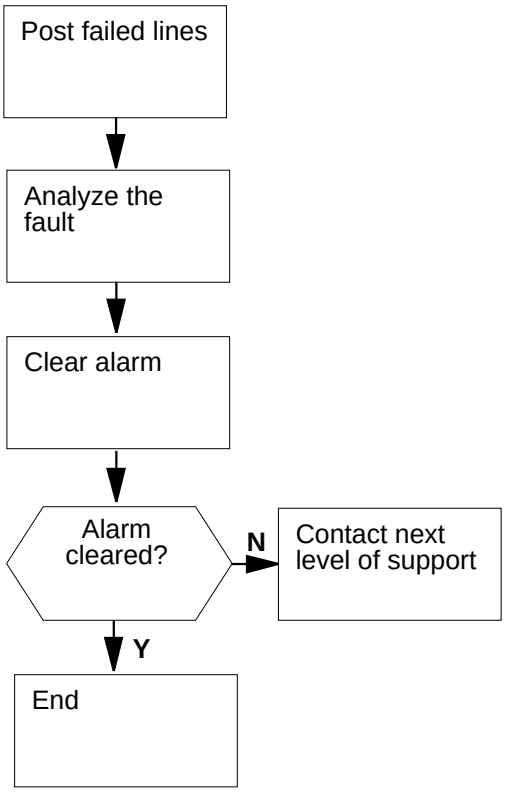
Do not proceed to the common procedure unless the step-action procedure directs you to go.

## Action

This procedure contains a summary flowchart and a list of steps. Use the flowchart to review the procedure. Follow the steps to perform the procedure.

# Lns NDIAG
## **major** (continued)

**Summary of Clearing an Lns NDIAG major alarm**




This flowchart summarizes the procedure.

Use the instructions that follow this flowchart to perform the procedure

# Lns NDIAG
## major (continued)

### Clearing an Lns NDIAG major alarm

***At the MAP terminal:***

**1** To access the LTP level of the MAP display, type

**>MAPCI;MTC;LNS;LTP**

and press the Enter key.

**2** To post the lines that have a diagnostic failure, type

**>POST DF N**

and press the Enter key.

*Example of a MAP response:*

```
POST     DF N    DELQ         BUSYQ     PREFIX

LCC  PTY RNG.....LEN.......... DN       STA F S LTA TE
IBN          REM1 00 0 00 06  7224345   IDL D
```

**3** Note the failure code that appears under the F header. The code appears in bold for the response in the MAP example of the previous step. To determine the meaning of the failure code, use the following information.

| If Failure Code | Do Check the Meaning |
|---|---|
| is D | the DIAG test failed |
| is F | the DIAG test failed |
| is S (N/A for ISDN) | the SDIAG test failed |
| is N | the SDIAG test passed on the line that had faults earlier |
| is m | the DIAG test detected a missing keyset or network termination 1 (NT1) |
| is M | the DIAG test detected a missing line card |
| is Q | a call-processing error is present |
| is I | a major Incoming message overload (ICMO) is present |
| is i | a minor Incoming message overload (ICMO) is present |
| is l | the keyset line failed the loopback test at the terminal |

## Lns NDIAG **major** (end)

**4** Perform the procedure *Clearing Lines alarms*. Return to this point.

**5** Determine from the MAP display if the NDIAG major alarm cleared.

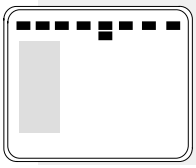
| If the NDIAG major alarm | Do |
|---|---|
| cleared | step 7 |
| did not clear | step 6 |

**6** For additional help, contact the next level of support.

**7** The procedure is complete.

# Lns OMAJ
# critical, major, or minor

## Alarm display



| CM | MS | IOD | Net | PM | CCS | **Lns** | Trks | Ext | APPL |
|---|---|---|---|---|---|---|---|---|---|
| . | . | . | . | . | . | **OMAJ** | . | . | . |
| | | | | | | **M** | | | |

## Indication

OMAJ appears under the Lns header in the MAP subsystem status display.

## Meaning

The out-of-service major (OMAJ) alarm indicates that the number of lines office wide with the O failure code crosses a threshold. Lines with the O failure code have two or more logical terminal identifiers (LTID) out-of-service because of rapid messaging (RM). The thresholds appear in office parameter RMSG_MAJALARM in table OFCVAR. To change the values of the thresholds, use the ALMSTAT OMAJ command. Using the table editor to change the threshold values does not update the alarms.

The following indicators can appear under OMAJ:

- *C* indicates a critical OMAJ alarm.
- M indicates a major OMAJ alarm.
- A blank space (neither *C* nor M) indicates a minor OMAJ alarm.

## Impact

These conditions affect subscriber service until you correct the conditions.

## Common procedures

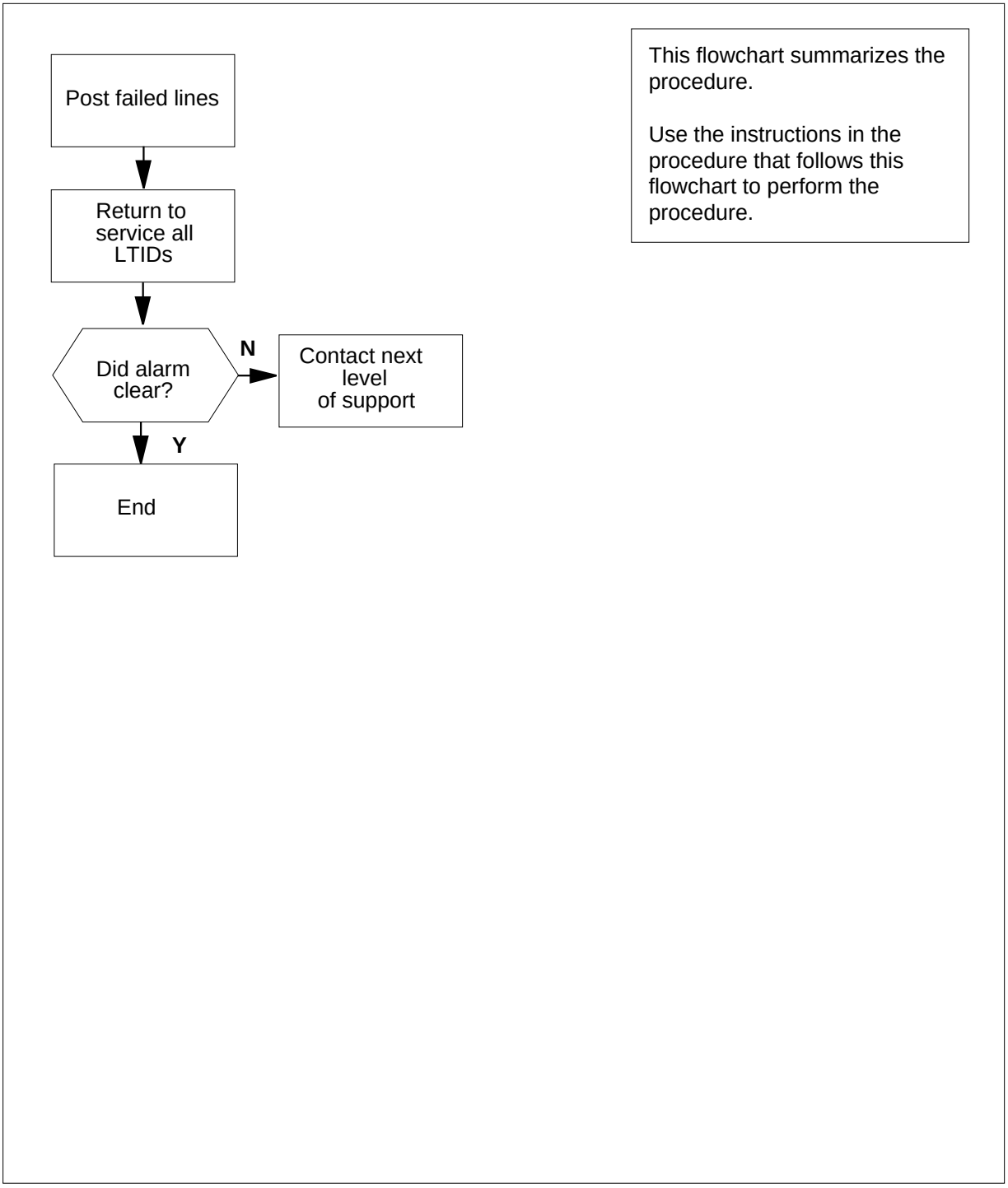
Not applicable

## Action

This procedure contains a summary flowchart and a list of steps. Use the flowchart to review the procedure. Follow the steps to perform the procedure.

# Lns OMAJ
# critical, major, or minor (continued)

**Summary of clearing an Lns OMAJ critical, major, or minor alarm**



# Lns OMAJ
# critical, major, or minor (continued)

**Clearing an Lns OMAJ critical, major, or minor alarm**

***At the MAP:***

**1** To access the LTP level of the MAP terminal, type

**>MAPCI;MTC;LNS;LTP**

and press the Enter key.

**2** Post the lines or set of lines that have the O failure code. Type

**>POST DF OMAJ**

and press the Enter key.

*Example of a MAP response:*

```
POST     DELQ             BUSYQ        PREFIX

LEN HOST 01 0 00 01
LCC PTY RNG                           STA F S LTA TE
ISDN LOOP          DN 613 722 4209    IDL O
```

***Note:*** To view all lines in the posted set, return to the CI level, and type

**>MAPCI NODISP;MTC;LNS;LTP**

and press the Enter key. To post the lines, type

**>POST DF OMAJ PRINT**

and press the Enter key. The list of lines in the posted set displays.

***Note:*** To view the RM state of an LTID, post the LEN by the LTID. Type

**>POST LT <group name> <group number>**

and press the Enter key.

*where*

**group name**
is the LTID group name as defined in table LTDEF

**group number**
is the LTID group number from 1 to 1022

**3** Return to service all LTIDs. Type

**>RTS LT ALL**

and press the Enter key.

***Note:*** The RTS LT command does not return to service a busy line.

*Example of a MAP response to the RTS LT ALL command:*

```
Number of fully data filled lines in the posted set: 21
Number of lines with ISDN LTIDs to RTS:              19
Number of lines with ISDN LTIDs that failed to RTS:  2
```

## Lns OMAJ
## critical, major, or minor (end)

**4** Check the MAP display to see if the OMAJ alarm cleared.

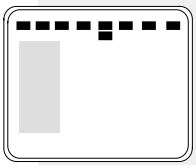
| If the OMAJ major alarm | Do |
|---|---|
| did not clear | step 5 |
| cleared | step 6 |

**5** For additional help, contact the personnel responsible for the next level of support.

**6** The procedure is complete.

# Lns OMIN
# critical, major, or minor

## Alarm display



| CM | MS | IOD | Net | PM | CCS | **Lns** | Trks | Ext | APPL |
|---|---|---|---|---|---|---|---|---|---|
| . | . | . | . | . | . | **OMIN** | . | . | . |
| | | | | | | **M** | | | |

## Indication

OMIN appears under the Lns header in the MAP subsystem status display.

## Meaning

The out-of-service minor (OMIN) alarm indicates that the number of lines office wide with the o failure code crosses a threshold. Lines with the o failure code have one logical terminal identifier (LTID) out-of-service because of rapid messaging (RM). The thresholds appear in office parameter RMSG_MINALARM in table OFCVAR. To change the values of the thresholds, use the ALMSTAT OMIN command. Using the table editor to change the threshold values does not update the alarms.

The following indicators can appear under OMIN:

- *C* indicates a critical OMIN alarm.
- M indicates a major OMIN alarm.
- A blank space (neither *C* nor M) indicates a minor OMIN alarm.

## Impact

These conditions affect subscriber service until you correct the conditions.

## Common procedures

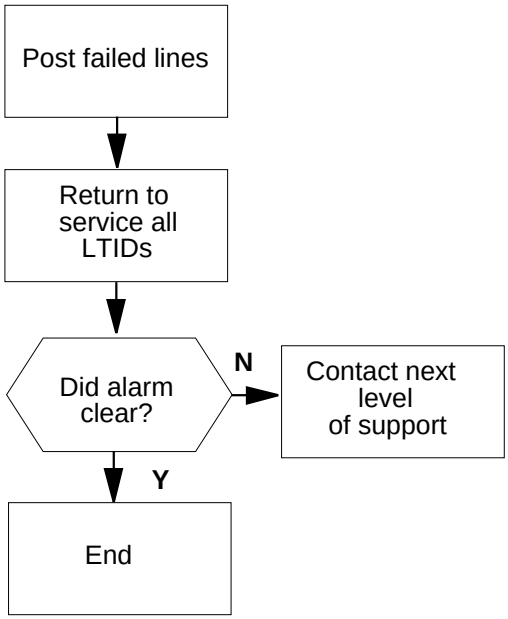
Not applicable

## Action

This procedure contains a summary flowchart and a list of steps. Use the flowchart to review the procedure. Follow the steps to perform the procedure.

# Lns OMIN
# critical, major, or minor (continued)

**Summary of clearing an Lns OMIN critical, major, or minor alarm**




This flowchart summarizes the procedure.

Use the instructions in the procedure that follows this flowchart to perform the procedure.

# Lns OMIN
# critical, major, or minor (continued)

**Clearing an Lns OMIN critical, major, or minor alarm**

***At the MAP:***

**1** To access the LTP level of the MAP terminal, type

**>MAPCI;MTC;LNS;LTP**

and press the Enter key.

**2** Post the lines or set of lines that have the o failure code. Type

**>POST DF OMIN**

and press the Enter key.

*Example of a MAP response:*

```
POST     DELQ             BUSYQ        PREFIX

LEN HOST 01 0 00 01
LCC PTY RNG                           STA F S LTA TE
ISDN LOOP          DN 613 722 4209    IDL o
```

***Note:*** To view all lines in the posted set, return to the CI level, and type

**>MAPCI NODISP;MTC;LNS;LTP**

and press the Enter key. To post the lines, type

**>POST DF OMIN PRINT**

and press the Enter key. The list of lines in the posted set displays.

***Note:*** To view the RM state of an LTID, post the LEN by the LTID. Type

**>POST LT <group name> <group number>**

and press the Enter key.

*where*

**group name**
is the LTID group name as defined in table LTDEF

**group number**
is the LTID group number from 1 to 1022

**3** Return to service all LTIDs. Type

**>RTS LT ALL**

and press the Enter key.

***Note:*** The RTS LT command does not return to service a busy line.

*Example of a MAP response to the RTS LT ALL command:*

```
Number of fully data filled lines in the posted set: 21
Number of lines with ISDN LTIDs to RTS:              19
Number of lines with ISDN LTIDs that failed to RTS:  2
```

## Lns OMIN
## critical, major, or minor (end)

**4** Check the MAP display to see if the OMIN alarm cleared.

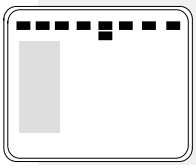
| If the OMIN major alarm | Do |
|---|---|
| did not clear | step 5 |
| cleared | step 6 |

**5** For additional help, contact the personnel responsible for the next level of support.

**6** The procedure is complete.

# Lns PSDF
# critical, major, or minor

## Alarm display



| CM | MS | IOD | Net | PM | CCS | **Lns** | Trks | Ext | APPL |
|---|---|---|---|---|---|---|---|---|---|
| . | . | . | . | . | . | **PSDF M** | . | . | . |

## Indication

The PSDF appears under the Lns header in the MAP subsystem status display.

## Meaning

The permanent signal diagnostic failure (PSDF) alarm indicates that lines have permanent signal partial dial (PSPD) alarms. The alarm also indicates that lines have DIAG, FAC, MCARD, MSET, NDIAG, QDIAG, SDIAG, or UCARD alarms. The alarms are in the same class, either critical, major, or minor.

## Result

The condition affects subscriber service until you correct the condition.

## Common procedures

This procedure refers to *Clearing Lines alarms*.

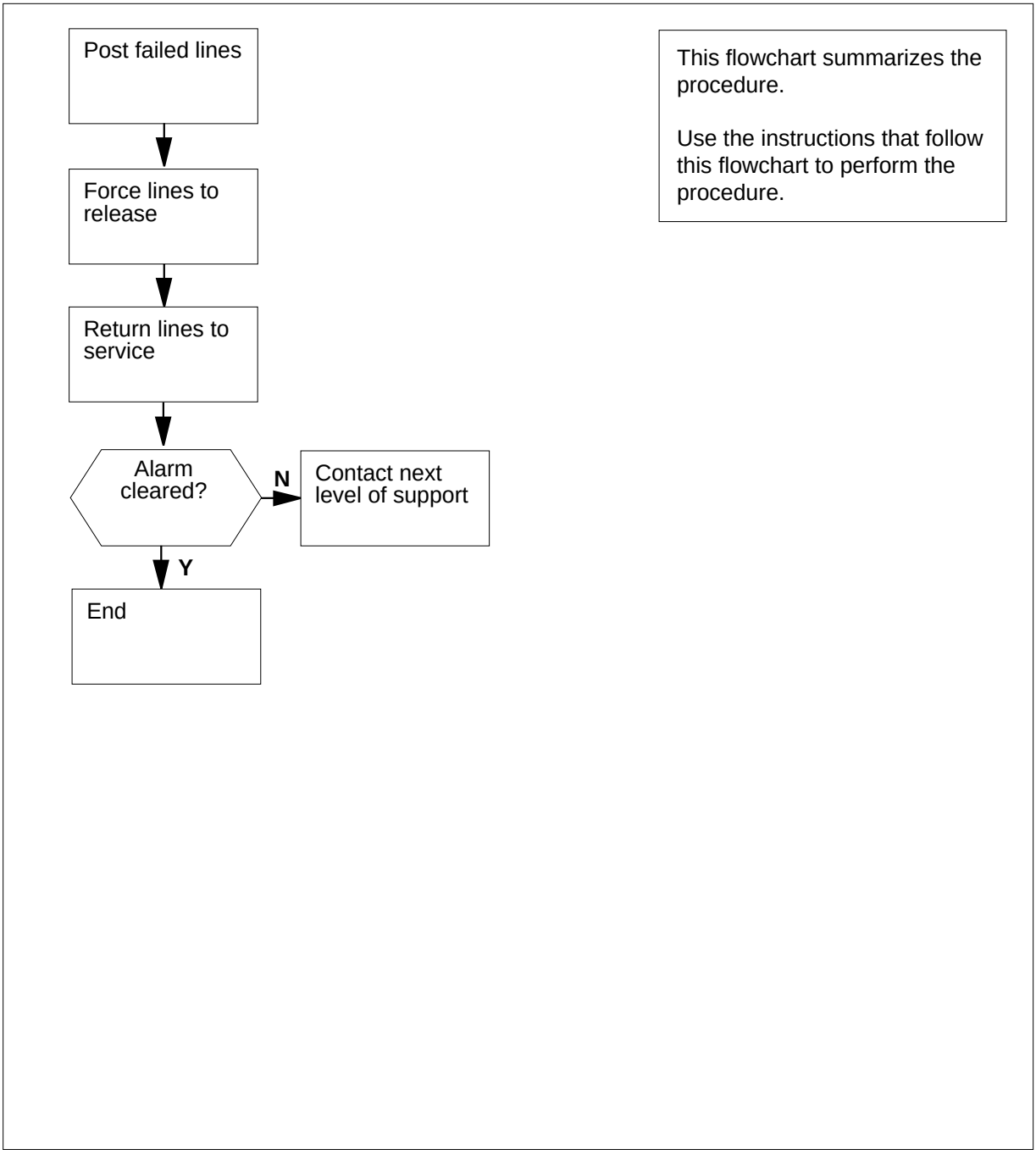
Do not proceed to the common procedure unless the step-action procedure directs you to go,

## Action

This procedure contains a summary flowchart and a list of steps. Use the flowchart to review the procedure. Follow the steps to perform the procedure.

# Lns PSDF
# critical, major, or minor (continued)

**Summary of clearing an Lns PSDF critical, major, or minor alarm**



# Lns PSDF
# critical, major, or minor (continued)

**Clearing an Lns PSDF critical, major, or minor alarm**

***At the MAP terminal:***

**1** To access the LTP level of the MAP, type

**>MAPCI;MTC;LNS;LTP**

and press the Enter key.

**2** To post the lines that are in the permanent lock-out state, type

**>POST S PLO**

and press the Enter key.

*Example of a MAP response:*

```
POST      S PLO   DELQ       BUSYQ       PREFIX

LCC  PTY RNG.....LEN.......... DN       STA F S LTA TE
IBN          REM1 00 0 00 06  7224345   IDL D
```

**3** Note the failure code that appears under the F header. The code appears in bold for the response in the MAP example of the previous step. To determine the meaning of the failure code, use the following information.

| If Failure Code | Do Check the Meaning |
|---|---|
| is D | the DIAG test failed |
| is F | the DIAG test failed |
| is S (N/A for ISDN) | the SDIAG test failed |
| is N | the SDIAG test passed on the line that had faults earlier |
| is m | the DIAG test detected a missing keyset or network termination 1 (NT1) |
| is M | the DIAG test detected a missing line card |
| is Q | a call-processing error is present |
| is I | a major Incoming message overload (ICMO) is present |
| is i | a minor Incoming message overload (ICMO) is present |
| is l | the keyset line failed the loopback test at the terminal |

## Lns PSDF
## critical, major, or minor (end)

**4** To force the lines to release, type

**>FRLS**

and press the Enter key.

**5** Perform the procedure *Clearing Lines alarms*. Return to this point.

**6** Determine from the MAP if the PSDF major alarm cleared.

| If the PSDF major alarm | Do |
|---|---|
| cleared | step 7 |
| did not clear | step 9 |

**7** To return the force-released lines to service, type

**>RTS**

and press the Enter key.

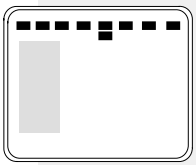
**8** Go to step 10.

**9** For additional help, contact the next level of support.

**10** The procedure is complete.

# Lns PSPD major

## Alarm display



| CM | MS | IOD | Net | PM | CCS | **Lns PSPD M** | Trks | Ext | APPL |
|---|---|---|---|---|---|---|---|---|---|
| . | . | . | . | . | . | | . | . | . |

## Indication

The PSPD appears under the Lns header in the MAP subsystem status display.

## Meaning

The permanent signal partial dial (PSPD) alarm indicates that a line is off-hook without any digits dialed. The alarm also indicates that only part of a directory number dialed.

## Result

These conditions affect subscriber service until you correct the conditions.

## Common procedures

This procedure refers to *Clearing lines alarms*.

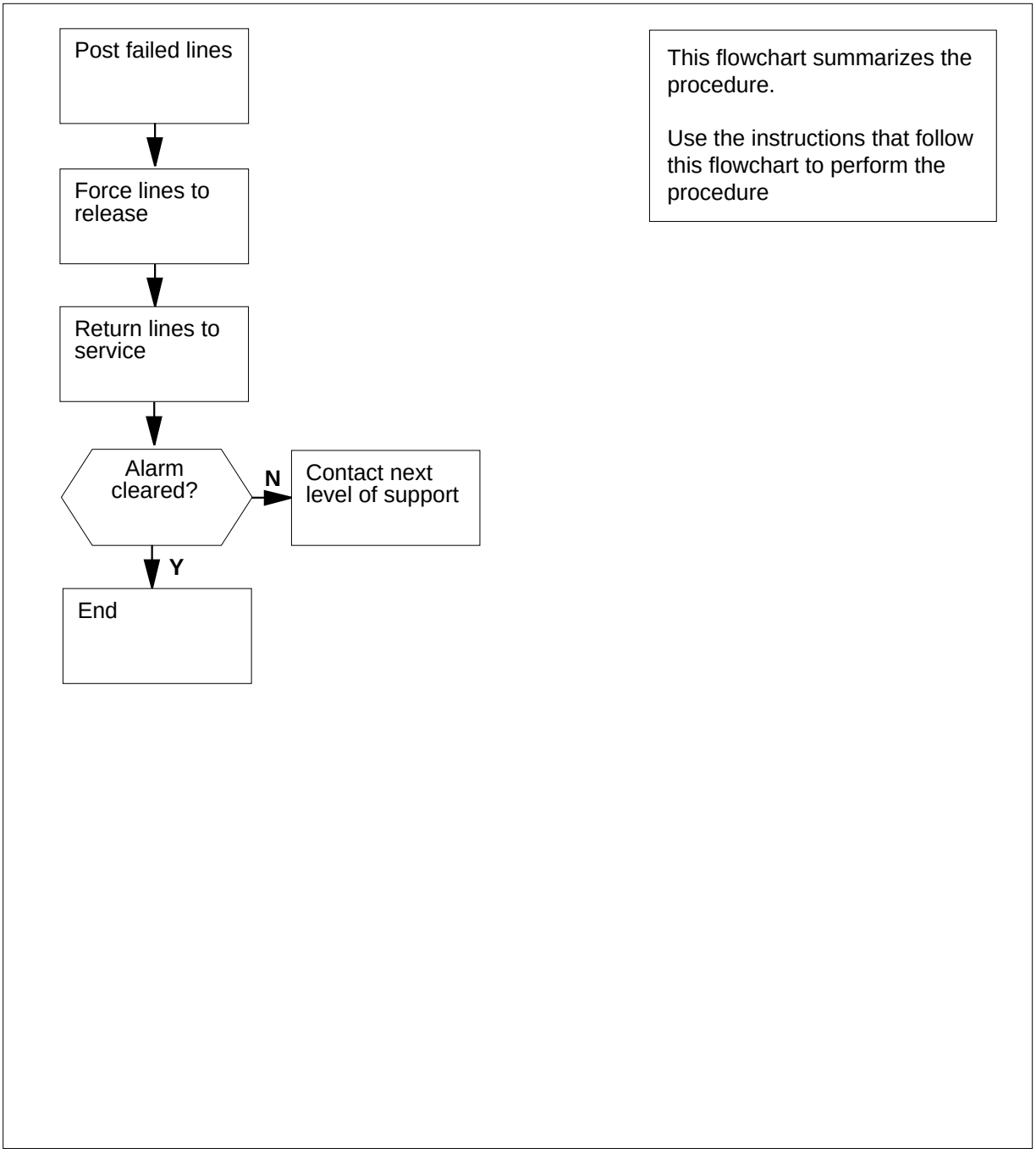
Do not proceed to the common procedure unless the step-action procedure directs you to go.

## Action

This procedure contains a summary flowchart and a list of steps. Use the flowchart to review the procedure. Follow the steps to perform the procedure.

# Lns PSPD
## **major** (continued)

**Summary of clearing an Lns PSPD major alarm**



# Lns PSPD
## major (continued)

### Clearing an Lns PSPD major alarm

***At the MAP:***

**1** To access the LTP level of the MAP display, type

**>MAPCI;MTC;LNS;LTP**

and press the Enter key.

**2** To post the lines that have a diagnostic failure, type

**>POST S PLO**

and press the Enter key.

*Example of a MAP response:*

```
POST    S PLO    DELQ         BUSYQ     PREFIX

LCC  PTY RNG.....LEN.......... DN       STA F S LTA TE
IBN          REM1 00 0 00 06  7224345   IDL D
```

**3** Note the failure code that appears under the F header. The code appears in bold for the response in the MAP example of the previous step. To determine the meaning of the failure code, use the following information.

| If Failure Code | Do Check the Meaning |
|---|---|
| is D | the DIAG test failed |
| is F | the DIAG test failed |
| is S (N/A for ISDN) | the SDIAG test failed |
| is N | the SDIAG test passed on the line that had faults earlier |
| is m | the DIAG test detected a missing keyset or network termination 1 (NT1) |
| is M | the DIAG test detected a missing line card |
| is Q | a call-processing error is present |
| is I | a major Incoming message overload (ICMO) is present |
| is i | a minor Incoming message overload (ICMO) is present |
| is l | the keyset line failed the loopback test at the terminal |

## Lns PSPD
## **major** (end)

**4** Perform the procedure *How to Clear Lines alarms*. Return to this point.

**5** Determine form the MAP display if the PSPD major alarm cleared.

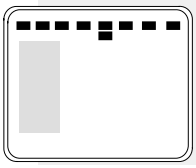
| If the PSPD major alarm | Do |
|---|---|
| cleared | step 7 |
| did not clear | step 6 |

**6** For additional help, contact the next level of support.

**7** The procedure is complete.

# Lns QDIAG major

## Alarm display



| CM | MS | IOD | Net | PM | CCS | **Lns QDIAG M** | Trks | Ext | APPL |
|---|---|---|---|---|---|---|---|---|---|
| . | . | . | . | . | . | | . | . | . |

## Indication

The QDIAG appears under the Lns header in the MAP subsystem status display.

## Meaning

The queue diagnostic (QDIAG) alarm indicates the number of lines in the shower queue reached the threshold.

## Result

The type of failure determines the result on subscriber service. For example, a noise problem affects the quality of service while the problem continues to allow calls. Test failures for transhybrid loss or flux cancellation result in loss of service until you correct the fault.

## Common procedures

This procedure refers to *Clearing lines alarms*.

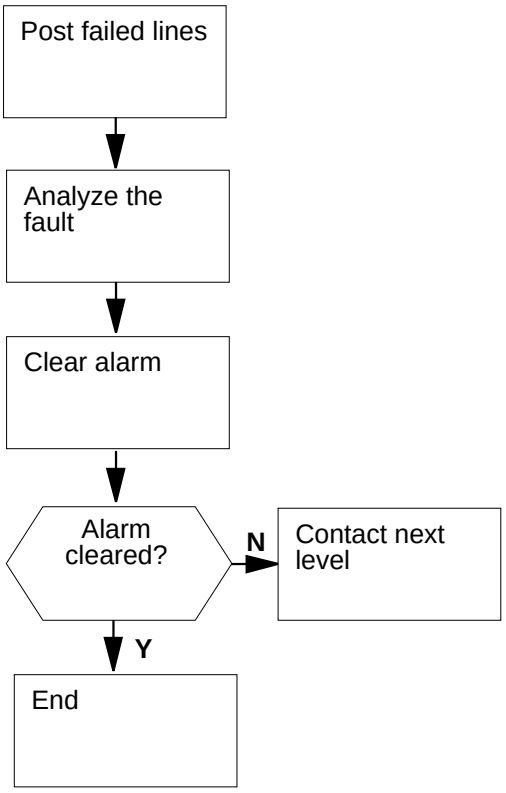
Do not proceed to the common procedure unless the step-action procedure directs you to go.

## Action

This procedure contains a summary flowchart and a list of steps. Use the flowchart to review the procedure. Follow the steps to perform the procedure.

# Lns QDIAG
## **major** (continued)

**Summary of clearing an Lns QDIAG major alarm**




This flowchart summarizes the procedure.

Use the instructions that follow this flowchart to perform the procedure

# Lns QDIAG
## major (continued)

### Clearing an Lns QDIAG major alarm

***At the MAP terminal:***

**1** To access the LTP level of the MAP display, type

**>MAPCI;MTC;LNS;LTP**

and press the Enter key.

**2** To post the lines that have a diagnostic failure, type

**>POST DF QUEUE**

and press the Enter key.

*Example of a MAP response:*

```
POST    DF QUEUE     DELQ       BUSYQ       PREFIX

LCC  PTY RNG.....LEN.......... DN       STA F S LTA TE
IBN          REM1 00 0 00 06  7224345   IDL D
```

**3** Note the failure code that appears under the F header. The code appears in bold for the response in the MAP example of the previous step. To determine the meaning of the failure code, use the following information.

| If Failure Code | Do Check the Meaning |
|---|---|
| is D | the DIAG test failed |
| is F | the DIAG test failed |
| is S (N/A for ISDN) | the SDIAG test failed |
| is N | the SDIAG test passed on the line that had faults earlier |
| is m | the DIAG test detected a missing keyset or network termination 1 (NT1) |
| is M | the DIAG test detected a missing line card |
| is Q | a call-processing error is present |
| is I | a major Incoming message overload (ICMO) is present |
| is i | a minor Incoming message overload (ICMO) is present |
| is l | the keyset line failed the loopback test at the terminal |

## Lns QDIAG
## **major** (end)

**4** Perform the procedure *Clearing lines alarms*. Return to this point.

**5** Determine from the MAP display if the QDIAG major alarm cleared.

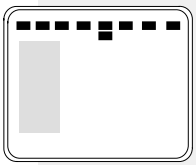
| If the QDIAG major alarm | Do |
|---|---|
| cleared | step 7 |
| did not clear | step 6 |

**6** For additional help, contact the next level of support.

**7** The procedure is complete.

# Lns SDIAG major

## Alarm display



| CM | MS | IOD | Net | PM | CCS | **Lns SDIAG M** | Trks | Ext | APPL |
|---|---|---|---|---|---|---|---|---|---|
| . | . | . | . | . | . | | . | . | . |

## Indication

The SDIAG appears under the Lns header in the MAP subsystem status display.

## Meaning

The short diagnostic (SDIAG) alarm indicates that a number of lines failed the short diagnostic test.

## Result

The condition does not affect subscriber service unless a D or F failure flag associates with the line.

## Common procedures

This procedure refers to *Clearing lines alarms*.

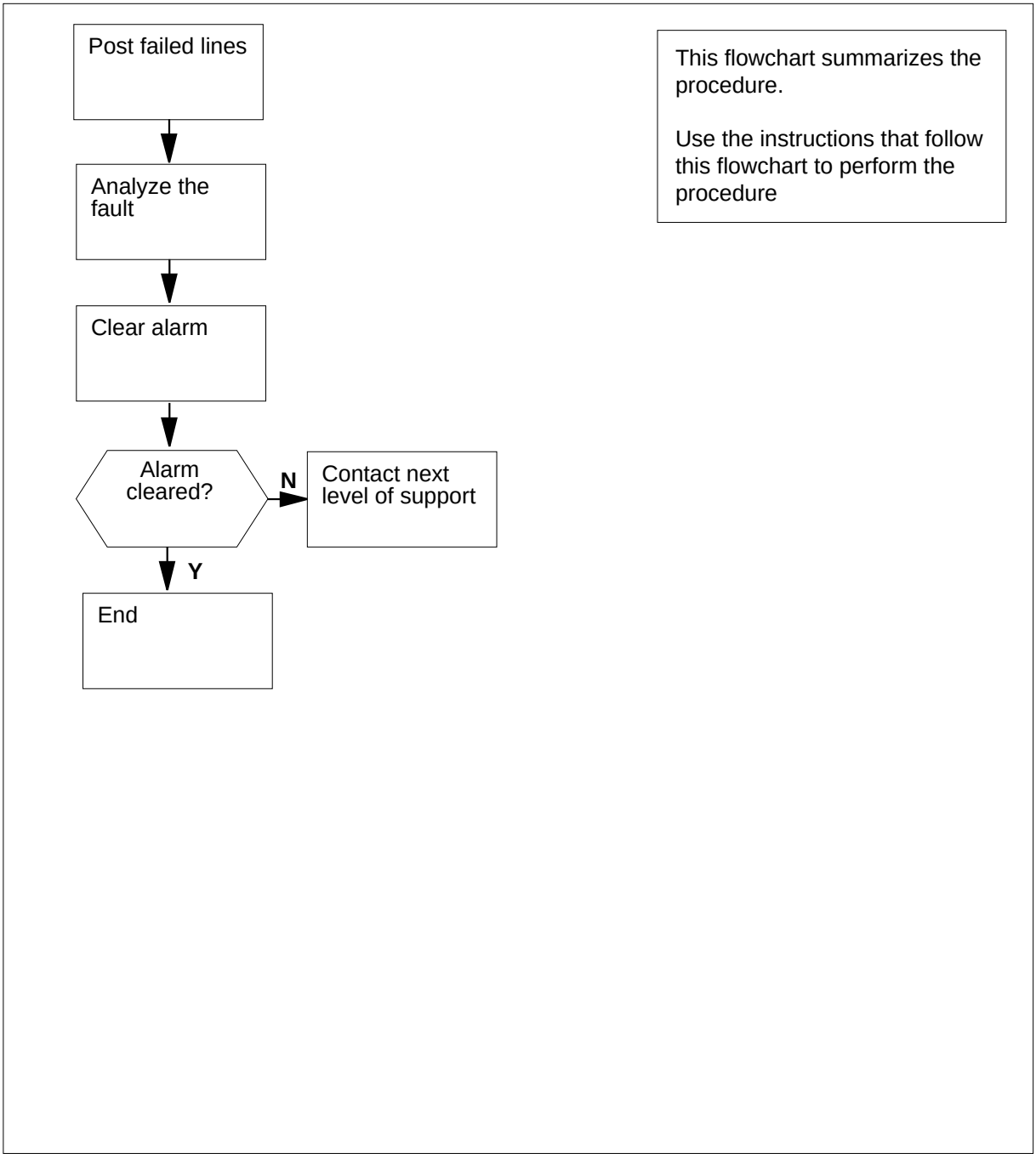
Do not proceed to the common procedure unless the step-action procedure directs you to go.

## Action

This procedure contains a summary flowchart and a list of steps. Use the flowchart to review the procedure. Follow the steps to perform the procedure.

# Lns SDIAG
## **major** (continued)

**Summary of clearing an Lns SDIAG major alarm**



# Lns SDIAG
## major (continued)

### Clearing an Lns SDIAG major alarm

***At the MAP terminal:***

**1** To access the LTP level of the MAP display, type

**>MAPCI;MTC;LNS;LTP**

and press the Enter key.

**2** To post the lines that have a diagnostic failure, type

**>POST DF S**

and press the Enter key.

*Example of a MAP response:*

```
POST    DF S     DELQ         BUSYQ     PREFIX

LCC  PTY RNG.....LEN.......... DN       STA F S LTA TE
IBN          REM1 00 0 00 06  7224345   IDL D
```

**3** Note the failure code that appears under the F header. The code appears in bold for the response in the MAP example of the previous step. To determine the meaning of the failure code, use the following information.

| If Failure Code | Do Check the Meaning |
|---|---|
| is D | the DIAG test failed |
| is F | the DIAG test failed |
| is S (N/A for ISDN) | the SDIAG test failed |
| is N | the SDIAG test passed on the line that had faults earlier |
| is m | the DIAG test detected a missing keyset or network termination 1 (NT1) |
| is M | the DIAG test detected a missing line card |
| is Q | a call-processing error is present |
| is I | a major Incoming message overload (ICMO) is present |
| is i | a minor Incoming message overload (ICMO) is present |
| is l | the keyset line failed the loopback test at the terminal |

## Lns SDIAG
## **major** (end)

**4** Perform the procedure *Clearing lines alarms*. Return to this point.

**5** Determine from the MAP if the SDIAG major alarm cleared.

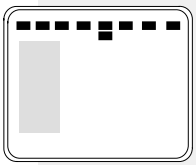
| If the SDIAG major alarm | Do |
|---|---|
| cleared | step 7 |
| did not clear | step 6 |

**6** For additional help, contact the next level of support.

**7** The procedure is complete.

# Lns TCM major

## Alarm display



| CM | MS | IOD | Net | PM | CCS | **Lns TCM M** | Trks | Ext | APPL |
|---|---|---|---|---|---|---|---|---|---|
| . | . | . | . | . | . | | . | . | . |

## Indication

The TCM appears under the Lns header in the MAP subsystem status display.

## Meaning

The time compression multiplexing (TCM) alarm indicates that the acceptable number of TCM synchronization losses reached the threshold.

## Result

The condition affects subscriber service until the you correct the condition.

## Common procedures

This procedure refers to *Clearing lines alarms*.

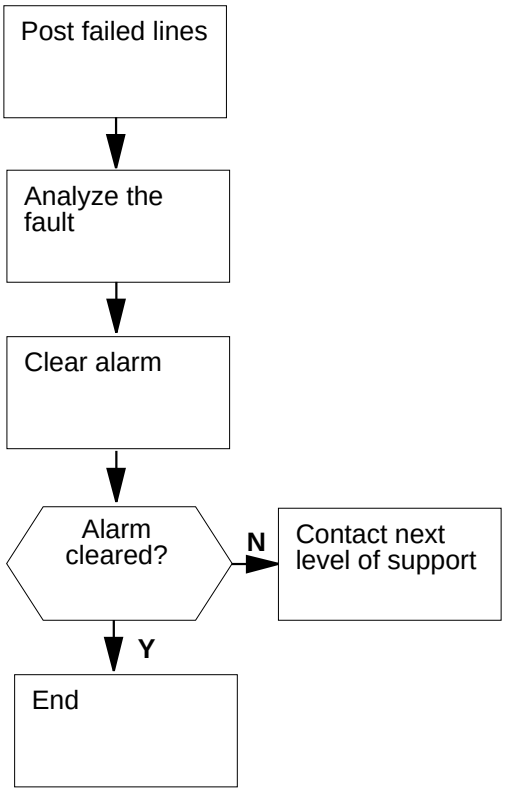
Do not proceed to the common procedure unless the step-action procedure directs you to go.

## Action

This procedure contains a summary flowchart and a list of steps. Use the flowchart to review the procedure. Follow the steps to perform the procedure.

# Lns TCM
## **major** (continued)

**Summary of clearing an Lns TCM major alarm**




This flowchart summarizes the procedure.

Use the instructions that follow this flowchart to perform the procedure

# Lns TCM
## major (continued)

### Clearing an Lns TCM major alarm

***At the MAP terminal:***

**1** To access the LTP level of the MAP, type

**>MAPCI;MTC;LNS;LTP**

and press the Enter key.

**2** To post the lines that have a diagnostic failure, type

**>POST DF T**

and press the Enter key.

*Example of a MAP response:*

```
POST    DF T     DELQ         BUSYQ     PREFIX

LCC  PTY RNG.....LEN.......... DN       STA F S LTA TE
IBN          REM1 00 0 00 06  7224345   IDL D
```

**3** Note the failure code that appears under the F header. The code appears in bold for the response in the MAP example of the previous step. To determine the meaning of the failure code, use the following information.

| If Failure Code | Do Check the Meaning |
|---|---|
| is D | the DIAG test failed |
| is F | the DIAG test failed |
| is S (N/A for ISDN) | the SDIAG test failed |
| is N | the SDIAG test passed on the line that had faults earlier |
| is m | the DIAG test detected a missing keyset or network termination 1 (NT1) |
| is M | the DIAG test detected a missing line card |
| is Q | a call-processing error is present |
| is I | a major Incoming message overload (ICMO) is present |
| is i | a minor Incoming message overload (ICMO) is present |
| is l | the keyset line failed the loopback test at the terminal |

## Lns TCM
## **major** (end)

**4** Perform the procedure *Clearing lines alarms*. Return to this point.

**5** Determine from the MAP if the TCM major alarm cleared.

| If the TCM major alarm | Do |
|---|---|
| cleared | step 7 |
| did not clear | step 6 |

**6** For additional help, contact the next level of support.

**7** The procedure is complete.

# 3 Message Switch alarm clearing procedures

## Introduction

This chapter provides message switch (MS) alarm clearing procedures. Message switch alarms appear under the MS header of the alarm banner in the MAP display. All the procedures contain the following sections:

- Alarm display
- Indication
- Meaning
- Result
- Common procedures
- Action

### Alarm display

This section indicates how the alarm appears at the MAP terminal.

### Indication

This section indicates where the alarm appears and how the system represents the alarm. This section also indicates the affected subsystem, and the alarm severity.

### Meaning

This section indicates the cause of the alarm.

### Result

This section describes the results of the alarm condition.

### Common procedures

This section lists common procedures used during alarm clearing procedures. A common procedure is a series of steps repeated in maintenance procedures. Removal and replacement of a card is an example of a common procedure. Common procedures appear in the common procedures chapter in this NTP.

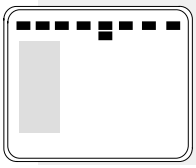
Do not proceed to the common procedure unless the step-action procedure directs you to go.

### Action

This procedure provides a summary flowchart and a list of steps to clear alarms. Use the flowchart to review the procedure. Follow the steps to perform the procedure.

# MS CCFB minor

## Alarm display



| CM | MS | IOD | Net | PM | CCS | Lns | Trks | Ext | APPL |
|---|---|---|---|---|---|---|---|---|---|
| . | **01CCFB** | . | . | . | . | . | . | . | . |

## Indication

At the MTC level of the MAP display, a number and CCFB appear under the MS header of the alarm banner. The CCFB indicates a minor alarm for the partial frame transport bus (F-bus) composite clock (CCFB).

## Meaning

A partial F-bus (either F-bus 0 or F-bus 1) has a fault in an F-bus composite clock. The F-bus that has a fault is in-service trouble (ISTb).

The fault for the partial F-bus composite clock will generate a MS407 log.

This alarm only applies to a single shelf link peripheral processor (SS LPP). Each F-bus must connect directly to the message switch (MS) with fiber-optic cables. A local message switch (LMS) is not present.

## Result

The CCS7 performance can degrade.

## Common procedures

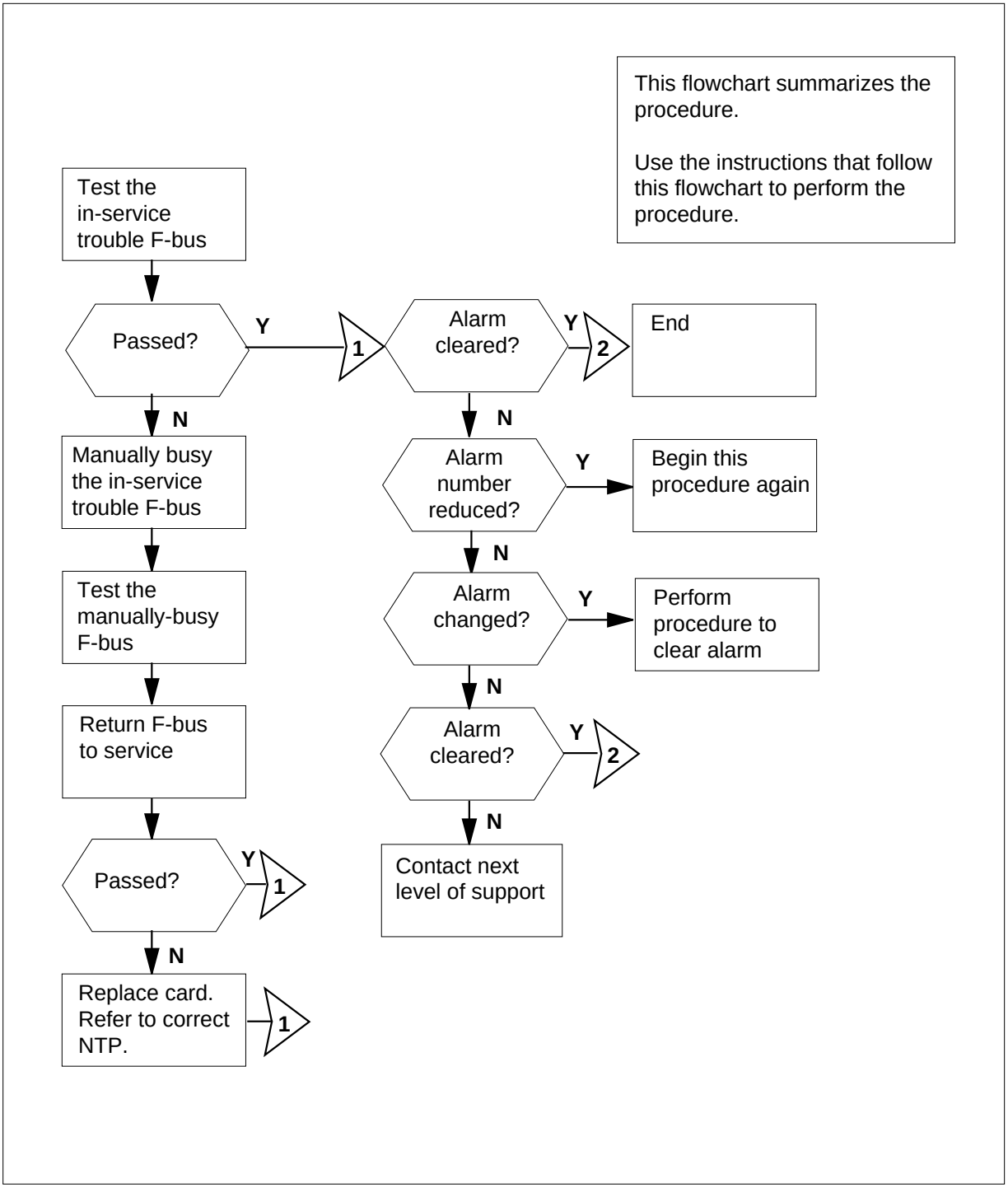
There are no common procedures.

## Action

This procedure contains a summary flowchart and a list of steps. Use the flowchart to review the procedure. Follow the steps to perform the procedure.

# MS CCFB
## **minor** (continued)

**Summary of clearing an MS CCFB minor alarm**



# MS CCFB
# minor (continued)

### Clearing an MS CCFB minor alarm

***At your current location***

**1** Determine if an MS407 log report is present. The MS407 log report indicates a composite clock failure.

**2** To access the MS level of the MAP display, type

**>MAPCI;MTC;MS**

and press the Enter key.

*Example of a MAP display:*

```
Message Switch Clock    Shelf 0 Inter-MS Link 0 1
MS 0        .           M Free      F         . .
MS 1        .           Slave       .         . .
```

***Note:*** In the example, the F under the Shelf header indicates you need access to the SHELF level of the MAP.

**3** Determine if an F appears under the Shelf header of the MAP display.

| If an F | Do |
|---|---|
| is present | step 4 |
| is not present | step 13 |

**4** To access the F-bus level of the MAP display, type

**>SHELF;CARD 12**

and press the Enter key.

*Example of a MAP display:*

```
                        1 1 1 1
Card  1 2 3 4 5 6 7 8 9 0 1 2 3
Chain           |
MS 0  . . . . . . . . . . F .
MS 1  . . . . . . . . . . . .

Card 12          FBus Tap:  0   11  12      16     20
MS 0  .            I        I    I  IIII    IIII   IIII
MS 1  .            .        .    .  ....    ....   ....
```

***Note:*** In the example, I under the F-Bus header indicates an in-service trouble F-bus, and (.) indicates an in-service F-bus. Under the F-bus tap numbers (0 to 23), I indicates an in-service trouble tap and (.) indicates an in-service tap.

# MS CCFB
## minor (continued)

**5** Determine which message switch (MS) connects to the F-bus that is in-service trouble.

***Note:*** In the MAP display example in step 4, the F-bus that is in-service trouble connects to MS 0.

**6** To test the in-service trouble F-bus, type

**>TST ms_number FBUS**

and press the Enter key

*where*

**ms_number**
is the number of the MS (0 or 1) connected to the manually busy F-bus

| If the TST command | Do |
|---|---|
| passed | step 13 |
| failed and composite clock failure detected | step 7 |

**7** Check the composite clock cables for correct connections.

**8** To manually busy the F-bus for in-service trouble, type

**>BSY ms_number FBUS**

and press the Enter key.

*where*

**ms_number**
is the number of the MS (0 or 1) connected to the in-service trouble F-bus

**9** To test the manually busy F-bus, type

**>TST ms_number FBUS**

and press the Enter key.

*where*

**ms_number**
is the number of the MS (0 or 1) connected to the manually busy F-bus

**10** To return the manual busy F-bus to service, type

**>RTS ms_number FBUS**

and press the Enter key.

*where*

# MS CCFB
# minor (end)

**ms_number**
is the number of the MS (0 or 1) connected to the manual busy F-bus

| If the RTS command | Do |
|---|---|
| passed | step 13 |
| failed and the system generated a card list | step 11 |

**11** Record the location, description, slot number, product engineering code (PEC), and PEC suffix of the first card on the list.

**12** To change the card, perform the correct card replacement procedure in *Card Replacement Procedures*. Complete the procedure and return to this point.

**13** Determine if the CCFB alarm cleared.

| If the alarm | Do |
|---|---|
| cleared | step 16 |
| reduced in number (for example, the alarm changed from 02CCFB to 01CCFB) | step 5 |
| changed to another alarm | step 14 |
| did not clear | step 15 |

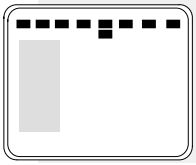
**14** Perform the correct procedure in this document to clear an alarm.

**15** For additional help, contact the next level of support.

**16** The procedure is complete.

# MS CLOCK
# major

## Alarm display



| CM | MS | IOD | Net | PM | CCS | Lns | Trks | Ext | APPL |
|---|---|---|---|---|---|---|---|---|---|
| . | CLOCK M | . | . | . | . | . | . | . | . |

## Indication

At the MTC level of the MAP display, CLOCK appears under the MS header of the alarm banner. The CLOCK indicates a major alarm for the CLOCK.

## Meaning

An error occurred on a clock card for a message switch (MS).

## Result

The affected clock card is in service, but carrier slips can occur.

## Common procedures

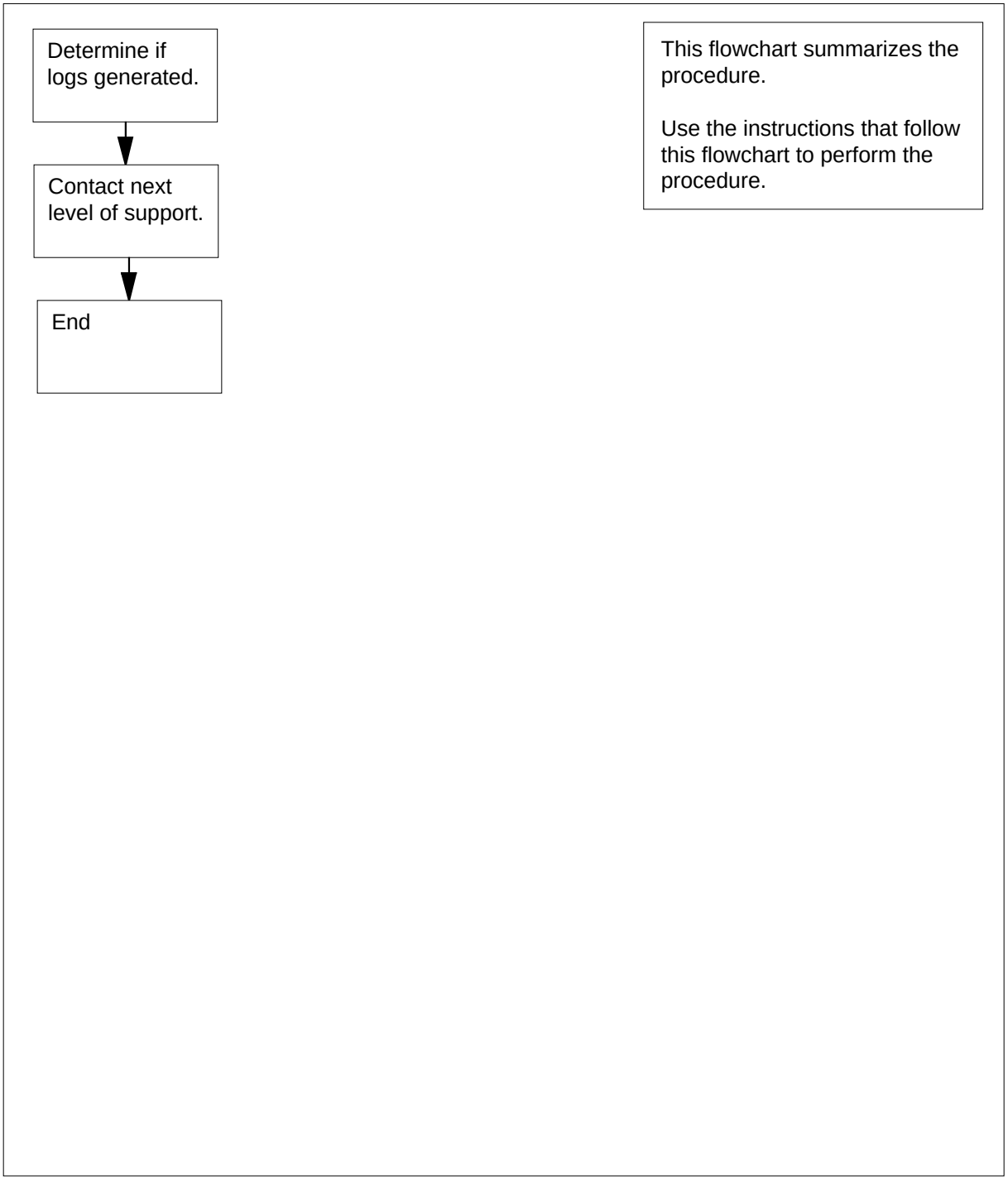
There are no common procedures.

## Action

This procedure contains a summary flowchart and a list of steps. Use the flowchart to review the procedure. Follow the steps to perform the procedure.

# MS CLOCK
## **major** (continued)

**Summary of clearing an MS CLOCK major alarm**



# MS CLOCK
# **major** (end)

**Clearing an MS CLOCK major alarm**

***At the MAP***

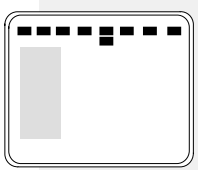
**1** Obtain all recent SYNC and MSL logs.

**2** For additional help, contact the next level of support.

**3** The procedure is complete.

# MS CMIC minor

## Alarm display



| CM | MS | IOD | Net | PM | CCS | Lns | Trks |
|---|---|---|---|---|---|---|---|
| . | **01CMIC** | . | . | . | . | . | . |

## Indication

At the MTC level of the MAP display, a number and CMIC appear under the MS header of the alarm banner. The CMIC indicates a computing module interface card (CMIC) minor alarm.

## Meaning

A port or interface card fault can cause an out-of-service CMIC link. A port or interface card fault can occur at either end of the link. The fiber link that has faults can be also.

The number under the MS header in the alarm banner indicates the number of affected CMIC links.

## Result

Two CMIC links are between each message switch (MS) and the computing module (CM). If one of the two links is out of service, the MS functions normally. If faults are present in both links, the MS goes out-of-service.

## Common procedures

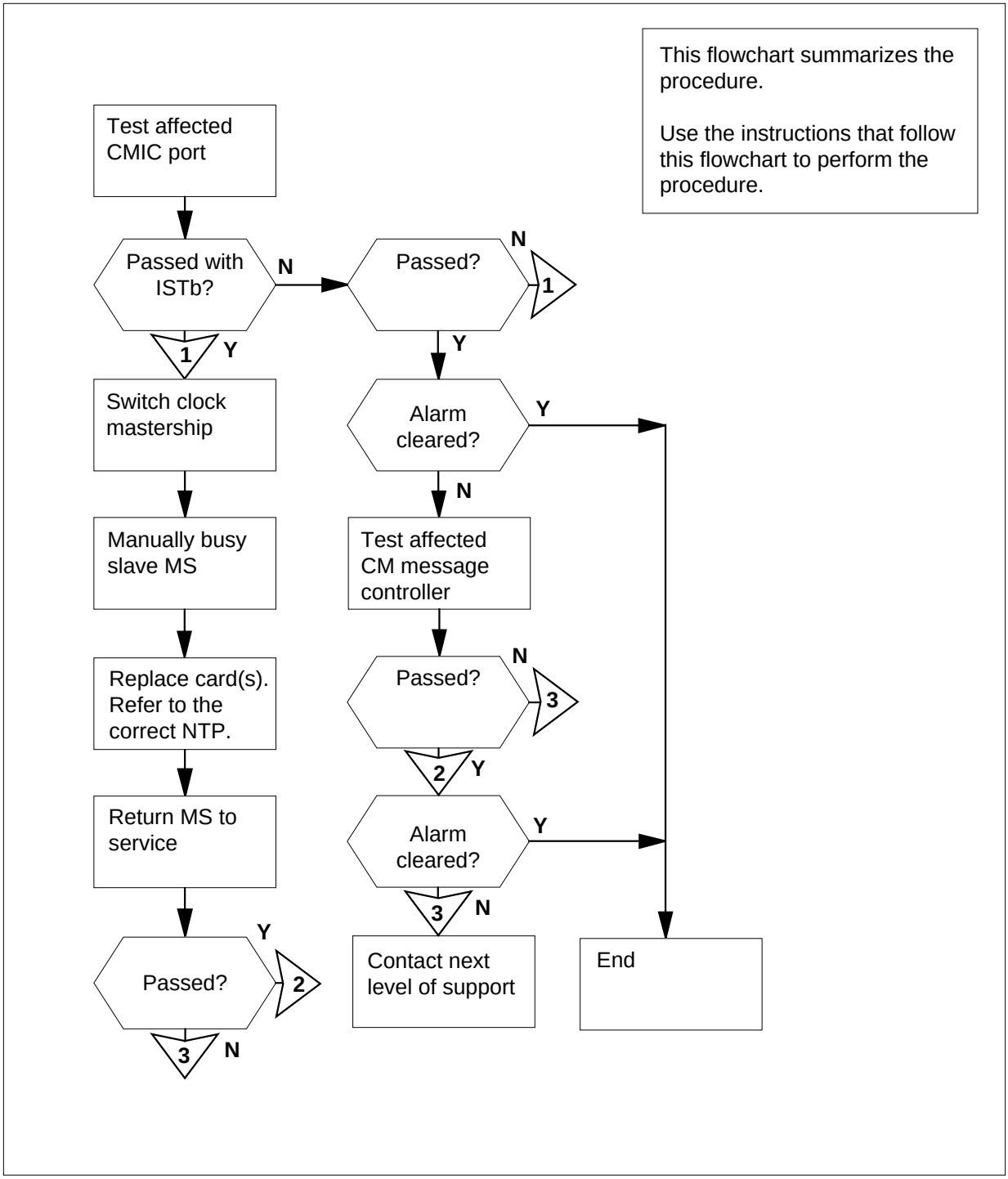
This procedure refers to *Failure to switch clock mastership*.

## Action

This procedure contains a summary flowchart and a list of steps. Use the flowchart to review the procedure. Follow the steps to perform the procedure.

# MS CMIC
## **minor** (continued)

**Summary of clearing an MS CMIC minor alarm**



# MS CMIC
# minor (continued)

### Clearing an MS CMIC minor alarm

***At the MAP terminal***

**1** To access the Shelf level of the MAP display, type

**`>MAPCI;MTC;MS;SHELF shelf_number`**

and press the Enter key.

*where*

**shelf_number**
is the number of the shelf (0 to 3)

***Note:*** For DMS SuperNode SE, do not enter a shelf number.

*Example of a MAP display for DMS SuperNode:*

```
Message Switch   Clock  Shelf 0  Inter-MS Link 0 1
MS 0        .          M Free     .               R .
MS 1        .          Slave      F               S .

Shelf 0                  1 1 1 1 1 1 1 1 1 2 2 2 2 2 2 2
Card   1 2 3 4 5 6 7 8 9 0 1 2 3 4 5 6 7 8 9 0 1 2 3 4 5 6
Chain
MS 0   . . . . . . . . . . . . . . . . . . . . . . F . . .
MS 1   . . . . . . . . . . . . . . . . . . . . . . . . . .
```

*Example of a MAP display for DMS SuperNode SE:*

```
Message Switch   Clock  Shelf 0  Inter-MS Link 0 1
MS 0        .          M Free     .               R .
MS 1        .          Slave      F               S .

Shelf 0                  1 1 1 1
Card   1 2 3 4 5 6 7 8 9 0 1 2 3
Chain
MS 0   . . . F . . . . . . . .
MS 1   . . . . . . . . . . . .
```

**2** Determine and note the number of CMIC alarms posted on the alarm banner. The alarm banner indicates one or two alarms. The 01CMIC indicates one alarm and 02CMIC indicates two alarms.

**3** Examine the MAP display and determine the affected CMIC card. The affected CMIC card is card 4 on MS 0 or card 4 on MS 1 for a DMS supernode SE.

***Note:*** An F under the card number indicates the affected CMIC card.

**4** To post the affected card, type

**`>CARD  card_number`**

and press the Enter key.

## MS CMIC
## **minor** (continued)

*where*

**card_number**
is the number of the affected card

*Example of a MAP display:*

```
Card 04 CMIC Interface Card Port: 0 1
MS 0          .                   . S
MS 1          .                   . .
```

**5** Determine the state of the affected ports.

***Note:*** The state of a port appears under the Port number field at the Card level of the MAP display.

| If the state of the ports | Do |
|---|---|
| is ManB (manual busy) | step 7 |
| is SysB (system busy) | step 6 |
| is ISTb (in-service trouble) | step 6 |

**6** Manually busy the system busy port or the in-service trouble port. An S under the port number indicates a system busy port. An I under the port number indicates an in-service trouble port. To manually busy the system-busy port or the in-service trouble port, type

**>BSY ms_number PORT port_number**

and press the Enter key.

*where*

**ms_number**
is the number of the MS (0 or 1) on which

the affected card resides

**port_number**
is the number of the system busy port (0 or 1)

*Example of a MAP response:*

```
Request to BUSY MS:0 shelf:0 card:4 port 1 submitted.
Request to BUSY MS:0 shelf:0 card:4 port 1 passed.
```

**7** To test the affected CMIC port, type

**>TST ms_number PORT port_number**

and press the Enter key.

*where*

**ms_number**
is the number of the MS (0 or 1) on which the affected

## MS CMIC
## **minor** (continued)

card resides

**port_number**
is the number of the system busy port (0 or 1)

*Example of a MAP:*

```
Request to TEST OOS MS:0 shelf:0 card:4 port 1 submitted.
Request to TEST OOS MS:0 shelf:0 card:4 port 1 passed.
```

| If the TST command | Do |
|---|---|
| passed | step 24 |
| passed with ISTb, and the system generated a card list | step 8 |
| failed, and the system generated a card list | step 8 |
| other than listed here | step 43 |

**8** Record the location, description, slot number, product engineering code (PEC), and PEC suffix of the first card on the list.

**9** To access the MS level of the MAP display, type

**>MS**

and press the Enter key.

*Example of a MAP display:*

```
Message Switch   Clock  Shelf 0  Inter-MS Link 0 1
MS 0        .          M Free     .                R .
MS 1        .          Slave      F                S .
```

**10** Determine the clocking configuration.

***Note:*** The clocking configuration appears under the Clock header at the MS level of the MAP display.

| IfThe MS that contains the card you must replace is the | Do |
|---|---|
| slave | step 14 |
| master | step 11 |

**11** To switch clock mastership, type

**>SWMAST**

and press the Enter key.

## MS CMIC
## **minor** (continued)

*Example of a MAP display:*

```
Request to Switch Clock Mastership MS: 0 submitted.
Request to Switch Clock Mastership MS: 0 passed.
```

| If the SWMAST command | Do |
|---|---|
| passed | step 13 |
| failed | step 12 |

**12** Perform the procedure *Failure to switch clock mastership* in this document. Complete the procedure and return to this point.

**13** Wait 10 min to make sure the MS is stable. Continue the procedure.

**14** To manually busy the MS that contains the card you must replace, type

**>BSY ms_number**

and press the Enter key.

*where*

**ms_number**
is the number of the slave MS (0 or 1)

*Example of a MAP display:*

```
Request to MAN BUSY MS: 0 submitted.
Request to MAN BUSY MS: 0 passed.
```

| If the response | Do |
|---|---|
| `is Request to MAN BUSY MS:0 passed` | step 15 |
| `is Request to MAN BUSY MS:1 passed` | step 15 |
| other than listed here | step 43 |

**15** Perform the correct card replacement procedure in *Card Replacement Procedures*. Complete the procedure and return to this point.

**16** To perform an out-of-service test on the manual busy MS, type

**>TST ms_number**

and press the Enter key.

*where*

## MS CMIC
## **minor** (continued)

**ms_number**
is the number of the manual busy MS (0 or 1)

| If the test | Do |
|---|---|
| passed | step 21 |
| passed with `ISTB`, and the system generated a card list | step 19 |
| passed with `ISTB`, or failed, and you replaced all the cards on the list | step 26 |
| failed, and the system generated a card list | step 17 |
| other than listed here | step 43 |

**17** Determine if you replaced all the cards on the list.

| If you | Do |
|---|---|
| replaced all the cards on the list | step 26 |
| have not replaced all the cards on the list | step 18 |

**18** Record the location, description, slot number, PEC, and PEC suffix of the first card listed that you did not replace.

Go to step 20.

**19** Record the location, description, slot number, PEC, and PEC suffix of the next card on the list.

**20** Use the information recorded in step 18 to determine the subsystem that contains the card you must replace.

| If the card you must replace | Do |
|---|---|
| is an MS card | step 15 |
| is a CM card | step 31 |

**21** To return the manual busy MS to service, type

**`>RTS ms_number`**

and press the Enter key.

*where*

**ms_number**
is the number of the manual busy MS (0 or 1)

## MS CMIC
## **minor** (continued)

*Example of a MAP response:*

```
Request to RTS MS: 0 submitted.
Request to RTS MS: 0 passed.
```

| If the RTS command | Do |
|---|---|
| passed | step 22 |
| failed | step 43 |

**22** To access the Shelf level of the MAP display, type

**>SHELF shelf_number**

and press the Enter key.

*where*

**shelf_number**
is the number of the shelf (0 to 3)

***Note:*** For DMS SuperNode SE, do not enter a shelf number.

*Example of a MAP display for DMS supernode:*

```
Shelf 0                 1 1 1 1 1 1 1 1 1 2 2 2 2 2 2 2
Card   1 2 3 4 5 6 7 8 9 0 1 2 3 4 5 6 7 8 9 0 1 2 3 4 5 6
Chain
MS 0   . . . . . . . . . . . . . . . . . . . . . . I . . .
MS 1   . . . . . . . . . . . . . . . . . . . . . . . . . .
```

*Example of a MAP display for DMS supernode SE:*

```
Shelf 0                 1 1 1 1
Card   1 2 3 4 5 6 7 8 9 0 1 2 3
Chain
MS 0   . . . I . . . . . . . .
MS 1   . . . . . . . . . . . .
```

**23** To access the affected card, type

**>CARD card_number**

and press the Enter key.

*where*

**card_number**
is the number of the affected card

*Example of a MAP display:*

```
Card 04 CMIC Interface Card Port: 0 1
MS 0            I               . M
MS 1            .               . .
```

# MS CMIC
## minor (continued)

**24** To return the manual busy port to service, type

**`>RTS ms_number PORT port_number`**

and press the Enter key.

*where*

**ms_number**
is the number of the MS (0 or 1) that contains the affected card

**port_number**
is the number of the manual busy port (0 or 1)

*Example of a MAP response:*

```
Request to RTS MS:0 shelf:0 card:4 PORT 1 submitted.
Request to RTS MS:0 shelf:0 card:4 PORT 1 passed.
```

| If the RTS command | Do |
|---|---|
| passed | step 25 |
| failed | step 43 |

**25** To determine if the CMIC minor alarm cleared, check the MS alarm banner of the MAP display.

| If the alarm | Do |
|---|---|
| cleared | step 44 |
| changed to another alarm | step 42 |
| reduced in number (for example, the alarm changed from 02CMIC to 01CMIC) | step 1 |
| did not clear | step 26 |

**26** To access the CM level of the MAP display, type

**`>CM`**

and press the Enter key.

**27** Determine if a step in the procedure *clearing a CM MC Tbl minor alarm* directed you to this procedure.

| If a step in the procedure How to clear a CM MC Tbl minor alarm | Do |
|---|---|
| directed you to this procedure | step 41 |

## MS CMIC
## **minor** (continued)

| If a step in the procedure How to clear a CM MC Tbl minor alarm | Do |
|---|---|
| did not direct you to this procedure | step 28 |

**28** To access the MC level of the MAP display, type

**>MC**

and press the Enter key.

**29** To test the MC that connects to the affected CMIC, type

**>TST mc_number**

and press the Enter key.

