Meridian 1 Options 21 through 81C

Fault Clearing Guide

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Revision history

June 1999

Standard 5.00. This document is up-issued for software Release 24.2x. New messages have been added to the BUG, ERR, CSA, DCH, DTI, IOD, MSDL, NPR, SYS, TRA, and TRK sections.

December 1997

First standard release of documentation for software Release 23.0x. New messages have been added to the AUD, BUG, CCED, CIOD, EDD, ERR, HWI, NPR, and SYS sections.

September 1996

First standard release of documentation for software Release 22.0x

January 1996

First standard release of documentation for software Release 21.1x

September 1995

First standard release of documentation for software Release 20.1x

Index of diagnostic overlays

Index of Cards

About this guide

Who should use this guide

This guide is intended for use by on-site technicians to clear faults on Meridian 1 Options 21 through 81.

How to use this guide

To use this guide, comply with the following steps:

1. Refer to the *Table of Contents*.
2. Locate the chapter *Start here to find faults*.
3. Follow the *Basic system fault finding* flow chart.

If the system develops a fault, the system will issue a message mnemonic that tells you what is wrong. For example **BSD815**.

This guide is arranged so you can respond to system messages.

The use of *italics* in this guide

Italics are used to indicate a title.

Italic titles that contain capital letters are the exact titles. For example: *Automatic Call Distribution reference guide*

Italic titles that do not contain capital letters are generic titles. For example: *administration input/output guide*

In some cases it is not possible to exactly match the title of a referred Northern Telecom Publication (NTP). For example the *Software input/output guide* NTP, the *X11 input /output guide* NTP, and the *DATA ADMINISTRATION INPUT/OUTPUT REFERENCE* NTP contain similar material but have different titles depending on the release. These NTPs are referred by the generic title *administration input/output guide*.

How the chapters of this guide work

Table of Contents

The *Table of Contents* is very compact as it lists only the chapter headings, in alphabetical order. The chapter heading begins with a message mnemonic. This arrangement allows you to quickly locate the chapters that match the system message.

Chapter table of contents

Chapters that contain many sections have a mini table of contents at the beginning of the chapter. The mini table of contents is called *In this chapter. In this chapter* is included so you do not have to return to the *Table of Contents* to locate a section within the chapter. This arrangement also keeps the *Table of Contents* compact and easy to use.

Header mnemonics

Large type size chapter mnemonics are included in the header at the top of the page. This chapter does not have a mnemonic. Therefore, all you see in this header is the page number and *About this guide*. The large type mnemonic is included for those of you who like to thumb through the pages to locate the chapter you need.

Message description and actions

Most of the system messages are mnemonic codes. Each mnemonic code has it’s own chapter. Every mnemonic code has a message description and an action. For example:

NPR000
LD 32 program identifier.

> **ACTION:** The NPR program is loaded and ready for you to enter commands.

The actions are grouped into four broad classes, as follows.

- changing hardware components
- changing the response to administration programming
- contacting your technical support group
- information only, no action required

Chapter structure

Certain mnemonic messages indicate card or hardware faults. For example **IOD060**. These chapters contain the following:

- a description of the card
- a graphic representation of the card
- a faceplate hexadecimal display description and action, if applicable
- the overlay load (LD) used to test the card
- messages pertaining to the card

All the information about the card is located in one area within the chapter.

Card faceplate hexadecimal displays

Card faceplate hexadecimal displays are found by locating the card name in the *Index of cards*. The descriptions and actions for the display follows the card description.

How commands are represented

The overlay load (LD) command design allows you to scan the commands without reading the description. If you need to read it, the complete description is located to the right of the command.

The commands used to interact with each card are grouped together. Each group of commands are located after the description of the card.

Diagnostic column layout

The title bar, depicted below, appears at the top of each page containing diagnostic commands:

PE unit commands		
Command	**Description**	**Release**

The following explains the meaning of each heading in the title bar.

Command **-** This column shows the format of the input keyed on a DTE or telephone.

Description **-** This column explains the following:

- how the system components react to commands
- the structure of the lengthy output formats
- special instructions

Release **-** Release indicates the software package or machine type and earliest software release needed to use this command.

Commands are grouped according to the activity to be performed on a given entity (hardware, customer, route and so on). For example in LD 32 the commands STAT l s c u, DISU l s c u, and ENLU l s c u, are under the activity header *PE unit commands* (the black bar above the Command Description Release bar in this example).

The commands are in the order of use, as follows:

- status
- disable
- enable
- test, list or print

How TTY entries and print outs are represented

A system printout on a TTY is represented in this guide by Courier Bold font, as follows:

```
TIM061 09:00 9/3/1995 CPU0
```

An entry you type on the TTY keyboard is represented in this guide by Courier font, as follows:

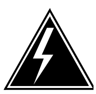
```
STAT 10 0 5 14
```

Icons, precautionary messages, and flowchart symbols

These symbols and icons are used in the guide.

Icons and precautionary messages

CAUTION
This symbol alerts you to the risk of a service interruption.



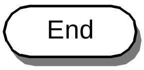
WARNING
This symbol alerts you to the risk of causing electrostatic damage to components.

DANGER
This symbol alerts you to the risk of personal injury or death caused by electric shock.

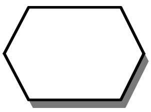
Flowchart symbols

This guide uses CCITT standard flowchart symbols.

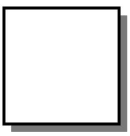
Every flowchart begins with this symbol.



This symbol appears at the end of a pathway within a flowchart.



This symbol contains text explaining what you have to decide.



This symbol contains text explaining an action that you should take or information that you should know.

Terminology

Terminology is not explained within the text where it appears. Terminology is explained in the last chapter of this guide, *Terms and abbreviations*. This arrangement allows you to glean the information without pausing to read an explanation you may already understand.

If you have any suggestions for additions to this chapter, or this guide, please let us know.

Fax to: Terminology,

Dept. 9V50,

Nortel

506-674-7314

Language standards and translations

This document is written to North American English standards. For versions of this document in other than North American English, please check with your supplier or with Nortel.

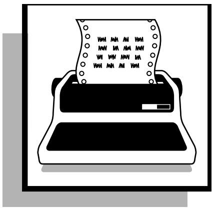
You should know this

In this chapter

Communicating with the Meridian 1

System terminal

You can exchange information within the systems through system terminals and maintenance telephones.



Communication with the Meridian 1 is accomplished by using a RS232 Data Terminal Equipment (DTE), or TTY as they are commonly called, to access the CPU. A DTE device can operate in the following two modes:

- receiving status and error messages from the Meridian 1 CPU
- transmitting input commands via the keyboard to the CPU

How many DTE Devices can interact with the system?

Many devices can receive status and error messages from the system. The Multi User Log In feature allows up to three devices to input to the Meridian 1. Without the Multi User Log In feature, only one device at a time can input commands to the system. To determine if your system has Multi User Log In, use LD 22 PRT PKG to check if package MULT_USER 242 is included in the software.

System message outputs

All systems output coded messages. This guide, in the appropriate sections, explains the codes and any required action. The Option 51C, 61C and 81 outputs coded system messages similar to all other systems, except for the Core messages. These Core messages are output in plain language.

Data output speed

Without the *Enhanced (I/O) Buffering* feature, if the same data is sent to more than one port, the throughput of each port equals the speed of the slowest device. For example, if a traffic report prints on two ports, one configured for 9600 baud and the other for 300 baud, the effective throughput of both ports is 300 baud.

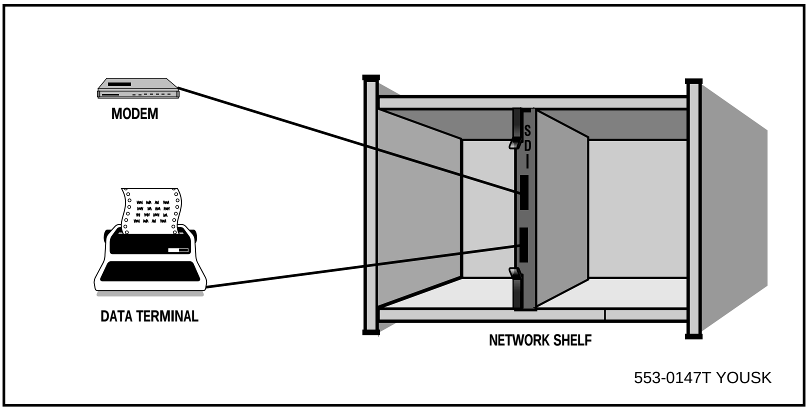
The Enhanced I/O Buffering feature for independent throughput provides the capability to output data at the speed set for each port, rather than the speed of the slowest port.

Local and remote access

You can access a Meridian 1 at the site or remotely. To gain local access to a Meridian 1, connect a system terminal directly to a Serial Data Interface (SDI) card. For remote access, a telephone line and a Data Circuit-Terminating Equipment (DCE), commonly called a modem, are required between the terminal and the SDI card.

A DTE or a DCE must remain permanently connected to an SDI port in order to provide a constant I/O interface to the system

The SDI card is located in a network shelf or module.



You should know this before you Log In

Log In allows you to access the overlay area. The overlay area is part of Meridian 1 memory and it is used to run maintenance and administration programs.

You can command the system to load one maintenance or administration program into the overlay area at a time.

To check for users in the overlay area, press the DTE keyboard return key. The system outputs one of the following:

- `OVL111` nn `TTY` x shows an SDI device active in the overlay area
- `OVL111` nn `SL-1` shows a maintenance telephone active in the overlay area

- OVL111 nn IDLE/BKGD shows an idle system or a background routine running in the overlay area
- OVL000 shows that you activated Log In
- OVL111 nn FHWR shows the Localized Faulty Hardware Recovery feature is disabling faulty hardware. Unless it is absolutely necessary, do not log in until the FHWR is finished. If you do log in the FHWR will continue after you Log Out.

To Log In while another device is already active will cause that device to Log Out, unless the Multi User Log In feature is equipped.

There are two levels of password and either can be used to Log In.

- Level 1, a general password is used by service personnel.
- Level 2, an administrative password is used by the person responsible for the system, or the system administrator, to protect LD 17, the configuration record.

The initial or default password is 0000 or the system serial number, and should be changed subsequent to the first Log In.

Except for the Option 51C, 61C, 81 and 81C all keyboard inputs require uppercase text. The Option 51C, 61C, 81 and 81C will accept either uppercase or lowercase inputs.

If your systems has Limited Access Passwords (LAPW), and the Log In option LNAME_OPTION is changed from NO to YES, the Log In is as follows:

```
LOGI ADMIN1<cr>
PASS? xxxx
```

The ADMIN1 can be changed to a user name consisting of any combination of upper and lower case characters from four to sixteen with no spaces.

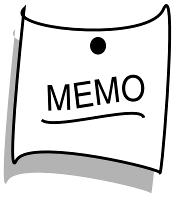
Use LD 22 PRT, PKG to print a list of your system packages. If you have package 164 LAPW, your system is equipped with Limited Access Passwords.

For more information, refer to the Fault Clearing Guide, Book 3 of 3, Management Applications.

How to Log In and Log Out

STEP	ACTION
1	**Log In.**
	Type LOGI and then press the *return* or *enter* key. System responds by displaying PASS?
2	**Enter the password.**
	Type level 1 or 2 password then press the *return* or *enter* key.
3	**The system's response.**
	If / **Do** the system responds with > or OVL111 nn IDLE/BKGD — step 4 the system responds with anything else — negotiate with the other users for Log In rights
4	**Select an overlay.**
	Type LD XX then press the *return* or *enter* key. XX is the number of the program or load in which you want to work.
5	**Perform tasks**
	When you are finished your tasks, do step 6.
6	**Stop the overlay.**
	Type END or **** to end the program and reserve the overlay area for you for 20 minutes. **** aborts the program and the overlay area allowing the system to use the overlay area for daily routines. If you abort the current program when the system is running daily routines, you have to Log In again to use another program. If you END the current program you can use another program, without Logging In again.
7	**Log Out**
	Type LOGO then press the *return* or *enter* key, to end the session. This allows the system to resume background routines.

END



Things to remember when you are in a load

- When the system prompts you for an input, you must press the return key before that input is processed.
- If the input is not correct, the system outputs an error code and reprompts you. The error codes are explained in this guide in the appropriate chapters. See the Table of Contents for chapter locations.
- The Line Mode Interface feature, allows the system to accept a backspace to correct an input. Without the Line Mode Interface feature, a backspace will cause a re-prompt.
- Maintenance diagnostic loads can be run coincidental with call processing.
- If you disable a line card, all the telephones connected to that card will be inoperative.

Meridian 1 Fault Management

Meridian 1 Fault Management Alarm Filtering, allows a technician to simplify and control messages from a Meridian 1 system and its Application Processors.

Meridian 1 Fault Management requires the package 243 Alarm Filtering. Use LD 22 `PRT,PKG` to printout your system packages

Alarm filtering

Alarm definition

An alarm is an X11 system message.

A system alarm is a message that is not the direct result of operator actions. `ERRxxx` is an example of a system alarm.

An overlay alarm is a message that results from an operator's interaction with an overlay. `SCHxxx` is an example of an overlay alarm.

What is alarm filtering?

With alarm filtering, a terminal (DTE or DCE) can be configured to receive only those system messages that require intervention. Other system messages not filtered can be stored in the History File.

Alarm filtering is controlled by the contents of the Alarm Filter Table, configured in LD 17 and printed in LD 22. The Alarm Filter Table consists of the Alarm Filter List and the Exception List; a default table is provided. Messages that match an entry in the Alarm Filter List and *not* in the Exception List are sent to the system terminal.

For example, the Alarm Filter List might include CED+++, indicating that all CED messages are sent to the terminal. However, if the Exception List includes CED000, then CED000 is *not* sent to the terminal.

Filter limits

Only system alarms can be filtered. Traffic messages and overlay alarms, as well as SYSxxx and INIxxx messages, cannot be filtered and will always appear on maintenance terminals.

Number of entries in table

The maximum number of entries in the Alarm Filter Table is 50 alarms and 50 exceptions.

Output contents

Filtered output contains only the first line of the system message.

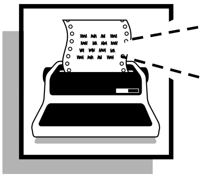
After a system reload

After a system reload, the system time and date must be reconfigured. If they are not, the time and date stamps for Meridian 1 alarms will be incorrect.

Output format for filtered alarms

All displayed system messages will appear in the following three-line format. The second and third lines are optional.

<severity><id><time><date><seq no><event><type>
<TAB>Operator data:<operator data>
<TAB>Expert data:<expert data>



Example of a formatted output

```
* SRPT0752 12/08/96 10:35:52 129012
       OPRDAT: 1 0 0
```

`*` = Alarm severity:

- `***` indicates Critical
- `**` indicates Major
- `*` indicates Minor
- (blank) indicates None

`SRPT`= a unique identifier for the error, up to 10 characters

`12/08/96` = date, DD/MM/YY

`10:35:52` = time, HH:MM:SS

`129012` = Sequence number of this alarm report

`OPRDAT`: = A 30-character field to help determine how to clear the fault

`1 0 0` = loop 1, shelf 0, card 0

If there are no message parameters, `OPRDAT` will not be printed.

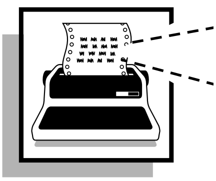
Implementation

Use LD17 to define alarm filters and exceptions on a per-system basis.

Print an alarm filter list and exception list

Use Overlay 22 `PRT, ALARM`.

A sample of the output produced appears below. The “MAJOR+” in the second line of the Alarm Filter Summary indicates that the alarm was escalated to a CRITICAL severity.



```
FMT_OUTPUT: ON
AF_STATUS: ON
```

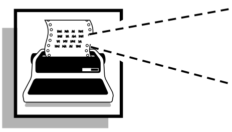
LD17—Configure Alarm and Exception Filter Data

Prompt	Response	Description
REQ	CHG	Change existing information.
TYPE	ALARM	Access the default Alarm Filter Table; system responds by displaying the current settings for the Formatted Output and Alarm Filter options as either ON or OFF: FMT_OUTPUT(ON or OFF) AF_STATUS(ON or OFF)
FMT_OUTPUT:	ON (OFF) <CR>	Enable Formatted Output printing. Disable Formatted Output printing. Retain current setting.
AF_STATUS:	ON (OFF) <CR>	Enable Alarm and Exception Filtering. Disable Alarm and Exception Filtering. Retain current setting.
A_FILTER:	NEW CHG OUT X <CR>	Create a new Alarm Filter entry. Change an existing entry. Remove an existing entry. Remove an existing entry. Exit Alarm Filter entry.
TRIGGER:	aa...aa <CR>	Enter string of up to 10 characters, containing the message mnemonic and the specific message number or the plus sign (+) to represent a range of numbers from 0 to 9. This identifies a message series to be displayed on a TTY with a LD 17 USER status of FIL. Retain the current value for this parameter.
SEVERITY:	Critical Major Minor (None) <CR>	Identify the severity of the alarm type to be filtered: Conditions that threaten operational status Serious but operational conditions Other error conditions Conditions with no severity rating Retain the current value for this parameter The severity level is used for output formatting and for potential escalation from Major to Critical.

— continued —

LD17—Configure Alarm and Exception Filter Data

Prompt	Response	Description
SUPPRESS:	0–(5)–127	Enter the number of times an alarm can occur within a 24-hour period before it is suppressed. 0 disables suppression. Using this threshold can reduce the number of redundant messages that appear at the terminal.
ESCALATE:	0–(2)–127	Enter the number of times a major alarm can occur before it is escalated to critical; 0 disables escalation.
A_FILTER:	<CR>	Exit Alarm Filter entry.
E_FILTER	NEW OUT X <CR>	Create a new Exception entry. Remove an existing entry. Remove an existing entry. Exit Exception entry.
TRIGGER:	aa...aa	Enter a string of up to 10 characters, containing the message mnemonic and the specific message number or the plus sign (+) to represent a range of numbers from 0 to 9. This identifies a message series not to be displayed on a TTY with a LD 17 USER status of FIL.
E_FILTER:	<CR>	Exit Exception entry.



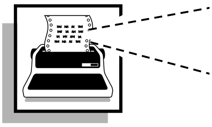
```
ALARM FILTER SUMMARY
 TRIGGER    SEVERITY    SUPPRESS    ESCALATE
   DCH+++     MAJOR        005         001
   ERR+++     MAJOR+       005         001
  MSDL+++     MAJOR        005         001

EXCEPTION FILTER SUMMARY
TRIGGER
DCH100
OVL003
```

Printing an alarm summary

Use Overlay 02, prompt ASUM.

A sample of the output produced appears below:



```
FMT_OUTPUT: ON
AF_STATUS: ON


ALARM FILTER SUMMARY

 TRIGGER        SEVERITY        COUNT
  DCH+++         MAJOR+          020
  ERR+++         MAJOR+          020
  MSDL+++        CRITICAL        001

EXCEPTION FILTER SUMMARY
TRIGGER
ERR020
```

System Message Lookup Utility

The System Message Lookup Utility is available exclusively on Option 51C, 61C and 81 systems. This utility provides the ability to look up Meridian 1 alarm messages on-line. The utility accepts Meridian 1 alarm mnemonics and provides a descriptive explanation of the alarm. It supports Look Up Last Error and Look Up Any System Message.

Using the system message Lookup utility

At the > prompt, to activate Look Up Last Error, the user enters

```
err<cr>
```

The system looks up the last error and displays or prints the associated help text.

At the > prompt, to activate Look Up Any System Messages, the user enters

```
err ABCDxxxx<cr>
```

where ABCD is the message mnemonic and xxxx is the message identifier. The system looks up the specific error code and displays or prints the associated help text. If the system does not find the requested message, it issues the following message:

```
Unable to find help text for error: ABCDxxxx
```

If the message code entered is invalid (that is, it begins with a number; it has more than four alphabetic characters, or it contains special characters), the system issues the following message:

```
ABCDxxxx is not a valid error code
```

Each alarm has an associated counter that increments with each occurrence of the alarm and is reset as part of the daily routines. The Alarm Summary Report displays the status of these counters, which is an indication of the general stability of the Meridian 1 system.

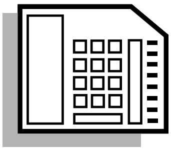
Exception filter list

The Exception Filter List is a list of specific alarm triggers.

TTY Output device

When a terminal is assigned with a USER type of FIL in Overlay 17, it receives filtered alarm output. In addition, if it can load overlays, the terminal receives the normal communications from the overlay, including any SCH messages. However, it does *not* receive MTC, BUG, and CSC messages.

Maintenance telephone



The types of telephones that can be maintenance sets

A Meridian 1 proprietary telephone can function as a maintenance telephone when you define its Class of Service as Maintenance Set Allowed (MTA) in the Multi-line Telephone 47 program (LD 11).

Why maintenance telephones are used

You can test the tone output of a Tone and Digit Switch by using a maintenance telephone to listen for an absence of the tone or its strength, clarity and frequency. You can check the voice path of a trunk with a maintenance telephone by dialing a trunk's TN to seize it and listen for the quality and strength of the returned dial tone. Both of the above can also be accomplished with a DTE or TTY; however, no matter how hard you press your ear to the DTE you cannot hear any tones.

Maintenance telephone inputs and outputs

The maintenance telephone can send input commands to the Meridian 1 and you can hear output tones from the maintenance telephone. If you want to see message responses from the system as a result of maintenance set inputs, a printer or DTE is required.

Overlay programs used with maintenance sets

A maintenance telephone allows you to send commands to the system through the following maintenance Overlay programs: LD 30, LD 32, LD 33, LD 34, LD 35, LD 36, LD 37, LD 38, LD 41, LD 42, LD 43, LD 45, LD 46, LD 60, LD 61, and LD 62.

Loads not accessible with maintenance sets

A maintenance telephone cannot access maintenance Overlays LD 31, LD 40, LD 48, LD 77, LD 92, and LD 96.

Entering commands on a maintenance set

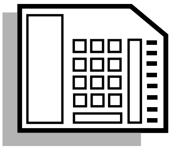
To enter commands, press the keys on the maintenance telephone dial pad that correspond to the letters and numbers of the command. For example, to enter LD 42 *return*, key in `53#42##`. The following table shows the translation from a DTE keyboard to a telephone dial pad.

Translation from keyboard to dial pad

Keyboard				Dial pad
			1	1
A	B	C	2	2
D	E	F	3	3
G	H	I	4	4
J	K	L	5	5
M	N	O	6	6
P	R	S	7	7
T	U	V	8	8
W	X	Y	9	9
			0	0
			Space or #	#
			Return	##
			*	*

Note: There is no equivalent for Q or Z on a dial pad.

Accessing an overlay by using a maintenance set



STEP	ACTION
1	**Start process.**
	Press the prime DN key.
2	**Enable telephone as a maintenance set.**
	Dial xxx91. xxx is the SPRE code. Use LD 21 to print CDB. Examine CDB for SPRE code.
3	**Check for busy tone.**
	Dial ##
4	**Activate overlay program.**
	Dial 53#xx##. xx represents the overlay program number.
5	**Perform overlay tasks**
	Dial overlay input commands.
6	**Exit program and return telephone to the call mode**
	Dial ****.

Step 3:

If	Do
busy tone present	Dial **** to end this program and access the system Go to step 4
no busy tone is present	step 4

END

Hardware maintenance tools

Hardware features help you perform maintenance tasks. These features or maintenance tools include the following:

- circuit card features that include card-level tests and status indicators
- CPU controls that allow control of common equipment functions
- system alarms that categorize the severity of a system fault
- system monitor indicators that identify power faults and temperature variations

Circuit-card faceplate features

Card test

A cardtest checks that a card is working correctly. Many cards perform a self-test upon power-up. When required you can force card-level tests through software commands.