*where*

**mc_number**
is the number of the affected MC (0 or 1)

*Example of a MAP display:*

```
CM 0
   MC 0 MC 1
   Istb  .
```

The CMICs connect to the message controllers as follows:

- MS0 card 4 connects to port 0. Port 0 connects to MC0 on link 0
- MS0 card 4 connects to port 1. Port 1 connects to MC1 on link 1
- MS1 card 4 connects to port 0. Port 0 connects to MC1 on link 0
- MS1 card 4 connects to port 1. Port 1 connects to MC0 on link 1

| If the TST command | Do |
|---|---|
| passed | step 35 |
| failed, and the system generates a card list | step 30 |
| failed, and you replaced all the cards on the list | step 43 |
| other than listed here | step 43 |

**30** Record the location, description, slot number, PEC, and PEC suffix of the first card on the list.

**31** To change the card, perform the correct card replacement procedure in *Card Replacement Procedures* . Complete the procedure and return to this point.

## MS CMIC
## **minor** (continued)

**32** To access the MC level of the MAP display, type

**>MC**

and press the Enter key.

**33** To test the affected MC, type

**>TST mc_number**

and press the Enter key.

*where*

**mc_number**
is the number of the affected MC (0 or 1)

| If the TST command | Do |
|---|---|
| passed | step 35 |
| failed, the system generates a card list, and you replaced all the cards on the list | step 41 |
| failed, and the system generates a card list | step 34 |
| other than listed here | step 43 |

**34** Record the location, description, slot number, PEC, and PEC suffix of the next card on the list.

Go to step 31.

**35** Determine if the inactive CPU jammed.

***Note:*** The word yes under the JAM header means that the CPU jammed. This area is blank if the CPU has not jammed.

| If the inactive CPU | Do |
|---|---|
| jammed | step 36 |
| has not jammed | step 37 |

***At the CM RTIF***

**36** To remove the jam from the inactive CPU, type

**>\RELEASE JAM**

and press the Enter key.

*RTIF response:*

```
JAM RELEASE DONE
```

# MS CMIC
## **minor** (continued)

***At the MAP terminal***

**37** To access the CM level of the MAP display, type

**>CM**

and press the Enter key.

**38** Determine if the CM is in sync.

***Note:*** A dot symbol under the Sync header indicates that the CM is in sync. The word "No" means that the CM is not in sync.

| If the CM | Do |
|---|---|
| is in sync | step 40 |
| is not in sync | step 39 |

**39** To synchronize the CM, type

**>SYNC**

and press the Enter key.

*MAP response:*

```
Synchronization successful
```

| If the SYNC command | Do |
|---|---|
| passed | step 40 |
| failed | step 43 |

**40** To determine if the CMIC minor alarm cleared, check the MS alarm banner of the MAP display.

| If the alarm | Do |
|---|---|
| cleared | step 44 |
| reduced in number (for example, it changed from 02CMIC to 01CMIC) | step 1 |
| changed to another alarm | step 42 |
| did not clear | step 41 |

**41** A fiber link between the CM and the MS can have faults.

Go to step 43.

## MS CMIC
## **minor** (end)

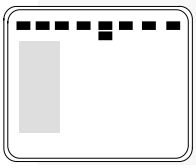
**42** Perform the correct procedure in this document to clear an alarm.

**43** For additional help, contact the next level of support.

**44** The procedure is complete.

# MS DDM major

## Alarm display



| CM | MS | IOD | Net | PM | CCS | Lns | Trks | Ext | APPL |
|---|---|---|---|---|---|---|---|---|---|
| . | DDM<br>M | . | . | . . | . | . | . | . | |

## Indication

At the MTC level of the MAP display, DDM appears under the MS header of the alarm banner. The DDM indicates a distributed data manager (DDM) major alarm.

## Meaning

The DDM failed to transfer data to the integrated link maintenance (ILM) software in the message switch (MS). MS links to the file processors (FP) are out of service.

## Result

In-service trouble is present in one or both MSs. One or more FPs can be out of service. The performance will degrade for applications that run on the FPs that have faults.

## Common procedures

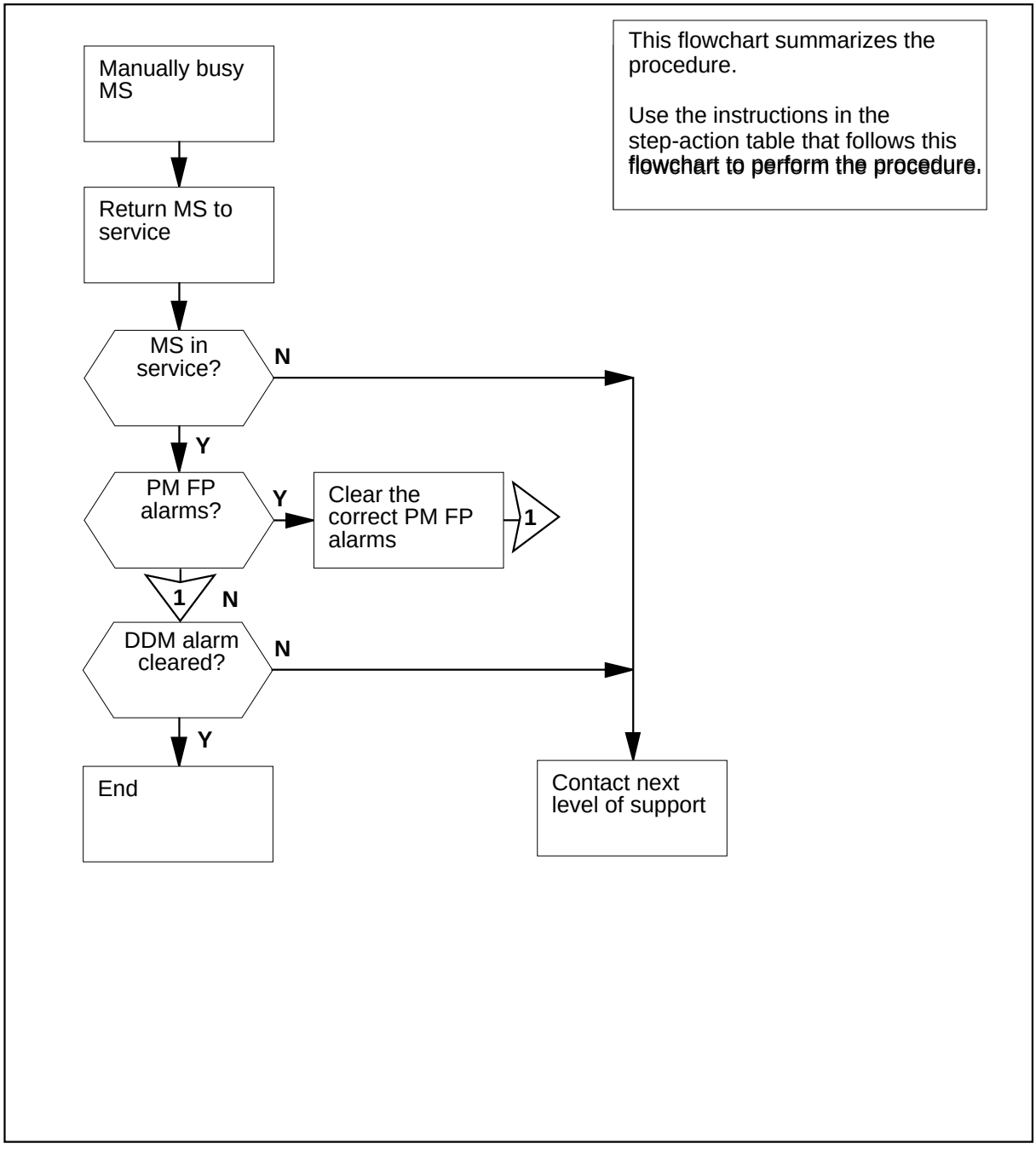
There are no common procedures.

## Action

This procedure contains a summary flowchart and a list of steps. Use the flowchart to review the procedure. Follow the steps to perform the procedure.

# MS DDM
## **major** (continued)

**Summary of clearing an MS DDM major alarm**



# MS DDM
## major (continued)

### Clearing an MS DDM major alarm

***At the MAP terminal***

**1** To access the MS level of the MAP display, type

**>MAPCI;MTC;MS**

and press the Enter key.

*Example of a MAP response:*

```
      Message Switch   Clock   Shelf  0    Inter-MS Link 0 1
MS 0       I          Slave          .                  . .
MS 1       .          Master         .                  . .
```

**2** Determine if in-service trouble is present in one or both MSs.

***Note:*** In the example of a MAP response in step 1, MS 0 has in-service trouble.

| If | Do |
|---|---|
| one MS has in-service trouble | step 3 |
| two MSs have in-service trouble | step 18 |

**3** Determine the clocking configuration of the MS that has faults. The clocking configuration appears under the Clock header at the MS level of the MAP.

| If the MS has faults | Do |
|---|---|
| is the master MS, `Master`, `M Flt`, or `M Free` appears under the Clock header | step 4 |
| is the slave MS, `Slave` or `S Flt` or `S Free` appears under the Clock header | step 5 |

**4** To switch clock mastership, type

**>SWMAST**

and press the Enter key.

| If the switch of mastership | Do |
|---|---|
| passed | step 5 |
| failed | step 18 |

**5** To manually busy the MS that has in-service trouble, type

**>BSY ms_number**

## MS DDM
## **major** (continued)

and press the Enter key.

*where*

**ms_number**
is the number of the MS that has in-service trouble (0 or 1)

| If the BSY command | Do |
|---|---|
| passed | step 6 |
| failed | step 18 |

**6** To return the manual busy MS to service, type

**>RTS ms_number**

and press the Enter key.

*where*

**ms_number**
is the number of the manual busy MS (0 or 1)

| If the RTS command | Do |
|---|---|
| passed | step 11 |
| passed, with in-service trouble | step 18 |
| failed, and the system generates a card list | step 7 |
| failed, and the system does not generate a card list | step 18 |

**7** Record the location, product engineering code (PEC), and PEC suffix of the first card on the card list.

**8** To replace the card, use the correct card replacement procedure in *Card Replacement Procedures*. Complete the procedure and return to this point.

**9** To return the MS to service, type

**>RTS ms_number**

and press the Enter key.

*where*

**ms_number**
is the number of the manual busy MS (0 or 1)

| If the RTS command | Do |
|---|---|
| passed | step 11 |
| failed, and you did not replace all the cards on the list | step 10 |
| failed, and you replaced all the cards on the list | step 18 |

## MS DDM
## **major** (continued)

| If the RTS command | Do |
|---|---|
| failed, and the system did not generate a card list | step 18 |

**10** Record the location, PEC, and PEC suffix of the next card on the card list.

Go to step 8.

**11** To access the PM level of the MAP display, type

**>PM**

and press the Enter key.

*Example of a MAP response:*

```
             SysB    ManB    OffL    CBsy    ISTb    InSv
PM              0       0       0       0       1      38
```

**12** To determine if any of the FPs are system busy, type

**>POST FP SYSB**

and press the Enter key.

*Example of a MAP:*

```
         SysB    ManB    Offl    CBsy    ISTb    InSv
PM        1       0       0       0       0       39
FP        1       0       0       0       0        7

FP 0:    FP0_256    Plane      Devices
SysB   /Mtce      NoComm      .
```

| If system busy FPs | Do |
|---|---|
| are present | step 13 |
| are not present | step 14 |

**13** Perform the procedure *Clearing a PM FP critical alarm* in this document. Complete this procedure and return to this point.

**14** To determine if in-service trouble is present in any FPs, type

**>POST FP ISTB**

and press the Enter key.

*Example of a MAP display:*

# MS DDM
# **major** (end)

```
        SysB    ManB    Offl    CBsy    ISTb    InSv
PM       1       0       0       0       0       39
FP       0       0       0       0       1        7

FP 0:    FP0_256    Plane      Devices
ISTb               NoComm      .
```

| If FPs with in-service trouble | Do |
|---|---|
| are present | step 15 |
| are not present | step 16 |

**15** Perform the procedure *How to clear a PM FP minor alarm* in this document. Complete this procedure and return to this point.

**16** To determine if the DDM alarm cleared, check the MS alarm banner of the MAP display.

| If the alarm | Do |
|---|---|
| cleared | step 19 |
| changed to another alarm | step 17 |
| did not clear | step 18 |

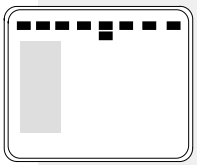
**17** Perform the correct procedure in this document to clear an alarm.

**18** For additional help, contact the next level of support.

**19** The procedure is complete.

# MS FCFB minor

## Alarm display



| CM | MS | IOD | Net | PM | CCS | Lns | Trks | Ext | APPL |
|---|---|---|---|---|---|---|---|---|---|
| . | **01FCFB** | . | . | . | . | . | . | . | . |

## Indication

At the MTC level of the MAP display, FCFB (preceded by a number) appears under the MS header of the alarm banner. The FCFB indicates a full frame transport bus (F-bus) composite clock (FCFB) minor alarm.

## Meaning

Both F-bus 0 and F-bus 1 have faults in the full F-bus composite clocks. Both the F-bus 0 and the F-bus 1 are in-service trouble.

The fault for the full F-bus composite clock also generates a MS407 log.

This alarm applies only to a single shelf link peripheral processor (SS LPP). Each F-bus must connect to the message switch (MS) with fiber-optic cables. No local message switch (LMS) is present.

## Result

Performance of the CCS7 can degrade.

## Common procedures

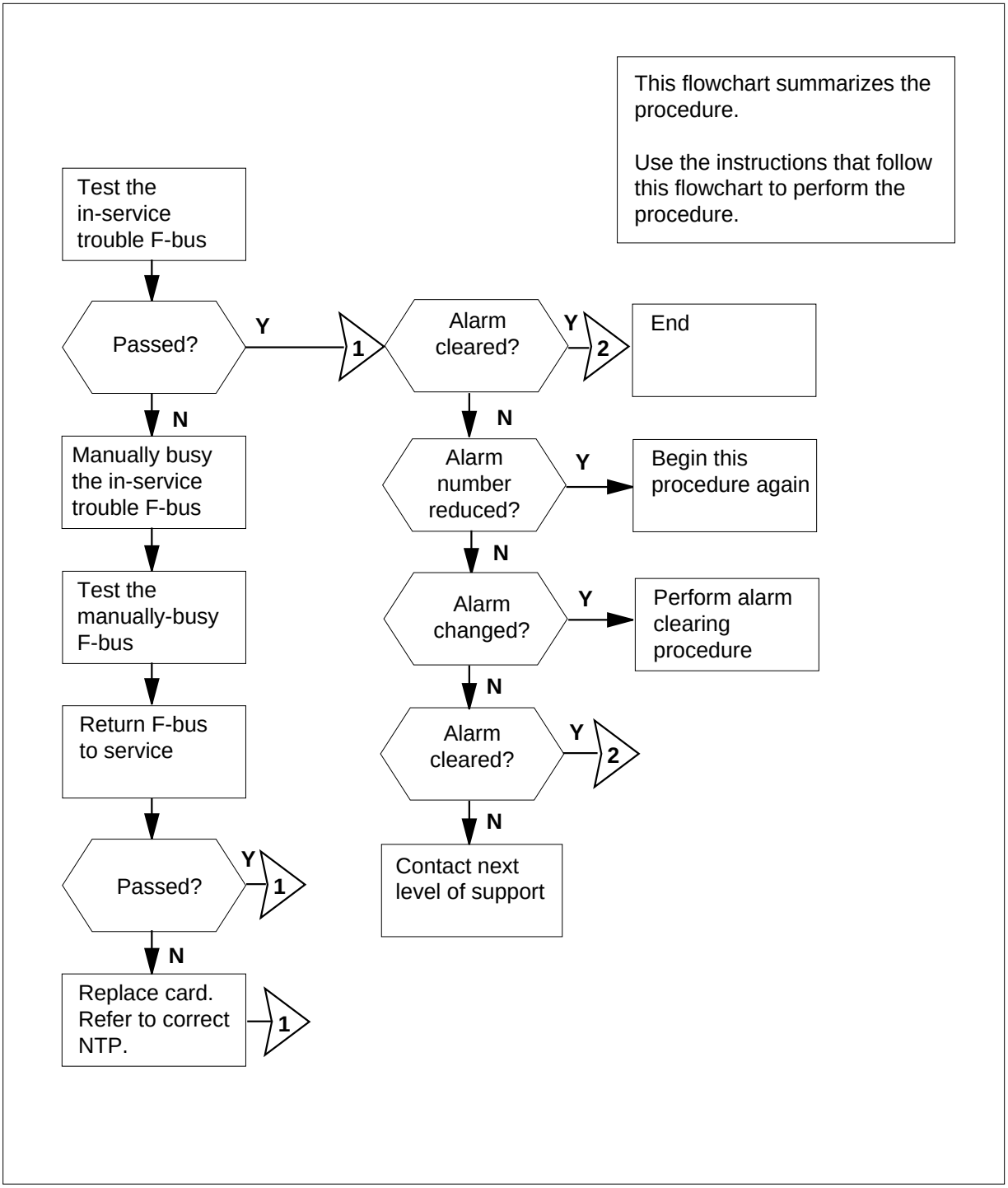
There are no common procedures.

## Action

This procedure contains a summary flowchart and a list of steps. Use the flowchart to review the procedure. Follow the steps to perform the procedure.

# MS FCFB
# **minor** (continued)

**Summary of clearing an MS FCFB minor alarm**



# MS FCFB
# minor (continued)

### Clearing an MS FCFB minor alarm

***At your current location***

**1** Check for an MS407 log report that indicates a composite clock failure.

**2** To access the MS level of the MAP display, type

**`>MAPCI;MTC;MS`**

and press the Enter key.

*Example of a MAP display:*

```
Message Switch Clock    Shelf 0 Inter-MS Link 0 1
MS 0        .           M Free      F         . .
MS 1        .           Slave       F         . .
```

***Note:*** In the example, F under the Shelf header tells you to access the SHELF level.

**3** Determine if an F is present under the Shelf header of the MAP display.

| If an F | Do |
|---|---|
| is present | step 4 |
| is not present | step 13 |

**4** To access the F-bus level of the MAP display, type

**`>SHELF;CARD  12`**

and press the Enter key.

*Example of a MAP display:*

```
                        1 1 1 1
Card  1 2 3 4 5 6 7 8 9 0 1 2 3
Chain           |
MS 0  . . . . . . . . . . . F .
MS 1  . . . . . . . . . . . F .

Card 12          FBus Tap:  0   11  12      16     20
MS 0  .            I        I   I   IIII    IIII   IIII
MS 1  .            .        .   .   ....    ....   ....
```

***Note:*** In the example, I under the F-Bus header indicates an in-service trouble F-bus, and (.) indicates an in-service F-bus. Under the F-bus tap numbers (0 to 23), I indicates an in-service trouble tap and (.) indicates an in-service tap.

**5** Determine which message switch (MS) connects to the in-service trouble F-bus.

***Note:*** In the MAP display example in step 4, the in-service trouble F-bus connects to MS 0.

## MS FCFB
## **minor** (continued)

**6** To test the in-service trouble F-bus, type

**>TST ms_number FBUS**

and press the Enter key

*where*

**ms_number**
is the number of the MS (0 or 1) that connects to the manually-busy F-bus

| If the TST command | Do |
|---|---|
| passed | step 13 |
| failed and composite clock failure detected | step 7 |

**7** Check the composite clock cables for correct connections.

**8** To manually busy the in-service trouble F-bus, type

**>BSY ms_number FBUS**

and press the Enter key

*where*

**ms_number**
is the number of the MS (0 or 1) that connects to the in-service trouble F-bus

**9** To test the manually busy F-bus, type

**>TST ms_number FBUS**

and press the Enter key

*where*

**ms_number**
is the number of the MS (0 or 1) that connects to the manually busy F-bus

**10** To return the manual busy F-bus to service, type

**>RTS ms_number FBUS**

and press the Enter key.

*where*

**ms_number**
is the number of the MS (0 or 1) that connects to the manual busy F-bus

# MS FCFB
# minor (end)

| If the RTS command | Do |
|---|---|
| passed | step 13 |
| failed, and the system generates a card list | step 11 |

**11** Record the location, description, slot number, product engineering code (PEC), and PEC suffix of the first card on the list.

**12** To change the card, perform the correct card replacement procedure in *Card Replacement Procedures*. Complete the procedure and return to this point.

**13** Determine if the FCFB alarm cleared.

| If the alarm | Do |
|---|---|
| cleared | step 16 |
| reduced in number (for example, a change from 2FCFB to 1FCFB) | step 5 |
| changed to another alarm | step 14 |
| did not clear | step 15 |

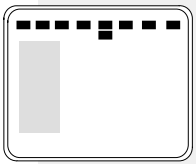
**14** Perform the correct procedure in this document to clear an alarm.

**15** For additional help, contact the next level of support.

**16** The procedure is complete.

# MS IMSL minor

## Alarm display



| CM | MS | IOD | Net | PM | CCS | Lns | Trks | Ext | APPL |
|---|---|---|---|---|---|---|---|---|---|
| . | 01MSL | . | . | . | . | . | . | . | . |

## Indication

At the MTC level of the MAP display, IMSL (preceded by a number) appears under the MS header of the alarm banner. The IMSL indicates an IMSL minor alarm.

## Meaning

Inter-message switch (MS) links are out of service. Another route is possible through the inter-MS link that remains.

The number under the MS header in the alarm banner indicates the number of links affected.

## Result

There is no impact on subscriber service.

## Common procedures

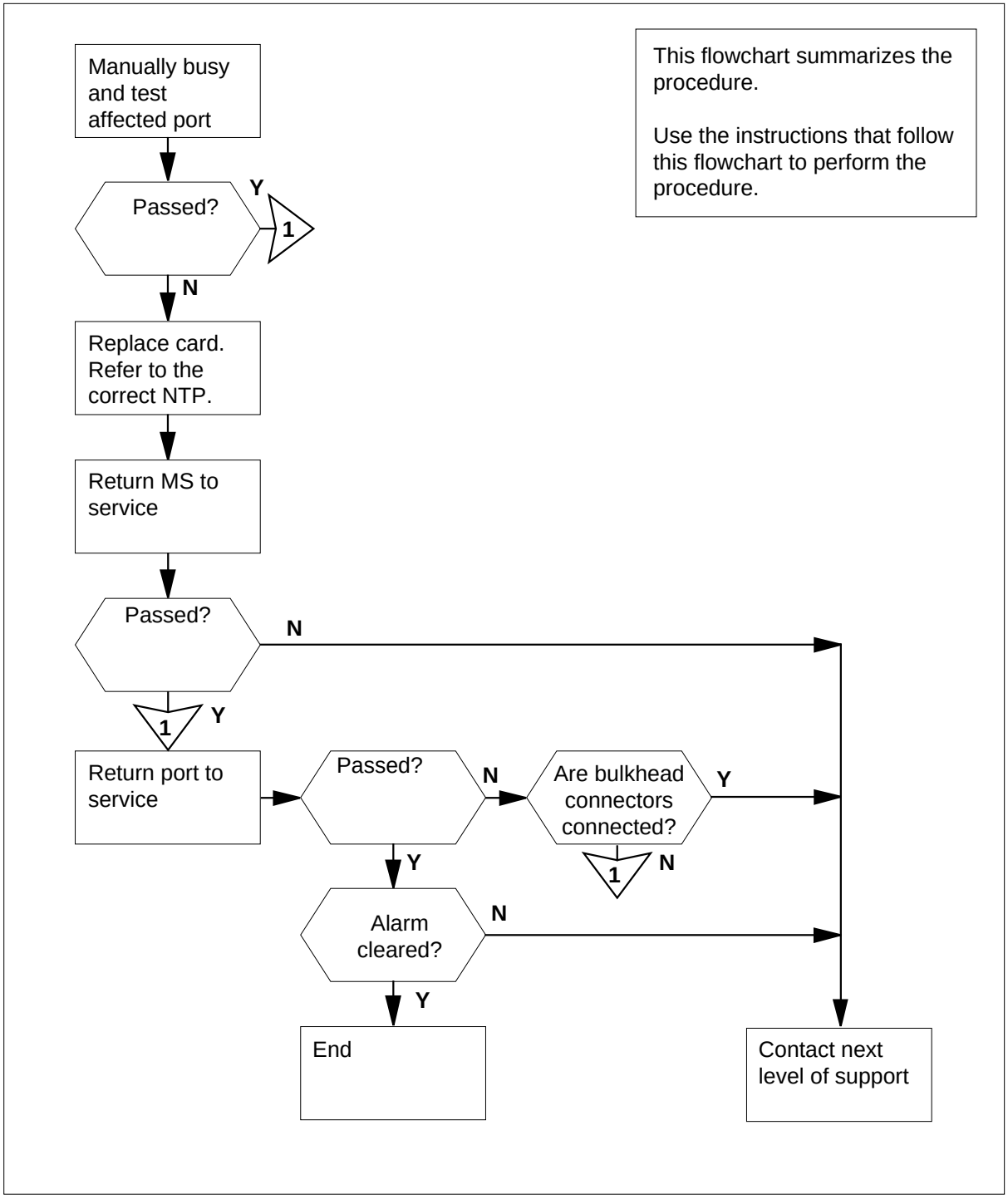
This procedure refers to *Failure to switch clock mastership*.

## Action

This procedure contains a summary flowchart and a list of steps. Use the flowchart to review the procedure. Follow the steps to perform the procedure.

# MS IMSL
## **minor** (continued)

**Summary of clearing an MS IMSL minor alarm**



# MS IMSL
## minor (continued)

### Clearing an MS IMSL minor alarm

***At the MAP terminal***

**1** To access the MS level of the MAP display, type

**>MAPCI;MTC;MS**

and press the Enter key.

*Example of a MAP display:*

```
Message Switch   Clock  Shelf 0  Inter-MS Link 0 1
MS 0        .          M Free     .               R .
MS 1        .          Slave      F               S .
```

**2** Determine from the MAP display the inter-MS links that are out-of-service. An S, which means system busy, indicates an out-of-service inter-MS link.

**3** To access the level of the MAP display that indicates inter-MS port status, type

**>INTERMS link_number**

and press the Enter key.

*where*

**link_number**
is the inter-MS link (0 or 1) that is out of service

**4** To determine from the MAP display the port that corresponds to the affected inter-MS link, type

**>TRNSL ms_number**

and press the Enter key.

*where*

**ms_number**
is the number of the MS (0 or 1) on which the system busy

inter-MS link resides

*Example of a MAP response:*

```
Port 2=Inter-MS link
Port 1=Inter-MS link
```

**5** To manually busy the affected port, type

**>BSY ms_number PORT port_number**

and press the Enter key.

*where*

**ms_number**
is the number of the MS (0 or 1) on which the system busy

## MS IMSL
## **minor** (continued)

inter-MS link resides

**port_number**
is the number of the affected port (0 to 3)

*Example of a MAP response:*

```
Request to MAN BUSY MS:1 shelf:0 card:10 Port:1 submitted.
Request to MAN BUSY MS:1 shelf:0 card:10 Port:1 passed
```

**6** To test the affected port, type

**>TST ms_number PORT port_number**

and press the Enter key.

*where*

**ms_number**
is the number of the MS (0 or 1) on which the system busy

inter-MS link resides

**port_number**
is the number of the affected port (0 to 3)

*Example of a MAP response:*

```
Request to Test OOS MS:1 Shelf:0 Card:10 Port:1 submitted.
Request to Test OOS MS:1 Shelf:0 Card:10 Port:1 passed
```

| If the TST command | Do |
|---|---|
| passed | step 23 |
| passed with `Istb`, and the system generates a card list | step 7 |
| failed, and the system generates a card list | step 7 |
| failed, the system generates a card list, and an error response appears | step 26 |
| other than listed here | step 26 |

**7** Record the location, description, slot number, product engineering code (PEC), and PEC suffix of the first card on the list.

## MS IMSL
## minor (continued)

**8** Determine the clocking configuration.

***Note:*** The clocking configuration appears under the Clock header at the MS level of the MAP display.

| If the MS that contains the card you must replace | Do |
|---|---|
| is the slave MS, `Slave` appears under the Clock header | step 12 |
| is the master MS, `Master` or `M Free` appears under the Clock header | step 9 |

**9** To switch clock mastership, type

**`>SWMAST`**

and press the Enter key.

*Example of a MAP response:*

```
Request to Switch Clock Mastership MS: 0 submitted.
Request to Switch Clock Mastership MS: 0 passed.
```

| If the SWMAST command | Do |
|---|---|
| passed | step 11 |
| failed | step 10 |

**10** Perform the procedure *Failure to switch clock mastership* in this document. Complete the procedure and return to this point.

**11** Wait 10 min to make sure the MS is stable. Continue this procedure.

**12** To access the MS level of the MAP display, type

**`>MS`**

and press the Enter key.

**13** To manually busy the MS that contains the card you must replace, type

**`>BSY ms_number`**

and press the Enter key.

*where*

**ms_number**
is the number of the MS (0 or 1) that contains the card you must replace

*Example of a MAP response:*

## MS IMSL
## **minor** (continued)

```
Request to MAN BUSY MS: 0 submitted.
Request to MAN BUSY MS: 0 passed.
```

| If the response | Do |
|---|---|
| is `Request to MAN BUSY MS:0 passed.` | step 14 |
| is `Request to MAN BUSY MS:1 passed.` | step 14 |
| is other than listed here | step 26 |

**14** Perform the correct card replacement procedure in *Card Replacement Procedures*. Complete the procedure and return to this point.

**15** To perform an out-of-service test on the manual busy MS, type

**`>TST ms_number`**

and press the Enter key.

*where*

**ms_number**
is the number of the manual busy MS (0 or 1)

*Example of a MAP response:*

```
Request to TEST OOS MS: 0 submitted.
Request to TEST OOS MS: 0 passed.
No node faults were found on MS 0.
```

| If the TST command | Do |
|---|---|
| passed | step 21 |
| passed with `Istb`, and the system generates a card list | step 18 |
| passed with `Istb`, or failed, and you replaced all the cards on the list | step 19 |
| failed, and the system generated a card list | step 16 |
| other than listed here | step 26 |

# MS IMSL
## minor (continued)

**16** Determine if you replaced all the cards on the list.

| If you | Do |
|---|---|
| replaced all the cards on the list | step 19 |
| did not replace all the cards on the list | step 17 |

**17** Record the location, description, slot number, PEC, and PEC suffix of the first card listed that you did not replace.

Go to step 14.

**18** Record the location, description, slot number, PEC, and PEC suffix of the next card on the list.

Go to step 14.

**19** Check office records or consult with the operating company personnel to find the office configuration for inter-MS links. Check the condition of the bulkhead connectors that correspond to the inter-MS links, on both the MSs.

| If | Do |
|---|---|
| one or more bulkhead connectors are not connected | step 20 |
| all bulkhead connectors connect | step 26 |

**20** Connect the bulkhead connectors.

**21** Use the out-of-band channel to return the manual busy MS to service. To return the manual busy MS to service, type

**`>RTS ms_number OOBAND`**

and press the Enter key.

*where*

**ms_number**
is the number of the manual busy MS (0 or 1)

*Example of a MAP response:*

```
Request to RTS OOBAND MS: 0 submitted.
Request to RTS OOBAND MS: 0 passed.
```

| If the RTS command | Do |
|---|---|
| passed | step 22 |
| failed | step 26 |

# MS IMSL
# minor (end)

**22** To access the Card level of the MAP display, where the system maintains inter-MS link ports, type

**`>INTERMS link_number`**

and press the Enter key.

*where*

**link_number**
is the inter-MS link that is out of service (0 or 1)

**23** To return the manual busy port to service, type

**`>RTS ms_number PORT port_number`**

and press the Enter key.

*where*

**ms_number**
is the number of the MS (0 or 1) on which the manual busy port resides

**port_number**
is the number of the manual busy port (0 to 3)

| If the RTS command | Do |
|---|---|
| passed | step 24 |
| failed | step 26 |

**24** To determine if the 01IMSL minor alarm cleared, check the MS alarm banner of the MAP.

| If the alarm | Do |
|---|---|
| cleared | step 27 |
| changed to another alarm | step 25 |
| did not clear | step 26 |

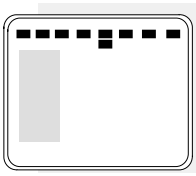
**25** Perform the correct alarm clearing procedure in this document.

**26** For additional help, contact the next level of support.

**27** The procedure is complete.

# MS Istb minor

## Alarm display



| CM | MS | IOD | Net | PM | CCS | Lns | Trks | Ext | APPL |
|---|---|---|---|---|---|---|---|---|---|
| . | Istb | . | . | . | . | . | . | . | . |

## Indication

At the MTC level of the MAP display, Istb appears under the MS header of the alarm banner.

## Meaning

The system detects in-service trouble on one or more message switch (MS) cards. The following actions cause in-service trouble.

- a card insertion or removal takes place while the MS is in service
- the product engineering code (PEC) of a card does not match the PEC entered for the card slot
- buffer memory faults occur in NT9X17BB, NT9X17CA, or NT9X17DA cards
- on a SuperNode SE, an F-bus NTDX16AA power converter is out-of-service

***Note:*** The list above does not include all causes of an MS in-service trouble condition.

## Result

When you insert a card into an in-service MS, the messaging that takes place in the MS becomes corrupt. Failure of the buffer memory indicates problems that can be important. These problems can require card replacement. The impact of a PEC mismatch depends on the type of card involved.

## Common procedures

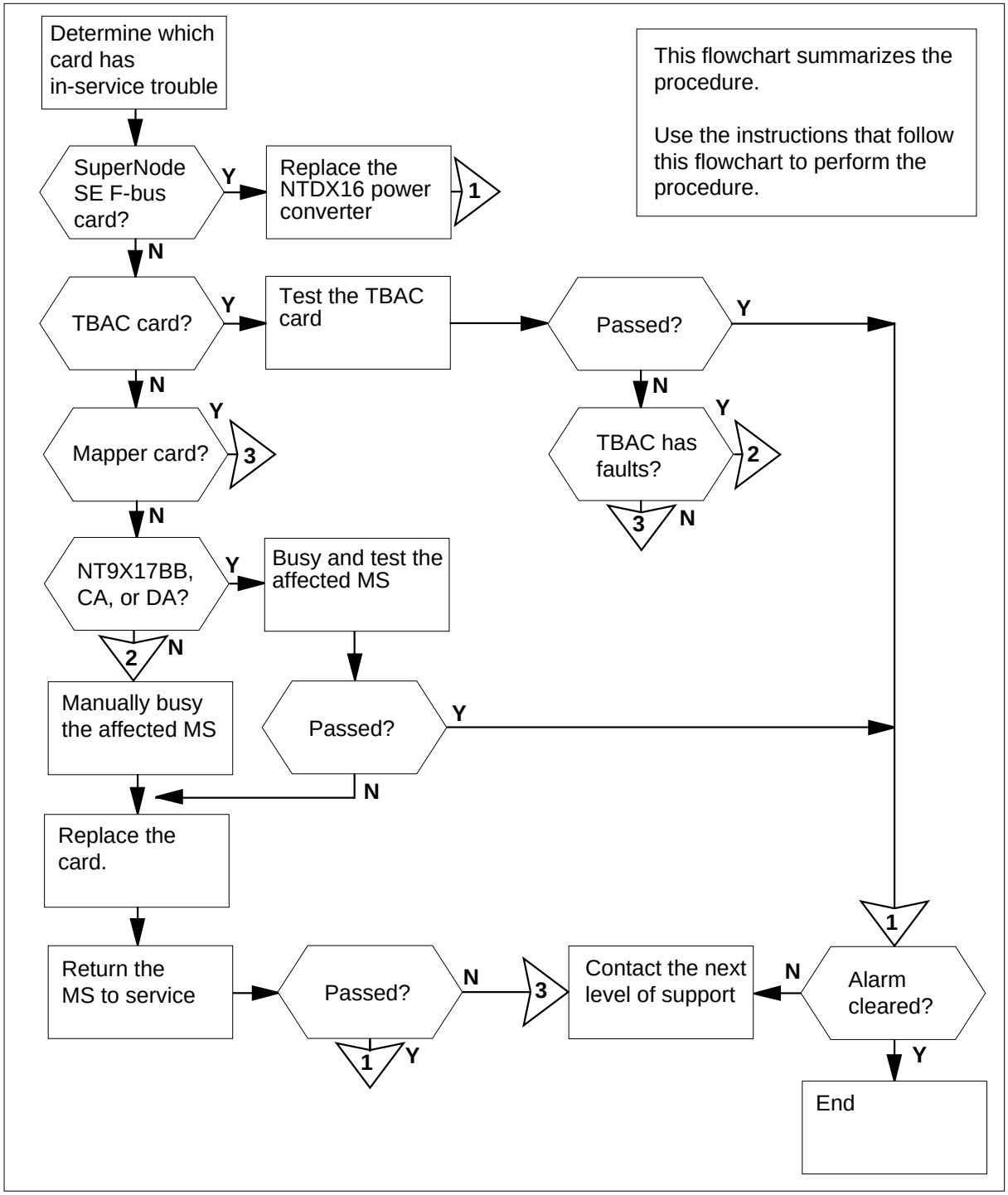
This procedure refers to *Failure to switch clock mastership*.

## Action

This procedure contains a summary flowchart and a list of steps. Use the flowchart to review the procedure. Follow the steps to perform the procedure.

# MS Istb
## **minor** (continued)

**Summary of clearing an MS Istb minor alarm**



# MS Istb
## minor (continued)

### Clearing an MS Istb minor alarm

***At the MAP terminal***

**1** Determine if the affected switch is a DMS supernode or a DMS supernode SE.

| If the affected switch | Do |
|---|---|
| is a DMS supernode | step 2 |
| is a DMS supernode SE | step 4 |

**2** To access the shelf level of the MAP display, type

**>MAPCI;MTC;MS; SHELF**

and press the Enter key.

*Example of a MAP display:*

```
Message Switch      Clock  Shelf 0  Inter-MS Link 0 1
 MS 0      .        M Free       .                R .
 MS 1      .        Slave        F                S

 Shelf 0              1 1 1 1 1 1 1 1 1 2 2 2 2 2 2 2
 Card   1 2 3 4 5 6 7 8 9 0 1 2 3 4 5 6 7 8 9 0 1 2 3 4 5 6
 Chain
 MS 0   . . . . . . . . . . I . . . . . . . . . . . . . .
 MS 1   . . . . . . . . . . . . . . . . . . . . . . . . . .
```

**3** Determine which cards have in-service trouble. Note the status of the cards on the MAP display.

***Note:*** An I under the card number indicates in-service trouble.

| If | Do |
|---|---|
| card 1 is in-service trouble | step 23 |
| any of cards 6 to 23 is in-service trouble | step 6 |
| card 5 is in-service trouble | step 48 |
| any of cards 2 to 4 or 24 to 26 is in-service trouble | step 22 |

**4** To access the Shelf level of the MAP display, type

**>MAPCI;MTC;MS; SHELF**

and press the Enter key.

*Example of a MAP display:*

## MS Istb
## minor (continued)

```
Message Switch   Clock  Shelf 0  Inter-MS Link 0 1
MS 0        .          M Free     .               R .
MS 1        .          Slave      F               S .


Shelf 0                  1 1 1 1
Card   1 2 3 4 5 6 7 8 9 0 1 2 3
Chain
MS 0   . . . I . . . . . . F .
MS 1   . . . . . . . . . . . .
```

**5** Determine which cards have in-service trouble. Note the status of the cards on the MAP.

***Note:*** An I under the card number indicates in-service trouble.

| If | Do |
|---|---|
| card 1 is in-service trouble | step 23 |
| any of cards 5 to 10 is in-service trouble | step 6 |
| card 11 is in-service trouble | step 48 |
| card 12 is in-service trouble or damage (an F in the MAP display indicates the damage or trouble) | step 7 |
| any of cards 2 to 4 or 13 is in-service trouble | step 22 |

**6** The next step depends on the status of the card with in-service trouble.

| If | Do |
|---|---|
| is an NT9X17BB, NT9X17CA, or NT9X17DA | step 13 |
| is other than listed here | step 21 |

**7** To access the F-bus level of the MAP display, type

**`>CARD 12`**

and press the Enter key.

*Example of a MAP display:*

## MS Istb
## minor (continued)

```
Card 12          FBus Tap:  0   11  12      16   20
MS 0  .            I        .   .   ....    .... ....
MS 1  .            .        .   .   ....    .... ....
```

**8** To test the F-bus that has in-service trouble, type

**>TST ms_number FBUS**

and press the Enter key.

*where*

**ms_number**
is the number of the MS (0 or 1) that connects to the

in-service trouble F-bus

**9** Determine from the MAP response the NTDX16 power converter that failed.

**10** To manually busy the F-bus, type

**>BSY ms_number FBUS**

and press the Enter key.

*where*

**ms_number**
is the number of the MS (0 or 1 that connects to the

in-service trouble F-bus

**11** To replace the power converter, perform the correct procedure in *Card Replacement Procedures*. Complete the procedure and return to this point.

**12** To return the manual busy F-bus to service, type

**>RTS ms_number FBUS**

and press the Enter key.

*where*

**ms_number**
is the number of the MS (0 or 1) that connects to the

manual busy F-bus

| If the RTS command | Do |
|---|---|
| passes | step 46 |
| fails | step 48 |

**13** To determine the type of card fault, type

**>QUERYMS MS ms_number CARD card_number FLT**

and press the Enter key.

## MS Istb
## **minor** (continued)

*where*

**ms_number**
is the number of the MS (0 or 1) where the card with

in-service trouble resides

**card_number**
is the number of the card with in-service trouble

| If | Do |
|---|---|
| is Interface card failed buf mem test invocation. | step 14 |
| is Interface card failed buf mem test card config. | step 14 |
| is Interface card failed buf mem test connection memory config. | step 14 |
| is Interface card failed buf mem test port config. | step 14 |
| is Interface card failed its buf mem test initialization. | step 14 |
| is Interface card failed its buf mem test message looping. | step 14 |
| is other than listed here. | step 21 |

**14** Determine the clocking configuration.

***Note:*** The clocking configuration appears under the Clock heading at the MS level of the MAP display.

| If | Do |
|---|---|
| is the slave MS, Slave appears under the Clock header | step 18 |
| is the master MS, Master or M Free appears under the Clock header | step 15 |

**15** To switch clock mastership, type

**>SWMAST**

and press the Enter key.

## MS Istb
## **minor** (continued)

*Example of a MAP response:*

```
Request to Switch Clock Mastership MS: 0 submitted.
Request to Switch Clock Mastership MS: 0 passed.
```

| If the SWMAST command | Do |
|---|---|
| passes | step 17 |
| fails | step 16 |

**16** Perform the procedure *Failure to switch clock mastership* in this document. Complete the procedure and return to this point.

**17** Wait 10 min to make sure the MS is stable. Continue this procedure.

**18** To manually busy the MS that contains the in-service trouble card, type

**>BSY ms_number**

and press the Enter key.

*where*

**ms_number**
is the number of the MS (0 or 1) with in-service trouble card

*Example of a MAP response:*

```
Request to MAN BUSY MS: 0 submitted.
Request to MAN BUSY MS: 0 passed.
```

**19** To perform an out-of-service test on the manual busy MS, type

**>TST ms_number**

and press the Enter key.

*where*

**ms_number**
is the number of the manual busy MS (0 or 1)

***Note:*** If the buffer memory fault is transient, the node test clears the fault.

**20** Wait for the test to finish. Determine if the in-service trouble state on the card cleared.

| If the in-service trouble condition | Do |
|---|---|
| cleared | step 46 |
| did not clear | step 27 |

**21** To busy manually the in-service trouble card, type

**>BSY ms_number card_number**

## MS Istb
## **minor** (continued)

and press the Enter key.

*where*

**ms_number**
is the number of the MS (0 or 1) with the in-service trouble card

**card_number**
is the number of the in-service trouble card

*Example of a MAP response:*

```
Request to MAN BUSY MS: 0 submitted.
Request to MAN BUSY MS: 0 passed.
```

**22** To test the card with in-service trouble, type

**`>TST ms_number card_number`**

and press the Enter key.

*where*

**ms_number**
is the number of the MS (0 or1) with the in-service trouble card

**card_number**
is the number of the in-service trouble card

| If the TST command | Do |
|---|---|
| passed | step 43 |
| passed with Istb, and the system generates a card list | step 26 |
| failed, and the system generates a card list | step 26 |
| is other than listed here | step 48 |

**23** To test the T-bus access card, type

**`>TST ms_number 1`**

and press the Enter key.

*where*

**ms_number**
is the number of the MS (0 or 1) with the in-service trouble

T-bus card

*Example of a MAP response:*

## MS Istb
**minor** (continued)

```
Request to TESTINSV MS:0 shelf:0 card:1 front submitted.
Request to TESTINSV MS:0 shelf:0 card:1 back submitted.
```

| If the TST command | Do |
|---|---|
| passed | step 46 |
| passed with Istb | step 24 |
| failed, and the system generates a card list | step 26 |
| is other than listed here | step 48 |

**24** To list the faults that the test detects, type

**>QUERYMS MS ms_number CARD 1 FLT**

and press the Enter key.

*where*

**ms_number**
is the number of the MS (0 or 1) with the in-service trouble

T-bus card

**25** Use the information in step 24 to determine the cause of the failure.

| If the cause of the failure | Do |
|---|---|
| is a T-bus access controller (TBAC) that has faults, and the system generates a card list | step 26 |
| is other than listed here | step 48 |

**26** Record the location, description, slot number, PEC, and PEC suffix of the first card on the list.

**27** To access the MS level of the MAP display, type

**>MS**

and press the Enter key.

## MS Istb
## minor (continued)

**28** Determine the clocking configuration.

***Note:*** The clock header at the MS level of the MAP display indicates the clocking configuration.

| If the MS that contains the card you must replace | Do |
|---|---|
| is the slave MS, Slave appears under the Clock header | step 32 |
| is the master MS, Master or M Free appears under the Clock header | step 29 |

**29** To switch clock mastership, type

**>SWMAST**

and press the Enter key.

*Example of a MAP response:*

```
Request to Switch Clock Mastership MS: 0 submitted.
Request to Switch Clock Mastership MS: 0 passed.
```

| If the SWMAST command | Do |
|---|---|
| passed | step 31 |
| failed | step 30 |

**30** Perform the procedure *Failure to switch clock mastership* in this document. Complete the procedure and return to this point.

**31** Wait 10 min to make sure the MS is stable. Continue this procedure.

| If the MS is | Do |
|---|---|
| manually busied | step 36 |
| not manually busied | step 32 |

**32** To manually busy the MS that contains the card you must replace, type

**>BSY ms_number**

and press the Enter key.

*where*

**ms_number**
is the number of the in-service trouble MS (0 or 1)

*Example of a MAP response:*

## MS Istb
**minor** (continued)

```
Request to MAN BUSY MS: 0 submitted.
Request to MAN BUSY MS: 0 passed.
```

| If the BSY command | Do |
|---|---|
| passed | step 36 |
| is other than listed here | step 48 |

**33** To determine the type of soft fault, type

**>QUERYMS MS ms_number CARD card_number FLT**

and press the Enter key.

*where*

**ms_number**
is the number of the MS (0 or 1) on which the card with in-service trouble resides

**card_number**
is the number of the card with in-service trouble

| If the response | Do |
|---|---|
| is Interface card failed buf mem test invocation. | step 34 |
| is Interface card failed buf mem test card config. | step 34 |
| is Interface card failed buf mem test invocation. | step 34 |
| is Interface card failed buf mem test port config. | step 34 |
| is Interface card failed its buf mem test card initialization. | step 34 |
| is Interface card failed its buf mem test message looping. | step 34 |
| is other than listed here | step 36 |

**34** To perform an out-of-service test on the manual busy MS, type

**>TST ms_number**

and press the Enter key.

*where*

# MS Istb
## minor (continued)

**ms_number**
is the number of the manual busy MS (0 or 1)

***Note:*** If the buffer memory fault is transient, the node test clears the fault.

**35** Wait for the test to finish. Determine if the in-service trouble state on the card cleared.

| If the in-service trouble condition | Do |
|---|---|
| cleared | step 46 |
| did not clear | step 36 |

**36** Perform the correct card replacement procedure in *Card Replacement Procedures*. Complete the procedure and return to this point.

***At the MAP terminal***

**37** To perform an out-of-service test on the manual busy MS, type

**`>TST ms_number`**

and press the Enter key.

*where*

**ms_number**
is the number of the manual busy MS (0 or 1)

*Example of a MAP response:*

```
Request to TEST OOS MS: 0 submitted.
Request to TEST OOS MS: 0 passed.
No node faults were found on MS 0.
```

| If the TST command | Do |
|---|---|
| passed | step 41 |
| passed with Istb, and the system generates a card list | step 38 |
| failed, and the system generates a card list | step 39 |
| passed with Istb or failed, and you replaced all the cards on the list. | step 48 |
| failed, and the system indicates soft faults | step 33 |
| is other than listed here | step 48 |

## MS Istb
## **minor** (continued)

**38** Record the location, description, slot number, PEC, and PEC suffix of the next card on the list.

Go to step 36.

**39** Determine if you replaced all the cards on the list.

| If you | Do |
|---|---|
| replaced all the cards on the list | step 48 |
| did not replace all the cards on the list | step 40 |

**40** Record the location, description, slot number, PEC, and PEC suffix of the next listed card that you did not replace.

Go to step 36.

**41** To return the manual busy MS to service, type

**>RTS ms_number**

and press the Enter key.

*where*

**ms_number**
is the number of the manual busy MS (0 or 1)

| If the RTS command | Do |
|---|---|
| passed | step 42 |
| failed | step 48 |

**42** To access the shelf level of the MAP display, type

**>SHELF**

and press the Enter key.

**43** An M under the card number at the Shelf level of the MAP display indicates the card is manual busy.

| If the card | Do |
|---|---|
| is manual busy | step 44 |
| is not manual busy | step 46 |

**44** To access the card level of the MAP display, type

**>CARD card_number**

and press the Enter key.

*where*

# MS lstb
# minor (end)

**card_number**
is the number of the manual busy card

**45** To return the manual busy card to service, type

**>RTS ms_number**

and press the Enter key.

*where*

**ms_number**
is the number of the MS (0 or 1) that contains the replaced card

| If the RTS command | Do |
|---|---|
| passed | step 46 |
| failed | step 48 |

**46** Determine if the lstb minor alarm cleared.

| If the lstb alarm | Do |
|---|---|
| cleared | step 49 |
| changed to another alarm | step 47 |
| did not clear | step 48 |

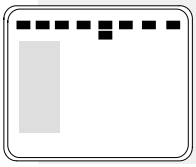
**47** Perform the correct procedure to clear an alarm in this document.

**48** For additional help, contact the next level of support.

**49** The procedure is complete.

# MS ManB major

## Alarm display



| CM | MS | IOD | Net | PM | CCS | Lns | Trks | Ext | APPL |
|---|---|---|---|---|---|---|---|---|---|
| . | **ManB M** | . | . | . | . | . | . | . | . |

## Indication

At the MTC level of the MAP display, ManB appears under the MS header of the alarm banner. ManB indicates a manual busy major alarm.

## Meaning

A message switch (MS) is manual busy. Operating company personnel manually removed the MS from service.

## Result

The in-service MS carries the full messaging load. Subscriber service is not immediately affected, but you can lose subscriber service if the other MS fails.

## Common procedures

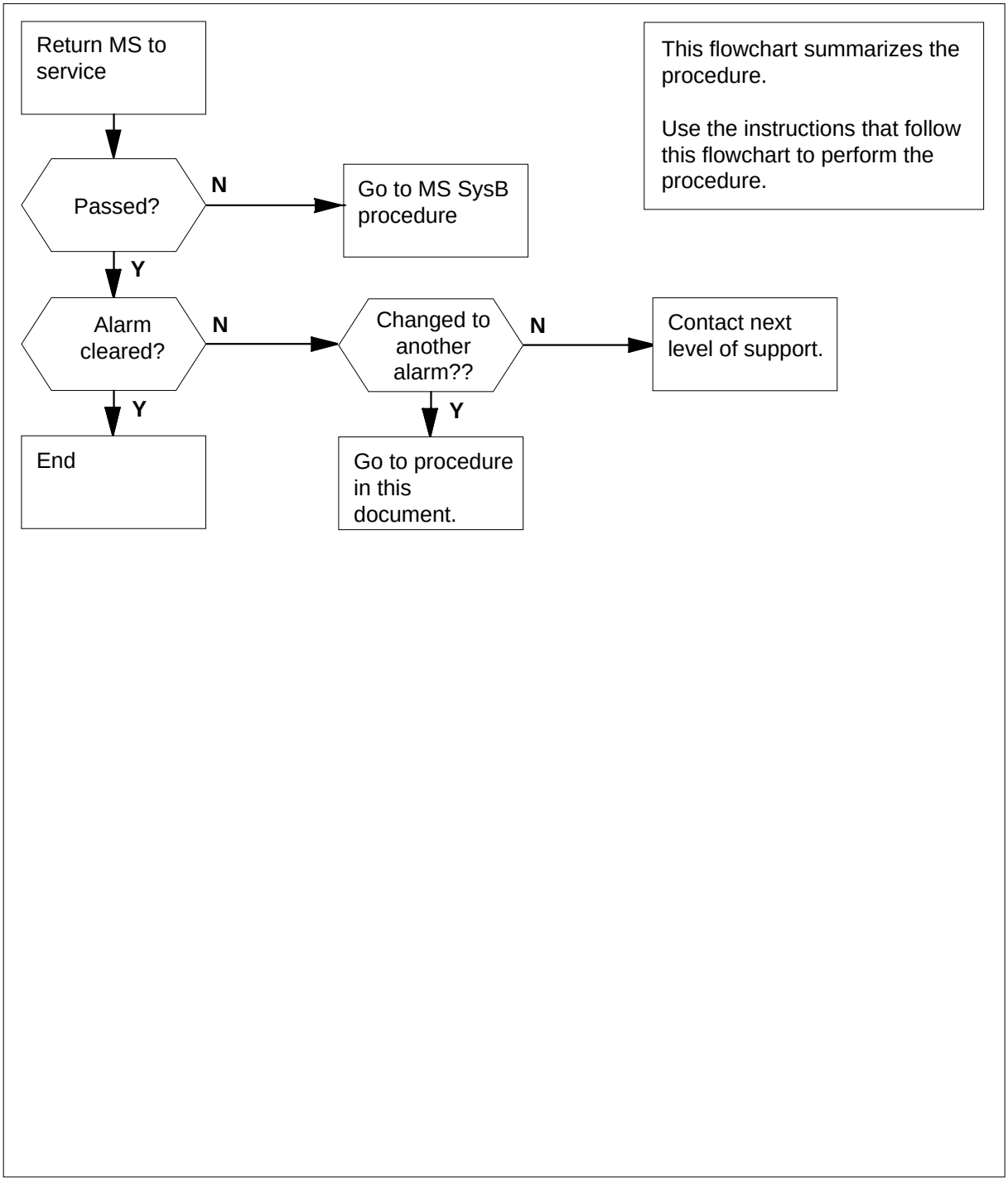
There are no common procedures.

## Action

This procedure contains a summary flowchart and a list of steps. Use the flowchart to review the procedure. Follow the steps to perform the procedure.

# MS ManB
## major (continued)

**Summary of clearing an MS ManB major alarm**



# MS ManB
## major (continued)

### Clearing an MS ManB major alarm

***At the MAP terminal***

**1** To access the MS level of the MAP display, type

**>MAPCI;MTC;MS**

and press the Enter key.

*Example of a MAP:*

```
Message Switch   Clock  Shelf 0  Inter-MS Link 0 1
MS 0        .          M Free     .                R .
MS 1        .          Slave      F                S .
```

**2** Determine from office records or operating company personnel why the MS is manual busy. Determine if you have permission to return the manual busy MS to service. To return the manual busy MS to service, type

**>RTS ms_number**

and press the Enter key.

*where*

**ms_number**
is the number of the manual busy MS (0 or 1)

*Example of a MAP:*

```
Request to RTS MS:1 submitted.
Request to RTS MS:1 passed.
No node faults were found on MS 1.
No cards were found to be faulty on MS 1.
```

| If the RTS command | Do |
|---|---|
| passed | step 3 |
| passed with Istb, and the system generated a card list | step 3 |
| failed, and the system generated a card list | step 4 |
| other than listed here | step 4 |

**3** Determine if the ManB major alarm cleared.

| If the alarm | Do |
|---|---|
| cleared | step 6 |
| changed to another alarm | step 4 |

## MS ManB
## major (end)

| If the alarm | Do |
|---|---|
| did not clear | step 5 |

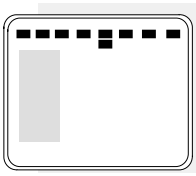
**4** Use the MS SysB alarm clearing procedure in this document to clear the alarm.

**5** For additional help, contact the next level of support.

**6** The procedure is complete.

# MS MaxPt minor

## Alarm display



| CM | **MS** | IOD | Net | PM | CCS | Lns | Trks | Ext | APPL |
|---|---|---|---|---|---|---|---|---|---|
| . | **MaxPt** | . | . | . | . | . | . | . | . |

## Indication

At the MTC level of the MAP display, MaxPt appears under the MS header of the alarm banner. MaxPt indicates a MaxPt alarm.

## Meaning

The MS MaxPt alarm indicates a problem with the number of ports with data entered for an application or node type. The entry of data is in a software table. The number of ports that have data entered is greater than the number allowed for the device.

## Result

The system automatically generates the alarm on system audits, or through the REx test. The system also can generate the alarm if operating company personnel executes a QUERYMS command. The QUERYMS command accounts for all allocated ports.

## Common procedures

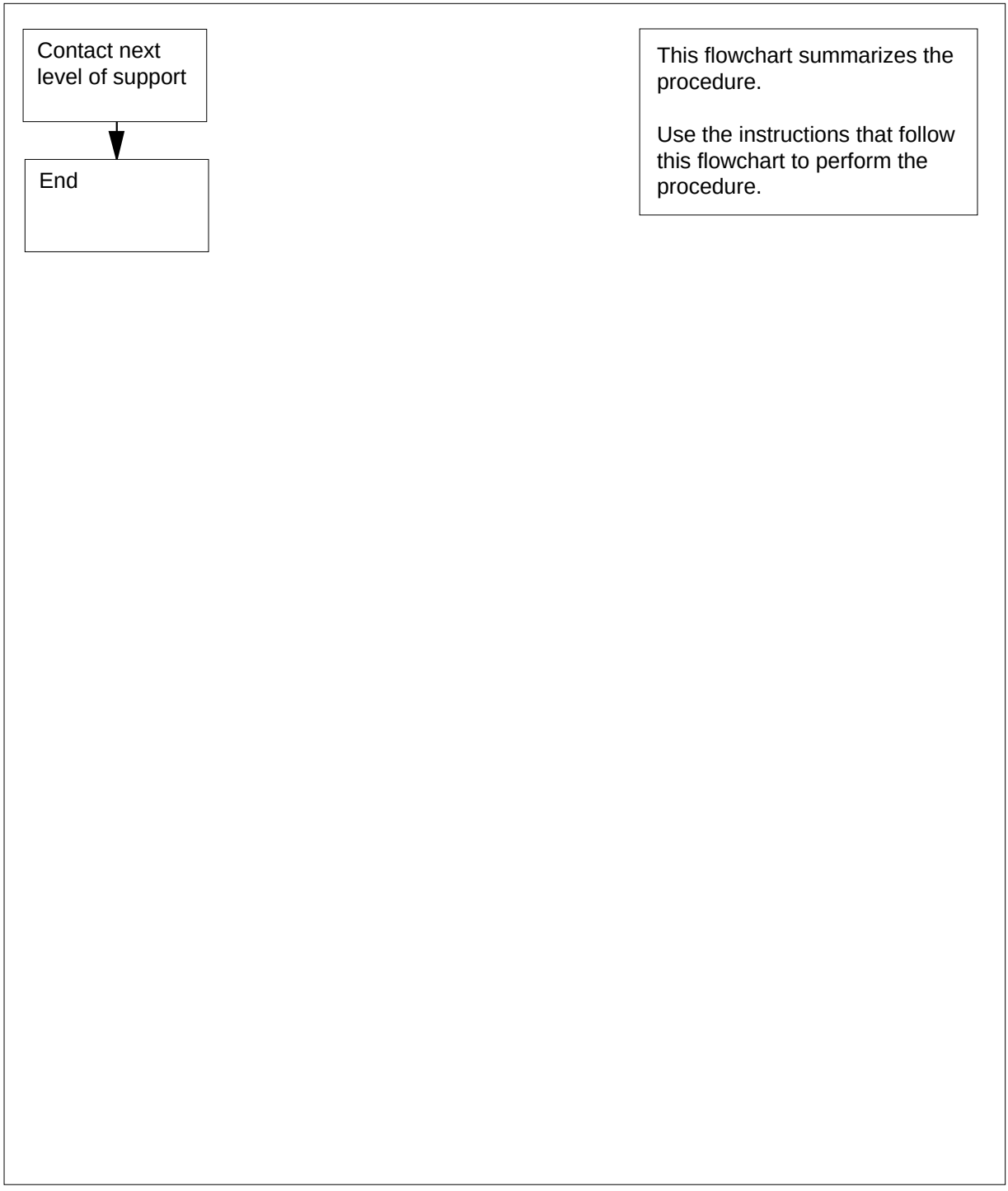
There are no common procedures.

## Action

This procedure contains a summary flowchart and a list of steps. Use the flowchart to review the procedure. Follow the steps to perform the procedure.

# MS MaxPt
# minor (continued)

**Summary of clearing an MS MaxPt minr alarm**



# MS MaxPt minor (end)

**Clearing an MS MaxPt minor alarm**

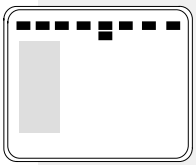
***At the MAP terminal***

**1** For additional help, contact the next level of support.

**2** This procedure is complete.

# MS MBCD minor

## Alarm display



| CM | MS | IOD | Net | PM | CCS | Lns | Trks | Ext | APPL |
|---|---|---|---|---|---|---|---|---|---|
| . | 01MBCD | . | . | . | . | . | . | . | . |

## Indication

At the MTC level of the MAP display, MBCD (preceded by a number) appears under the MS header of the alarm banner. The MBCD indicates an MBCD minor alarm.

## Meaning

Message switch (MS) interface cards are manual busy. Operating company personnel manually removed the cards from service.

## Result

All ports on the affected cards are out of service.

## Common procedures

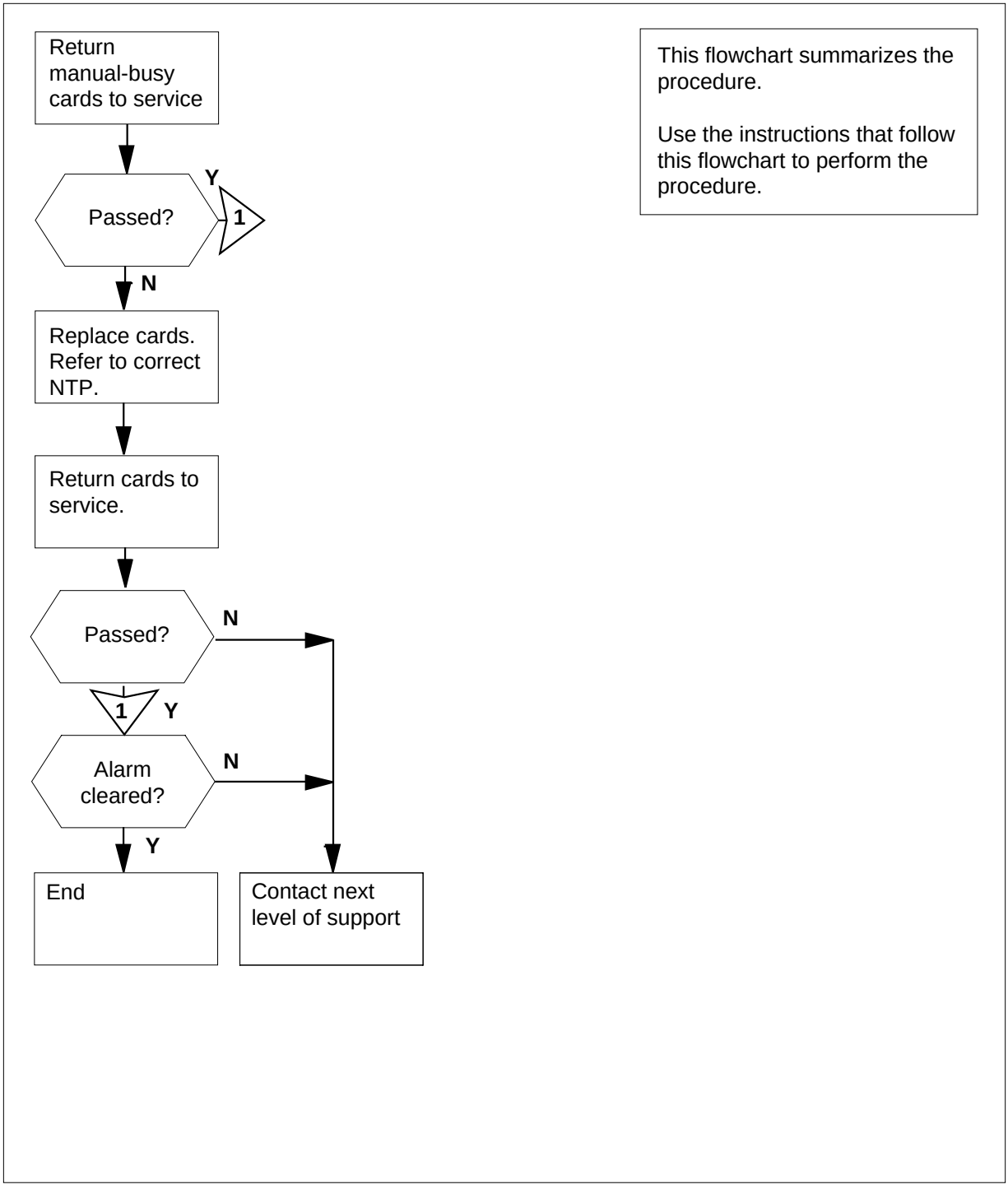
This procedure refers to *Failure to switch clock mastership*.

## Action

This procedure contains a summary flowchart and a list of steps. Use the flowchart to review the procedure. Follow the steps to perform the procedure.

# MS MBCD
# **minor** (continued)

**Summary of clearing an MS MBCD minor alarm**



# MS MBCD
## minor (continued)

### Clearing an MS MBCD minor alarm

***At the MAP terminal***

**1** To access the MS level of the MAP display, type

**>MAPCI;MTC;MS**

and press the Enter key.

*Example of a MAP display:*

```
 Message Switch   Clock  Shelf 0  Inter-MS Link 0 1
 MS 0        .          M Free     .               R .
 MS 1        .          Slave      F               S .
```

**2** To access the Shelf level of the MAP display, type

**>SHELF shelf_number**

and press the Enter key.

*where*

**shelf_number**
is the number of the shelf (0 to 3)

***Note:*** For SuperNode SE, do not enter a shelf number.

*Example of a MAP for DMS SuperNode:*

```
Shelf 0                 1 1 1 1 1 1 1 1 1 2 2 2 2 2 2 2
Card  1 2 3 4 5 6 7 8 9 0 1 2 3 4 5 6 7 8 9 0 1 2 3 4 5 6
Chain
MS 0   . . . . . . . . . . . M . . . . . . . . . .F . .
MS 1   . . . . . . . . . . . . . . . . . . . . . . . . .
```

*Example of a MAP for DMS SuperNode SE:*

```
 Shelf 0                   1 1 1 1
 Card   1 2 3 4 5 6 7 8 9 0 1 2 3
 Chain          | | |
 MS 0   . . . . . . . M . . . . .
 MS 1   . . . . . . . . . . . . .
```

**3** Determine the number interface cards that are manual busy. Determine if the manual busy cards affected one or both MSs.

***Note:*** An M under the card number identifies a manual busy card.

| If | Do |
|---|---|
| one card is manual busy | step 5 |
| more than one card is manual busy | step 4 |

# MS MBCD
## minor (continued)

**4** Select a card to work on.

***Note:*** If manual busy interface cards are present on both MSs, work on the slave MS first. In the MAP examples in steps1 and 2, the manual busy interface card is on the master MS.

**5** Determine from office records or from operating company personnel why the card is manual busy. Determine when you can return the card to service.

**6** To return the manual busy card to service, type

**`>RTS ms_number card_number`**

and press the Enter key.

*where*

**ms_number**
is the number of the affected MS (0 or 1)

**card_number**
is the card number of the manual busy card (6 to 23 for

Dms supernode, 5 to 10 for Dms supernode SE)

| If the RTS command | Do |
|---|---|
| passed | step 27 |
| passed with Istb, and the system generated a card list | step 7 |
| failed, and the system generated a card list | step 7 |

**7** Record the location, description, slot number, product engineering code (PEC), and PEC suffix of the manual busy card. The card list contains this information.

**8** To access the MS level of the MAP display, type

**`>MS`**

and press the Enter key.

**9** Determine the clocking configuration.

***Note:*** The clocking configuration appears under the Clock header at the MS level of the MAP display.

| If the MS that contains the card with the fault | Do |
|---|---|
| is the slave MS, `Slave` or `S Free` appears under the Clock header | step 13 |

## MS MBCD
## **minor** (continued)

| If the MS that contains the card with the fault | Do |
|---|---|
| is the master MS, `Master` or `M Free` appears under the Clock header | step 10 |

**10** To switch clock mastership, type

**`>SWMAST`**

and press the Enter key.

*Example of a MAP response:*

```
Request to Switch Clock Mastership MS: 0 submitted.
Request to Switch Clock Mastership MS: 0 passed.
```

| If the SWMAST command | Do |
|---|---|
| passed | step 12 |
| failed | step 11 |

**11** Perform the procedure *Failure to switch clock mastership* in this document. Complete the procedure and return to this point.

**12** Wait 10 min to make sure that the MS is stable. Continue this procedure.

**13** To manually busy the MS that contains the card you must replace, type

**`>BSY ms_number`**

and press the Enter key.

*where*

**ms_number**
is the number of the slave MS (0 or 1)

*Example of a MAP response:*

```
Request to MAN BUSY MS: 0 submitted.
Request to MAN BUSY MS: 0 passed.
```

| If the response | Do |
|---|---|
| is `Request to MAN BUSY MS:0 passed` | step 14 |
| is `Request to MAN BUSY MS:1 passed` | step 14 |
| is other than listed here | step 29 |

## MS MBCD
## **minor** (continued)

**14** Perform the correct card replacement procedure in *Card Replacement Procedures*. Complete the procedure and return to this point.

**15** To access the Shelf level of the MAP display, type

**>SHELF shelf_number**

and press the Enter key.

*where*

**shelf_number**
is the number of the shelf (0 to 3)

***Note:*** For SuperNode SE, do not enter a shelf number.

*Example of a MAP display for DMS SuperNode:*

```
Shelf 0                 1 1 1 1 1 1 1 1 1 2 2 2 2 2 2 2
Card  1 2 3 4 5 6 7 8 9 0 1 2 3 4 5 6 7 8 9 0 1 2 3 4 5 6
Chain           < > < >
MS 0  C C C C C C C C C – – – – – – – C M C C C C C C C C
MS 1  . . . . . . . . . . . . . . . . . . . . . . . . . .
```

*Example of a MAP display for DMS SuperNode SE:*

```
Shelf 0                   1 1 1 1
Card   1 2 3 4 5 6 7 8 9 0 1 2 3
Chain          | | |
MS 0   C C C C C C C C C C C C C
MS 1   . . . . . . . . . . . . .
```

**16** Use the information obtained in step 3 to determine if other manual busy cards are present on the slave MS.

| If other manual busy cards | Do |
|---|---|
| are present | step 4 |
| are not present | step 17 |

***At the MAP***

**17** To access the MS level of the MAP display, type

**>MS**

and press the Enter key.