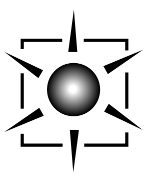
Enable/disable switch

Most cards have a switch on the faceplate that enables or disables the hardware functionality of the card.

Whenever possible, before you remove a card, disable the software first using a maintenance overlay (LD xx), then disable the hardware by setting the enable/disable switch to “Dis”.

To hardware disable a card before you install it, set the switch to Dis. After the card is locked into position, set the switch to Enb, and then enable the software. To software disable and enable cards, refer to the procedures in *Software Maintenance Tools*.

Light Emitting Diode indicators

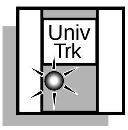


The card LED, regardless of shape, gives a visual indication of card or unit status as follows:

- green LED lit, indicates a card is operating normally
- green LED off, indicates a card is disabled or faulty

- red LED lit, indicates a card or unit is disabled or faulty, or no units are programmed in the data-base for this card
- red LED off, indicates a card is operating normally or no power is going to the card
- red LED lit on a dual processor system’s Omega Interface card indicates the opposite processor is active
- red LED lit on a cabinet, indicates a power problem within the cabinet
- red LED lit on Option 81 Core to Network Interface (CNI) cards indicates the opposite processor is active.

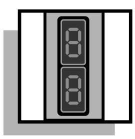
Intelligent Peripheral Equipment (IPE) card LED



When an IPE card is inserted or cards containing a multiprocessing unit (MPU), the following occurs:

1. The card LED lights.
2. The card MPU does a self-test.
3. The LED flashes three times when self-test passes.
4. The LED remains lit until the card is configured.
5. The system CPU enables the card if a unit is programed in the database.
6. The LED goes off.

If the LED operates in any other manner, such as continually flashing or remaining weakly lit, the card should be replaced.



When Option 51C, 61C and 81 common control cards are installed, a self-test runs. If the self-test completes successfully, the LED flashes three times then goes out.

Maintenance display code

Maintenance hexadecimal-code displays are located on the faceplate of some circuit cards. The Hex code explanations accompany the card descriptions. See the Index of Cards to locate the card descriptions.

Option 51C, 61C and 81 Maintenance display

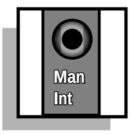
The Option 51C, 61C and 81 maintenance display on the NT6D66 Call Processor (CP) Card shows two lines of information with up to 16 characters per line. The hexadecimal code and its definition are shown on the display. The following applies to the Option 51C, 61C and 81 display.

- each new code shown on a maintenance display overwrites the one before it
- all codes received on common-equipment displays are recorded; review them by printing the History File
- the 16 codes most recently displayed on a controller card stay in memory; review them and reset the counter through LD 30
- the 64 most recent displays on the Option 51C, 61C and 81 CP card stay in memory; review the displays on the active CP card through LD 135

CPU/IF Card faceplate controls

Switches and buttons on common equipment cards allow control of the CPU activity and the clearing of common equipment faults.

Manual Initialization button

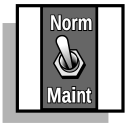


Pressing the Manual Initialization (Man Int) button associated with the active CPU, will do the following:

1. The CPU will rebuild call dependent data in memory.
2. The CPU will test all common equipment and network type cards.
3. The CPU will enable any common equipment cards and network-type cards that were found disabled by the test; faulty cards remain disabled.
4. Common Equipment cards that cannot be enabled are listed in the initialize messages.

Established calls are unaffected.Calls in the signaling state such as off-hook and dialing, are aborted.

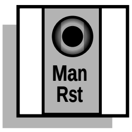
Normal/Maintenance switch



Dual-processor systems with CPU, IF or CP cards have a Norm/Maint switch on their faceplates. The Norm/Maint switch is in the Norm position when the system is operating normally. Switch to the Maint position for the following conditions:

- to force that processor to be the active one
- to keep the processors from switching when replacing common-equipment hardware on the inactive CPU
- to perform a parallel reload

Reload button



Rld or Man Rst buttons allow manual activation of the System Loader program. The System Loader automatically loads the system operating program from tape or diskette into the Random Access Memory (RAM). This process requires from two to 20 minutes to complete, during which time Call Processing stops. To reload on dual-processor systems, press both reload buttons at the same time.

Universal Equipment Module (UEM) Cover and card removal/installation

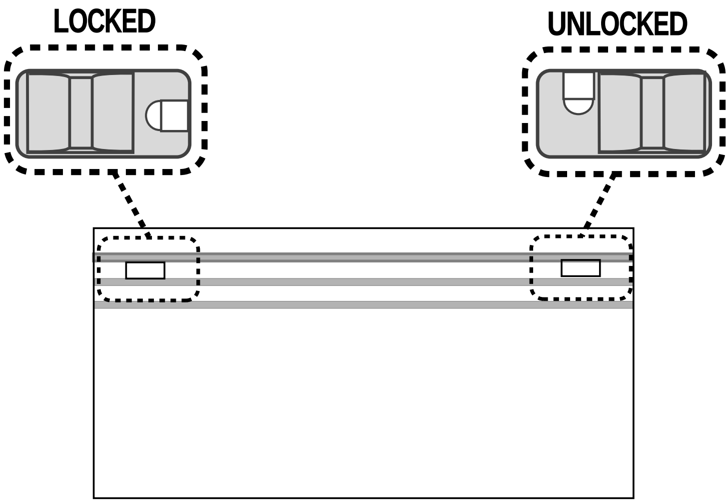
DANGER

Module covers are not hinged. When removing a cover, do not let go of the cover as personal injury could result. Lift the cover away from the module and set it outside of the work area.

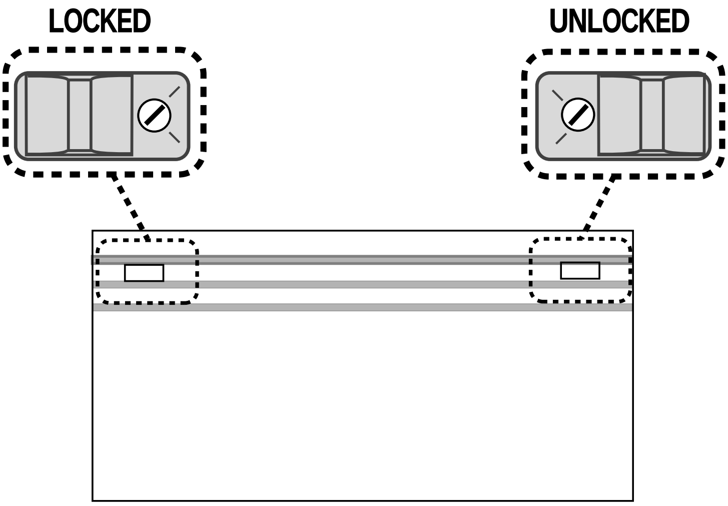
Removing a UEM Cover

To remove a module cover, perform the following steps.

1. Using a flat blade screwdriver or coin, unlock cover locks.

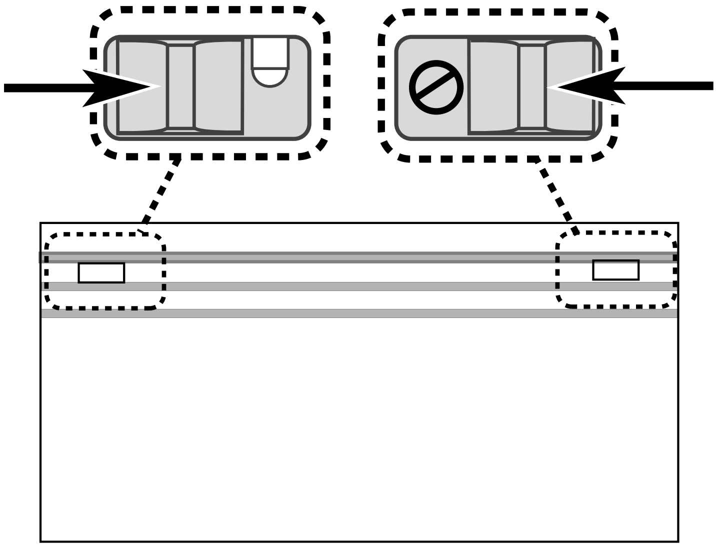


553-0155T LOCKS



553-0156T LOCKS

2. Push both latches toward the center of the cover and pull the cover toward you while lifting it away from the module.

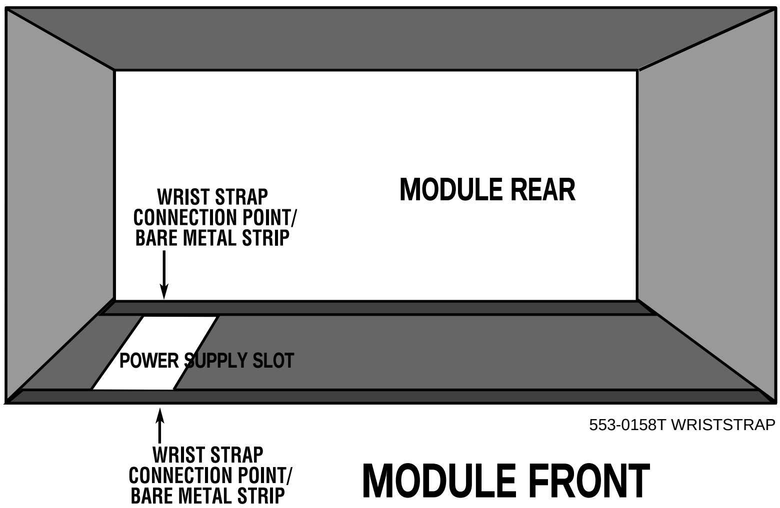

553-0157T LOCKS

Ensure that the lugs on the bottom of the UEM cover engage the slots in the module when installing a UEM cover. Push the top of the cover towards the module until the latches click into place.

Using a wrist strap

> **WARNING**
>
> To avoid damage to circuit cards from static discharge, wear a properly connected antistatic wrist strap when you work on Meridian 1 equipment.

The following figure shows the recommended connection points for the wrist strap and the bare metal strips you should touch to discharge the static.



Handling circuit cards

Handle circuit cards as follows:

- Unpack or handle the cards away from electric motors, transformers, or similar machinery.
- Handle the cards by the edges only. Do not touch the contacts or components.
- Set cards on a protective antistatic bag. If an antistatic bag is not available, hold the card by the edges, locking levers, or set it in a card cage unseated from the backplane connectors.

- Store cards in protective packing. Do not stack cards on top of each other unless they are packaged.
- Keep cards installed in the system as much as possible to avoid dirty contacts and unnecessary wear.
- Store cards in a cool, dry, dust-free area.

Do this when you replace circuit cards

The following steps apply during the circuit-card replacement procedures.

1. Software-disable cards, if applicable, before they are removed.
2. Hardware-disable cards, whenever there is an enable/disable switch, before they are removed.
3. Hardware-enable cards, after they are inserted.
4. Software-enable cards after they are inserted to return them to service.

Keep in mind the following points:

- Turn off the circuit breaker or switch for a module power supply before the power supply is removed or inserted.
- In AC-powered systems, capacitors in the power supply must discharge. Wait five full minutes between turning off the circuit breaker and removing the power supply from the module.

- Return defective or heavily contaminated cards to a repair center. Do not try to repair or clean them.
- If the symptoms do not change after replacing a suspected faulty card, put the original card back.

Installation procedure

1. Open the protective carton and remove the circuit card from the antistatic bag. Return the antistatic bag to the carton and store it for future use.
2. Inspect the card components, faceplate, locking devices, and connectors for damage. If damaged, tag the card with a description of the problem and package it for return to a repair center.

3. Refer to the work order to determine the module and slot location for the card.
4. If there is an Enable/Disable (Enb/Dis) switch on the faceplate, set it to Dis.

> **CAUTION**
>
> Switches incorrectly set on common equipment circuit cards may cause a system failure.

5. Make sure that the switches or jumpers are set correctly.
6. If you are installing an NTND02 Misc/SDI/Peripheral Signaling (MSPS) Card, the Battery Pack Assembly must be attached as follows.
   – Position the battery pack on the component side of the MSPS card. From the back of the card, install the screws that secure the battery pack.
   – On the component side of the MSPS card, plug in the clip connector wired to the battery pack. Make sure the connector key is centered on J2.

Note that the battery will not be fully charged until 24 hours after installation in a powered system.

Circuit cards

> **DANGER**
>
> Circuit cards may contain a lithium battery. There is a danger of explosion if the battery is incorrectly replaced. Dispose of the battery according to the manufacturer's instructions.

7. If you are installing one of the following cards, the QMM42 Security Data Cartridge must be attached.
   – NT6D63 I/O Processor (IOP) Card
   – QPC584 Mass Storage Interface (MSI) Card
   – QPC742 Floppy Disk Interface (FDI) Card

To install a data cartridge, plug it into the connectors on the component side of the host card and install the screw that secures the data cartridge.

The data cartridge and the system software diskettes have a label listing the feature packages, generic, release, issue and an ID number.

CAUTION

To avoid system failure, the ID number on the data cartridge must match the ID number of the system software.

8. If you are installing one of the following cards, the associated ROM card must be attached.

- NTND01 Integrated CPU/Memory (ICM) Card
- NTND31 ROM QPC579 CPU Function (FN) Card
- NTND08 or QPC939 ROM
- QPC687 CPU Card
- QPC940 ROM

WARNING

When you install a ROM card, do not touch other components on the host card.

To install a ROM card, plug it into the connectors on the component side of the host card.

Note that for the NTND31 ROM Card, you must also install a screw and washer at each corner of the ROM card.

9. Squeeze the ends of the locking devices on the card and pull the tabs away from the latch posts and faceplate.

10. Insert the card into the card-aligning guides in the card cage. Gently push the card into the slot until you feel resistance. The tip of the locking device must be behind the edge of the card cage.

11. Lock the card into position by simultaneously pushing the ends of the locking devices against the faceplate.

12. If there is an enable/disable switch, set it to Enb.

Do not enable the switch on an NT8D04 Superloop Network Card or QPC414 Network Card until network-loop cables are installed.

System alarms

Attendant consoles display major and minor alarms.

Major alarms

A major alarm can only become active on attendant consoles if the consoles are cross-connected to an emergency transfer device. The conditions that trigger an emergency transfer are optional. Therefore the major-alarm display depends on the options chosen. The following is a list of emergency transfer conditions:

- call processing stopped due to a system reload
- loss of power without backup
- trip input with reserve battery
- loss of - 48V power supply
- loss of the 86V ringing generator
- high temperature shutdown
- transfer switch located on emergency transfer device is activated
- transfer switch located under the attendant console is activated

Minor alarms

Minor alarms are displayed on attendant consoles. The CPU activates the console minor alarm display by sending a message to the console. Minor alarms are triggered by inconsistencies in common equipment hardware and feature interactions. Due to the large number of features available with Meridian 1 systems, the minor alarms are almost always displayed. Minor alarms do not indicate specific faulty components or that an actual fault has occurred. The minor alarm can indicate that a system message may be present on a maintenance DTE. Monitoring system messages with DTE is a preferred method of fault detection, as the system message indicates a specific faulty area which then can be tested and resolved.

Remote alarms

A remote alarm is an extension of emergency-transfer function to another location. The Meridian 1 provides relay-contact closure across two remote-alarm lines. A monitoring site or test center can use this facility to generate alarm lights, bells or activate pocket pagers, indicating that an emergency transfer has occurred. The lights, bells and pocket pagers are not supplied with the Meridian 1.

Power and cooling monitors

System Monitor card

System Options 21, 21E, 51, 51C, 61, 61C, 71, and 81 are equipped with System Monitor cards which check the following:

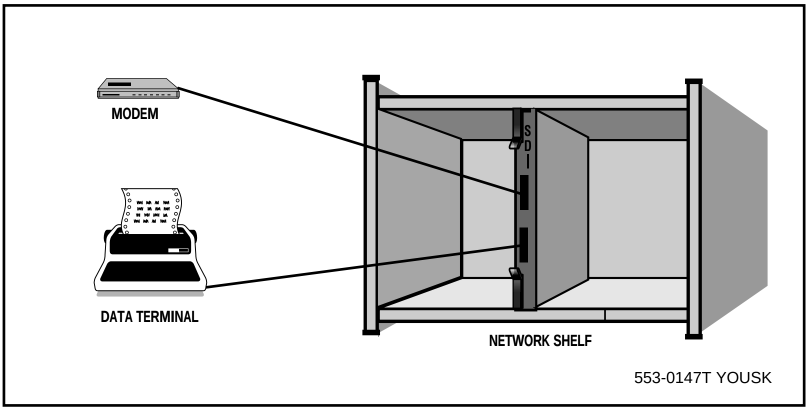
- column temperature
- cooling system status
- system voltage status
- controls line transfer states

Power Monitor card

Systems other than the Option series have a Power Monitor card, which generates a signal causing a message to appear on all SDI devices indicating a power problem. The Power Monitor card contains various LEDs indicating the specific power problem,
fuse status, air flow status, temperature status and emergency transfer status.

Cabinet LED

Except for the SL-1S and ST, all systems have a LED at the top of the cabinet or a column which lights when there is a power problem.



Software maintenance tools

What are software programs?

All of the system software programs are assembled into two groups, resident and non-resident.

Resident programs

During system operation, certain programs reside in the system memory or RAM. These programs send messages to various TTYs when they detect faults. An example of resident programs are as follows:

- Bootstrap is used to load the system-loader program into RAM.
- System Loader is used to load the operating program from diskettes into RAM.
- Initialize is used to start call processing, rebuild part of memory and check for common-equipment faults.

- Workscheduler is used to determine what task is next and control all activities.
- Error Monitor is used to monitor call processing.
- Resident Trunk Diagnostic is used to monitor analog trunk calls.
- Overload Monitor is used to monitor excessive inputs from peripheral equipment.
- Traffic is used to monitor potential congestion problems.
- Overlay Loader is used to load the non-resident programs into the overlay area of memory.

Non-resident programs

During system operation, certain programs are loaded into the overlay area of the memory to be accessed by the workscheduler. These non-resident programs are commonly referred to as loads or overlays because a new program is overlaid on top of the old one. When loaded manually through the system terminal or maintenance telephone, these routines are used interactively with a command/response format. In this format, you enter a command that tells the system to perform a specific task. The system performs the task and sends system messages indicating the status or errors back to you. There are five basic types of resident programs, as follows:

- Service change routine is used to program the data base.
- Print routines are used to generate system reports.
- Maintenance diagnostics are used to
  - disable, test, and enable specific equipment,
  - verify that a reported fault still needs to be cleared,
  - verify that a repair procedure has cleared a fault.
- Equipment data dump, updates changes to the customer data-base on diskettes.
- Software audit monitors the state of system software, and tries to clear software problems.

Non-resident programs are run concurrently with call processing and they can run continuously or on a scheduled basis.

Service change and print routines

The service change and print routines are listed in the administration input/output guide.

Maintenance diagnostics

Maintenance diagnostics are found in this guide. Application-specific diagnostics are located in the maintenance input/output guide.

Equipment datadump

The equipment data dump routine information is located in the maintenance input/output guide.

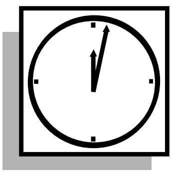
Software audit

The software audit routine information is located in the maintenance input/output guide.

Background routines

Background routines are non-resident diagnostic programs that run along with call processing. Call processing takes precedence, or is in the foreground, and the diagnostic program is in the background. These run when no other program is loaded in the overlay area. The programs included in the background routine run repeatedly until there is another request to use the overlay area.

Daily routine overlay or midnight routines



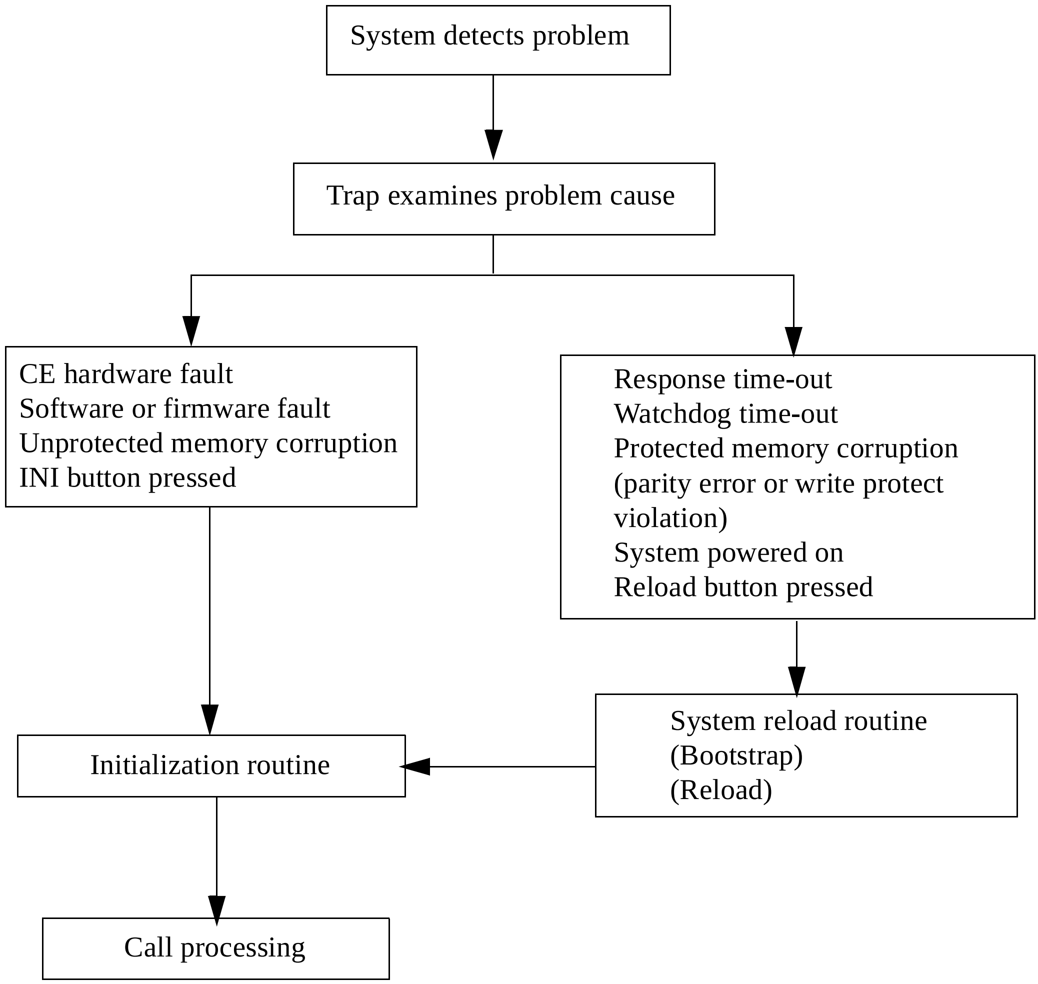
The daily routines are non-resident programs preset to run at midnight when a system is shipped. This is why they are commonly referred to as the midnight routine. The daily routine can be set to run once every 24 hours, at the time of least traffic for a particular business.

When it is time for the daily routine to start, the system cancels the background routine and if the overlay area is not in use by a manually loaded non-resident program, the daily routine will run.

Both the daily and background routines are selected in LD 17, the Configuration Record.

What the system does when things go wrong

The following diagram represents the method by which the system recovers call processing.



An explanation of the diagram follows.

Trap sequence routine

The processor is forced to execute a trap sequence when the system is powered on, or certain faults are encountered, or when the reload/reset buttons are pressed. The trap sequence routine will do the following:

- Determine, store and print the cause of the trap in an INI or SYS message, which the technician can use to help pinpoint the fault.
- Isolate and disable any faulty circuit cards. Determine whether to execute an initialization or a system reload. If appropriate, output an INI or SYS message to indicate faulty hardware components.
- Check the memory and if the call processing portion of memory is corrupted, an initialization takes place. If the system-operating or customer-database portion of memory is corrupted, a system reload takes place.

System reload routine

If the trap routine determines that a system reload is required it forces the CPU to run the bootstrap program. For this to occur, the following conditions must be present:

- system is powered on
- reset or reload buttons are pressed
- common-equipment fault obstructs processing, such as
  - response time-out
  - watchdog time-out
- memory contents are corrupted, such as
  - parity error
  - write protect violation (part of INI and SYS messages)

Dual processor systems contain two Function cards with the faceplate label Omega FN. The hardware (BTU) on the backplane into which the cards are plugged, identifies the FN cards as Ø and 1. The FN card 1 always starts the system reload routine. If FN card 1 does not start the routine, check for processor faults.

Common equipment, unless otherwise stated, includes all network-type cards such as those used in the network shelves.

Bootstrap program starts the system reload process

Common equipment card LEDs come on, and bootstrap directs FN card 1 to perform the following steps.

1. FN card 1 does a self test. If the test passes, the FN card 1 LED goes out.
2. FN card 1 tests first 32k portion of memory.
3. FN card 1 tests disk card register associated with FN card 1. If the test passes, the disk card LED goes out.
4. FN card 1 tests disk units. If the test passes, the disk unit LEDs flashes, indicating that System Loader instructions are loading form disk into memory.
5. When the System Loader instructions are all entered into the system memory, the System Loader will take over from the Bootstrap and provide the instructions for FN card 1.

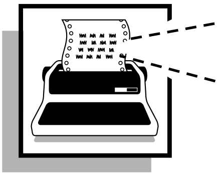
   Note: If the above tests do not pass, a Hex code appears on the faceplate displays of the cards involved. Refer to the Index of Cards to locate each card Hex explanation.

System Loader continues the system reload process

1. FN card 1 tests software package compatibility, and, if not right, generates a message.
2. FN card1 enables SDI ports, allowing messages to be output.
3. FN card1 loads configuration record and memory test diagnostic.
4. FN card 1 tests memories. The memory card LEDs flash.
5. FN card1 tests switches control to FN card 0.
6. FN card 0 does a self-test. If the test passes, the FN card 0 LED goes out.

   Note: If the self-test does not pass, FN card 1 resumes control and outputs a message indicating an FN card 0 fault.

7. FN card 0 tests memories. The memory card LEDs flash.
8. FN card 0, loads system operating software into the memory.
9. FN card 0, loads customer data-base into the memory.
10. When the system reload is completed a message is output as follows:



```
SYS000 000400 00000F FFFFF 00 CPU
SYS100 CPU 0
SYSLOAD RLS: xx
ISSUE xx
DONE
```

The above is an example of a clean sysload message indicating all hardware and software functioning as expected with no faults.

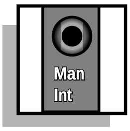
> ***Note:*** The system loses the time and date during a sysload, except on an Options 51C, 61C and 81. You must reset the time and date using LD 02 after a sysload unless you have the Network Time Synchronization feature.

Short memory test to save SYS load time

To minimize sysload time, the Short Memory Test capability can be enabled in LD 17 (prompt SMEM). If the Short Memory Test is enabled, only one pass of memory testing is performed on a normal reload. If any subsequent system failure causes an automatic reload, the full six-pass Memory Test is performed on all memory in the system.

Note that a sysload completes so quickly on Options 51C, 61C and 81 that the Short Memory Test is not useful. The Short Memory Test package is not designed to be compatible with Options 51C, 61C and 81.

Initialization causes



The initialize program is run as a result of the following conditions:

- system load is complete
- corrupted call-processing memory is detected
- the MAN-INT button is pressed
- a software or firmware fault is detected
- a hardware fault in the common equipment is detected, such as I/O device faults, network or PE signaling, IGS faults, which adversely affect the Network/CPU Bus

Initialization routine

The Initialization program performs the following steps:

1. Saves the fault code or cause of the INI in the overlay area, allowing you to pinpoint the cause of the problem.
2. Erases the call-processing memory and rebuilds it from the network card memories.

   Note: After the processor sets up the calls, they are controlled by the network card memories.

3. Tests all common equipment cards and finding any disabled which can be enabled, does so. Those which cannot be enabled are identified in the INI message.
4. If the initialization is associated with a system reload, the Peripheral Equipment Controller cards are tested to ensure they are enabled in software and a Superloop is defined for at least one segment of each PEC.
5. After the system reload, all required download information is sent to each digital telephone, and then the download flag is turned off to ensure that a manual initialization will not invoke the download process.
6. Any applicable patches for resident call processing software which have been saved on the disk are reloaded into the system.
7. Any new system parameters are downloaded to all XNET, PEC, NPD, and PE cards that require them.

8. All active SDI terminals print detailed messages on the cause of the INI, as follows:
   - the time of the INI
   - the last software instruction executed by the CPU
   - a list of faulty cards or components
   - INI fault codes are also output to the processor faceplate maintenance display
9. Logs out all I/O device users.
10. Updates the History File.
11. INI counter increments. If five or more initializations have occurred within 24 hours, all active patches are disabled.
12. Resumes call processing after the initialization procedure is completed.

    Note: Initialize can be activated remotely by way of restricted access through debug software. This process includes saving the last initialization error codes in debug area, updating the patch save status in debug area and all of the above steps, except for the system reload steps.

Telephone call changes due to an initialization

Telephone call changes due to initialization are as follows:

- only established calls have an active voice path and remain connected
- incoming calls to an attendant console from the public exchange network that remain in a Ringing-in state will re-originate after initialization
- direct inward dialed and TIE trunk calls in a Ringing-in state are lost
- Conferenced calls, Hold, Music On-Hold, Call Transfer, Forward, Hunt are lost
- calls established on secondary DNs are reestablished on the prime DN

System operation changes due to an initialization

System operation changes due to initialization are as follows:

- activates minor alarm on console
- volume levels reset to default levels on some types of programmable sets
- CDR records for active calls and the hour's traffic data is lost
- incomplete programming changes are lost

ACD operation changes due to an initialization

ACD operation changes due to initialization are as follows:

- only established calls remain connected
- conferenced calls are lost, including calls under supervisor observation and emergency key calls are lost
- all calls in queue, such as RAN, Hold and Silence are lost. Incoming calls in RAN will be held for the duration of the initialization, and then released.

Agent changes - ACD agent changes due to initialization are as follows:

- active agents remain logged in
- idle agents are logged out
- make set busy (MSB) status is not affected

Reporting changes - ACD reporting changes due to initialization are as follows:

- ACD-D, that is, Meridian MAX loses transient data for typically one half hour
- ACD-C will lose non-printed data

Meridian link operation changes due to an initialization

Meridian link changes due to initialization are as follows:

- calls in the setup process are lost
- link will be down for approximately 30 seconds after system initialization

Meridian Mail changes due to an initialization

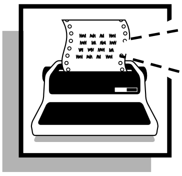
Meridian Mail changes due to initialization are as follows:

- all calls in the ACD queue to Meridian Mail are lost
- conferenced calls are lost
- calls using the conference feature, such as User Pressing Call Sender, are lost
- established calls to Meridian Mail will remain in progress, with Voice Recording active
- the CSL link will drop and voice channels may become locked out until manually disabled and reenabled
- DTMF phones will be able to send tones to Meridian Mail
- digital sets cannot access Meridian Mail features
  - CSL link will be down (EES off)
  - Switch is unable to generate tones (EES on)

Activating programs with the overlay loader

You can load programs manually by entering commands through the system terminal or maintenance telephone.

Once the program is loaded, the system outputs the program mnemonic (such as TRK for Trunk Diagnostic) on the system terminal.



Overlay input commands

After the Log In sequence and password, the overlay loader becomes active and accepts commands keyed from the SDI terminals. The overlay loader will respond to six commands as follows:

- `LD xx`— loads non-resident programs from tape or disk into the overlay area, and then the loaded program assumes control. xx represents the number of the desired non-resident program.
- `ENLT` — enables the tape interface or the MSI, FDU, MDU card
- `DIST` — disables the tape interface or the MSI, FDU, MDU card
- `STAT` — prints the status of the tape interface or the MSI, FDU, or MDU card
- `END` — ends the control of the current non-resident program without aborting the overlay area, allowing the person who is Logged In to maintain control
- `****` — aborts the current overlay program, allowing another program to be loaded into the overlay area. For example, if the Meridian 1 is in the midnight or daily routine phase, it will immediately put a diagnostic program into the overlay area, logging out the previous user.

History file, another place to find system messages

The History File consists of stored system messages in protected memory. A printer is normally connected to the system and each system message is printed as it is received. If there is no printer connected to the system or a printer malfunction occurs, the History File can act as a backup.

Messages types stored in history file

The messages stored are specified on a system basis and can be one or more of the following types:

- Customer Service Changes (CSC)
- Maintenance messages (MTC)
- Service Changes (SCH)
- software errors (BUG)
- Initialization and Sysload messages (INI and SYS)
- Traffic messages (TRF)

Erasing file contents

The content of the History File is erased during a SYSLOAD. It will also be erased if you change the length of the History File. The History File is located in protected data store, therefore the contents survive an initialization.

File overflow

If the History File is full, the first stored messages are replaced by incoming messages. If this happens, the system gives a “file overflow” message at the start of a printout so that you know some information is being replaced by newer messages.

Changing file length

You can change the length of the History File with the prompt HIST in the Configuration Record (LD 17). The maximum length of the file depends on the amount of protected data store available, which in turn depends on the number of system features that require protected data store.

Printing the history file

The contents of the file can be printed on demand by using LD 22. In the printout each message is prefaced by a% symbol, indicating that this message is history, rather than a real-time message.

For more information, refer to the Fault Clearing Guide, Book 3 of 3, Management Applications.

Patches

System software sometimes requires modifications, called patches. Patches are provided by Northern Telecom Technical Assistance Centers. To find out if your system has any patches, use the ISS command in LD 22. This causes the software generic and issue to be printed. A plus sign (+) next to the issue number means there is a patch in service. The enhanced maintenance feature does the following:

- allows patches to survive a sysload automatically
- permits patches on nonresident programs
- records all patches in the system
- allows data disks to be shipped with pre-loaded patches

If there is a problem with a patch, the CPU sends system messages with the mnemonic EHM to the system terminal or the History File.

Option 51C, 61C, 81 and 81C Differences

System reload

When Options 51C, 61C and 81 receive a system-reload signal, the sysload takes two to five minutes, depending on the size of the customer database. During the sysload, Options 51C, 61C and 81 perform a Core-shelf test, which includes self-tests on the CP and IOP cards. The results of the self-tests are displayed on the Liquid-Crystal Display (LCD) on the CP card, the hex display on the IOP card, and the system terminal. On the other Core cards, the LED blinks three times after a successful test.

Initialization

Options 51C, 61C and 81 typically perform an initialization in under 90 seconds. You can manually initialize only the active core side. The forced download to IPE takes a couple of minutes.

Overlays

In Options 51C, 61C and 81, the overlays reside in dynamic random access memory (DRAM) after they are loaded from the hard disk during an initial software load. Since they are always in resident memory, the overlays can be loaded quickly. The software for the system is loaded onto hard disks within the Meridian 1 during assembly at the factory.

Natural-language core messages

An Options 51C, 61C and 81 can diagnose faults in field-replaceable units for all Core hardware, including cables. In case of a failure, a message in a natural language (such as English) appears on the system terminal and on the Liquid-Crystal Display (LCD) on the CP card.

Remote operation capabilities

Options 51C, 61C and 81 remote operation capabilities include remote access to both Core Modules, the ability to sysload, initialize, or put the system in a split mode, and the ability to upload and download the customer database. You can access the Core complex in each Core Module through the I/O ports on the CP cards.

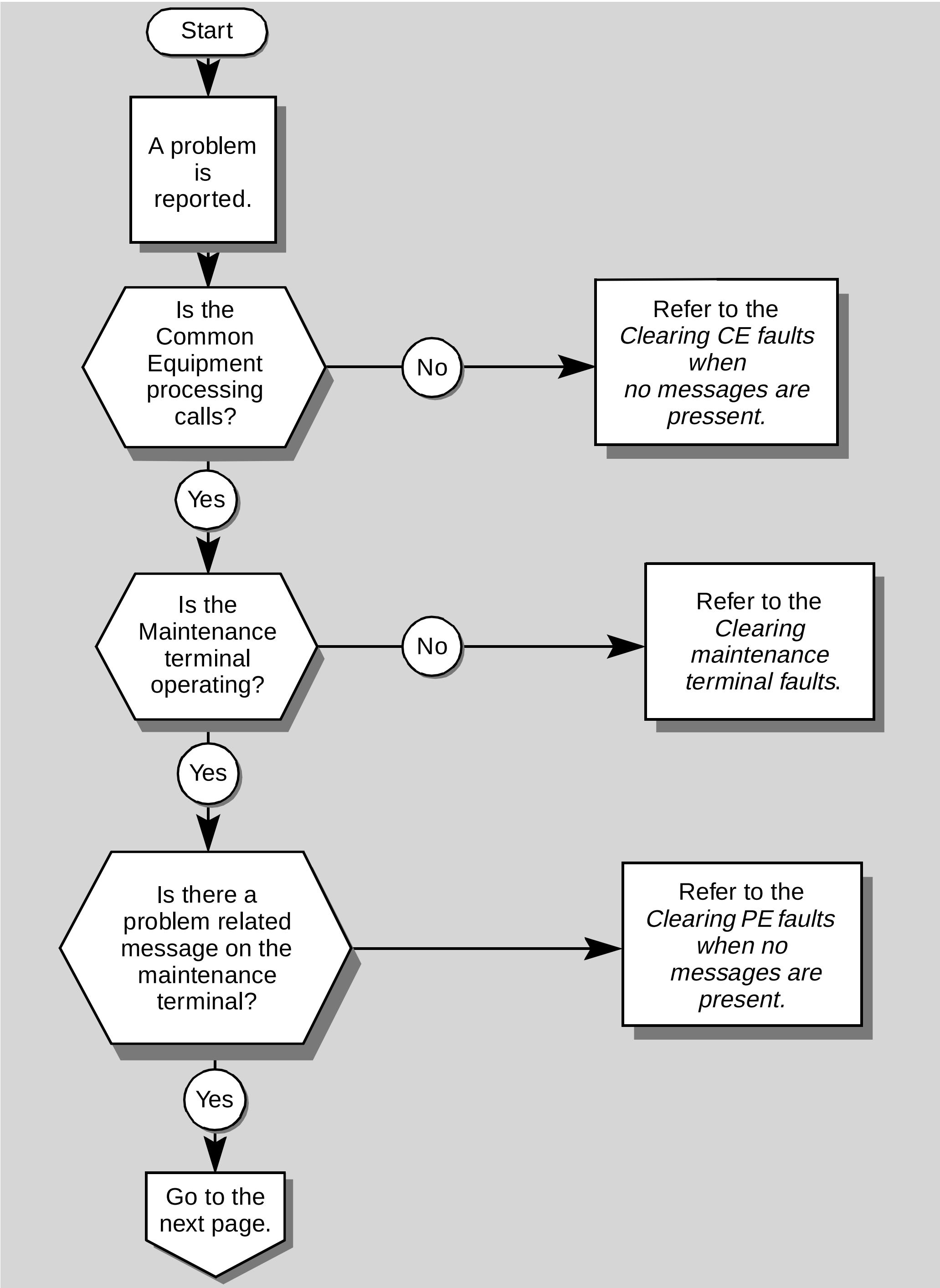
Start here to find faults

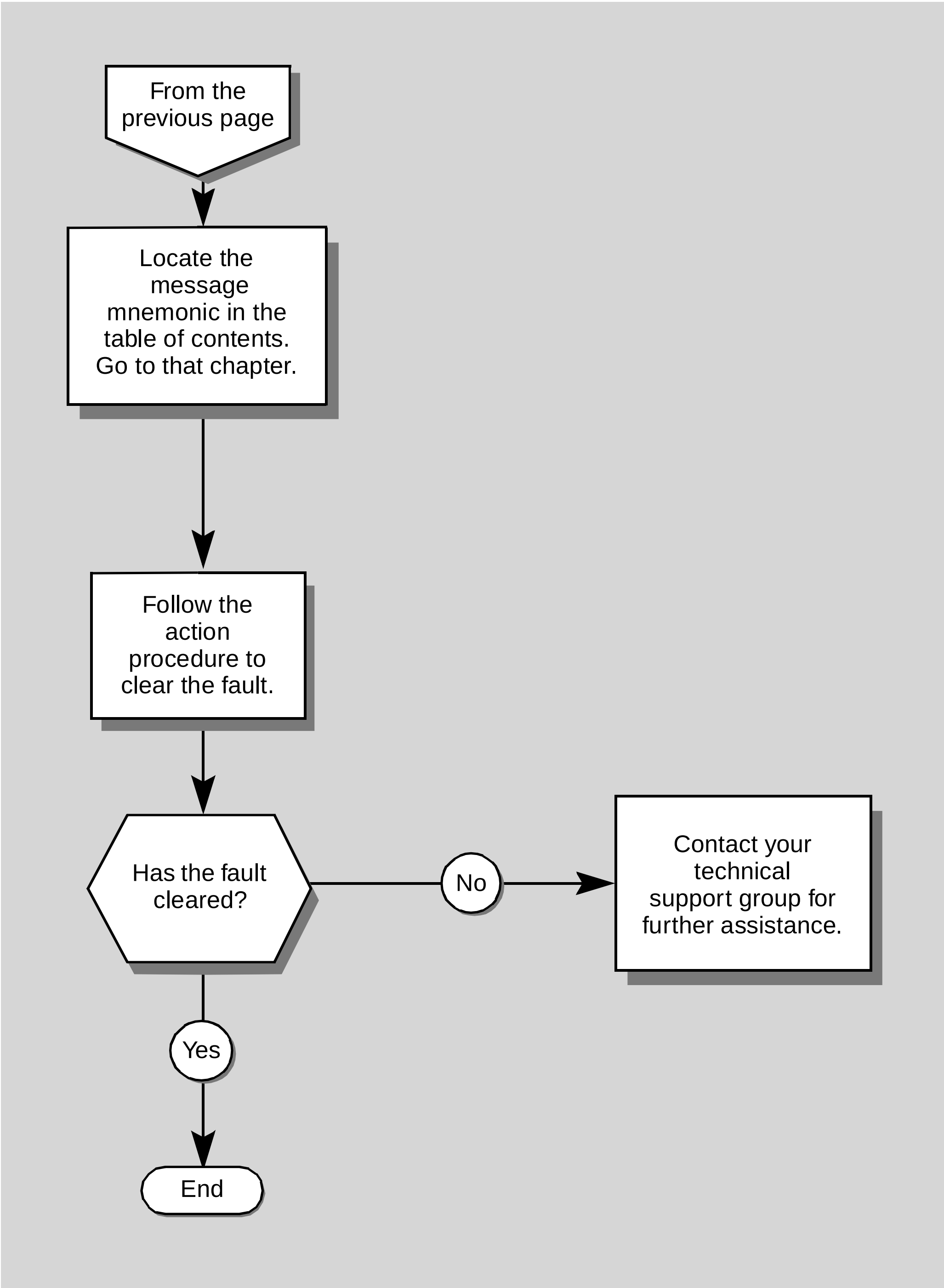
How to use this chapter

Follow the *Basic system fault finding* flow chart procedures. In most cases a fault is accompanied by a system message. For those rare conditions when there are no messages present or when the maintenance terminal will not operate, the *Basic system fault finding* flow chart procedures will direct you to the *Go to Clearing CE, PE or Maintenance terminal fault* sections.

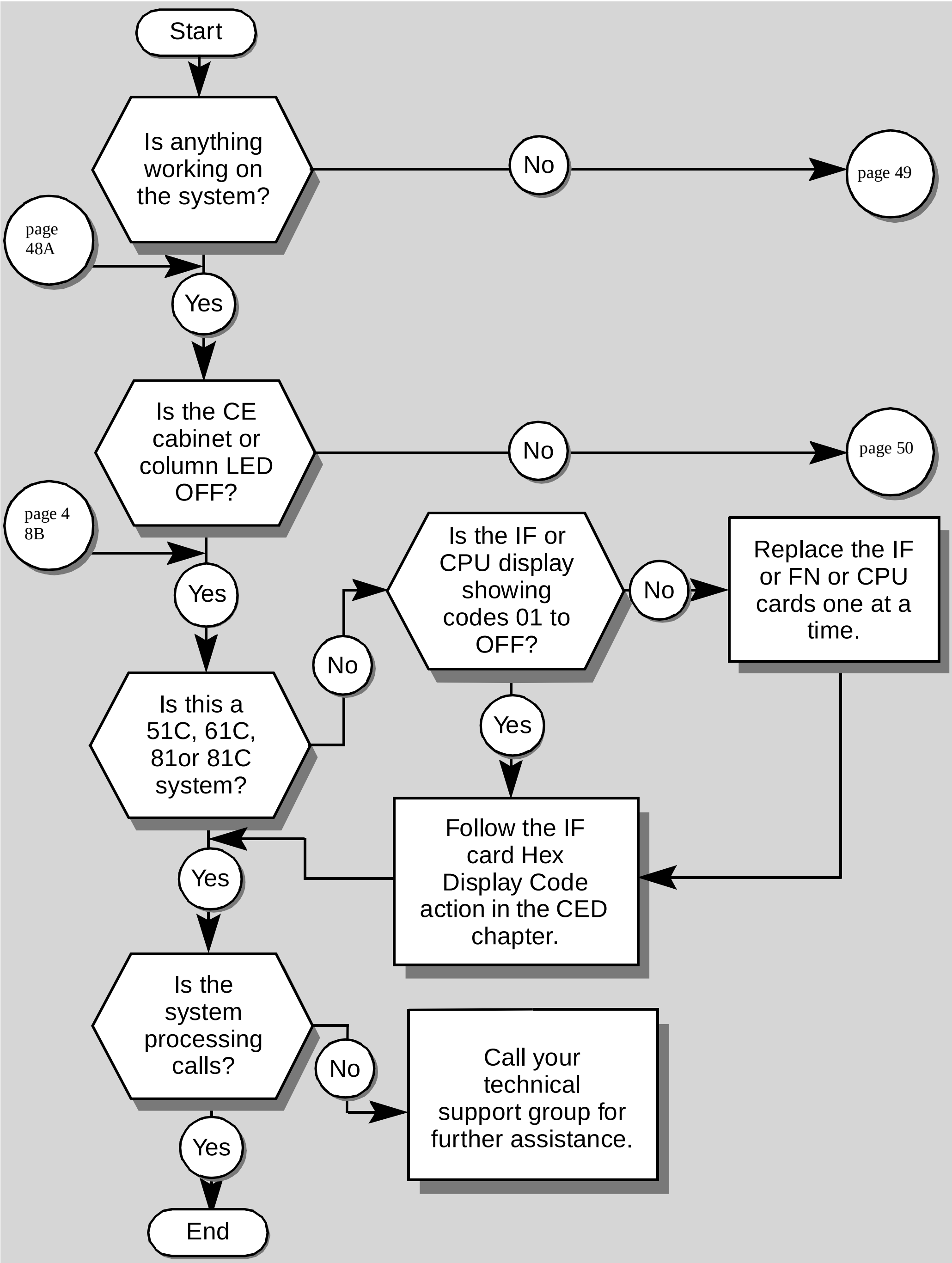
The *Go to Clearing CE, PE or Maintenance terminal fault* sections are comprised of high level flow charts. The PE flow chart is amplified by a more detailed step-action table. To clear the faults, you can use either the flow chart or the step-action table or a combination of both.