**18** To perform an out-of-service test on the manual busy MS, type

**>TST ms_number**

and press the Enter key.

*where*

## MS MBCD
## **minor** (continued)

**ms_number**
is the number of the manual busy MS (0 or 1)

| If the TST command | Do |
|---|---|
| passed | step 22 |
| passed with `Istb`, and the system generated a card list | step 19 |
| passed with `Istb`, and you replaced all the cards on the list | step 29 |
| failed, and the system generated a card list | step 20 |

**19** Record the location, description, slot number, PEC, and PEC suffix of the first card on the list.

Go to step 14.

**20** Determine if you replaced all the cards on the list.

| If you | Do |
|---|---|
| replaced all the cards on the list | step 29 |
| did not replace all the cards on the list | step 21 |

**21** Record the location, description, slot number, PEC, and PEC suffix of the first card listed that was not replaced.

Go to step 14.

**22** To return the manual busy MS to service, type

**`>RTS ms_number`**

and press the Enter key.

*where*

**ms_number**
is the number of the manual busy MS (0 or 1)

| If the RTS | Do |
|---|---|
| passed | step 23 |
| failed | step 29 |

**23** To access the Shelf level of the MAP display, type

**`>SHELF shelf_number`**

and press the Enter key.

# MS MBCD
## minor (continued)

*where*

**shelf_number**
is the number of the shelf (0 to 3)

***Note:*** For SuperNode SE, do not enter a shelf number.

**24** Determine if the card you replaced is manual busy. An M under the card number at the Shelf level of the MAP display indicates a manual busy card.

| If the card | Do |
|---|---|
| is manual busy | step 25 |
| is not manual busy | step 27 |

**25** To access the Card level of the MAP display, type

**>CARD card_number**

and press the Enter key.

*where*

**card_number**
is the number of the manual busy card

**26** To return the manual busy card to service, type

**>RTS ms_number**

and press the Enter key.

*where*

**ms_number**
is the number of the MS (0 or 1) that contains the

replaced card

| If the RTS command | Do |
|---|---|
| passed | step 27 |
| failed | step 29 |

**27** Determine if the MBCD minor alarm cleared from under the MS header on the MAP banner.

| If the alarm | Do |
|---|---|
| cleared | step 30 |
| reduced in number (for example, a change from 02MBCD to 01MBCD) | step 2 |

## MS MBCD
## **minor** (end)

| If the alarm | Do |
|---|---|
| changed to another alarm | step 28 |
| did not clear | step 29 |

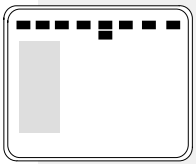
**28** Perform the correct procedure to clear an alarm in this document.

**29** For additional help, contact the next level of support.

**30** The procedure is complete.

# MS MBCH minor

## Alarm display



```
CM     MS      IOD     Net     PM      CCS     Lns     Trks    Ext     APPL
.   01MBCH     .       .       .       .       .       .       .       .
```

## Indication

At the MTC level of the MAP display, a number and MBCH appear under the MS header of the alarm banner. The MBCH indicates an MBCH minor alarm.

## Meaning

Port chains for the message switch (MS) are manual busy. Operating company personnel manually removed MS port chains from service.

The number under the MS header in the alarm banner indicates the number of port chains affected.

## Result

The port chain connects to the subtending node. When a port chain is manual busy, the port chain cannot communicate with the subtending node.

For example, subscriber service is not changed if one port chain that serves an ENET shelf is out of service. Messaging automatically switches to the corresponding port chain on the other MS. Both port chains associated with an ENET plane can be out-of-service. If both port chains are out-of-service, the system automatically diverts messaging to another network plane.

## Common procedures

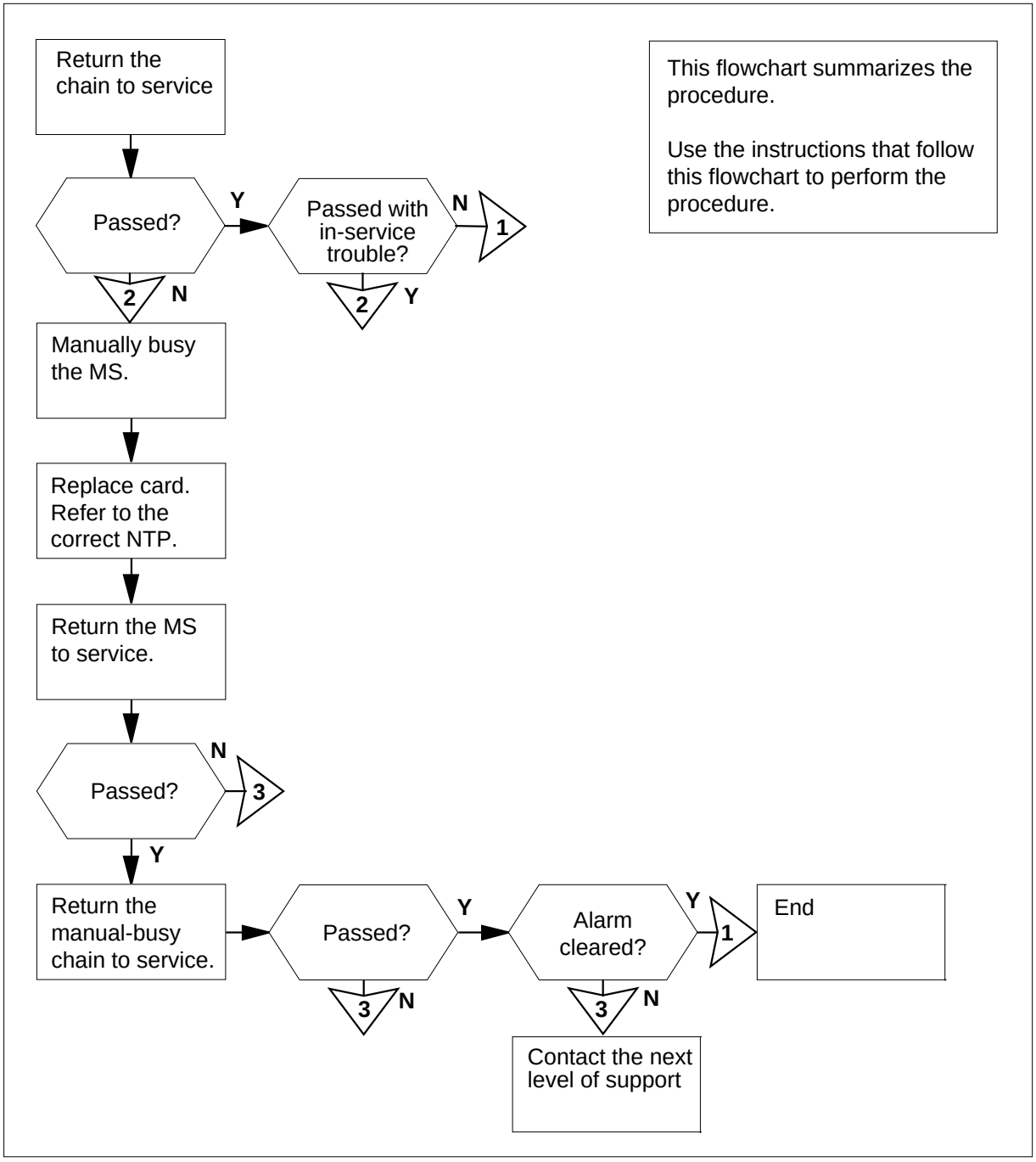
This procedure refers to *Failure to switch clock mastership*.

## Action

This procedure contains a summary flowchart and a list of steps. Use the flowchart to review the procedure. Follow the steps to perform the procedure.

# MS MBCH
## **minor** (continued)

**Summary of clearing an MS MBCH minor alarm**



# MS MBCH
# minor (continued)

### Clearing an MS MBCH minor alarm

***At the MAP terminal***

**1** To access the MS level of the MAP display, type

**>MAPCI;MTC;MS**

and press the Enter key.

*Example of a MAP:*

```
Message Switch   Clock  Shelf 0  Inter-MS Link 0 1
MS 0        .          M Free     F                . .
MS 1        .          Slave      .                . .
```

**2** To access the Shelf level of the MAP display, type

**>SHELF shelf_number**

and press the Enter key.

*where*

**shelf_number**
is the number of the shelf (0 to 3)

***Note:*** For SuperNode SE, do not enter a shelf number.

*Example of a MAP display:*

```
Shelf 0                 1 1 1 1 1 1 1 1 1 2 2 2 2 2 2 2
Card  1 2 3 4 5 6 7 8 9 0 1 2 3 4 5 6 7 8 9 0 1 2 3 4 5 6
Chain           < > < >
MS 0  . . . . . M M . . - - - - - - - . . . . . . . . . .
MS 1  . . . . . . . . . . - - - - - - - . . . . . . . . . .
```

**3** Determine the number of port chains that are manual busy. Determine if the condition affects both MSs.

***Note:*** An M under the card number identifies a manual busy port chain.

| If | Do |
|---|---|
| one port chain is manual busy | step 5 |
| more than one port chain is manual busy | step 4 |

**4** Select a port chain to work on.

**5** To access the Chain level of the MAP display, type

**>CHAIN head_card_number**

and press the Enter key.

*where:*

## MS MBCH
## **minor** (continued)

**head_card_number**
is the number of the head card in the chain indicated by brackets (< >) under the card number on the chain line of the MAP display.

**6** Determine from office records or from operating company personnel why the port chain is manual busy. Determine when you can return the chain to service.

**7** To return the manual busy chain to service, type

**`>RTS ms_number`**

and press the Enter key.

*where:*

**ms_number**
is the number of the affected MS (0 or 1)

| If the RTS command | Do |
|---|---|
| passed | step 28 |
| passed with `Istb`, and the system generated a card list | step 8 |
| failed, and the system generated a card list | step 8 |
| failed, and an entry problem exists | step 30 |

**8** Record the location, description, slot number, product engineering code (PEC), and PEC suffix of the first card on the list.

**9** To access the MS level of the MAP display, type

**`>MS`**

and press the Enter key.

*Example of a MAP display:*

```
Message Switch   Clock  Shelf 0  Inter-MS Link 0 1
MS 0        .          M Free     F                . .
MS 1        .          Slave      .                . .
```

**10** Determine the clocking configuration.

***Note:*** The clocking configuration appears under the Clock header at the MS level of the MAP display.

| If the MS that contains the card to replace | Do |
|---|---|
| is the slave MS, `Slave` appears under the Clock header | step 14 |

## MS MBCH
## minor (continued)

| If the MS that contains the card to replace | Do |
|---|---|
| is the master MS, `Master` or `M Free` appears under the Clock header | step 11 |

**11** To switch clock mastership, type

**>SWMAST**

and press the Enter key.

*Example of a MAP response:*

```
Request to Switch Clock Mastership MS: 0 submitted.
Request to Switch Clock Mastership MS: 0 passed.
```

| If the SWMAST command | Do |
|---|---|
| passed | step 13 |
| failed | step 12 |

**12** Perform the procedure *Failure to switch clock mastership* in this document. Complete the procedure and return to this point.

**13** Wait 10 min to make sure that the MS is stable. Continue this procedure.

**14** To manually busy the MS that contains the card you must replace, type

**>BSY ms_number**

and press the Enter key.

*where*

**ms_number**
is the number of the slave MS (0 or 1)

*Example of a MAP response:*

```
Request to MAN BUSY MS: 0 submitted.
Request to MAN BUSY MS: 0 passed.
```

| If the response | Do |
|---|---|
| is `Request to MAN BUSY MS:0 passed` | step 15 |
| is `Request to MAN BUSY MS:1 passed` | step 15 |
| is other than listed here | step 30 |

## MS MBCH
## minor (continued)

**15** Use the information in step 8 to determine the subsystem that contains the card you must replace.

**16** To change the card, perform the correct card replacement procedure in *Card Replacement Procedures*. Complete the procedure and return to this point.

**17** To access the Shelf level of the MAP display, type

**`>SHELF shelf_number`**

and press the Enter key.

*where*

**shelf_number**
is the number of the shelf (0 to 3)

***Note:*** For SuperNode SE, do not enter a shelf number.

**18** Use the information you obtained in step 3 to determine if other manual busy port chains are present on the slave MS.

| If other manually busy port chains | Do |
|---|---|
| are present | step 4 |
| are not present | step 19 |

**19** To access the MS level of the MAP display, type

**`>MS`**

and press the Enter key.

**20** To perform an out-of-service test on the manual busy MS, type

**`>TST ms_number`**

and press the Enter key.

*where*

**ms_number**
is the number of the manual busy MS (0 or 1)

*Example of a MAP response:*

```
Request to TEST OOS MS: 0 submitted.
Request to TEST OOS MS: 0 passed.
No node faults were found on MS 0.
```

| If the TST command | Do |
|---|---|
| passed | step 21 |
| passed with `Istb`, and the system generated a card list | step 16 |

## MS MBCH
## minor (continued)

| If the TST command | Do |
|---|---|
| passed with `Istb`, and you replaced all the cards on the list | step 30 |
| failed, and the system generated a card list | step 16 |
| failed, and you replaced all the cards on the list | step 30 |

**21** To return the manual busy MS to service, type

**`>RTS ms_number`**

and press the Enter key.

*where*

**ms_number**
is the number of the manual busy MS (0 or 1)

*Example of a MAP response:*

```
Request to RTS MS: 0 submitted.
Request to RTS MS: 0 passed.
```

| If the RTS command | Do |
|---|---|
| passed | step 22 |
| failed | step 30 |

**22** To access the Shelf level of the MAP display, type

**`>SHELF shelf_number`**

and press the Enter key.

*where*

**shelf_number**
is the number of the shelf (0 to 3)

***Note:*** For SuperNode SE, do not enter a shelf number.

**23** To access the Chain level of the MAP display, type

**`>CHAIN head_card_number`**

and press the Enter key.

*where*

**head_card_number**
is the number of the head card in the affected chain

## MS MBCH
## **minor** (continued)

**24** To test the chain, type

**>TST ms_number**

and press the Enter key.

*where*

**ms_number**
is the number of the affected MS (0 or 1)

| If the TST command | Do |
|---|---|
| passed | step 27 |
| passed with `Istb`, and the system generated a card list | step 25 |
| failed, and the system generated a card list | step 25 |

**25** Determine if you replaced all the cards on the list.

| If you | Do |
|---|---|
| replaced all the cards on the list | step 30 |
| did not replace all the cards on the list | step 26 |

**26** Record the location, description, slot number, PEC, and PEC suffix of the first card listed that you did not replace.

Go to step 9.

**27** To return the manual busy port chain to service, type

**>RTS ms_number**

and press the Enter key.

*where*

**ms_number**
is the number of the affected MS (0 or 1)

| If the RTS command | Do |
|---|---|
| passed | step 28 |
| failed | step 30 |

## MS MBCH minor (end)

**28** To determine if the MBCH minor alarm cleared, check the MS alarm banner of the MAP display.

| If the alarm | Do |
|---|---|
| cleared | step 31 |
| changed to another alarm | step 29 |
| reduced in number (for example, if the alarm changed from 02MBCH to 01MBCH) | step 2 |
| did not clear, and you have the same number of MBCH | step 30 |

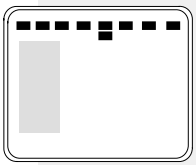
**29** Perform the correct procedure in this document to clear the alarm.

**30** For additional help, contact the next level of support.

**31** The procedure is complete.

# MS MBCL
# minor

## Alarm display



| CM | MS | IOD | Net | PM | CCS | Lns | Trks | Ext | APPL |
|---|---|---|---|---|---|---|---|---|---|
| . | 01MBCL | . | . | . | . | . | . | . | . |

## Indication

At the MTC level of the MAP display, MBCL (preceded by a number) appears under the MS header of the alarm banner. The MBCL indicates an MBCL minor alarm.

## Meaning

Channelized links are manual busy. Operating company personnel manually removed the channelized links from service. A channelized link connects a port chain for a message switch (MS) to a subtending node. An enhanced network (ENET) plane is an example of a subtending node.

The number under the MS header in the alarm banner indicates the number of channelized links affected.

## Result

If a channelized link is out of service, a problem is present in the MS port chain this link serves. The MS port chain cannot communicate with the subtending node to which it connects. If the subtending node is an ENET plane, service is not affected. Messaging with the affected node automatically switches to the corresponding port chain on the other MS.

If the removal from service of both channelized links that serve an ENET plane occurs, the system automatically diverts messaging. The system diverts messaging to the other ENET plane.

## Common procedures

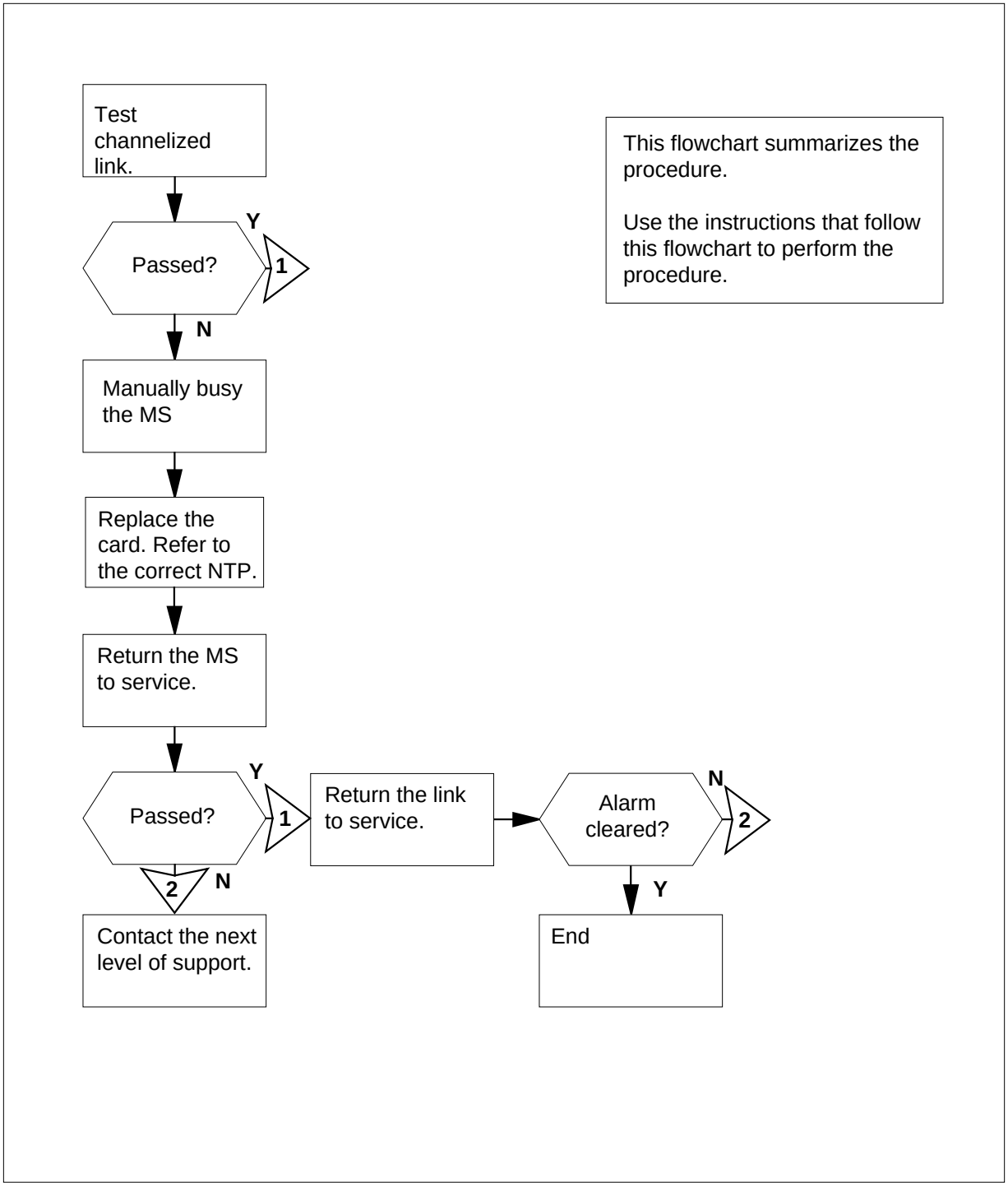
This procedure refers to *Failure to switch clock mastership*.

## Action

This procedure contains a summary flowchart and a list of steps. Use the flowchart to review the procedure. Follow the steps to perform the procedure.

# MS MBCL
# **minor** (continued)

**Summary of clearing an MS MBCL minor alarm**



# MS MBCL
## minor (continued)

### Clearing an MS MBCL minor alarm

***At the MAP terminal***

**1** To access the MS level of the MAP display, type

**>MAPCI;MTC;MS**

and press the Enter key.

*Example of a MAP display:*

```
Message Switch   Clock  Shelf 0  Inter-MS Link 0 1
MS 0        .          M Free     F                . .
MS 1        .          Slave      .                . .
```

**2** To access the Shelf level of the MAP display, type

**>SHELF shelf_number**

and press the Enter key.

*where*

**shelf_number**
is the number of the shelf (0 to 3)

***Note:*** For SuperNode SE, do not enter a shelf number.

**3** Determine the number of manual busy channelized links. Determine if the condition affects both MSs.

***Note:*** The number under the MS header in the alarm banner indicates the number of manual busy channelized links. An F under the Shelf header at the MS level of the MAPdisplay identifies the affected MS.

| If | Do |
|---|---|
| one link is manual busy | step 5 |
| more than one link is manual busy | step 4 |

**4** Select a link to work on.

***Note:*** If manual busy channelized links are present on both MSs, work on the slave MS first. In the MAP display examples in steps 1 and 2, the manual busy channelized link is on the master MS.

**5** To access the Chain level of the MAP display, type

**>CHAIN head_card_number**

and press the Enter key.

*where*

**head_card_number**
is the number of the head card

***Note:*** An M under the link number identifies manual busy links.

## MS MBCL
## minor (continued)

**6** To test the manual busy channelized link for the chain, type

**`>TST ms_number LINK link_number`**

and press the Enter key.

*where*

**ms_number**
is the number of the MS (0 or 1) in which the chain is

located

**link_number**
is the number of the manual busy link

| If the TST command | Do |
|---|---|
| passed | step 29 |
| passed with Istb, and a card list generated | step 7 |
| failed, and a card list generated | step 7 |
| is other than listed here | step 34 |

**7** Record the location, description, slot number, product engineering code (PEC), and PEC suffix of the first card on the list.

**8** To access the MS level of the MAP display, type

**`>MS`**

and press the Enter key.

*Example of a MAP display:*

```
Message Switch   Clock  Shelf 0  Inter-MS Link 0 1
MS 0        .          M Free     F                . .
MS 1        .          Slave      .                . .
```

**9** Determine the clocking configuration.

***Note:*** The clocking configuration appears under the Clock header at the MS level of the MAP display.

| If the MS that contains the card to replace | Do |
|---|---|
| is the slave MS, and Slave appears under the Clock header | step 13 |

## MS MBCL
## **minor** (continued)

| If the MS that contains the card to replace | Do |
|---|---|
| is the master MS, and Master or M Free appears under the Clock header | step 10 |

**10** To switch clock mastership, type

**>SWMAST**

and press the Enter key.

*Example of a MAP display:*

```
Request to Switch Clock Mastership MS: 0 submitted.
Request to Switch Clock Mastership MS: 0 passed.
```

| If the SWMAST command | Do |
|---|---|
| passed | step 12 |
| failed | step 11 |

**11** Perform the procedure *Failure to switch clock mastership* in this document. Complete the procedure and return to this point.

**12** Wait 10 min to make sure the MS has stability. Continue this procedure.

**13** To manually busy the MS that contains the card to replace, type

**>BSY ms_number**

and press the Enter key.

*where*

**ms_number**
is the number of the MS (0 or 1) that contains the card to replace

*Example of a MAP response:*

```
Request to MAN BUSY MS: 0 submitted.
Request to MAN BUSY MS: 0 passed.
```

| If the response | Do |
|---|---|
| is Request to MAN BUSY MS:0 passed | step 14 |
| is Request to MAN BUSY MS:1 passed | step 14 |

# MS MBCL
## minor (continued)

| If the response | Do |
|---|---|
| is other than listed here | step 34 |

**14** Determine subsystem that contains the card to replace.

| If the card | Do |
|---|---|
| resides in the MS subsystem | step 15 |
| resides in the ENET subsystem | step 21 |
| resides in the JNET subsystem | step 21 |

**15** Perform the correct card replacement procedure in *Card Replacement Procedures* in this document. Complete the procedure and return to this point.

**16** To perform an out-of-service test on the manual busy MS, type

**`>TST ms_number`**

and press the Enter key.

*where*

**ms_number**
is the number of the manual busy MS (0 or 1)

*Example of a MAP response:*

```
Request to TEST OOS MS: 0 submitted.
Request to TEST OOS MS: 0 passed.
No node faults were found on MS 0.
```

| If the TST command | Do |
|---|---|
| passed | step 23 |
| passed with Istb, and a card list generated | step 19 |
| passed with Istb, and you replaced all the cards on the list | step 33 |
| failed, and a card list generated | step 17 |

**17** Determine if you replaced all the cards on the list.

| If you | Do |
|---|---|
| replaced all the cards on the list | step 34 |

## MS MBCL
## **minor** (continued)

| If you | Do |
|---|---|
| did not replace all the cards on the list | step 18 |

**18** Record the location, description, slot number, PEC, and PEC suffix of the first card listed that you did not replace.

Go to step 20.

**19** Record the location, description, slot number, PEC, and PEC suffix of the next card on the list.

**20** Determine the subsystem in which the card that needs replacement resides.

| If the card | Do |
|---|---|
| resides in the MS subsystem | step 15 |
| resides in the ENET subsystem | step 21 |
| resides in the JNET subsystem | step 21 |

**21** Perform the correct card replacement procedure in *Card Replacement Procedures* in this document. Complete the procedure and return to this point.

**22** To access the MS level of the MAP display, type

**>MS**

and press the Enter key.

Go to step 16.

**23** To return the manual busy MS to service, type

**>RTS ms_number**

and press the Enter key.

*where*

**ms_number**
is the number of the manual busy MS (0 or 1)

*Example of a MAP response:*

```
Request to RTS MS: 0 submitted.
Request to RTS MS: 0 passed.
```

| If the RTS command | Do |
|---|---|
| passed | step 24 |
| failed | step 34 |

## MS MBCL
## minor (continued)

**24** To access the Shelf level of the MAP display, type

**`>SHELF shelf_number`**

and press the Enter key.

*where*

**shelf_number**
is the number of the shelf (0 to 3)

***Note:*** For SuperNode SE, do not enter a shelf number.

**25** To access the Chain level of the MAP display, type

**`>CHAIN head_card_number`**

and press the Enter key.

*where*

**head_card_number**
is the number of the head card

**26** To test the channelized link, type

**`>TST ms_number LINK link_number`**

and press the Enter key.

*where*

**ms_number**
is the number of the MS (0 or 1) that contains the chain

**link_number**
is the number of the link tested in step 6

| If the TST command | Do |
|---|---|
| passed | step 29 |
| passed with Istb, and a card list generated | step 27 |
| failed, and a card list generated | step 27 |

**27** Determine if you replaced all the cards on the list.

| If you | Do |
|---|---|
| replaced all the cards on the list | step 33 |
| did not replace all the cards on the list | step 28 |

**28** Record the location, description, slot number, PEC, and PEC suffix of the first card listed that you did not replace.

Go to step 8.

## MS MBCL
## **minor** (end)

**29** To return the manual busy link to service, type

**`>RST ms_number LINK link_number`**

and press the Enter key.

*where*

**ms_number**
is the number of the MS (0 or 1) that contains the chain

**link_number**
is the number of the manual link determined in step 4

| If the RTS command | Do |
|---|---|
| passed | step 30 |
| passed with `Istb`, and a card list generated | step 33 |
| failed, and a card list generated | step 33 |

**30** Use the information obtained in step 3 to determine if other manual-busy channelized links exist on the slave MS.

| If | Do |
|---|---|
| other manual-busy links exist | step 3 |
| other manual-busy links do not exist | step 31 |

**31** Determine if the MBCL minor alarm cleared.

| If the alarm | Do |
|---|---|
| cleared | step 35 |
| reduced in number (for example, a change from 02MBCL to 01MBCL) | step 2 |
| changed to another alarm | step 32 |
| did not clear | step 33 |

**32** Perform the correct procedure in this document to clear the alarm.

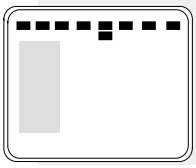
**33** The fiber link between the MS and its subtending node (ENET or PM shelf) can disconnect or have faults.

**34** For additional help, contact the next level of support.

**35** The procedure is complete.

# MS MbFb minor

## Alarm display



| CM | MS | IOD | Net | PM | CCS | Lns | Trks | Ext | APPL |
|---|---|---|---|---|---|---|---|---|---|
| . | **1MbFb** | . | . | . | . | . | . | . | . |

## Indication

At the MTC level of the MAP, MbFb (preceded by a number) appears under the MS header of the alarm banner. The MbFb indicates an MbFb minor alarm.

## Meaning

A frame transport bus (F-bus) is manual busy.

The number under the MS header in the alarm banner indicates the number of F-buses affected.

This alarm applies only to SuperNode SE. In the SuperNode SE the F-bus interfaces to the message switch (MS), not the local message switch (LMS).

## Result

One F-bus of a pair of F-buses can be manual busy and service is not affected. If both F-buses are manual busy, all application-specific units (ASU) that connect to these F-buses become isolated. CCS7 service terminates.

## Common procedures

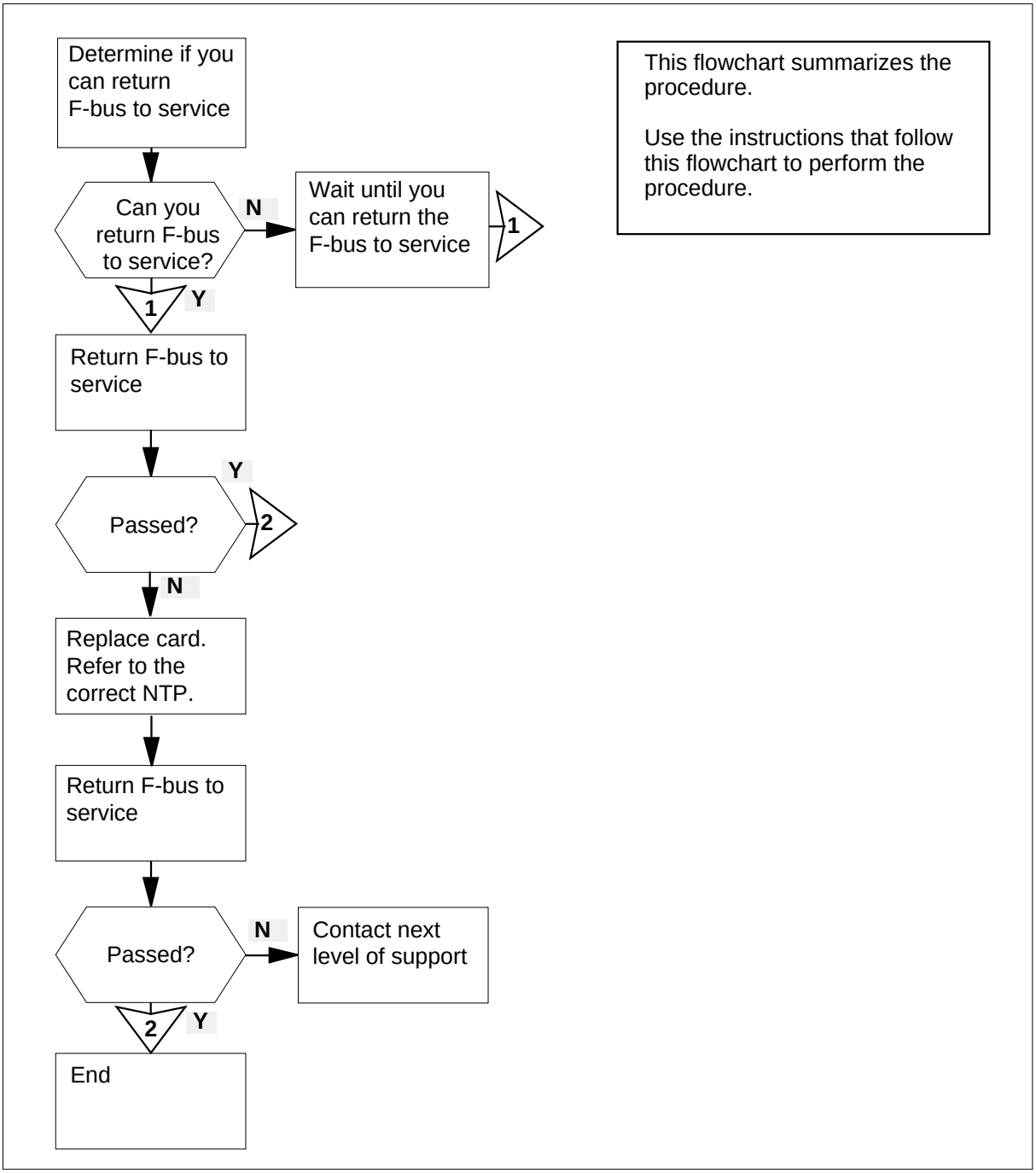
There are no common procedures.

## Action

This procedure contains a summary flowchart and a list of steps. Use the flowchart to review the procedure. Follow the steps to perform the procedure.

# MS MbFb
## minor (continued)

**Summary of clearing an MS MbFb minor alarm**



# MS MbFb
## minor (continued)

### Clearing an MS MbFb minor alarm

***At your current location***

**1** To access the MS level of the MAP display, type

**>MAPCI;MTC;MS**

and press the Enter key.

*Example of a MAP display:*

```
    Message Switch Clock    Shelf 0 Inter–MS Link 0 1
MS 0    .          M Free     F                  . .
MS 1    .          Slave      .                  . .
```

***Note:*** In the example, F under the Shelf header indicates that you must access the SHELF level.

**2** Determine if an F exists under the Shelf header of the MAP display.

| If an F | Do |
|---|---|
| is present | step 3 |
| is not present | step 13 |

**3** To access the F-bus level of the MAP display, type

**>SHELF;CARD 12**

and press the Enter key.

*Example of a MAP display:*

```
                          1 1 1 1
Card  1 2 3 4 5 6 7 8 9 0 1 2 3
Chain           |
MS 0  . . . . . . – . . . . F .
MS 1  . . . . . . – . . . . . .

Card 12          FBus Tap:  0   11  12   16   20
MS 0  .            M        C   C   CCCC CCCC CCCC
MS 1  .            .        .   .   .... .... ....
```

***Note:*** In the example, M under the F-Bus header indicates a manual busy F-bus and (.) indicates an in-service F-bus. Under the F-bus tap numbers (0 to 23), C indicates the F-bus is manual busy. The C can indicate the controlling MS or MS port is system busy or manual busy. A (.) indicates an in-service tap.

Go to step 4.

## MS MbFb
## minor (continued)

**4** Determine which MS connects to the manual busy F-bus.

***Note:*** In the example in step 3, the manual busy F-bus connects to MS 0.

**5** Consult with operating company personnel. Determine if you can return the manual busy F-bus to service.

**6** To return the manual busy F-bus to service, type

**>RTS ms_number FBUS**

and press the Enter key.

*where*

**ms_number**
is the number of the MS (0 or 1) that connects to the manual busy F-bus

| If the RTS command | Do |
|---|---|
| passed | step 11 |
| failed, and a card list generated | step 7 |

**7** Record the location, description, slot number, product engineering code (PEC), and PEC suffix of the first card on the list.

**8** To change the card, perform the correct card replacement procedure in *Card Replacement Procedures.* Complete the procedure and return to this point.

**9** To return the manual busy F-bus to service, type

**>RTS ms_number FBUS**

and press the Enter key.

*where*

**ms_number**
is the number of the MS (0 or 1) that connects to the manual busy F-bus

| If the RTS command | Do |
|---|---|
| passed | step 11 |
| failed and you have not replaced all the cards on the list | step 10 |
| failed and you replaced all the cards on the list | step 13 |

**10** Record the location, description, slot number, PEC, and PEC suffix of the next card on the list.

Go to step 8.

## MS MbFb minor (end)

**11** Determine if the MbFb minor alarm cleared.

| If the alarm | Do |
|---|---|
| cleared | step 14 |
| reduced in number (for example, a change from 2MbFb to 1MbFb) | step 3 |
| changed to another alarm | step 12 |
| did not clear | step 13 |

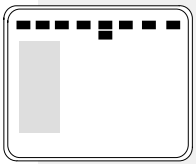
**12** Perform the correct procedure in this document to clear the alarm.

**13** For additional help, contact the next level of support.

**14** The procedure is complete.

# MS MBPT
# minor

## Alarm display



| CM | MS | IOD | Net | PM | CCS | Lns | Trks | Ext | APPL |
|---|---|---|---|---|---|---|---|---|---|
| . | 02MBPT | . | . | . | . | . | . | . | . |

## Indication

At the MTC level of the MAP, MBPT (preceded by a number) appears under the MS header of the alarm banner. The MBPT indicates an MBPT minor alarm.

## Meaning

Operating company personnel manually removed message switch (MS) interface card ports from service.

The number under the MS header in the alarm banner indicates the number of interface cards affected.

## Result

If a port is manual busy, a problem occurs with the subtending node linked to a port, for example an I/O controller. The subtending node cannot communicate with the MS that contains the affected port card. If the corresponding port on the other MS is out of service, communications with the subtending node end.

## Common procedures

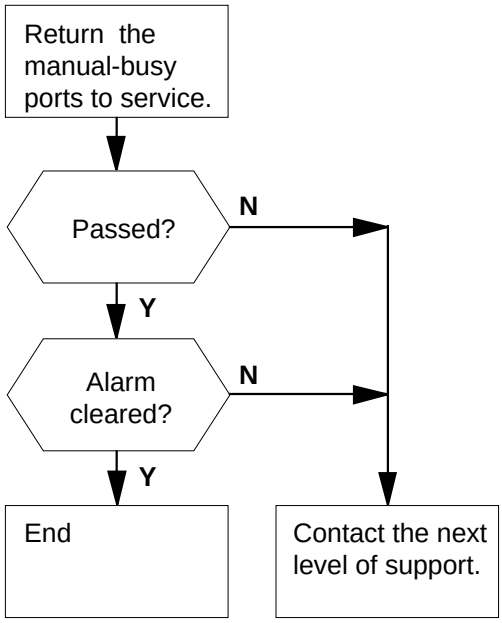
There are no common procedures.

## Action

This procedure contains a summary flowchart and a list of steps. Use the flowchart to review the procedure. Follow the steps to perform the procedure.

# MS MBPT
## minor (continued)

**Summary of clearing an MS MBPT minor alarm**




This flowchart summarizes the procedure.

Use the instructions that follow this flowchart to perform the procedure.

# MS MBPT
## minor (continued)

### Clearing an MS MBPT minor alarm

***At the MAP terminal***

**1** To access the MS level of the MAP display, type

**>MAPCI;MTC;MS**

and press the Enter key.

*Example of a MAP display:*

```
Message Switch Clock  Shelf 0  Inter-MS Link 0 1
MS 0        .          M Free     F          . .
MS 1        .          Slave      .          . .
```

**2** To access the Shelf level of the MAP display, type

**>SHELF  shelf_number**

*where*

and press the Enter key

**shelf_number**
is the number of the shelf (0 to 3)

For SuperNode SE, do not enter a shelf number.

*Example of a MAP display for DMS SuperNode*:

```
Shelf  0              1 1 1 1 1 1 1 1 1 2 2
Card   1 2 3 4 5 6 7 8 9 0 1 2 3 4 5 6 7 8 9 0 1
Chain         | | |
MS 0   . . . . . . . . . . F. . . . . . . . . . .
MS 1   . . . . . . . . . . . . . . . . . . . . . .
```

*Example of a MAP display for DMS SuperNode*:

```
Shelf 0                  1 1 1 1
Card   1 2 3 4 5 6 7 8 9 0 1 2 3
Chain          | | |
MS 0   . . . . . . . . F . . . .
MS 1   . . . . . . . . . . . . .
```

**3** To determine the cards that have an error, examine the status of the cards.

***Note:*** An F at the Shelf level of the MAP indicates the error.

| If the problem | Do |
|---|---|
| affects one card | step 4 |
| affects more than one card | step 5 |

## MS MBPT
## minor (continued)

**4** To access the Card level of the MAP display for the affected card, type

**>CARD card_number**

and press the Enter key.

*where*

**card_number**
is the number of the affected port card

Go to step 9.

**5** Choose a card to work on.

***Note 1:*** If port are manual busy on both MSs, work on the slave MS first. In the MAP display examples in steps 1 and 2, the card with manual-busy ports is on the master MS (MS 0).

***Note 2:*** The clocking configuration appears under the Clock header at the MS level of the MAP display.

**6** To access the Card level of the MAP display, type

**>CARD card_number**

and press the Enter key.

*where*

**card_number**
is the number of the port card chosen in step 5

**7** Choose a manual busy port to work on.

**8** Determine why the port left service. Determine when you can return the port to service.

**9** To return the manual busy port to service, type

**>RTS ms_number PORT port_number**

and press the Enter key.

*where*

**ms_number**
is the number of the affected MS (0 or 1)

**port_number**
is the number of the manual busy port (0 to 127)

| If the RTS command | Do |
|---|---|
| passed | step 10 |
| passed with `Istb` and a card list generated | step 10 |
| failed, and a card list generated | step 14 |
| is other than listed here | step 14 |

## MS MBPT
## **minor** (end)

**10** Determine if other manual busy ports is present on the card.

***Note:*** An M under the port number at the Card level of the MAP display identifies a manual busy port.

| If other manual busy ports | Do |
|---|---|
| are present | step 7 |
| are not present | step 11 |

**11** Use the information obtained in step 3 to determine if other interface cards with manual busy ports are present.

***Note:*** Perform this procedure from the Shelf level of the MAP.

| If other cards | Do |
|---|---|
| are present | step 5 |
| are not present | step 12 |

**12** Determine if the MBPT minor alarm cleared.

| If the alarm | Do |
|---|---|
| cleared | step 15 |
| reduced in number (for example, a change from 02MBPT to 01MBPT) | step 2 |
| changed to another alarm | step 13 |
| did not clear | step 14 |

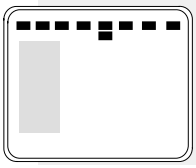
**13** Perform the correct procedure in this document to clear the alarm.

**14** For additional help, contact the next level of support.

**15** The procedure is complete.

# MS MbTp minor

## Alarm display



| CM | MS | IOD | Net | PM | CCS | Lns | Trks | Ext | APPL |
|---|---|---|---|---|---|---|---|---|---|
| . | **1MbTp** | . | . | . | . | . | . | . | . |

## Indication

At the MTC level of the map, MbTp (preceded by a number) appears under the MS header of the alarm banner. The MbTp indicates an MbTb minor alarm.

## Meaning

A tap on a frame transport bus (F-bus) is manual busy.

The number under the MS header in the alarm banner indicates the number of F-bus taps affected.

This alarm applies only to SuperNode SE. In a SuperNode SE, the F-bus interfaces to the message switch (MS) not the local message switch (LMS).

## Result

To affect service, the taps that connect the application-specific unit (ASU) to the pair of F-buses must be out-of-service. If the taps are out of service, the affected ASU isolates from the system, and CCS7 performance can degrade.

## Common procedures

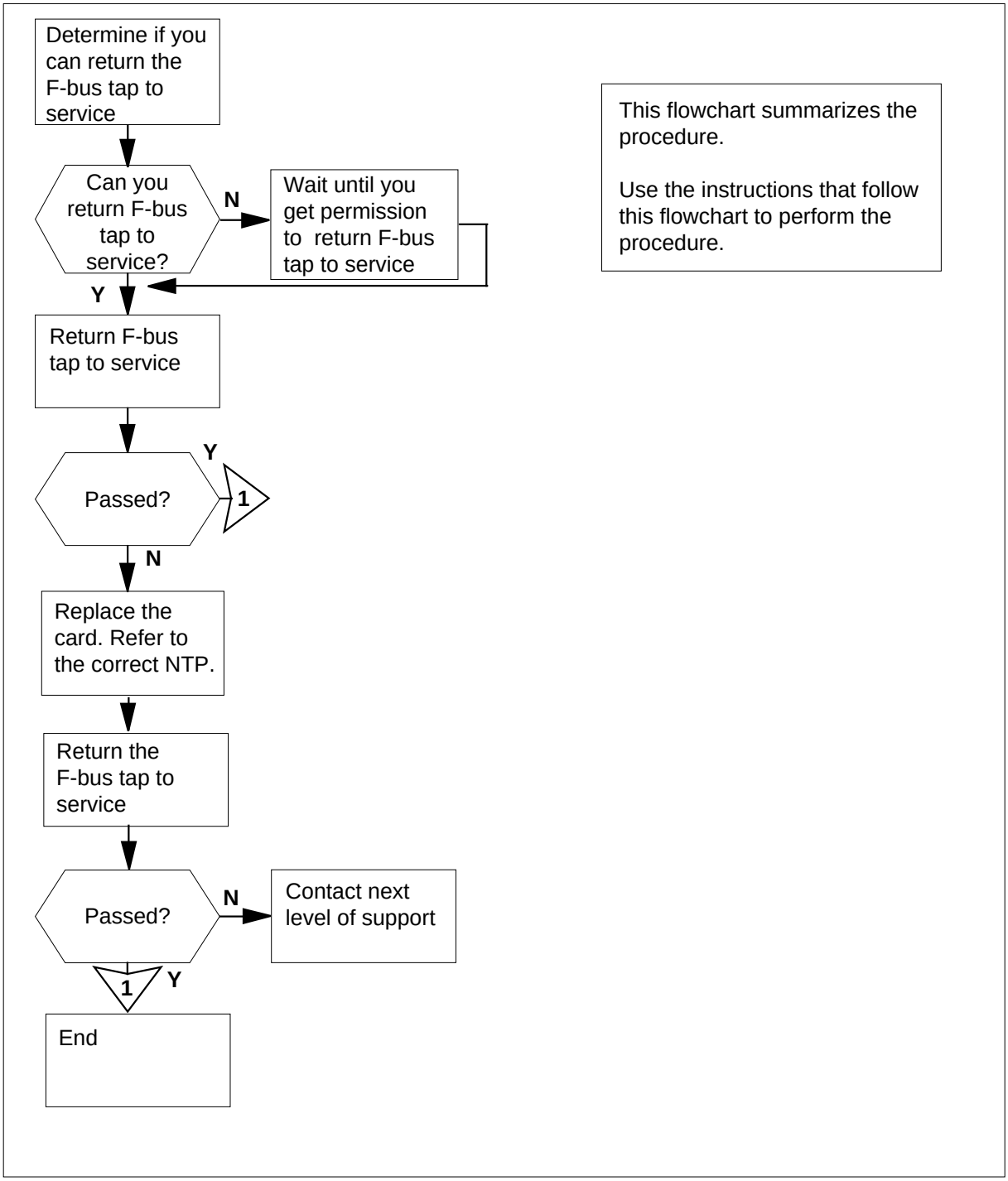
There are no common procedures.

## Action

This procedure has a summary flowchart and a list of steps. Use the flowchart to review the procedure. Follow the steps to perform the procedure.

# MS MbTp
## **minor** (continued)

**Summary of clearing an MS MbTp minor alarm**



# MS MbTp
# minor (continued)

### Clearing an MS MbTp minor alarm

***At your current location***

**1** To access the MS level of the MAP display, type

**>MAPCI;MTC;MS**

and press the Enter key.

*Example of a MAP display:*

```
    Message Switch Clock    Shelf 0 Inter–MS Link 0 1
MS 0    .           M Free      F                . .
MS 1    .           Slave       .                . .
```

***Note:*** In the example, F under the Shelf header indicates that you must access the SHELF level.

**2** Determine if an F is present under the Shelf header of the MAP display.

| If an F | Do |
|---|---|
| is present | step 3 |
| is not present | step 14 |

**3** To access the F-bus level of the MAP display, type

**>SHELF;CARD 12**

and press the Enter key.

*Example of a MAP display:*

```
                          1 1 1 1
Card  1 2 3 4 5 6 7 8 9 0 1 2 3
Chain           |
MS 0  . . . . . . . . . . F .
MS 1  . . . . . . . . . . . .

Card 12 FBus Tap:0   11     12      16   20
MS 0  .    .      .   M     ....    .... ....
MS 1  .    .      .   .     ....    .... ....
```

***Note:*** In the example, (.) under the F-Bus header indicates an in-service F-bus. Under the F-bus tap numbers (0 to 23), M indicates the F-bus tap is manual busy, and (.) indicates an in-service tap.

Go to step 4.

## MS MbTp
## **minor** (continued)

**4** Determine which MS connects to the F-bus that contains the manual-busy tap.

***Note:*** In the MAP display example in step 3, the F-bus that contains the manual busy tap connects to MS 0.

**5** Determine the number of the manual busy tap.

***Note:*** In the MAP display example in step 3, tap 11 on F-bus 0 is manual busy. Message switch 0 controls F-bus 0.

**6** Consult with maintenance personnel to determine if you can return the manual busy F-bus tap to service.

**7** To return the manual busy F-bus tap to service, type

**`>RTS ms_number TAP tap_number`**

and press the Enter key.

*where*

**ms_number**
is the the number of the MS (0 or 1) that connects to

the manual busy F-bus tap

**tap_number**
is the number of the manual busy F-bus tap (0 to 23)

| If the RTS command | Do |
|---|---|
| passed | step 12 |
| failed, and generated a card list | step 8 |

**8** Record the location, description, slot number, product engineering code (PEC), and PEC suffix of the first card on the list.

**9** To change the card, perform the correct card replacement procedure in *Card Replacement Procedures*. Complete the procedure and return to this point.

**10** To return the manual-busy F-bus tap to service, type

**`>RTS ms_number TAP tap_number`**

and press the Enter key.

*where*

**ms_number**
is the number of the MS (0 or 1) that connects to the manual-busy F-bus tap

**tap_number**
is the number of the manual busy F-bus tap (0 to 23)

| If the RTS command | Do |
|---|---|
| passed | step 12 |

## MS MbTp minor (end)

| If the RTS command | Do |
|---|---|
| failed, and you did not replace all the cards on the list | step 11 |
| failed, and you replaced all the cards on the list | step 14 |

**11** Record the location, description, slot number, PEC, and PEC suffix of the next card on the list.

Go to step 9.

**12** Determine if the MbTp minor alarm cleared.

| If the alarm | Do |
|---|---|
| cleared | step 15 |
| reduced in number (for example, a change from 2MbTp to 1MbTp) | step 3 |
| changed to another alarm | step 13 |
| did not clear | step 14 |

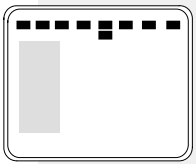
**13** Perform the correct procedure in this document to clear the alarm.

**14** For additional help, contact the next level of support.

**15** The procedure is complete.

# MS NOIMSL major

## Alarm display



```
CM     MS      IOD     Net     PM      CCS     Lns     Trks     Ext     APPL
.  NOIMSL  .       .       .       .       .       .       .       .
       M
```

## Indication

At the MTC level of the MAP display, NOIMSL appears under the MS header of the alarm banner. The NOIMSL indicates a NOIMSL major alarm.

## Meaning

Loss of all four inter-message switch (MS) links occurred.

## Result

Different routes for messages are not available.

## Common procedures

This procedure refers to *Failure to switch clock mastership*.

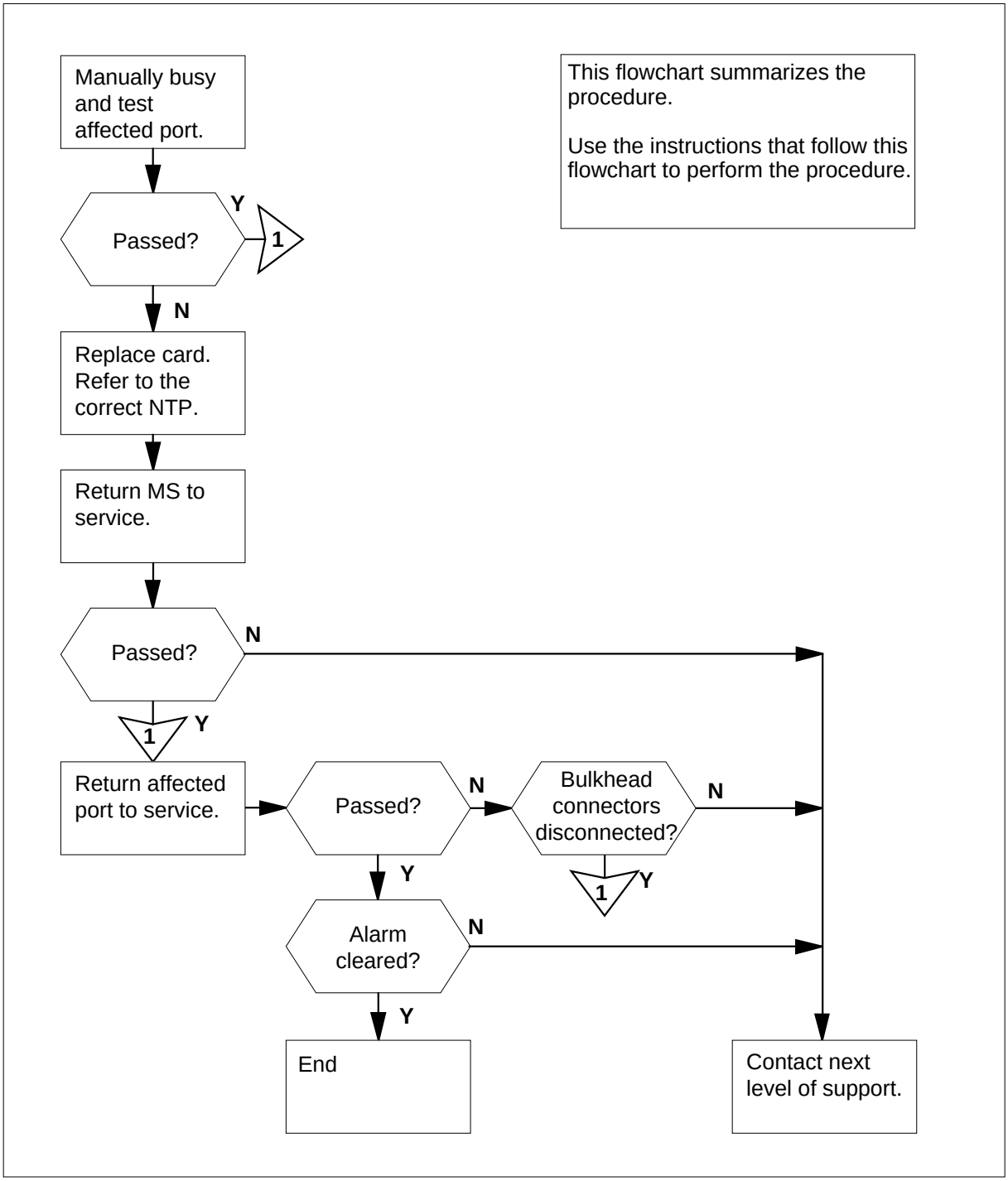
Do not go to the common procedure unless the step action procedure directs you to the common procedure.

## Action

This procedure contains a summary flowchart and a list of steps. Use the flowchart to review the procedure. Follow the steps to perform the procedure.

# MS NOIMSL
# major (continued)

**Summary of clearing an MS NOIMSL major alarm**



# MS NOIMSL
## major (continued)

### Clearing an MS NOIMSL alarm

***At the MAP terminal***

**1** To access the MS level of the MAP display, type

**>MAPCI;MTC;MS**

and press the Enter key.

*Example of a MAP display:*

```
Message Switch   Clock Shelf     0  Inter-MS Link 0 1
MS 0        .        Slave           F            S S
MS 1        .        M Free          .            R R
```

**2** Determine the inter-MS links that are out-of-service.

***Note 1:*** The state of the inter-MS links appears under the Inter-MS Link Number. An S (for system busy) indicates an out-of-service link. In the example in step one, inter-MS links 0 and 1 are out-of-service.

***Note 2:*** If both links contain data and are out-of-service, work on a system-busy link in the slave MS first. The data is in software tables.

**3** Choose an inter-MS Link to work on.

**4** To access the INTERMS level of the MAP display, type

**>INTERMS link_number**

and press the Enter key.

*where*

**link_number**
is the number of the inter-MS link that is system-busy (0 or 1) chosen in step 3

***Note:*** Maintenance of inter-MS link ports occurs at the Card level.

**5** To manually busy the system-busy port, type

**>BSY ms_number PORT port_number**

and press the Enter key.

*where*

**ms_number**
is the number of the MS (0 or 1) that contains the system busy port

**port_number**
is the number of the affected port that is system busy (0 to 3)

*Example of a MAP response:*

## MS NOIMSL
## major (continued)

```
Request to MANBUSY MS:1 Shelf:0 Card 10 Port: 3 submitted.
Request to  MANBUSY MS:1 Shelf:0 Card 10 Port: 3 passed.
```

**6** To test the affected port, type

**>TST ms_number PORT port_number**

and press the Enter key.

*where*

**ms_number**
is the number of the MS (0 or 1) that contains the system-busy port

**port_number**
is the number of the port (0 to 3) that contains the inter-MS link

*Example of a MAP response:*

```
Request to Test OOS MS:1 Shelf:0 Card 10 Port:3 submitted.
Request to Test   OOS MS:1 Shelf:0 Card 10 Port:3 submitted.
```

| If the TST command | Do |
|---|---|
| passed | step 24 |
| failed, and a card list generated | step 7 |
| failed, and another fault exists | step 27 |
| is other than listed here | step 27 |

**7** Record the location, description, slot number, product engineering code (PEC), and PEC suffix of the first card on the list.

**8** To access the MS level of the MAP display, type

**>MS**

and press the Enter key.

*Example of a MAP response:*

```
Message Switch   Clock Shelf     0  Inter-MS Link 0 1
MS 0        .        Slave           F            S S
MS 1        .        M Free          .            R R
```

## MS NOIMSL
## major (continued)

**9** Determine the clocking configuration.

***Note:*** The clocking configuration appears under the Clock header at the MS level of the MAP display.

| If the MS that contains the card to replace | Do |
|---|---|
| is the slave MS, and `Slave` appears under the Clock header | step 14 |
| is the master MS, and `Master` or `M Free` appear under the Clock header | step 10 |

**10** To switch clock mastership, type

**`>SWMAST`**

and press the Enter key.

*Example of a MAP response:*

```
Request to Switch Clock Mastership MS: 1 submitted.
Request to Switch Clock Mastership MS: 1 passed.
```

| If the SWMAST command | Do |
|---|---|
| passed | step 12 |
| failed | step 11 |

**11** Perform the procedure *Failure to switch clock mastership* in this document. Complete the procedure and return to this point.

**12** Wait 10 min to make sure the MS has stability. Continue this procedure.

**13** To access the MS level of the MAP display, type

**`>MS`**

and press the Enter key.

**14** To manually busy the MS that contains the card to replace, type

**`>BSY ms_number`**

and press the Enter key.

*where*

**ms_number**
is the number of the MS (0 or 1) that contains the card to replace

*Example of a MAP response:*

## MS NOIMSL
**major** (continued)

```
Request to MAN BUSY MS: 0 submitted.
Request to MAN BUSY MS: 0  passed.
```

| If the response | Do |
|---|---|
| is `Request to MAN BUSY MS:0 passed` | step 15 |
| is `Request to MAN BUSY MS:1  passed` | step 15 |
| is other than listed here | step 27 |

**15** Perform the correct procedure in *Card Replacement Procedures* in this document. Complete the procedure and return to this point.

**16** To perform an out-of-service test on the manual busy MS, type

**`>TST  ms_number`**

and press the Enter key.

*where*

**ms_number**
is the number of the manual busy MS (0 or 1)

*Example of a MAP response:*

```
Request to TEST OOS MS: 0 submitted.
Request to TEST OOS MS: 0       passed.

No node faults were found on MS 0.
```

| If the TST command | Do |
|---|---|
| passed | step 22 |
| passed with `ISTb`, and a card list generated | step 19 |
| passed or failed with `ISTb` and you replaced all the cards on the list | step 20 |
| failed, and a card list generated | step 17 |
| is other than listed here | step 27 |

## MS NOIMSL
## major (continued)

**17** Determine if you replaced all the cards on the list.

| If you | Do |
|---|---|
| replaced all the cards on the list | step 20 |
| did not replace all the cards on the list | step 18 |

**18** Record the location, description, slot number, PEC, and PEC suffix of the first listed card that you did not replace.

Go to step 15.

**19** Record the location, description, slot number, PEC and PEC suffix of the next card on the list.

Go to step 15.

**20** Determine the office configuration from office records or from operating company personnel. Check the condition of the bulkhead connectors on both MSs.

| If | Do |
|---|---|
| one or more bulkhead connectors connects | step 21 |
| all bulkhead connectors connect | step 27 |

**21** Connect the bulkhead connectors again.

**22** To return the manual busy MS to service, type

**`>RTS ms_number`**

and press the Enter key.

*where*

**ms_number**
is the number of the manual busy MS (0 or 1)

*Example of a MAP response:*

```
Request to RTS MS: 0 submitted.
Request to RTS MS: 0 passed.
```

| If the RTS command | Do |
|---|---|
| passed | step 23 |
| failed | step 27 |

**23** To access the level of the MAP display where maintenance of inter-MS link ports occurs, type

**`>INTERMS link_number`**

and press the Enter key.

*where*

**link_number**
is the number of the inter-MS link that is manual busy (0 or 1)

**24** To return the manual busy port to service, type

**`>RTS ms_number PORT port_number`**

and press the Enter key.

*where*

**ms_number**
is the number of the MS (0 or 1) that contains the manual busy port

**port_number**
is the number of the manual busy port (0 to 3)

```
Request to RTS MS:1 Shelf: 0 Card:10 Port:3 submitted.
Request to RTS    MS:1 Shelf: 0 Card:10 Port:3 passed.
```

| If the RTS command | Do |
|---|---|
| passed | step 25 |
| failed | step 27 |

**25** Determine if the NOIMSL major alarm cleared.

| If the alarm | Do |
|---|---|
| cleared | step 28 |
| changed to another alarm | step 26 |
| did not clear | step 27 |

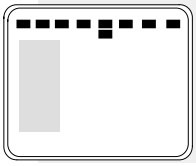
**26** Perform the correct procedure in this document to clear alarms.

**27** For additional help, contact the next level of support.

**28** The procedure is complete.

# MS pair critical

## Alarm display



| CM | MS | IOD | Net | PM | CCS | Lns | Trks | Ext | APPL |
|---|---|---|---|---|---|---|---|---|---|
| . | MSpair *C* | . | . | . | . | . | . | . | . |

## Indication

At the MS level of the MAP display, MSpair appears under the MS header of the alarm banner. MSpair indicates a critical alarm for a message switch (MS) pair.

## Meaning

Both MSs are out-of-service.

## Result

When two MSs are out-of-service, the CM performs a warm restart.

## Common procedures

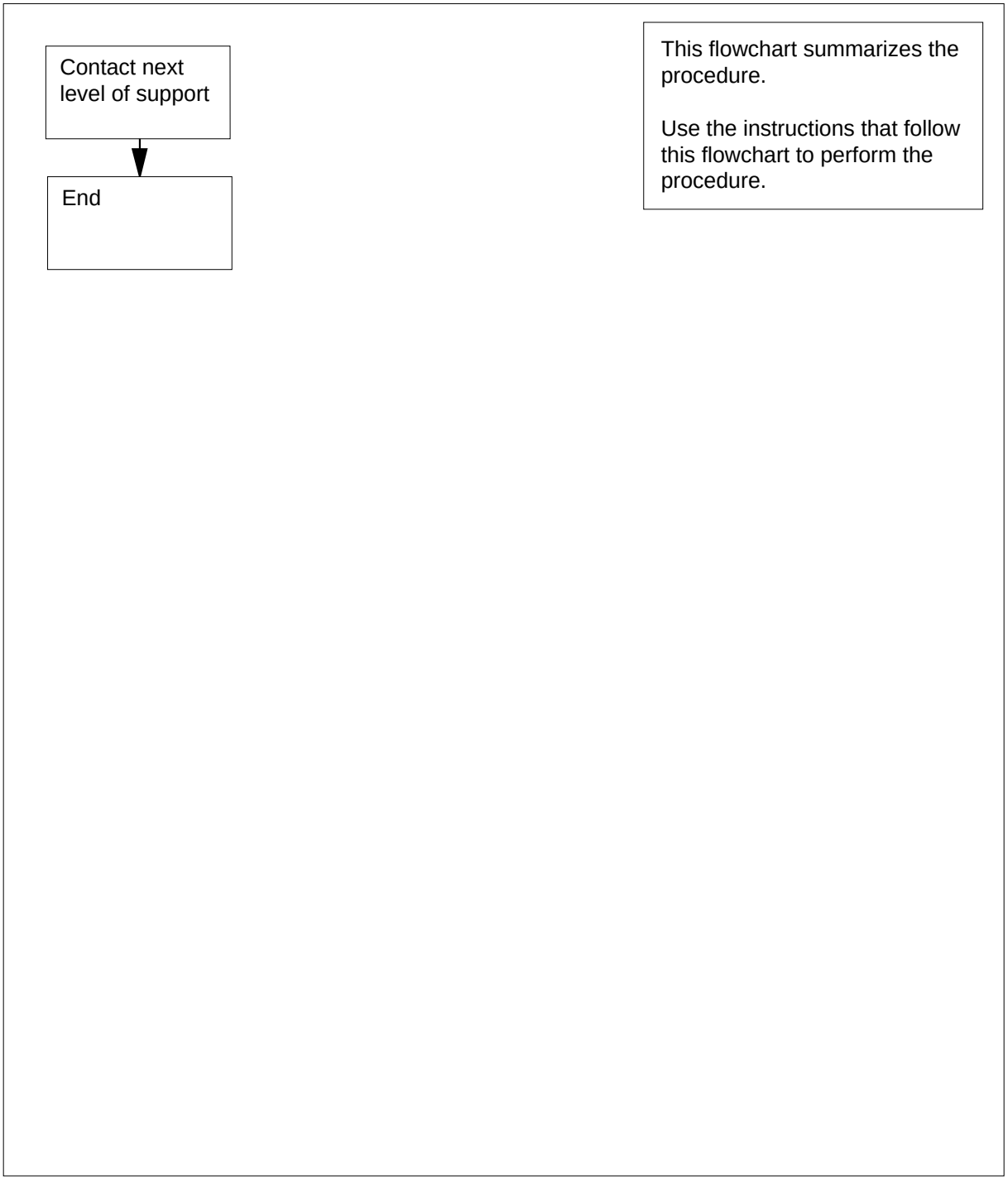
There are no common procedures.

## Action

This procedure contains a summary flowchart and a list of steps. Use the flowchart to review the procedure. Follow the steps to perform the procedure.

# MS pair critical (continued)

**Summary of clearing an MSpair critical alarm**



# MS pair critical (end)

**Clearing an MSpair critical alarm**

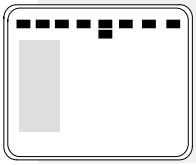
***At the MAP display***

**1** For additional help, contact the next level of support.

**2** The procedure is complete.

# MS REx minor

## Alarm display



```
CM    MS    IOD   Net   PM    CCS   Lns   Trks  Ext   APPL
.     REx   .     .     .     .     .     .     .     .
```

## Indication

At the MTC level of the MAP display, REx appears under the MS header of the alarm banner. The REx indicates a message switch (MS) REx minor alarm.

## Meaning

An (MS) has routine exercise (REx) tests in progress.

## Result

The condition does not affect service.

## Common procedures

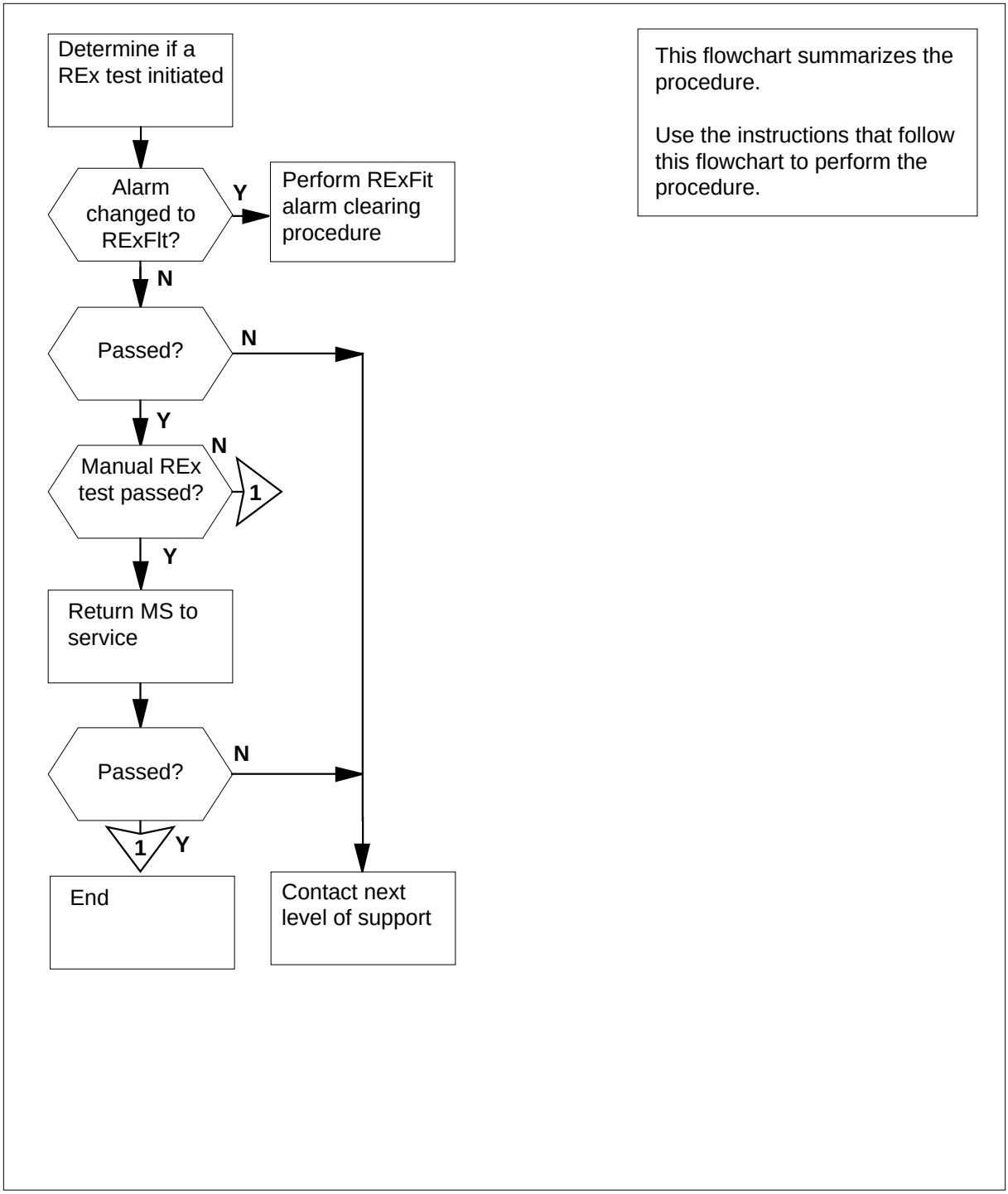
There are no common procedures.