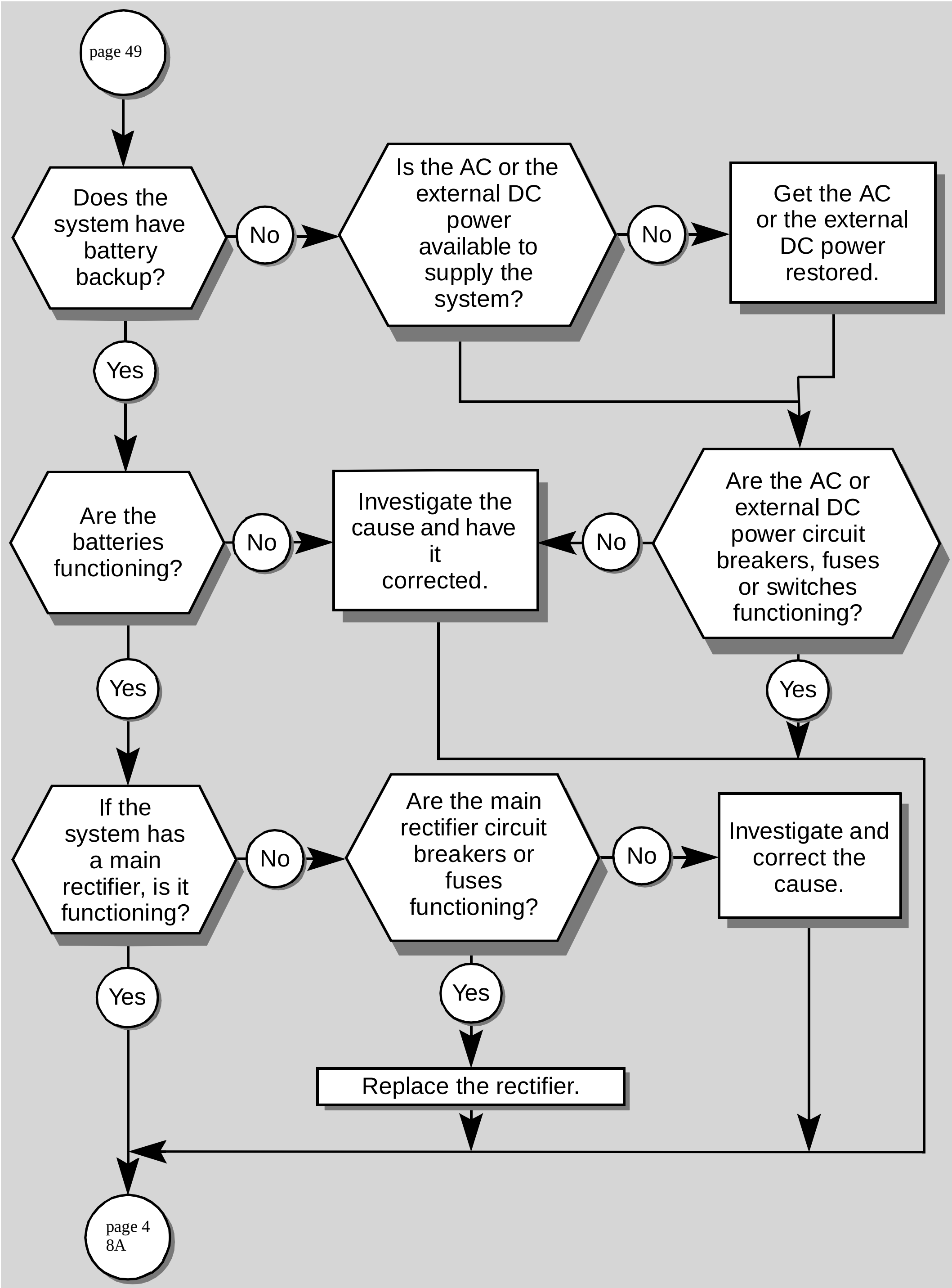
Basic system fault finding

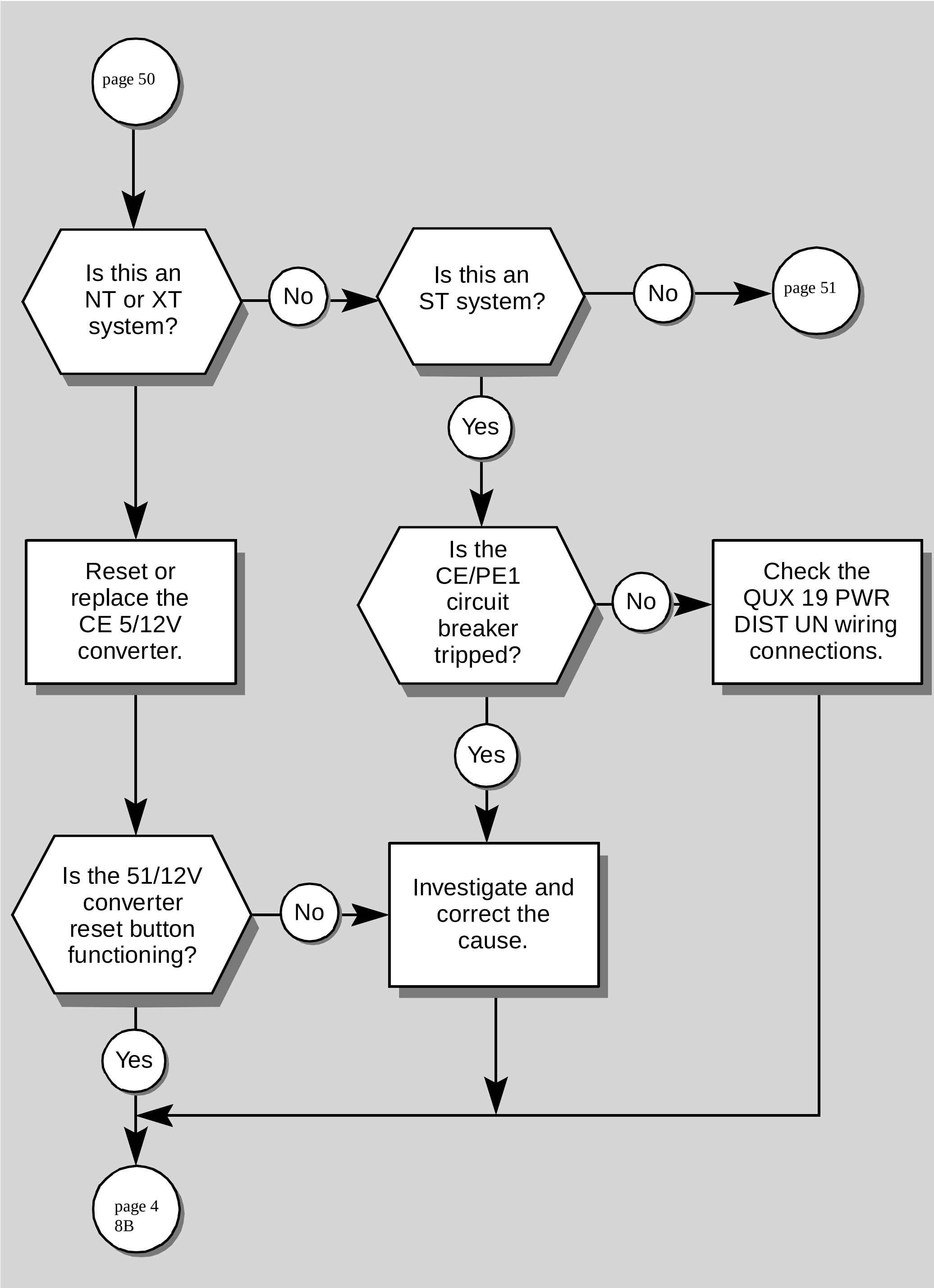


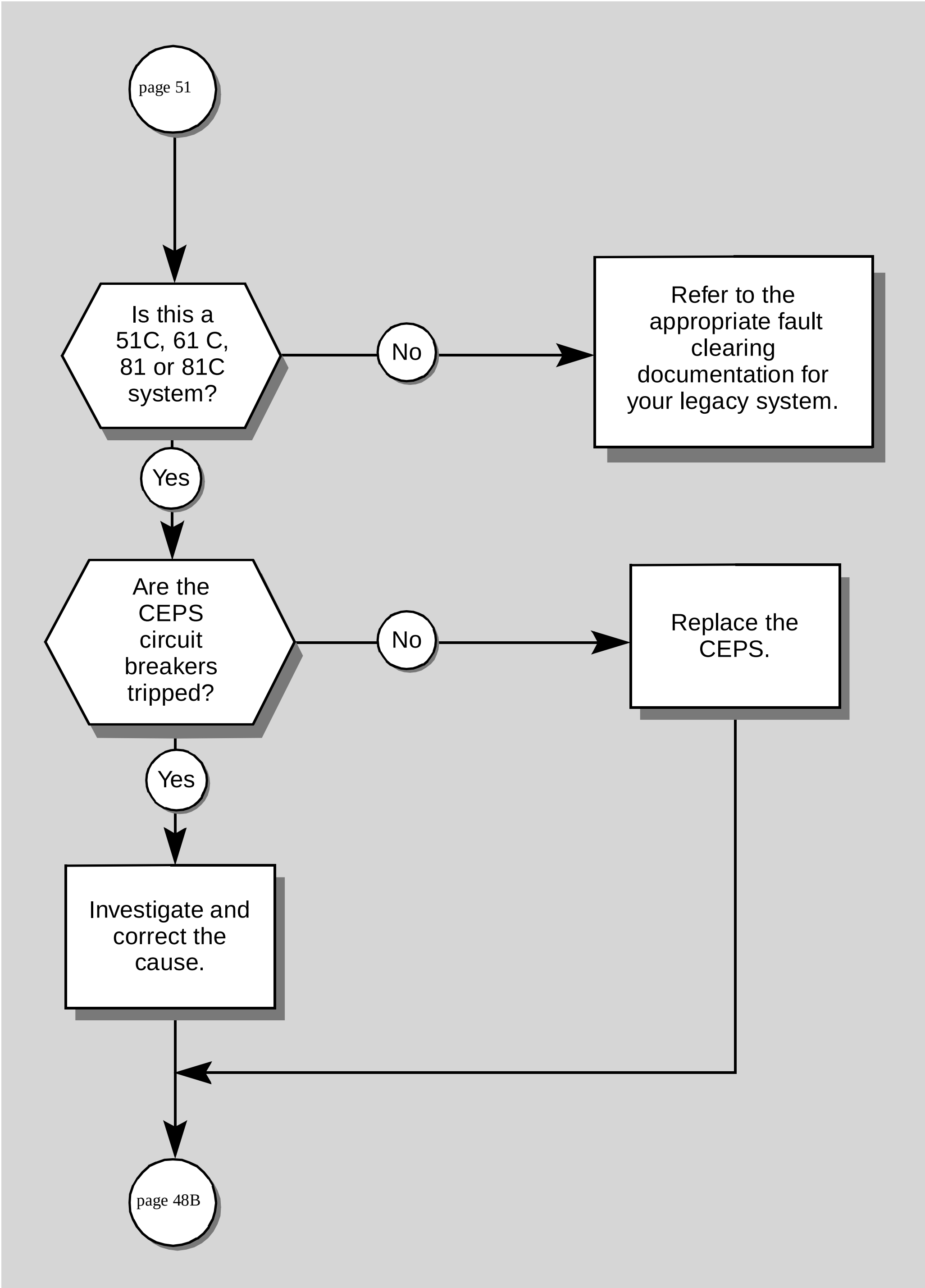

From the previous page
Locate the message mnemonic in the table of contents. Go to that chapter.
Follow the action procedure to clear the fault.
Has the fault cleared?
No
Contact your technical support group for further assistance.
Yes
End

Clearing Common Equipment faults when no messages are present

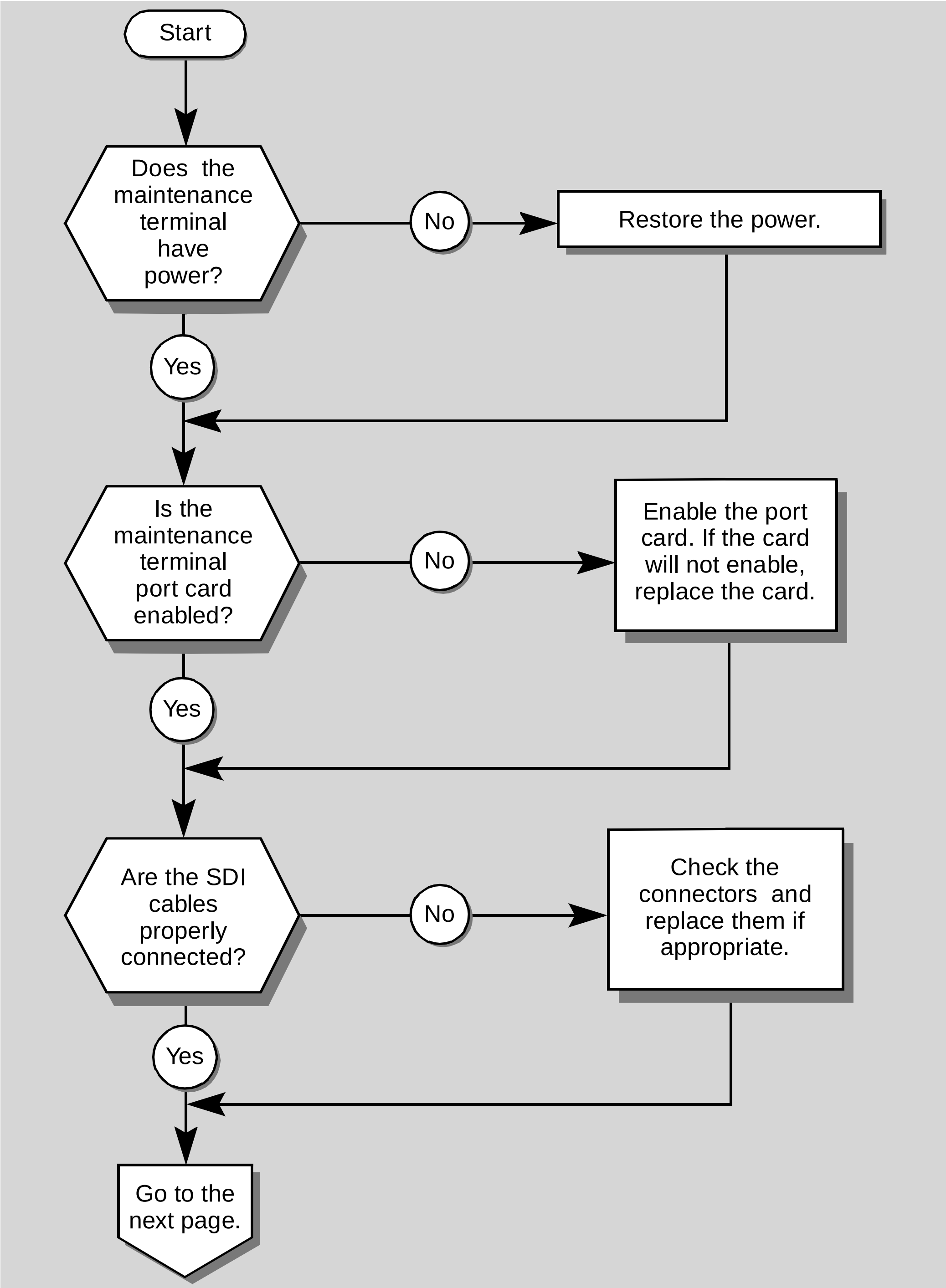


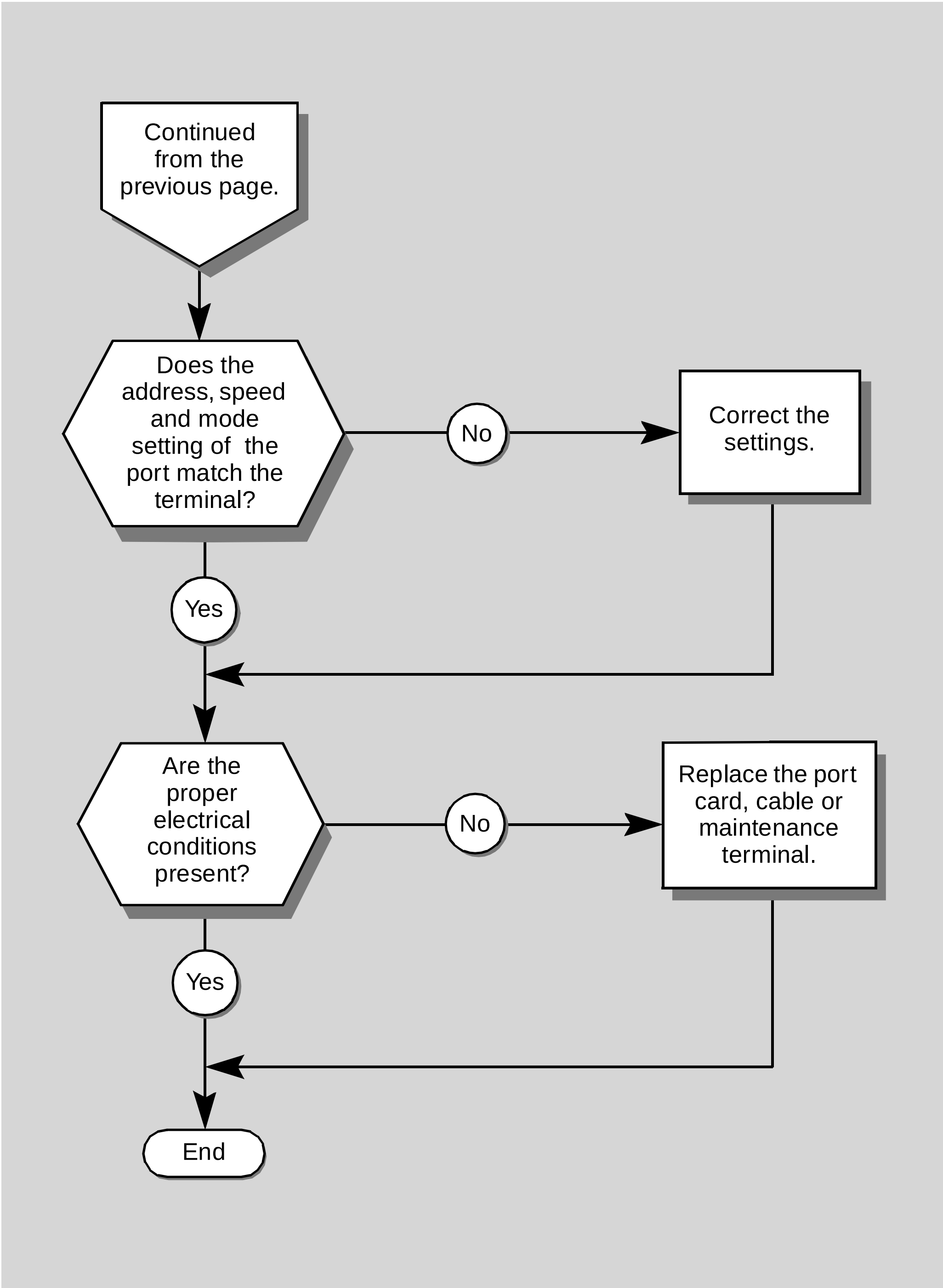

page 49
Does the system have battery backup?
No
Is the AC or the external DC power available to supply the system?
No
Get the AC or the external DC power restored.
Yes
Are the batteries functioning?
No
Investigate the cause and have it corrected.
No
Are the AC or external DC power circuit breakers, fuses or switches functioning?
Yes
Yes
If the system has a main rectifier, is it functioning?
No
Are the main rectifier circuit breakers or fuses functioning?
No
Investigate and correct the cause.
Yes
Yes
Replace the rectifier.
page 4 8A


page 50
Is this an NT or XT system?
No
Is this an ST system?
No
page 51
Yes
Reset or replace the CE 5/12V converter.
Is the CE/PE1 circuit breaker tripped?
No
Check the QUX 19 PWR DIST UN wiring connections.
Yes
Is the 51/12V converter reset button functioning?
No
Investigate and correct the cause.
Yes
page 4 8B

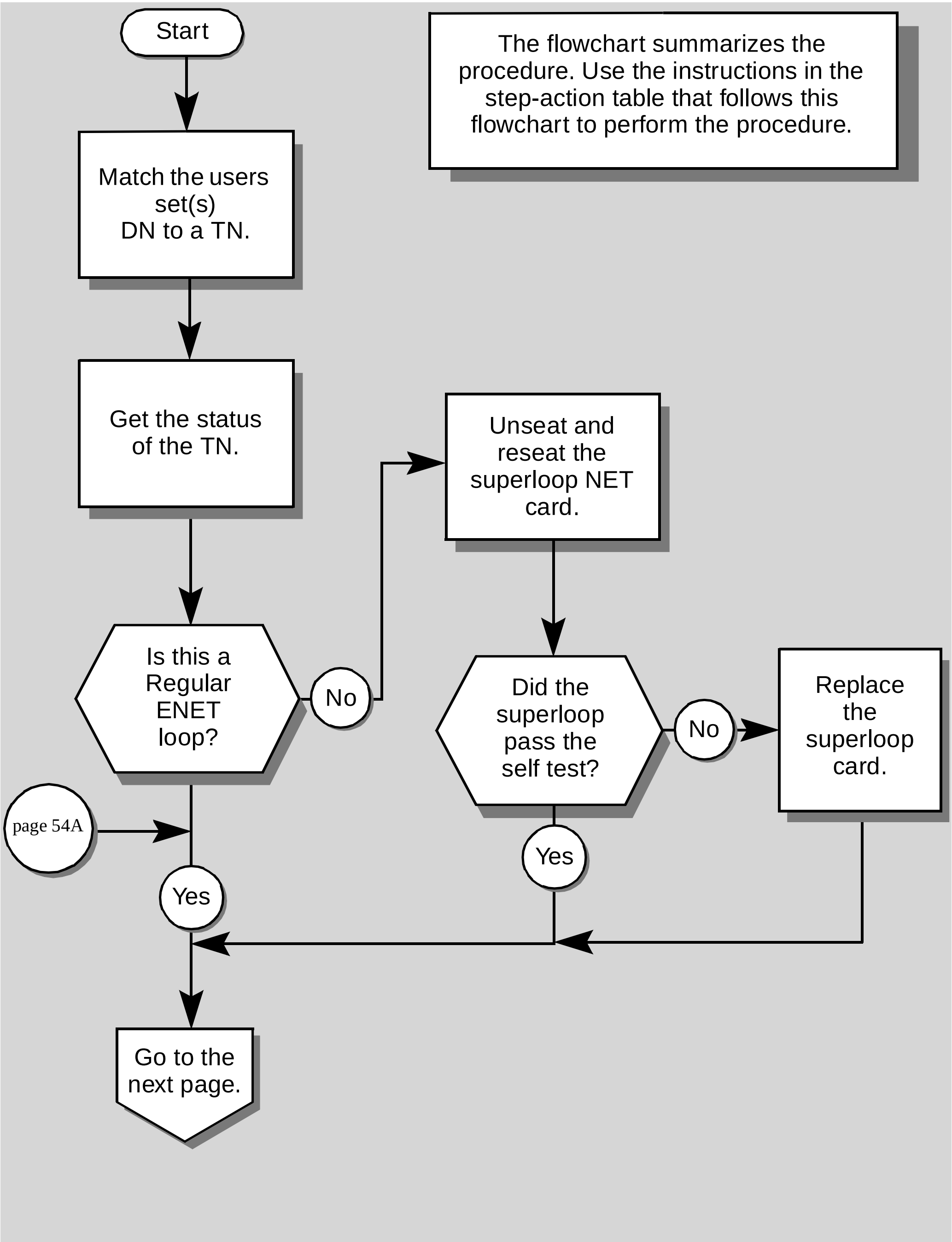

page 51
Is this a 51C, 61 C, 81 or 81C system?
No
Refer to the appropriate fault clearing documentation for your legacy system.
Yes
Are the CEPS circuit breakers tripped?
No
Replace the CEPS.
Yes
Investigate and correct the cause.
page 48B

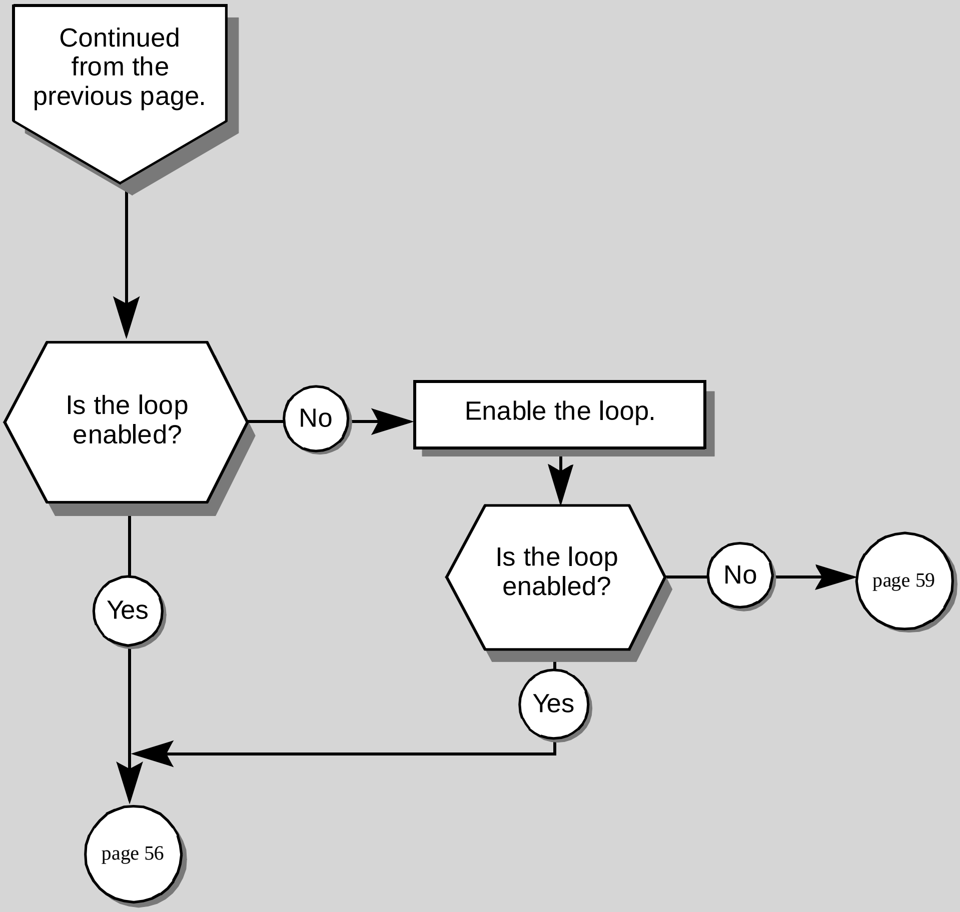
Clearing maintenance terminal faults

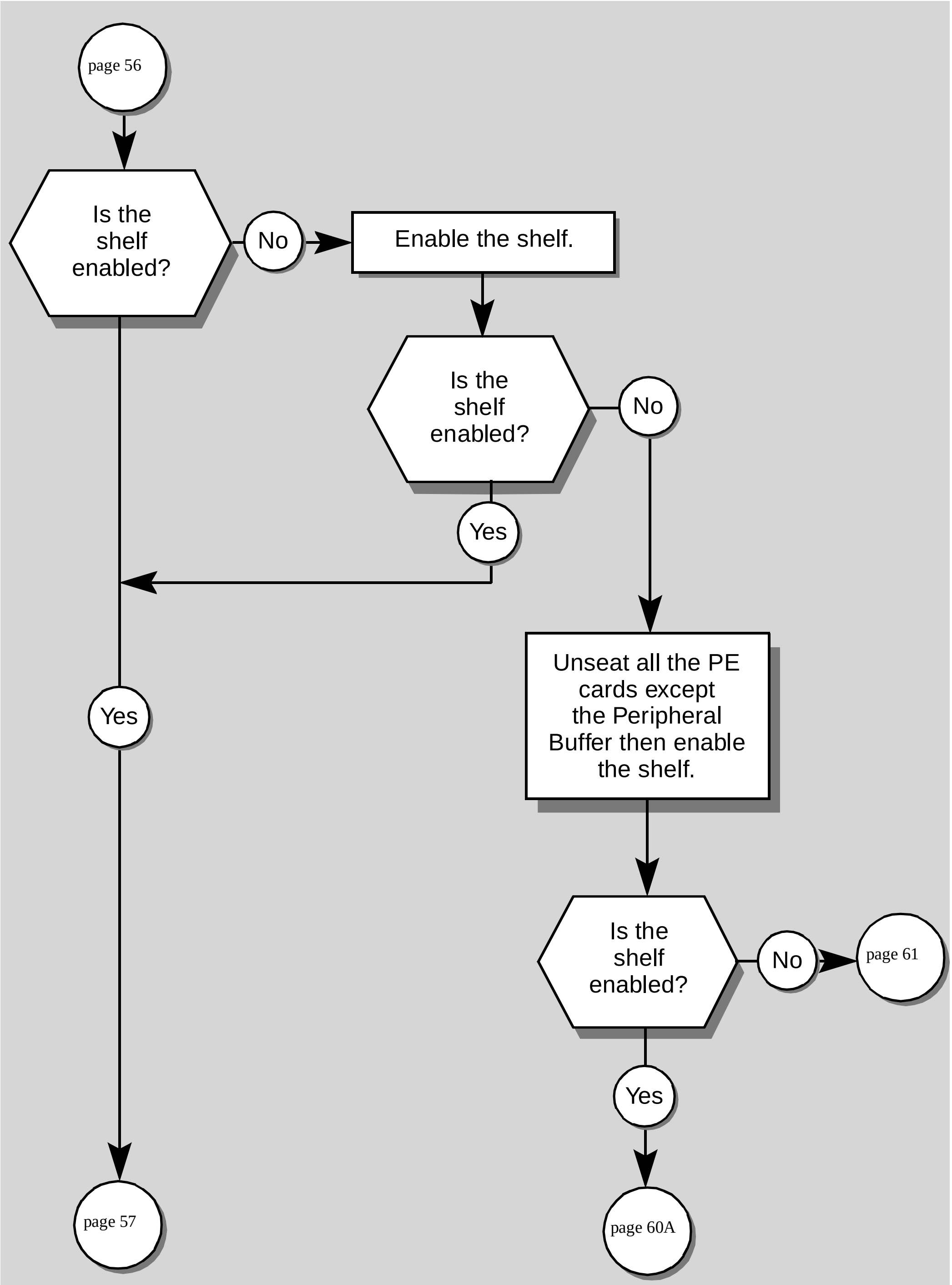



Continued from the previous page.
Does the address, speed and mode setting of the port match the terminal?
No
Correct the settings.
Yes
Are the proper electrical conditions present?
No
Replace the port card, cable or maintenance terminal.
Yes
End

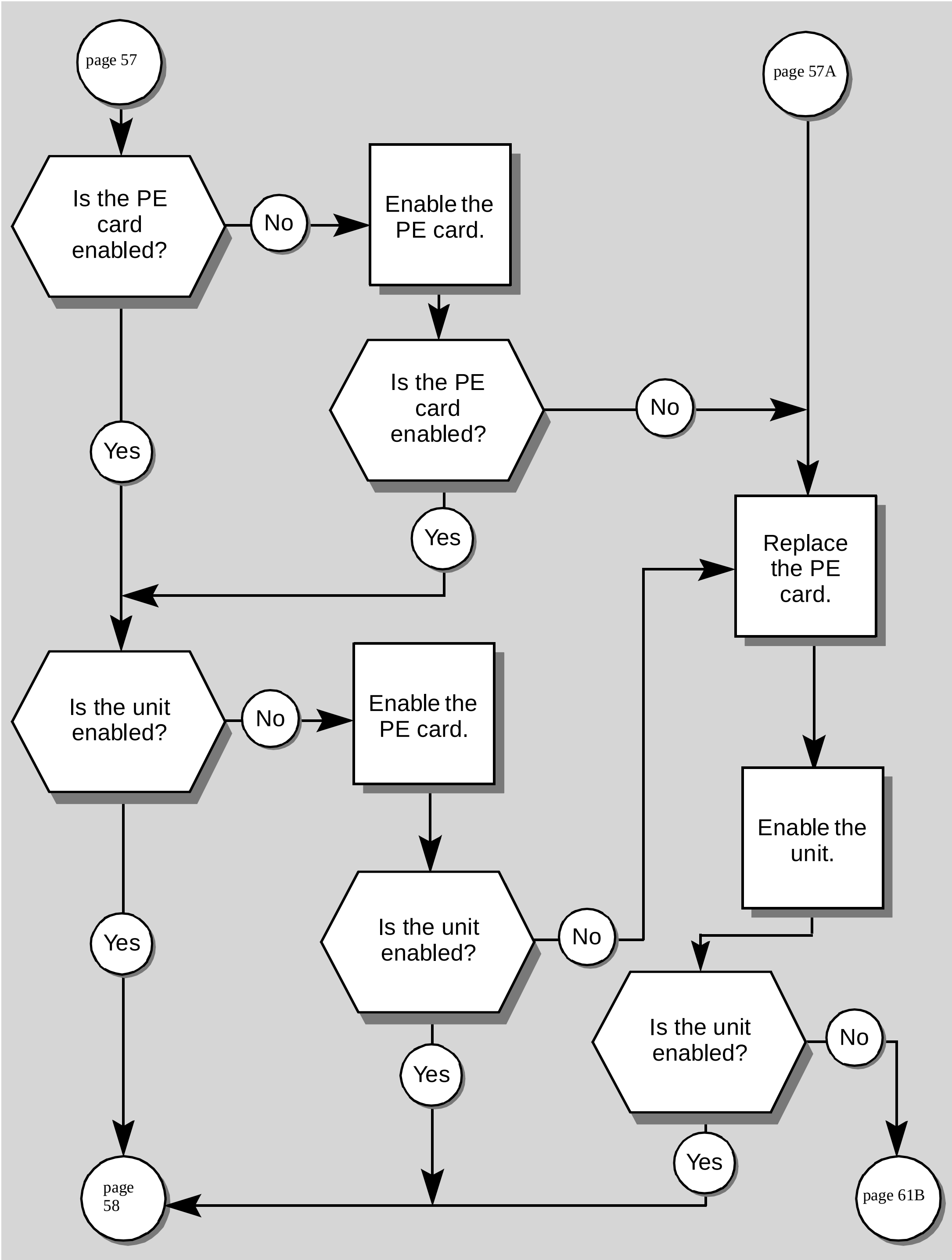
Clearing Peripheral Equipment faults when no messages are present

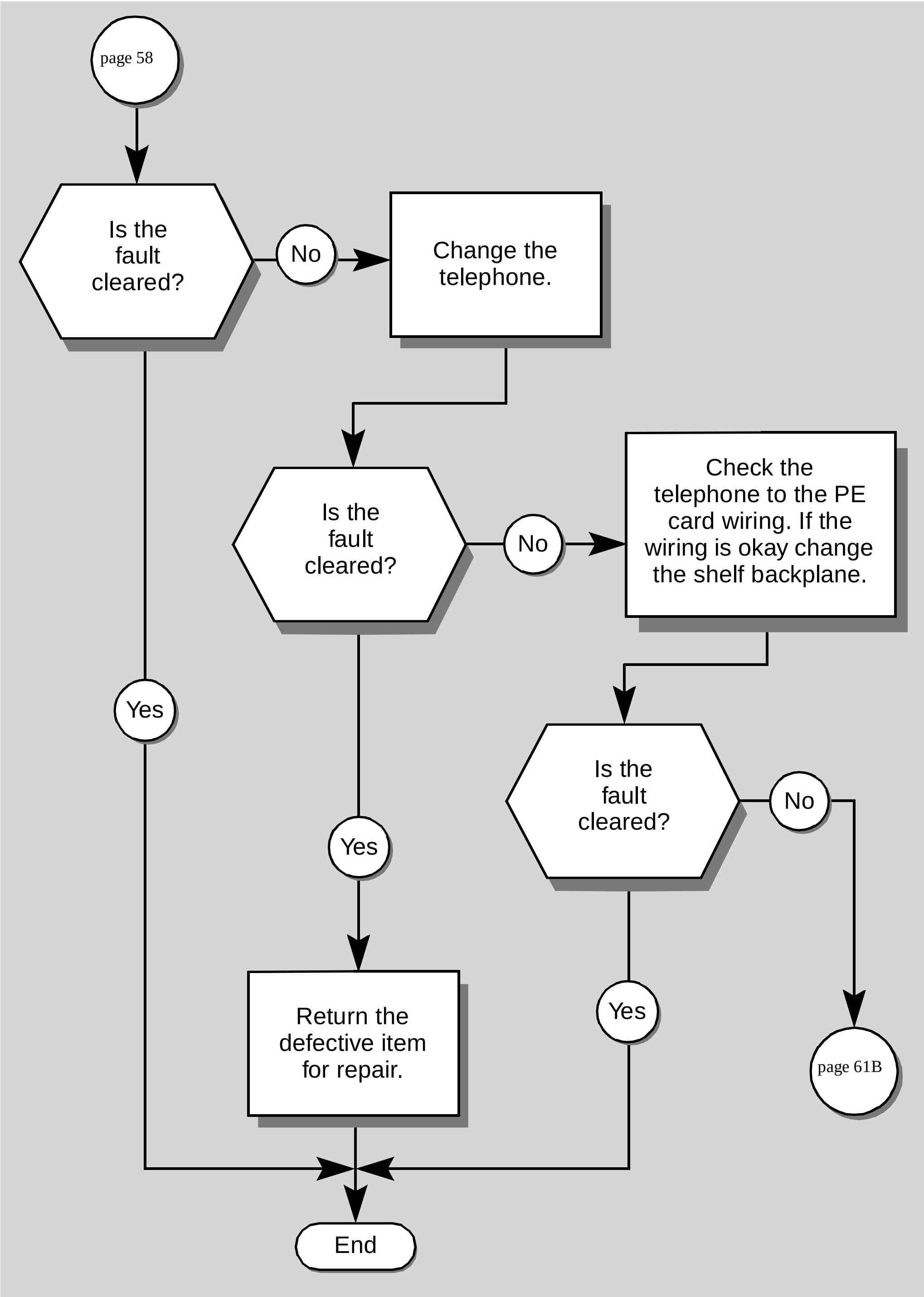


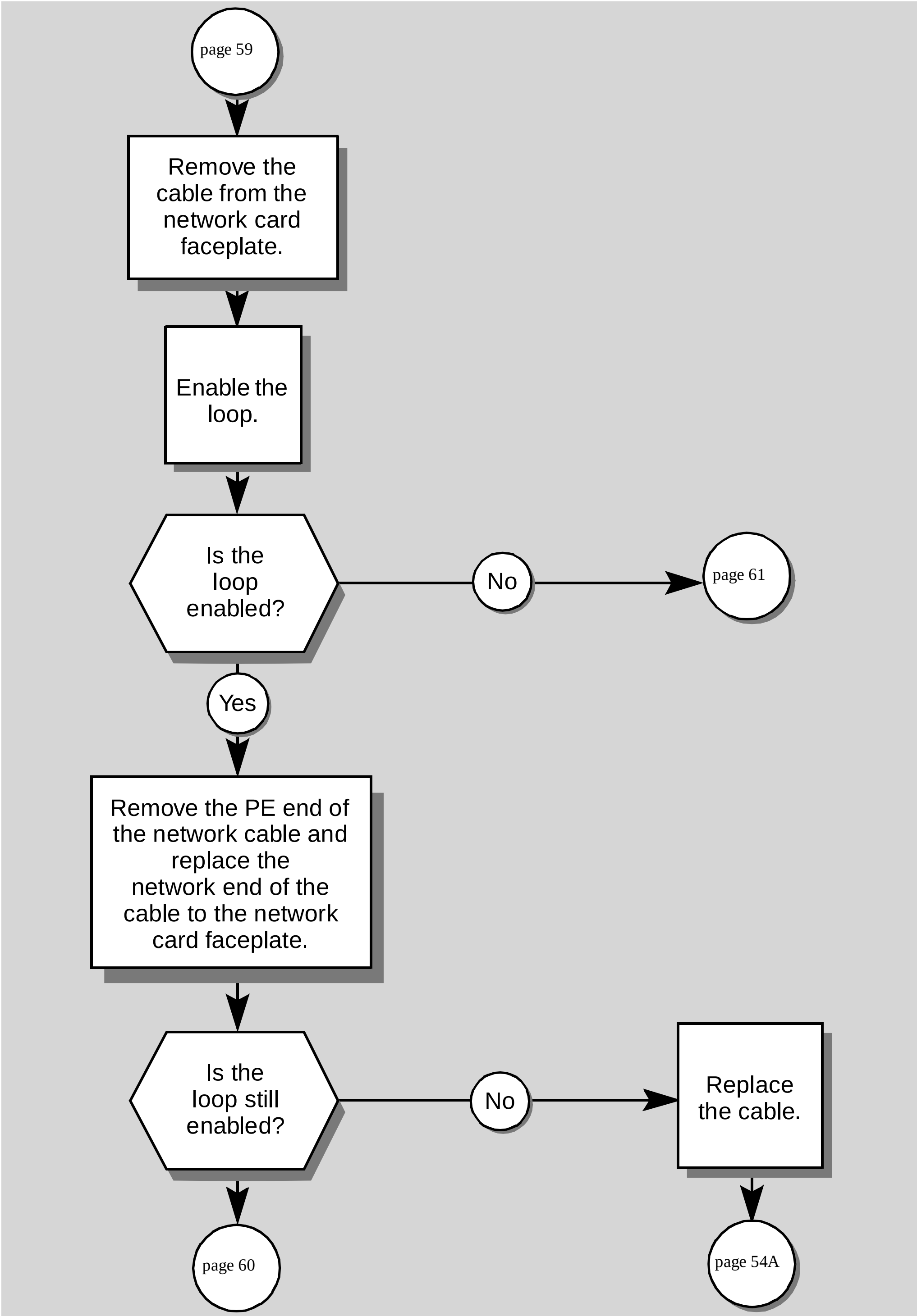

Continued from the previous page.
Is the loop enabled?
No
Enable the loop.
Is the loop enabled?
No
page 59
Yes
Yes
page 56

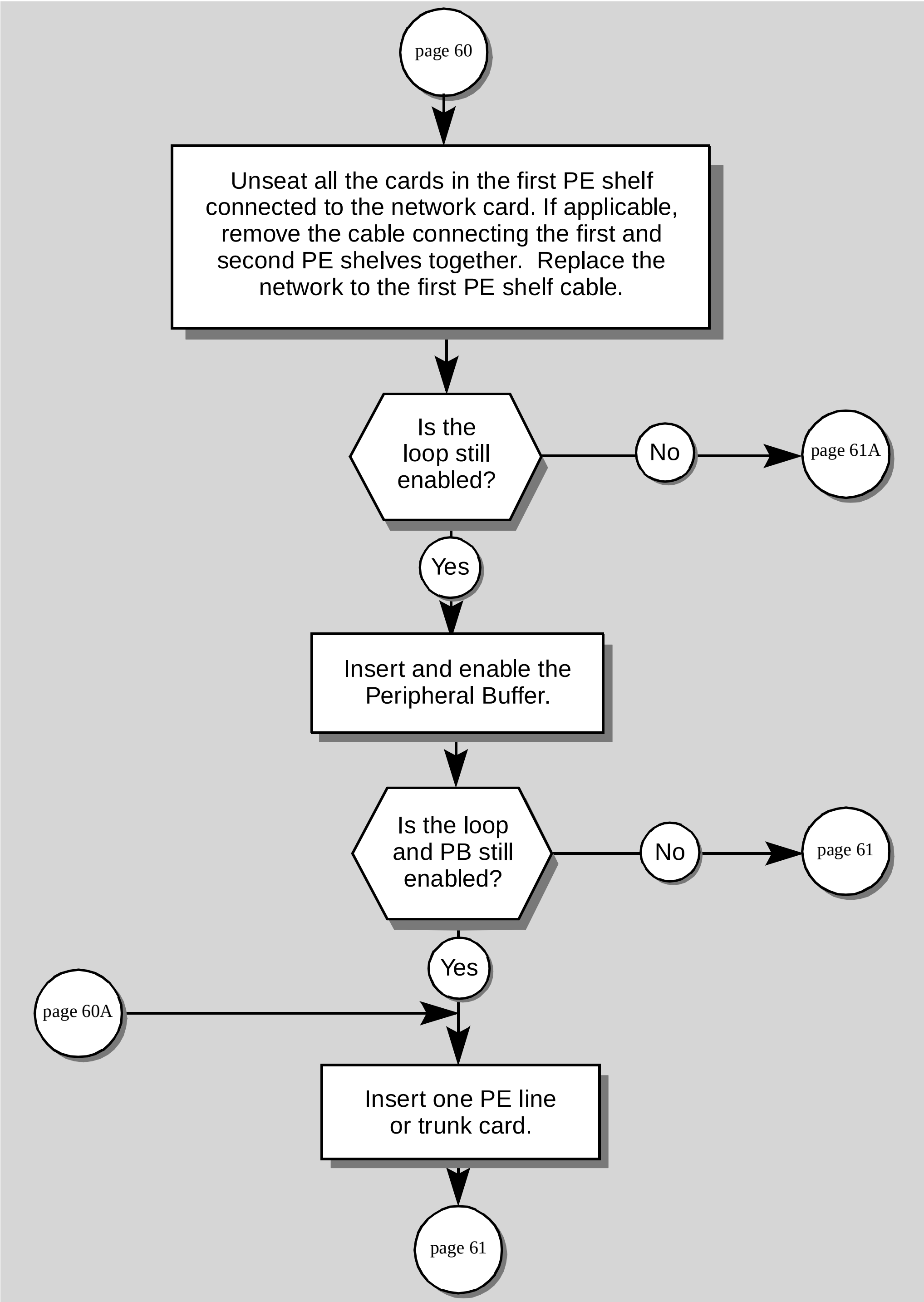

page 56
Is the shelf enabled?
No
Enable the shelf.
Is the shelf enabled?
No
Yes
Unseat all the PE cards except the Peripheral Buffer then enable the shelf.
Yes
Is the shelf enabled?
No
page 61
Yes
page 57
page 60A