## Action

This procedure contains a summary flowchart and a list of steps. Use the flowchart to review the procedure. Follow the steps to perform the procedure.

# MS REx
# **minor** (continued)

**Summary of clearing an MS REx minor alarm**



# MS REx
# minor (continued)

### Clearing an MS REx minor alarm

***At your current location***

**1** Determine from office records or from operating company personnel if a manual or automatic REx test initiated.

| If | Do |
|---|---|
| a manual REx test was initiated | step 3 |
| the system REx scheduler initiated an automatic REx test | step 2 |

**2** Wait until the REx test ends. Monitor the results.

| If the REx test | Do |
|---|---|
| passed and the REx minor alarm cleared | step 9 |
| failed and the REx minor alarm changed to RExFlt | step 7 |

**3** Wait until the REx test ends. Monitor the results.

| If the REx | Do |
|---|---|
| test passed | step 4 |
| alarm changed to RExFlt | step 7 |
| test failed and the REx minor alarm did not change to RExFlt | step 8 |

**4** To return the manual busy MS to service, type

**>RTS ms_number**

and press the Enter key.

*where*

**ms_number**
is the number of the manual-busy MS (0 or 1)

| If the RTS command | Do |
|---|---|
| passed | step 5 |
| passed with ISTb, and a card list generated | step 5 |

## MS RExminor (end)

| If the RTS command | Do |
|---|---|
| failed, and a card list generated | step 8 |
| other than listed here | step 8 |

**5** Determine if the REx minor alarm cleared.

| If the alarm | Do |
|---|---|
| cleared | step 9 |
| changed to another alarm | step 6 |
| did not clear | step 8 |

**6** Perform the correct procedure to clear an alarm in this document.

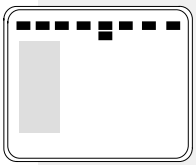
**7** Perform the procedure *Clearing an MS RExFlt minor alarm* in this document.

**8** For additional help, contact the next level of support.

**9** The procedure is complete.

# MS RExByp minor

## Alarm display



```
CM     MS     IOD    Net    PM     CCS    Lns    Trks   Ext    APPL
.  REXByp  .      .      .      .      .      .      .      .
```

## Indication

At the MTC level of the MAP display, RExByp appears under the MS header of the alarm banner. The RExByp indicates a message switch (MS) REx bypass minor alarm.

## Meaning

The routine exercise (REx) tests for the MS were bypassed. Or, entries in table REXSCHED disabled MS REx tests. If MS REx test has not been disabled and alarm is present, the problem could be with the opposite MS.

## Result

Disabled REx tests can result in a fault the system does not detect. This condition can cause loss of service.

## Common procedures

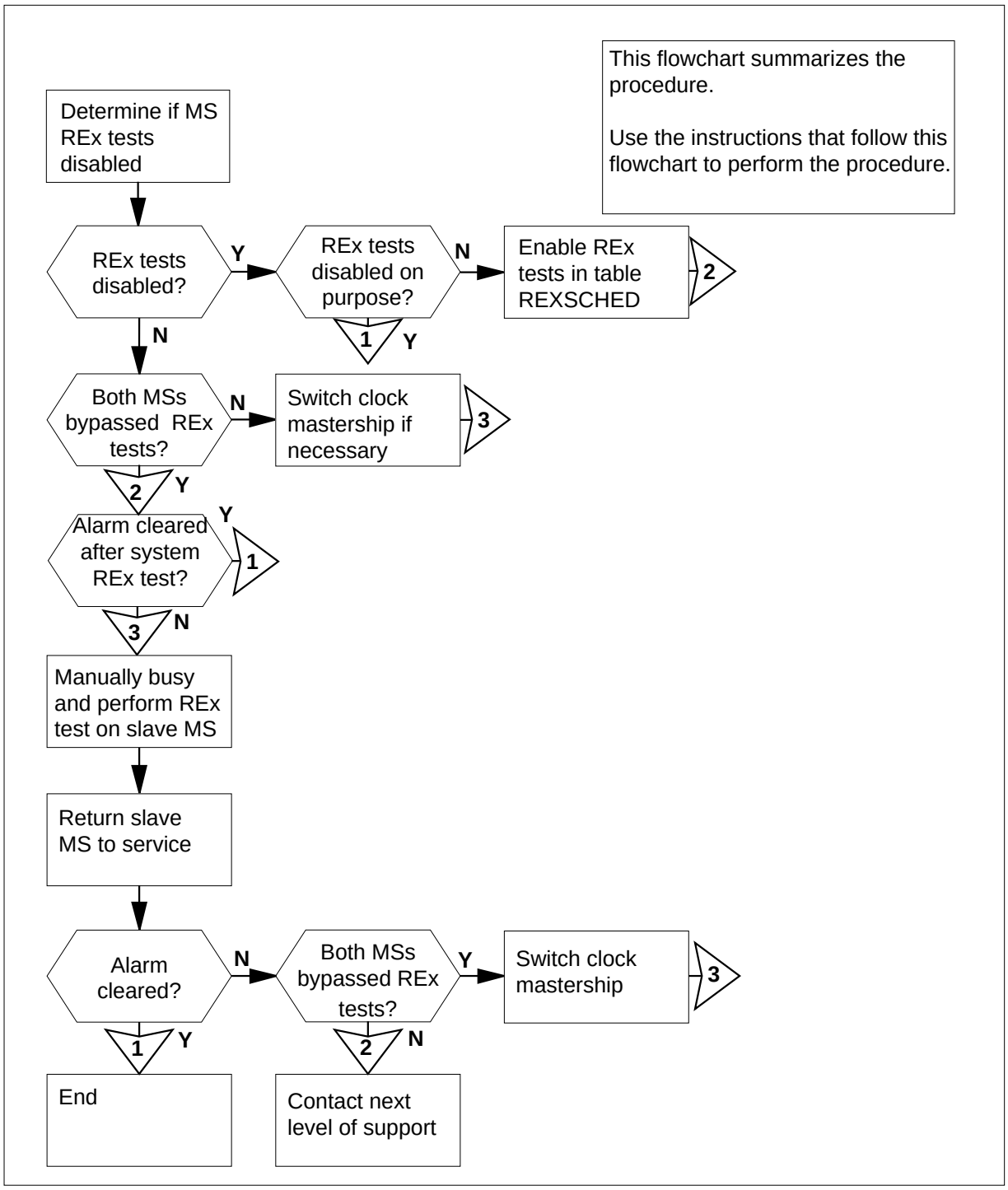
This procedure refers to *Failure to switch clock mastership*.

## Action

This procedure contains a summary flowchart and a list of steps. Use the flowchart to review the procedure. Follow the steps to perform the procedure.

# MS RExByp
## minor (continued)

**Summary of clearing an MS RExByp minor alarm**



# MS RExByp minor (continued)

**Clearing an MS RExByp minor alarm**

**DANGER**
**Possible loss of service**
Determine the state and correct the faults of the mate MS before you clear an MS RExByp alarm. An attempt to clear the alarm before you clear the faults can cause the computing module to isolate. An isolated computing module results in a switch restart and loss of service. Check with office personnel to see if you can proceed with the alarm clearing procedure.

***At the MAP terminal***

**1** Obtain copies of the last IOAU112 log reports.

**2** Determine if MS REx tests are disabled. If MS REx tests are disabled, the following message appears in the IOAU112 log report:
The CRITICAL MS_REX_TEST has been DISABLED INDEFINITELY.

| If | Do |
|---|---|
| MS REx tests are disabled | step 3 |
| MS REx tests are not disabled | step 17 |

**3** Contact the next level of support to determine if MS REx tests are disabled on purpose.

| If MS REx tests | Do |
|---|---|
| are disabled on purpose | step 42 |
| are not disabled on purpose | step 4 |

**4** To access table REXSCHED, type

**>TABLE REXSCHED**

and press the Enter key.

*Example of a MAP response:*

```
MACHINE NOT IN SYNC – DMOS NOT ALLOWED
JOURNAL FILE NOT AVAILABLE– DMOS NOT ALLOWED
TABLE: REXSCHED
```

**5** To position on the MS REx test tuple, type

**>POS MS_REX_TEST**

and press the Enter key.

## MS RExByp
## minor (continued)

*Example of a MAP response:*

```
MS_REX_TEST    N    1    1          NONE
```

**6** To activate write access, type

**>RWOK  ON**

and press the Enter key.

*Example of a MAP response:*

```
WRITE ACCESS ENABLED FOR RESTRICTED DATA
```

**7** To start the tuple change, type

**>CHA**

and press the Enter key.

*Example of a MAP response:*

```
MACHINE NOT IN SYNC – DMOS NOT ALLOWED
JOURNAL FILE NOT AVAILABLE– DMOS NOT ALLOWED
ENTER Y TO CONTINUE PROCESSING OR N TO QUIT
```

**8** To set MS REx tests to enabled, type

**>Y**

and press the Enter key.

**9** To enter the time period between MS REx tests, type

**><period>**

and press the Enter key.

*where*

**<period>**
is the minimum number of days between MS REx tests (1 to 7)

***Note:*** If you do not want to change this part of the tuple, do not make an entry and press the Enter key.

**10** To enter the number of MS REx tests to run in parallel, type

**><number >**

and press the Enter key.

*where*

**<number>**
is the maximum number (0 - 99) of MS REx tests to run in parallel

***Note:*** If you do not want to change this part of the tuple, do not make an entry and press the Enter key.

**11** To disable the REx test on specified days of the week, type

**><daysdsbl>**

## MS RExByp
## minor (continued)

and press the Enter key.

*where*

**<daysdsbl**
> when the MS REx test is not active (MON, TUE, WED, THU, FRI, SAT, SUN, ALL or NONE)

***Note:*** If you do not want to change this part of the tuple, do not make an entry and press the Enter key.

**12** To confirm the tuple change, type

**>Y**

and press the Enter key.

*Example of a MAP response:*

```
TUPLE CHANGED
JOURNAL FILE INACTIVE
```

**13** To deactivate write access, type

**>RWOK OFF**

and press the Enter key.

*Example of a MAP response:*

```
WRITE ACCESS DISABLED FOR RESTRICTED DATA
```

**14** To exit table REXSCHED, type

**>QUIT**

and press the Enter key.

**15** To make sure you enable the MS REx tests, review the last IOAU112 log reports.

***Note:*** If you enabled MS REx tests, the message `The CRITICAL MS_REX_TEST has been ENABLED.` appears in the log report.

| If IOAU112 log displays | Do |
|---|---|
| Enabled D | step 16 |
| Not Enabled | step 41 |

**16** When the next scheduled MS REx test ends, determine if the RExByp alarm cleared.

| If the alarm | Do |
|---|---|
| cleared | step 42 |
| changed to another alarm | step 40 |

## MS RExByp
## minor (continued)

| If the alarm | Do |
|---|---|
| did not clear | step 17 |

**17** To access the MS level of the MAP display, type

**>MAPCI;MTC;MS**

and press the Enter key.

*Example of a MAP display:*

```
Message Switch  Clock  Shelf 0  Inter-MS Link 0 1
MS 0        .   M Free       .                R .
MS 1        .   Slave        .                S .
```

**18** Query the MS to determine the MS (0 or 1) that bypassed a REx test. To query the MS, type

**>QUERYMS**

and press the Enter key.

*Example of a MAP response:*

```
MS 0 load contents: product MS–N release 36CJ
MS 1 load contents: product MS–N release 36CJ
There are 12 slots equipped on MS: 0 shelf: 0.
There are 12 slots equipped on MS: 1 shelf: 0.
REx Test last run MS: 0 94:04:12 09:24:33 AUTO SUCCESSFUL
REx Test last run MS: 1 94:04:12 09:42:59 AUTO BY-PASSED
MS node and shelf information:
   Site Flr RPos Bay_id Shf Description Slot EqPEC
   HOST 01  Q14  SCC 0      MS 0             9X01MB
   HOST 01  Q14  SCC 0  39  MS 0:0           9X0470
   HOST 01  Q14  SCC 0      MS 1             9X01MB
   HOST 01  Q14  SCC 0      MS 1:0           9X0470
```

**19** Determine and record the MS bypassed during REx tests.

***Note:*** In the example in step 18, the bypassed MS is MS 1.

| If | Do |
|---|---|
| the bypassed MS is MS 0 | step 20 |
| the bypassed MS is MS 1 | step 20 |
| MS 1 and MS 0 are the bypassed MSs | step 41 |

## MS RExByp
## minor (continued)

**20** Determine the clocking configuration.

***Note:*** Clocking configuration appears under the Clock header at the MS level of the MAP display.

| If the bypassed MS | Do |
|---|---|
| is the slave MS, shown under the Clock header. The slave MS appears as `Slave` or `S Flt` | step 23 |
| is the master MS, shown under the Clock header. The master MS appears as `Master`, `M Free`, or `M Flt` | step 21 |

**21** Determine the state of the slave MS.

***Note:*** The state of the slave MS appears under the Message Switch header at the MS level of the MAP display.

| If the state of the slave MS | Do |
|---|---|
| is in service (dot) | step 23 |
| is `I` (in-service trouble) | step 23 |
| is `M` (manual busy) | step 41 |
| is `S` (system busy) | step 23 |
| is `T` (system tests in progress) | step 22 |

**22** Wait 30 min. Determine the state of the slave MS.

| If the slave MS | Do |
|---|---|
| is in service (dot) | step 23 |
| is `I` (in-service trouble) | step 23 |
| is `M` (manual busy) | step 41 |
| is `S` (system busy) | step 23 |

**23** Query the MS faults to record any faults on the MS. To query the MS faults, type

```
>QUERYMS   FLT
```

and press the Enter key.

*Example of a MAP display:*

## MS RExByp
**minor** (continued)

```
MS 0 load contents: product MS–U release 11AY
MS 1 load contents: product MS–U release 11AY
There are 14 slots equipped on MS: 0 shelf: 0.
There are 14 slots equipped on MS: 1 shelf: 0.
REx Test last run MS: 0 1998:04:22 01:31::00 AUTO
BY–PASSED
REx Test last run MS: 1 1998:04:22  01:30:04 AUTO (BASE)
SUCCESSFUL
MS 1 has experienced a critical event at:
1998/04/21 15:56:55.261 TUE.
1998/04/21 16:24:47.279 TUE.
MS 0 node faults:
No node faults were found on MS 0.
Soft faults found on system cards:
SHELF 0 CARD 1: Load card (NT9X32) fault at card number
18 (slot24 )
SHELF 0 CARD 1: Missing or bad load card in card slot
MS 1 node faults:
No node faults were found on system cards on MS 1.
```

**24** Review MS logs to determine if other MS is stable. Record any logs that indicate a hardware failure.At CI Level:

**>LOGUTIL**

**>OPEN MS**

**>BACK**

and press the Enter key.

***Note:*** Continue to enter BACK until log displays the reason for failure.

*Example of MS logs:*

## MS RExByp
## minor (continued)

```
TASCAPTIVE_D     MS267  JAN02 05:43:23  9900  INFO     INTERFACE CARD
       STATE: RETS BY FLT REPORT  CODE REF: 0:
       FLT MAP: 0000 0000 0000 0000 0000 0010 0000 0000 : 0000 0000 0000
                0000 0000 0000 0000 0000
       MS: 1 SHELF: 0 CARD: 25 SLOT: 31 FRONT PEC: NTPX17AA BACK REC: NT9X20AA
       FAULT RAISED:  CMIC card PS detected 10B12B errors

TASCAPTIVE_D     MS300  JAN02  05:40:36  6500  RTS     PORT STATE CHANGE
       SET FROM SYSB BY SYSTEM ACTION  CODE REF: 0:
       FLT MAP: 0000 0000 0000 0000 0000
       MS: 1 SHELF: 0 CARD: 25 SLOT: 31 PORT: 0 FRONT PEC: NT9X17AA BACK PEC: NT9X20AA
       FAULT CLEARED: A link error detected from CMIC link: unknown code

TASCAPTIVE_D  *  MS303  JAN  02 05:39:35  4300  SYSB   PORT STATE CHANGE
       SET FROM RTS BY FAULT REPORT    CODE REF: 0:
       FLT MAP: 0000 0000 0000 0000 0400
       MS: 1 SHELF: 0 CARD: 25 SLOT:31 PORT: 0 FRONT PEC: NT9X17AA BACK PEC: NT9X20AA
       P–SIDE: MC 1
       FAULT RAISED:  A link error detected from CMIC link: unknown code

TASCAPTIVE_B     MS304  FEB20 07:41;54  3500  SYSB     PORT STATE CHANGE
       SET FROM PBSY BY P–SIDE ACTION CODE REF: 0
       MS: 0 SHELF: 0 CARD: 17 SLTO: 23 PORT:0 FRONT PEC: NT9X17AA BACK PEC 9X23BA
       P–SIDE: LIM 0
       FAULT RAISED: The test via the P–side node failed.
```

**25** Determine the type of failure from information gathered in steps 23 and 24.

| If MS logs indicate | Do |
|---|---|
| P-side node failed | step 26 |
| MC/CMIC link error | step 27 |
| Other failures on Slave MS | step 33 |
| Other failures on Master MS | step 30 |
| No failures | step 29 |

**26** If MS log indicates a P-side failure, troubleshoot the MS slot indicated in the log, or troubleshoot the P-side node affected. Perform appropriate alarm clearing procedures and return to this point.

| IfP-side failure cleared | Do |
|---|---|
| yes | step 27 |
| no | step 41 |

**27** To display MC counts by type

**>MAPCI;MTC;CM;MC;DISPCNTS**

and press the Enter key.

## MS RExByp
## minor (continued)

Determine the stability of the CMIC links. If unstable counts are shown record counts.

| If MS links are marked | Do |
|---|---|
| marked unstable | step 41 |
| not marked unstable | step 29 |

**28** *Example of a MAP display:*

```
Last CLRCNTS command issued for BAC was at Dec–28 03:04:09
BAC   i/c xfr  i/c    i/c   o/g   o/g   o/g xfr  o/g   buf o/g
0–>7 timeout overrun error purge LH to. to buff  full  parity
------------------------------------------------------------
MC 0 0    .    10     .     .      .      .       .      .
MC 0 1    .     .     .     .      .      .       .      .
MC 1 0    .     .     .     .      .      .       .      .
MC 1 1    .     1     .     .      .      .       .      .

The last CLRCNTS issued for LH was at Dec–28 03:04:09
LH        WAM    WAN  WACK  WAS   unused  2NAC   CRC   CV
MC 0 0    .       5     .     .      .      .    47      .
MC 0 1    .       .     .     .      .      .     .      .
MC 1 0    .       .     .     .      .      .     .      .
MC 1 1    .       1     .     .      .      .     2      .
         Hit Counts   Stability
         ----------   ---------
MC 0 0    52           unstable
MC 0 1     0               .
MC 1 0     0               .
MC 1 1     2               .
```

**29** Determine which MS has the bypass alarm

| IfBypass alarm is on | Do |
|---|---|
| master | step 30 |
| slave | step 33 |

**30** Make the mastership with the REx alarm the slave MS, switch clock mastership by typing:

**>SWMAST**

and press the Enter key.

| If the SWMAST command | Do |
|---|---|
| passed | step 32 |

## MS RExByp
## minor (continued)

| If the SWMAST command | Do |
|---|---|
| failed | step 31 |

**31** Perform the procedure *Failure to switch clock mastership* in this document. Complete the procedure and return to this point.

**32** Wait 10 min to make sure the MS with the RexByp (or fault) remains the slave. Continue with this procedure.

**33** To manually busy the slave MS, type

**>BSY <ms_number>**

and press the Enter key.

*where*

**ms_number**
is the number of the slave MS (0 or 1)

| If the response | Do |
|---|---|
| is Request to MAN BUSY MS:1 passed | step 34 |
| is Request to MAN BUSY MS:0 passed | step 34 |
| is other than listed here | step 41 |

**34** To perform a test on the slave MS, type

**>TST <ms_number>**

and press the Enter key.

*where*

**<ms_number>**
is the number of the manual busy MS (0 or 1)

| If the test | Do |
|---|---|
| passed | step 37 |
| failed, and the system generated a card list but no previous hardware has been replaced | step 35 |
| failed, and the system generated a card list and hardware has been replaced previously | step 36 |
| is other than listed here | step 41 |

## MS RExByp
## minor (continued)

**35** To replace the first card listed, perform the correct procedure in *Card Replacement procedures*. Complete the procedure and return to step 34.

**36** To replace the next card listed, perform the correct procedure in *Card Replacement procedures*.

| If | Do |
|---|---|
| card has been replaced | step 34 |
| all cards on list have been replaced | step 41 |

**37**

**WARNING**
**Possible service degradation**
A REx test takes a maximum of 30 min. Initiate REx tests during a period of low traffic to avoid possible service decline. Check with operating company personnel to make sure that a REx test can run at this time.

To perform a REx test on the slave MS, type

**>TST <ms_number> REX**

and press the Enter key.

*where*

**ms_number>**
is the number of the manual-busy MS (0 or 1)

| If the REx test | Do |
|---|---|
| passed | step 38 |
| is other than listed here or failed | step 41 |

**38** To return the manual busy MS to service, type

**>RTS <ms_number>**

and press the Enter key.

*where*

**ms_number>**
is the number of the manual-busy MS (0 or 1)

| If the RTS command | Do |
|---|---|
| passed | step 39 |

## MS RExByp minor (end)

| If the RTS command | Do |
|---|---|
| is other than listed here or failed | step 41 |

**39** From the MAP display, determine if the MS RExByp minor alarm cleared.

| If the alarm | Do |
|---|---|
| cleared | step 42 |
| changed to another alarm | step 40 |
| did not clear | step 41 |

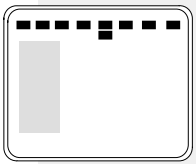
**40** Perform the correct procedure to clear the alarm in this document.

**41** For additional help, contact the next level of support.

**42** The procedure is complete.

# MS RExFlt minor

## Alarm display



```
CM     MS     IOD    Net    PM     CCS    Lns    Trks   Ext    APPL
.  RExFlt  .      .      .      .      .      .      .      .
```

## Indication

At the MTC level of the MAP display, RExFlt appears under the MS header of the alarm banner. The RExFlt indicates an MS RExFlt minor alarm.

## Meaning

Routine exercise (REx) tests for the message switch (MS) failed as a result of critical or in-service trouble faults.

## Result

The condition does not affect subscriber service right away. The condition can affect subscriber service if the fault is critical and continues without correction.

## Common procedures

This procedure refers to *Failure to switch clock mastership*.

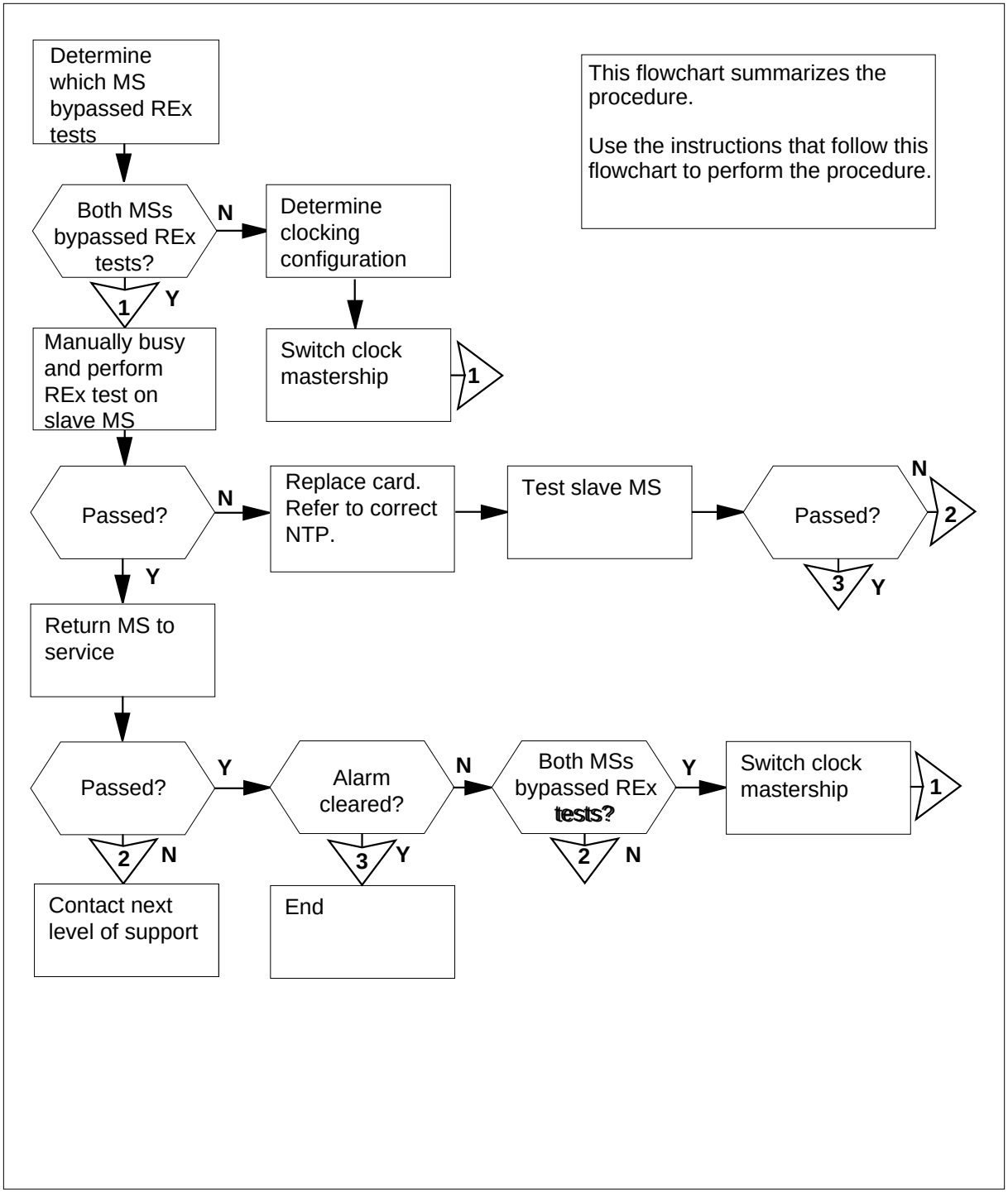
Do not proceed to the common procedure unless the step-action procedure directs you to go.

## Action

This procedure contains a summary flowchart and a list of steps. Use the flowchart to review the procedure. Follow the steps to perform the procedure.

# MS RExFlt minor (continued)

**Summary of clearing an MS RExFlt minor alarm**



# MS RExFlt
## minor (continued)

**Clearing an MS RExFlt minor alarm**

***At the MAP terminal***

**1** To access the MS level of the MAP, type

**>MAPCI;MTC;MS**

and press the Enter key.

*Example of a MAP:*

```
Message Switch   Clock  Shelf 0  Inter-MS Link 0 1
MS 0        .          M Free     .                R .
MS 1        .          Slave      F                S .
```

**2** Query the MS to determine the MS that failed a REx test. To query the MS, type

**>QUERYMS**

and press the Enter key.

*Example of a MAP response:*

```
MS 0 load contents: product MS–N release 36CJ
MS 1 load contents: product MS–N release 36CJ
There are 12 slots equipped on MS: 0 shelf: 0.
There are 12 slots equipped on MS: 1 shelf: 0.
REx Test last run MS: 0 94:04:12 09:24:33 AUTO SUCCESSFUL
REx Test last run MS: 1 94:04:12 09:42:59 AUTO SUCCESSFUL
MS node and shelf information:
   Site Flr RPos Bay_id Shf Description Slot EqPEC
   HOST 01  Q14  SCC 0      MS 0             9X01MB
   HOST 01  Q14  SCC 0  39  MS 0:0           9X0470
   HOST 01  Q14  SCC 0      MS 1             9X01MB
   HOST 01  Q14  SCC 0      MS 1:0           9X0470
```

**3** Determine the clocking configuration.

***Note:*** The clocking configuration appears under the Clock header of the MAP display.

| If the MS that failed a REx test | Do |
|---|---|
| is the slave MS, shown as `Slave` under the Clock header | step 7 |
| is the master MS, shown as `Master` or `M Free` under the Clock header | step 4 |

**4** To switch clock mastership, type

**>SWMAST**

and press the Enter key.

*Example of a MAP response:*

```
Request to Switch Clock Mastership MS: 0 submitted.
Request to Switch Clock Mastership MS: 0 passed.
```

| If the SWMAST command | Do |
|---|---|
| passed | step 6 |
| failed | step 5 |

**5** Perform the procedure *Failure to switch clock mastership* in this document. Complete the procedure and return to this point.

**6** Wait 10 min to make sure MS has stability. Continue the procedure.

**7** To manually busy the slave MS, type

**>BSY ms_number**

and press the Enter key.

*where*

**ms_number**
is the number of the MS (0 or 1) that bypassed a REx test

| If the response | Do |
|---|---|
| is `Request to MAN BUSY MS:0 passed` | step 8 |
| is `Request to MAN BUSY MS:1 passed` | step 8 |
| is other than listed here | step 22 |

**8**

**WARNING**
**Possible service degradation**
A REx test takes a maximum of 30 min. Initiate REx tests during a period of low traffic to avoid possible service decline. Check with operating company personnel to make sure that a REx test can run at this time.

To perform a REx test on the manual busy MS, type

**>TST ms_number REX**

and press the Enter key.

## MS RExFlt
## minor (continued)

*where*

**ms_number**
is the number of the manual busy MS (0 or 1)

***Note:*** Wait until the routine exercise test ends. Monitor the results.

| If the REx | Do |
|---|---|
| passed | step 19 |
| passed with `ISTb`, and the system generated a card list | step 19 |
| terminated | step 22 |
| failed, and the system generated a card list | step 9 |
| failed, an error response returned, and the system generated a card list | step 22 |
| is other than listed here | step 22 |

**9** Record the location, description, slot number, product engineering code (PEC), and PEC suffix of the first card on the list.

**10** Determine the clocking configuration.

***Note:*** The clocking configuration appears under the Clock header of the MAP display.

| If the MS that contains the card to replace | Do |
|---|---|
| is the slave MS, shown as `Slave` under the Clock header | step 14 |
| is the master MS, shown as `Master` or `M Free` under the Clock header | step 11 |

**11** To switch clock mastership, type

**`>SWMAST`**

and press the Enter key.

*Example of a MAP response:*

## MS RExFlt
## minor (continued)

```
Request to Switch Clock Mastership MS: 0 submitted.
Request to Switch Clock Mastership MS: 0 passed.
```

| If the SWMAST command | Do |
|---|---|
| passed | step 13 |
| failed | step 12 |

**12** Perform the procedure *Failure to switch clock mastership* in this document. Complete the procedure and return to this point.

**13** Wait 10 min to make sure MS has stability. Continue the procedure.

**14** Perform the correct card replacement procedure in *Card Replacement Procedures* in this document. Complete the procedure and return to this point.

**15** To perform an out-of-service test on the manual busy MS, type

**>TST ms_number**

and press the Enter key.

*where*

**ms_number**
is the number of the manual busy MS (0 or 1)

*Example of a MAP response:*

```
Request to TEST OOS MS: 0 submitted.
Request to TEST OOS MS: 0 passed.
No node faults were found on MS 0.
```

| If the TST command | Do |
|---|---|
| passed | step 19 |
| passed with ISTb, and the system generated a card list | step 16 |
| passed with ISTb, and you replaced all the cards on the list | step 22 |
| failed, and the system generated a card list | step 17 |
| is other than listed here | step 22 |

**16** Record the location, description, slot number, PEC, and PEC suffix of the next card on the list.

Go to step 14.

## MS RExFlt
## minor (end)

**17** Determine if you replaced all the cards on the list.

| If you | Do |
|---|---|
| replaced all the cards on the list | step 22 |
| did not replace all the cards on the list | step 18 |

**18** Record the location, description, slot number, PEC, and PEC suffix of the first listed card that you did not replace.

Go to step 14.

**19** To return the manual busy MS to service, type

**>RTS ms_number**

and press the Enter key.

*where*

**ms_number**
is the number of the manual-busy MS (0 or 1)

| If RTS command | Do |
|---|---|
| passed | step 20 |
| passed with ISTb, and the system generated a card list | step 20 |
| failed, and the system generated a card list | step 22 |
| is other than listed here | step 22 |

**20** Determine if the RExFlt minor alarm cleared.

| If the alarm | Do |
|---|---|
| cleared | step 23 |
| changed to another alarm | step 21 |
| did not clear | step 22 |
| is other than listed here | step 22 |

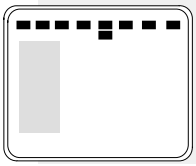
**21** Perform the correct procedure to clear the alarm in this document.

**22** For additional help, contact the next level of support.

**23** The procedure is complete.

# MS SBCD minor

## Alarm display



| CM | MS | IOD | Net | PM | CCS | Lns | Trks | Ext | APPL |
|---|---|---|---|---|---|---|---|---|---|
| . | 01SBCD | . | . | . | . | . | . | . | . |

## Indication

At the MTC level of the MAP display, SBCD (preceded by a number) appears under the MS header of the alarm banner. The SBCD indicates an SBCD minor alarm.

## Meaning

The system automatically removed message switch (MS) port cards from service because of faults detected by the system.

## Result

All ports on the affected cards are out of service.

## Common procedures

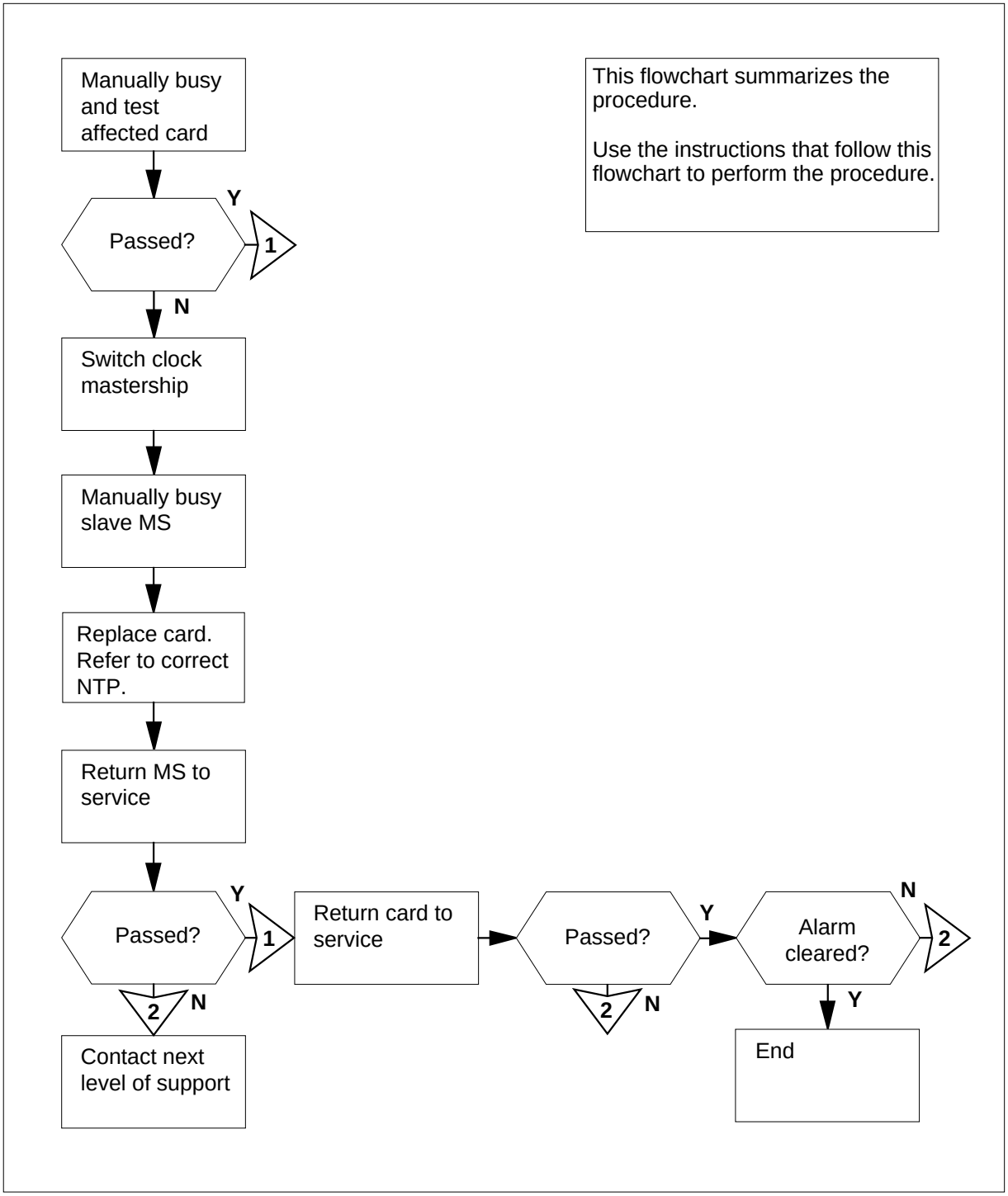
This procedure refers to *Failure to switch clock mastership*.

## Action

This procedure contains a summary flowchart and a list of steps. Use the flowchart to review the procedure. Follow the steps to perform the procedure.

# MS SBCD
## **minor** (continued)

**Summary of clearing an MS SBCD minor alarm**



# MS SBCD
## minor (continued)

**Clearing an MS SBCD minor alarm**

***At the MAP terminal:***

**1** To access the MS level of the MAP display, type

**>MAPCI;MTC;MS**

and press the Enter key.

*Example of a MAP display:*

```
Message Switch   Clock  Shelf 0  Inter-MS Link 0 1
MS 0        .          M Free     F             . .
MS 1        .          Slave      .             . .
```

**2** To access the Shelf level of the MAP display, type

**>SHELF shelf_number**

and press the Enter key.

*where*

**shelf_number**
is the number of the shelf (0 to 3)

***Note:*** For SuperNode SE, do not enter a shelf number.

**3** Determine the system busy cards from the MAP display. An S under the card number indicates the system busy cards. If two or more system busy cards are present, select a card to work on. If system busy cards are present on both MSs, work on the slave side first.

*Example of a MAP display:*

```
Shelf 0
                          1 1 1 1 1 1 1 1 1 2 2 2 2 2 2 2
Card     1 2 3 4 5 6 7 8 9 0 1 2 3 4 5 6 7 8 9 0 1 2 3 4 5 6
Chain
MS 0     . . . . . . . . . . . . S . . . . . . . . . . . . .
MS 1     . . . . . . . . . . . . . . . . . . . . . . . . . .
```

*Example of a MAP display:*

```
Shelf 0
                                 1 1 1 1
Card     1 2 3 4 5 6 7 8 9 0 1 2 3
Chain
MS 0     . . . . . S . . . . . . .
MS 1     . . . . . . . . . . . . .
```

**4** Select a card to work on.

***Note:*** If system busy port cards are present on both MSs, work on the slave MS first. In the MAP display examples in steps 1 and 2, the system busy port card is on the master MS.

## MS SBCD
## **minor** (continued)

**5** To access the Card level of the MAP display for the card you selected, type

**>CARD card_number**

and press the Enter key.

*where*

**card_number**
is the number of the system busy card

**6** To manually busy the system busy card, type

**>BSY ms_number**

and press the Enter key.

*where*

**ms_number**
is the number of the MS (0 or 1) that contains the system-busy card

*Example of a MAP display:*

```
Request to MAN BUSY MS:1 shelf:0 card:6 submitted.
Request to MAN BUSY MS:1 shelf:0 card:6 passed.
```

| If the manual busy request | Do |
|---|---|
| passed | step 7 |
| failed | step 27 |

**7** To test the manual busy card, type

**>TST ms_number**

and press the Enter key.

*where*

**ms_number**
is the number of the MS (0 or 1) that contains the manual busy card

*Example of a MAP display:*

```
Request to TEST OOS MS: 0 shelf:0 card:6 submitted.
Request to TEST OOS MS: 0 shelf:0 card:6 passed.
```

| If the TST command | Do |
|---|---|
| passed | step 24 |
| failed, and the system generated a card list | step 8 |

**8** Record the location, description, slot number, product engineering code (PEC), and PEC suffix of the first card on the list.

## MS SBCD
## **minor** (continued)

**9** Determine the clocking configuration.

***Note:*** The clocking configuration appears under the Clock header of the MAP display.

| If the MS that contains the card to replace | Do |
|---|---|
| is the slave MS, shown as `Slave` under the Clock header | step 13 |
| is the master MS, shown as `Master` or `M Free` under the Clock header | step 10 |

**10** To switch clock mastership, type

**`>SWMAST`**

and press the Enter key.

*Example of a MAP display:*

```
Request to Switch Clock Mastership MS: 0 submitted.
Request to Switch Clock Mastership MS: 0 passed.
```

| If the SWMAST command | Do |
|---|---|
| passed | step 12 |
| failed | step 11 |

**11** Perform the procedure *Failure to switch clock mastership* in this document. Complete the procedure and return to this point.

**12** Wait 10 min to make sure the MS has stability. Continue this procedure.

**13** To access the MS level of the MAP display, type

**`>MS`**

and press the Enter key.

**14** To manually busy the MS that contains the card that you must replace, type

**`>BSY ms_number`**

and press the Enter key.

*where*

**ms_number**
is the number of the MS (0 or 1) that contains the card that you must replace

*Example of a MAP display:*

## MS SBCD
## **minor** (continued)

```
Request to MAN BUSY MS: 0 submitted.
Request to MAN BUSY MS: 0 passed.
```

| If the response | Do |
|---|---|
| is `Request to MAN BUSY MS:0 passed` | step 15 |
| is `Request to MAN BUSY MS:1 passed` | step 15 |
| is other than listed here | step 27 |

**15** Perform the correct correct replacement procedure in *Card Replacement Procedures* in this document. Complete the procedure and return to this point.

**16** To perform an out-of-service test on the manual busy MS, type

**`>TST ms_number`**

and press the Enter key.

*where*

**ms_number**
is the number of the manual-busy MS (0 or 1)

*Example of a MAP display:*

```
Request to TEST OOS MS: 0 submitted.
Request to TEST OOS MS: 0 passed.
No node faults were found on MS 0.
```

| If the TST command | Do |
|---|---|
| passed | step 20 |
| passed with `ISTb`, and you must replace more cards on the list | step 17 |
| passed with `ISTb`, and you replaced all cards on the list | step 27 |
| failed, and the system generated a card list | step 18 |
| is other than listed here | step 27 |

**17** Record the location, description, slot number, PEC, and PEC suffix of the next card on the list.

## MS SBCD
## **minor** (continued)

Go to step 15.

**18** Determine if you replaced all the cards on the list.

| If | Do |
|---|---|
| you replaced all the cards on the list | step 27 |
| you did not replace all the cards on the list | step 19 |

**19** Record the location, description, slot number, PEC, and PEC suffix of the first card listed that was not replaced.

Go to step 15.

**20** To return the manual busy MS to service, type

**>RTS ms_number**

and press the Enter key.

*where*

**ms_number**
is the number of the manual busy MS (0 or 1)

*Example of a MAP display:*

```
Request to RTS MS: 0 submitted.
Request to RTS MS: 0 passed.
```

| If the RTS command | Do |
|---|---|
| passed | step 21 |
| failed | step 27 |

**21** To access the Shelf level of the MAP display, type

**>SHELF shelf_number**

and press the Enter key.

*where*

**shelf_number**
is the number of the shelf (0 to 3)

***Note:*** For SuperNode SE, do not enter a shelf number.

**22** To access the system busy card, type

**>CARD card_number**

and press the Enter key.

*where*

## MS SBCD
## **minor** (continued)

**card_number**
is the number of the manual busy (M) card

**23** To test the card, type

**>TST ms_number**

and press the Enter key.

*where*

**ms_number**
is the number of the MS (0 or 1) that contains the manual busy card

*Example of a MAP display:*

```
Request to TEST OOS MS: 0 shelf:0 card:6 submitted.
Request to TEST OOS MS: 0 shelf:0 card:6 passed.
```

| If the TST command | Do |
|---|---|
| passed | step 24 |
| failed, and the system generated a card list | step 27 |

**24** To return the manual busy card to service, type

**>RTS ms_number**

and press the Enter key.

*where*

**ms_number**
is the number of the MS (0 or 1) that contains the manual busy card

| If the RTS command | Do |
|---|---|
| passed | step 25 |
| failed | step 27 |

**25** Determine if the SBCD minor alarm cleared.

| If the alarm | Do |
|---|---|
| cleared | step 28 |
| reduced in number (for example, the alarm changed from 02SBCD to 01SBCD) | step 2 |
| changed to another alarm | step 26 |
| did not clear | step 27 |

## MS SBCD
## **minor** (end)

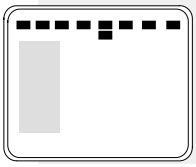
**26** Perform the correct procedure to clear the alarm in this document.

**27** For additional help, contact the next level of support.

**28** The procedure is complete.

# MS SBCH
# minor

## Alarm display



```
CM     MS     IOD    Net    PM     CCS    Lns    Trks    Ext    APPL
.  01SBCH  .      .      .      .      .      .      .      .
```

## Indication

At the MTC level of the MAP display, SBCH (preceded by a number) appears under the MS header of the alarm banner. The SBCH indicates an SBCH minor alarm.

## Meaning

Port chains for the message switch (MS) are system busy. The system automatically removed the MS port chains from service because of faults detected by the system.

A port chain can not communicate with the subtending node the port chain connects to if the port chain is system busy. An enhanced network (ENET) shelf is an example of a subtending node.

The number under the MS header in the alarm banner indicates the number of port chains affected.

## Result

If one port chain that serves an ENET shelf is out of service, service is not affected. Messaging automatically switches to the corresponding port chain on the other MS. If both port chains of an ENET surface are out-of-service, the system automatically diverts messaging to another network surface.

## Common procedures

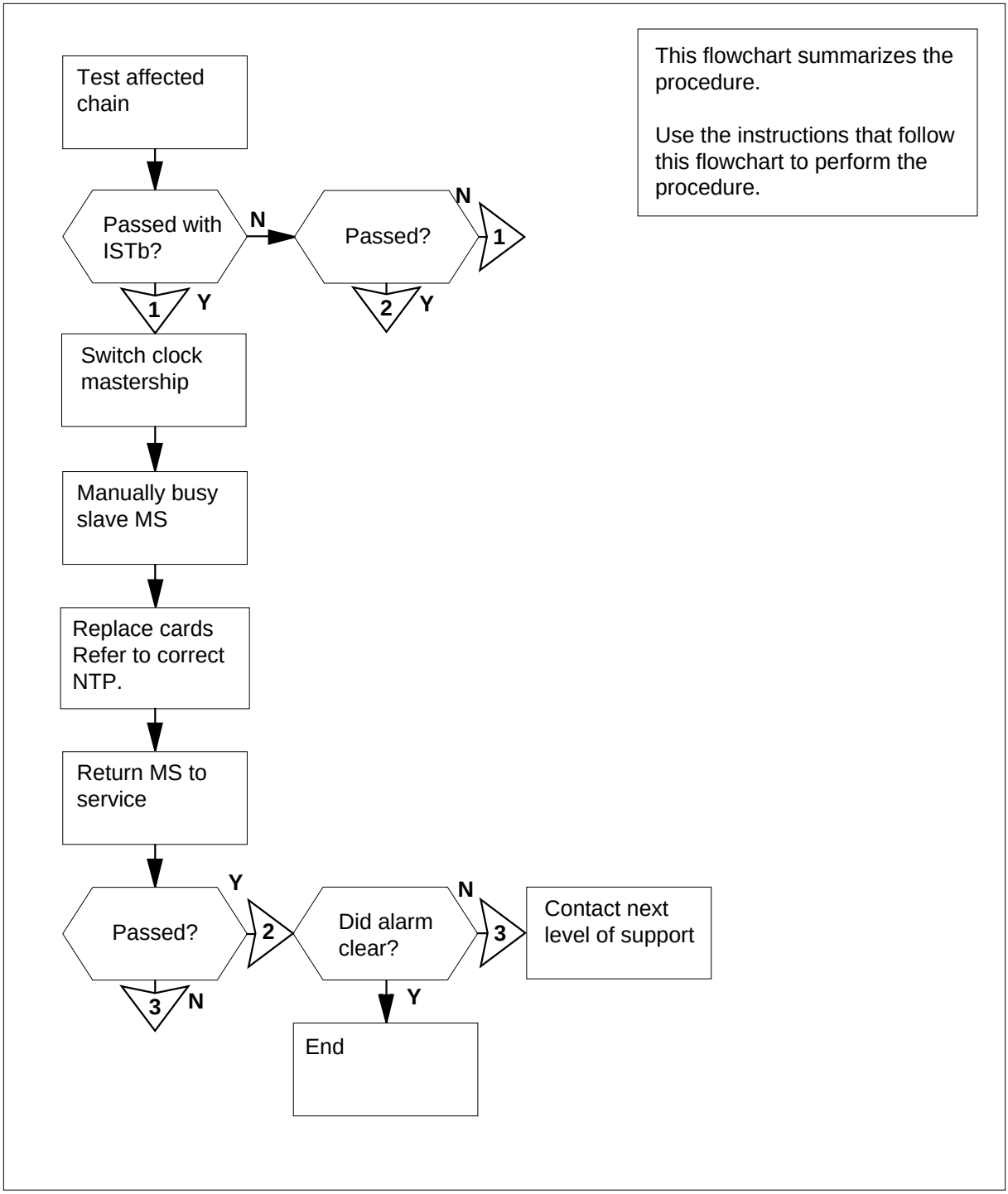
This procedure refers to *Failure to switch clock mastership*.

## Action

This procedure contains a summary flowchart and a list of steps. Use the flowchart to review the procedure. Follow the steps to perform the procedure.

# MS SBCH
## **minor** (continued)

**Summary of clearing an MS SBCH minor alarm**



# MS SBCH
## minor (continued)

### Clearing an MS SBCH minor alarm

***At the MAP terminal***

**1** To access the MS level of the MAP display, type

**>MAPCI;MTC;MS**

and press the Enter key.

*Example of a MAP display:*

```
Message Switch   Clock  Shelf 0  Inter-MS Link 0 1
MS 0        .           M Free    .            R .
MS 1        .           Slave     F            S .
```

**2** To access the Shelf level of the MAP display, type

**>SHELF shelf_number**

*where*

**shelf_number**
is the number of the shelf (0 to 3)

***Note:*** For SuperNode SE, do not enter a shelf number.

**3** To access the Chain level of the MAP, type

**>CHAIN head_card_number**

and press the Enter key.

*where*

**head_card_number**
is the number of the head card

**4** To test the affected chain, type

**>TST ms_number**

and press the Enter key.

*where*

**ms_number**
is the number of the affected MS (0 or 1)

***Note:*** An F under the shelf status indicator at the MS level of the MAP display indicates the affected MS.

| If the TST command | Do |
|---|---|
| passed | step 27 |
| passed with ISTb, and the system generated a card list | step 5 |
| failed, and the system generated a card list | step 5 |

# MS SBCH
## minor (continued)

| If the TST command | Do |
|---|---|
| is other than listed here | step 29 |

**5** Record the location, description, slot number, product engineering code (PEC), and PEC suffix of the first card on the list.

**6** To access the MS level of the MAP display, type

```
>MS
```

and press the Enter key.

**7** Determine the clocking configuration.

***Note:*** The clocking configuration appears under the Clock header at the MS level of the MAP display.

| If the MS that contains the card to replace | Do |
|---|---|
| is the slave MS, shown as Slave under the Clock header | step 11 |
| is the master MS, shown as Masteror M Freeunder the Clock header | step 8 |

**8** To switch clock mastership, type

```
>SWMAST
```

and press the Enter key.

*Example of a MAP response:*

```
Request to Switch Clock Mastership MS: 0 submitted.
Request to Switch Clock Mastership MS: 0 passed.
```

| If the SWMAST command | Do |
|---|---|
| passed | step 10 |
| failed | step 9 |

**9** Perform the procedure *Failure to switch clock mastership* in this document. Complete the procedure and return to this point.

**10** Wait 10 min to make sure the MS has stability. Continue this procedure.

**11** To manually busy the MS that contains the card that you must replace, type

```
>BSY  ms_number
```

and press the Enter key.

*where*

**ms_number**
is the number of the MS (0 or 1) that contains the card that you

# MS SBCH
## **minor** (continued)

must replace

*Example of a MAP response:*

```
Request to MAN BUSY MS: 0 submitted.
Request to MAN BUSY MS: 0 passed.
```

| If the response | Do |
|---|---|
| is Request to MAN BUSY MS: 0 passed | step 12 |
| is Request to MAN BUSY MS: 1 passed | step 12 |
| is other than listed here | step 29 |

**12** Determine the subsystem that contains the card that you must replace.the ENET subsystem contains the card

| If | Do |
|---|---|
| the MS subsystem contains the card | step 13 |
| the ENET subsystem contains the card | step 19 |
| the JNET subsystem contains the card | step 19 |

**13** Perform the correct card replacement procedure in *Card Replacement Procedures* in this document. Complete the procedure and return to this point.

**14** To perform an out-of-service test on the manual busy MS, type

**>TST ms_number**

and press the Enter key.

*where*

**ms_number**
is the number of the manual busy MS (0 or 1)

*Example of a MAP response:*

```
Request to TEST OOS MS: 0 submitted.
Request to TEST OOS MS: 0 passed.
No node faults were found on MS 0.
```

| If the TST command | Do |
|---|---|
| passed | step 21 |

## MS SBCH
## **minor** (continued)

| If the TST command | Do |
|---|---|
| passed with ISTb, and the system generated a card list | step 17 |
| passed with ISTb, and you replaced all the cards on the list | step 29 |
| failed, and the system generated a card list | step 15 |
| is other than listed here | step 29 |

**15** Determine if you replaced all the cards on the list.

| If you | Do |
|---|---|
| replaced all the cards on the list | step 29 |
| did not replace all the cards on the list | step 16 |

**16** Record the location, description, slot number, PEC, and PEC suffix of the first card on the list that you did not replace.

Go to step 18.

**17** Record the location, description, slot number, PEC, and PEC suffix of the next card on the list.

**18** Determine the subsystem that contains the card that you must replace.

| If | Do |
|---|---|
| the MS subsystem contains the card | step 13 |
| the ENET subsystem contains the card | step 19 |
| the JNET subsystem contains the card | step 19 |

**19** Perform the correct procedure to replace a card in *Card Replacement Procedures* in this document. Complete the procedure and return to this point.

**20** To access the MS level of the MAP display, type

```
>MS
```

and press the Enter key.

Go to step 14.

**21** To return the manual busy MS to service, type

```
>RTS  ms_number
```

# MS SBCH
## minor (continued)

and press the Enter key.

*where*

**ms_number**
is the number of the manual busy MS (0 or 1)

*Example of a MAP response:*

```
Request to RTS MS: 0 submitted.
Request to RTS MS: 0 passed.
```

| If the RTS command | Do |
|---|---|
| passed | step 22 |
| failed | step 29 |

**22** To access the Shelf level of the MAP display, type

**>SHELF shelf_number**

*where*

**shelf_number**
is the number of the shelf (0 to 3)

***Note:*** For SuperNode SE, do not enter a shelf number.

**23** To access the Chain level of the MAP display, type

**>CHAIN head_card_number**

and press the Enter key.

*where*

**head_card_number**
is the number of the head card in the chain

**24** To test the affected chain, type

**>TST ms_number**

and press the Enter key.

*where*

**ms_number**
is the number of the affected MS

| If the TST command | Do |
|---|---|
| passed | step 27 |
| passed with ISTb, and the system generated a card list | step 25 |
| failed, and the system generated a card list | step 25 |

# MS SBCH minor (end)

| If the TST command | Do |
|---|---|
| is other than listed here | step 29 |

**25** Determine if you replaced all the cards on the list.

| If you | Do |
|---|---|
| replaced all the cards on the list | step 29 |
| did not replace all the cards on the list | step 26 |

**26** Record the location, description, slot number, PEC, and PEC suffix of the first card on the list that you did not replace.

Go to step 6.

**27** Determine if the SBCH minor alarm cleared.

| If the alarm | Do |
|---|---|
| cleared | step 30 |
| changed to another alarm | step 28 |
| reduced in number (for example, the alarm changed from 02SBCH to 01SBCH) | step 2 |
| did not clear | step 29 |

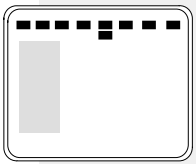
**28** Perform the correct procedure to clear alarms in this document.

**29** For additional help, contact the next level of support.

**30** The procedure is complete.

# MS SBCL
# minor

## Alarm display



| CM | MS | IOD | Net | PM | CCS | Lns | Trks | Ext | APPL |
|---|---|---|---|---|---|---|---|---|---|
| . | 01SBCL | . | . | . | . | . | . | . | . |

## Indication

At the MTC level of the MAP, SBCL (preceded by a number) appears under the MS header of the alarm banner. The SBCL indicates an SBCL minor alarm.

## Meaning

Channelized links are system busy. The system automatically removed channelized links from service as a result of faults detected by the system. A channelized link connects a message switch (MS) port chain to a subtending node. An enhanced network (ENET) plane is an example of a subtending node.

The number under the MS header in the alarm banner indicates the number of affected channelized links.

## Result

A channelized link serves an MS port chain. If a channelized link is out of service, the MS port chain cannot communicate with the subtending node. The subtending node connects to the link. If the subtending node is an ENET plane, service is not affected. Messaging with the affected node automatically switches to the corresponding port chain on the other MS.

Both channeled links that serve an ENET surface can be out of service. If both channeled links are out of service, the system automatically diverts messaging to the other ENET plane.

## Common procedures

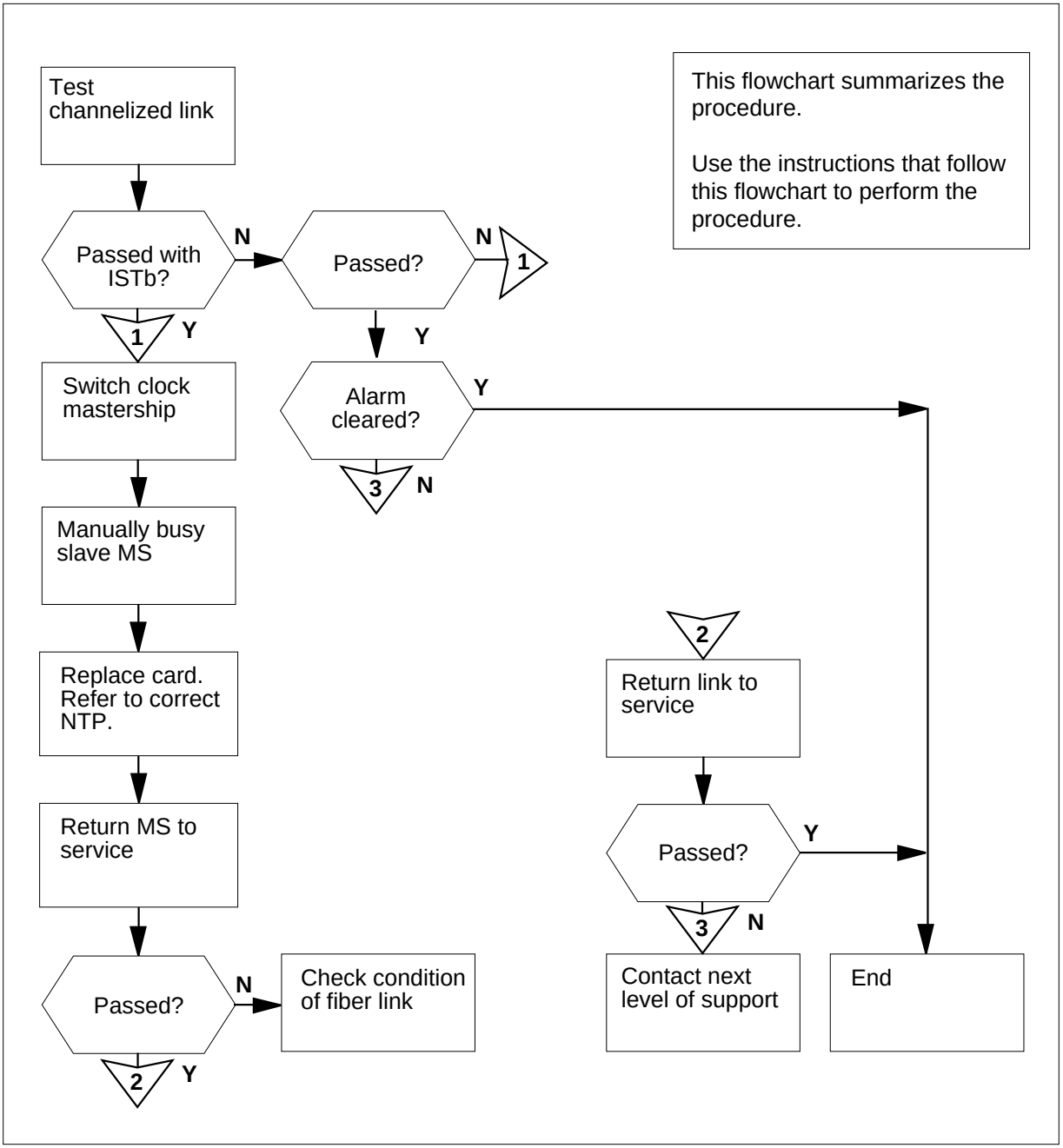
This procedure refers to *Failure to switch clock mastership*.

## Action

This procedure contains a summary flowchart and a list of steps. Use the flowchart to review the procedure. Follow the steps to perform the procedure.

# MS SBCL
## minor (continued)

**Summary of clearing an MS SBCL minor alarm**



# MS SBCL
## minor (continued)

**How to clear an MS SBCL minor alarm**

***At the MAP terminal:***

**1** To access the MS level of the MAP display, type

**>MAPCI;MTC;MS**

and press the Enter key

*Example of a MAP display:*

```
Message Switch   Clock  Shelf 0  Inter-MS Link 0 1
MS 0        .        M Free       F            . .
MS 1        .        Slave        .            . .
```

**2** To access the Shelf level of the MAP display, type

**>SHELF shelf_number**

and press the Enter key.

*where*

**shelf_number**
is the number of the shelf (0 to 3)

***Note:*** For SuperNode SE, do not enter a shelf number.

*Example of a MAP display:*

```
Shelf 0                       1 1 1 1
Card        1 2 3 4 5 6 7 8 9 0 1 2 3
Chain               | | |
MS 0        . . . . F . . . . . . . .
MS 1        . . . . . . . . . . . . .
```

**3** Determine the number of port chains with system busy channelized links.

***Note:*** The number of port chains with system busy channelized links appears under the MS header in the alarm banner.

| If the condition | Do |
|---|---|
| affects one chain | step 5 |
| affects more than one chain | step 4 |

**4** Select a link to work on.

***Note:*** If system busy channelized links are present on both MSs, work on the slave MS first. In the example in step 1, MS 1 is the slave MS.

**5** To access the Chain level of the MAP display, type

**>CHAIN head_card_number**

and press the Enter key.

*where*

# MS SBCL
## minor (continued)

**head_card_number**
is the number of the head card in the system busy chain

**6** To test the channelized link for the affected chain, type

**`>TST ms_number LINK link_number`**

and press the Enter key.

*where*

**ms_number**
is the number of the affected MS (0 or 1)

**link_number**
is the number of the system busy link

***Note:*** An S under the link number identifies the system busy channelized links.

| If the TST command | Do |
|---|---|
| passed | step 34 |
| passed with ISTb, and the system generated a card list | step 7 |
| failed, and the system generated a card list | step 7 |

**7** Record the location, description, slot number, product engineering code (PEC), and PEC suffix of the first card on the list.

**8** To access the MS level of the MAP display, type

**`>MS`**

and press the Enter key

*Example of a MAP display:*

```
Message Switch  Clock  Shelf 0  Inter-MS Link 0 1
MS 0               M Free       F            . .
MS 1               Slave                     . .
```

**9** Determine the clocking configuration.

***Note:*** The clocking configuration appears under the Clock header at the MS level of the MAP display.

| If the MS that contains the card to replace | Do |
|---|---|
| is the slave MS, shown as `Slave` under the Clock header | step 13 |

## MS SBCL
## **minor** (continued)

| If the MS that contains the card to replace | Do |
|---|---|
| is the master MS, shown as `Master` or `M Free` under the Clock header | step 10 |

**10** To switch clock mastership, type

**`>SWMAST`**

and press the Enter key.

*Example of a MAP display:*

```
Request to Switch Clock Mastership MS: 0 submitted.
Request to Switch Clock Mastership MS: 0 passed.
```

| If the SWMAST command | Do |
|---|---|
| passed | step 12 |
| failed | step 11 |

**11** Perform the procedure *Failure to switch clock mastership* in this document. Complete the procedure and return to this point.

**12** Wait 10 min to make sure the MS has stability. Continue this procedure.

**13** To manually busy the MS that contains the card that you must replace, type

**`>BSY ms_number`**

and press the Enter key.

*where*

**ms_number**
is the number of the MS (0 or 1) that contains the card that you must replace

*Example of a MAP display:*

```
Request to MAN BUSY MS: 0 submitted.
Request to MAN BUSY MS: 0 passed.
```

| If the response | Do |
|---|---|
| is `Request to MAN BUSY MS: 0 passed` | step 14 |
| is `Request to MAN BUSY MS: 1 passed` | step 14 |

## MS SBCL
## **minor** (continued)

| If the response | Do |
|---|---|
| is other than listed here | step 36 |

**14** Determine the subsystem that contains the card that you must replace.

| If | Do |
|---|---|
| the MS subsystem contains the card | step 15 |
| the ENET subsystem contains the card | step 21 |
| the JNET subsystem contains the card | step 23 |

**15** Perform the correct card replacement procedure in *Card Replacement Procedures* in this document. Complete the procedure and return to this point.

**16** To perform an out-of-service test on the manual busy MS, type

**`>TST ms_number`**

and press the Enter key.

*where*

**ms_number**
is the number of the manual busy MS (0 or 1)

*Example of a MAP display:*

```
Request to TEST OOS MS: 0 submitted.
Request to TEST OOS MS: 0 passed.
No node faults were found on MS 0.
```

| If the TST command | Do |
|---|---|
| passed | step 25 |
| passed with `ISTb`, and the system generated a card list | step 19 |
| passed with `ISTb`, and you replaced all the cards on the list | step 36 |
| failed, and the system generated a card list | step 17 |

## MS SBCL
## **minor** (continued)

**17** Determine if you replaced all the cards on the list.

| If you | Do |
|---|---|
| replaced all the cards on the list | step 36 |
| did not replace all the cards on the list | step 18 |

**18** Record the location, description, slot number, PEC, and PEC suffix of the first card on the list that you did not replace.

Go to step 20.

**19** Record the location, description, slot number, PEC, and PEC suffix of the next card on the list.

**20** Determine the subsystem that contains the card that you must replace.

| If | Do |
|---|---|
| the MS subsystem contains the card | step 15 |
| the ENET subsystem contains the card | step 21 |
| the JNET subsystem contains the card | step 23 |

**21** Perform the correct card replacement procedure in *Card Replacement Procedures* in this document. Complete the procedure and return to this point.

**22** To access the MS level of the MAP display, type

```
>MS
```

and press the Enter key.

Go to step 16.

**23** Perform the correct card replacement procedure in *Card Replacement Procedures* in this document. Complete the procedure and return to this point.

**24** To access the MS level of the MAP display, type

```
>MS
```

and press the Enter key.

Go to step 16.

**25** To return the manual busy MS to service, type

```
>RTS  ms_number
```

and press the Enter key.

*where*

**ms_number**
is the number of the manual-busy MS (0 or 1)

*Example of a MAP display:*

```
Request to RTS MS: 0 submitted.
Request to RTS MS: 0 passed.
```

| If the RTS command | Do |
|---|---|
| passed | step 26 |
| failed | step 36 |

**26** To access the Shelf level of the MAP display, type

**>SHELF shelf_number**

and press the Enter key.

*where*

**shelf_number**
is the number of the shelf (0 to 3)

***Note:*** For SuperNode SE, do not enter a shelf number.

*Example of a MAP display:*

```
Shelf 0                  1 1 1 1
Card   1 2 3 4 5 6 7 8 9 0 1 2 3
Chain          | | |
MS 0   . . . . . . . . . . . . .
MS 1   . . . . . . . . . . . . .
```

**27** To access the Chain level of the MAP display, type

**>CHAIN head_card_number**

and press the Enter key.

*where*

**head_card_number**
is the number of the head card in the affected chain

**28** To test the channelized link, type

**>TST ms_number LINK link_number**

and press the Enter key.

*where*

**ms_number**
is the number of the affected MS (0 or 1)

## MS SBCL
## **minor** (continued)

**link_number**
is the number of the system busy link chosen in step 4

| If the TST command | Do |
|---|---|
| passed | step 32 |
| passed with ISTb, and the system generated a card list | step 29 |
| failed, and the system generated a card list | step 29 |

**29** Determine if you replaced all the cards on the list.

| If you | Do |
|---|---|
| replaced all the cards on the list | step 31 |
| did not replace all the cards on the list | step 30 |

**30** Record the location, description, slot number, PEC, and PEC suffix of the first card on the list that you did not replace.

Go to step 8.

**31** A disconnected or damaged fiber link can be present between the MS and the subtending node (ENET or PM shelf).

**32** To access the Chain level of the MAP display, type

```
>CHAIN  head_card_number
```

and press the Enter key.

*where*

**head_card_number**
is the number of the head card in the affected chain

**33** Determine if other system busy channelized links are present in the chain.

***Note:*** An S under the link number identifies system busy channelized links .

| If other system busy links | Do |
|---|---|
| are present | step 6 |
| are not present | step 34 |

## MS SBCL minor (end)

**34** Determine if the SBCL minor alarm cleared.

| If the alarm | Do |
|---|---|
| cleared | step 37 |
| reduced in number (for example, the alarm changed from 02SBCL to 01SBCL) | step 2 |
| changed to another alarm | step 35 |
| did not clear | step 36 |

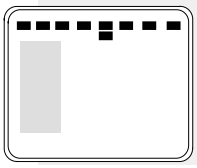
**35** Perform the correct procedure to clear alarms in this document.

**36** For additional help, contact the next level of support.

**37** The procedure is complete.

# MS SbFb major

## Alarm display



```
CM    MS     IOD    Net    PM    CCS    Lns    Trks    Ext    APPL
.  1SbFb  .      .      .      .      .      .      .      .
      M
```

## Indication

At the MTC level of the MAP display, SbFb (preceded by a number) appear under the MS header of the alarm banner. The SbFb indicates an SbFb major alarm.

## Meaning

The system busied a frame transport bus (F-bus).

The number under the MS header in the alarm banner indicates the number of F-buses affected.

This alarm only applies to SuperNode SE. The F-bus interfaces to the message switch (MS) at SuperNode SE. The F-bus does not interface to the local message switch (LMS).

## Result

The condition does not affect service if one F-bus of a pair of F-buses is system busy. All application-specific units that connect to the F-buses become isolated when both F-buses are system busy. Service for the CCS7 terminates when both F-buses are system busy.