Sheet 2C

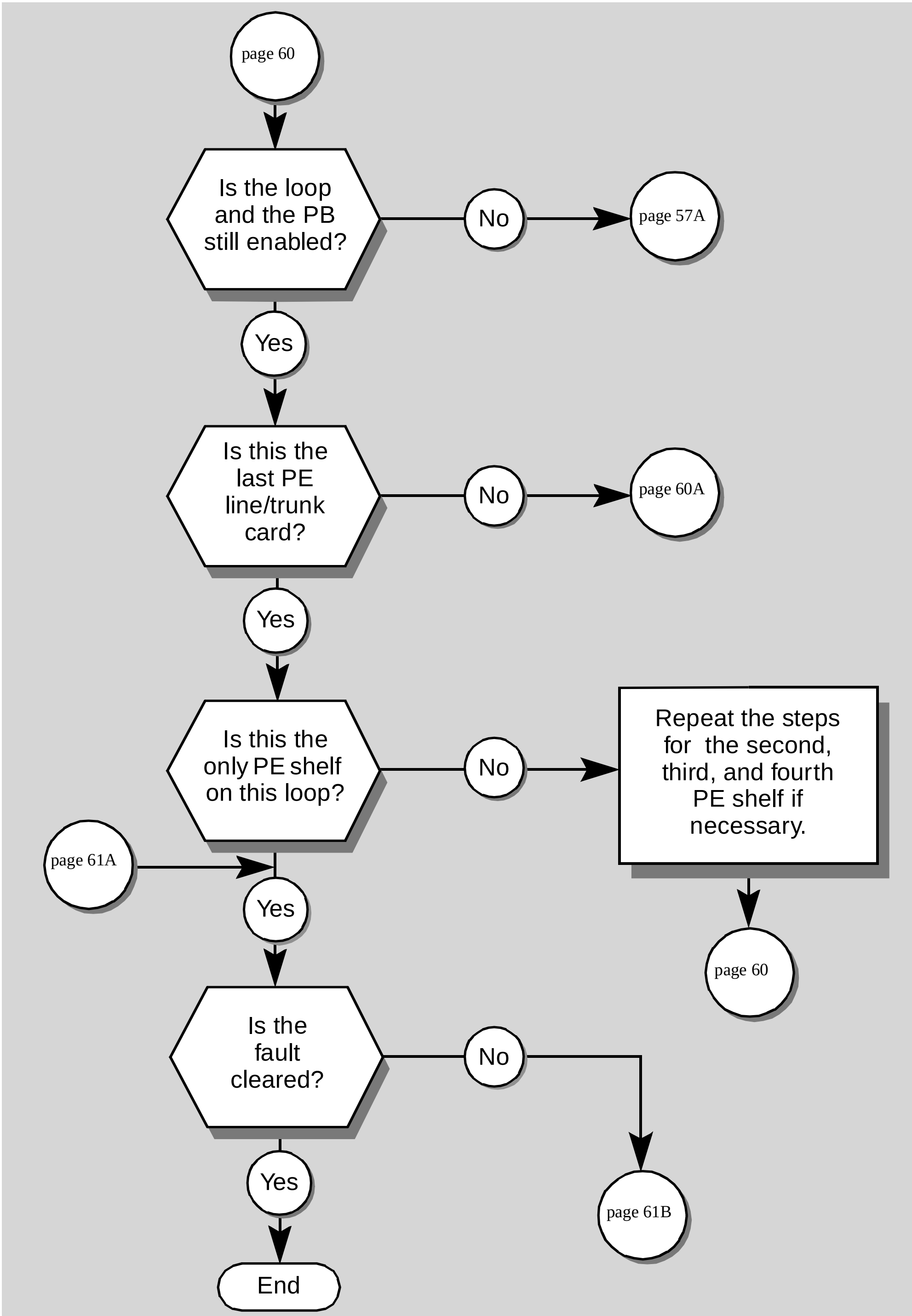

page 57
page 57A
Is the PE card enabled?
No
Enable the PE card.
Is the PE card enabled?
No
Yes
Yes
Replace the PE card.
Is the unit enabled?
No
Enable the PE card.
Enable the unit.
Is the unit enabled?
No
Yes
Is the unit enabled?
No
Yes
Yes
page 58
page 61B

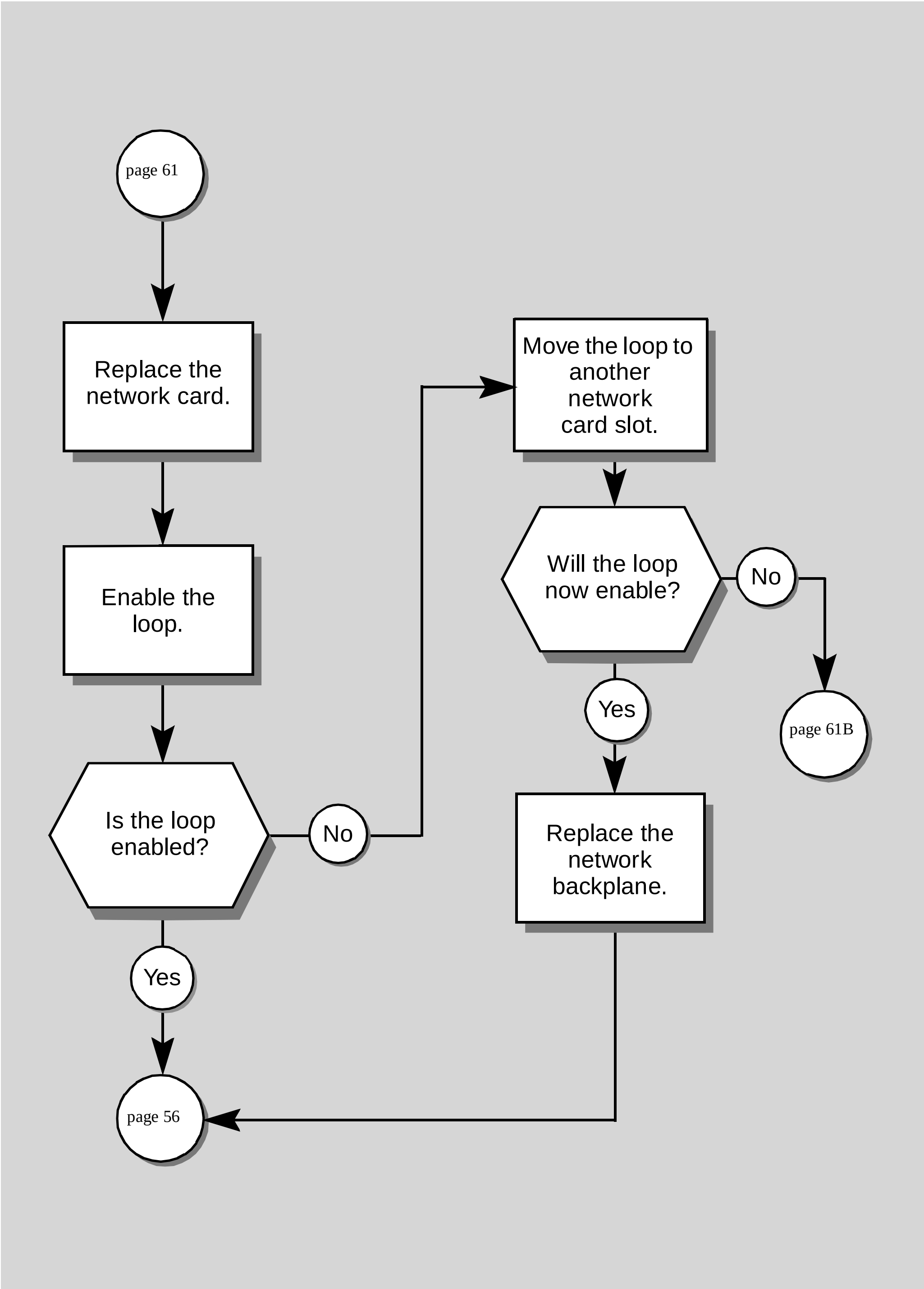

page 58
Is the fault cleared?
No
Change the telephone.
Yes
Is the fault cleared?
No
Check the telephone to the PE card wiring. If the wiring is okay change the shelf backplane.
Yes
Is the fault cleared?
No
Return the defective item for repair.
Yes
page 61B
End

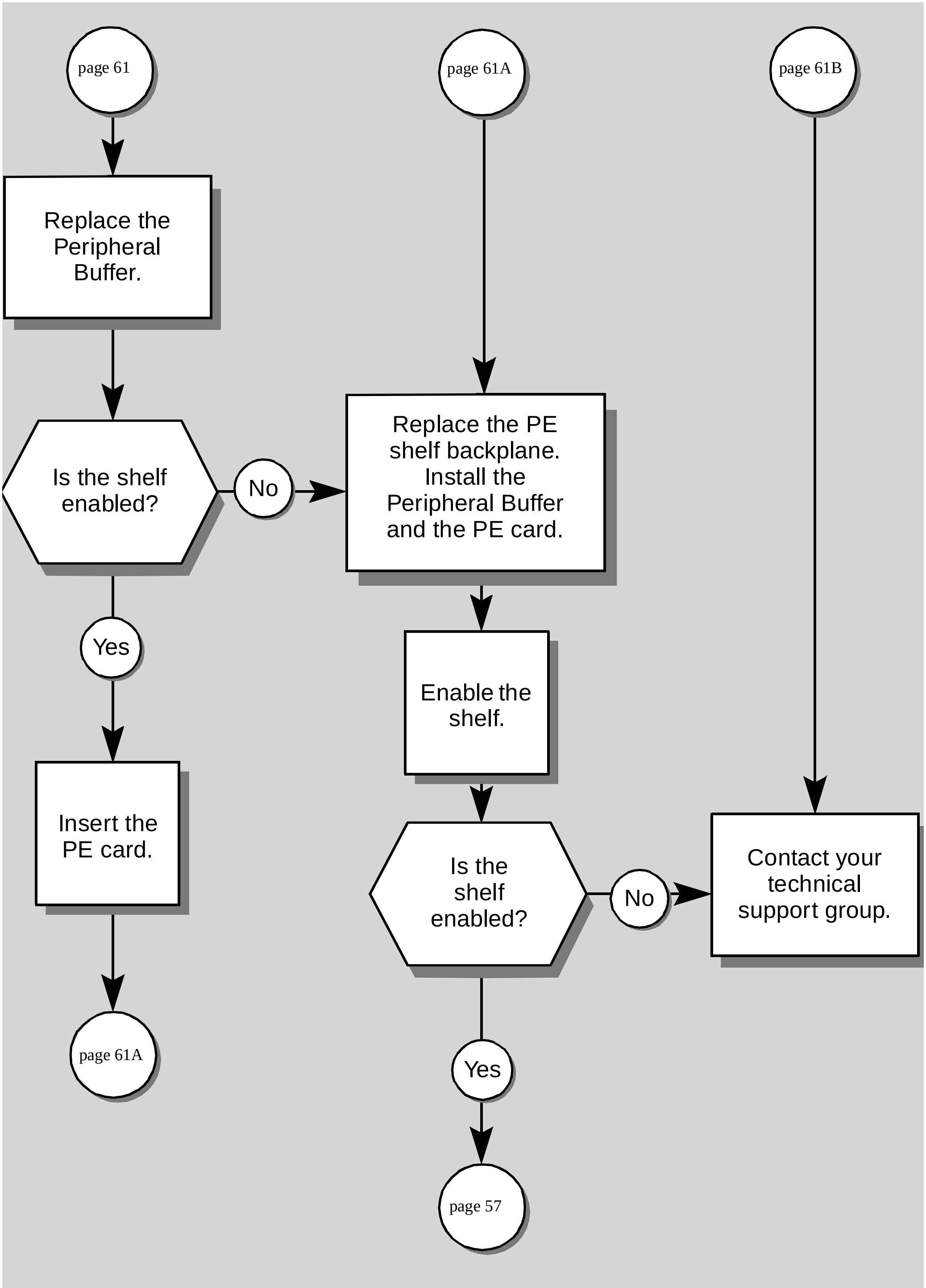

page 59
Remove the cable from the network card faceplate.
Enable the loop.
Is the loop enabled?
No
page 61
Yes
Remove the PE end of the network cable and replace the network end of the cable to the network card faceplate.
Is the loop still enabled?
No
Replace the cable.
page 60
page 54A


page 60
Unseat all the cards in the first PE shelf connected to the network card. If applicable, remove the cable connecting the first and second PE shelves together. Replace the network to the first PE shelf cable.
Is the loop still enabled?
No
page 61A
Yes
Insert and enable the Peripheral Buffer.
Is the loop and PB still enabled?
No
page 61
Yes
page 60A
Insert one PE line or trunk card.
page 61

Start here to find faults


page 60
Is the loop and the PB still enabled?
No
page 57A
Yes
Is this the last PE line/trunk card?
No
page 60A
Yes
Is this the only PE shelf on this loop?
No
Repeat the steps for the second, third, and fourth PE shelf if necessary.
page 60
page 61A
Yes
Is the fault cleared?
No
page 61B
Yes
End


page 61
Replace the network card.
Enable the loop.
Is the loop enabled?
No
Yes
page 56
Move the loop to another network card slot.
Will the loop now enable?
No
page 61B
Yes
Replace the network backplane.


page 61
page 61A
page 61B
Replace the Peripheral Buffer.
Is the shelf enabled?
No
Replace the PE shelf backplane. Install the Peripheral Buffer and the PE card.
Yes
Enable the shelf.
Insert the PE card.
Is the shelf enabled?
No
Contact your technical support group.
page 61A
Yes
page 57

Clearing PE faults

STEP	ACTION	
1	**Match the DN of the reported telephone to its TN**	
	Use LD 20 or LD 22 TYPE = DNB	
2	**Get status of TN**	
	Use LD 32 STAT l s c u	
3	**Analyze status of TN**	
	If	**Do**
	loop is NT8D04	undefined
	loop is QPC414 or QPC 376	step 4
4	**Analyze status of loop**	
	If	**Do**
	loop disabled	step 9
	loop enabled	step 5
5	**Analyze status of shelf**	
	If	**Do**
	shelf disabled	step 23
	shelf enabled	step 6
6	**Analyze status of card**	
	If	**Do**
	card disabled	step 33
	card enabled	step 7
7	**Analyze status of unit**	
	If	**Do**
	unit disabled	step 38
	unit enabled	step 8

— continued —

STEP	ACTION	
8	**Analyze status of unit**	
	If	**Do**
	fault not cleared	step 40
	fault cleared	step 53
9	**Enable loop**	
	Use LD 32 ENLL1	
10	**Analyze status of loop**	
	If	**Do**
	loop enabled	step 5
	loop disabled	step 11
11	**Isolate loop from the cable connecting it to the peripheral equipment. This will allow you to test the loop for faults.**	
	Disconnect the cable from the network card faceplate.	
12	**Enable loop**	
	Use LD 32 ENLL	
13	**Analyze status of loop**	
	If	**Do**
	loop disabled	step 45
	enabled, loop passes test	step 14
14	**Isolate cable from the peripheral equipment shelf. This will allow you to test the cable for faults.**	
	Disconnect the cable from the peripheral buffer card faceplate, then reconnect the network card end of the cable removed in step 11.	
15	**Analyze status of loop**	
	If	**Do**
	loop disabled	step 50
	loop still enabled	step 16

— continued —

STEP	ACTION
16	**Isolate the peripheral equipment shelf backplane and the peripheral buffer from the peripheral equipment cards. This will allow you to test the backplane and buffer for faults.**
	Unseat all peripheral equipment cards except the peripheral buffer from peripheral equipment shelf. If applicable, remove the cable connecting the buffer of first peripheral equipment shelf to the buffer of the second peripheral equipment shelf. Reconnect the cable to the buffer card faceplate removed in step 14.
17	**Analyze status of loop.**
	If / **Do**
	loop disabled — step 50
	loop still enabled — step 16
18	**Isolate peripheral equipment cards. This will allow you to test the card for faults.**
	Insert one peripheral equipment card.
19	**Wait approximately one minute after inserting a peripheral equipment card, then analyze status of loop and peripheral buffer.**
	If / **Do**
	loop or peripheral buffer disabled — step 35
	loop and peripheral buffer still enabled — step 20
20	**Test the remaining unseated peripheral equipment cards.**
21	**Is this last peripheral shelf connected to this loop?**
22	**Analyze status of fault**
	If / **Do**
	fault not cleared — step 51
	fault cleared — step 53
23	**Enable shelf (shelf is actually the peripheral buffer).**
	Use LD 32 ENLS l s.

— continued —

STEP	ACTION	
24	**Analyze status of shelf**	
	If	**Do**
	Peripheral buffer enabled	step 6
	Peripheral buffer disabled	step 26
25	**Isolate peripheral equipment line cards from the peripheral buffer and shelf backplane.**	
	Remove all peripheral equipment line cards except the peripheral buffer	
26	**Analyze status of shelf**	
	If	**Do**
	Peripheral buffer enabled	step 19
	Peripheral buffer disabled	step 27
27	**Replace the peripheral buffer**	
	Move peripheral buffer faceplate switch to DIS, remove peripheral buffer card, insert known good peripheral buffer card, move known good peripheral buffer faceplate switch to ENL, use LD 32 ENLS l s to enable peripheral buffer.	
28	**Analyze status of shelf**	
	If	**Do**
	Peripheral buffer enabled	step 30
	Peripheral buffer disabled	step 29
29	**Replace all peripheral equipment cards.**	
	Re-seat peripheral equipment cards then proceed to step 6.	
30	**Replace peripheral equipment shelf backplane.**	
	Follow shelf installation procedures. Re-seat peripheral buffer and peripheral equipment line cards.	
31	**Enable shelf.**	
	Use LD 32 ENLS l s c.	
32	**Analyze status of shelf**	
	If	**Do**
	Peripheral buffer enabled	step 51
	Peripheral buffer disabled	step 6

— continued —

STEP	ACTION	
33	**Enable peripheral equipment card.**	
	Use LD 32 ENLS l s c.	
34	**Analyze status of card**	
	If	**Do**
	card enabled	step 51
	card disabled	step 6
35	**Replace peripheral equipment card**	
	Remove peripheral equipment card, insert known good peripheral equipment card, use LD 32 ENLC l s c to enable peripheral equipment card.	
36	**Test peripheral equipment card unit**	
	Use LD 32 ENLC l s c u to enable peripheral equipment card unit.	
37	**Analyze status of unit**	
	If	**Do**
	unit enabled	step 8
	unit disabled	step 51
38	**Test peripheral equipment card unit.**	
	Use LD 32 ENLC l s c u to enable peripheral equipment card unit.	
39	**Analyze status of unit**	
	If	**Do**
	unit enabled	step 8
	unit disabled	step 35
40	**Test telephone**	
	Replace telephone	
41	**Analyze status of telephone**	
	If	**Do**
	telephone working	step 52
	telephone not working	step 42
42	**Test wiring from telephone to peripheral shelf.**	
	Replace defective or misplaced wiring	

— continued —

STEP	ACTION
43	**Analyze status of telephone**

If	Do
telephone working	step 53
telephone not working	step 51

STEP	ACTION
44	**Isolate additional peripheral equipment shelf backplanes and peripheral buffers from the peripheral equipment cards.**
	Do Step 16.

> **Caution**
>
> The following action will interrupt telephone service to the second 68 on this card.

STEP	ACTION
45	**Test loop for fault.**
	Use LD 32 DISL l (both loops as applicable), move network card faceplate switch to DIS, remove network faceplate cables(s), remove network card, insert known good network card, replace network faceplate cable(s), move known good network card faceplate switch to ENL, use LD 32 ENLS l to enable loop(s).
46	**Analyze status of loop.**

If	Do
loop enabled	step 5
loop disabledstep 47	

STEP	ACTION
47	**Test network card.**
	Move network card to another position and repeat step 45.
48	**Analyze status of loop.**

If	Do
loop disabled	step 51
loop enabled	step 49

STEP	ACTION
49	**Replace network shelf backplane.**
	Use shelf replacement instructions and do step 5.

— continued —

Start here to find faults

STEP	ACTION
50	**Replace cable.**
	Use cable replacement instructions and do step 5.
51	**You need help.**
	Contact your technical support group.

END

Start here to find faults

ACD — ACD Load Management

For messages and descriptions refer to the *administration input/output guide*.

Refer to ACD Northern Telecom Publications for details.

ADD — ACD Data Dump

For messages and descriptions refer to the *maintenance input/output guide*.

Refer to ACD Northern Telecom Publications for details.

AMH — Message Handler

For messages and descriptions refer to the *maintenance input/output guide*.

Refer to ACD Northern Telecom Publications for details.

AML — LD 48 Application Module Link

How the AML works

An Application Module Link (AML) connects the Meridian 1 with applications such as Meridian Mail, Meridian Link and CCR. Enhanced Serial Data Interface (ESDI) or Multi-purpose Serial Data Interface (MSDL) cards provide these links.

LD 48 is used to maintain these links. AML messages are output to indicate command error and status conditions on these links.

AML and AMLM commands		
Command	**Description**	**Release**
AML status		

STAT AML (x)	Get AML status.
	
	This command outputs the status of layer two and layer seven of one or all configured AMLs. The designation (DES) of the AML is output if it has been defined for the port in LD 17.
	