## Common procedures

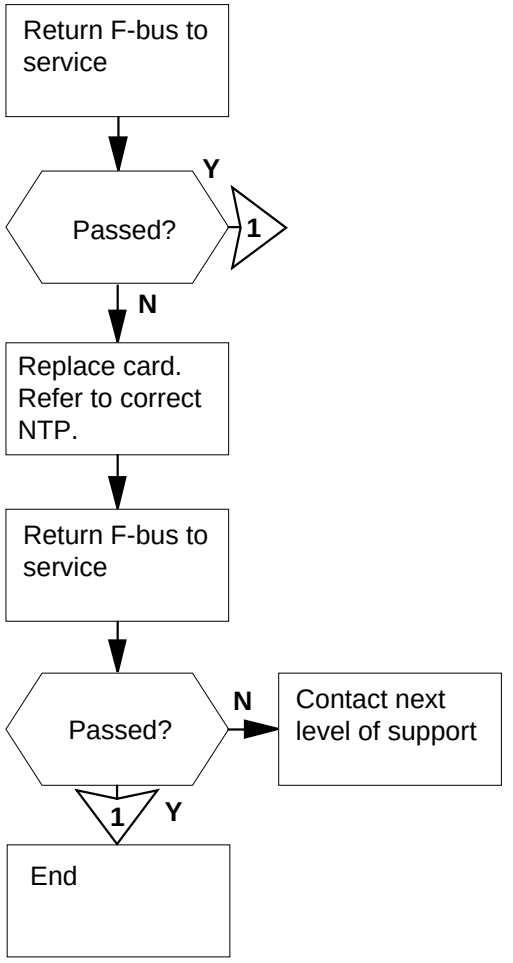
There are no common procedures.

## Action

This procedure contains a summary flowchart and a list of steps. Use the flowchart to review the procedure. Follow the steps to perform the procedure.

# MS SbFb
## major (continued)

**Summary of clearing an MS SbFb major alarm**




This flowchart summarizes the procedure.

Use the instructions that follow this flowchart to perform the procedure.

# MS SbFb
## major (continued)

### Clearing an MS SbFb major alarm

***At your current location***

**1** To access the MS level of the MAP display, type

**>MAPCI;MTC;MS**

and press the Enter key.

*Example of a MAP display:*

```
Message Switch Clock    Shelf 0 Inter–MS Link 0 1
MS 0        .           M Free      F         . .
MS 1        .           Slave       .         . .
```

***Note:*** In the example, the F under the Shelf header indicates that you must proceed in the MAP order. To proceed, access the SHELF level.

**2** Determine if an F appears under the Shelf header of the MAP display.

| If an F | Do |
|---|---|
| appears | step 3 |
| does not appear | step 13 |

**3** To access the F-bus level of the MAP display, type

**>SHELF;CARD 12**

and press the Enter key.

*Example of a MAP display:*

```
                          1 1 1 1
Card  1 2 3 4 5 6 7 8 9 0 1 2 3
Chain           |
MS 0  . . . . . . . . . . F .
MS 1  . . . . . . . . . . . .

Card 12          FBus Tap:  0   11  12      16   20
MS 0  .         S           C   C   CCCC    CCCC CCCC
MS 1  .         .       .   .  ....  .... ....
```

***Note:*** In the example, S under the F-Bus header indicates a system-busy F-bus. A dot (.) indicates an in-service F-bus. Under the F-bus tap numbers (0 to 23), C indicates the F-bus is system busy or manual busy. The letter C can also indicate that the controlling MS or MS port is system busy or manual busy. A dot (.) indicates an in-service tap.

Go to step 4.

**4** Determine the MS that connects to the system-busy F-bus.

***Note:*** In the MAP display example in step 3, the system busy F-bus connects to MS 0.

# MS SbFb
## major (continued)

**5** To manually busy the system busy F-bus, type

**>BSY ms_number FBUS**

and press the Enter key

*where*

**ms_number**
is the number of the MS (0 or 1) that connects to the system busy F-bus

**6** To return the manual busy F-bus to service, type

**>RTS ms_number FBUS**

and press the Enter key.

*where*

**ms_number**
is the number of the MS (0 or 1) that connects to the manual-busy F-bus

| If the RTS command | Do |
|---|---|
| passed | step 11 |
| failed, and the system generates a card list | step 7 |

**7** Record the location, description, slot number, product engineering code (PEC), and PEC suffix of the first card on the list.

**8** To change the card, perform the correct card replacement procedure in *Card Replacement Procedures*. Complete the procedure and return to this point.

**9** To return the manual busy F-bus to service, type

**>RTS ms_number FBUS**

and press the Enter key.

*where:*

**ms_number**
is the number of the MS (0 or 1) that connects to the manual busy F-bus

| If the RTS command | Do |
|---|---|
| passed | step 11 |
| failed, and you did not replace all the cards on the list | step 10 |

## MS SbFb
## **major** (end)

| If the RTS command | Do |
|---|---|
| failed, and you replaced all the cards on the list | step 13 |

**10** Record the location, description, slot number, PEC, and PEC suffix of the next card on the list.

Go to step 8.

**11** Determine if the SbFb major alarm cleared.

| If the alarm | Do |
|---|---|
| cleared | step 14 |
| reduced in number (for example, the alarm changed from 2SbFb to 1SbFb) | step 3 |
| changed to another alarm | step 12 |
| did not clear | step 13 |

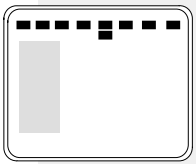
**12** Perform the correct procedure to clear an alarm in this document.

**13** For additional help, contact the next level of support.

**14** The procedure is complete.

# MS SBPT minor

## Alarm display



```
CM     MS     IOD    Net    PM     CCS    Lns    Trks    Ext    APPL
.  01SBPT  .      .      .      .      .      .      .      .
```

## Indication

At the MTC level of the MAP display, SBPT (preceded by a number) appears under the MS header of the alarm banner. The SBPT indicates an SBPT minor alarm.

## Meaning

Faults detected by the system causes the system to remove card ports for the message switch (MS) interface from service. A link that has faults between the port and the subtending node can cause a system-busy port.

A minor alarm for the MS SBPT also appears when the MS detects a babbling device that persists. The MS anticipates and regulates the message within given limits and a number of occurrences. When the message flow reaches the OCCURRENCE limit, the MS SBPT minor alarm appears.

During the regulation period, MS307 logs for ports generate when babbling faults occur. The babbling faults are RAISED or CLEARED. If the port belongs to a chain card, the MS317 log generates.

## Result

A subtending node linked to a system-busy port cannot communicate with the MS that contains the affected port card. An I/O controller is an example of a port. If the port that corresponds on the other MS is out of service, communication with the subtending node ends.

## Common procedures

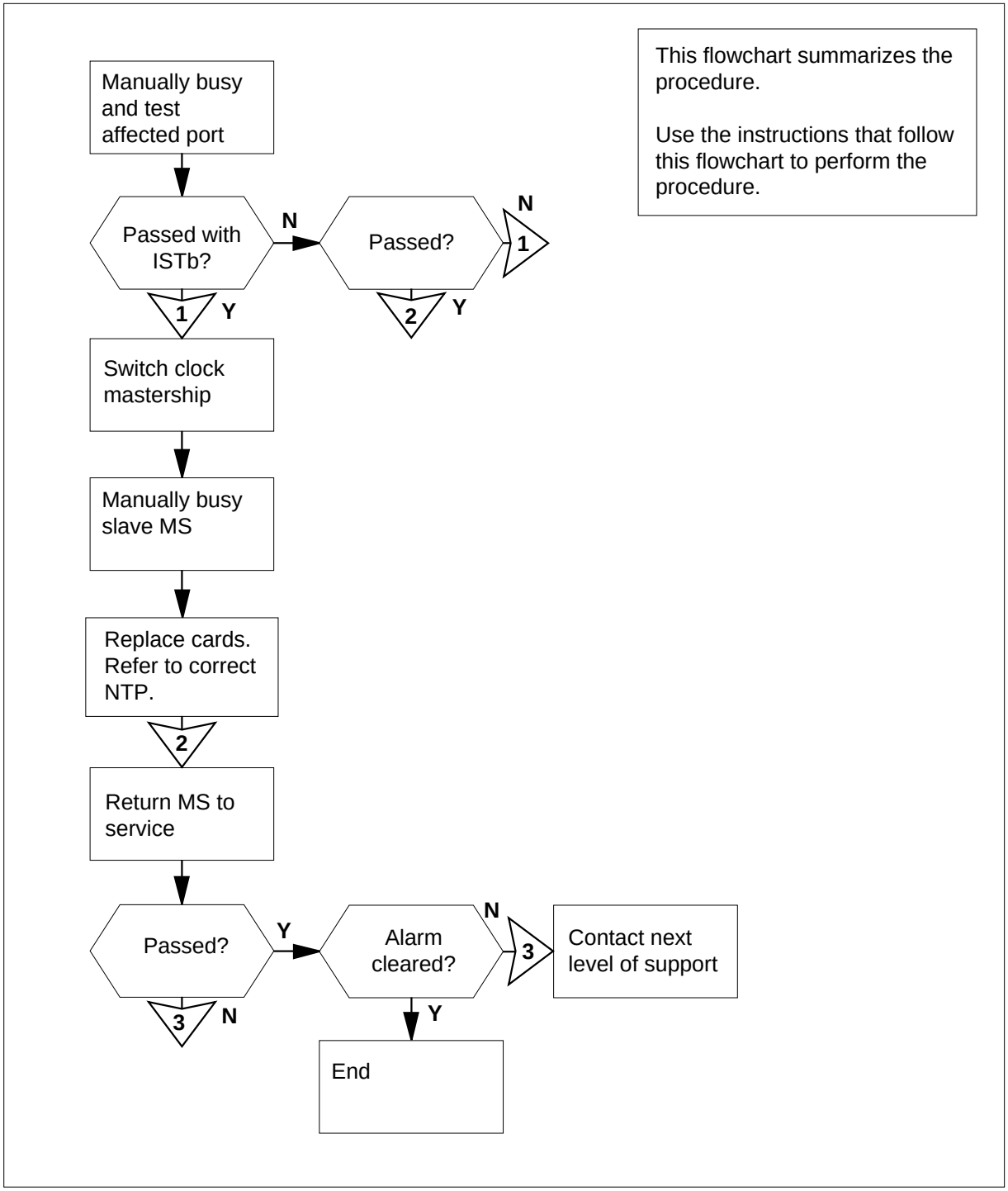
This procedure refers to *Failure to switch clock mastership*.

## Action

This procedure contains a summary flowchart and a list of steps. Use the flowchart to review the procedure. Follow the steps to perform the procedure.

# MS SBPT
## **minor** (continued)

**Summary of clearing an MS SBPT minor alarm**



# MS SBPT
## minor (continued)

### Clearing an MS SBPT minor alarm

***At the MAP terminal***

**1** To access the MS level of the MAP display, type

**>MAPCI;MTC;MS**

and press the Enter key.

*Example of a MAP display:*

```
Message Switch   Clock  Shelf 0  Inter-MS Link 0 1
MS 0        .          M Free     .            R .
MS 1        .          Slave      F            S .
```

**2** To access the Shelf level of the MAP display, type

**>SHELF shelf_number**

and press the Enter key

*where*

**shelf_number**
is the number of the shelf (0 to 3)

***Note:*** For SuperNode SE, do not enter a shelf number.

**3** Record the numbers of the interface cards with system busy ports.

***Note:*** A port of a system busy interface card appears as an F under the Card number on the MAP display.

| If the condition | Do |
|---|---|
| affects one card | step 5 |
| affects more than one card | step 4 |

**4** Select a card to work on.

***Note:*** If system busy ports are present on both MSs, work on the slave MS first. In the examples in steps 1 and 2, the card with a system busy port is on the master MS (MS 0).

**5** To access the Card level of the MAP display, type

**>CARD card_number**

and press the Enter key

*where*

**card_number**
is the number of the card with the system busy port recorded in step 3

*Example of a MAP display for SuperNode:*

# MS SBPT
## minor (continued)

```
Card 04  CMIC Interface Card    Port: 0 1
MS 0           I                      . S
MS 1           I                      . .
```

*Example of a MAP display for SuperNode SE:*

```
Card 09  Protocol       Port: 0-----3
MS 0  . DS30              4   . . S .
MS 1  . DS30              4   . . . .
```

**6** Select a system busy port to work on.

***Note:*** An S under the port number indicates a system-busy port.

**7** To manually busy the system busy port, type

**`>BSY ms_number PORT port_number`**

and press the Enter key

*where*

**ms_number**
is the number of the MS (0 or 1) that contains the affected card

**port_number**
is the number of the port (0 to 127)

*Example of a MAP display:*

```
Request to MAN BUSY MS:0 shelf:0 card:4 port:2 submitted.
Request to MAN BUSY MS:0 shelf:0 card:4 port:2 passed.
```

***Note:*** For a manually busied system busy port, the alarm changes from SBPT to MBPT.

**8** To test the manual busy port, type

**`>TST ms_number PORT port_number`**

and press the Enter key

*where*

**ms_number**
is the number of the MS (0 or 1) that contains the affected card

**port_number**
is the number of the manual busy port (0 to 127)

*Example of a MAP display:*

```
Request to TEST MS:0 shelf:0 card:4 port:2 submitted.
Request to TEST MS:0 shelf:0 card:4 port:2 passed.
```

| If the TST command | Do |
|---|---|
| passed | step 24 |

## MS SBPT
## minor (continued)

| If the TST command | Do |
|---|---|
| passed with ISTb, and the system generated a card list | step 9 |
| failed, and the system generated a card list | step 9 |
| is other than listed here | step 30 |

**9** Record the location, description, slot number, product engineering code (PEC), and PEC suffix of the first card on the list.

**10** To access the MS level of the MAP display, type

**>MS**

and press the Enter key

*Example of a MAP display:*

```
Message Switch   Clock  Shelf 0  Inter-MS Link 0 1
MS 0        .          M Free     F             . .
MS 1        .          Slave      .             . .
```

**11** Determine the clocking configuration.

***Note:*** The clocking configuration appears under the Clock header at the MS level of the MAP display.

| If the MS that contains the card that you must replace | Do |
|---|---|
| is the slave MS, shown as Slave under the Clock header | step 15 |
| is the master MS, shown as Master or M Free under the Clock header | step 12 |

**12** To switch clock mastership, type

**>SWMAST**

and press the Enter key

*Example of a MAP display:*

## MS SBPT
## **minor** (continued)

```
Request to Switch Clock Mastership MS: 0 submitted.
Request to Switch Clock Mastership MS: 0 passed.
```

| If the SWMAST command | Do |
|---|---|
| passed | step 14 |
| failed | step 13 |

**13** Perform the procedure *Failure to switch clock mastership* in this document. Complete the procedure and return to this point.

**14** Wait 10 min to make sure MS has stability. Continue this procedure.

**15** Manually busy the MS that contains the card that you must replace. To manually busy the MS, type

**>BSY ms_number**

and press the Enter key.

*where*

**ms_number**
is the number of the MS (0 or 1) that contains the card that you must replace

*Example of a MAP display:*

```
Request to MAN BUSY MS: 0 submitted.
Request to MAN BUSY MS: 0 passed.
```

| If the response | Do |
|---|---|
| is `Request to MAN BUSY MS: 0 passed` | step 16 |
| is `Request to MAN BUSY MS: 1 passed` | step 16 |
| is other than listed here | step 30 |

**16** Perform the correct card replacement procedure in *Card Replacement Procedures* in this document. Complete the procedure and return to this point.

**17** To perform an out-of-service test on the manual busy MS, type

**>TST ms_number**

and press the Enter key.

*where*

## MS SBPT
## minor (continued)

**ms_number**
is the number of the manual busy MS (0 or 1)

| If the TST command | Do |
|---|---|
| passed | step 21 |
| passed with ISTb, and the system generated a card list | step 18 |
| passed with ISTb, and you replaced all the cards on the list | step 30 |
| failed, and the system generated a card list | step 19 |
| is other than listed here | step 30 |

**18** Record the location, description, slot number, PEC, and PEC suffix of the next card on the list.

Go to step 16.

**19** Determine if you replaced all the cards on the list.

| If you | Do |
|---|---|
| replaced all the cards on the list | step 30 |
| did not replace all the cards on the list | step 20 |

**20** Record the location, description, slot number, PEC, and PEC suffix of the first card on the list that you did not replace.

Go to step 16.

**21** To return the manual busy MS to service, type

```
>RTS  ms_number
```

and press the Enter key.

*where*

**ms_number**
is the number of the manual busy MS (0 or 1)

*Example of a MAP display:*

## MS SBPT
## **minor** (continued)

```
Request to RTS MS: 0 submitted.
Request to RTS MS: 0 passed.
```

| If the RTS command | Do |
|---|---|
| passed | step 22 |
| failed | step 30 |

**22** To access the Shelf level of the MAP display, type

**>SHELF shelf_number**

and press the Enter key.

*where*

**shelf_number**
is the number of the shelf (0 to 3)

***Note:*** For SuperNode SE, do not enter a shelf number.

**23** To access the Card level of the MAP display for the affected card, type

**>CARD card_number**

and press the Enter key

*where*

**card_number**
is the number of the affected card (5 to 10)

*Example of a MAP display for Dms supernode:*

```
Card 04  CMIC Interface CArd    Port: 0 1
MS 0           I                      . M
MS 1           I                      . .
```

*Example of a MAP display for Dms supernode superNode SE:*

```
Card 09  Protocol       Port: 0-----3
MS 0  . DS30              4   . . M .
MS 1  . DS30              4   . . . .
```

**24** To return the manual busy port to service, type

**>RTS ms_number PORT port_number**

and press the Enter key.

*where*

**ms_number**
is the number of the MS (0 or 1) that contains the affected card

**port_number**
is the number of the manual busy port (0 to 127)

# MS SBPT minor (end)

*Example of a MAP display:*

```
Request to RTS MS:0 shelf:0 card:4 port 2 submitted.
Request to RTS MS:0 shelf:0 card:4 port 2 passed.
```

| If the RTS command | Do |
|---|---|
| passed | step 25 |
| failed | step 30 |

**25** Determine if other system busy ports are present on the card.

***Note:*** The state of the port appears under the Port number of the MAP display. In the example in step 23, port 2 is system busy.

| If other system busy ports | Do |
|---|---|
| are present | step 3 |
| are not present | step 26 |

**26** Determine if more cards are present on the list recorded at step 3.

| If other cards | Do |
|---|---|
| are present | step 4 |
| are not present | step 27 |

**27** Determine if the SBPT minor alarm cleared.

| If the alarm | Do |
|---|---|
| cleared | step 31 |
| changed to another alarm | step 28 |
| reduced in number (for example, the alarm changed from 02SBPT to 01SBPT) | step 2 |
| did not clear | step 29 |

**28** Perform the correct procedure in this document to clear an alarm.

**29** A link that has faults is present between the port and the subtending node.

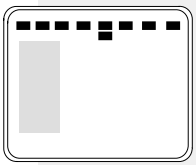
Go to step 30.

**30** For additional help, contact the next level of support.

**31** The procedure is complete.

# MS SbTp major

## Alarm display



| CM | MS | IOD | Net | PM | CCS | Lns | Trks | Ext | APPL |
|---|---|---|---|---|---|---|---|---|---|
| . | **1SbTp M** | . | . | . | . | . | . | . | . |

## Indication

At the MTC level of the MAP display, SbTp (preceded by a number) appear under the MS header of the alarm banner. The SbTp indicates an SbTp major alarm.

## Meaning

The system busied a tap on a frame transport bus (F-bus).

The number under the MS header in the alarm banner indicates the number of F-bus taps affected.

This alarm only applies to SuperNode SE. The F-bus interfaces directly to the message switch (MS) at SuperNode SE, not the local message switch (LMS).

## Result

The SbTp alarm does not affect subscriber service unless two taps are out of service. The taps connect the application-specific unit (ASU) to a pair of F-buses. The affected ASU is isolated from the system and CCS7 performance can degrade.

## Common procedures

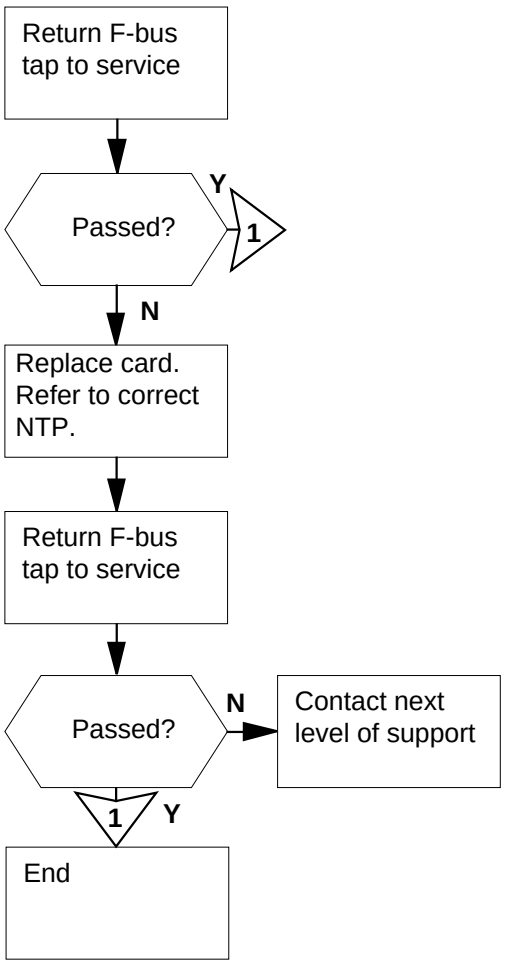
There are no common procedures.

## Action

This procedure contains a summary flowchart and a list of steps. Use the flowchart to review the procedure. Follow the steps to perform the procedure.

# MS SbTp
## major (continued)

**Summary of clearing an MS SbTp major alarm**




This flowchart summarizes the procedure.

Use the instructions that follow this flowchart to perform the procedure.

# MS SbTp
## major (continued)

### Clearing an MS SbTp major alarm

***At the MAP terminal***

**1** To access the MS level of the MAP display, type

**`>MAPCI;MTC;MS`**

and press the Enter key.

*Example of a MAP display:*

```
    Message Switch Clock    Shelf 0 Inter–MS Link 0 1
MS 0    .           M Free    F                   . .
MS 1    .           Slave     .                   . .
```

***Note:*** In the example, F under the Shelf header indicates that you must proceed in the MAP order. To proceed, access the SHELF level.

**2** Determine if an F appears under the Shelf header of the MAP display.

| If an F | Do |
|---|---|
| appears | step 3 |
| does not appear | step 14 |

**3** To access the F-bus level of the MAP display, type

**`>SHELF;CARD  12`**

and press the Enter key.

*Example of a MAP display:*

```
                          1 1 1 1
Card  1 2 3 4 5 6 7 8 9 0 1 2 3
Chain           |
MS 0  . . . . . . – . . . . F .
MS 1  . . . . . . – . . . . . .

Card 12          FBus Tap:  0   11  12   16   20
MS 0  .             .       .   S   .... .... ....
MS 1  .             .       .   .   .... .... ....
```

***Note:*** In the example, (.) under the F-Bus header indicates an in-service F-bus. Under the F-bus tap numbers (0 to 23), S indicates the tap of the F-bus is system busy. Under the F-bus tap numbers, (.) indicates an in-service tap.

Go to step 4.

**4** Determine which MS controls the F-bus that contains the system busy tap.

***Note:*** The MS 0 controls F-bus 0 and MS 1 controls F-bus 1. In the MAP example in step 3, tap 11 on F-bus 0 is system busy.

## MS SbTp
## **major** (continued)

**5** Determine the number of the system busy tap.

***Note:*** In the MAP display example in step 3, an S under the tap number indicates the system busy tap.

**6** To manually busy the system busy tap of the F-bus, type

**`>BSY ms_number TAP tap_number`**

and press the Enter key.

*where*

**ms_number**
is the number of the MS (0 or 1) that connects to the system busy tap

**tap_number**
is the number of the system busy tap of the F-bus (0 to 23)

**7** To return the manual busy tap of the F-bus to service, type

**`>RTS ms_number TAP tap_number`**

and press the Enter key.

*where*

**ms_number**
is the number of the MS (0 or 1) that connects to the manual busy tap

**tap_number**
is the number of the manual busy tap of the F-bus (0 to 23)

| If the RTS command | Do |
|---|---|
| passed | step 12 |
| failed, and the system generated a card list | step 8 |

**8** Record the location, description, slot number, product engineering code (PEC), and PEC suffix of the first card on the list.

**9** To change the card, perform the correct card replacement procedure in *Card Replacement Procedures*. Complete the procedure and return to this point.

**10** To return the manual busy tap of the F-bus to service, type

**`>RTS ms_number TAP tap_number`**

and press the Enter key.

*where*

**ms_number**
is the number of the MS (0 or 1) that connects to the manual busy tap

# MS SbTp
# major (end)

**tap_number**
is the number of the manual busy tap of the F-bus (0 to 23)

| If the RTS command | Do |
|---|---|
| passed | step 12 |
| failed, and you did not replace all the cards on the list | step 11 |
| failed, and you replaced all the cards on the list | step 14 |

**11** Record the location, description, slot number, PEC, and PEC suffix of the next card on the list.

Go to step 9.

**12** Determine if the SbTp major alarm cleared.

| If the alarm | Do |
|---|---|
| cleared | step 15 |
| reduced in number (for example, the alarm changed from 2SbTp to 1SbTp) | step 3 |
| changed to another alarm | step 3 |
| did not clear | step 14 |

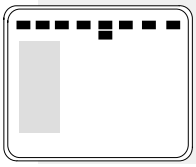
**13** To clear an alarm, perform the correct procedure in this document.

**14** For additional help, contact the next level of support.

**15** The procedure is complete.

# MS SPAN minor

## Alarm display



```
CM    MS     IOD    Net    PM    CCS    Lns    Trks    Ext    APPL
.   SPAN     .      .      .     .      .      .       .      .
```

## Indication

At the MTC level of the MAP display, SPAN appears under the MS header of the alarm banner. The SPAN indicates a SPAN minor alarm.

## Meaning

One of the two timing links does not sample, but that link is still in service.

## Result

There is no effect on service. System clocking locks to the other link.

## Common procedures

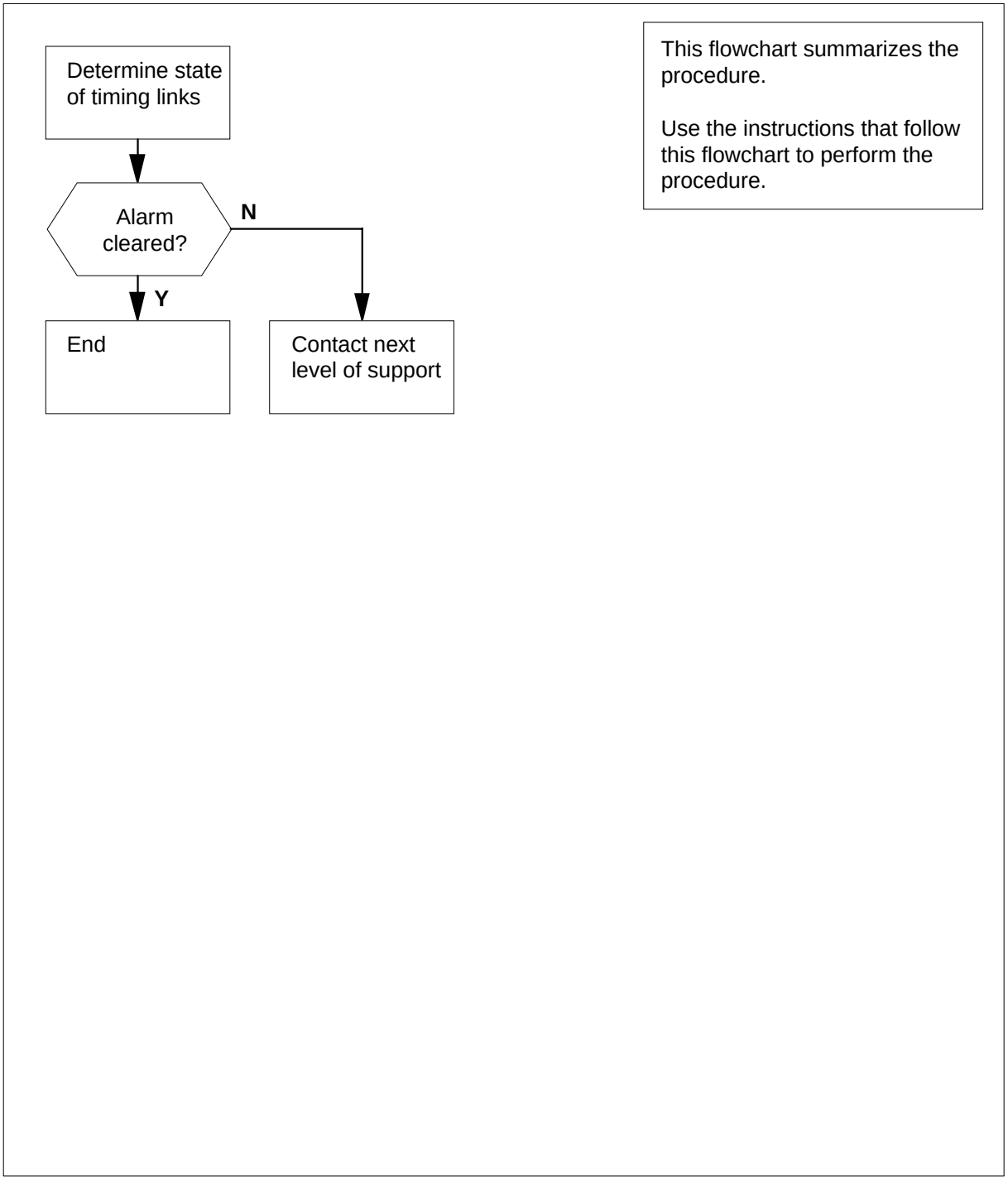
There are no common procedures.

## Action

This procedure contains a summary flowchart and a list of steps. Use the flowchart to review the procedure. Follow the steps to perform the procedure.

# MS SPAN
## **minor** (continued)

**Summary of clearing an MS SPAN minor alarm**



# MS SPAN
## minor (continued)

### Clearing an MS SPAN minor alarm

***At the MAP terminal***

**1** To access the Clock level of the MAP display, type

**>MAPCI;MTC;MS;CLOCK**

and press the Enter key.

*Example of a MAP display:*

```
Card 02 Alm Stat %Adj  Src| Car Stat Sp PM      CCT
MS 0  .  .  Syn  +00.7 Lk0| Lk0 I    0  DTC 002  02
MS 1  .  .  Syn  +01.3 Ms0| Lk1 Smp  0  DTC 001  02
Links Slipping:     4 out of 10276
```

**2** Determine the state of the timing links.

***Note:*** The state of the timing links appears under the Car Stat header of the MAP.

| If the state of the links | Do |
|---|---|
| is I (idle) | step 3 |
| is M (manual busy), S (system busy), or O (offline) | step 4 |
| is other than listed here | step 7 |

**3** Bad samples occur on one of the timing links. Wait 10 min. Determine if the SPAN alarm cleared.

| If the alarm | Do |
|---|---|
| cleared | step 8 |
| changed to the CLOCK major alarm | step 5 |
| changed to another alarm | step 6 |
| did not clear | step 4 |
| turns ON and OFF at intervals (in minutes) | step 7 |

**4** Determine if an alarm appears under the TRKS header on the alarm banner.

| If an alarm | Do |
|---|---|
| appears | step 6 |

## MS SPAN
## **minor** (end)

| If an alarm | Do |
|---|---|
| does not appear | step 7 |

**5** Perform the procedure in this document *Clearing an MS CLOCK major alarm*.

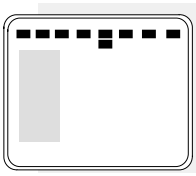
**6** Perform the correct procedure in this document to clear alarms.

**7** For additional help, contact the next level of support.

**8** The procedure is complete.

# MS SysB major

## Alarm display



```
CM    MS     IOD    Net    PM    CCS    Lns    Trks    Ext    APPL
.   SysB     .      .      .     .      .      .       .
      M
```

## Indication

At the MTC level of the MAP display, SysB appears under the MS header of the alarm banner. The SysB indicates a SysB major alarm.

## Meaning

The SysB is a major alarm. A fault detected by the system causes the system to automatically remove a message switch (MS) from service. The in-service MS that remains will carry the full message load.

## Result

There is no immediate affect on service. If a failure occurs in the MS that remains, the result is the loss of all service.

## Common procedures

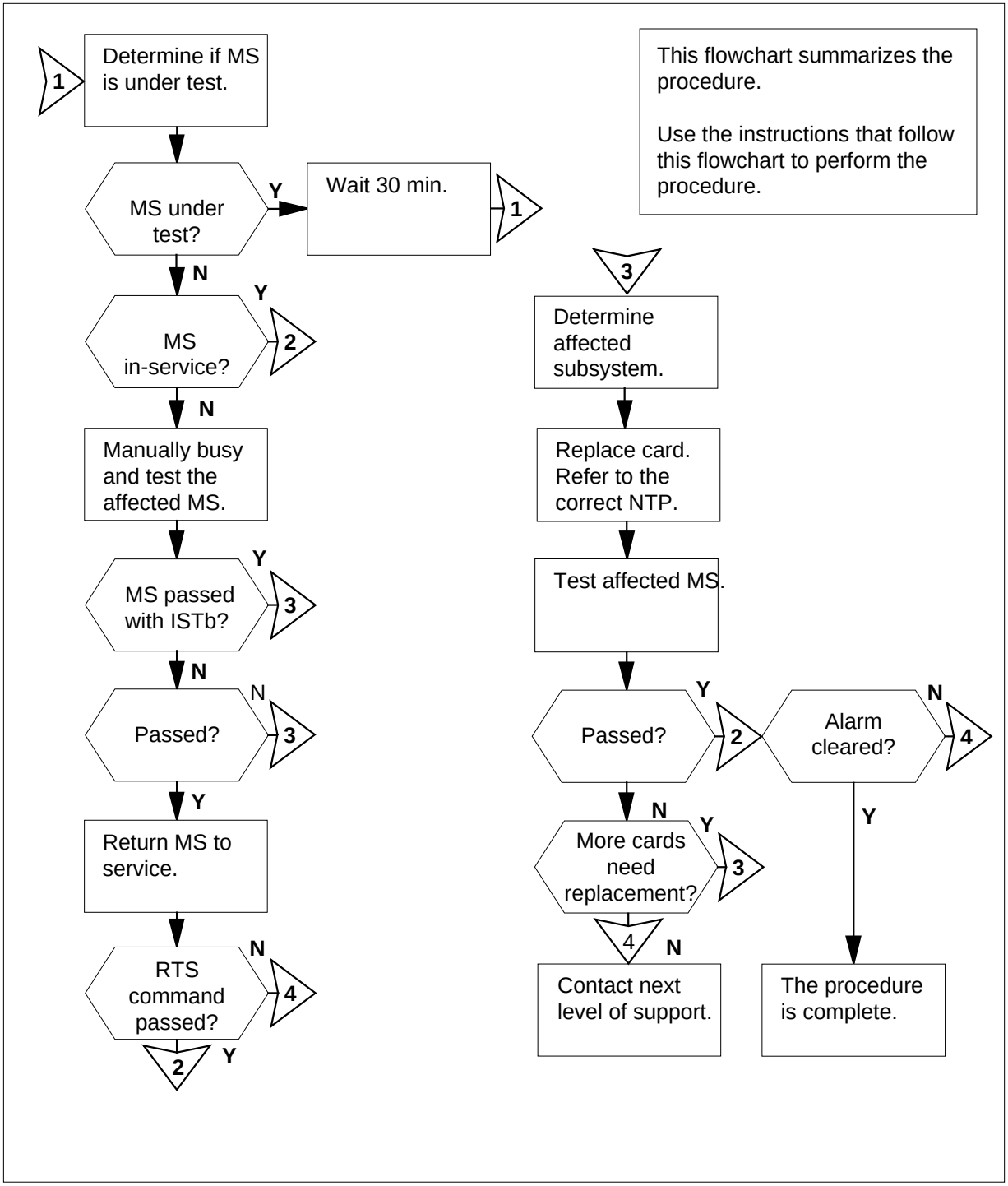
There are no common procedures.

## Action

This procedure contains a summary flowchart and a list of steps. Use the flowchart to review the procedure. Follow the steps to perform the procedure.

# MS SysB
# major (continued)

**Summary of clearing an MS SysB major alarm**



# MS SysB
## major (continued)

### Clearing an MS SysB major alarm

***At the MAP terminal***

**1** To access the MS level of the MAP display, type

**>MAPCI;MTC;MS**

and press the Enter key.

**2** Determine if the MS, that indicates the SysB alarm, is under test or system busy.

*Example of a MAP display:*

```
Message Switch  Clock   Shelf   0   Inter-MS Link 0 1
MS 0        S   Slave       .                   . .
MS 1        .   Master      .                   . .
```

***Note:*** The letter T under the Message Switch header means that the MS is under test. An S under the Message Switch header means that the MS is system busy.

| If the state of the MS | Do |
|---|---|
| is under test (T) | step 3 |
| is system busy (S) | step 4 |

**3** Wait 30 min to determine if the MS recovers.

| If the MS | Do |
|---|---|
| is in-service (.) | step 42 |
| is T | step 44 |
| is S | step 4 |

**4** To manually busy the system busy MS, type

**>BSY ms_number**

and press the Enter key.

*where*

**ms_number**
is the number of the system busy MS (0 or 1)

| If the response | Do |
|---|---|
| is Request to MAN BUSY MS:0 passed | step 5 |

## MS SysB
## **major** (continued)

| If the response | Do |
|---|---|
| is Request to MAN BUSY MS:1 passed | step 5 |
| is other than listed here | step 44 |

**5** To test the manual busy MS through the mate, type

**`>TST ms_number VIAMATE`**

and press the Enter key.

*where*

**ms_number**
is the number of the manual busy MS (0 or 1)

*Example of a MAP response:*

```
Request to TEST VIA MATE MS:1 passed.
No node faults were found on MS:1.
No cards were found to be faulty on MS:1
Request to TEST VIA MATE MS:1 submitted.
```

| If | Do |
|---|---|
| load problems are present | step 15 |
| the test passes | step 27 |
| the test passes with `ISTb` and the system generates a card list | step 6 |
| the test fails, and the system generates a card list | step 6 |
| is other than listed here | step 44 |

**6** Record the location, description, slot number, product engineering code (PEC), and PEC suffix of the first card on the list.

**7** Determine the subsystem that contains the card that you must replace.

| If the card | Do |
|---|---|
| is in the MS subsystem | step 8 |
| is in the ENET subsystem | step 13 |
| is in the JNET subsystem | step 13 |

**8** Perform the correct procedure in *Card Replacement Procedures* in this document. Complete the procedure and return to this point.

## MS SysB
## **major** (continued)

**9** To perform an out-of-service test on the manual busy MS, type

**>TST ms_number**

and press the Enter key.

*where*

**ms_number**
is the number of the manual busy MS (0 or 1)

*Example of a MAP response:*

```
Request to TEST OOS MS: 0 passed.
Request to TEST OOS MS: 0 submitted.
No node faults were found on MS 0.
```

| If the TST command | Do |
|---|---|
| passes | step 27 |
| passes with ISTb and the system generates a card list | step 12 |
| passes with ISTb and you replace all the cards on the list | step 44 |
| fails, and the system generates a card list | step 10 |
| is other than listed here | step 44 |

**10** Determine if you replaced all the cards on the list.

| If you | Do |
|---|---|
| replaced all the cards on the list | step 44 |
| did not replace all the cards on the list | step 11 |

**11** Record the location, description, slot number, PEC, and PEC suffix of the first card that you did not replace.

Go to step 7.

**12** Record the location, PEC, and PEC suffix of the next card on the list.

Go to step 7.

**13** Perform the correct procedure in *Card Replacement Procedures* in this document. Complete the procedure and return to this point.

**14** To access the MS level of the MAP display, type

**>MS**

## MS SysB
## major (continued)

and press the Enter key.

Go to step 9.

**15** To test the firmware of the manual busy MS, type

**>TST ms_number FW**

and press the Enter key.

*where*

**ms_number**
is the number of the manual busy MS (0 or 1)

*Example of MAP response:*

```
Request to Test FIRMWARE MS: 1 submitted.
Request to Test FIRMWARE MS: 1 passed.
No node faults found on MS 1.
No cards found to be faulty on MS:1
```

| If the TST command | Do |
|---|---|
| passes | step 16 |
| fails | step 44 |

**16** To reload the latest MS image file, type

**>LOADMS ms_number**

and press the Enter key.

*where*

**ms_number**
is the number of the manual busy MS (0 or 1)

*Example of a MAP response:*

```
Request to Load MS:0 submitted.
Request to Load MS:0 passed.
Loading completed, entry point is #06045FCO
```

| If the LOADMS command | Do |
|---|---|
| passes | step 17 |
| fails | step 44 |

**17** To test the manual busy MS through the mate to determine if load problems are present, type

**>TST ms_number VIAMATE**

and press the Enter key.

*where*

## MS SysB
## major (continued)

**ms_number**
is the number of the manual busy MS (0 or 1)

*Example of a MAP response:*

```
Request to TEST VIA MATE MS:1 submitted.
Request to TEST VIA MATE MS:1 passed.
No node faults were found on MS:1.
No cards were found to be faulty on MS:1
```

| If | Do |
|---|---|
| load problems are present | step 44 |
| the test passes | step 27 |
| the test passes with ISTb or fails, and the system generates a card list | step 18 |
| is other than listed here | step 44 |

**18** Record the location, description, slot number, PEC, and PEC suffix of the first card on the list.

**19** Determine the subsystem that conains the card that you must replace.

| If the card | Do |
|---|---|
| is in the MS subsystem | step 20 |
| is in the ENET subsystem | step 25 |
| is in the JNET subsystem | step 25 |

**20** Perform the correct procedure in *Card Replacement Procedures* in this document. Complete the procedure and return to this point.

**21** To perform an out-of-service test on the manual busy MS, type

**>TST ms_number**

and press the Enter key.

*where*

**ms_number**
is the number of the manual busy MS (0 or 1)

*Example of a MAP response:*

## MS SysB
## **major** (continued)

```
Request to TEST OOS MS:0 submitted.
Request to TEST OOS MS:0 passed.
No node faults were found on MS 0.
```

| If the TST command | Do |
|---|---|
| passes | step 27 |
| passes with ISTb and the system generates a card list | step 24 |
| passes with ISTb and you replaced all cards on the list | step 44 |
| fails, and the system generated a card list | step 22 |
| is other than listed here | step 44 |

**22** Determine if you replaced all the cards on the list.

| If you | Do |
|---|---|
| replaced all the cards on the list | step 44 |
| did not replace all the cards on the list | step 23 |

**23** Record the location, description, slot number, PEC, and PEC suffix of the first listed card that you did not replace.

Go to step 19.

**24** Record the location, description, slot number, PEC, and PEC suffix of the next card on the list.

Go to step 19.

**25** Perform the correct procedure in *Card Replacement Procedures* in this document. Complete the procedure and return to this point.

**26** To access the MS level of the MAP display, type

**>MS**

and press the Enter key.

Go to step 21.

**27** Use the out-of-band channel to return the manual busy MS to service. To return the manual busy MS to service, type

**>RTS ms_number OOBAND**

and press the Enter key.

# MS SysB
## major (continued)

*where*

**ms_number**
is the number of the manual busy MS (0 or 1)

*Example of a MAP response:*

```
Request to RTS MS:0 submitted.
Request to RTS MS:0 passed.
```

| If the RTS command | Do |
|---|---|
| passes | step 28 |
| fails | step 44 |

**28** Determine if the SysB alarm cleared.

| If the alarm | Do |
|---|---|
| cleared | step 45 |
| changed to another alarm | step 43 |
| did not clear | step 29 |

**29** Determine which MS is system busy.

*Example of a MAP display:*

```
Message Switch  Clock   Shelf   0   Inter-MS Link 0 1
MS 0        S   Slave       .                   . .
MS 1        .   Master      .                   . .
```

***Note:*** An S under the message switch header indicates the system busy MS.

**30** To manually busy the system busy MS, type

**>BSY ms_number**

and press the Enter key.

*where*

**ms_number**
is the number of the system busy MS (0 or 1)

| If the response | Do |
|---|---|
| is Request to MAN BUSY MS:0 passed | step 31 |

## MS SysB
## major (continued)

| If the response | Do |
|---|---|
| is Request to MAN BUSY MS:1 passed | step 31 |
| is other than listed here | step 44 |

**31**

**WARNING**
**Possible service degradation**
A REx test can take a maximum of 30 min. Start REx tests during periods of low traffic to avoid service decline. Check with operating company personnel to make sure that a REx test can run at this time.

To run a routine exercise test on the manual busy MS, type

**>TST ms_number REX**

and press the Enter key.

*where*

**ms_number**
is the number of the manual busy MS (0 or 1)

| If the REx test | Do |
|---|---|
| passes | step 41 |
| passes with `ISTb` and entry or load problems are present | step 44 |
| passes with `ISTb` and the system generates a card list | step 32 |
| fails, and the system generates a card list | step 32 |
| is other than listed here | step 44 |

**32** Record the location, description, slot number, PEC, and PEC suffix of the first card on the list.

**33** Determine the subsystem that contains the card that you must replace.

| If the card | Do |
|---|---|
| is in the MS subsystem | step 34 |

## MS SysB
## major (continued)

| If the card | Do |
|---|---|
| is in the ENET subsystem | step 39 |
| is in the JNET subsystem | step 39 |

**34** Perform the correct procedure in *Card Replacement Procedures* in this document. Complete the procedure and return to this point.

**35** To perform an out-of-service test on the manual busy MS, type

**`>TST ms_number`**

and press the Enter key.

*where*

**ms_number**
is the number of the manual busy MS (0 or 1)

*Example of a MAP response:*

```
Request to TEST OOS MS:0 submitted.
Request to TEST OOS MS:0 passed.
No node faults were found on MS 0.
```

| If the TST command | Do |
|---|---|
| passed | step 41 |
| passed with `ISTb` and the system generated a card list | step 38 |
| passes with `ISTb` and you replaced all the cards on the list | step 44 |
| passes with `ISTb` and the system generated a card list | step 36 |
| is other than listed here | step 44 |

**36** Determine if you replaced all the cards on the list.

| If you | Do |
|---|---|
| replaced all the cards on the list | step 44 |
| did not replace all the cards on the list | step 37 |

**37** Record the location, description, slot number, PEC, and PEC suffix of the first listed card that you did not replace.

Go to step 33.

# MS SysB
# major (end)

**38** Record the location, description, slot number, PEC, and PEC suffix of the next card on the list.

Go to step 33.

**39** Perform the correct procedure in *Card Replacement Procedures* in this document. Complete the procedure and return to this point.

**40** To access the MS level of the MAP display, type

```
>MS
```

and press the Enter key.

Go to step 35.

**41** To return the manual busy MS to service use the out-of-band channel. To return the manual busy MS to service, type

```
>RTS  ms_number  OOBAND
```

and press the Enter key.

*where*

**ms_number**
is the number of the manual busy MS (0 or 1)

*Example of a MAP response:*

```
Request to RTS MS:0 submitted.
```

| If the RTS command | Do |
|---|---|
| passed | step 42 |
| failed | step 44 |

**42** Determine if the SysB major alarm cleared.

| If the alarm | Do |
|---|---|
| cleared | step 45 |
| changed to another alarm | step 43 |
| did not clear | step 44 |

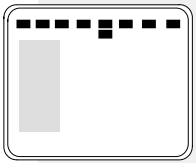
**43** To clear alarms, perform the correct procedure in this document

**44** For additional help, contact the next level of support.

**45** The procedure is complete.

# MS TRIstb minor

## Alarm display



| CM | **MS** | IOD | Net | PM | CCS | Lns | Trks | Ext | APPL |
|---|---|---|---|---|---|---|---|---|---|
| . | **TRIstb** | . | . | . | . | . | . | . | . |

## Indication

At the MTC level of the MAP display, TRIstb appears under the MS header of the alarm banner. The TRIstb indicates a minor alarm for T-bus routing.

## Meaning

The thresholds are exceeded for mapper unable to map (MUMP).

## Result

Loss of messages can occur.

## Common procedures

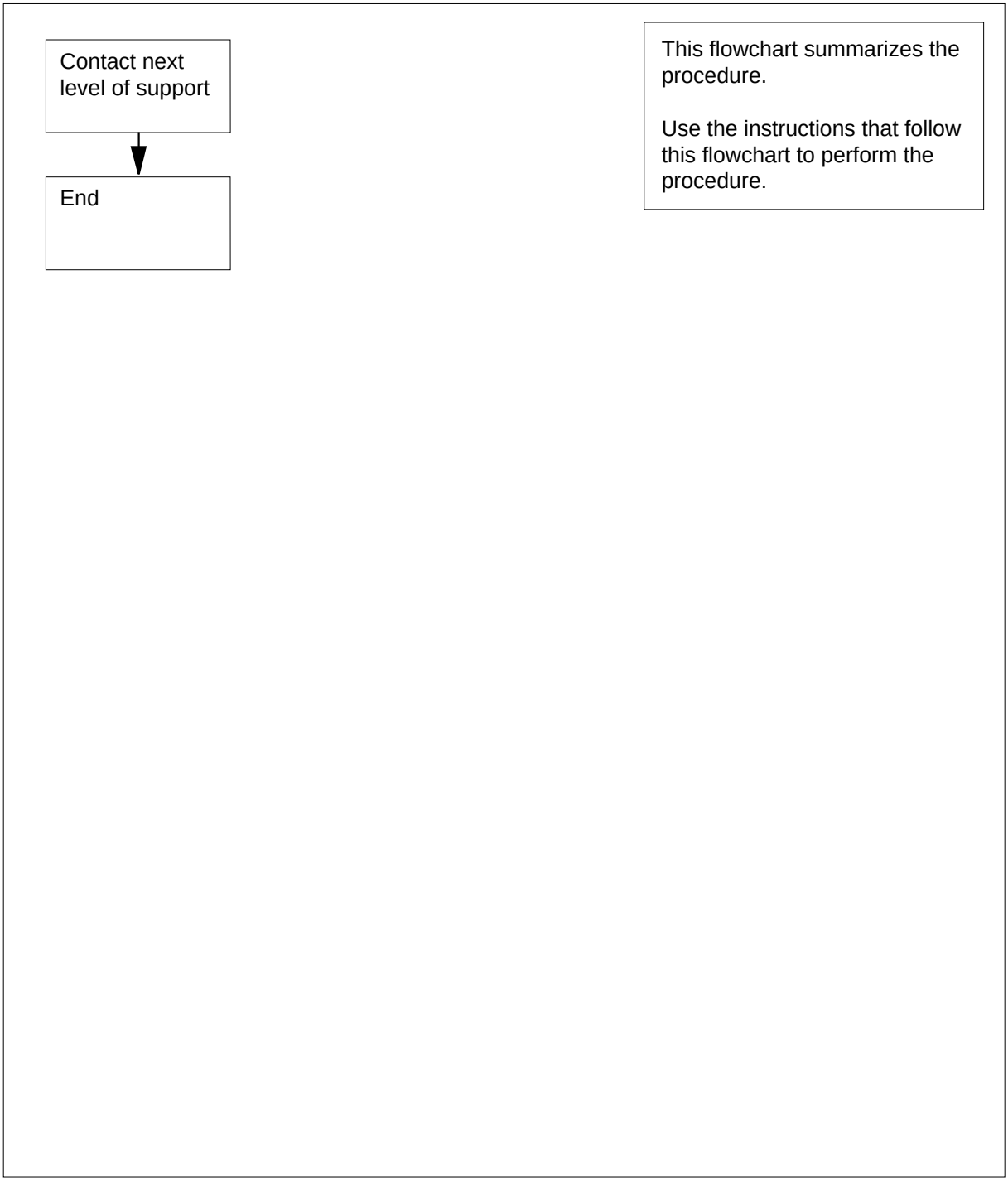
There are no common procedures.

## Action

This procedure contains a summary flowchart and a list of steps. Use the flowchart to review the procedure. Follow the steps to perform the procedure.

# MS TRIstb
# minor (continued)

**Summary of clearing an MS TRIstb minor alarm**



# MS TRIstb minor (end)

**How to clear an MS TRIstb minor alarm**

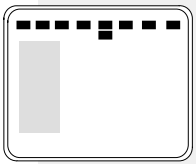
***At your current location***

**1** Contact the next level of support.

**2** The procedure is complete.

# MS TROOS
# major

## Alarm display



| CM | MS | IOD | Net | PM | CCS | Lns | Trks | Ext | APPL |
|---|---|---|---|---|---|---|---|---|---|
| . | TROOS M | . | . | . | . | . | . | . | . |

## Indication

At the MTC level of the MAP display, TROOS appears under the MS header of the alarm banner. The TROOS indicates a major alarm for T-bus routing.

## Meaning

The thresholds are exceeded for mapper unable to map (MUMP).

## Result

If the MS that remains is in-service, the affected MS is automatically out of service and a restart occurs. If the MS that remains is already out of service, the affected MS remains in service and loss of messages occurs.

## Common procedures

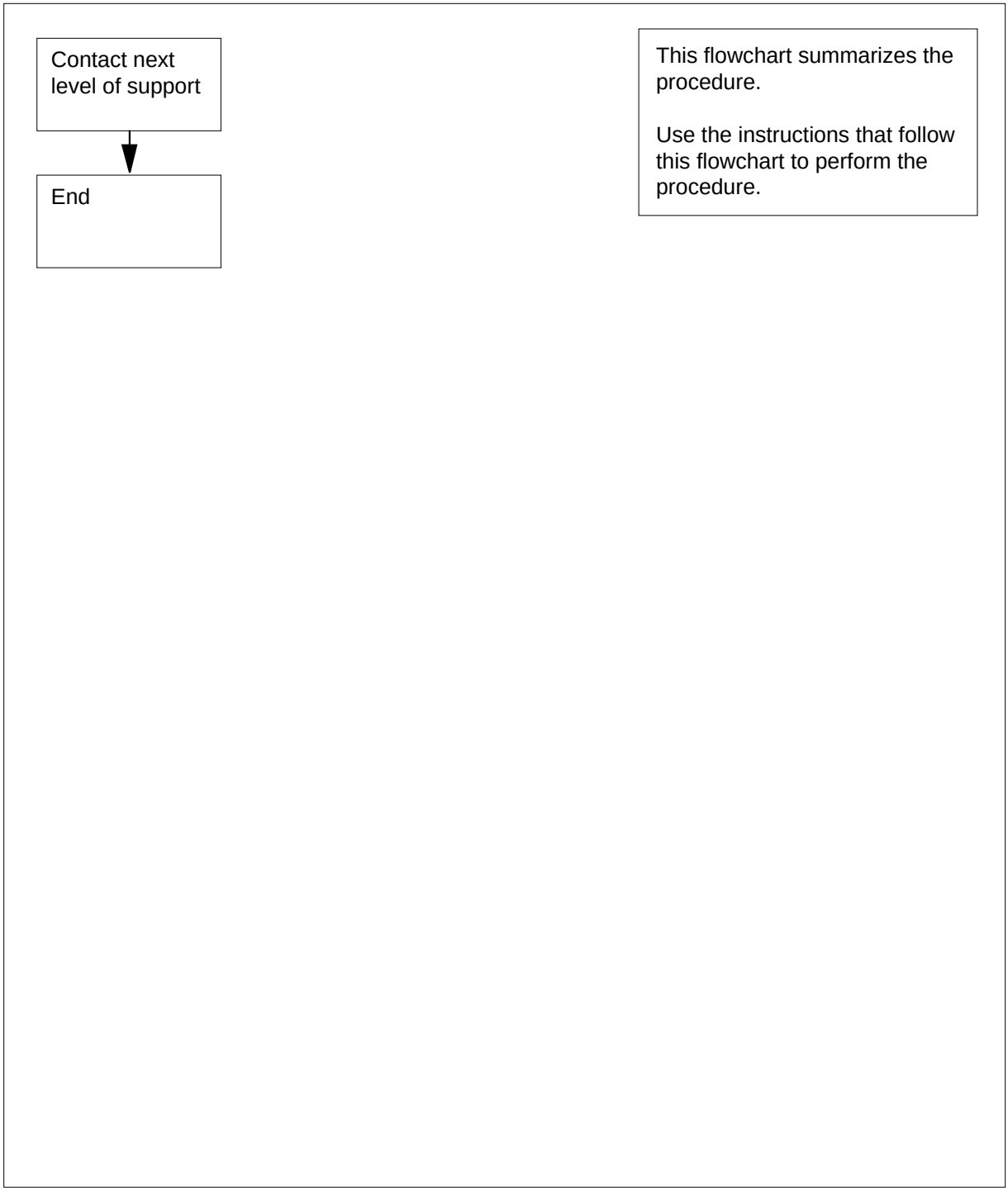
There are no common procedures.

## Action

This procedure contains a summary flowchart and a list of steps. Use the flowchart to review the procedure. Follow the steps to perform the procedure.

# MS TROOS
## **major** (continued)

**Summary of clearing an MS TROOS major alarm**



# MS TROOS
# **major** (end)

**How to clear an MS TROOS major alarm**

***At your current location***

**1** Contact the next level of support.

**2** The procedure is complete.

# 4 Network alarm clearing procedures

## Introduction

This chapter provides alarm clearing procedures for the network. Network alarms appear under the Net header of the alarm banner in the MAP display. All procedures contain the following sections:

- Alarm display
- Indication
- Meaning
- Result
- Common procedures
- Action

### Alarm display

This section indicates how the alarm appears at the MAP terminal.

### Indication

This section indicates the location of the alarm indication, the design of the alarm, the affected subsystem and alarm intensity.

### Meaning

This section indicates the cause of the alarm.

### Result

This section describes the results of the alarm condition.

### Common procedures

This section lists common procedures that you use during the alarm clearing procedure. A common procedure consists of a series of steps that repeat in maintenance procedures. An example of a common procedure is the removal and replacement of a card. Common procedures are in the common procedures chapter in this NTP.

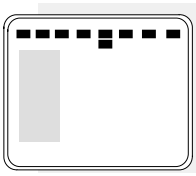
Do not proceed to common procedures unless the step-action procedure directs you to go.

### Action

This section provides a summary flowchart of the alarm clearing procedure. A detailed step-action procedure follows the flowchart.

# Net Bsy minor

## Alarm display



| CM | MS | IOD | **Net** | PM | CCS | Lns | Trks | Ext | APPL |
|---|---|---|---|---|---|---|---|---|---|
| . | . | . | **nBsy** | . | . | . | . | . | . |

## Indication

At the MTC level of the MAP display, Bsy (preceded by a number) appears under the Net subsystem status header of the alarm banner.

## Meaning

The specified number of network modules are in the manual busy or central-side busy state.

## Result

The condition does not affect subscriber service.

## Common procedures

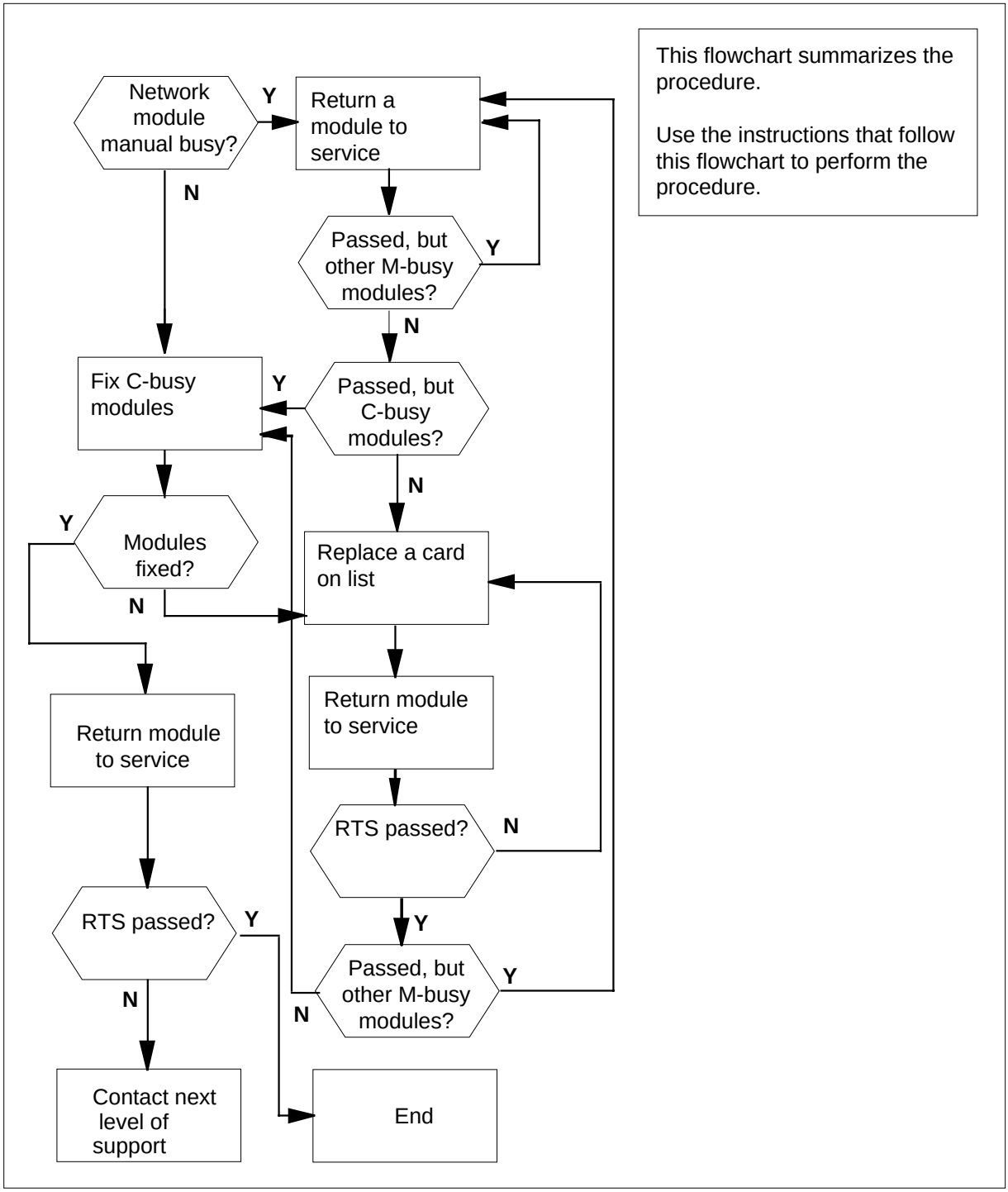
There are no common procedures.

## Action

This procedure contains a summary flowchart and a list of steps. Use the flowchart to review the procedure. Follow the steps to perform the procedure.

# Net Bsy
## minor (continued)

**Summary of clearing a Net Bsy minor alarm**



# Net Bsy
# minor (continued)

### Clearing a Net Bsy minor alarm

***At the MAP terminal***

**1** To access the Net level of the MAP display, type

**>MAPCI;MTC;NET**

and press the Enter key.

*Example of a MAP display:*

```
Net          11111   11111   22222   22222  33
   Plane     01234   56789   01234   56789  01234 56789 01
    0        ....C
    1        .....
JCTR:
```

**2** If necessary, to silence the alarm, type

**>SIL**

and press the Enter key.

**3** From the MAP display, determine the status of the network modules.

| If the status | Do |
|---|---|
| is manual busy (M) | step 4 |
| is C-side busy (C) | step 12 |

**4** When a minimum of one manual busy network module appears at the MAP display, record the number of each manual busy network module. Select one network module to work on.

**5** Determine from office records or operating company personnel why the network modules in question are manual busy. When you have permission, continue the procedure.

**6** To return the network module to service, type

**>RTS plane_no pair_no**

and press the Enter key.

*where*

**plane_no**
is the identification number of the network plane (0 or 1)

## Net Bsy
## minor (continued)

**pair_no**
is the number of the network module (0 to 31)

| If the RTS command | Do |
|---|---|
| passed, but you recorded other manual busy (M) network modules in step 4 | step 5 |
| passed, and no other manual busy (M) network modules are present, but network modules that are C-side busy (C) are present | step 12 |
| passed, and other manual-busy (M) or C-side busy (C) network modules are not present | step 19 |
| failed, and the system generated a card list | step 7 |
| failed, and the system did not generate a card list | step 18 |

**7** Record the locations, PECs, and PEC suffixes of the cards on the card list.

**8** To replace the first card on the list,refer to *Card Replacement Procedures.* Return to this point.

**9** To return the network module to service, type

**>RTS plane_no pair_no**

and press the Enter key.

*where*

**plane_no**
is the identification number of the network plane (0 or 1)

**pair_no**
is the number of the network module (0 to 31)

| If the RTS command | Do |
|---|---|
| passed, but you recorded other manual busy (M) network modules in step 4 | step 5 |

## Net Bsy
## **minor** (continued)

| If the RTS command | Do |
|---|---|
| passed, and other manual busy (M) network modules are not present, but network modules that are C-side busy (C) are present | step 12 |
| passed, and other manual busy (M) or C-side busy (C) network modules are not present | step 19 |
| failed, and you did not replace all cards that you recorded in step 7 | step 10 |
| failed, and you replaced all cards that you recorded in step 7 | step 18 |

**10** To replace the next card on the list,refer to *Card Replacement Procedures* . Complete the procedure and return to this point.

**11** Go to step 9.

**12** When a minimum of one C-side busy network module appears at the MAP display, perform the following procedures. Record the identification number of each C-side busy network module. Choose one network module to work on.

**13** The fault is present on the C-side of the network. To identify the message switch (MS) that connects to the network module, type

```
>TRNSL  plane_no  pair_no
```

and press the Enter key.

*where*

**plane_no**
is the identification number of the network plane (0 or 1)

**pair_no**
is the number of the network module (0 to 31)

**14** Record the identification number of the MS that connects to the network module.

**15** To clear the fault, refer to the correct procedure in this document. Return to this point.

**16** To access the Net level of the MAP display, type

```
>MAPCI;MTC;NET
```

and press the Enter key.

## Net Bsy minor (end)

**17** Examine the status of the original C-side busy network module. A dot ( . ) in the status field indicates that the network module is in service.

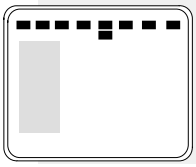
| If the network status | Do |
|---|---|
| is InSv ( . ) | step 19 |
| remains C-side busy (C) | step 18 |

**18** For additional help, contact the next level of support.

**19** The procedure is complete.

# Net CBsy major

## Alarm display



| CM | MS | IOD | Net | PM | CCS | Lns | Trks | Ext | APPL |
|---|---|---|---|---|---|---|---|---|---|
| . | . | . | 1CBsy M | . | . | . | . | . | . |

## Indication

At the MAP display, CBsy (preceded by a number) appears under the Net header of the alarm banner.

## Meaning

A minimum of one ENET node is in a control-side busy (CBsy) state. The number that precedes CBsy indicates the number of ENET nodes that are control-side (C-side) busy.

A C-side busy ENET node is out of service as a result of a blocked messaging path to the DMS-bus. The messaging path from the ENET node to the DMS-bus consists of links. The links are from an ENET node to both message switches in the DMS-bus. If you or the system close the links, the node becomes C-side busy.

***Note:*** The CBsy alarm always appears with an alarm under the MS header of the MAP.

## Result

Any affected ENET nodes are separate from the rest of the system. The separate ENET nodes are out of service.

## Common procedures

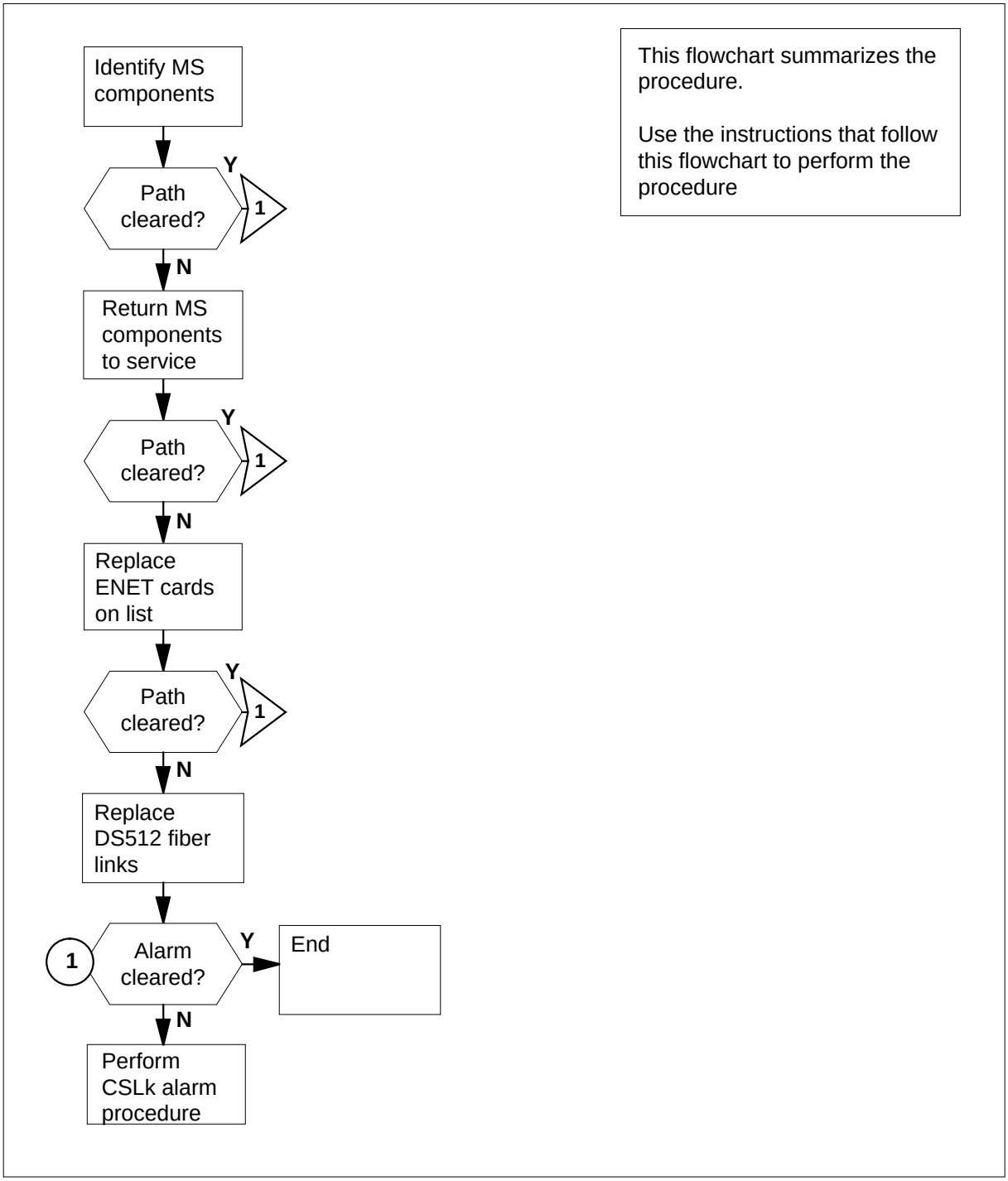
This procedure refers to *Connecting a temporary fiber cable from an ENET to an MS*.

## Action

This procedure contains a summary flowchart and a list of steps. Use the flowchart to review the procedure. Follow the steps to perform the procedure.

# Net CBsy
# major (continued)

**Summary of clearing a Net CBsy major alarm**



# Net CBsy
## major (continued)

### Clearing a Net CBsy major alarm

***At the MAP terminal***

**1** To access the Net level of the MAP display, type

**>MAPCI;MTC;NET**

and press the Enter key.

*Example of a MAP display:*

```
ENET        System  Matrix  Shelf   0 1 2 3
 Plane 0    Fault     .             C – – –
 Plane 1      .       .             . – – –
```

**2** Determine from the display the node that is control-side (C-side) busy. The letter C in the shelf status fields indicates a C-side busy node.

If a minimum of two nodes are C-side busy, select one node to work on.

**3** To access the SYSTEM level of the MAP display, type

**>SYSTEM**

and press the Enter key.

*Example of a MAP display:*

```
SYSTEM
   Shelf    Plane 0     Plane 1
   00         C           .
   01         –           –
   02         –           –
   03         –           –
```

**4** To display the message switch (MS) for the port card and ENET port information for the ENET node, type

**>TRNSL plane_number shelf_number**

and press the Enter key.

*where*

**plane_number**
is the MS plane (0 or 1) that associates with C-side busy ENET plane

**shelf_number**
is 0 for 16K ENET, 0 or 1 for 64K ENET, or 0 to 7 for128K ENET

*Example of a MAP response:*

```
Request to TRNSL ENET Plane:0 Shelf:00 passed.
ENET Plane:0 Shelf:00 : MS 0 and 1 Card:06 Link:00
Port:00
```

## Net CBsy
## major (continued)

**5** To access the Card level for the MS card identified in step 4, type

**`>MS;SHELF;CARD  card_number`**

and press the Enter key.

*where*

**card_number**
is the number of the card (1 to 26) identified in step 4

*Example of a MAP display:*

```
Shelf 0                  1 1 1 1 1 1 1 1 1 2 2 2 2 2 2 2
Card  1 2 3 4 5 6 7 8 9 0 1 2 3 4 5 6 7 8 9 0 1 2 3 4 5 6
Chain           |         |
MS 0  . . . . . S – – – – . – – – – . . . . . . . . . . .
MS 1  . . . . . . – – – – . – – – – . . . . . . . . . . .

Card 06 Protocol Port 0____3  4____7  8____11  12____15
MS 0  S  DS512    64 S P P P  P P P P  P P P P  P P P P
MS 1  .  DS512    64 M P P P  P P P P  P P P P  P P P P
```

***Note:*** The letters B or P can appear in the Port status field, according to the office standards of the operating company. The B or P indicates a backup port for the primary MS.

**6** Check the Port status fields for the card identified in step 4. Possible states for each port are as follows:

- manual busy (M)
- system busy (S)
- control-side busy (C)

**7** Based on the state of the ENET ports, select an MS to work on. The list of port states in step 6 indicates the priority for the selection of a message switch. When an ENET port is manual busy (M), work on the associated MS first. If both ports are manual busy, work on either message switch.

**8** Determine the state of the ENET ports in the MS that you chose.

| If the state of a minimum of one port | Do |
|---|---|
| is M | step 9 |
| is S | step 16 |
| is C | step 21 |

**9** To access the Chain level of the MAP display, type

**`>CHAIN  card_number`**

and press the Enter key.

*where*

**card_number**
is the number of the card (1 to 26) identified in step 4

*Example of a MAP display:*

```
Chain 06  Range   Link    0 1
MS 0  .   06-06   DS512   M .
MS 1  .   06-06   DS512   . .
```

**10** Check the Link status field of the MAP display.

| If the field | Do |
|---|---|
| contains M | step 11 |
| is other than listed here | step 12 |

**11** To return the manual busy link to service, type

**>RTS ms_number LINK link_number**

and press the Enter key.

*where*

**ms_number**
is the number of the MS (0 or 1) that you selected in step 7

**link_number**
is the number of the manual busy link (0 or 1) identified in step 10

| If the RTS command | Do |
|---|---|
| passed | step 14 |
| failed | step 32 |

**12** To access the Card level of the MAP display, type

**>CARD card_number**

and press the Enter key.

*where*

**card_number**
is the number of the card (1 to 26) identified in step 4

**13** To return the port to service, type

**>RTS ms_number PORT port_number**

and press the Enter key.

*where*

**ms_number**
is the number of the MS (0 or 1) that you selected

## Net CBsy
## major (continued)

**port_number**
is the number of the port (0 to 127)

| If the RTS command | Do |
|---|---|
| passed | step 57 |
| failed | step 45 |

**14** To access the Card level of the MAP display, type

**>CARD card_number**

and press the Enter key.

*where*

**card_number**
is the number of the card (1 to 26) identified in step 4

**15** Determine the state of the ENET ports in the MS.

| If the port state | Do |
|---|---|
| is in service (.) | step 57 |
| is M | step 9 |
| is S | step 16 |
| is C | step 21 |

**16** To access the Chain level of the MAP display, type

**>CHAIN card_number**

and press the Enter key.

*where*

**card_number**
is the number of the card (1 to 26) identified in step 4

*Example of a MAP display:*

```
Chain 06  Range   Link    0 1
MS 0  .   06-06   DS512   S .
MS 1  .   06-06   DS512   . .
```

**17** Check the Link status field of the MAP display.

| If the link state | Do |
|---|---|
| is S (system busy) | step 18 |
| is in service (.) | step 19 |

## Net CBsy
## major (continued)

**18** To return the system busy link to service, type

**>RTS ms_number LINK link_number**

and press the Enter key.

*where*

**ms_number**
is the number of the MS (0 or 1) that you selected

**link_number**
is the number of the system busy link (0 or 1) identified in step 17

| If the RTS command | Do |
|---|---|
| passed | step 14 |
| failed, and the system generated a card list | step 32 |
| failed, and the system did not generate a card list | step 60 |

**19** To access the Card level of the MAP display, type

**>CARD card_number**

and press the Enter key.

*where*

**card_number**
is the number of the card (1 to 26) identified in step 4

**20** To return the port to service, type

**>RTS ms_number PORT port_number**

and press the Enter key.

*where*

**ms_number**
is the number of the MS (0 or 1) that you selected

**port_number**
is the number of the port (0 to 127)

| If the RTS command | Do |
|---|---|
| passed | step 57 |
| failed, and the system generated a card list generated | step 45 |
| failed, and the system did not generate a card list | step 60 |

**21** To access the MS level of the MAP display, type

**>MS**

and press the Enter key.

## Net CBsy
## major (continued)

**22** Check the MS status field of the MAP display. Determine the state of the MS that contains the C-side busy ENET port.

| If the state of the MS | Do |
|---|---|
| is manually busy (M) or system busy (S) | step 23 |
| is in service (.) | step 26 |

**23** To return the MS to service, type

**>RTS ms_number**

and press the Enter key.

*where*

**ms_number**
is the number of the MS (0 or 1) that you selected

| If the RTS command | Do |
|---|---|
| passed | step 26 |
| failed | step 24 |

**24** To return the message switch to service, use the correct alarm clearing procedure in this document. Complete the procedure and return to this point.

**25** Go to step 14.

**26** To access the Shelf level of the MAP display, type

**>SHELF**

and press the Enter key.

**27** Check the status field for the chain that contains the C-side busy ENET port.

| If the chain | Do |
|---|---|
| is manual busy (M) or system busy (S) | step 29 |
| is offline (O) | step 28 |
| is in service (.) | step 14 |

**28** To manually busy the chain, type

**>BSY ms_number card_number CHAIN**

and press the Enter key.

*where*

**ms_number**
is the number of the MS (0 or 1) that you selected

## Net CBsy
## major (continued)

**card_number**
is the number of the card (1 to 26) identified in step 4

**29** To return the chain to service, type

**`>RTS ms_number card_number CHAIN`**

and press the Enter key.

*where*

**ms_number**
is the number of the MS (0 or 1) that you selected

**card_number**
is the number of the card (1 to 26) identified in step 4

| If the RTS command | Do |
|---|---|
| passed | step 14 |
| failed | step 30 |

**30** Use the correct alarm clearing procedure in this document to return the chain to service. Complete the procedure and return to this point.

**31** Go to step 14.

**32** The failure produced the card list. From the card list, prepare a list of all ENET cards in the order that the cards appear.

**33** To replace the first card on the list, use the correct procedure *Card Replacement Procedures*. Complete the procedure and return to this point.

**34** To access the SYSTEM level of the MAP display, type

**`>NET;SYSTEM`**

and press the Enter key.

**35** To return the ENET node to service, type

**`>RTS plane_number shelf_number`**

and press the Enter key.

*where*

**plane_number**
is the MS plane (0 or 1) that associates with C-side busy ENET plane

**shelf_number**
is 0 for 16K ENET, 0 or 1 for 64K ENET, or 0 to 7 for 128K ENET

| If the RTS command | Do |
|---|---|
| passed | step 37 |
| failed, and the MAP response is Inappropriate ENCLASS in table ENIN | step 36 |

## Net CBsy
## major (continued)

| If the RTS command | Do |
|---|---|
| failed, and you did not replace all cards on the list recorded in step 32 | step 33 |
| failed, and you replaced all cards on the list recorded in step 32 | step 41 |

**36** The ENET class that you entered in field ENCLASS of table ENINV is wrong.

***Note:*** For 16K ENET, enter ENCLASS as PRI16K. For 64K ENET, enter ENCLASS as PRI64K. For 128K ENET, enter ENCLASS as PRI.

Go to step 60.

**37** To access the Card level of the MAP display, type

```
>MS;SHELF;CHAIN  card_number
```

and press the Enter key.

*where*

**card_number**
is the number of the card (1 to 26) identified in step 4

**38** To return the link to service, type

```
>RTS  ms_number  LINK  link_number
```

and press the Enter key.

*where*

**ms_number**
is the number of the MS (0 or 1) that you selected

**link_number**
is the number of link (0 or 1)

| If the RTS command | Do |
|---|---|
| passed | step 14 |
| failed, and you did not replace all cards on the list recorded in step 32 | step 33 |
| failed, and you replaced all cards on the list recorded in step 32 | step 41 |

**39** To replace the next card on the list, use the correct procedure in *Card Replacement Procedures*. Complete the procedure and return to this point.

**40** Go to step 34.

**41** You isolated the problem to the DS512 link. When this link has faults, Northern Telecom personnel must replace the fiber cable between the ENET and the message switch.

## Net CBsy
## major (continued)

**42** As a temporary measure, replace the fiber cable that has faults at the ENET node and the message switch with a spare cable. Perform this procedure to return the ENET to service.

Perform the procedure *Connecting a temporary fiber cable from an ENET to an MS* in this document. Complete the procedure and return to this point.

**43** To access the Card level of the MAP display, type

```
>MS;SHELF;CHAIN  card_number
```

and press the Enter key.

*where*

**card_number**
is the number of the card (1 to 26) identified in step 4

**44** To return the link to service, type

```
>RTS  ms_number  LINK link_number
```

and press the Enter key.

*where*

**ms_number**
is the number of the MS (0 or 1) that you selected

**link_number**
is the number of link (0 or 1)

| If the RTS command | Do |
|---|---|
| passed | step 14 |
| failed | step 60 |

**45** Record the product engineering code (PEC) and location of all MS cards in the order that they appear on the card list.

**46** To replace the first card on the list, use the correct procedure in the *Card Replacement Procedures.* Complete the procedure and return to this point.

**47** To access the SYSTEM level of the MAP display, type

```
>NET;SYSTEM
```

and press the Enter key.

**48** To return the ENET node to service, type

```
>RTS  plane_number shelf_number
```

and press the Enter key.

*where*

**plane_number**
is the MS plane (0 or 1) that associates with C-side busy

ENET plane

## Net CBsy
## major (continued)

**shelf_number**
is 0 for 16K ENET, 0 or 1 for 64K ENET, or 0 to 7

for 128K ENET

| If the RTS command | Do |
|---|---|
| failed, with the following message: C-side links unavailable | step 49 |
| failed for any other reason | step 52 |

**49** To access the Card level of the MAP display, type

**`>MS;SHELF;CARD card_number`**

and press the Enter key.

*where*

**card_number**
is the number of the card (1 to 26) identified in step 4

**50** To return the ENET port to service, type

**`>RTS ms_number PORT port_number`**

and press the Enter key.

*where*

**ms_number**
is the number of the MS (0 or 1) that you selected

**port_number**
is the number of the port (0 to 127)

| If the RTS command | Do |
|---|---|
| passed | step 14 |
| failed, and you did not replace all cards on the list recorded in step 45 | step 51 |
| failed, and you replaced all cards on the list recorded in step 45 | step 53 |

**51** To replace the next card on the list, use the correct procedure in the *Card Replacement Procedures.* Complete the procedure and return to this point.

**52** Go to step 47.

**53** You isolated a problem on the DS512 link. When this link has faults, Northern Telecom personnel must replace the fiber cable between the ENET and the message switch.

**54** As a temporary measure, replace the fiber cable that has faults at the ENET node. Perform the procedure *Connecting a temporary fiber cable from an*

*ENET to an MS* in this document. Complete the procedure and return to this point.

**55** To access the Card level of the MAP display, type

```
>MS;SHELF;CARD  card_number
```

and press the Enter key.

*where*

**card_number**
is the number of the card (1 to 26) identified in step 4

**56** To return the port to service, type

```
>RTS  ms_number  PORT  port_number
```

and press the Enter key.

*where*

**ms_number**
is the number of the MS (0 or 1) that you selected

**port_number**
is the number of the port (0 to 127)

| If the RTS command | Do |
|---|---|
| passed | step 57 |
| failed | step 60 |

**57** Determine the alarm that appears under the Net header of the alarm banner.

| If | Do |
|---|---|
| an alarm other than CSLk appears | step 58 |
| a CSLk alarm appears | step 59 |

**58** Wait to determine if the alarm cleared.

| If the alarm | Do |
|---|---|
| cleared | step 61 |
| did not clear | step 60 |

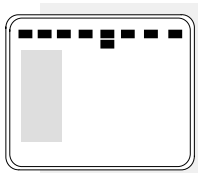
**59** Perform the procedure *Clearing a Net CSLk minor alarm* in this document. Complete the procedure and return to this point.

**60** For additional help, contact the next level of support.

**61** The procedure is complete.

# Net CdPr critical

## Alarm display



| CM | MS | IOD | **Net** | PM | CCS | Lns | Trks | Ext | APPL |
|---|---|---|---|---|---|---|---|---|---|
| . | . | . | **1CdPr *C*** | . | . | . | . | . | . |

## Indication

At the MAP subsystem status display, CdPr (preceded by a number) appears under the Net header of the alarm banner.

## Meaning

A minimum of one card pair is out of service in an ENET shelf. The number that precedes CdPr indicates the number of card pairs that are out of service.

A card pair consists of a card and a second card. The second card is in the corresponding slot position on the other plane of an ENET shelf.

## Result

The results that affect service include the following:

- Blockage of all calls that require the out-of-service card pair.
- Separation of any peripheral modules from the network. The peripheral modules connect to the out-of-service card.

## Common procedures

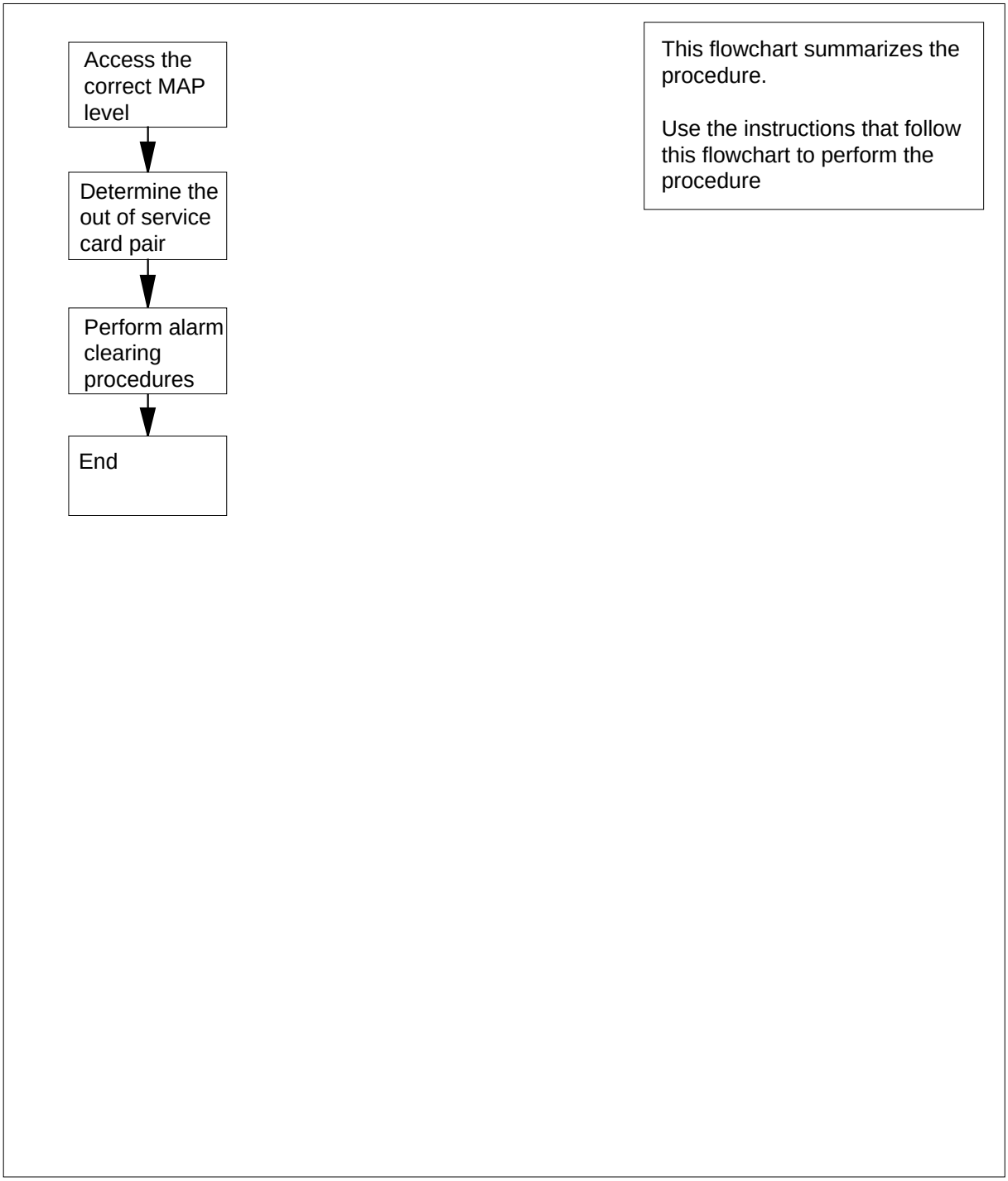
There are no common procedures.

## Action

This procedure contains a summary flowchart and a list of steps. Use the flowchart to review the procedure. Follow the steps to perform the procedure.

# Net CdPr critical (continued)

**Summary of clearing a Net CdPr critical alarm**



# Net CdPr
# critical (continued)

### Clearing a Net CdPr critical alarm

***At the MAP terminal***

**1** To access the Net level of the MAP display, type

**>MAPCI;MTC;NET**

and press the Enter key.

**2** Determine the shelf that contains the out-of-service card pair.

The Fault value in the Matrix status field for both planes indicates the shelf that contains the out-of-service card pair. The letter F in the Shelf status fields for both planes indicates the shelf that contains the out-of-service card pair.

*Example of a MAP display:*

*16K, 64K and 128K ENET*

```
ENET    System  Matrix  Shelf   0 1 2 3 BLOCKED
 Plane 0   .    Fault           F . . .
 Plane 1   .    Fault           F . . .
```

**3** To access the SHELF level of the MAP display for the shelf that contains the out-of-service card pair, type

**>SHELF  shelf_number**

and press the Enter key.

*where*

**shelf_number**
is 0 to 1 for 64K ENET, 0 to 7 for 128K ENET, 0 for 16K ENET

*Example of a MAP display:*

*32k, 64K, and 128K ENET*

```
SHELF 02 Slot      1111111   11122222  22222333  333333
         123456 78 90123456  78901234  56789012  345678
Plane 0 .   .   .. S..F....  --------  ........   .  .
Plane 1 .   .   .. M..F....  --------  ........
```

*16K ENET*

```
SHELF 00  Power  LIU ENET-Plane 0 ENET-Plane 1 LIU Power
                  11  11111111  22 22222222  333 333333
Slot     123456 789 01  23456789  01 23456789  012 345678
          .  .       ..  ..S..    .. ....M...       .  .
```

**4** Isolate the out-of-service card pair. The letter S, M or F in both planes of a Slot status field indicates the out-of-service card pair. These letters indicate the following states:

S represents system busy

M represents manual busy

F indicates a fault status

**5** If a letter indicates a minimum of two out-of-service card pairs, work on the cards that have Slot status fields. These fields contain an M or S in one plane. Work on the cards until the CdPr alarm disappears.

| If the card slot field contains | Do |
|---|---|
| M | step 8 |
| S | step 10 |
| F | step 6 |

**6** To access the CARD level of the MAP display for the slot that has an F status, type

**>CARD slot _number**

and press the Enter key.

*where*

**slot_number**
is 1 to 38 for the 128K ENET and 64K ENET, 12 to 19 and 22

to 29 for the 16K ENET

*Example of a MAP display:*

*64K and 128K ENET*

```
CARD 12 Front:  Back:   DS-30 Links 111111
         Xpt    I/F       0123456789012345
Plane 0   .     M         CCCC------------
Plane 1   .     S         CCCC------------
```

*16K ENET*

```
CARD    Plane   Front:  Back:
                 Xpt    I/F
16       0        .     M
26       1        .     S
```

| If the Back status field contains | Do |
|---|---|
| M | step 8 |
| S | step 10 |
| . (in service) | step 7 |

## Net CdPr critical (end)

**7** This card pair does not cause the CdPr alarm. Return to step 3. Determine if another card pair with S, M, or F is present in both planes of the Slot status field.

**8** Perform the procedure *Clearing a Net MBCd minor alarm* in this document. Complete the procedure and return to this point.

**9** Go to step 12.

**10** Perform the procedure *Clearing a Net SBCd major alarm* in this document. When the procedure is complete, return to this point.

**11** Go to step 12.

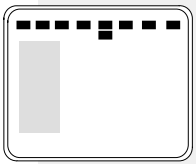
**12** Determine if the CdPr alarm cleared.

| If CdPr | Do |
|---|---|
| appears under the Net header | step 1 |
| does not appear under the Net header | step 13 |

**13** The procedure is complete.

# Net CSLk minor

## Alarm display



| CM | MS | IOD | **Net** | PM | CCS | Lns | Trks | Ext | APPL |
|---|---|---|---|---|---|---|---|---|---|
| . | . | . | **1CSLk** | . | . | . | . | . | . |

## Indication

At the MAP subsystem status display, CSLk (preceded by a number) appears under the Net header of the alarm banner.

## Meaning

A control-side (C-side) (CSLk) link from an ENET node to a message switch (MS) is out of service. The number that precedes CSLk indicates the number of nodes with an out-of-service C-side link.

The MS subsystem can contain the fault condition that generates the CSLk alarm. The DS512 fiber link from the ENET node to the MS also can contain the fault condition.

***Note:*** An associated message switch alarm always appears with the CSLk alarm.

## Result

The CSLk alarm does not affect subscriber service.

## Common procedures

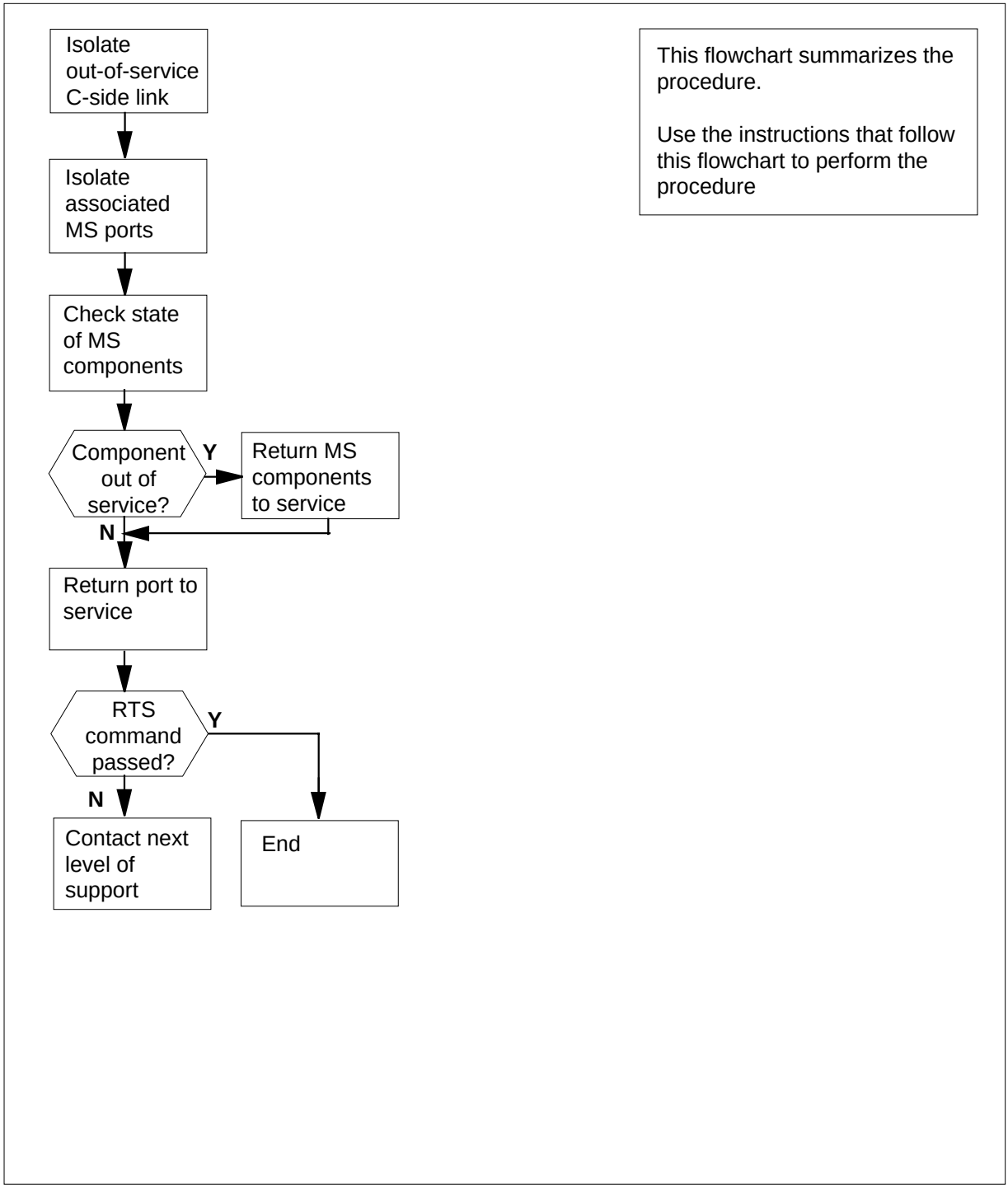
There are no common procedures.

## Action

This procedure contains a summary flowchart and a list of steps. Use the flowchart to review the procedure. Follow the steps to perform the procedure.

# Net CSLk
# minor (continued)

**Summary of clearing a Net CSlk minor alarm**



# Net CSLk
# minor (continued)

**How to clear a Net CSLk minor alarm**

***At the MAP terminal***

**1** To access the SYSTEM level of the MAP display, type

**`>MAPCI;MTC;NET;SYSTEM`**

and press the Enter key.

*Example of a MAP display:*

```
SYSTEM
   Shelf    Plane 0               Plane 1
   00         .   CSLink 0 closed    .
```

**2** Determine the node that has an out-of-service C-side link. The maintenance status CSLink n closed indicator appears on the right of the Plane status field.

**3** Determine the message switch that attaches to the out-of-service link. The number (n) in the maintenance status CSLink n closed indicates the out-of-service message switch.

**4** To identify the MS card and port numbers that associate with the ENET node, type

**`>TRNSL  plane_number  shelf_number`**

and press the Enter key.

*where*

**plane_number**
is 0 or 1

**shelf_number**
is 0

*Example of a MAP response:*

```
Request to TRNSL ENET Plane: 1 Shelf:00 submitted.
Request to TRNSL ENET Plane: 1 Shelf:00 passed.
ENET Plane:0 Shelf:00 : MS 0 and 1 Card:05 Link:00
Port:00
```

**5** Record the card and port numbers that you obtained in step 4.

**6** To access the MS CARD level of the MAP display, type

**`>MS;SHELF;CARD  card_number`**

and press the Enter key.

*where*

**card_number**
is the slot number that you recorded in step 5.

*Example of a MAP display:*

## Net CSLk
## minor (continued)

```
Card 05 Protocol Port 0____3  4_____7  8____11  12___15
MS 0  .   DS512   64 S P P P  P P P P  P P P P  P P P P
MS 1  .   DS512   64 . . . .  . . . .  . . . .  . . . .
```

***Note:*** The letters B or P can appear in the Port status field to indicate a backup port for the primary MS. The indication appears, according to the office standards of the operating company.

**7** Check the Port status fields for the port that you recorded in step 5.

| If the port status | Do |
|---|---|
| is M | step 8 |
| is S | step 17 |
| is C | step 30 |

**8** To access the MS CHAIN level of the MAP display, type

**>SHELF;CHAIN card_number**

and press the Enter key.

*where*

**card_number**
is the slot number that you recorded in step 5.

*Example of a MAP display:*

```
Chain 05  Range   Link   0  1
MS 0  ·    05–07  DS512   M  .
MS 1  ·    05–07  DS512   .  .
```

**9** Check the link status field of the MAP display to determine the state of the link.

| If the link | Do |
|---|---|
| is M (manual busy) | step 10 |
| is other than listed here | step 11 |

**10** To return the link to service, type

**>RTS ms_number LINK link_number**

and press the Enter key.

*where*

**ms_number**
is 0 or 1.

# Net CSLk
## minor (continued)

**link_number**
is the link that displays M in step 9.

| If the RTS command | Do |
|---|---|
| passed | step 14 |
| failed | step 40 |

**11** To access the MS CARD level of the MAP display, type

**>SHELF;CARD card_number**

and press the Enter key.

*where*

**card_number**
is the slot number that you recorded in step 5.

**12** To return the port to service, type

**>RTS ms_number PORT port_number**

and press the Enter key.

*where*

**ms_number**
is 0 or 1

**port_number**
is the value that you obtained in step 4.

| If the RTS command | Do |
|---|---|
| passed | step 14 |
| failed | step 13 |

**13** Perform the procedure that clears an MBPt alarm in this document. Complete the procedure and return to this point.

**14** To access the MS CARD level of the MAP display, type

**>MAPCI;MTC;MS;SHELF;CARD card_number**

and press the Enter key.

*where*

**card_number**
is the slot number that you recorded in step 5.

*Example of a MAP display:*

```
Card 05 Protocol Port 0____3  4_____7  8____11  12___15
MS 0  .   DS512   64 S P P P  P P P P  P P P P  P P P P
MS 1  .   DS512   64 . . . .  . . . .  . . . .  . . . .
```

## Net CSLk
## minor (continued)

**15** Check the status of the port. A dot (.) in the status field indicates that the port is in service.

| If the port | Do |
|---|---|
| is in service (.) | step 41 |
| is not in service | step 16 |

**16** Continue this procedure according to the following steps.

| If the port status | Do |
|---|---|
| is M | step 8 |
| is S | step 17 |
| is C | step 30 |

**17** To access the MS CHAIN level of the MAP display, type

**>SHELF;CHAIN card_number**

and press the Enter key.

*where*

**card_number**
is the slot number that you recorded in step 5.

*Example of a MAP display:*

```
Chain 05  Range   Link   0  1
MS 0  .    05-07  DS512  S  .
MS 1  .    05-07  DS512  .  .
```

**18** Check the Link status field of the MAP display to determine the state of the link. A dot (.) in the status field indicates that the link is in service.

| If the link | Do |
|---|---|
| is system busy (S) | step 19 |
| is in service (.) | step 26 |

**19** To return the link to service, type

**>RTS ms_number LINK link_number**

and press the Enter key.

*where*

**ms_number**
is 0 or 1.

# Net CSLk
## minor (continued)

**link_number**
is the link that displays S in step 18.

| If the RTS command | Do |
|---|---|
| passed | step 14 |
| failed with a card list | step 20 |
| failed, and the system did not generate a card list | step 40 |

**20** Record the product engineering codes (PECs) and location of all cards on the list.

**21** Note the first card that remains on the list recorded in step 20.

**22** To replace MS cards, use the correct procedure in *Card Replacement Procedures*. Complete the procedure and return to this point.

**23** Cross the replaced card off the list that you recorded in step 20.

**24** To confirm that you are at the MS CHAIN level of the MAP display, type

```
>MAPCI;MTC;MS;SHELF;CHAIN  card_number
```

and press the Enter key.

*where*

**card_number**
is the slot number that you recorded in step 5

**25** To return the link to service, type

```
>RTS  ms_number  LINK  link_number
```

and press the Enter key.

*where*

**ms_number**
is 0 or 1.

**link_number**
is the link that displays S in step 18.

| If the RTS command | Do |
|---|---|
| passed | step 14 |
| failed, and cards remain on the list recorded in step 20 | step 21 |
| failed, and cards do not remain on the list recorded in step 20 | step 40 |

**26** To access the MS CARD level of the MAP display, type

```
>SHELF;CARD  card_number
```

## Net CSLk
## minor (continued)

and press the Enter key.

*where*

**card_number**
is the slot number recorded in step 5.

**27** To return the port to service, type

**>RTS ms_number PORT port_number**

and press the Enter key.

*where*

**ms_number**
is 0 or 1.

**port_number**
is the the value obtained in step 4.

| If the RTS command | Do |
|---|---|
| passed | step 14 |
| failed | step 28 |

**28** Perform the procedure that clears an SBPt alarm in this document. Complete the procedure and return to this point.

**29** Go to step 14.

**30** To access the MS level of the MAP display, type

**>MS**

and press the Enter key.

**31** Check the MS status field of the MAP display. Determine the status of the MS with the C-side busy port. A dot (.) in the status field indicates that the MS is in service.

| If the RTS command | Do |
|---|---|
| is manual busy (M) or system busy (S) | step 32 |
| is in service ( . ) | step 34 |

**32** To return the MS to service, type

**>RTS ms_number**

and press the Enter key.

*where*

# Net CSLk
## minor (continued)

**ms_number**
is 0 or 1.

| If the RTS command | Do |
|---|---|
| passed | step 34 |
| failed | step 33 |

**33** Use the correct procedure in this document. Complete the procedure and return to this point.

**34** To access the MS SHELF level of the MAP display, type

```
>MAPCI;MTC;MS;SHELF
```

and press the Enter key.

**35** Check the status field of the chain with the C-side busy port. A dot (.) in the status field indicates that the chain is in service.

| If the chain status | Do |
|---|---|
| is manual busy (M) or system busy (S) | step 37 |
| is offline (O) | step 36 |
| is in service (.) | step 14 |

**36** To busy the chain, type

```
>BSY  ms_number  card_number  CHAIN
```

and press the Enter key.

*where*

**ms_number**
is 0 or 1.

**card_number**
is the slot number that you recorded in step 5.

**37** To return the chain to service, type

```
>RTS  ms_number  card_number  CHAIN
```

and press the Enter key.

*where*

**ms_number**
is 0 or 1.

**card_number**
is the slot number that you recorded in step 5.

*Example of a MAP response*:

## Net CSLk
## **minor** (end)

```
Request to RTS MS:0 Shelf:0 Chain:05 submitted.
Request to RTS MS:0 Shelf:0 Chain:05 passed.
```

| If the RTS command | Do |
|---|---|
| passed | step 14 |
| failed | step 38 |

**38** Use the correct procedure in this document. Complete the procedure and return to this point.

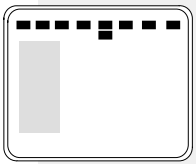
**39** Go to step 14.

**40** For additional help, contact the next level of support.

**41** The procedure is complete.

# Net ISTb in ENET minor

## Alarm display



| CM | MS | IOD | **Net** | PM | CCS | Lns | Trks | Ext | APPL |
|---|---|---|---|---|---|---|---|---|---|
| . | . | . | **ISTb** | . | . | . | . | . | . |

## Indication

At the MAP display, ISTb appears under the Net header of the alarm banner.

## Meaning

A component in the ENET has trouble. The component remains in service.

The ISTb alarm can appear in response to fault conditions on the ENET components as follows:

- system cards
- crosspoint cards
- links

## Result

The ISTb alarm does not affect service.

## Common procedures

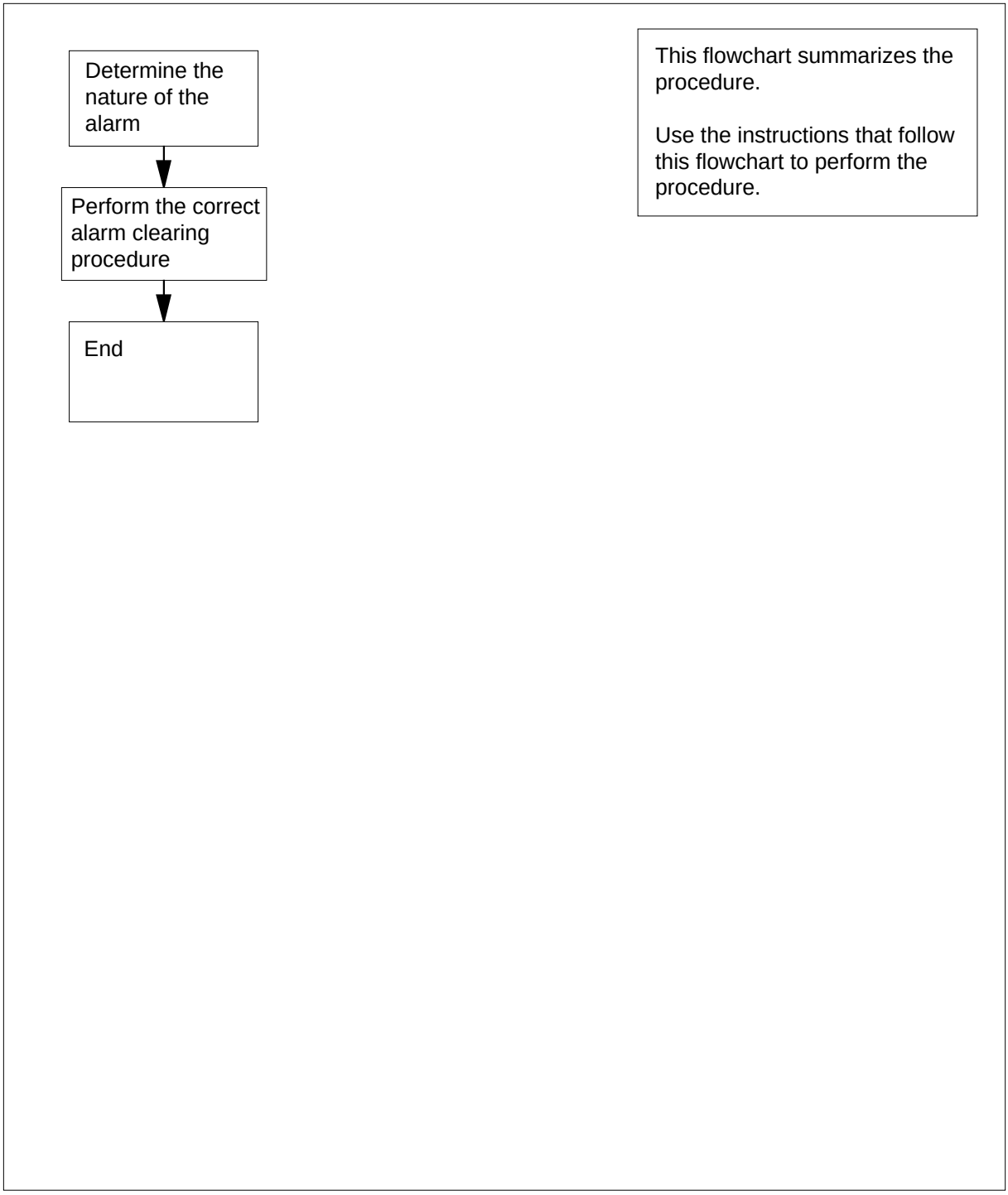
There are no common procedures.

## Action

This procedure contains a summary flowchart and a list of steps. Use the flowchart to review the procedure. Follow the steps to perform the procedure.

# Net ISTb in ENET minor (continued)

**Summary of clearing a Net ISTb in ENET minor alarm**



# Net ISTb in ENET minor (end)

**Clearing a Net ISTb in ENET minor alarm**

***At the MAP terminal***

**1** To access the Net level of the MAP display, type

**`>MAPCI;MTC;NET`**

and press the Enter key.

*Example of a MAP display:*

```
ENET     System     Matrix  Shelf   0
 Plane 0    .       Istb            F
 Plane 1  Istb        .             I
```

**2** Determine the type of the Istb alarm.

| If the | Do |
|---|---|
| System status field contains `Istb`, and a Shelf status field contains the letter `I` | step 3 |
| Matrix status field contains `Istb`, and a Shelf status field contains the letter `F` | step 4 |
| Matrix status field contains `Istb`, and a Shelf status field contains the letter `L` | step 5 |

**3** Refer to the procedure *Clearing a Net ISTb alarm on a system card* in this document. Complete the procedure and return to this point.

Go to step 7.

**4** Refer to the procedure *Clearing a Net ISTb alarm on a crosspoint card* in this document. Complete the procedure and return to this point.

Go to step 7.

**5** Refer to the procedure *Clearing a Net ISTb alarm on a link* in this document. Complete the procedure and return to this point.

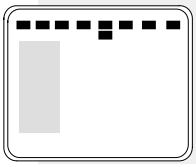
Go to step 7.

**6** For additional help, contact the next level of support.

**7** The procedure is complete.

# Net ISTb in JNET minor

## Alarm display



| CM | MS | IOD | **Net** | PM | CCS | Lns | Trks | Ext | APPL |
|---|---|---|---|---|---|---|---|---|---|
| . | . | . | **1ISTb** | . | . | . | . | . | . |

## Indication

ISTb, preceded by a number, under the Net subsystem status header of the MAP display indicates a network in-service trouble alarm.

## Meaning

The indicated number of network modules are in the in-service trouble state. A network module is set to the in-service trouble state when the integrity failure threshold or the parity failure threshold of the link, the junctor, or the crosspoint is reached.

## Impact

This alarm does not affect subscriber service.

## Common procedures

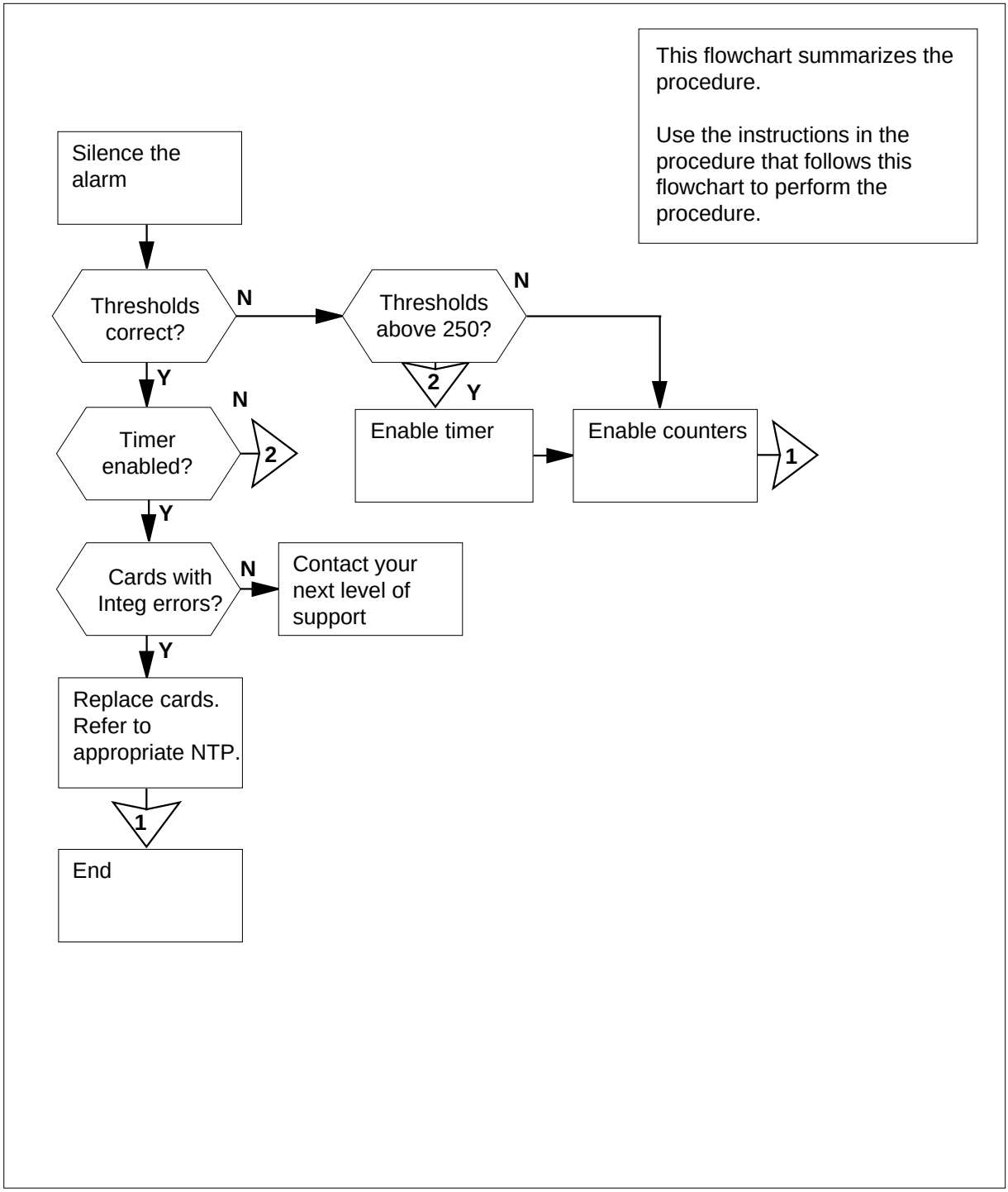
Not applicable

## Action

The following flowchart is only a summary of the procedure. Use the instructions in the step-action procedure that follows the flowchart to clear the alarm.

# Net ISTb
# in JNET minor (continued)

**Summary of Clearing a Net ISTb in JNET minor alarm**



# Net ISTb
# in JNET minor (continued)

**Clearing a Net ISTb in JNET minor alarm**

***At the MAP terminal***

**1**

**CAUTION**
**Loss of service**
Perform the following procedure only during periods of low traffic.

Access the Net level of the MAP display by typing

**>MAPCI;MTC;NET**

and pressing the Enter key.

*Example of a MAP display:*

```
Net                 11111   11111   22222   22222   33
Plane 01234 56789 01234 56789 01234 56789 01 0....S 1..
JCTR:
```

**2** If required, silence the alarm by typing

**>SIL**

and pressing the Enter key.

**3** Access the INTEG level of the MAP display by typing

**>INTEG**

and pressing the Enter key.

*Example of a MAP display:*

```
Posted Net: None    Timer:  Enabled Mode:   Inter
Logbuff Contents:    Net102
All Inter–pair faults will be pegged (Normal Mode)
Net102 Logs will be stored in the Logbuff
The automatic counter/logbuff timed clear is enabled
INTEG:
```

**4** View the current integrity failure and parity failure threshold values by typing

**>HELP UPTH**

and pressing the Enter key.

*Example of a MAP display:*

# Net ISTb
## in JNET minor (continued)

```
Upth: Update threshold values, (0 = infinity)
Parms:      <LINK_TH> {0 TO 999}
    <XPNT_TH> {0 TO 999}
    <JCTR_TH> {0 TO 999}
current thresholds : links = 250 jctrs = 250 xpnts = 250
```

**5** Verify that the thresholds displayed at the MAP display are correct by referring to the values listed in office records. If no records of thresholds values exist, then assume the default value of 250 to be correct.

**6** Depending on the threshold values, proceed according to the instructions in the following table.

| If the threshold values are | Do |
|---|---|
| set correctly | step 8 |
| below the correct threshold | step 7 |
| above the correct threshold | step 8 |

**7** Reset thresholds to the correct value by typing

**>RSTI**

and pressing the Enter key.

Go to step 23.

**8** Verify that the timer is enabled by typing

**>TIMER QUERY**

and pressing the Enter key.

| If timer is | Do |
|---|---|
| enabled | step 12 |
| disabled | step 9 |

**9** Determine from office records or from other office personnel why the timer is disabled. Continue with this procedure only after you have been given permission to do so by the person who disabled the timer.

**10** Enable the timer by typing

**>TIMER ENABLE**

and pressing the Enter key.

**11** Enable the counters by typing

**>RSTI**

and pressing the Enter key.

Go to step 23.

## Net ISTb
## in JNET minor (continued)

**12** Record the number of each in-service trouble network module and select one on which to work.

**13** Post the selected network module (NM) by typing

**`>POST plane_no pair_no`**

and pressing the Enter key.

*where*

**plane_no**
is the identification number of the network plane (0 or 1)

**pair_no**
is the identification number of the network module (0 to 31)

**14** Display the thresholds of the posted NM by typing

**`>DISP THRESH`**

and pressing the Enter key.

**15** Display a list of parity errors by card type by typing

**`>ANALYZE COUNTS PARITY`**

and pressing the Enter key.

| If there are | Do |
|---|---|
| cards with parity errors | step 16 |
| no cards with parity errors | step 22 |

**16** Record the locations and PECs, including suffixes, of the cards identified as having parity errors.

**17** Busy the network module containing the suspect cards by typing

**`>BSY plane_no pair_no`**

and pressing the Enter key.

*where*

**plane_no**
is the identification number of the network module plane

**pair_no**
is the identification number of the network module pair

**18**

**CAUTION**
**Integrity errors**
To avoid producing a large number of integrity errors, wait 30 min before replacing cards in the busied network module.

# Net ISTb in JNET minor (end)

See *Card Replacement Procedures* to replace the first card on the list, then return to this point.

**19** Return the network module to service by typing

**`>RTS plane_no pair_no`**

and pressing the Enter key.

*where*

**plane_no**
is the identification number of the network module plane

**pair_no**
is the identification number of the network module pair

| If the RTS command | Do |
|---|---|
| passed, but you recorded other in-service trouble network modules in step 12 | step 13 |
| passed, and there are no other in-service trouble network modules | step 23 |
| failed, and you have not replaced all the cards recorded in step 16 | step 20 |
| failed, and you have replaced all the cards listed in step 16 | step 22 |

**20** See *Card Replacement Procedures* to replace the first card on the list, then return to this point.

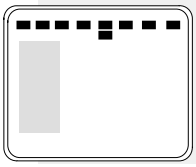
**21** Go to step 19.

**22** For further assistance, contact the personnel responsible for the next level of support.

**23** You have completed this procedure.

# Net ISTb on a crosspoint card minor

## Alarm display



| CM | MS | IOD | **Net** | PM | CCS | Lns | Trks | Ext | APPL |
|---|---|---|---|---|---|---|---|---|---|
| . | . | . | **ISTb** | . | . | . | . | . | . |

## Indication

At the MAP display, ISTb appears under the Net header of the alarm banner.

At the NET level of the MAP display, ISTb appears in the Matrix status field. The letter F appears in a Shelf status field.

## Meaning

A crosspoint card in the ENET has trouble. The crosspoint card remains in service.

## Result

This alarm does not affect service.

## Common procedures

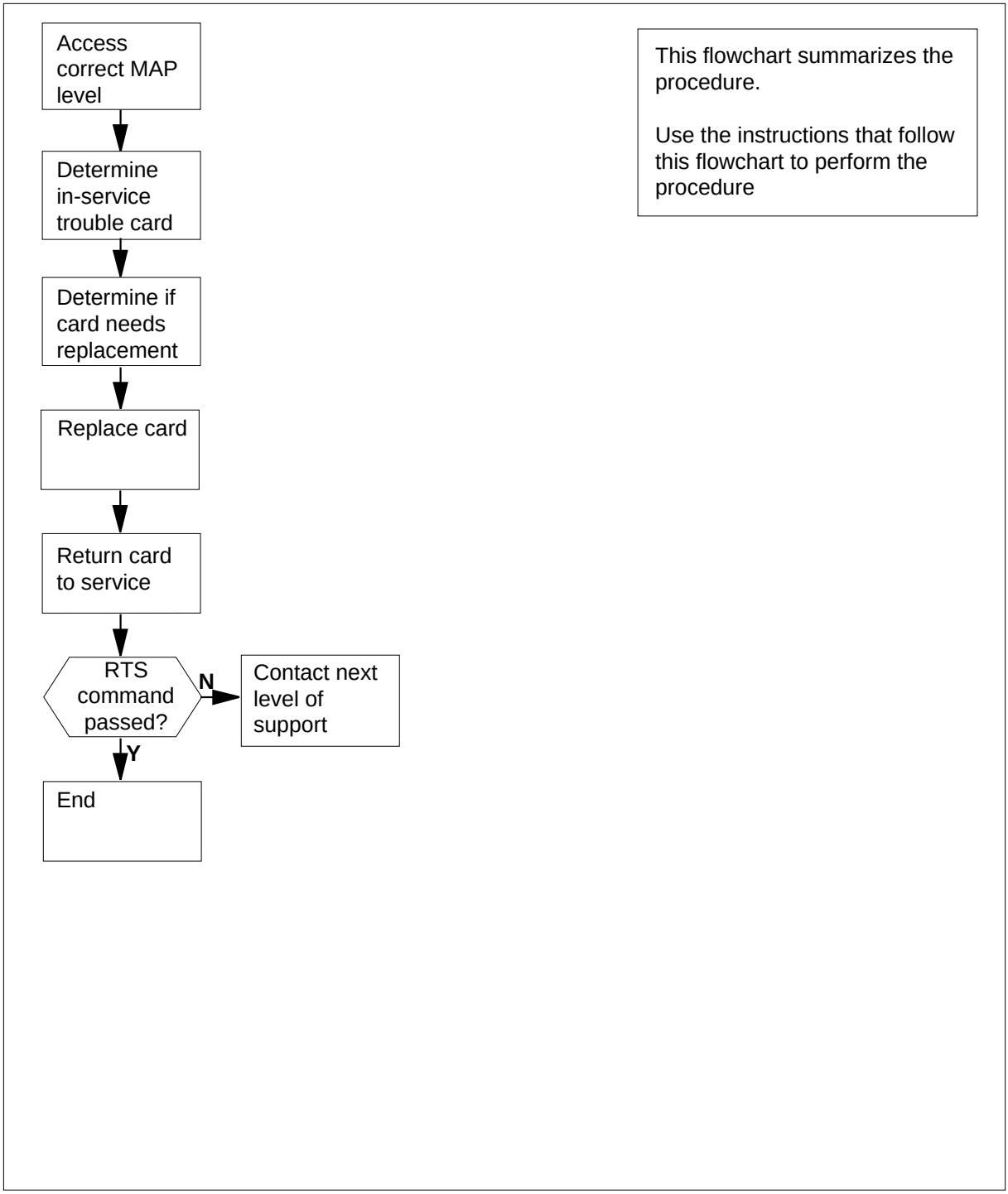
There are no common procedures.

## Action

This procedure contains a summary flowchart and a list of steps. Use the flowchart to review the procedure. Follow the steps to perform the procedure.

# Net ISTb on a crosspoint card minor (continued)

**Summary of clearing a Net ISTb on a crosspoint card minor alarm**



# Net ISTb on a crosspoint card
# **minor** (continued)

### Clearing a Net ISTb on a crosspoint card minor alarm

***At the MAP terminal***

**1** To access the Net level of the MAP display, type

**>MAPCI;MTC;NET**

and press the Enter key.

*Example of a MAP display:*

```
ENET     System  Matrix  Shelf  0 1 2 3
 Plane 0    .       .            . . . .
 Plane 1    .     Istb           F . . .
```

**2** Determine the network node that contains a crosspoint card that has in-service trouble. The ISTb in the Matrix status field indicates the in-service trouble state. The letter F in a Shelf status field indicates the in-service trouble state.

**3** To access the SHELF level of the MAP display for the node that has in-service trouble, type

**>SHELF shelf_number**

and press the Enter key.

*where*

**shelf_number**
is 0 or 1 for 64k ENET, 0 to 7 for 128k ENET, or 0 for 16k or 32k ENET

*Example of a MAP display:*

```
SHELF 00  Power   LIU  ENET-Plane 0 ENET-Plane 1  LIU  Power
                       11  11111111 22  22222222  333  333333
Slot     123456  789  01  23456789 01  23456789  012  345678
         .  .         ..  ........ ..  .....F..       .  .
```

**4** Determine and record the location of the crosspoint card that has in-service trouble. The letter I in a Slot status field indicates the crosspoint card that has in-service trouble.

**5** To access the INTEG level of the MAP display, type

**>NET;INTEG**

and press the Enter key.

```
ENET    System  Matrix  Shelf   0 1 2 3
 Plane 0    .     .             . . . .
 Plane 1    .    Istb           F . . .

AUDIT: ON   Audit Time:  09:45   INTEGRITY Logs:  ON
```

## Net ISTb on a crosspoint card minor (continued)

**6** To display integrity information for the crosspoint card that has in-service trouble, type

**`>DISPLAY SLOT plane_number shelf_number slot_number`**

and press the Enter key.

*where*

**plane_number**
is 0 or 1

**shelf_number**
is 0 or 1 for 64k ENET, 0 to 7 for 128k ENET, or 0 for 16k or 32k ENET

**slot_number**
is 9 to 38 for 32k, 64k and 128K ENET, 12 to 19 and 22 to 29 for 16K ENET

*Example of a MAP display:*

```
                          PARITY + INTEGRITY
SLOT  SWTCH..INPUT  OUTPUT  V–BUS   H–BUS  SOFTFLT   HARD
TRAPPED TOTAL
  0     0       0     0      0        0       0       1
0       1
```

**7** Determine if the fields H-Bus, Softflt, Hard, and Trapped contain a value of 0 (zero).

| If all fields | Do |
|---|---|
| contain a value of 0 | step 8 |
| do not contain a value of 0 | step 9 |

**8** Action is not necessary in response to this alarm. The daily integrity audit clears the alarm. When the integrity counters reach the specified threshold, the alarm also clears.

Go to step 15.

**9** To replace the card, use the correct procedure in *Card Replacement Procedures.* Complete the procedure and return to this point.

**10** To access the SHELF level of the MAP display, type

**`>MAPCI;MTC;NET;SHELF shelf_number`**

and press the Enter key.

*where*

**shelf_number**
is 0 or 1 for 64k ENET, 0 to 7 for 128k ENET, or 0 for 16k or

# Net ISTb on a crosspoint card minor (end)

32k ENET

**11** To return the card to service, type

**`>RTS plane_number slot_number`**

and press the Enter key.

*where*

**plane_number**
is 0 or 1

**slot_number**
is 9 to 38 for 32k, 64k and 128K ENET, 12 to 19 and 22 to 29 for 16K ENET

| If the RTS command | Do |
|---|---|
| passed | step 12 |
| failed | step 14 |

**12** Determine if the Net ISTb alarm cleared.

| If the Net ISTb alarm | Do |
|---|---|
| cleared | step 15 |
| did not clear | step 13 |

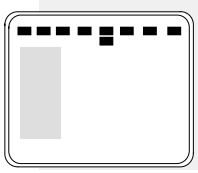
**13** Perform the procedure *Clearing a Net ISTb minor alarm procedure* in this document. Complete the procedure and return to this point.

**14** For additional help, contact the next level of support.

**15** The procedure is complete.

# Net ISTb on a link minor

## Alarm display



| CM | MS | IOD | **Net** | PM | CCS | Lns | Trks |
|---|---|---|---|---|---|---|---|
| . | . | . | **ISTb** | . | . | . | . |

## Indication

At the MAP display, ISTb appears under the Net header of the alarm banner.

At the NET level of the MAP display, ISTb is in the Matrix status field. The letter L is in a Shelf status field.

## Meaning

A peripheral-side (P-side) link component of the ENET has trouble. The P-side link component remains in service.

## Result

This alarm does not affect service.

## Common procedures

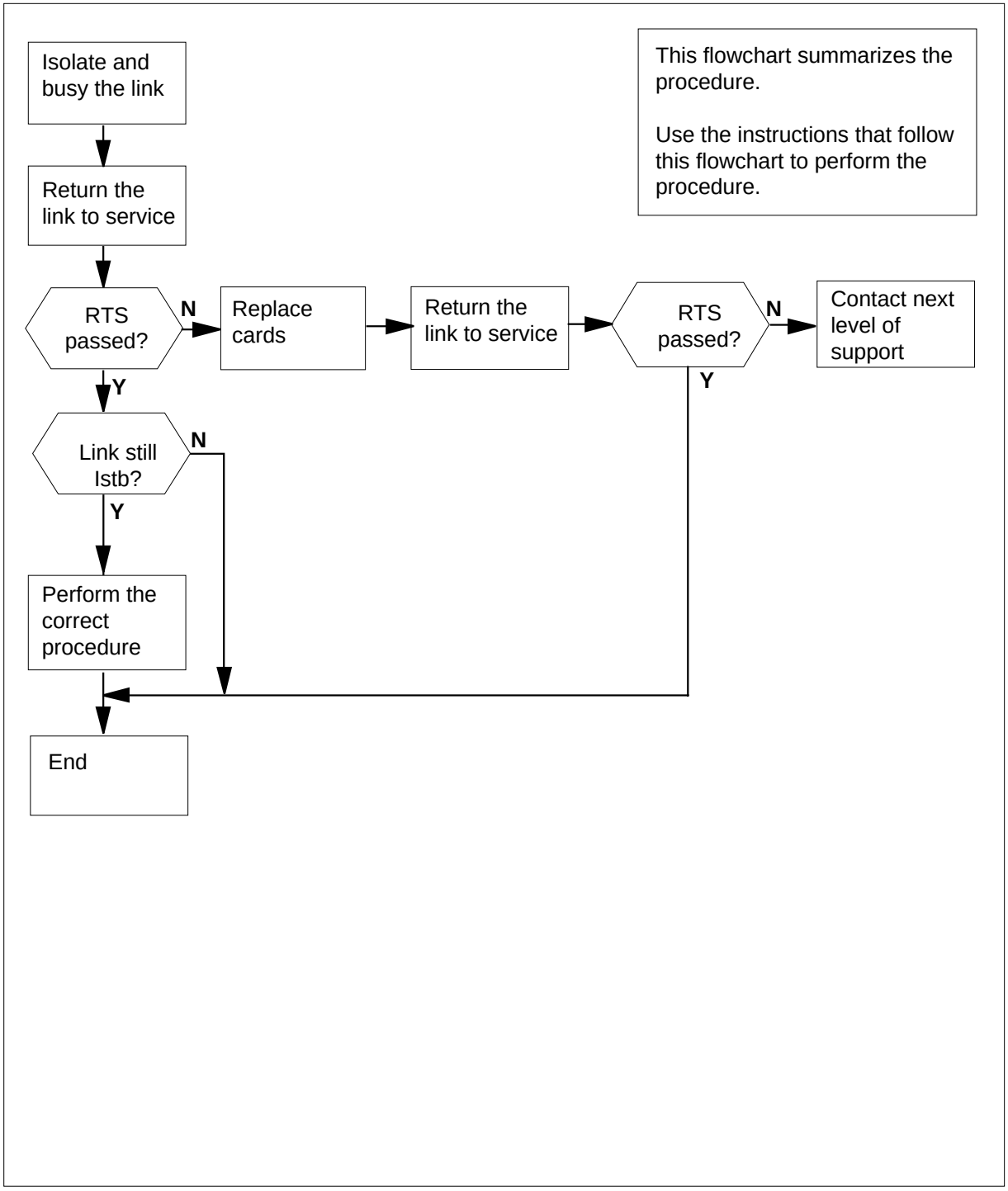
There are no common procedures.

## Action

This procedure contains a summary flowchart and a list of steps. Use the flowchart to review the procedure. Follow the steps to perform the procedure.

# Net ISTb on a link
# minor (continued)

**Summary of clearing a Net ISTb on a link minor alarm**



# Net ISTb on a link minor (continued)

**Clearing an Net ISTb on a link minor alarm**

***At the MAP terminal***

**1** To access the Net level of the MAP display, type

**>MAPCI;MTC;NET**

and press the Enter key.

*Example of a MAP display:*

```
ENET     System Matrix  Shelf   0 1 2 3
 Plane 0    .    Istb           L . . .
 Plane 1    .     .             . . . .
```

**2** Determine the node with a link component that has in-service trouble. The ISTb in the Matrix status field indicates in-service trouble. The letter L in a Shelf status field indicates in-service trouble.

**3** To access the SHELF level of the MAP display for the node that has in-service trouble, type

**>SHELF shelf_number**

and press the Enter key.

*where*

**shelf_number**
is 0 or 1 for 64k ENET, 0 to 7 for 128k ENET, or 0 for 16k or

32k ENET

*Example of a MAP display:*

```
SHELF 00  Power   LIU  ENET-Plane 0 ENET-Plane 1  LIU Power
                     11  11111111 22  22222222  333  333333
Slot     123456  789  01  23456789 01  23456789  012  345678
         .  .         ..  ........ ..  .....F..       .  .
```

**4** Identify the location of the link that has in-service trouble. The letter L in a Slot status field indicates in-service trouble.

**5** Access the CARD level of the MAP display for the slot that has the in-service trouble link. To access the CARD level, type

**>CARD slot_number**

and press the Enter key.

*where*

**slot_number**
is 1 to 38

*Example of a MAP display:*

*64K and 128K ENET*

## Net ISTb on a link
## **minor** (continued)

```
CARD 11 Front:  Back:   DS-30 Links 111111
         Xpt    I/F       0123456789012345
Plane 0   .      .        ...I-----------
Plane 1   .      .        ....------------
```

*16K ENET*

```
CARD    Plane   Front:  Back:   DS-30 Links 111111
                 Xpt     I/F      0123456789012345
15        0       .     .         ...I------------
25        1       .     .         ....------------
```

**6** Isolate the link that has the in-service trouble. The letter I in the Links status field indicates the link that has in-service trouble.

**7** To busy the link that has in-service trouble, type

**`>BSY plane_number LINK link_number`**

and press the Enter key.

*where*

**plane_number**
is 0 or 1

**link_number**
is 0 to 15 for DS30 links, 0 to 3 or 16 to18 for DS512 fiber links

*MAP response:*

```
Request to MAN BUSY ENET Plane:1 Shelf:00 Slot:11
 Link:3 submitted.
Request to MAN BUSY ENET Plane:1 Shelf:00 Slot:11
 Link:3 passed.
```

**8** To return the link to service, type

**`>RTS plane_number LINK link_number`**

and press the Enter key.

*where*

**plane_number**
is 0 or 1

**link_number**
is 0 to 15 for DS30 links, 0 to 3 or 16 to18 for DS512 fiber links

*MAP response:*

## Net ISTb on a link minor (continued)

```
Request to RTS ENET Plane:1 Shelf:00 Slot:11 Link:3
passed.
```

| If the RTS command | Do |
|---|---|
| passed, and the link is not ISTb | step 21 |
| passed, and the link remains ISTb | step 15 |
| failed | step 9 |

**9** Record the product engineering codes (PECs) and location of all cards on the list.

**10** Note the first card that remains on the list that you recorded in step 9.

**11** To replace the card, use the correct procedure in *Card Replacement Procedures*. Complete the procedure and return to this point.

**12** Cross the replaced card off the list that you recorded in step 9.

**13** To confirm the location at the CARD level of the MAP display, type

**`>MAPCI;MTC;NET;SHELF shelf_number;CARD slot_number`**

and press the Enter key.

*where*

**shelf_number**
is 0 or 1 for 64k ENET, 0 to 7 for 128k ENET, or 0 for 16k or 32k ENET

**slot_number**
is 1 to 38

**14** To return the link to service, type

**`>RTS plane_number LINK link_number`**

and press the Enter key.

*where*

**plane_number**
is 0 or 1

**link_number**
is 0 to 15 for DS30 links, 0 to 3 or 16 to 18 for DS512 fiber links

*MAP response:*

```
Request to RTS ENET Plane:1 Shelf:00 Slot:11 Link:3
submitted.
```

| If the RTS command | Do |
|---|---|
| passed | step 21 |

## Net ISTb on a link
**minor** (continued)

| If the RTS command | Do |
|---|---|
| failed, and cards remain on the list recorded in step 9 | step 11 |
| failed, and cards do not remain on the list recorded in step 9 | step 15 |

**15** The RTS command runs the diagnostic procedures. The diagnostic procedures can not clear the alarm. The required action depends on the reason for the in-service trouble.

Go to step 16.

**16** To determine the reason for the in-service trouble, type

```
>QUERYEN plane_number LINK link_number ISTB
```

and press the Enter key.

*where*

**plane_no**
is 0 or 1

**link_no**
is 0 to 15 for DS30 links, 0 to 3 or 16 to 18 for DS512 fiber links

| If the response received | Do |
|---|---|
| is FAULT DETECTED ON SPEECH CHANNEL OF MESSAGE LINK | step 17 |
| is MESSAGE TEST FAILED ON PATH THROUGH MS n | step 18 |
| is BACKUP MESSAGE PATH THROUGH MS n HAD A FAULT | step 18 |
| is A DS30 EQUIVALENT ON FIBER IS Istb | step 18 |
| is A DS30 EQUIVALENT ON FIBER IS SysB | step 18 |
| is A DS30 EQUIVALENT ON FIBER IS CBsy | step 18 |

**17** The resources required to execute the RTS command were not present at the time of submission. Repeat step 14 until the RTS passes, or fails with a different message.

# Net ISTb on a link minor (end)

**18** Check the MS header of the MAP display.

| If an alarm | Do |
|---|---|
| appears under the MS header | step 19 |
| does not appear under the MS header | step 23 |

**19** Follow the correct alarm clearing procedure in this document. Complete the procedure and return to this point.

**20** To confirm that you are at the CARD level of the MAP display, type

**`>MAPCI;MTC;NET;SHELF shelf_number;CARD slot_number`**

and press the Enter key.

*where*

**shelf_number**
is 0 or 1 for 64k ENET, 0 to 7 for 128k ENET, or 0 for 16k or 32k ENET

**slot_number**
is 1 to 38

Go to step 7.

**21** Determine if the Net ISTb alarm cleared.

| If the Net ISTb alarm | Do |
|---|---|
| cleared | step 24 |
| did not clear | step 22 |

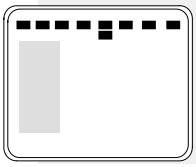
**22** Perform the procedure *Clearing a Net ISTb minor alarm* in this document. Complete the procedure and return to this point.

**23** For additional help, contact the next level of support.

**24** The procedure is complete.

# Net ISTb on a system card minor

## Alarm display



| CM | MS | IOD | **Net** | PM | CCS | Lns | Trks | Ext | APPL |
|---|---|---|---|---|---|---|---|---|---|
| . | . | . | **ISTb** | . | . | . | . | . | . |

## Indication

At the MAP display, ISTb appears under the Net header of the alarm banner.

At the NET level of the MAP display, ISTb appears in the System status field. The letter I appears in a Shelf status field.

## Meaning

A minimum of one system card within an ENET node has trouble. The system card remains in service.

The ISTb system alarm occurs when an ENET system card fails the in-service audit tests. The system runs the test at 4-min intervals.

## Result

This alarm does not affect service.