	Examples:
	
	`AML: 01 MSDL: 08 PORT: 00`
	`LYR2: DSBL AUTO: OFF LYR7: DOWN`
	`DES: MERIDIAN_MAIL`
	`AML: 04 ESDI: 10`
	`LYR2: EST AUTO: ON LYR7: ACTIVE`
		msdl-18

Disable AML		
DIS AML x	Disable AML x. Whenever the third parameter (LYR2, LYR7, etc.) is not typed, the overlay defaults the third parameter of the DIS command to LYR2. Therefore, this command is equivalent to DIS AML x LYR2. Refer to DIS AML x LYR2 command definition, for more information.	msdl-18
DIS AML x AUTO	Disable AUTO recovery on AML x (MSDL only). This command is not available for an ESDI AML.	msdl-18
DIS AML x LYR2	Disable layer two on AML x. MSDL Requirement: The MSDL card must be enabled. The AML link state can be any state other than the disabled state, and should not be in the process of self-test. Example: ENL MSDL x followed by ENL AML x LYR2 must have been executed at an earlier time. **MSDL Response:** The AML link state is changed to the disable state. The MSDL port on which the AML is configured is disabled. **ESDI Response:** The ESDI port is disabled. The port must be idle.	msdl-18

AML and AMLM commands (continued)		
Command	**Description**	**Release**
Disable AML		
DIS AML x LYR7	Disable layer seven on AML x. The MSDL or ESDI card must be enabled. The AML layer two must be enabled and established, and AML layer seven must also be enabled. Example: ENL MSDL x followed by ENL AML x LYR2 followed by EST AML x followed by ENL AML x LYR7 must have been executed at an earlier time. **Response:** A request to disable the AML layer seven is issued. SL-1 will stop sending polling messages to the far-end.	msdl-18
DIS AML x MDL	Disable MDL error reporting on AML x (MSDL only). MSDL Requirement: The MSDL card must be enabled. The AML layer two must be enabled. Example: ENL MSDL x followed by ENL AML x LYR2 must have been executed at an earlier time. **MSDL Response:** The MSDL AML loadware command to disable the debug monitor is sent to the MSDL card. This command is not available for ESDI AML.	msdl-18
DIS AML x MON	Disable monitor on AML x (MSDL only). MSDL Requirement: The MSDL card must be enabled. The AML layer two must be enabled. Example: ENL MSDL x followed by ENL AML x LYR2 must have been executed at an earlier time. **MSDL Response:** The MSDL AML loadware command to disable the debug monitor is sent to the MSDL card. This command is not available for ESDI AML.	msdl-18

AML and AMLM commands (continued)		
Command	**Description**	**Release**
Enable AML		
ENL AML x	Enable AML x. **For MSDL:** If AUTO recovery is off, then this command is the same as the ENL AML x LYR2 command. If AUTO recovery is on, an attempt is made to establish the link (layer two) and the application (layer seven). **For ESDI:** This is the same as the ENL AML x LYR2 command.	esdi/ msdl-18
ENL AML x ACMS	Enable automatic set-up on AML x (ESDI only). This command is valid only for ESDI AML and is not available on the MSDL AML. It is equivalent to ACMS x command.	esdi-18
ENL AML x AUTO	Enable AUTO recovery on AML x (MSDL only). This command is not available for ESDI AML links.	msdl-18
ENL AML x FDL	Force download loadware to the MSDL card and enable AML x. MSDL Requirement: The MSDL card must be enabled. The AML link state must be in the disable state. All other MSDL AML links configured on the same MSDL card must be in the disable state. Example: ENL MSDL x must have been executed at an earlier time. **MSDL Response:** The MSDL AML loadware is downloaded to the MSDL card. While download is in progress a series of dots are output. Once the command is executed successfully the ENL AML x LYR2 command is executed automatically	msdl-18
ENL AML x LYR2	Enable layer two on AML x. MSDL Requirement: The MSDL card must be enabled. The AML link state must be in the disable state. Example: ENL MSDL x must have been executed at an earlier time. **MSDL Response:** The AML link state is changed to the release state. The MSDL port on which the AML is configured is enabled. If the ENL AML x command is executed successfully, and MSDL AML auto recovery is in the enable state, then the EST AML x is issued automatically. **ESDI Response:** The ESDI port is enabled. The ESDI card must first be disabled.	msdl-18

AML and AMLM commands (continued)		
Command	**Description**	**Release**
Enable AML		
ENL AML x LYR7	Enable layer seven on AML x. MSDL Requirement: The MSDL card must be enabled. The AML link should not be in the simulation mode. The AML layer two must be enabled and established, and AML layer seven must be disabled. Example: ENL MSDL x followed by ENL AML x LYR2 followed by EST AML x must have been executed at an earlier time. **MSDL Response:** A request to enable the AML layer seven is issued. Polling messages are sent to the far end. **ESDI Response:** Layer seven is enabled for the ESDI AML. The ENL AML x (LYR2) command must be completed successfully first.	msdl-18
ENL AML x MDL	Enable MDL error reporting on AML x (MSDL only). MSDL Requirement: The MSDL card must be enabled. The AML layer two must be enabled. Example: ENL MSDL x followed by ENL AML x LYR2 must have been executed at an earlier time. **MSDL Response:** The MSDL AML loadware command to enable the MDL error reporting is sent to the MSDL card. This command is not available for ESDI AML links.	msdl-18
ENL AML x MON	Enable monitor on AML x (MSDL only). MSDL Requirement: The MSDL card must be enabled. The AML layer two must be enabled. Example: ENL MSDL x followed by ENL AML x LYR2 must have been executed at an earlier time. **MSDL Response:** The MSDL AML loadware command to enable the debug monitor is sent to the MSDL card This command is not available for ESDI AML links.	msdl-18

AML and AMLM commands (continued)

Command	Description	Release
Establish layer two		
EST AML x	Establish layer two on AML x. The layer two is established for the AML configured on the given MSDL port. The layer two is connected for the AML configured on the ESDI card. MSDL Requirement: The MSDL card must be enabled. The AML layer two must be enabled and released. Example: ENL MSDL x followed by ENL AML x LYR2 must have been executed at an earlier time. **MSDL Response:** The MSDL AML link state is changed into the established state. If EST AML x executes successfully, and provided that the MSDL AML AUTO recovery is enabled, next the ENL AML x LYR7 is executed automatically. **ESDI Response:** Layer two is connected for the ESDI AML. The port must be enabled first.	msdl-18
Release layer two		
RLS AML x	Release layer two on AML x. The layer two is released for the AML link configured on the given MSDL port. The layer two is disconnected for the AML configured on the ESDI card. MSDL Requirement: The MSDL card must be enabled. The AML layer two must be enabled and established. Example: ENL MSDL x followed by ENL AML x LYR2 followed by EST AML x must have been executed at an earlier time. **MSDL Response:** Prior to the execution of the RLS AML x, if the MSDL AML layer seven is enabled, the DIS AML x LYR7 is automatically executed. The MSDL AML state is changed to the release state. **ESDI Response:** The layer two is disconnected for the ESDI AML port. The port must be in the connected and idle state first.	msdl-18

AML and AMLM commands (continued)		
Command	**Description**	**Release**
Get address		

MAP AML (x)	Get physical address and card name of one or all AMLs.
	
	This command outputs the card name and physical card address and ports for one or all AMLs. This information is also output with the STAT AML command. For example:
	
	`MAP AML`
	`AML: 05    ESDI: 04`
	`AML: 12    MSDL:07    PORT:1`
		msdl-18

Self test		
SLFT AML x	Self-test on AML x. This command runs the local loop back test for MSDL AML, and the ESDI self-test for the ESDI AML. MSDL Requirement: The MSDL card must be enabled. The AML layer two must be disabled. Example: ENL MSDL x must have been executed at an earlier time. **MSDL Response:** The MSDL AML local loop back test is executed and upon completion of the test the MSDL AML port is set to the disable state.	msdl-18
Switch		
SWCH AML x y	Switch active (x) and standby (y) AML. This is AML switchover, where x is the active AML switching to standby and y is the standby AML to become active.	msdl-18

AML and AMLM commands (continued)		
Command	**Description**	**Release**
Upload parameter		
UPLD AML x TBL x	Upload parameter table 1 to 4 from AML x (MSDL only). The MSDL AML maintenance error log table, is uploaded from the MSDL card and is displayed on the TTY screen. The parameter tables are: TBL1 = AML maintenance error log table TBL2 = AML downloaded parameter table TBL3 = AML protocol error log table TBL4 = AML traffic table MSDL Requirement: The MSDL card must be enabled. The AML layer two must be enabled. Example: ENL MSDL x followed by ENL AML x LYR2 must have been executed at an earlier time. **Response:** MSDL AML table is uploaded and is displayed on the TTY screen. This command is not available for the ESDI card.	msdl-18

AML messages

AML001 x

x = AML number in decimal.
ESDI: To enable CSL, ESDI has to be in “BUSY” state.

ACTION: To bring the link up automatically, use the following commands in this order: DIS AML x then ENL AML x and finally ACMS.

AML002 x

x = AML number in decimal.
ESDI/MSDL: For SWCH AML n1 n2 command, both links should belong to the same VAS.

ACTION: Refer to the *administration input/output guide* and use LD 22 PRT CFN to check VAS. Ensure that this is where you want to switch.

AML003 x

x = AML number in decimal.
ESDI/MSDL: For SWCH AML n1 n2 command, n2 should be in the STANDBY state.

ACTION: Use STAT AML to determine the ESDI/MSDL state.

AML004 x

x = AML number in decimal.
No VAS ID exists for the given AML. Therefore layer seven cannot be enabled.

ACTION: Refer to the *administration input/output guide* and use LD 17 CFN to program a VAS ID.

AML005 x

x = AML number in decimal.
ESDI/MSDL: For SWCH AML n1 n2 command, n1 should be in the ACTIVE state.

ACTION: Ensure that you are switching from the active ESDI/MSDL to the standby ESDI/MSDL.

AML006 x

x = AML number in decimal.
ESDI/MSDL: There is no response to polling message.

ACTION: Check the cables. Ensure the application is running. Refer to the application NTP for instructions to clear the problem.

AM LM — LD 48 Application Module Link

How the AMLM works

An Application Module Link (AML) connects the Meridian 1 with applications such as Meridian Mail, Meridian Link and CCR. Enhanced Serial Data Interface (ESDI) or Multi-purpose Serial Data Interface (MSDL) cards provide these links.

LD 48 is used to maintain these links. AML messages are output to indicate command error and status conditions on these links.

AML and AMLM commands

Refer to the *AML* chapter for the AMLM commands.

AML messages

AMLM001 x

Illegal card type on AML x. Only ESDI or MSDL cards are allowed.

ACTION: Ensure that this is the command you wanted to use.

AMLM002 x

For SMLP command, both ports must be in the loop back mode.

ACTION: Use the CNFG command first.

AMLM003 x

The address of the ESDI status register on AML x is corrupt.

ACTION: Check the ESDI card switches. Refer to the *administration input/output guide*. Use LD 22 PRT CFN, to check the ESDI programming.

AMLM004 x

To use the SMLP command, both ESDI ports must be in IDLE state.

ACTION: Ensure that this is the command you wanted to use.

AMLM005 x

Call-register time-out is not supported for MSDL AML.

ACTION: Contact your technical-support group.

AMLM006 x

Automatic Set Up command not supported for MSDL AML **x**.

ACTION: For MSDL AML, first ensure the MSDL AML auto recovery is turned ON. Next enable the link using ENL AML x. This will establish and enable layer 7 for the MSDL AML.

AMLM007 x

AML background AUDIT not supported for ESDI AML.

ACTION: Ensure that this is the command you wanted to use.

AMLM008

Both of the MSDL AML links must be in the disabled state. Then the stimulation loop back command can be issued.

ACTION: Disable the links first, then try the stimulation loop back command again.

AMLM009

Loop back from ESDI to MSDL or MSDL to ESDI not allowed.

ACTION: Ensure that this is the command you wanted to use.

AMLM010 x

The MSDL AML command request is rejected since link **x** is already disabled.

ACTION: Ensure that this is the command you wanted to use.

AMLM011 x

The MSDL AML command request is rejected, since link **x** is already established.

ACTION: Ensure that this is the command you wanted to use.

AMLM012 x

The MSDL AML command request is rejected, since link **x** is already released.

ACTION: Ensure that this is the command you wanted to use.

AMLM013 x

The MSDL AML command request is rejected, since link **x** is already enabled.

ACTION: Ensure that this is the command you wanted to use.

AMLM014 x

The MSDL AML command request is rejected, since link **x** is in process of self test.

ACTION: Be patient. You are entering commands faster than the system can handle them.

AMLM015 x

The MSDL AML command request is rejected, since link **x** is in process of establishing.

ACTION: Be patient. You are entering commands faster than the system can handle them.

AMLM016 x

The MSDL AML command request is rejected, since link **x** is in process of releasing.

ACTION: Be patient. You are entering commands faster than the system can handle them.

AMLM017 x

The MSDL AML command request is rejected, since link **x** is in process of disabling.

ACTION: Be patient. You are entering commands faster than the system can handle them.

AMLM018 x

The MSDL AML command request is rejected, since link **x** is in process of loadware downloading.

ACTION: Be patient. You are entering commands faster than the system can handle them.

AMLM019 x

The MSDL AML command request is rejected, since the link **x** is in process of auditing.

ACTION: Be patient. You are entering commands faster than the system can handle them.

AMLM020 x

The MSDL AML command request is rejected, since link **x** is in the disable state.

ACTION: Use the ENL AML x command first.

AMLM021 x

The MSDL AML command request is rejected, since link **x** is not in the disable state.

ACTION: Use the DIS AML x command first.

AMLM022 x

The ESDI AML or MSDL AML command is rejected since it is not allowed at this point.

ACTION: Ensure that this is the command you wanted to use.

AMLM023 x

Data corruption. The ESDI AML IO priority number is corrupted on AML **x**.

ACTION: Check the ESDI card switch settings and cables.

AMLM024 x

There is no response from the ESDI card. The ESDI hardware may not be equipped.

ACTION: Check that the ESDI card is seated in the network shelf and that it is programmed properly.

AMLM025 x

Error: ESDI in permanent interrupt.

ACTION: Follow the steps in the *Hardware replacement* guide to replace the ESDI card.

AMLM026 x

For ESDI self test, the port under test, port **x**, should be in IDLE state and the other port, port **y**, of the ESDI card, if it is defined, should be in the DISABLE state.

ACTION: Disable port **y,** then re-enter your original command.

AMLM027 x

The MSDL AML request is rejected, since the MSDL card is not operational.

ACTION: Make sure that the MSDL card enabled and re-enter the command.

AMLM028 x

Warning: AML **x** is disabled and will not recover. This is regardless of the fact that the AML auto recovery was previously turned to the ON mode. The MSDL AML loadware requested to disable the link, and since this type of disable is not recoverable, the Meridian 1 will disable the link and will not attempt to recover.

ACTION: You must manually enable the AML link to bring the link up again.

AMLM029

Warning: The AML is disabled and will not recover, since the MSDL AML background AUDIT failed to recover from the failure. This is regardless of the fact that the AML auto recovery was previously turned to the ON mode.

ACTION: You must manually enable the AML link to bring the link up again.

AMLM030

The reset command is not supported for the ESDI AML.
The command is only supported for MSDL AML.

ACTION: Ensure that this is the command you wanted to use.

AMLM031

The reset command is allowed only when the link is established, and no pending link tasks are queued.

ACTION: Ensure that this is the command you wanted to use.

AMLM032

Since the link is resetting the outgoing AML command is not executed.

ACTION: Wait until the link reset activity is terminated, and then try the command again.

AMLM033

Warning: The AML went into an audit. After the audit it was determined that the link should recover to the disable state. If the auto recovery is turned ON, then regardless of it, the AML will remain in the disable state and will not attempt to recover.

ACTION: Manually bring the link up.

ATM — LD 92 Automatic Trunk

How the ATM works

Automatic Trunk Maintenance (ATM) enables the Meridian 1 to be programmed to automatically schedule transmission and supervision tests on specified trunk groups terminating at the Meridian 1. ATM also reports the results to the maintenance system terminal.

Trunks that fail any of the tests are flagged so that rigorous tests can be performed manually using transmission test equipment. The system can be programmed to disable any of these flagged trunks, up to a configurable limit per trunk group, if they reach the programmable “out-of-service” threshold.

The ATM can be scheduled to run automatically and manually.

LD 92 tests TIE, CSA, WATS, FEX, DID and COT trunk groups automatically each day at times scheduled in the ATM Schedule block. LD 92 also allows for the manual testing of trunks.

ATM commands		
Command	**Description**	**Release**
Test DTI Channel		
ATMC loop ch	Test DTI channel ch on specified loop.	atm-7
ATMC loop ch loop ch	Test specified DTI channel, with reference trunk. Test the specified DTI channel (loop and channel of the first field) with the reference trunk (loop and channel of the second field).	atm-7
Test route		
ATMR c r	Test route r of customer c. Accepts ADM Route number in R12+. When an ADM Route is entered, member numbers cannot be entered.	atm-7
ATMR c r m	Test route r of customer c with reference trunk member m.	atm-7
Test unit		
ATMU l s c u	Test specified unit. If the unit specified is an ADM trunk unit, no reference information can be entered.	atm-7
ATMUY l s c u l s c u	Test specified unit, with reference trunk. Test the specified unit (l s c u of the first field) using the reference trunk (l s c u of the second field). If the unit specified is an ADM trunk unit, no reference information (L S C U) can be entered.	atm-7

ATM commands (continued)		
Command	**Description**	**Release**
Clear/Get "ring/no answer"		
CLRR c r	Clear "ring/no answer" count on route r for customer c. Clears the "ring/no answer" count for every trunk member in the ADM Route specified.	atm-7
CLRU l x c u	Clear "ring/no answer" count on specified trunk unit.	atm-7
Clear/Get "ring/no answer"		
PRTR c r	Get "ring/no answer" count for all members on route r for customer c.	atm-7
PRTU l s c u	Get "ring/no answer" count specified unit.	atm-7
Clear alarm		
CMAJ	Clear major alarm, reset power fail transfer and clear power fault alarm.	atm-7
Termination		
END	Terminate test in progress. This command can be entered at any time.	atm-7

ATM messages

The Automatic Trunk Maintenance (ATM) program tests TIE, CSA, WATS, FEX, DID and COT trunk groups automatically each day at times scheduled in the ATM Schedule Block. The ATM program also allows for the manual testing of trunks.

Using the ATM message table to clear faults

To clear most trunk faults, the ATM action column suggests you use LD 36/41 overlays found in the TRK chapter. A few ATM actions require you to use overlay loads located in the *administration input/output guide*.

ATM000

Program identifier.

ACTION: The ATM program is loaded and ready for you to enter commands.

ATM001

No schedule block exists.

ACTION: Check to make sure your data is correct and if applicable, re-enter the command. If required, a schedule block can be programmed using LD 16 in the *administration input/output guide.*

ATM002

There is no schedule block for this hour.

ACTION: Check to make sure your data is correct and if applicable, re-enter the command. If required, a schedule block for this hour can be programmed using LD 16 in the *administration input/output guide.*

ATM003

The ATM aborted because it cannot perform far to near test.

ACTION: Contact your technical support group and have the trunk at the far end checked.

ATM004

The user specified reference trunk does not meet the loss criteria for a reference trunk.

ACTION: Contact your technical support group.

ATM005

An illegal input character.

ACTION: Check to make sure your data is correct and if applicable, re-enter the command.

ATM006

A loop is out-of-range. Loops on multi group systems range from 0 to 159. Loops on single group systems range from 0 to 31.

ACTION: Check to make sure your data is correct and if applicable, re-enter the command.

ATM007

The shelf is out of range. Units 0 to 3 only are allowed.

ACTION: Check to make sure your data is correct and if applicable, re-enter the command. Refer to the *NPR - LD 32* chapter*, Network card* in this guide.

ATM008

The Terminal Number translation (TNTRANS) failed on Tone Detector.

ACTION: Contact your technical support group.

ATM009

No tone detector is available to proceed onward.

ACTION: Contact your technical support group.

ATM010

1. No Tone Detector is defined in the data base.

ACTION: Check to make sure your data is correct and if applicable, re-enter the command. Refer to the *administration input/output guide* and use LD 20 TDET to check for the Tone Detector. Next use Digitone receiver and tone detector administration, LD 13 to program the Tone Detector.

2. The Tone Detector failed the self-test.

ACTION: Use TDET in LD 34 to test the Tone Detector. If the Tone Detector does not pass the test, replace it as per steps in the *Hardware replacement* guide. Verify that the fault is cleared. If you need help with the commands or system responses refer to the *TDS Checking Tone and tone digit switches* chapter in this guide.

ATM011

Missing ATM route data.

ACTION: If required, ATM route data can be programmed using LD 16 in the *administration input/output guide*.

ATM015

The ATM received a wrong loop message.

ACTION: If this message appears repeatedly or is associated with a system problem, contact your technical support group.

ATM016

The tone detector is not maintenance busy when it should be; the system will set it.

ACTION: If this message appears repeatedly or is associated with a system problem, contact your technical support group.

ATM018

User specified reference trunk is not available.

ACTION: Contact your technical support group.

ATM020

Given trunk is unequipped.

ACTION: Check to make sure your data is correct and if applicable, re-enter the command. If required, install a trunk card.

ATM041 c

Customer **c** does not exist.

ACTION: Check to make sure your data is correct and if applicable, re-enter the command.

ATM042 c

Customer number **c** is out-of-range.

ACTION: Check to make sure your data is correct and if applicable, re-enter the command.

ATM051 c r

Customer **c,** Route **r** does not exist.

ACTION: Check to make sure your data is correct and if applicable, re-enter the command.

ATM052 c r

Customer **c**, Route **r** has no member.

ACTION: Check to make sure your data is correct and if applicable, re-enter the command or refer to the *administration input/output guide*. Use LD 21 RDB to check route and member number. Correct route or member number in LD 14 trunk data block.

ATM053 c r

Customer **c,** Route **r** has no ATM data.

ACTION: Check to make sure your data is correct and if applicable, re-enter the command. If required, ATM route data can be programmed using LD 16 in the *administration input/output guide*.

ATM054 c r

Cannot find any reference trunk for Customer **c** Route **r** to perform near to far test.

ACTION: Check to make sure your data is correct and if applicable, re-enter the command. If this message appears repeatedly or the problem persists, contact your technical support group.

ATM055 c r

Customer **c**, Route number **r** is out-of-range.

ACTION: Check to make sure your data is correct and if applicable, re-enter the command.

ATM056 c r

Member number is out-of-range for Customer **c**, Route **r**.

ACTION: Check to make sure your data is correct and if applicable, re-enter the command.

ATM057 c r

Member number is not defined for specified Customer **c**, Route **r**.

ACTION: Check to make sure your data is correct and if applicable, re-enter the command or refer to the *administration input/output guide*. Use LD 21 RDB to check the route and the customer number. Correct the route or the customer number in LD 16 route data block, or LD 15 customer data block.

ATM058 c r

ATM aborted because this Customer **c**, Route **r** has FEDC equal to FEC.

ACTION: Check with your engineering group and refer to the *administration input/output guide*. Use LD 21 RDB to check the FEDC response. Correct the FEDC response in LD 16 route data block.

ATM059 c r

For ATMU and ATMC commands the test and reference trunk units cannot be the same.

ACTION: Ensure that this is the command you wanted to use.

ATM071 c r m

Missing active Call Register during test of Customer **c**, Route **r**, Member **m**. The most probable fault is that the far end is On-Hook.

ACTION: Contact your technical support group and have the trunk at the far end checked.

ATM201

The last command is still in progress.

ACTION: Be patient. You are entering commands faster than the system can handle them.

ATM202

Invalid argument(s).

ACTION: Check to make sure your data is correct and if applicable, re-enter the command.

ATM203

Invalid command.

ACTION: Ensure that this is the command you wanted to use.

ATM204

Loop for first TN is out-of-range.

ACTION: Check to make sure your data is correct and if applicable, re-enter the command.

ATM205

Loop for second TN is out-of-range.

ACTION: Check to make sure your data is correct and if applicable, re-enter the command.

ATM206

Loop type for first TN is not supported by ATM.

ACTION: Check to make sure your data is correct and if applicable, re-enter the command.

ATM207

Loop type for second TN is not supported by ATM.

ACTION: Check to make sure your data is correct and if applicable, re-enter the command.

ATM208

Shelf for first TN is out-of-range.

ACTION: Check to make sure your data is correct and if applicable, re-enter the command.

ATM209

Shelf for second TN is out-of-range.

ACTION: Check to make sure your data is correct and if applicable, re-enter the command.

ATM210

Card for first TN is out-of-range.

ACTION: Check to make sure your data is correct and if applicable, re-enter the command.

ATM211

Card for second TN is out-of-range.

ACTION: Check to make sure your data is correct and if applicable, re-enter the command.

ATM212

Card for first TN does not exist in the database.

ACTION: Check to make sure your data is correct and if applicable, re-enter the command.

ATM213

Card for second TN does not exist in the database.

ACTION: Check to make sure your data is correct and if applicable, re-enter the command.

ATM214

Card type for first TN is not a trunk.

ACTION: Check to make sure your data is correct and if applicable, re-enter the command.

ATM215

Card type for second TN is not a trunk.

ACTION: Check to make sure your data is correct and if applicable, re-enter the command.

ATM216

Unit for first TN is out-of-range.

ACTION: Check to make sure your data is correct and if applicable, re-enter the command.

ATM217

Unit for second TN is out-of-range.

ACTION: Check to make sure your data is correct and if applicable, re-enter the command.

ATM218

Unit for first TN does not exist in the database.

ACTION: Check to make sure your data is correct and if applicable, re-enter the command.

ATM219

Unit for second TN does not exist in the database.

ACTION: Check to make sure your data is correct and if applicable, re-enter the command.

ATM220

Unit trunk type for first TN is not supported by ATM.

ACTION: Check to make sure your data is correct and if applicable, re-enter the command.

ATM221

Unit trunk type for second TN is not supported by ATM.

ACTION: Check to make sure your data is correct and if applicable, re-enter the command.

ATM222

Channel for first TN is out-of-range.

ACTION: Check to make sure your data is correct and if applicable, re-enter the command.

ATM223

Channel for second TN is out-of-range.

ACTION: Check to make sure your data is correct and if applicable, re-enter the command.

ATM224

Loop and Channel for first TN is invalid.

ACTION: Check to make sure your data is correct and if applicable, re-enter the command.

ATM225

Loop and Channel for second TN is invalid.

ACTION: Check to make sure your data is correct and if applicable, re-enter the command.