## Common procedures

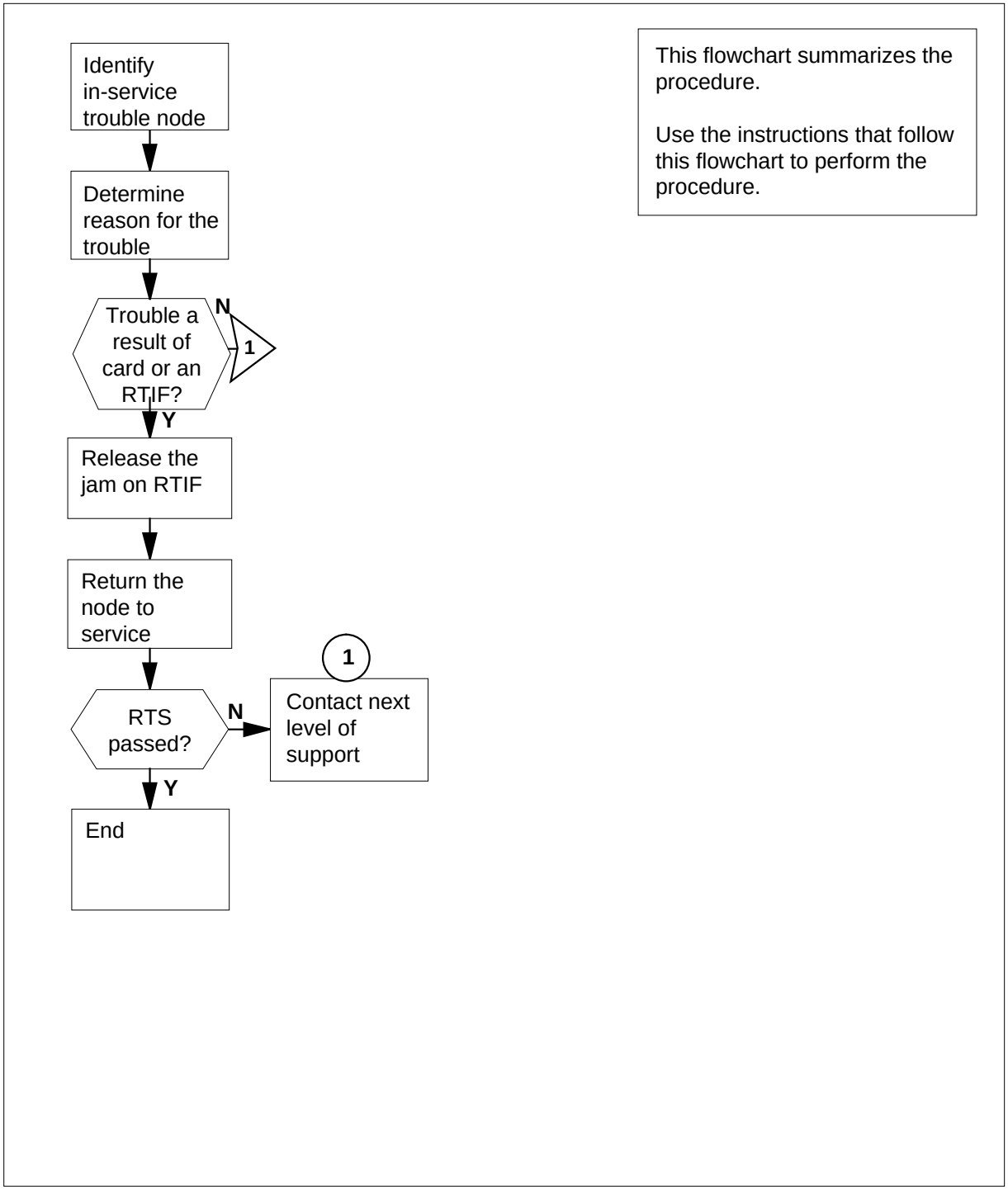
There are no common procedures.

## Action

This procedure contains a summary flowchart and a list of steps. Use the flowchart to review the procedure. Follow the steps to perform the procedure.

# Net ISTb on a system card minor (continued)

**Summary ofclearing a Net ISTb on a system card minor alarm**



# Net ISTb on a system card
## **minor** (continued)

**Clearing a Net ISTb on a system card minor alarm**

***At the MAP terminal***

**1** To access the Net level of the MAP display, type

**`>MAPCI;MTC;NET`**

and press the Enter key.

*Example of a MAP display:*

```
ENET      System    Matrix  Shelf   0 1 2 3
 Plane 0    Istb      .             I . . .
 Plane 1      .       .             . . . .
```

**2** Determine the location of the node that has in-service trouble. The letter I in a Shelf status field of the display indicates the node that has in-service trouble.

**3** To access the SYSTEM level of the MAP display, type

**`>SYSTEM`**

and press the Enter key.

**4** To determine the reason for the in-service trouble on the node, type

**`>QUERYEN plane_number shelf_number ISTB`**

and pressing the Enter key.

*where*

**plane_number**
is the node with in-service trouble

**shelf_number**
is 0 or 1 for 64k ENET, 0 to 7 for 128k ENET, or 0 for 16k or 32k ENET

**5** The source of the alarm is the NT9X13 CPU card in the node.

Go to step 11.

**6** The entry for the CPU card that is in field CPPEC of table ENCDINV is wrong.

Go to step 18.

**7** The source of the alarm is the NT9X26 RTIF card in the node, or the RTIF terminal manually jammed.

***At the RTIF terminal***

**8** Check the RTIF terminal. The top right-hand status field and the prompt \RELEASE JAM indicate a manually jammed RTIF terminal.

*Example of an RTIF display*

# Net ISTb on a system card minor (continued)

```
\BOOT<> EN1 A1 Out-of-service Cpu ClkOK 9X26OK ManJam
\RESTART<>
\RELEASE JAM
\HELP
```

| If the RTIF terminal | Do |
|---|---|
| manually jammed | step 10 |
| did not manually jam | step 9 |

**9** The source of the alarm is the NT9X26 RTIF card in the node.

Go to step 11.

***At the RTIF terminal***

**10** To release the jam, type

**>\RELEASE JAM**

and press the Enter key.

Go to step 13.

***At the ENET shelf***

**11** To replace the card, use the correct procedure in *Card Replacement Procedures.* When the procedure is complete, return to this point.

***At the MAP terminal***

**12** To confirm that you are at the SYSTEM level of the MAP display, type

**>MAPCI;MTC;NET;SYSTEM**

and press the Enter key.

**13** To return the ENET node to service, type

**>RTS plane_number shelf_number**

and press the Enter key.

*where*

**plane_number**
is the node with in-service trouble

**shelf_number**
is 0 or 1 for 64K ENET, 0 to 7 for 128K ENET, 0 for 16K ENET

*Map response:*

## Net ISTb on a system card
## **minor** (end)

```
Request to RTS ENET Plane:0 Shelf:00 submitted.
Request to RTS ENET Plane:0 Shelf:00 passed.
```

| If the RTS command | Do |
|---|---|
| passed | step 15 |
| failed, and the MAP response is `Incorrect ENCLASS in table ENINV` | step 14 |
| failed for any other reason | step 18 |

**14** The ENET class you entered in field ENCLASS of table ENINV was wrong.

***Note:*** For 16K ENET, enter ENCLASS as PRI16K. For 64K ENET, enter ENCLASS as PRI64K. For 128K ENET, enter ENCLASS as PRI.

Go to step 18.

**15** Determine if the Net ISTb alarm cleared.

| If the Net ISTb alarm | Do |
|---|---|
| cleared | step 19 |
| did not clear | step 16 |

**16** Perform the procedure *How to clear a Net ISTb minor alarm* in this document. Complete the procedure and return to this point.

**17** Wait 5 min to determine if the PSLk alarms cleared.

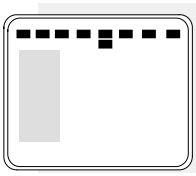
| If the PSlk alarms | Do |
|---|---|
| cleared | step 19 |
| did not clear | step 18 |

**18** For additional help, contact the next level of support.

**19** The procedure is complete.

# Net JcTr minor

## Alarm display



| CM | MS | IOD | **Net** | PM | CCS | Lns | Trks | Ext | APPL |
|---|---|---|---|---|---|---|---|---|---|
| . | . | . | **0Jctr** | . | . | . | . | . | . |

## Indication

At the maintenance level of the MAP display, Jctr (preceded by a number) appears under the Net subsystem status header. The Jctr indicates a network junctor alarm.

## Meaning

The following are the possible states of the indicated network junctors:

- system busy
- C-side busy
- manual busy
- P-side busy

## Result

The Jctr alarm does not affect subscriber service.

## Common procedures

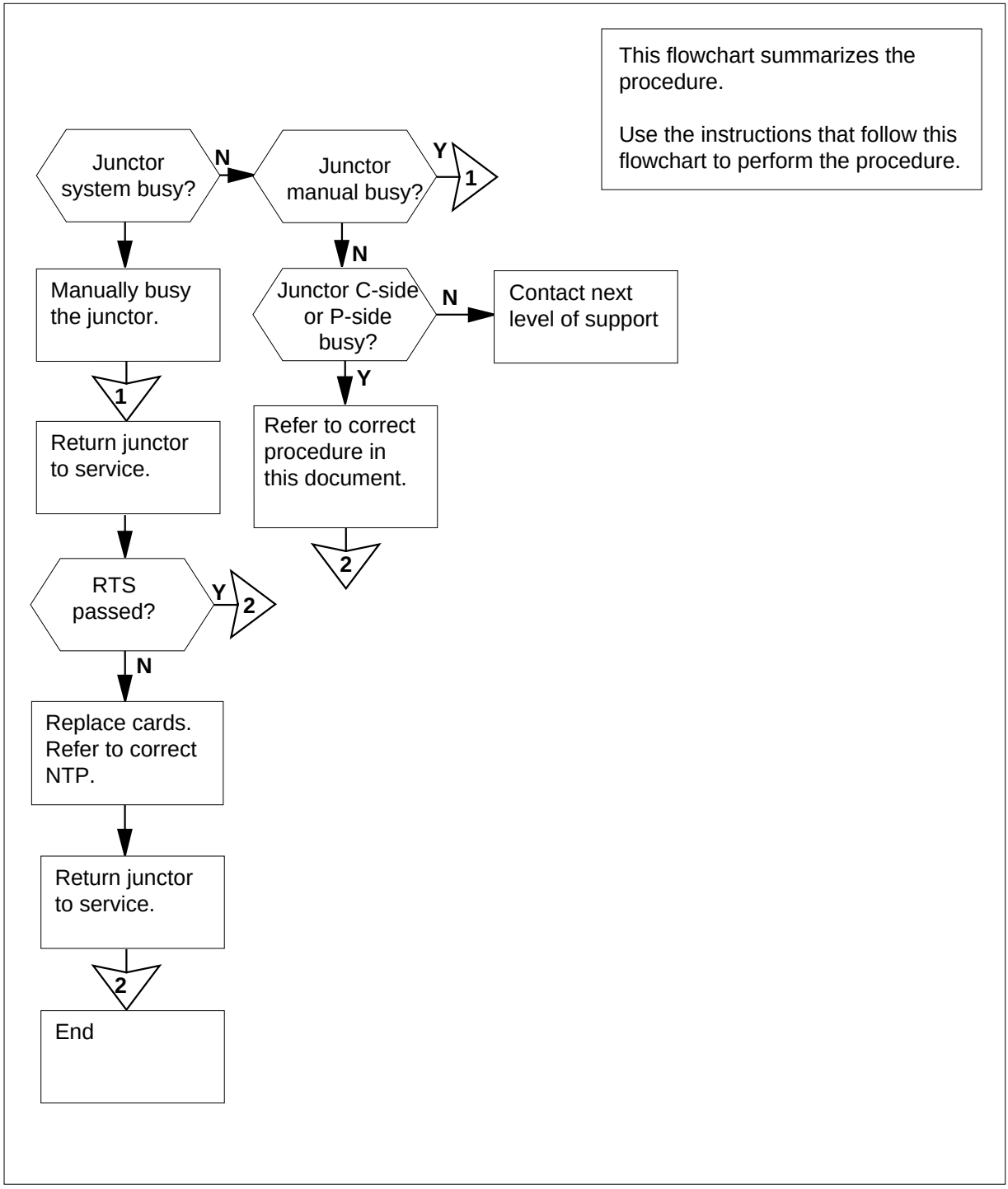
There are no common procedures.

## Action

This procedure contains a summary flowchart and a list of steps. Use the flowchart to review the procedure. Follow the steps to perform the procedure.

# Net JcTr
# minor (continued)

**Summary of clearing a Net JcTr minor alarm**



# Net JcTr
## minor (continued)

### Clearing a Net JcTr minor alarm

***At the MAP terminal***

**1** To access the NET level of the MAP display, type

**`>MAPCI;MTC;NET`**

and press the Enter key.

**2** If necessary, to silence the alarm, type

**`>SIL`**

and press the Enter key.

**3** If a minimum of two network modules have a junctor alarm (status code J), choose one network module to work on.

**4** To display the status of the junctors in the selected network module, type

**`>JCTRS pair_no`**

and press the Enter key.

*where*

**pair_no**
is the identification number of the network pair (0 to 31)

**5** Examine the status codes of the junctors of the selected network module.

| If the status code | Do |
|---|---|
| is system busy (S) | step 6 |
| is C-side busy (C) | step 14 |
| is manual busy (M) | step 19 |
| is P-side busy (P) | step 29 |

**6** Record the number of each system busy junctor. When a minimum of two system busy junctors appear at the MAP, choose one junctor to work on.

**7** To manually busy the selected junctor display, type

**`>BSY plane_no junctor_no`**

and press the Enter key.

*where*

**plane_no**
is the identification number of the network plane (0 or 1)

**junctor_no**
is the identification number of the junctor (0 to 63)

**8** To return the junctor to service, type

**`>RTS plane_no junctor_no`**

and press the Enter key.

## Net JcTr
## minor (continued)

*where*

**plane_no**
is the identification number of the network plane (0 or 1)

**junctor_no**
is the identification number of the junctor (0 to 63)

| If the RTS command | Do |
|---|---|
| passed, but you recorded other system busy junctors in step 6 | step 6 |
| passed, and other system busy junctors are not present | step 35 |
| failed, and the system generated a card list | step 9 |
| failed, and the system did not generate a card list | step 34 |

**9** Record the locations, PECs, and PEC suffixes of the cards on the card list.

**10** To replace the first card on the card list, refer to *Card Replacement Procedures*. Return to this point.

**11** To return the junctor to service, type

**`>RTS plane_no junctor_no`**

and press the Enter key.

*where*

**plane_no**
is the identification number of the network plane (0 or 1)

**junctor_no**
is the identification number of the junctor (0 to 63)

| If the RTS command | Do |
|---|---|
| passed, and other system busy junctors are not present | step 35 |
| passed, but you recorded other system busy junctors in step 6 | step 7 |
| failed, and you did not replace all cards recorded in step 9 | step 12 |
| failed, and you replaced all cards recorded in step 9 | step 34 |

## Net JcTr
## minor (continued)

**12** See *Card Replacement Procedures* to replace the next card on the list. Complete the procedure and return to this point.

**13** Go to step 11.

**14** Record the number of each C-side busy junctor. When a minimum of two C-side busy junctors appear at the MAP display, choose one junctor to work on.

**15** To determine the network module that connects to the C-side busy junctor, type

```
>TRNSLC
```

and press the Enter key.

**16** Record the number of the network module that connects to the C-side busy junctor.

**17** To clear the fault in the other network module, refer to the correct alarm clearing procedure in this document . Return to this point.

**18** To display the status of the original C-side busy junctor, type

```
>JCTRS  pair_no
```

and press the Enter key.

*where*

**pair_no**
is the identification number of the network pair (0 to 31)

| If the junctor | Do |
|---|---|
| is InSv ( . ), but you recorded other C-side busy junctors in step 14 | step 15 |
| is InSv ( . ), and other C-side busy junctors are not present | step 35 |
| remains C-side busy (C) | step 34 |

**19** When more than one manual busy junctor appears at the MAP display, record the number of each manual busy junctor. Select one junctor to work on.

**20** Determine from office records or operating company personnel why the network module is manual busy. When you have permission, continue the procedure.

**21** To test the manual busy junctor, type

```
>TST  junctor_no
```

and press the Enter key.

*where*

## Net JcTr
## minor (continued)

**junctor_no**
is the identification number of the manual busy junctor (0 to 63)

| If the TST command | Do |
|---|---|
| passed | step 23 |
| failed, and the system generated a card list | step 22 |
| failed, and the system did not generate a card list | step 34 |

**22** To replace the first card on the card list, refer to *Card Replacement Procedures*. Return to this point.

**23** To return the junctor to service, type

**>RTS plane_no junctor_no**

and press the Enter key.

*where*

**plane_no**
is the identification number of the network module plane (0 or1)

**junctor_no**
is the identification number of the junctor (0 to 63)

| If the RTS command | Do |
|---|---|
| passed, but you recorded other manual busy junctors in step 19 | step 20 |
| passed, but no other C-side busy junctors are not present | step 35 |
| failed, and the system generated a card list | step 24 |
| failed, and the system did not generate a card list | step 34 |

**24** Record the locations, PECs, and PEC suffixes of the cards on the card list.

**25** To replace the first card on the card list, refer to *Card Replacement Procedures*. Complete the correct procedure and return to this point.

**26** To return the junctor to service, type

**>RTS plane_no junctor_no**

and press the Enter key.

*where*

## Net JcTr
## minor (continued)

**plane_no**
is the identification number of the network module plane (0 or1)

**junctor_no**
is the identification number of the junctor (0 to 63)

| If the RTS command | Do |
|---|---|
| passed, and other manual busy junctors are not present | step 35 |
| passed, but you recorded other manual busy junctors in step 19 | step 20 |
| failed, and you did not replace all cards recorded in step 24 | step 27 |
| failed, and you replaced all cards recorded in step 24 | step 34 |

**27** To replace the next card on the list, refer to *Card Replacement Procedures*. Complete the procedure and return to this point.

**28** Go to step 26.

**29** When more than one P side busy junctor appears, record the number of each P-side busy junctor. Select one junctor to work on.

**30** To determine the network module that connects to the P-side busy junctor, type

```
>TRNSL  P
```

and press the Enter key.

**31** Record the number of the network module that connects to the P-side busy junctor.

**32** To clear the fault in the other network module, refer to the correct procedure in this manual . Return to this point.

**33** To display the status of the original P-side busy junctor, type

```
>JCTRS  pair_no
```

and press the Enter key.

*where*

**pair_no**
is the identification number of the network pair (0 to 31)

| If the junctor | Do |
|---|---|
| is InSv, but you recorded other P-side busy junctors in step 29 | step 30 |

## Net JcTr
## minor (end)

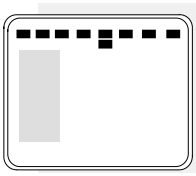
| If the junctor | Do |
|---|---|
| is InSv, and no other P-side busy junctors are not present | step 35 |
| remains P-side busy | step 34 |

**34** For additional help, contact the next level of support.

**35** The procedure is complete.

# Net Link minor

## Alarm display



| CM | MS | IOD | **Net** | PM | CCS | Lns | Trks | Ext | APPL |
|---|---|---|---|---|---|---|---|---|---|
| . | . | . | **1Link** | . | . | . | . | . | . |

## Indication

At the MAP display, Link (preceded by a number) appears under the Net subsystem status header of the alarm banner. The Link indicates a network links alarm.

## Meaning

The indicated network modules have links that are in one of the following states:

- system busy
- C-side busy
- manual busy
- P-side busy

## Result

This alarm does not affect subscriber service.

## Common procedures

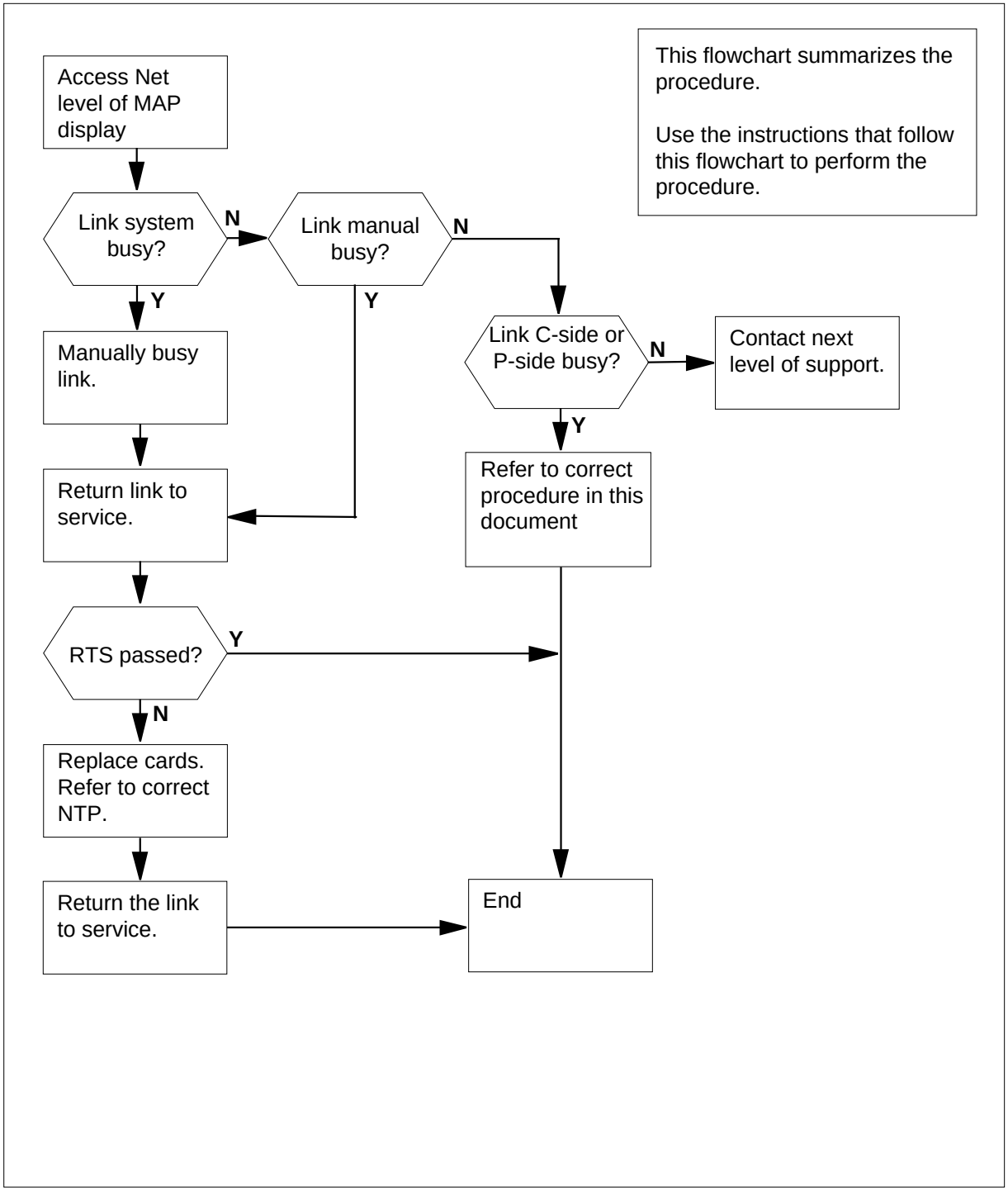
There are no common procedures.

## Action

This procedure contains a summary flowchart and a list of steps. Use the flowchart to review the procedure. Follow the steps to perform the procedure.

# Net Link
## **minor** (continued)

**Summary of clearing a Net Link minor alarm**



# Net Link
## minor (continued)

### Clearing a Net Link minor alarm

***At the MAP terminal***

**1** To access the Net level of the MAP display, type

```
>MAPCI;MTC;NET
```

and press the Enter key.

**2** If necessary, to silence the alarm, type

```
>SIL
```

and press the Enter key.

**3** If a minimum of two network modules have the status code L, select one network module to work on.

**4** To display the status of the links of the selected network module, type

```
>LINKS  pair_no
```

and press the Enter key.

*where*

**pair_no**
is the identification number of the network module pair (0 to 31)

**5** Examine the status codes in the links status display. Proceed according to the following table.

| If the links | Do |
|---|---|
| are system busy (S) | step 6 |
| are C-side busy (C) | step 38 |
| are manual busy (M) | step 23 |
| are P-side busy (P) | step 43 |

**6** When a minimum of two system busy links appear at the MAP display, record the number of each system busy link. Choose one link to work on.

**7** To test the selected link, type

```
>TST  plane_no  link_no
```

and press the Enter key.

*where*

**plane_no**
is the identification number of the network module plane (0 or 1)

## Net Link
## minor (continued)

**link_no**
is the identification number of the link (0 to 63)

| If the TST command | Do |
|---|---|
| passed | step 8 |
| failed and the system generated a card list | step 12 |
| failed and the system did not generate a card list | step 48 |

**8** Determine if the system returned the link to service.

| If the system | Do |
|---|---|
| returned the link to service | step 9 |
| did not return the link to service | step 10 |

**9** Determine if you recorded other system-busy links in step 6.

| If you | Do |
|---|---|
| recorded other system busy links | step 6 |
| did not record other system busy links | step 49 |

**10** To busy the link that is system busy, type

**>BSY plane_no link_no**

and press the Enter key.

*where*

**plane_no**
is the identification number of the plane (0 or 1)

**link_no**
is the identification number of the link (0 to 63)

**11** To return the link to service, type

**>RTS plane_no link_no**

and press the Enter key.

*where*

**plane_no**
is the identification number of the network plane (0 or 1)

## Net Link
## **minor** (continued)

**link_no**
is the identification number of the link (0 to 63)

| If the RTS command | Do |
|---|---|
| passed, but you recorded other system busy links in step 6 | step 7 |
| passed and other system busy links are not present | step 49 |
| failed and the system generated a card list | step 12 |
| failed and the system did not generate a card list | step 48 |

**12** Record the locations, PECs, and PEC suffixes of the cards on the card list.

**13** To access the Net level of the MAP display, type

```
>NET
```

and press the Enter key.

**14** To busy the network module that contains the cards that have faults, type

```
>BSY  plane_no  pair_no
```

and press the Enter key.

*where*

**plane_no**
is the identification number of the network plane (0 or 1)

**pair_no**
is the identification number of the network pair (0 to 31)

**15**

**WARNING**
**Integrity errors**
Do not produce a large number of integrity errors. Wait 30 min before you replace cards in the busied network module.

To replace the first card on the card list, refer to *Card Replacement Procedures*. Return to this point.

**16** To return the network module to service, type

```
>RTS  plane_no  pair_no
```

and press the Enter key.

## Net Link
## **minor** (continued)

*where*

**plane_no**
is the identification number of the network plane (0 or 1)

**pair_no**
is the identification number of the network pair (0 to 31)

**17** To access the LINK level of the MAP display, type

**`>LINKS pair_no`**

and press the Enter key.

*where*

**pair_no**
is the identification number of the network module pair (0 to 31)

**18** To return the link to service, type

**`>RTS plane_no link_no`**

and press the Enter key.

*where*

**plane_no**
is the identification number of the network plane (0 or 1)

**link_no**
is the identification number of the link (0 to 63)

| If the RTS command | Do |
|---|---|
| passed, but you recorded other system busy links in step 6 | step 7 |
| passed, and other system busy links are not present | step 49 |
| failed, and you did not replace all cards that you recorded in step 12 | step 19 |
| failed, and you replaced all cards that you recorded in step 12 | step 48 |

**19** To access the Net level of the MAP display, type

**`>NET`**

and press the Enter key.

**20** To busy the network module that contains the cards that have faults, type

**`>BSY plane_no pair_no`**

and press the Enter key.

*where*

# Net Link
## minor (continued)

**plane_no**
is the identification number of the network plane (0 or 1)

**pair_no**
is the identification number of the network pair (0 to 31)

**21** To replace the next card on the card list, refer to *Card Replacement Procedures*. Complete the procedure and return to this point.

**22** Go to step 16

**23** When a minimum of two manual busy links appear at the MAP display, record the number of each manual busy link. Choose one link to work on.

**24** Determine from office records or operating company personnel why the link is manual busy. When the person that disables the timer gives you permission, continue this procedure.

**25** To test the manual busy link, type

**`>TST plane_no link_no`**

and press the Enter key.

*where*

**plane_no**
is the identification number of the network plane (0 or 1)

**link_no**
is the identification number of the manual busy link (0 to 63)

| If the TST command | Do |
|---|---|
| passed | step 26 |
| failed, and the system generated a card list | step 27 |
| failed, and the system did not generate a card list | step 48 |

**26** To return the link to service, type

**`>RTS plane_no link_no`**

and press the Enter key.

*where*

**plane_no**
is the identification number of the network plane (0 or 1)

**pair_no**
is the identification number of the network pair (0 to 31)

| If the RTS command | Do |
|---|---|
| passed, but you recorded other manual busy links in step 23 | step 24 |

## Net Link
## **minor** (continued)

| If the RTS command | Do |
|---|---|
| passed, and other manual busy links are not present | step 49 |
| failed, and the system generated a card list | step 27 |
| failed and the system did not generate a card list | step 48 |

**27** Record the locations, PECs, and PEC suffixes of the cards on the card list.

**28** To access the Net level of the MAP display, type

```
>NET
```

and press the Enter key.

**29** To busy the network module that contains the cards that have faults, type

```
>BSY  plane_no  pair_no
```

and press the Enter key.

*where*

**plane_no**
is the identification number of the network plane (0 or 1)

**pair_no**
is the identification number of the network pair (0 to 31)

**30** To replace the first card on the card list, refer to *Card Replacement Procedures*. Return to this point.

**31** To return the network module to service, type

```
>RTS   plane_no  pair_no
```

and press the Enter key.

*where*

**plane_no**
is the identification number of the network plane (0 or 1)

**pair_no**
is the identification number of the network pair (0 to 31)

**32** To access the LINK level of the MAP display, type

```
>LINKS  pair_no
```

and press the Enter key.

*where*

**pair_no**
is the identification number of the network module pair (0 to 31)

# Net Link
## minor (continued)

**33** To return the link to service, type

**>RTS plane_no link_no**

and press the Enter key.

*where*

**plane_no**
is the identification number of the network plane (0 or 1)

**pair_no**
is the identification number of the network pair (0 to 31)

| If the RTS command | Do |
|---|---|
| passed, but you recorded other manual busy links in step 23 | step 24 |
| passed, and other manual busy links are not present | step 49 |
| failed, and you did not replace all the cards that you recorded in step 27 | step 34 |
| failed, and you replaced all the cards that you recorded in step 27 | step 48 |

**34** To access the Net level of the MAP display, type

**>NET**

and press the Enter key.

**35** To busy the network module that contains the cards that have faults, type

**>BSY plane_no pair_no**

and press the Enter key.

*where*

**plane_no**
is the identification number of the network plane (0 or 1)

**pair_no**
is the identification number of the network pair (0 to 31)

**36** To replace the next card on the card list, refer to *Card Replacement Procedures*. Complete the procedure and return to this point.

**37** Go to step 33.

**38** Record the number of each C-side busy link. When a minimum of two C-side busy links appear at the MAP terminal, select a link to work on.

## Net Link
## minor (continued)

**39** Determine the message switch (MS) that connects to the network module with the C-side busy link, type

**>NET;TRNSL plane_no pair_no**

and press the Enter key.

*where*

**plane_no**
is the identification number of the network plane (0 or 1)

**pair_no**
is the identification number of the network pair (0 to 31)

**40** Record the number of the message switch (MS) that connects to the network module.

**41** To clear the fault, refer to the correct procedure in this document . Complete the procedure and return to this point.

**42** To display the status of the original C-side busy link, type

**>LINKS pair_no**

and press the Enter key.

*where*

**pair_no**
is the identification number of the network module pair (0 to 31)

| If the link | Do |
|---|---|
| is InSv ( . ) but you recorded other C-side busy links in step 14 | step 39 |
| is InSv ( . ) and other C-side busy links are not present | step 49 |
| remains C-side busy (C) | step 48 |

**43** When a minimum of 2 P-side busy links appear, record the number of each P-side busy link. Select one link to work on.

**44** To determine the peripheral module that connects to the P-side busy link, type

**>TRNSL P**

and press the Enter key.

**45** Record the number and type of the peripheral module that connects to the P-side busy link.

**46** To clears the PM fault, refer to the correct procedure in this document. Complete the procedure and return to this point.

**47** To display the status of the original P-side busy link, type

**>LINKS pair_no**

and press the Enter key.

# Net Link
# minor (end)

*where*

**pair_no**
is the identification number of the network pair (0 to 31)

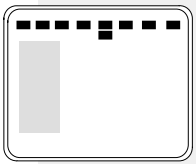
| If the link | Do |
|---|---|
| is in service, but you recorded other P-side busy links in step 43 | step 44 |
| is in service, and other P-side busy links exist are not present | step 49 |
| remains P-side busy | step 48 |

**48** For additional help, contact the next level of support.

**49** The procedure is complete.

# Net LOAD
# minor

## Alarm display



| CM | MS | IOD | **Net** | PM | CCS | Lns | Trks | Ext | APPL |
|---|---|---|---|---|---|---|---|---|---|
| . | . | . | **LOAD** | . | . | . | . | . | . |

## Indication

At the MAP display, LOAD appears under the Net header of the alarm banner.

## Meaning

You cannot open the image file. The entry in table PMLOADS is wrong, or the file has faults.

## Result

The system cannot start the ENET. The result is some or total power failure.

## Common procedures

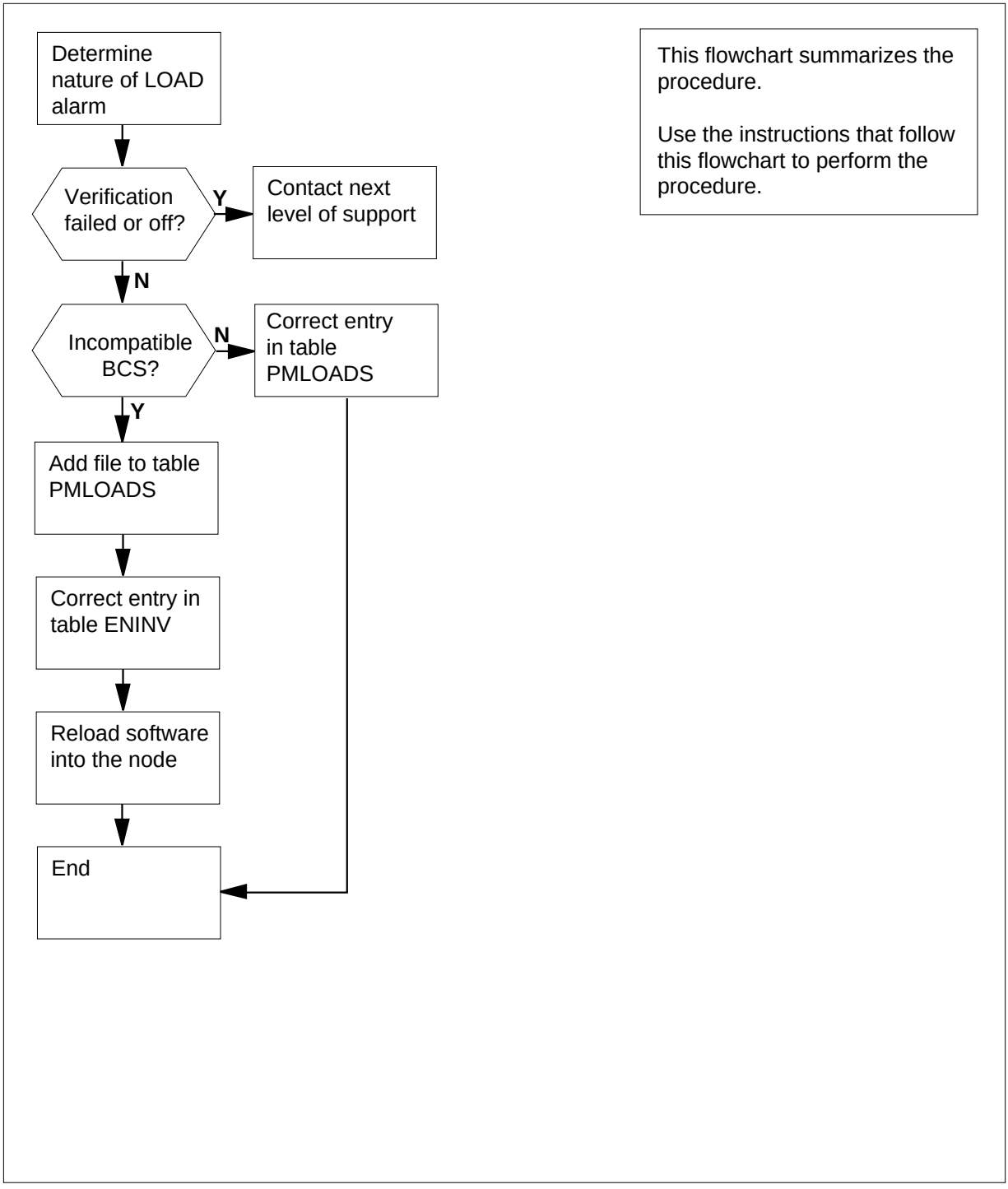
There are no common procedures.

## Action

This procedure contains a summary flowchart and a list of steps. Use the flowchart to review the procedure. Follow the steps to perform the procedure.

# Net LOAD
## minor (continued)

**Summary of clearing a Net LOAD minor alarm**



# Net LOAD
## minor (continued)

**Clearing a Net LOAD minor alarm**

***At your current location***

**1**

**WARNING**
**Loss of service**
To avoid service interruption, perform this procedure during periods of low traffic.

Determine if the alarm is the result of a new BCS application.

| If the alarm | Do |
|---|---|
| is the result of a new application | step 2 |
| is not the result of a new application | step 4 |

**2** Wait until the alarm clears. You do not need to perform any actions. Go to step 58.

***At the MAP terminal***

**3** To access the CI level of the MAP display, type

**>MAPCI**

and press the Enter key.

**4** To determine the type of the LOAD alarm, type

**>PMLOADER QUERY ALARM**

and press the Enter key.

*Example of a MAP response:*

```
A MINOR alarm is being raised by table PMLOADS for the
following reasons:
ENX34BH         Incompatible BCS
```

**5** Record the tuples that have any of the following error messages:

- Incompatible BCS
- Verification failed
- Verification off
- Bad FID

## Net LOAD
## minor (continued)

- Bad volume ID
- Directory cannot scan

| If the error message | Do |
|---|---|
| is Incompatible BCS | step 6 |
| is Verification off | step 57 |
| is Verification failed | step 57 |
| is other than listed here | step 41 |

**6** To access table ENINV, type

**>TABLE ENINV**

and press the Enter key.

**7** To display all tuples in table ENINV, type

**>LIST ALL**

and press the Enter key.

**8** Determine if the file names under the LOAD0 or LOAD1 headings are the same as the file names recorded in step 5.

| If the file names | Do |
|---|---|
| are the same | step 9 |
| are not the same | step 36 |

**9** From the office log book, determine the correct file name of the latest image file. If the office log book does not have this information, contact the next level of support

**10** To access table PMLOADS, type

**>TABLE PMLOADS**

and press the Enter key.

**11** To add the correct file name, type

**>ADD file_name**

and press the Enter key.

*where*

**file_name**
is the file name determined in step 9

*Example of a MAP response:*

```
ENTER Y TO CONTINUE PROCESSING OR N TO QUIT
```

## Net LOAD
## minor (continued)

**12** To confirm the addition, type

**>YES**

and press the Enter key.

**13** To confirm the current device type, press the Enter key.

*Example of a MAP response:*

```
TUPLE TO BE ADDED:
                file_name   dev_type
ENTER Y TO CONFIRM, N TO REJECT OR E TO EDIT.
```

**14** To confirm the addition, type

**>YES**

and press the Enter key.

**15** To exit the table PMLOADS, type

**>QUIT**

and press the Enter key.

**16** To access the table ENINV, type

**>TABLE ENINV**

and press the Enter key.

**17** To position on the shelf tuple, type

**>POS 0**

and press the Enter key.

**18** To change the load entry, type

**>CHA LOAD plane_no file_name**

and press the Enter key.

*where*

**plane_no**
is 0 or 1

**file_name**
is the file name that you determined in step 9

*Example of a MAP response:*

```
TUPLE TO BE CHANGED:
                file_name   dev_type
ENTER Y TO CONTINUE PROCESSING OR N TO QUIT
```

**19** To confirm the addition, type

**>YES**

and press the Enter key.

**20** To confirm the current device type, press the Enter key.

## Net LOAD
## **minor** (continued)

*Example of a MAP response:*

```
TUPLE TO BE CHANGED:
                file_name   dev_type
ENTER Y TO CONFIRM, N TO REJECT OR E TO EDIT.
```

**21** To confirm the addition, type

**>YES**

and press the Enter key.

**22** To exit the table ENINV, type

**>QUIT**

and press the Enter key.

**23** To access the SYSTEM level of the MAP display, type

**>MAPCI;MTC;NET;SYSTEM**

and press the Enter key.

**24** To busy the node, type

**>BSY plane_number shelf_number**

and press the Enter key.

*where*

**plane_no**
is 0 or 1

**shelf_number**
is 0 or 1 for 64K ENET, 0 to 7 for 128K ENET, 0 for 16K ENET

**25** To load software into the node, type

**>LOADEN plane_number shelf_number**

and press the Enter key.

*where*

**plane_no**
is 0 or 1

**shelf_number**
is 0 or 1 for 64K ENET, 0 to 7 for 128K ENET, 0 for 16K ENET

*MAP response:*

```
WARNING  Any software load in the ENET will be destroyed.
Please confirm (“YES” or “NO”):
```

**26** To confirm the addition, type

**>YES**

and press the Enter key.

## Net LOAD
## minor (continued)

**27** To return the node to service, type

**`>RTS plane_number shelf_number`**

and press the Enter key.

*where*

**plane_no**
is 0 or 1

**shelf_number**
is 0 or 1 for 64K ENET, 0 to 7 for 128K ENET, 0 for 16K ENET

*Example of a MAP response:*

```
Request to RTS ENET Plane:0 Shelf:00 submitted.
Request to RTS ENET Plane:0 Shelf:00 passed.
```

| If the RTS command | Do |
|---|---|
| passed | step 56 |
| failed | step 28 |

**28** Determine from the MAP response if the system generated a card list.

| If the system | Do |
|---|---|
| generated a card list | step 29 |
| did not generate a card list | step 57 |

**29** Record the product engineering code (PEC) and location of all cards in the order that they appear on the list.

**30** To replace the first card on the list, refer to *Card Replacement Procedures*. Return to this point.

**31** Cross the replaced card off the list that you recorded in step 29.

**32** To return the node to service, type

**`>RTS plane_number shelf_number`**

and press the Enter key.

*where*

**plane_no**
is 0 or 1

**shelf_number**
is 0 or 1 for 64K ENET, 0 to 7 for 128K ENET, 0 for 16K ENET

| If the RTS command | Do |
|---|---|
| passed | step 56 |

# Net LOAD
## minor (continued)

| If the RTS command | Do |
|---|---|
| failed | step 33 |

**33** Determine if any cards remain on the list that you recorded in step 29.

| If any cards | Do |
|---|---|
| are on the list | step 34 |
| are not on the list | step 57 |

**34** To replace the next card on the list, refer to *Card Replacement Procedures*. Return to this point.

**35** Go to step 31.

**36** To access table PMLOADS, type

```
>TABLE  PMLOADS
```

and press the Enter key.

**37** To position on the wrong file name, type

```
>POSITION  old_file_name
```

and press the Enter key.

*where*

**old_file_name**
is the different file name that you determined in step 8.

**38** To delete the wrong file name, type

```
>DEL  old_file_name
```

and press the Enter key.

*where*

**old_file_name**
is the different file name that you determined in step 8.

*MAP response:*

```
ENTER Y TO CONTINUE PROCESSING OR N TO QUIT
```

**39** To confirm the addition, type

```
>YES
```

and press the Enter key.

**40** To exit the table PMLOADS, type

```
>QUIT
```

and press the Enter key.

Go to step 56.

## Net LOAD
## minor (continued)

**41** To access the table PMLOADS, type

**>TABLE PMLOADS**

and press the Enter key.

**42** To position on the file name you found in step 5, type

**>POSITION file_name**

and press the Enter key.

*where*

**file_name**
is the file name you found in step 5.

**43** Note the device and volume name.

**44** To exit table PMLOADS, type

**>QUIT**

and press the Enter key.

**45** To access the disk utility, type

**>DISKUT**

and press the Enter key.

**46** List the files in the volume found in step 43 to determine if the file that you noted in step 5 is present. To list the files, type

**>LISTFL disk_volume_name**

and press the Enter key

*where*

**disk_volume_name**
is the name of the disk of SLM 0 (S00D) and the name of the volume on S00D. The volume contains the CM and MS image files

*Example input:*

**>LISTFL S00DIMAGE1**

*Example of a MAP response:*

## Net LOAD
## minor (continued)

```
File information for volume S00DIMAGE1:
{NOTE:  1 BLOCK = 512 BYTES }
------------------------------------------------------------
  LAST FILE O R I O       FILE     NUM OF   MAX  FILE NAME
MODIFY CODE R E T P       SIZE    RECORDS   REC
  DATE      G C O E         IN         IN   LEN
              C N     BLOCKS       FILE
------------------------------------------------------------
930215    0 I F          12744       6372  1020 930215_CM
930215    0 I F         188180      94090  1020 930215_MS
930212    0 O F          13460       6730  1020 APX35CG
930212    0 O F           7154       3577  1020 ERS35CG
930216    0 O F          33936      16968  1020 FPX35CG
930216    0 O F           5334       2667  1020 LRC35CG
930215    0 O F           5334       2667  1020 LCC35CG
930129    0 O F             12         24   256 ASN1UI$LD
920109    0 I F           5464       2732  1020 LRS35CD
930212    0 I F           9104       4552  1020 LPX35CG
930212    0 I F          13432       7160  1024 930212_CM
930212    0 I F         189272      93136  1024 930212_MS
```

| If the file | Do |
|---|---|
| is present | step 57 |
| is not present | step 47 |

**47** To list the other volumes, one at a time, type

**>LV vol_name**

and press the Enter key.

*where*

**vol_name**
is one of the other volumes

**48** To list the files on the first volume on the list, type

**>LF vol_name**

and press the Enter key.

*where*

**vol_name**
is the first volume on the list

| If the file | Do |
|---|---|
| is present | step 50 |

## Net LOAD
## minor (continued)

| If the file | Do |
|---|---|
| is not present | step 49 |

**49** Cross off the volume that you checked.

| If you | Do |
|---|---|
| need to check more volumes | step 48 |
| do not need to check more volumes | step 57 |

**50** To leave the disk utility, type

**>QUIT**

and press the Enter key.

**51** To access table PMLOADS, type

**>TABLE PMLOADS**

and press the Enter key.

**52** To change the old volume to the new volume that contains the file, type

**>CHA old_volume new_volume**

and press the Enter key.

*where*

**old_volume**
is the old volume

**new volume**
is the new volume that contains the file

*MAP response:*

```
ENTER Y TO CONTINUE PROCESSING OR N TO QUIT
```

**53** To confirm the addition, type

**>YES**

and press the Enter key.

**54** To exit table PMLOADS, type

**>QUIT**

and press the Enter key.

**55** To access the MTC level of the MAP display, type

**>MAPCI;MTC**

and press the Enter key.

## Net LOAD minor (end)

**56** Check the Net header to determine if the alarm cleared.

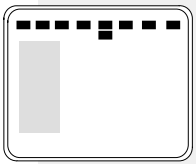
| If the LOAD alarm | Do |
|---|---|
| cleared | step 4 |
| did not clear | step 58 |

**57** For additional help, contact the next level of support.

**58** The procedure is complete.

# Net MBCd minor

## Alarm display



| CM | MS | IOD | **Net** | PM | CCS | Lns | Trks | Ext | APPL |
|---|---|---|---|---|---|---|---|---|---|
| . | . | . | **nMBCd** | . | . | . | . | . | . |

## Indication

At the MAP display, MBCd (preceded by a number) appears under the Net header of the alarm banner.

## Meaning

The number that precedes MBCd indicates the number of crosspoint cards that are manually busy. This alarm occurs in response to manual action on a minimum of one ENET component.

## Result

The alarm does not affect service. Removal of a component in the other plane causes network blockage.

## Common procedures

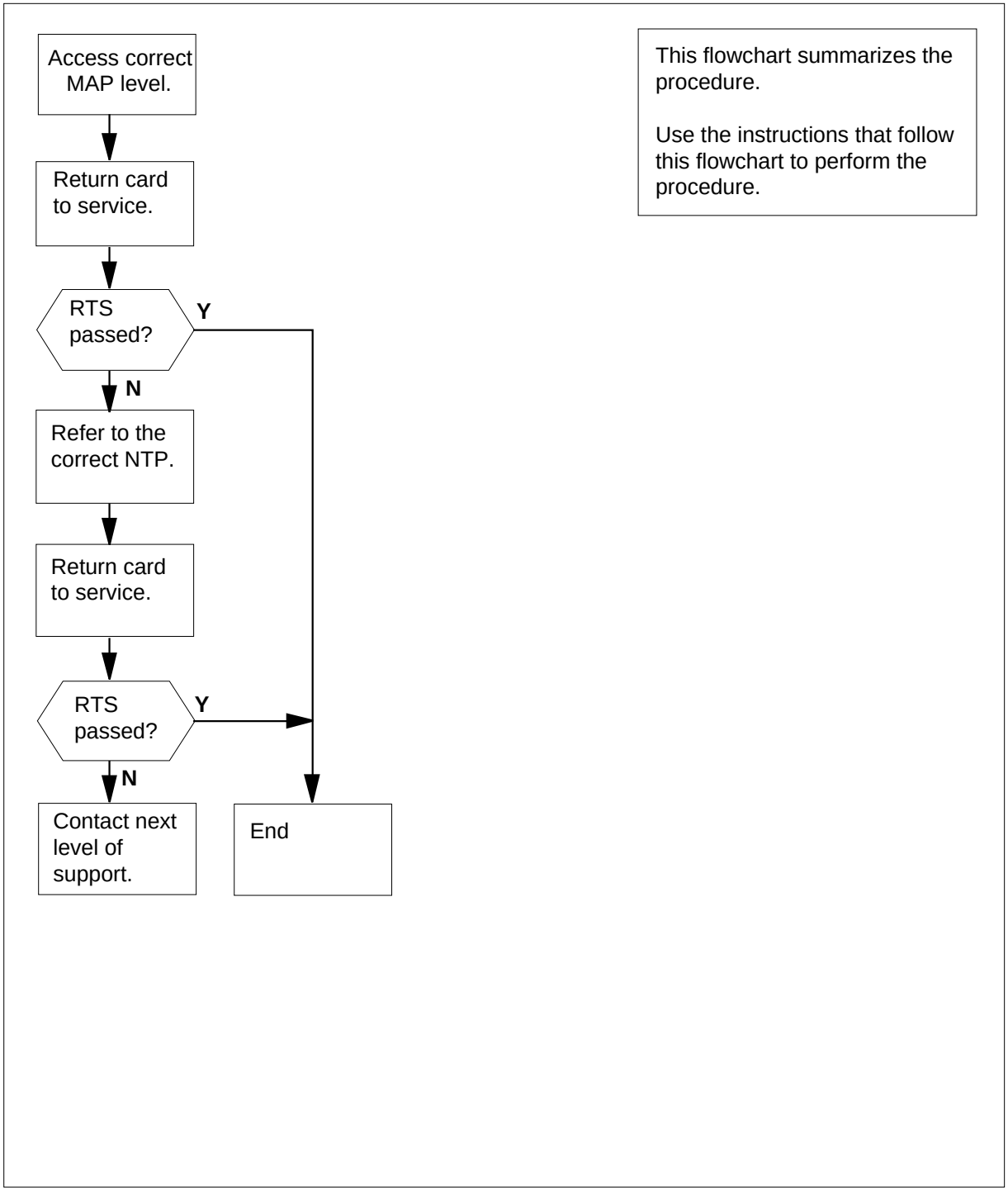
There are no common procedures.

## Action

This procedure contains a summary flowchart and a list of steps. Use the flowchart to review the procedure. Follow the steps to perform the procedure.

# Net MBCd
# minor (continued)

**Summary of clearing a Net MBCd minor alarm**



# Net MBCd
## minor (continued)

**Clearing a Net MBCd minor alarm**

**ATTENTION**

Consult with other operating company personnel. Determine the reason for the performance of the manual action. Proceed only to override this manual action.

***At the MAP terminal***

**1** To access the Net level of the MAP display, type

**>MAPCI;MTC;NET**

and press the Enter key.

*Example of a MAP display:*

```
ENET     System     Matrix  Shelf   0 1 2 3
 Plane 0    .          .             F . . .
 Plane 1    .          .             . . . .
```

**2** Determine from the display the node that contains the manually- busy crosspoint card. The letter F in the Shelf status fields indicates the node that contains the manually- busy crosspoint card.

**3** To access the SHELF level of the MAP display for the shelf that has fault (F) status, type

**>SHELF shelf_number**

and press the Enter key.

*where*

**shelf_number**
is 0 or 1 for 64K ENET, 0 to 7 for 128K ENET, 0 for 16K ENET

*Example of a MAP display:*

*64K and 128K ENET:*

```
SHELF 01  Slot      1111111 11122222   22222233 3333333
        123456 78 90123456  78901234     56789012 345678
 Plane 0  .  .   .. ..F..M  --------     ......  .  .
 Plane 1  .  .   .........  --------     ......  .  .
```

*16K ENET:*

```
SHELF 00 Power  LIU ENET–Plane 0   ENET–Plane 1 LIU Power
                 11 11111111     22 22222222  333 333333
 Slot 123456 789  01 23456789    01 23456789   012 345678
         .   .         F...      .. ...M....   .   .
```

# Net MBCd
## minor (continued)

**4** Determine from the display the location of the manually- busy crosspoint card. An M or an F in a Slot status field indicates the location of the manually-busy crosspoint card.

*Example of a MAP display:*

```
SHELF 01  Slot     1111111  11122222     22222333  333333
        123456 78 90123456  78901234     56789012  345678
 Plane 0    .  .  ....F..M  --------      .....  .  .
 Plane 1    .  .  . ......  --------      ........   .  .
```

In the example above, slot 16 on plane 0 of shelf 1 is manually busy. The F indication in slot 13 can indicate a manually- busy paddle board (back). The F indication in slot 13 also can indicate a problem with one of the links. Access the card level to determine the cause of the fault status.

A minimum of two slot status fields can contain an M or F. In this event, first access the card level for the Slot status field that contains an M.

**5** To access the CARD level of the MAP display for the slot status field that contains an M or F, type

**`>CARD slot_number`**

and press the Enter key.

*where*

**slot_number**
is 1 to 38 for 64K ENET and 128K ENET, 12 to 19 and 22 to 29

for 16K ENET

*Example of a MAP display:*

*64K and 128K ENET:*

```
CARD 16 Front:  Back:   DS-30 Links  111111
         Xpt    I/F       0123456789012345
Plane 0   .      M         CCCC------------
Plane 1   .      .         ....------------
```

*16K ENET:*

```
 CARD    Plane   Front:  Back:DS-30 Links 111111
                  Xpt    I/F 0123456789012345
 15       0       .      M CCCC------------
 25       1       .      . ....------------
```

**6** Determine from the status display if the front (crosspoint) card, back (paddle board) card, or both cards, are manually busy. An M in the status field indicates that the card is manually busy.

| If the front or back status field | Do |
|---|---|
| contains an M | step 4 |

## Net MBCd
## minor (continued)

| If the front or back status field | Do |
|---|---|
| does not contain an M | step 7 |

**7** To return the card to service, type

**>RTS plane_number component**

and press the Enter key.

*where*

**plane_number**
is 0 or 1

**component**
is one of FRONT, BACK, or BOTH

*Example of a MAP display:*

```
Request to RTS ENET Plane:0 Shelf:00 Slot:16 submitted.
```

| If the RTS command | Do |
|---|---|
| passed | step 14 |
| failed, and the system generated a card list | step 8 |
| failed | step 13 |

**8** Record the product engineering code (PEC) and location of the first card on the card list.

**9** To replace the card, use the correct procedure in *Card Replacement Procedures*. Complete the procedure and return to this point.

**10** To confirm that you are at the CARD level of the MAP display, type

**>MAPCI;MTC;NET;SHELF shelf_number;CARD slot_number**

and press the Enter key.

*where*

**shelf_number**
is 0 or 1 for 64K ENET, 0 to 7 for 128K ENET, 0 for 16K ENET

**slot_number**
is 1 to 38 for 64K ENET and 128K ENET, 12 to 19 and 22 to 29 for 16K ENET

**11** To return the replacement card to service, type

**>RTS plane_number component**

and press the Enter key.

*where*

**plane_number**
is 0 or 1

**component**
is one of FRONT, BACK, or BOTH

*Example of a MAP display:*

```
Request to RTS ENET Plane:0 Shelf:01 Slot:16 submitted.
```

| If the RTS command | Do |
|---|---|
| passed | step 14 |
| failed, and you replaced all cards on the list that the system generated in step 7 | step 13 |
| failed, and you did not replace all cards on the list that the system generated in step 7 | step 12 |

**12** Record the product engineering code (PEC) and location of the next card on the card list.

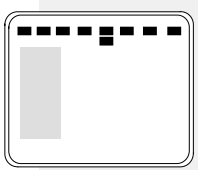
Go to step 9.

**13** For additional help, contact the next level of support.

**14** The procedure is complete.

# Net MBsy minor

## Alarm display



| CM | MS | IOD | **Net** | PM | CCS | Lns | Trks |
|---|---|---|---|---|---|---|---|
| . | . | . | **nMBsy** | . | . | . | . |

## Indication

At the MAP display, MBsy (preceded by a number) appears under the Net header of the alarm banner.

## Meaning

A minimum of one ENET node is manual busy. The number that precedes MBsy indicates the number of nodes that are manual busy.

This alarm occurs in response to manual action.

## Result

The Net MBsy alarm does not affect subscriber service. The removal from service of any component in the other plane of the shelf causes network blockage.

## Common procedures

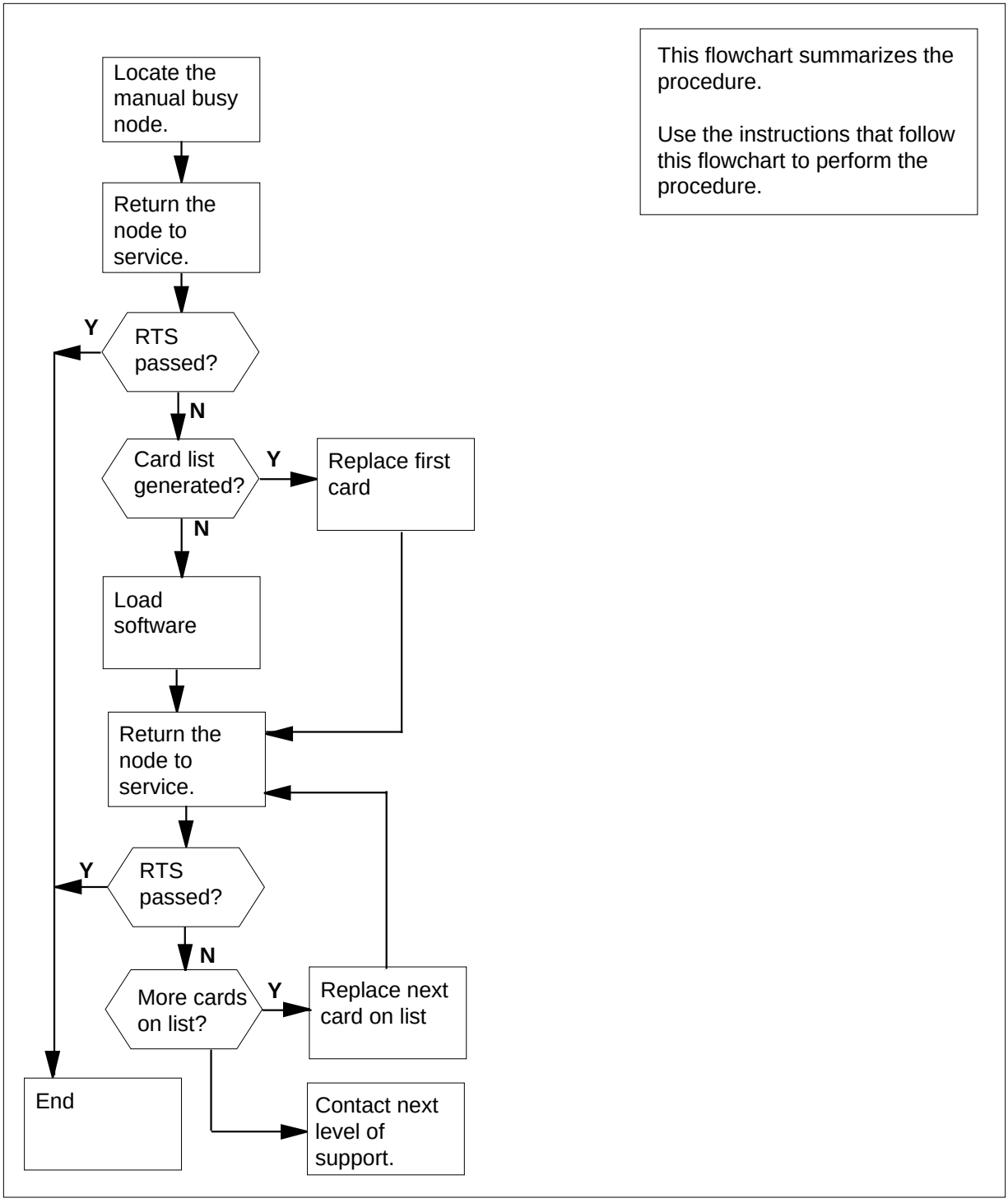
There are no common procedures.

## Action

This procedure contains a summary flowchart and a list of steps. Use the flowchart to review the procedure. Follow the steps to perform the procedure.

# Net MBsy
# minor (continued)

**Summary of clearing a Net MBsy minor alarm**



# Net MBsy
# minor (continued)

**Clearing a Net MBsy minor alarm**

**ATTENTION**

Consult with other operating company personnel. Determine the cause of the performance of the manual action. Proceed only to override this manual action.

***At the MAP terminal***

**1** To access the SYSTEM level of the MAP display, type

**`>MAPCI;MTC;NET;SYSTEM`**

and press the Enter key.

*Example of a MAP display:*

```
SYSTEM
   Shelf        Plane 0     Plane 1
    00            M           .
    01            .           .
    02            .           .
    03            .           .
```

**2** Determine from the display the node that is manually busy. The letter M in the Plane status field indicates the manually- busy node.

**3** To return the ENET node to service, type

**`>RTS  plane_number  shelf_number`**

and press the Enter key.

*where*

**plane_number**
is 0 or 1

**shelf_number**
is 0 or 1 for 64K ENET, 0 to 7 for 128K ENET, 0 for 16K ENET

| If the RTS command | Do |
|---|---|
| passed | step 14 |
| failed, and the system generated a card list | step 5 |
| failed, and the MAP response indicated missing software | step 8 |

# Net MBsy
## minor (continued)

| If the RTS command | Do |
|---|---|
| failed, and the MAP response is `Wrong ENCLASS in table ENININV` | step 4 |

**4** The ENET class that you entered in field ENCLASS of table ENINV is wrong.

***Note:*** For 16K ENET, enter ENCLASS as PRI16K. For 64K ENET, enter ENCLASS as PRI64K. For 128K ENET, enter ENCLASS as PRI.

Go to step 13.

**5** Record the product engineering code (PEC) and location of the cards on the card list.

**6** To replace the first card on the list, use the correct procedure in *Card Replacement Procedures*. Complete the procedure and return to this point.

**7** To confirm that you are at the SYSTEM level of the MAP display, type

**`>MAPCI;MTC;NET;SYSTEM`**

and press the Enter key.

Go to step 10.

**8** To load software into the ENET node, type

**`>LOADEN plane_number shelf_number`**

and press the Enter key.

*where*

**plane_number**
is 0 or 1

**shelf_number**
is 0 or 1 for 64K ENET, 0 to 7 for 128K ENET, 0 for 16K ENET

*Example of a MAP response:*

```
WARNING  Any software load in the ENET will be destroyed.
Please confirm (”YES” or ”NO”):
```

**9** To confirm the LOADEN command, type

**`>YES`**

and press the Enter key.

**10** To return the ENET node to service, type

**`>RTS plane_number shelf_number`**

and press the Enter key.

*where*

**plane_number**
is 0 or 1

## Net MBsy
## minor (end)

**shelf_number**
is 0 or 1 for 64K ENET, 0 to 7 for 128K ENET, 0 for 16K ENET

| If the RTS command | Do |
|---|---|
| passed | step 14 |
| failed, and you replaced all cards on the list that the system generated in step 3 | step 13 |
| failed, and you did not replace all cards on the list that the system generated in step 3 | step 11 |

**11** To replace the next card on the list, use the correct procedure in *Card Replacement Procedures*. Complete the procedure and return to this point.

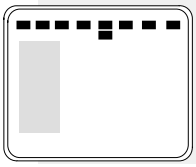
**12** Go to step 10.

**13** For additional help, contact the next level of support.

**14** The procedure is complete.

# Net Pair critical

## Alarm display



| CM | MS | IOD | **Net** | PM | CCS | Lns | Trks | Ext | APPL |
|---|---|---|---|---|---|---|---|---|---|
| . | . | . | **1Pair** | . | . | . | . | . | . |
| | | | ***C*** | | | | | | |

## Indication

At the maintenance level of the MAP display, Pair (preceded by a number) appears under the Net subsystem status header of the alarm banner. The Pair indicates a network pair alarm.

## Meaning

The indicated network module pairs are out of service. The network Pair alarm is a critical alarm.

## Result

When you use the network module pair with the alarm, a loss of calls results. This condition requires immediate warning.

## Common procedures

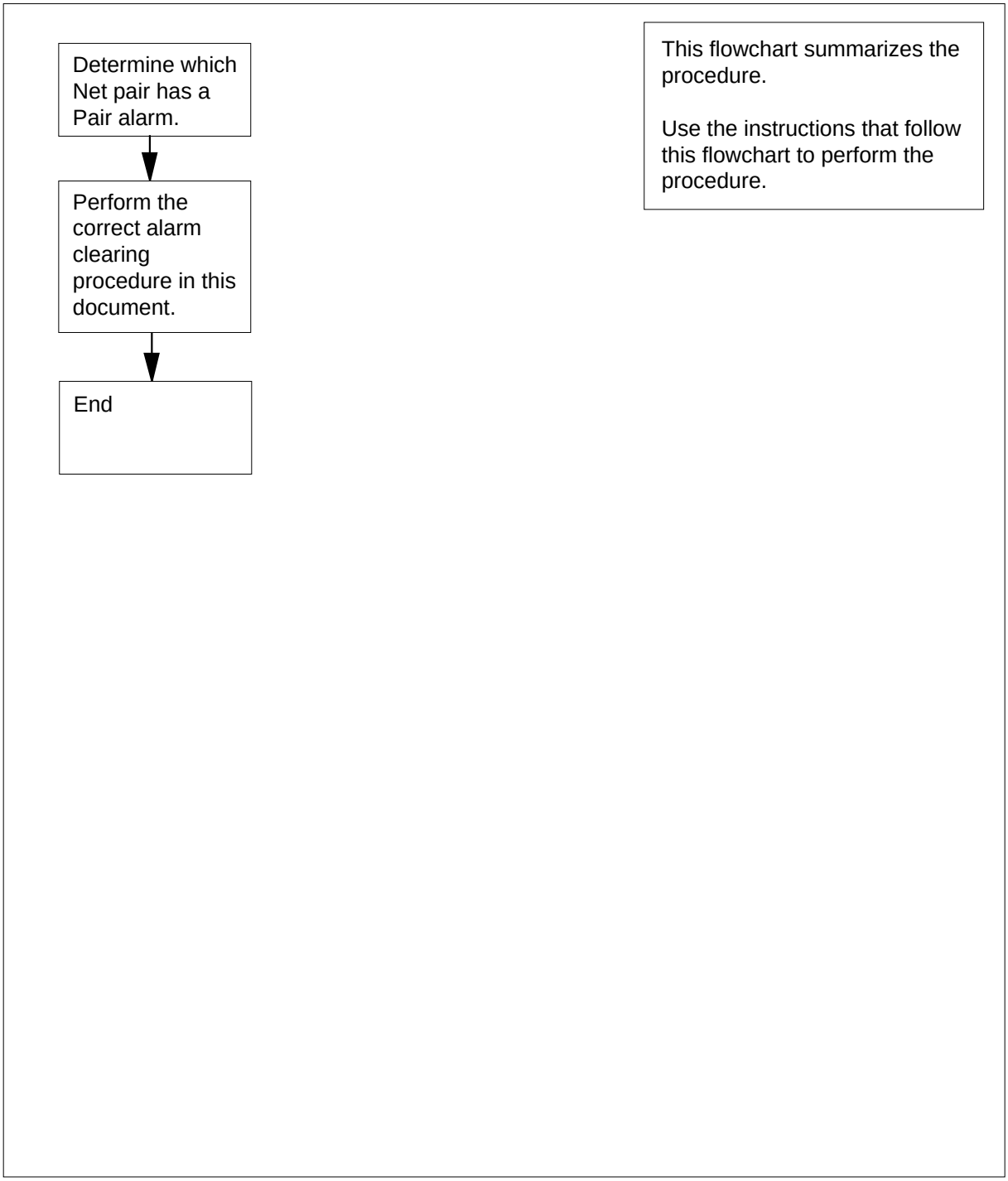
There are no common procedures.

## Action

This procedure contains a summary flowchart and a list of steps. Use the flowchart to review the procedure. Follow the steps to perform the procedure.

# Net Pair critical (continued)

**Summary of clearing a Net Pair critical alarm**



# Net Pair
# critical (continued)

### Clearing a Net Pair critical alarm

***At the MAP terminal***

**1** To access the Net level of the MAP display, type

**>MAPCI;MTC;NET**

and press the Enter key.

*Example of a MAP display:*

```
Net                    11111 11111 22222 22222 33
   Plane    01234 56789 01234 56789 01234 56789 01
     0      ....S
     1      .....
JCTR:
```

**2** If necessary, to silence the alarm, type

**>SIL**

and press the Enter key.

**3** Record the identification number of each network module pair that is out of service. Record the status of each network module in the pair. Select one network module pair to work on.

**4** Examine the status of the network modules (NM) in the network module pair. Proceed according to the following table.

| If | Do |
|---|---|
| both NMs are system busy (S) | step 5 |
| both NMs are C-side busy (C) | step 8 |
| one NM is system busy (S) and the other NM is manually busy (M) | step 11 |
| one NM is system busy (S) and the other NM is C-side busy (C) | step 16 |
| one NM is C-side busy (C) and the other NM is manually busy (M) | step 21 |

**5** Select one system busy network module of the network module pair to work on.

**6** Perform the procedure that clears a Net SysB minor alarm in this document. Complete the procedure and return to this point.

## Net Pair
## critical (continued)

**7** Examine the status of the network module of the network module pair. Proceed according to the following table.

| If | Do |
|---|---|
| one network module of the pair is InSv, but the other module is SysB | step 6 |
| both network modules are InSv, but you recorded other SysB pairs in step 3 | step 5 |
| both network modules are InSv, other SBsy pairs are not present, and a Pair alarm remains | step 4 |
| both network modules are InSv, CBsy busy pairs are not present, and the pair alarm cleared | step 24 |

**8** From the network module pair, select one of the C-side busy NMs to work on.

**9** Perform the procedure that clears a Net Bsy alarm in this document. Complete the procedure and return to this point.

**10** Examine the status of the network module pair. Proceed according to the following table.

| If | Do |
|---|---|
| one network module of the pair is InSv, but the other module is CBsy | step 8 |
| both network modules are InSv, but you recorded other CBsy pairs in step 3 | step 9 |
| both network modules are InSv and other CBsy pairs are not present, but a Pair alarm remains | step 4 |
| both network modules are InSv, CBsy busy pairs are not present, and the pair alarm cleared | step 24 |

**11** Work on the manual busy network module first.

**12** Perform the procedure that clears a Net Bsy minor alarm in this document. Complete the procedure and return to this point.

**13** Examine the status of the NMs of the network module pair. Proceed according to the following table.

| If | Do |
|---|---|
| one network module of the pair is InSv, but the other module is SysB | step 14 |

## Net Pair
## critical (continued)

| If | Do |
|---|---|
| both network modules of the pair are InSv, but you recorded other SysB-ManB pairs in step 3 | step 11 |
| both network modules are InSv and other ManB-SysB pairs are not present, but a pair alarm remains | step 4 |
| both network modules are InSv, ManB-SysB pairs are not present, and the pair alarm cleared | step 24 |

**14** Perform the procedure that clears a Net SysB minor alarm in this document. Complete the procedure and return to this point.

**15** Go to step 13.

**16** Work on the C-side busy network module first.

**17** Perform the procedure that clears a Net Bsy minor alarm in this document. Complete the procedure and return to this point.

**18** Examine the status of the NMs of the network module pair. Proceed according to the following table.

| If | Do |
|---|---|
| one network module of the pair is InSv, but the other module is SysB | step 19 |
| both network modules of the pair are InSv, but you recorded other system-busy or C-side busy pairs in step 3 | step 16 |
| both network modules are InSv and other system busy or C-side busy pairs are not present, but a pair alarm remains | step 4 |
| both network modules are InSv, manually busy or system busy pairs are not present, and the pair alarm cleared | step 24 |

**19** Perform the procedure that clears a Net SysB minor alarm in this document. Complete the procedure and return to this point.

**20** Go to step 18.

**21** Work on the manually- busy NM first.

**22** Perform the procedure that clears a Net Bsy minor alarm in this document. Complete the procedure and return to this point.

## Net Pair critical (end)

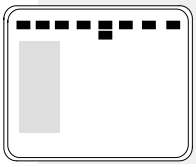
**23** Examine the status of the network modules of the network module pair. Proceed according to the following table.

| If | Do |
|---|---|
| one network module of the pair is in service (`InSv`), but the other module is C-side busy (`C`) | step 22 |
| both network modules of the pair are in service ( . ), but you recorded other manually- busy or C side busy pairs in step 3 | step 21 |
| both network modules are in service ( . ) and other manually- busy or C side busy pairs are not present, but a pair alarm remains | step 4 |
| both network modules are in service ( . ), manually-busy or C side busy pairs are not present, and the pair alarm cleared | step 24 |

**24** The procedure is complete.

# Net PSLk minor

## Alarm display



| CM | MS | IOD | **Net** | PM | CCS | Lns | Trks | Ext | APPL |
|---|---|---|---|---|---|---|---|---|---|
| . | . | . | **nPSLk** | . | . | . | . | . | . |

## Indication

At the MAP display, PSLk (preceded by a number) appears under the Net header of the alarm banner.

## Meaning

A minimum of one peripheral-side (P-side) link between the ENET and a peripheral module (PM) is out of service. The number that precedes PSLk indicates the number of P-side links that are out of service.

## Result

The Net PSLk alarm does not affect subscriber service. The removal from service of a speech link to the PM results in the loss of network redundancy to the PM. The removal of the link isolates the PM and results in the loss of the subscriber service. The subscriber service depends on the PM.

## Common procedures

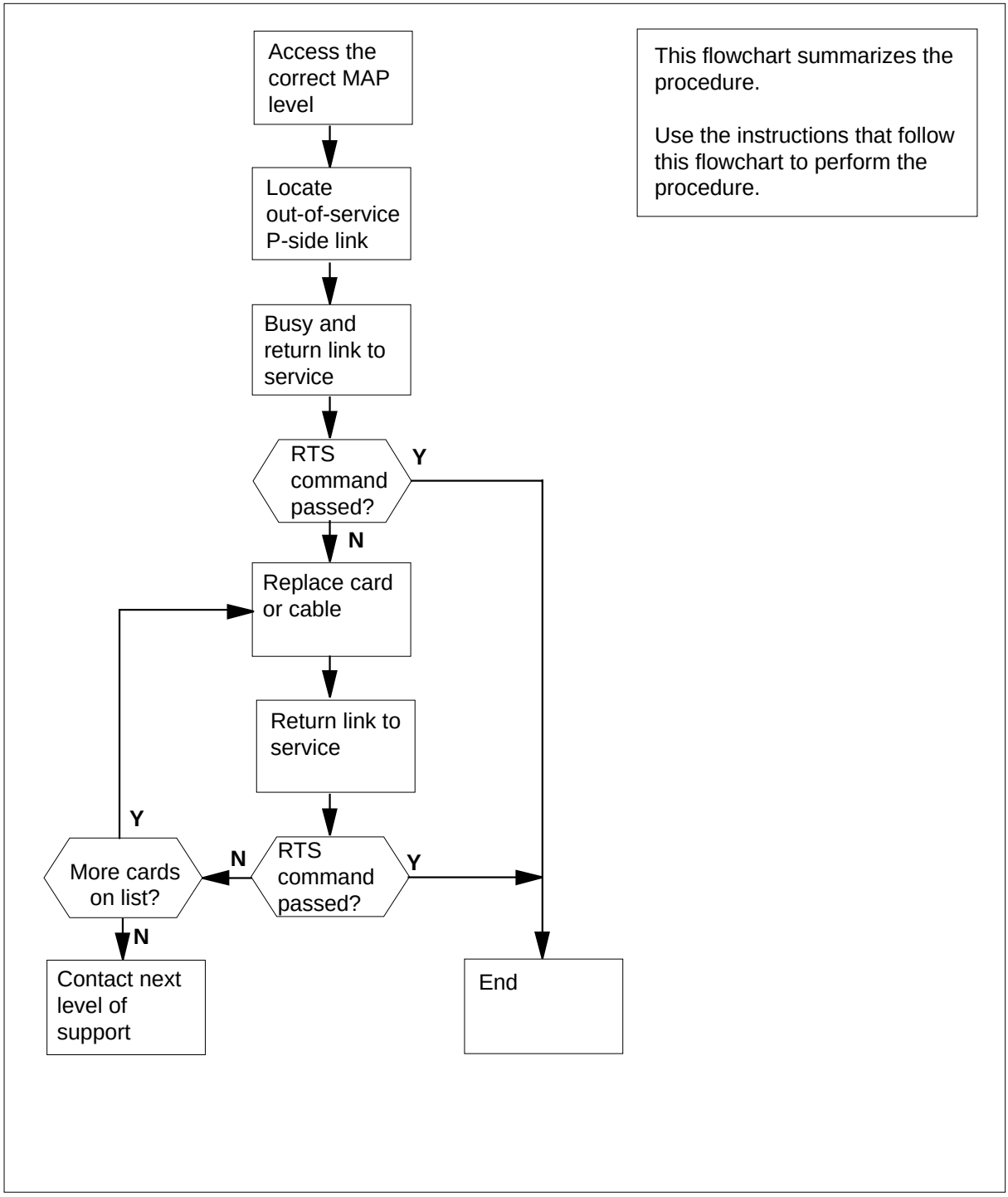
This procedure refers to *Connecting a temporary fiber cable from an ENET to a PM*.

## Action

This procedure contains a summary flowchart and a list of steps. Use the flowchart to review the procedure. Follow the steps to perform the procedure.

# Net PSLk
# minor (continued)

**Summary of clearing a Net PSlk minor alarm**



# Net PSLk
## minor (continued)

### Clearing a Net PSLk minor alarm

***At the MAP terminal***

**1** To access the Net level of the MAP display, type

**>MAPCI;MTC;NET**

and press the Enter key.

*Example of a MAP display:*

```
ENET     System     Matrix  Shelf   0 1 2 3
 Plane 0    .          .             . . . .
 Plane 1    .       Fault            F . . .
```

**2** Determine from the display the node that has the out-of-service P-side link. The letter F in the Shelf status field indicates the node with the out-of-service link.

**3** You can access the SHELF level of the MAP display for the node that has the out-of-service P-side link. To access the SHELF level, type

**>SHELF shelf_number**

and press the Enter key.

*where*

**shelf_number**
is 0 or 1 for 64K ENET, 0 to 7 for 128K ENET, 0 for 16K ENET.

*Example of a MAP display:*

*64K and 128K ENET:*

```
SHELF   02 Slot   1111111   11122222   22222333  333333
         123456 78 90123456  78901234   56789012  345678
Plane 0   .  .   ..  S..F.... --------   ........  .  .
Plane 1   .  .   ..  M..F.... --------   .....F..  .  .
```

*16K ENET:*

```
SHELF 00  Power  LIU  ENET–Plane 0 ENET–Plane 1 LIU Power
                     11 11111111  22 22222222  333 333333
Slot     123456 789   01 23456789 01 23456789  012 345678
        .   .         ..   ..F...   .. S..F...     .  .
```

**4** Determine from the display the card that associates with the PSLk alarm. The letter F in the Slot status fields indicates the card that associates with the PSLk alarm. Note the slot number.

**5** You can access the CARD level of the MAP display for the slot that associates with the PSLk alarm. To access the CARD level, type

**>CARD slot_number**

and press the Enter key.

## Net PSLk
## minor (continued)

*where*

**slot_number**
is 1 to 38

*Example of a MAP display:*

*64K and 128K ENET:*

```
CARD 30     Front:  Back:   DS-30 Links     111111
             Xpt        I/F     01234567890 12345
Plane 0       .      .       ....----------.-
Plane 1       .      .       ....----------M-
```

*16K ENET:*

```
CARD        Plane   Front:  Back:DS-30 Links 111111
                 Xpt        I/F 0123456789012345
15        0       .      . ....----------.-
25        1 .     .      . ....----------M-
```

**6** Determine from the MAP display the link number and the type of link that has faults.

| If the link | Do |
|---|---|
| is DS-30 | step 26 |
| is DS512 | step 7 |

**7** From the DS512 Links field, determine the type of the link problem.

| If the link | Do |
|---|---|
| is system busy (S) | step 8 |
| is manually busy (M) | step 9 |
| has faults (F) | step 34 |

**8** To busy the affected link, type

**`>BSY plane_number LINK link_number`**

and press the Enter key.

*where*

**plane_number**
is 0 or 1

**link_number**
is 0 to 3 and 16 to 18 for DS512 fiber links

***Note:*** If all links have problems, replace LINK link_number with ALL for the link commands that precede and follow this note.

## Net PSLk
## minor (continued)

*Example of a MAP display:*

```
Request to MAN BUSY ENET Plane:1 Shelf:0 Slot:30
Link:0 submitted.
Request to MAN BUSY ENET Plane:1 Shelf:0 Slot:30
Link:0 passed.
```

**9** To return the link to service, type

**>RTS plane_number LINK link_number**

and press the Enter key.

*where*

**plane_number**
is 0 or 1

**link_number**
is 0 to 3 and 16 to18 for DS512 fiber links

*Example of a MAP display:*

```
Request to RTS ENET Plane:1 Shelf:00 Slot:30
Link:0 submitted.
```

| If the RTS command | Do |
|---|---|
| passed | step 37 |
| failed, and the system generated a card list | step 10 |
| failed, and the system did not generate a card list | step 36 |

**10** Record the product engineering code (PEC) and location of all cards in the order that they appear on the list.

**11** Determine if the first element on the card lists a DS512 fiber cable.

| If the first element | Do |
|---|---|
| is a DS512 cable | step 14 |
| is not a DS512 cable | step 12 |

**12** Use the correct procedure in *Card Replacement Procedures*. Complete the procedure and return to this point.

**13** Go to step 22.

**14** When the DS512 link has faults, Northern Telecom personnel must replace the fiber cable between the ENET and the PM. Contact the next level of support. The next level of support informs the correct Northern Telecom

## Net PSLk
## minor (continued)

office. Replace the fiber cable that has faults to return the ENET to service during a limited time. To replace the cable, continue from step 15.

**15** Determine the status of the out-of-service link.

| If the link status field | Do |
|---|---|
| contains M | step 17 |
| is other than listed here | step 16 |

**16** To busy the affected link before you replace the fiber cable, type

**>BSY plane_number LINK link_number**

and press the Enter key.

*where*

**plane_number**
is 0 or 1

**link_number**
is 0 to 3 and 16 to 18 for DS512 fiber links

*Example of a MAP display:*

```
Request to MAN BUSY ENET Plane:1 Shelf:0 Slot:30
Link:0 submitted.
Request to MAN BUSY ENET Plane:1 Shelf:0 Slot:30
Link:0 passed.
```

**17** To take the link offline, type

**>OFFL plane_number LINK link_number**

and press the Enter key.

*where*

**plane_number**
is 0 or 1

**link_number**
is 0 to 3 and 16 to 18 for DS512 fiber links

*Example of a MAP display:*

```
Request to OFFLINE ENET Plane:1 Shelf:0 Slot:30
Link:0 submitted.
Request to OFFLINE ENET Plane:1 Shelf:0 Slot:30
Link:0 passed.
```

**18** Perform the procedure *Connecting a temporary fiber cable from an ENET to a PM* in this document. Complete the procedure and return to this point.

**19** You can access the CARD level of the MAP display for the card that has the out-of-service link. To access the CARD level, type

**>MAPCI;MTC;NET;SHELF shelf_number;CARD slot_number**

and press the Enter key.

*where*

**shelf_number**
is 0 or 1 for 64K ENET, 0 to 7 for 128K ENET, 0 for 16K ENET.

**slot_number**
is 1 to 38

*Example of a MAP display:*

*64K and 128K ENET:*

```
CARD 12     Front:  Back:   DS-30 Links 111111
             Xpt     I/F      0123456789012345
Plane 0       .       .       ....----------.-
Plane 1       .       .       ....----------M-
```

*16K ENET:*

```
CARD    Plane   Front:  Back:DS-30 Links 111111
                 Xpt    I/F 0123456789012345
15        0       .     . ....----------.-
25        1       .     . ....----------M-
```

**20** To busy the affected link before you return the link to service, type

**`>BSY  plane_number  LINK  link_number`**

and press the Enter key.

*where*

**plane_number**
is 0 or 1

**link_number**
is 0 to 3 and 16 to 18 for DS512 fiber links

**21** Cross the replaced fiber cable off the card list.

Go to step 24.

**22** Cross the replaced card off the card list.

**23** You can access the CARD level of the MAP display for the card that has the out-of-service link. To access the CARD level, type

**`>MAPCI;MTC;NET;SHELF  shelf_number;CARD slot_number`**

and press the Enter key.

*where*

**shelf_number**
is 0 or 1 for 64K ENET, 0 to 7 for 128K ENET, 0 for 16K ENET.

**slot_number**
is 1 to 38

*Example of a MAP display:*

## Net PSLk
## minor (continued)

*64K and 128K ENET:*

```
CARD 30     Front:  Back:   DS-30 Links     111111
             Xpt     I/F      0123456789012345
Plane 0       .       .       ....----------.-
Plane 1       .       .       ....----------M-
```

*16K ENET:*

```
CARD    Plane   Front:  Back: DS-30 Links 111111
                 Xpt    I/F 0123456789012345
15        0       .     . ....----------.-
25        1       .     . ....----------M-
```

**24** To return the link to service, type

**>RTS plane_number LINK link_number**

and press the Enter key.

*where*

**plane_number**
is 0 or 1

**link_number**
is 0 to 3 and 16 to 18 for DS512 fiber links

*Example of a MAP display:*

```
Request to RTS ENET Plane:0
Shelf:00 Slot:30 Link:0 submitted.
```

| If the RTS command | Do |
|---|---|
| passed | step 37 |
| failed, and you replaced all cards on the list that the system generated in step 9 | step 36 |
| failed, and you did not replace all cards on the list that the system generated in step 9 | step 25 |

**25** Record the product engineering code (PEC) and location of the next card on the card list.

Go to step 11.

**26** To return the link to service, type

**>RTS plane_number LINK link_number**

and press the Enter key.

# Net PSLk
## minor (continued)

*where*

**plane_number**
is 0 or 1

**link_number**
is 0 to 15 for DS30 links, and 0 to 3 and 16 to 18 for DS512 fiber links

*MAP response:*

```
Request to RTS ENET Plane:0
Shelf:00 Slot:30 Link:0 submitted.
```

| If the RTS command | Do |
|---|---|
| passed | step 37 |
| failed, and the system generated a card list | step 27 |
| failed | step 36 |

**27** Record the product engineering code (PEC) and location of all cards in the order that they appear on the list.

**28** Replace the first card on the list. Use the appropriate procedure in *Card Replacement Procedures*. Complete the procedure and return to this point.

**29** Cross the replaced card off the card list.

**30** You can access the CARD level of the MAP display for the card that has the out-of-service link. To access the CARD level, type

**`>MAPCI;MTC;NET;SHELF shelf_number;CARD slot_number`**

and press the Enter key.

*where*

**shelf_number**
is 0 or 1 for 64K ENET, 0 to 7 for 128K ENET, 0 for 16K ENET.

**slot_number**
is 1 to 38

*Example of a MAP display:*

*64K and 128K ENET:*

```
CARD 30          Front:  Back:   DS-30 Links 111111
                  Xpt     I/F      0123456789012345
Plane 0            .       .       ....----------.-
Plane 1            .       .       ....----------M-
```

*16K ENET:*

## Net PSLk
## minor (continued)

```
CARD    Plane   Front:  Back:   DS-30 Links 111111
                 Xpt     I/F   0123456789012345
15       0        .       .  ....----------.-
25       1        .       .  ....----------M-
```

**31** To return the link to service, type

**>RTS plane_number LINK link_number**

and press the Enter key

*where*

**plane_number**
is 0 or 1

**link_number**
is 0 to 15 for DS30 links

*Example of a MAP display:*

```
Request to RTS ENET Plane:0
Shelf:00 Slot:30 Link:0 submitted.
```

| If the RTS command | Do |
|---|---|
| passed | step 37 |
| failed, and you replaced all cards on the list that the system generated in step 26 | step 33 |
| failed, and you did not replace all cards on the list that the system generated in step 26 | step 32 |

**32** Record the product engineering code (PEC) and location of the next card on the card list.

Go to step 10.

**33** Contact installation services to schedule the replacement of the DS30 cable.

Go to step 37.

**34** To access the DS30-equivalent status display for the link with the fault, type

**>LINK link_number**

and press the Enter key.

*where*

**link_number**
is 0 to 3 and 16 to 18 for DS512 fiber links

Example of a *MAP display:*

```
Link 0  111111
0123456789012345
...........S....
................
```

***Note:*** The letter S or M. indicates faults on the DS30-equivalent links.

**35** Wait 15 min for the system to run an internal audit.

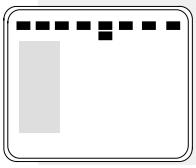
| If the internal audit | Do |
|---|---|
| cleared all faults indicated by the letters M and S | step 37 |
| did not clear all faults indicated by the letters M and S | step 36 |

**36** For additional help, contact the next level of support.

**37** The procedure is complete.

# Net REx
# minor

## Alarm display



| CM | MS | IOD | **Net** | PM | CCS | Lns | Trks | Ext | APPL |
|---|---|---|---|---|---|---|---|---|---|
| . | . | . | **REx0** | . | . | . | . | . | . |

## Indication

At the MAP display, the alarm code REx (followed by a number) appears under the Net header of the alarm banner.

## Meaning

A routine exercise (REx) test runs on the plane of the ENET. The number that follows REx indicates the plane that the REx test runs on.

## Result

The Net REx alarm does not affect subscriber service. Routine exercises can cause a temporary loss of redundancy in the node.

Manual or system removal of a component in the other plane, while the tests run, causes network blockage.

## Common procedures

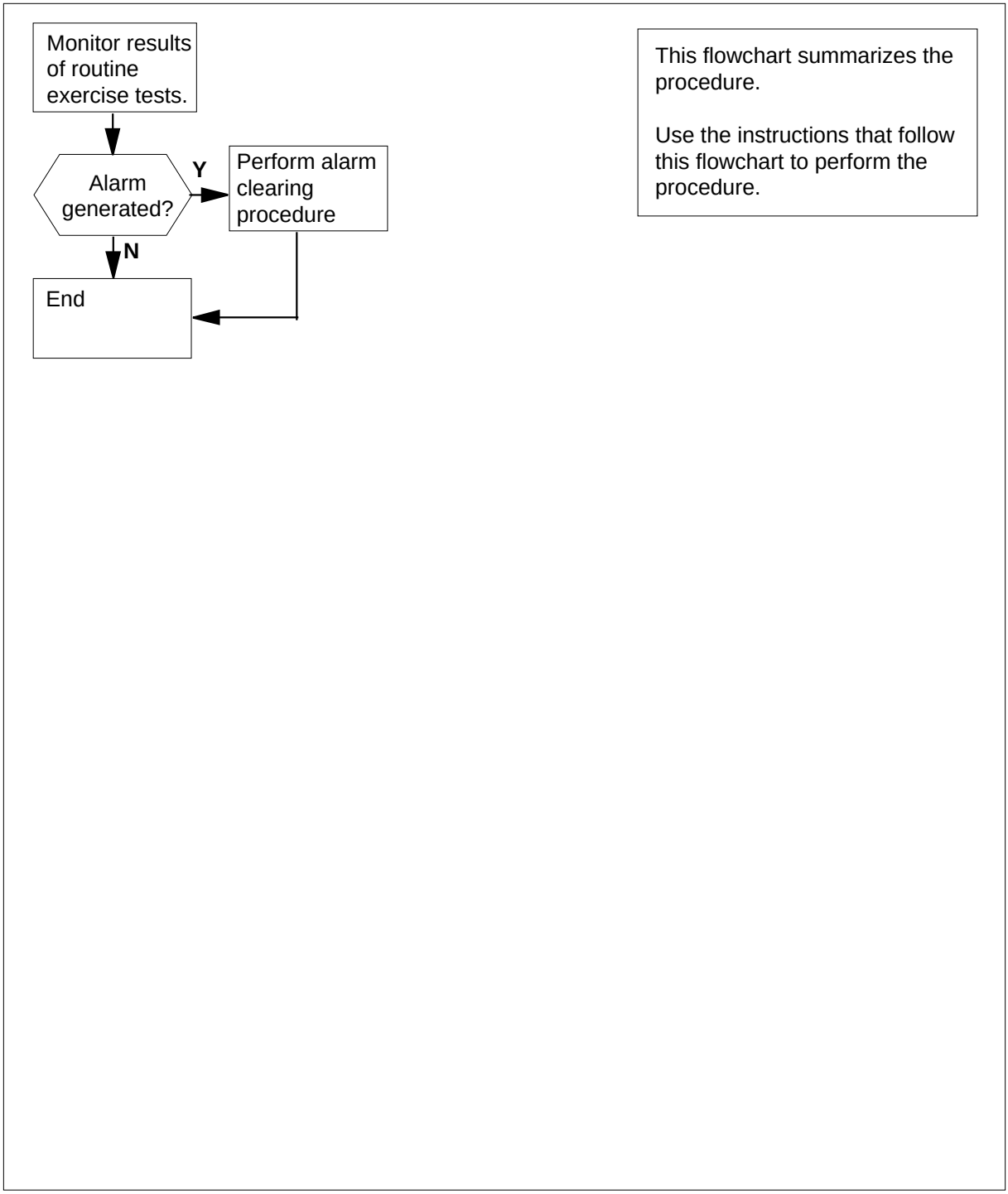
There are no common procedures.

## Action

This procedure contains a summary flowchart and a list of steps. Use the flowchart to review the procedure. Follow the steps to perform the procedure.

# Net REx
# minor (continued)

**Summary of clearing a NetREx minor alarm**



# Net REx
# minor (end)

**Clearing a NetREx minor alarm**

***At your current location***

**1** Monitor the results of athe REx test.

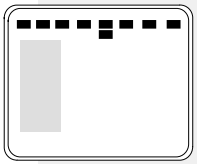
| If the REx test | Do |
|---|---|
| finds a fault, and the system generates a higher-priority ENET alarm and an ENET500 series log | step 2 |
| concludes normally, and REx disappears from the Net header | step 3 |

**2** Refer to the task list in this document. Find the correct procedure in this document to clear the fault. Complete the procedure and return to this point.

**3** The procedure is complete.

# Net RexByp

## Alarm display



| CM | MS | IOD | **Net** | PM | CCS | Lns | Trks | Ext | APPL |
|---|---|---|---|---|---|---|---|---|---|
| . | . | . | **RexByp** | . | . | . | . | . | . |

## Indication

At the MTC level of the MAP display, RexByp appears under the NET header of the alarm banner, and indicates an ENET Rex bypass minor alarm.

## Meaning

The RexByp minor alarm indicates Enhanced Network (ENET) subsystem REX test abandonment due to the instability of the mate plane's components. The specific fault reason is found in the ENET509 log.

An ENET plane is deemed unstable if at least one of its nodes, cards, paddleboards or p-side links has gone SBsy one or more times within the last 12 to 24 hours.

## Impact

Subscriber service is not affected.

## Common procedures

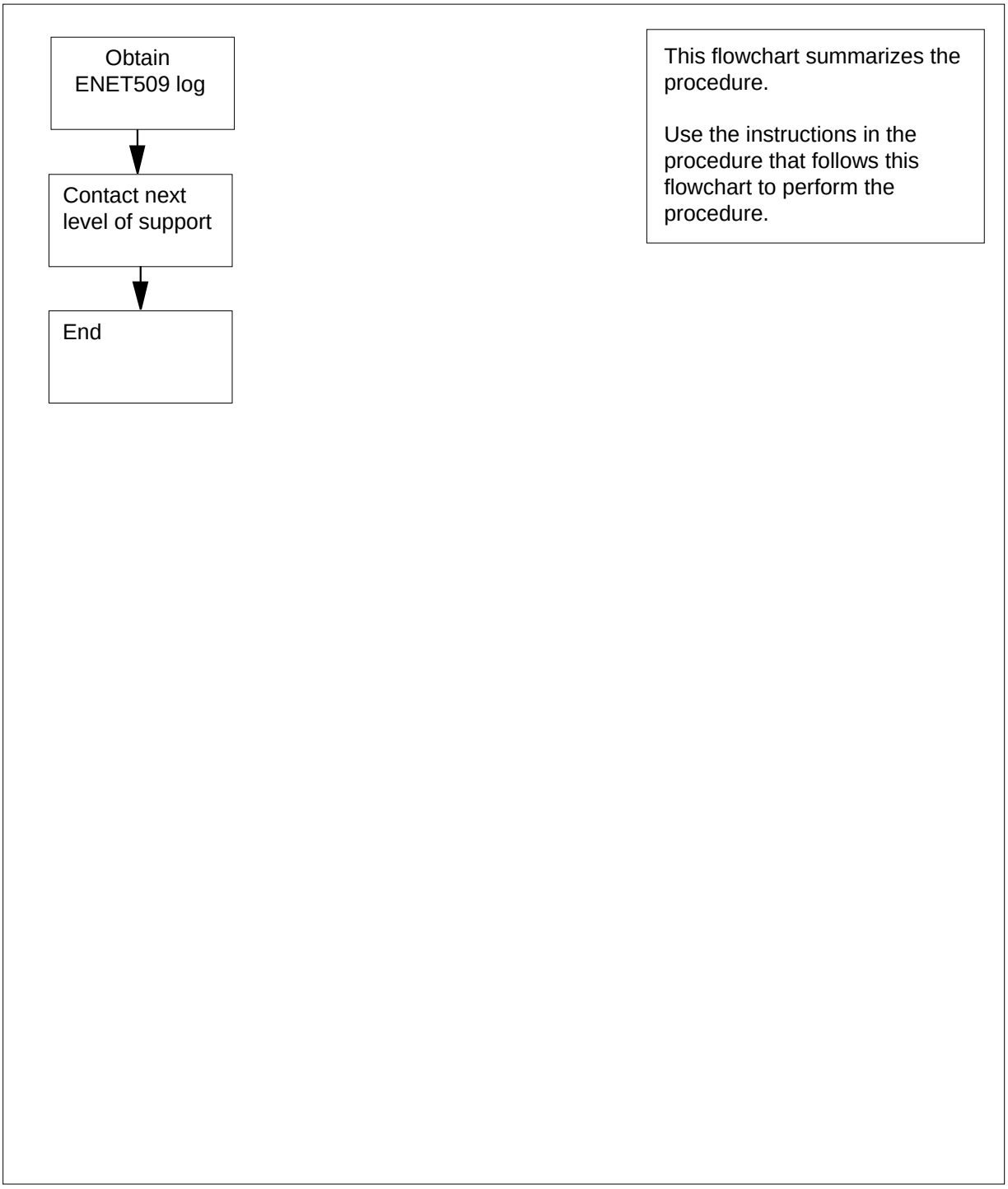
Not applicable

## Action

The ENET RexByp minor alarm will stay active until the next successful ENET Rex test start-up, at which time the alarm will clear. No operator action is required to clear this alarm.

## **Net RexByp** (continued)

**Summary of clearing a Net RexByp alarm**



# **Net RexByp** (end)

### Clearing a Net RexByp alarm

***At the MAP terminal***

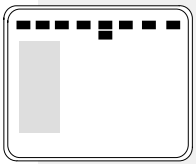
**1** Obtain the most recent ENET509 log.

**2** For further assistance, contact the personnel responsible for the next level of support.

**3** You have completed this procedure.

# Net RExOff
# minor

## Alarm display



| CM | MS | IOD | **Net** | PM | CCS | Lns | Trks | Ext | APPL |
|---|---|---|---|---|---|---|---|---|---|
| . | . | . | **RExOff** | . | . | . | . | . | . |

## Indication

At the MAP display, RExOff appears under the Net header of the alarm banner.

## Meaning

A manually disabled scheduled routine exercise test.

## Result

The alarm does not affect subscriber service.

## Common procedures

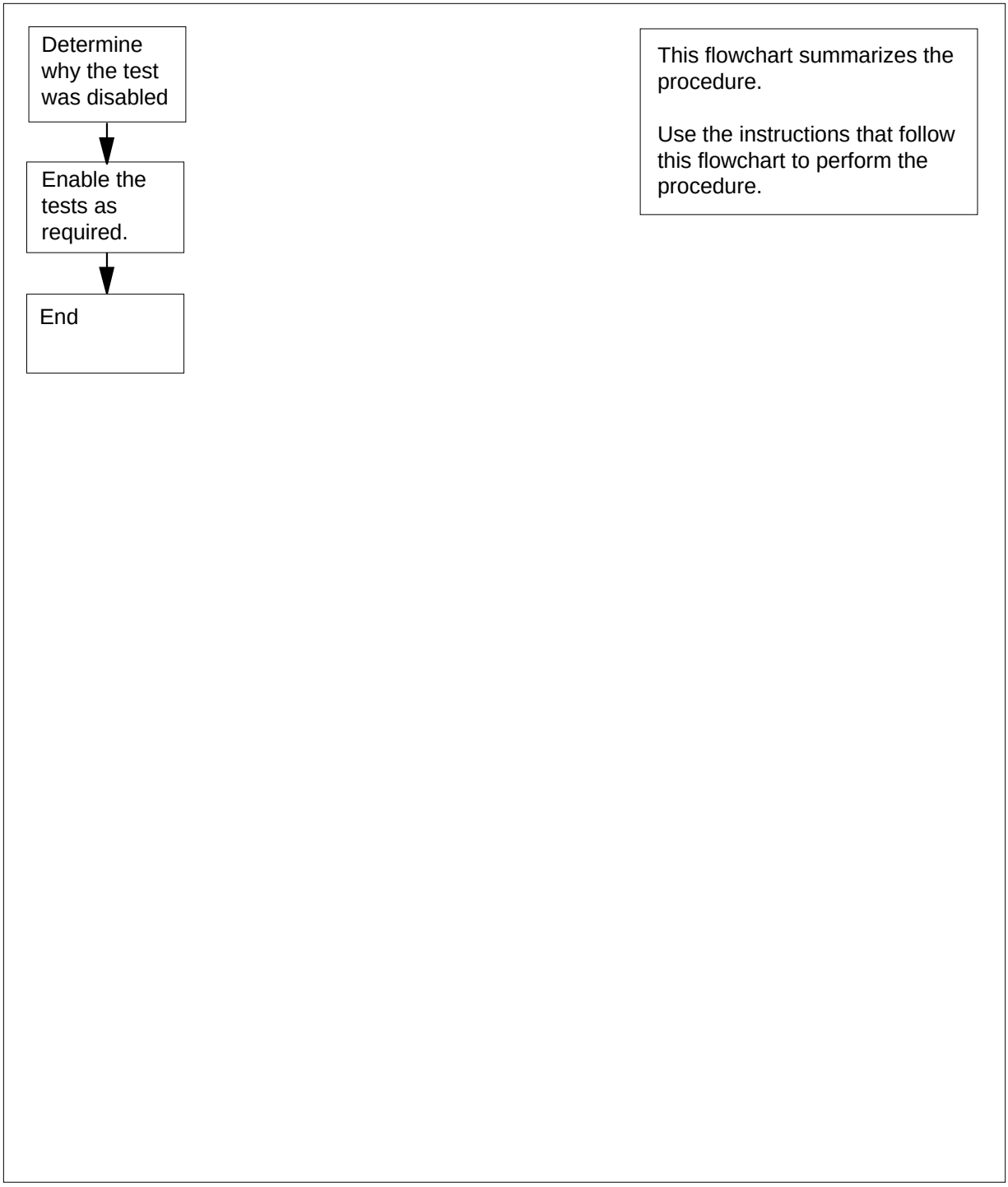
There are no common procedures.

## Action

This procedure contains a summary flowchart and a list of steps. Use the flowchart to review the procedure. Follow the steps to perform the procedure.

# Net RExOff minor (continued)

**Summary of clearing a Net RExOFf minor alarm**



# Net RExOff
# minor (end)

**Clearing a Net RExOff minor alarm**

***At the MAP display terminal***

**1** Consult with operating company personnel. Determine why the routine exercise test is disabled.

**2** To access the Net level of the MAP display, type

**>MAPCI;MTC;NET**

and press the Enter key.

*Example of a MAP display:*

```
ENET        System  Matrix  Shelf   0 1 2 3
 Plane 0      .       .       .     . . . .
 Plane 1      .       .       .     . . . .
```

**3** To determine the days that the routine exercise (REx) test is disabled on, type

**>REXTST QUERY**

and press the Enter key.

*Example of a MAP display:*

```
Scheduled ENET REx test:
MON  TUES  WED  THU  FRI  SAT  SUN
ON   ON    ON    ON   ON  OFF  OFF
```

**4** To ENABLE the REx test for the day that the REx test runs, type

**>REXTST SYSREX ENABLE week_day**

and press the Enter key.

*where*

**week_day**
is a three-letter abbreviation for the day of the week

MON, TUE, WED, THU, FRI, SAT, or SUN, or ALL to enable

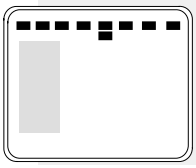
the test for the whole week

**5** For additional help, contact the next level of support.

**6** The procedure is complete.

# Net RExSch minor

## Alarm display



```
CM    MS    IOD   Net   PM    CCS   Lns   Trks   Ext   APPL
.     .     .   RExSch .     .     .     .      .
  .     .
```

## Indication

At the MTC level of the MAP display, RExSch (preceded by a number) appears under the Net header of the alarm banner. The RExSch indicates an ENET REx schedule minor alarm.

## Meaning

This alarm indicates that entries in table REXSCHED disabled routine exercise (REx) testing on the enhanced network (ENET).

## Result

If the system disables REx testing, the system does not always detect a fault. This condition results in a loss of service.

## Common procedures

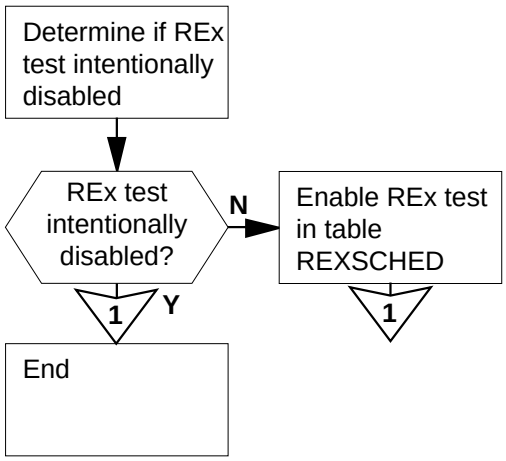
There are no common procedures.

## Action

This procedure contains a summary flowchart and a list of steps. Use the flowchart to review the procedure. Follow the steps perform the procedure.

# Net RExSch
# minor (continued)

**Summary of clearing a NetRExSch minor alarm**




This flowchart summarizes the procedure.

Use the instructions that follow this flowchart to perform the procedure.

# Net RExSch
# minor (continued)

**Clearing a NetRExSch minor alarm**

***At the MAP terminal***

**1** Contact the next level of support to determine if the system disabled ENET REx testing.

| If the system | Do |
|---|---|
| disabed ENET REx testing on purpose | step 16 |
| did not disable ENET REx testing on purpose | step 2 |

**2** To access table REXSCHED, type

**>TABLE REXSCHED**

and press the Enter key.

*Example of a MAP response:*

```
MACHINE NOT IN SYNC – DMOS NOT ALLOWED
JOURNAL FILE NOT AVAILABLE– DMOS NOT ALLOWED
TABLE: REXSCHED
```

**3** To position on the ENET REx test tuple, type

**>POS ENET_REX_TEST**

and press the Enter key.

*Example of a MAP response:*

```
ENET_REX_TEST   N   1    1         NONE
```

**4** To activate write access, type

**>RWOK ON**

and press the Enter key.

*Example of a MAP response:*

```
WRITE ACCESS ENABLED FOR RESTRICTED DATA
```

**5** To start the tuple change, type

**>CHA**

and press the Enter key.

*Example of a MAP display response:*

## Net RExSch
## minor (continued)

```
MACHINE NOT IN SYNC – DMOS NOT ALLOWED
JOURNAL FILE NOT AVAILABLE– DMOS NOT ALLOWED
ENTER Y TO CONTINUE PROCESSING OR N TO QUIT
```

**6** To confirm the command, type

**>Y**

and press the Enter key.

*Example of a MAP response:*

```
ENABLE: N
```

**7** To set ENET REx testing to enabled, type

**>Y**

and press the Enter key.

*Example of a MAP response:*

```
PERIOD: 1
```

**8** To enter the time period between ENET REx tests, type

**>period**

and press the Enter key.

*where*

**period**
is the minimum number of days between ENET REx tests (1 to 7)

***Note:*** If you prefer to not change this part of the tuple, press the Enter key. Do not make an entry.

*Example of a MAP response:*

```
PARALLEL: 1
```

**9** To enter the number of ENET REx tests that run in parallel, type

**>number**

and press the Enter key.

*where*

**number**
is the maximum number of ENET REx tests (0 to 99) that run in parallel

***Note:*** If you prefer to not change this part of the tuple, press the Enter key. Do not make an entry.

*Example of a MAP response:*

```
DAYSDSBL: NONE
```

# Net RExSch
## minor (continued)

**10** To enter the days of the week that the system disables the ENET REx, type

**>daysdsbl**

and press the Enter key.

*where*

**daysdsbl**
is the days that the system disables the ENET REx test (MON, TUE, WED, THU, FRI, SAT, SUN, ALL, or NONE)

***Note:*** If you prefer to not change this part of the tuple, press the Enter key. Do not make an entry.

*Example of a MAP response:*

```
TUPLE TO BE CHANGED:
ENET_REX_TEST   N   1    1         NONE
ENTER Y TO CONFIRM, N TO REJECT OR E TO EDIT
```

**11** To confirm the tuple change, type

**>Y**

and press the Enter key.

*Example of a MAP response:*

```
TUPLE CHANGED
JOURNAL FILE INACTIVE
```

**12** To exit table REXSCHED, type

**>QUIT**

and press the Enter key.

**13** To verify that system has enabled ENET REx testing, review the most recent IOAU112 log reports.

***Note:*** If the system enabled ENET REx testing, the message `The CRITICAL ENET_REX_TEST has been ENABLED.` appears in the log report.

| If the system | Do |
|---|---|
| confirms enabled | step 14 |
| does not confirm enabled | step 15 |

**14** When the next scheduled ENET REx test completes, determine if the RExSch alarm cleared.

| If the RExSch alarm | Do |
|---|---|
| cleared | step 16 |
| did not clear | step 15 |

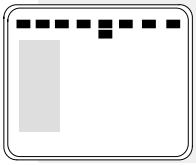
## Net RExSch
## **minor** (end)

**15** For additional help, contact the next level of support.

**16** The procedure is complete.

# Net SBCd major

## Alarm display



| CM | MS | IOD | **Net** | PM | CCS | Lns | Trks | Ext | APPL |
|---|---|---|---|---|---|---|---|---|---|
| . | . | . | **nSBCd M** | . | . | . | . | . | . |

## Indication

At the MAP display, SBC (preceded by a number) appears under the Net header of the alarm banner.

The system removed one or more crosspoint cards from service. The number that precedes SBCd indicates the number of crosspoint cards that are system busy.

## Result

The alarm does not affect service. The removal of a component in the other plane from service results in the loss of subscriber service. Network blockage causes the loss of subscriber service. The removal of the component isolates any peripheral modules that require this card from the network.

## Common procedures

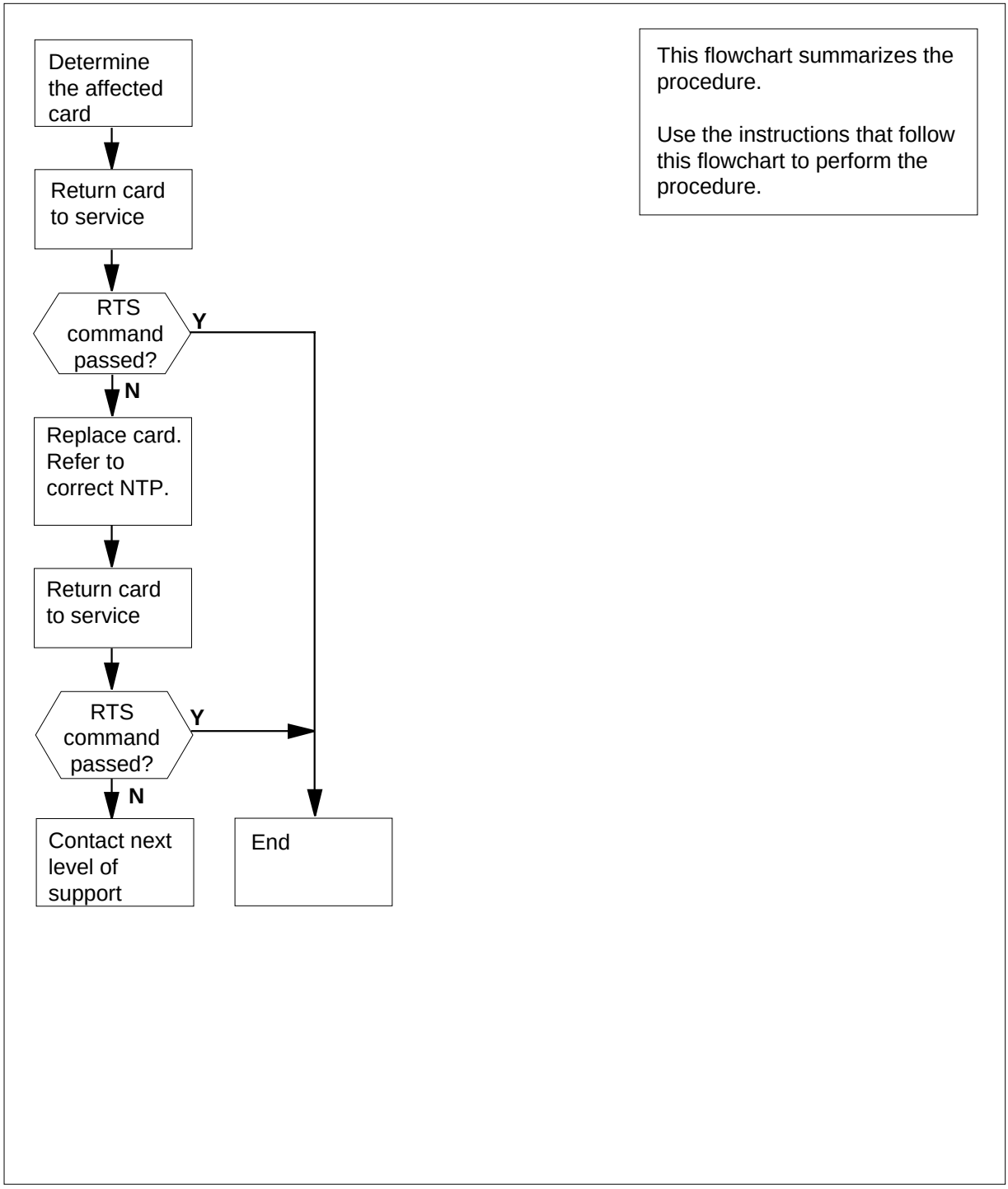
There are no common procedures.

## Action

This procedure contains a summary flowchart and a list of steps. Use the flowchart to review the procedure. Follow the steps to perform the procedure.

# Net SBCd
## major (continued)

**Summary of clearing a Net SBCd major alarm**



# Net SBCd
## major (continued)

### Clearing a Net SBCd major alarm

***At the MAP terminal***

**1** To access the Net level of the MAP display, type

**>MAPCI;MTC;NET**

and press the Enter key.

*Example of a MAP display:*

```
ENET    System  Matrix  Shelf   0 1 2 3
 Plane 0    .   Fault           F . . .
 Plane 1    .     .             . . . .
```

**2** Determine from the display the node that has a system busy crosspoint card. The letter F in a Shelf status field indicates the node with the system busy crosspoint card.

**3** To access the SHELF level of the MAP display for the shelf that has fault (F) status, type

**>SHELF  shelf_number**

and press the Enter key.

*where*

**shelf_number**
is 0 for 16K ENET, 0 or 1 for 64K ENET, 0 to 7 for 128K ENET

*Example of a MAP display:*

*16K ENET*

```
SHELF 00 Power  LIU  ENET–Plane 0 ENET–Plane 1 LIU Power
                     11  11111111 22 22222222  333 333333
Slot    123456  789  01  23456789 01 23456789  012 345678
        .   .        ..  ...F...  .. ..S....       .  .
```

*64K and 128K ENET*

```
 SHELF 01 Slot        1111111  11122222  22222333  333333
         123456  78  90123456  78901234  56789012  345678
 Plane 0 .  .    ..  ...F...S  --------  .......  .  .
 Plane 1 .  .    ..  ........  --------  .......  .  .
```

**4** Determine from the display the slot that has a system busy crosspoint card. An S or an F in a Slot status field indicates the slot.

*Example of a MAP display:*

```
 SHELF 01 Slot       1111111  11122222 22222333  333333
          123456 78 90123456  78901234 56789012  345678
 Plane 0  .  .   .. ...F...S  -------- .......  .  .
 Plane 1  .  .   .. ........  -------- .......  .  .
```

## Net SBCd
## major (continued)

In the above example, slot 16 on plane 0 of shelf 1 is system busy.

The F indication in slot 12 can indicate one of the following:

- a system busy paddle board
- a problem with one of the links.

You can access the card level to determine the cause of the fault status. A minimum of two Slot status fields can contain an S or an F at the same time. In this event, access the card level for the Slot status field that contains an S first.

**5** Record the slot numbers with a status of S or F.

**6** You can access the CARD level of the MAP display for the Slot status field that contains an S or F. To access the CARD level, type

**`>CARD slot_number`**

and press the Enter key.

*where*

**slot_number**
is 1 to 19 or 22 to 29 for 16K ENET, 1 to 38 for 64K ENET and

128K ENET

*Example of a MAP display:*

*16K ENET*

```
CARD    Plane   Front:  Back:   DS-30 Links 111111
                Xpt     I/F       0123456789012345
15      0       .       S         CCCC------------
25      1       .       .         ....------------
```

*64K and 128K ENET*

```
CARD 12 Front:  Back:   DS-30 Links  111111
        Xpt     I/F       0123456789012345
Plane 0  .      S         CCCC------------
Plane 1  .      .         ....------------
```

**7** Determine from the status display if the Front card (crosspoint), Back card (paddle board), or both cards, are system busy. The letter S in the correct field indicates the cards that are system busy.

If the Front and Back status fields do not contain an S, this card does not cause the SBCd alarm indication. Go back to step 4 and access another card.

**8** To manually busy the card, type

**`>BSY plane_number`**

and press the Enter key.

*where*

**plane_number**
is 0 or 1

*MAP response:*

```
Request to MAN BUSY ENET Plane:0 Shelf:00 Slot: 12
submitted.
Request to MAN BUSY ENET Plane:0 Shelf:00 Slot: 12
passed.
```

**9** To return the card to service, type

**>RTS plane_number**

and press the Enter key.

*where*

**plane_number**
is 0 or 1

*MAP response:*

```
Request to RTS ENET Plane:0 Shelf:00 Slot:12 submitted.
```

| If the RTS command | Do |
|---|---|
| passed | step 16 |
| failed, and the system generated a card list | step 10 |

**10** Record the product engineering code (PEC) and location of the first card on the card list.

**11** To replace the card, use the correct procedure in *Card Replacement Procedures*. Complete the procedure and return to this point.

**12** To confirm that you are at the CARD level of the MAP display, type

**>MAPCI;MTC;NET;SHELF shelf_number;CARD slot_number**

and press the Enter key.

*where*

**shelf_number**
is 0 for 16K ENET, 0 or 1 for 64K ENET, 0 to 7 for 128K ENET

**slot_number**
is 1 to 19 or 22 to 29 for 16K ENET, 1 to 38 for 64K ENET and

128K ENET

**13** Return the replacement card to service, type

**>RTS plane_number component**

and press the Enter key.

# Net SBCd
# major (end)

*where*

**plane_number**
is 0 or 1

**component**
is one of FRONT, BACK, or BOTH, as specified in step 9

| If the RTS command | Do |
|---|---|
| passed | step 14 |
| failed | step 15 |

**14** Wait 5 min until the other alarms that this procedure generated clear. Continue the procedure.

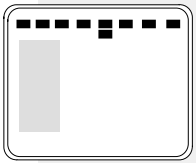
| If you | Do |
|---|---|
| recorded one slot in step 5 | step 16 |
| recorded a minimum of two slots in step 5 | step 6 |

**15** For additional help, contact the next level of support.

**16** The procedure is complete.

# Net SBsy major

## Alarm display



| CM | MS | IOD | **Net** | PM | CCS | Lns | Trks | Ext | APPL |
|---|---|---|---|---|---|---|---|---|---|
| . | . | . | **nSBsy M** | . | . | . | . | . | . |

## Indication

At the MAP display, SBsy (preceded by a number) appears under the Net header of the alarm header.

## Meaning

The system removed a minimum of one ENET node from service. The number that precedes SBsy indicates the number of ENET nodes that are system busy.

## Result

The condition does not affect service. Removal of any components in the other plane from service cause network blockage.

## Common procedures

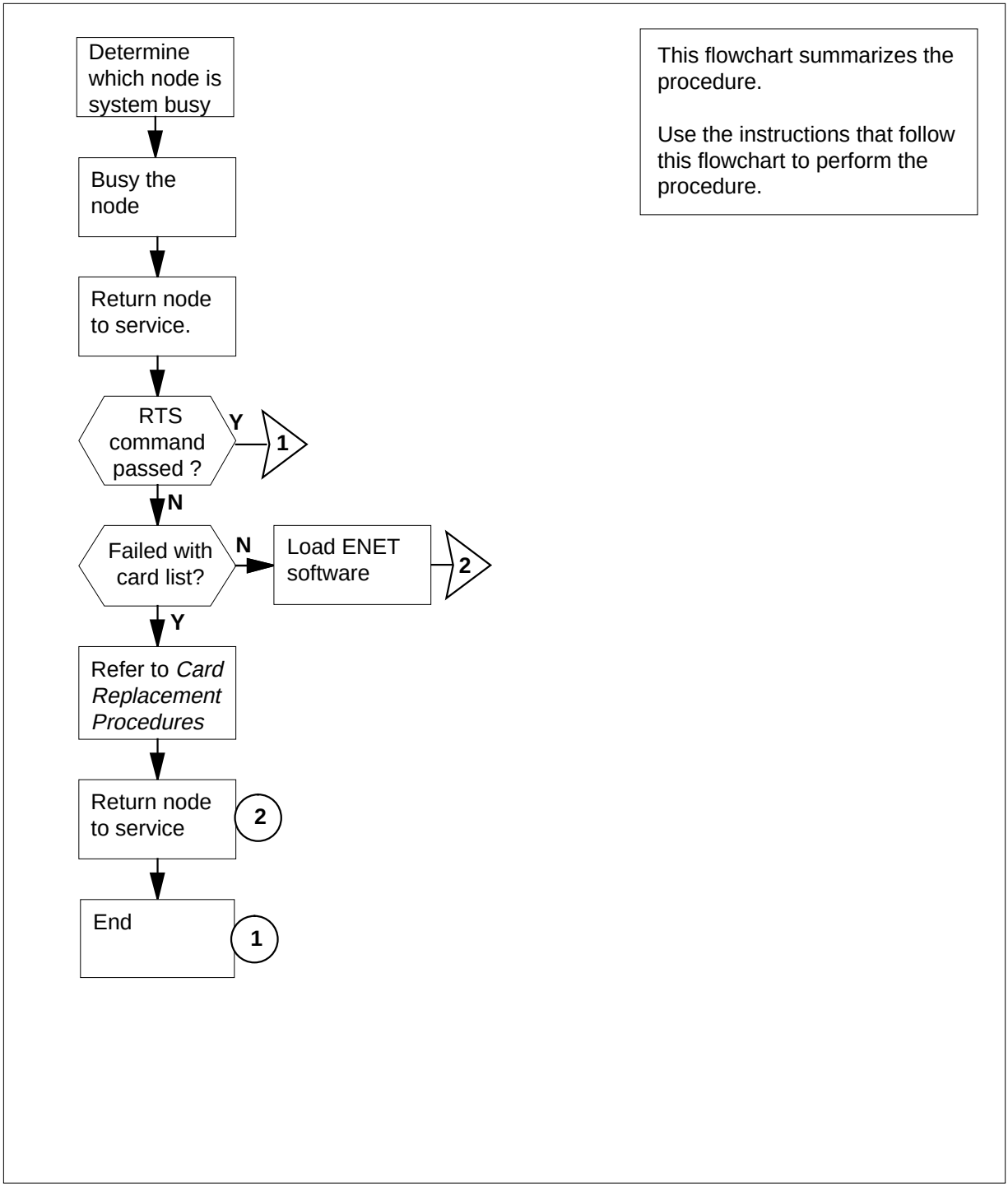
There are no common procedures.

## Action

This procedure contains a summary flowchart and a list of steps. Use the flowchart to review the procedure. Follow the steps to perform the procedure.

# Net SBsy
# major (continued)

**Summary of clearing a Net SBsy major alarm**



# Net SBsy
## major (continued)

### Clearing a Net SBsy major alarm

***At the MAP terminal***

**1** To access the SYSTEM level of the MAP display, type

**`>MAPCI;MTC;NET;SYSTEM`**

and press the Enter key.

*Example of a MAP display:*

```
SYSTEM
 Shelf  Plane 0     Plane 1
  00      S             .
  01      .             .
  02      –             –
  03      –             –
```

**2** Determine from the display the node that is system busy. The letter S in a Plane status field indicates the system busy node.

**3** To manually busy the node that you identified in step 2, type

**`>BSY  plane_number  shelf_number`**

and press the Enter key.

*where*

**plane_number**
is 0 or 1

**shelf_number**
is 0 for 16K ENET, 0 or 1 for 64K ENET, 0 to 7 for 128K ENET

**4** To return the node to service, type

**`>RTS  plane_number  shelf_number`**

and press the Enter key.

*where*

**plane_number**
is 0 or 1

**shelf_number**
is 0 for 16K ENET, 0 or 1 for 64K ENET, 0 to 7 for 128K ENET

| If the RTS command | Do |
|---|---|
| passed | step 13 |
| failed, and the system generated a card list | step 6 |
| failed, and the MAP response indicated missing software | step 9 |

## Net SBsy
## major (continued)

| If the RTS command | Do |
|---|---|
| failed, and the MAP response is `Wrong ENCLASS in table ENININV` | step 5 |

**5** The ENET class entry in field ENCLASS of table ENINV is wrong.

***Note:*** For 16K ENET, enter ENCLASS as PRI16K. For 64K ENET, enter ENCLASS as PRI64K. For 128K ENET, enter ENCLASS as PRI.

Go to step 12.

**6** Record the product engineering code (PEC) and location of the first card on the card list.

**7** To replace the card, use the correct procedure in *Card Replacement Procedures*. Complete the procedure and return to this point.

**8** To confirm that you are at the SYSTEM level of the MAP display, type

**`>MAPCI;MTC;NET;SYSTEM`**

and press the Enter key.

Go to step 11.

**9** To load software into the ENET node, type

**`>LOADEN plane_number shelf_number`**

and press the Enter key.

*where*

**plane_number**
is 0 or 1

**shelf_number**
is 0 for 16K ENET, 0 or 1 for 64K ENET, 0 to 7 for 128K ENET

*MAP response:*

```
WARNING  Any software load in the ENET will be destroyed.
Please confirm ("YES" or "NO"):
```

**10** To confirm the command, type

**`>YES`**

and press the Enter key.

**11** To return the ENET node to service, type

**`>RTS plane_number shelf_number`**

and press the Enter key.

*where*

**plane_number**
is 0 or 1

**shelf_number**
is 0 for 16K ENET, 0 or 1 for 64K ENET, 0 to 7 for 128K ENET

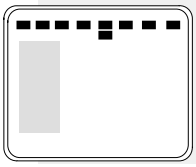
| If RTS command | Do |
|---|---|
| passed | step 13 |
| failed, and you replaced all the cards on the list that the system generated in step 4 | step 12 |
| failed, and you did not replace all the cards on the list that the system generated in step 4 | step 6 |
| failed, and the system did not generate a card list | step 12 |

**12** For additional help, contact the next level of support.

**13** The procedure is complete.

# Net Shlv critical

## Alarm display



| CM | MS | IOD | **Net** | PM | CCS | Lns | Trks | Ext | APPL |
|---|---|---|---|---|---|---|---|---|---|
| . | . | . | **nShlv *C*** | . | . | . | . | . | . |

## Indication

At the MAP display, Shlv (preceded by a number) appears under the Net header of the alarm banner.

## Meaning

Both planes of an ENET shelf are out of service. The number that precedes Shlv indicates the number of affected shelves.

## Result

The result is the separation of peripheral modules (PM) from the rest of the system. The affected PMs have links to the out-of-service shelf. Another result is the loss of subscriber service that depends on the PMs.

## Common procedures

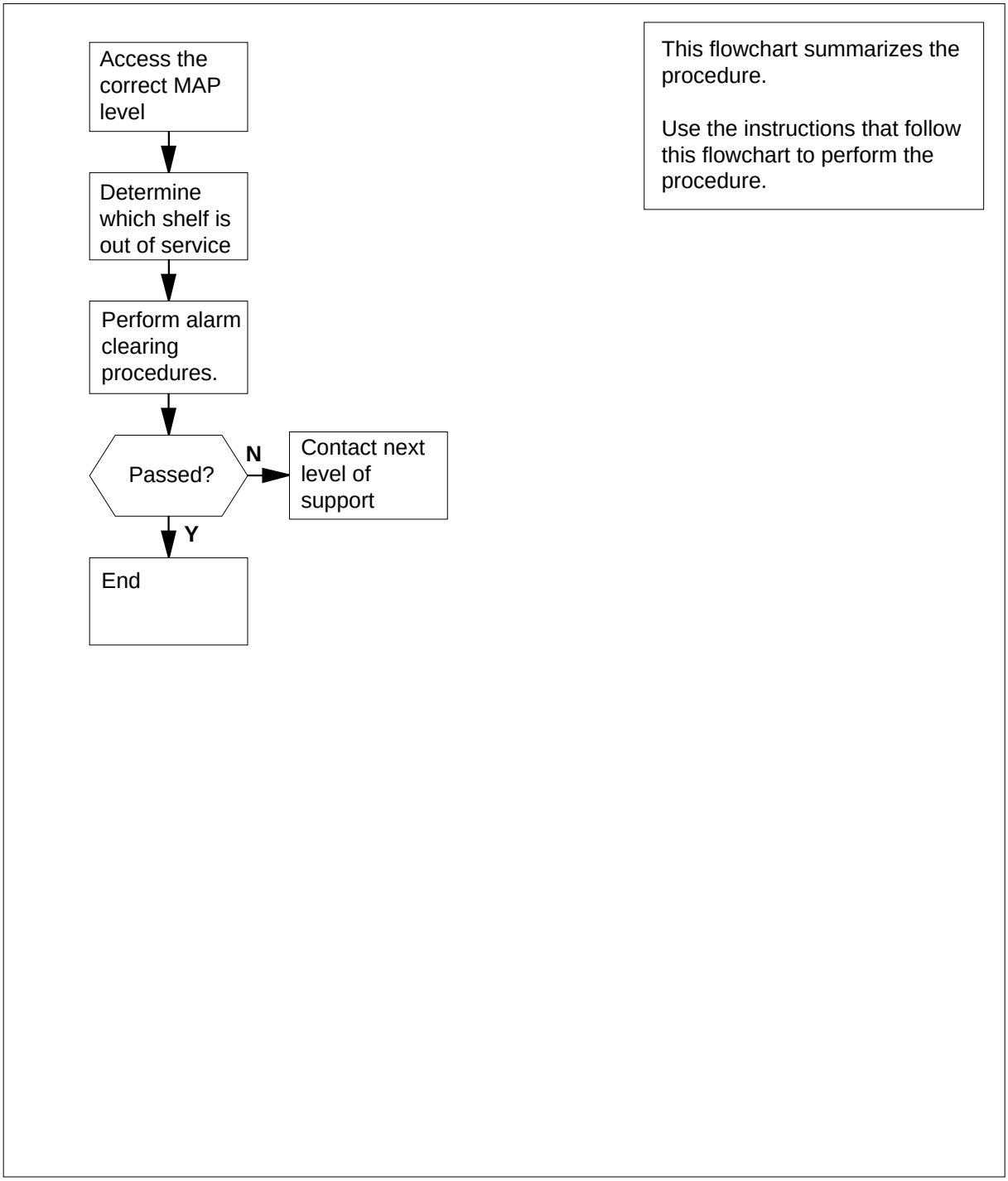
There are no common procedures.

## Action

This procedure contains a summary flowchart and a list of steps. Use the flowchart to review the procedure. Follow the steps to perform the procedure.

# Net Shlv critical (continued)

**Summary of clearing a Net Shlv critical alarm**



# Net Shlv
# critical (continued)

### Clearing a Net Shlv critical alarm

***At the MAP display***

**1** To access the Net level of the MAP display, type

**>MAPCI;MTC;NET**

and press the Enter key.

*Example of a MAP display:*

```
ENET        System  Matrix  Shelf   0 1 2 3 BLOCKED
 Plane 0    Fault     .             S . . .
 Plane 1    Fault     .             M . . .
```

**2** Check the Shelf status field of the node on Plane 0 to determine if the status field is system busy (S), or manually busy (M).

**3** Perform the correct procedure to return the node to service.

| If the Shelf field | Do |
|---|---|
| contains S | step 4 |
| contains M | step 5 |

**4** Perform the procedure *Clearing a Net SBsy major alarm*. Complete the procedure and return to this point.

Go to step 6.

**5** Perform the procedure *Clearing a Net MBsy major alarm*. Complete the procedure and return to this point.

**6** Check the Shelf field of the node in Plane 1. Determine if the status of the Shelf field is system busy (S) or manually busy (M).

| If the Shelf field | Do |
|---|---|
| contains S | step 7 |
| contains M | step 8 |

**7** Perform the procedure *Clearing a Net SBsy major alarm*. Complete the procedure and return to this point.

Go to step 9.

**8** Perform the procedure *Clearing a Net MBsy major alarm*. Complete the procedure and return to this point.

Go to step 9.

# Net Shlv critical (end)

**9** Check the Net header to determine if the Shlv alarm cleared.

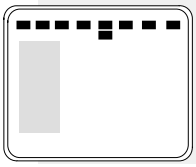
| If the alarm | Do |
|---|---|
| cleared | step 11 |
| did not clear | step 10 |

**10** For additional help, contact the next level of support.

**11** The procedure is complete.

# Net SysB major

## Alarm display



| CM | MS | IOD | **Net** | PM | CCS | Lns | Trks | Ext | APPL |
|---|---|---|---|---|---|---|---|---|---|
| . | . | . | **1SysB M** | . | . | . | . | . | . |

## Indication

At the MAP display, SysB (preceded by a number) appears under the (Net) subsystem status header of the alarm banner. The SysB indicates a major alarm that is network system busy.

## Meaning

The number of network modules indicated are system busy.

## Result

The alarm does not affect subscriber service. The other network plane supports the network module. If the other plane fails, a network pair alarm results. Subscribers served by the plane experience loss of service.

## Common procedures

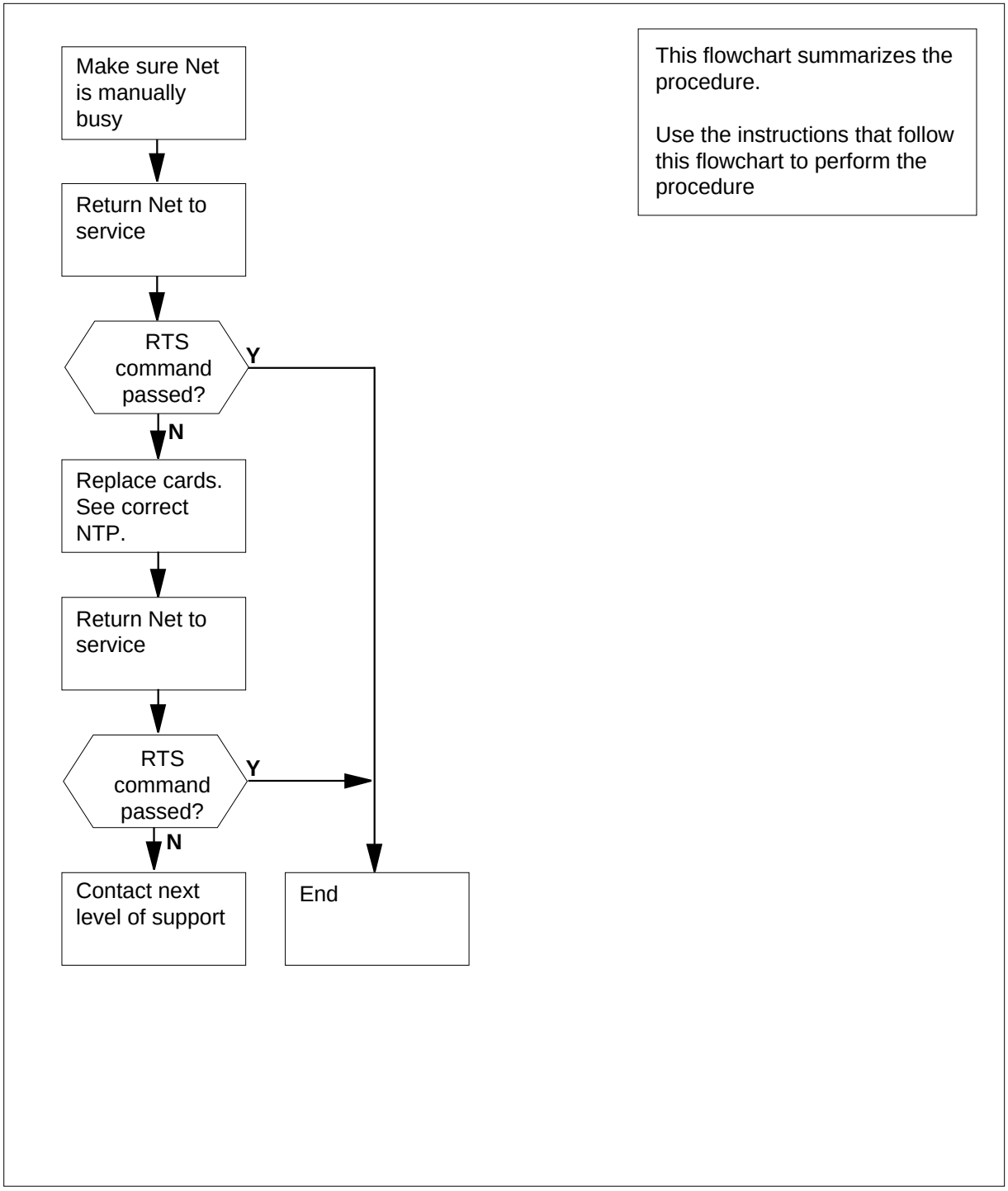
There are no common procedures.

## Action

This procedure contains a summary flowchart and a list of steps. Use the flowchart to review the procedure. Follow the steps to perform the procedure.

# Net SysB
# major (continued)

**Summary of claring a Net SysB major alarm**



# Net SysB
## major (continued)

### Clearing a Net SysB major alarm

***At the MAP terminal***

**1** To access the Net level of the MAP display, type

**>MAPCI;MTC;NET**

and press the Enter key.

*Example of a MAP display:*

```
Net                     11111 11111 22222 22222 33
   Plane    01234 56789 01234 56789 01234 56789 01
      0     ....S
      1     .....
JCTR:
```

**2** To silence the alarm, type

**>SIL**

and press the Enter key.

**3** When a minimum of two system busy network modules appear at the MAP display, record the number of each system busy (S) network module. Select a network module to work on.

**4** To manually busy the selected network module, type

**>BSY plane_no pair_no**

and press the Enter key.

*where*

**plane_no**
is the identification number of the network plane (0 or 1)

**pair_no**
is the identification number of the network pair (0 to 31)

**5** To return the network module to service, type

**>RTS plane_no pair_no**

and press the Enter key.

*where*

**plane_no**
is the identification number of the network plane (0 or 1)

**pair_no**
is the identification number of the network pair (0 to 31)

| If the RTS command | Do |
|---|---|
| passed, but you recorded other system busy (S) network modules in step 3 | step 4 |

# Net SysB major (end)

| If the RTS command | Do |
|---|---|
| passed, and other system busy network modules are not present | step 12 |
| failed, and the system generated a card list | step 6 |
| failed, and the system did not generate a card list | step 11 |

**6** Record the locations, PECs, and PEC suffixes of the cards on the card list.

**7** To replace the card on the list, refer to *Card Replacement Procedures.* Return to this point.

**8** To return the network module to service, type

**`>RTS plane_no pair_no`**

and press the Enter key.

*where*

**plane_no**
is the identification number of the network plane (0 or 1)

**pair_no**
is the identification number of the network pair (0 to 31)

| If the RTS command | Do |
|---|---|
| passed, but you recorded other system busy (S) network modules in step 3 | step 4 |
| passed, and other system busy network modules are not present | step 12 |
| failed, and you did not replace all cards recorded in step 6 | step 9 |
| failed, and you replaced all cards recorded in step 6 | step 11 |

**9** To replace the next card on the list, refer to *Card Replacement Procedures.* Return to this point.

**10** Go to step 8.

**11** For additional help, contact the next level of support.

**12** The procedure is complete.

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