ATM226

Channel for first TN does not exist in the data base.

ACTION: Check to make sure your data is correct and if applicable, re-enter the command.

ATM227

Channel for second TN does not exist in the data base.

ACTION: Check to make sure your data is correct and if applicable, re-enter the command.

ATM228

Channel for first TN is not configured as a trunk.

ACTION: Check to make sure your data is correct and if applicable, re-enter the command.

ATM229

Channel for second TN is not configured as a trunk.

ACTION: Check to make sure your data is correct and if applicable, re-enter the command.

ATM230

Specified TNs not for same customer.

ACTION: Check to make sure your data is correct and if applicable, re-enter the command.

ATM231

Specified TNs not for same route.

ACTION: Check to make sure your data is correct and if applicable, re-enter the command.

ATM232

Loop for first TN does not exist in the data base.

ACTION: Check to make sure your data is correct and if applicable, re-enter the command.

ATM233

Loop for second TN does not exist in the data base.

ACTION: Check to make sure your data is correct and if applicable, re-enter the command.

ATM235

Loop for first TN is not a superloop.

ACTION: Check to make sure your data is correct and if applicable, re-enter the command.

ATM236

Loop for second TN is not a superloop.

ACTION: Check to make sure your data is correct and if applicable, re-enter the command.

ATM240

TDET is restricted. Disk does not have Tone Detector package (Pkg. 65) enabled.

ACTION: Have your technical support group contact Northern Telecom Technical Assistance Service to reset the package restriction flag. You can use LD 22 PRT, PKG xxx to check the restricted status of the package.

ATM241

TN/Route tested is not an ADM TN/Route.

ACTION: Check to make sure your data is correct and if applicable, re-enter the command.

ATM242

RETEST For TNs in IDLE_STATUS and ABRT_RESULT.

ACTION: If this message appears repeatedly or is associated with a system problem, contact your technical support group.

ATM301 l s c u x y

The specified Tone Detector has failed testing due to faulty operation or lack of response. The x and y indicate the mode and test that failed.

x y		Mode
0005	**0001**	Mode 1 precise busy tone
0005	**0003**	Mode 1 non-precise busy tone
0006	**0001**	Mode 1 precise overflow tone
0006	**0003**	Mode 1 non-precise overflow tone
0007	**0001**	Mode 1 ringback tone
0007	**0003**	Mode 1 any tone
0009	**0001**	Mode 1 undefined tone
0009	**0003**	Mode 2 undefined tone
0009	**0005**	Mode 4 test tone
0009	**0007**	Mode 3 test tone
0009	**0009**	Mode 3 test tone

ACTION: Use TDET in LD 34 to test the Tone Detector. If the Tone Detector does not pass the test, replace it following the steps in the *Hardware replacement* guide. Verify that the fault is cleared. If you need help with the commands or system responses refer to the *TDS* chapter in this guide.

ATM302

The specified Tone Detector cannot be used by ATM because it was unable to perform the self-test.

ACTION: Use TDET in LD 34 to test the Tone Detector. If Tone Detector does not pass test, replace it following the steps in the *Hardware replacement* guide. Verify that the fault is cleared. If you need help with the commands or system responses go to the *TDS* chapter in this guide.

ATM304

No tone and digit switch is available for Tone Detector testing.

ACTION: Contact your technical support group.

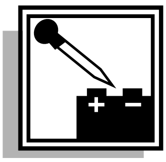
AUD — LD 44 Software Audit

How the AUD works

LD 44 monitors the system operation and provides an indication of the general state of the system operation. The program is concerned primarily with the system software. When a software problem is encountered, the program attempts to clear the problem automatically.

*CRINFO = Any Call Register (CR) information that follows an AUD message consists of: CR pointer, the progress mark word, and the originating and terminal numbers contained in the CR (4 words in total).

Maintenance tip



If faults are encountered that are hardware or software related, run software audit passes. AUD000 indicates there are probably, no problems. If a problem exists, investigate further. A hardware fault and an unrelated software fault can occur within the same Meridian 1.

AUD commands		
Command	**Description**	**Release**
Run audit		
R x	Run audit, where x is the number of audit passes desired. Enter 0 for continuous auditing. R and x must be separated by a space or the system responds with the following. **AUD REQ ERR** **AUDIT**.	basic-1

AUD messages

AUD001 -to -AUD611

Audit messages are not to be interpreted as hardware faults though certain codes can indicate hardware-related problems. For normal system maintenance, the audit outputs should be ignored when classifying and isolating faults.

ACTION: When audit outputs are excessive or continue to occur, the problem must be reported. Contact your technical support group.

AUD423

AUDIT has detected an inconsistent DPNSS1 MWI table.

ACTION: The AUDIT programme resets the inconsistent information. Make a software correction.

AUD623

Actual number of idle trunks in route is different than number in idle-trunk-counter in route block. Counter is corrected.

ACTION: If AUD0623 occurs frequently, contact your technical support group.

AUD624

Busy ISPC link not associated to any end-user.

ACTION: Use overlays 60 and 80 to detect if any inconsistent connections exist. If so, run AUDIT again. If the corruption still exists, then remove and reconfigure the corrupted TNs.

AUD625

ISPC data structures corruption.

ACTION: Use overlays 60 and 80 to detect if any consistent connections exist. If so, run AUDIT again. If the corruption still exists, then remove and reconfigure the corrupted TNs.

AUD626

IDLE ISPC link associated to an end-user.

ACTION: Use overlays 60 and 80 to detect if any consistent connections exist. If so, run AUDIT again. If the corruption still exists, then remove and reconfigure the corrupted TNs.

AUD632

AUDIT has restored the recoverable VDN blocks.

ACTION: VDN blocks which have been lost must be recreated in LD 79.

AUD643

Invalid SFR feature is found from SFR call register.

ACTION: Contact your technical support group.

AUD644

Invalid application VAS ID is found from an IAGT TN.

ACTION: Contact your technical support group.

AUD645

P_IAGT_BLK is not allocated for an IAGT TN> IAGT TN is deacquired.

ACTION: Contact your technical support group.

AUD646

IAGT_TERMINAL is updated due to mismatch with IAGT TN.

ACTION: Contact your technical support group.

AUD647

IAGT TN (control login ACD agent) is not linked to IAGT link.

ACTION: Contact your technical support group.

AUD648

Audit VAS ID is invalid.

ACTION: Contact your technical support group.

AUD649

The last IAGT TN pointer of the IAGT link is not referenced to the last IAGT TN from the IAGT link.

ACTION: Contact your technical support group.

AUD0650

The TITH Call Register does not match the RAN Route data.

ACTION: Report the problem is the condition persists.

AUD0651

The TITH CR is lost.

ACTION: Report the problem if the condition persists.

AUD0652

RAN Broadcast Timeslice Call Register is not in the 128ms queue.

ACTION: Report the problem if the condition persists.

AUD0653

The TITH Call Register is not in the 2S queue.

ACTION: Report the problem if the condition persists.

AUD0661

Broadcast trunk list was found to be broken and was subsequently rebuilt.

ACTION: Report the problem if the condition persists.

AUD0662

Broadcast speechpath counts were found to mismatch and were subsequently realigned.

ACTION: Report the problem if the condition persists.

AUTH — LD 88 Authorization Code

Refer to the *maintenance input/output guide* for messages and descriptions.

Refer to ESN Northern Telecom Publications for details.

BERR — Bus Error Monitor

How the BERR works

Bus Error Monitor is a resident program. BERR does not have an overlay load (LD) associated with it. For more information refer to *Software maintenance tools* in the *You should know this* chapter.

These messages indicate errors with the various buses.

BERR messages

Back-filling messages with zeros

The numerical portion of the following messages is depicted by three or four digits. For example, the same message can be represented by xxx0008 or xxx008.

BERR000 CP local slave BERR

ACTION: If this message identifies faulty hardware, replace it by following the steps in the *Hardware replacement* guide. If this message is not hardware related contact your technical support group.

BERR001 CP IPB master data error

ACTION: If this message identifies faulty hardware, replace it by following the steps in the *Hardware replacement* guide. If this message is not hardware related contact your technical support group.

BERR002 CP IPB master timeout

ACTION: If this message identifies faulty hardware, replace it by following the steps in the *Hardware replacement* guide. If this message is not hardware related contact your technical support group.

BERR003 CP IPB master error

ACTION: If this message identifies faulty hardware, replace it by following the steps in the *Hardware replacement* guide. If this message is not hardware related contact your technical support group.

BERR004 CP local decode error

ACTION: If this message identifies faulty hardware, replace it by following the steps in the *Hardware replacement* guide. If this message is not hardware related contact your technical support group.

BERR005 CP illegal access

ACTION: If this message identifies faulty hardware, replace it by following the steps in the *Hardware replacement* guide. If this message is not hardware related contact your technical support group.

BERR006 CP BIC default BERR <address>

ACTION: If this message identifies faulty hardware, replace it by following the steps in the *Hardware replacement* guide. If this message is not hardware related contact your technical support group.

BERR007 CP BIC BERR: addr=a; BERRZ=b.

ACTION: If this message identifies faulty hardware, replace it by following the steps in the *Hardware replacement* guide. If this message is not hardware related contact your technical support group.

BERR010 CP CMB triggered berr: addr = a

ACTION: If this message identifies faulty hardware, replace it by following the steps in the *Hardware replacement* guide. If this message is not hardware related contact your technical support group.

BERR012 CP SRA DMA access berr: addr=a

ACTION: If this message identifies faulty hardware, replace it by following the steps in the *Hardware replacement* guide. If this message is not hardware related contact your technical support group.

BERR016 CP SRA parity BERR <address>

ACTION: If this message identifies faulty hardware, replace it by following the steps in the *Hardware replacement* guide. If this message is not hardware related contact your technical support group.

BERR017 CP BER Reason: NONE. addr=a

ACTION: If this message identifies faulty hardware, replace it by following the steps in the *Hardware replacement* guide. If this message is not hardware related contact your technical support group.

BERR020 CP AP No response BERR <address>

ACTION: If this message identifies faulty hardware, replace it by following the steps in the *Hardware replacement* guide. If this message is not hardware related contact your technical support group.

BERR021 CP AP BIC IPB parity <address>, <ERRZ>

ACTION: If this message identifies faulty hardware, replace it by following the steps in the *Hardware replacement* guide. If this message is not hardware related contact your technical support group.

BERR022 CP AP local BERR <address>, <ERRZ>

ACTION: If this message identifies faulty hardware, replace it by following the steps in the *Hardware replacement* guide. If this message is not hardware related contact your technical support group.

BERR023 CP AP BIC illegal access <address>, <ERRZ>

ACTION: If this message identifies faulty hardware, replace it by following the steps in the *Hardware replacement* guide. If this message is not hardware related contact your technical support group.

BERR024 CP AP BIC default BERR <address>, <ERRZ>

ACTION: If this message identifies faulty hardware, replace it by following the steps in the *Hardware replacement* guide. If this message is not hardware related contact your technical support group.

BERR200 SIMM: Write Protection Violation

ACTION: If this message identifies faulty hardware, replace it by following the steps in the *Hardware replacement* guide. If this message is not hardware related contact your technical support group.

BERR201 SIMM x y : Parity error at addr=a (remote)

ACTION: If this message identifies faulty hardware, replace it by following the steps in the *Hardware replacement* guide. If this message is not hardware related contact your technical support group.

BERR202 SIMM x y : Parity error at addr=a (local)

ACTION: If this message identifies faulty hardware, replace it by following the steps in the *Hardware replacement* guide. If this message is not hardware related contact your technical support group.

BERR203 SIMM x y : Unrecoverable mem or reg WRITE error at addr=a (remote)

ACTION: If this message identifies faulty hardware, replace it by following the steps in the *Hardware replacement* guide. If this message is not hardware related contact your technical support group.

BERR204 SIMM x y : Unrecoverable mem or reg R/W error at addr=a (local)

ACTION: If this message identifies faulty hardware, replace it by following the steps in the *Hardware replacement* guide. If this message is not hardware related contact your technical support group.

BERR300 CNIP x y z: Address=a, BERZ=b

ACTION: If this message identifies faulty hardware, replace it by following the steps in the *Hardware replacement* guide. If this message is not hardware related contact your technical support group.

BERR400 CNIB x y: IPB data parity error (write)

ACTION: If this message identifies faulty hardware, replace it by following the steps in the *Hardware replacement* guide . If this message is not hardware related contact your technical support group.

BERR401 CNIB x y: Local Master parity error (read)

ACTION: If this message identifies faulty hardware, replace it by following the steps in the *Hardware replacement* guide . If this message is not hardware related contact your technical support group.

BERR402 CNIB x y: Local Master Time out

ACTION: If this message identifies faulty hardware, replace it by following the steps in the *Hardware replacement* guide. If this message is not hardware related contact your technical support group.

BERR403 CNIB x y: Local Master bus error

ACTION: If this message identifies faulty hardware, replace it by following the steps in the *Hardware replacement* guide. If this message is not hardware related contact your technical support group.

BERR404 CNIB x y: IPB Event Interrupt Read

ACTION: If this message identifies faulty hardware, replace it by following the steps in the *Hardware replacement* guide. If this message is not hardware related contact your technical support group.

BERR405 CNIB x y: Local Priority Request Asserted

ACTION: If this message identifies faulty hardware, replace it by following the steps in the *Hardware replacement* guide. If this message is not hardware related contact your technical support group.

BERR406 CNIB x y: Unaligned ID Eprom Access

ACTION: If this message identifies faulty hardware, replace it by following the steps in the *Hardware replacement* guide. If this message is not hardware related contact your technical support group.

BERR407 CNIB x y: Unaligned Event Interrupt Access

ACTION: If this message identifies faulty hardware, replace it by following the steps in the *Hardware replacement* guide. If this message is not hardware related contact your technical support group.

BERR408 CNIB x y: Addr=a, PARERRZ=b, IPBINT=c, BERRZ=d, ERRZ=e

ACTION: If this message identifies faulty hardware, replace it by following the steps in the *Hardware replacement* guide. If this message is not hardware related contact your technical support group.

BERR500 HI EXC Self x: Restarting self due to Queue Corruption

ACTION: If this message identifies faulty hardware, replace it by following the steps in the *Hardware replacement* guide. If this message is not hardware related contact your technical support group.

BERR501 HI EXC Self x: Retrying Bus Error Analysis

ACTION: If this message identifies faulty hardware, replace it by following the steps in the *Hardware replacement* guide. If this message is not hardware related contact your technical support group.

BERR502 HI EXC Self x: TID: a, Action: b

ACTION: If this message identifies faulty hardware, replace it by following the steps in the *Hardware replacement* guide. If this message is not hardware related contact your technical support group.

BERR503 HI EXC Self x: Action a

ACTION: If this message identifies faulty hardware, replace it by following the steps in the *Hardware replacement replacement* guide. If this message is not hardware related contact your technical support group.

BERR504 HI EXC x: Task: a SUSPENDED

ACTION: If this message identifies faulty hardware, replace it by following the steps in the *Hardware replacement* guide. If this message is not hardware related contact your technical support group.

BERR505 HI EXC x: Recovered from Bus error in ISR (Addr=a)

ACTION: If this message identifies faulty hardware, replace it by following the steps in the *Hardware replacement* guide. If this message is not hardware related contact your technical support group.

BERR506 HI EXC x: Starting Bus Error analysis of UNKNOWN (a) task. Addr=a Note: state of this *task* cannot be changed

ACTION: If this message identifies faulty hardware, replace it by following the steps in the *Hardware replacement* guide. If this message is not hardware related contact your technical support group.

BERR507 HI EXC x: Starting analysis of task a

ACTION: If this message identifies faulty hardware, replace it by following the steps in the *Hardware replacement* guide. If this message is not hardware related contact your technical support group.

BERR508 HI EXC x: Completing analysis of task a. Decision: b

ACTION: If this message identifies faulty hardware, replace it by following the steps in the *Hardware replacement* guide. If this message is not hardware related contact your technical support group.

BERR509 HI EXC x: Bus error in ISR

ACTION: If this message identifies faulty hardware, replace it by following the steps in the *Hardware replacement* guide. If this message is not hardware related contact your technical support group.

BERR510 HI EXC x: Bus error in task a. SR=b, PC=c, Addr=c, SSW=d

ACTION: If this message identifies faulty hardware, replace it by following the steps in the *Hardware replacement* guide. If this message is not hardware related contact your technical support group.

BERR511 HI EXC x: Restart of Task a was averted. Unknown address b has been remapped. Number of remapped addresses: c. Total number of remaps: d

ACTION: If this message identifies faulty hardware, replace it by following the steps in the *Hardware replacement* guide. If this message is not hardware related contact your technical support group.

BERR512 HI EXC x: Address remap threshold exceeded. Restart system

ACTION: If this message identifies faulty hardware, replace it by following the steps in the *Hardware replacement* guide. If this message is not hardware related contact your technical support group.

BERR513 HI EXC x: Address remap has been reinitialized

ACTION: If this message identifies faulty hardware, replace it by following the steps in the *Hardware replacement* guide. If this message is not hardware related contact your technical support group.

BER R514 HI EXC x: Recovered from Bus Error at Addr=a

ACTION: If this message identifies faulty hardware, replace it by following the steps in the *Hardware replacement* guide. If this message is not hardware related contact your technical support group.

BERR515 HI EXC x: Analyzing task a. Recommendation: y

ACTION: If this message identifies faulty hardware, replace it by following the steps in the *Hardware replacement* guide. If this message is not hardware related contact your technical support group.

BERR600 NCB x y: Check Device a at address b in Group c. Check I/O device, network device, or PS card

ACTION: If this message identifies faulty hardware, replace it by following the steps in the *Hardware replacement* guide. If this message is not hardware related contact your technical support group.

BERR601 NCB x y: No Response from 3PE on Group a. Check both connector ends of CNI-3PE cable (if applicable). No Response from 3PE on Group b. Check both connector ends of CNI-3PE cable (if applicable)

ACTION: If this message identifies faulty hardware, replace it by following the steps in the *Hardware replacement* guide. If this message is not hardware related contact your technical support group.

BERR700 EXCH: Threshold exceeded; vector=a, PC=b, fault addr=c

ACTION: If this message identifies faulty hardware, replace it by following the steps in the *Hardware replacement* guide. If this message is not hardware related contact your technical support group.

BERR701 EXCH: Threshold exceeded; vector=a, PC=b

ACTION: If this message identifies faulty hardware, replace it by following the steps in the *Hardware replacement* guide. If this message is not hardware related contact your technical support group.

BERR702 EXCH: Total threshold exceeded; vector=a, PC=b, fault addr=c

ACTION: If this message identifies faulty hardware, replace it by following the steps in the *Hardware replacement* guide. If this message is not hardware related contact your technical support group.

BERR703 EXCH: Total threshold exceeded; vector=a, PC=b

ACTION: If this message identifies faulty hardware, replace it by following the steps in the *Hardware replacement* guide. If this message is not hardware related contact your technical support group.

BERR704 EXCH x: a in ISR. SR=b, PC=c, Addr=d, SSW=e

ACTION: If this message identifies faulty hardware, replace it by following the steps in the *Hardware replacement* guide. If this message is not hardware related contact your technical support group.

BERR705 EXCH x: a in Task b. SR=c, PC=d, Addr=e, SSW=f

ACTION: If this message identifies faulty hardware, replace it by following the steps in the *Hardware replacement* guide. If this message is not hardware related contact your technical support group.

BERR800 IOP x y: IOP ERRZ reason register content: a

ACTION: If this message identifies faulty hardware, replace it by following the steps in the *Hardware replacement* guide. If this message is not hardware related contact your technical support group.

BERR801 IOP x y: IOP BIC detected an IPB data parity error

ACTION: If this message identifies faulty hardware, replace it by following the steps in the *Hardware replacement* guide. If this message is not hardware related contact your technical support group.

BERR802 IOP x y: IOP BIC detected a local data parity error

ACTION: If this message identifies faulty hardware, replace it by following the steps in the *Hardware replacement* guide. If this message is not hardware related contact your technical support group.

BERR803 IOP x y: Local IOP bus timer timed out

ACTION: If this message identifies faulty hardware, replace it by following the steps in the *Hardware replacement* guide. If this message is not hardware related contact your technical support group.

BERR804 IOP x y: IOP BIC received a local bus error

ACTION: If this message identifies faulty hardware, replace it by following the steps in the *Hardware replacement* guide. If this message is not hardware related contact your technical support group.

BERR805 IOP x y: IPB attempted an Event interrupt read

ACTION: If this message identifies faulty hardware, replace it by following the steps in the *Hardware replacement* guide. If this message is not hardware related contact your technical support group.

BERR806 IOP x y: Local IOP bus asserted priority request during an inbound cycle

ACTION: If this message identifies faulty hardware, replace it by following the steps in the *Hardware replacement* guide. If this message is not hardware related contact your technical support group.

BERR807 IOP x y: IPB attempted an unaligned IDProm access

ACTION: If this message identifies faulty hardware, replace it by following the steps in the *Hardware replacement* guide. If this message is not hardware related contact your technical support group.

BERR808 IOP x y: IPB attempted an unaligned Event interrupt

ACTION: If this message identifies faulty hardware, replace it by following the steps in the *Hardware replacement* guide. If this message is not hardware related contact your technical support group.

BERR809 IOP x y: IOP window is disabled

ACTION: If this message identifies faulty hardware, replace it by following the steps in the *Hardware replacement* guide. If this message is not hardware related contact your technical support group.

BERR810 IOP x y: Wrong IOP window size

ACTION: If this message identifies faulty hardware, replace it by following the steps in the *Hardware replacement* guide. If this message is not hardware related contact your technical support group.

BERR811 IOP x y: Wrong IOP substitution addr: a, addr should be: b

ACTION: If this message identifies faulty hardware, replace it by following the steps in the *Hardware replacement* guide. If this message is not hardware related contact your technical support group.

BERR812 IOP x y: Wrong IOP IPB match addr: a, addr should be: b

ACTION: If this message identifies faulty hardware, replace it by following the steps in the *Hardware replacement* guide. If this message is not hardware related contact your technical support group.

BERR813 IOP x y: Wrong IOP Top of Card addr: a, addr should be: b

ACTION: If this message identifies faulty hardware, replace it by following the steps in the *Hardware replacement* guide. If this message is not hardware related contact your technical support group.

BIC — Bus Interface Circuit

How the BIC works

Bus Interface Circuit is a resident program. BIC does not have an overlay load (LD) associated with it. For more information refer to *Software maintenance tools* in the *You should know this* chapter.

These messages are Test Failure messages for the Bus Interface Circuit (BIC) that provides the interfaces and protocols for the Inter-Processor Bus (IPB).

BIC messages

Back-filling messages with zeros

The numerical portion of the following messages is depicted by three or four digits. For example, the same message can be represented by xxx0008 or xxx008.

BIC000 x y: Register Read/Write/Verify test Failed

ACTION: Contact your technical support group.

BIC001 BIC/SRA interface IPBINT test failure

ACTION: Contact your technical support group.

BIC002 x y: BIC/SRA interface PARERR test failure

ACTION: Contact your technical support group.

BIC003 x y: Arbitration test failure

ACTION: Contact your technical support group.

BIC004 x y: IRQ test failure

ACTION: Contact your technical support group.

BIC005 x y: Timer test failure

ACTION: Contact your technical support group.

BIC006 x y: IOP Event interrupt test failure

ACTION: Contact your technical support group.

BIC007 x y: CP self event interrupt test failed

ACTION: Contact your technical support group.

BIC008 x y: Initial conditions failure

ACTION: Contact your technical support group.

BIC009 x y: Window Test failure

ACTION: Contact your technical support group.

BIC010 x y: Testing the ASIC

ACTION: Contact your technical support group.

BIC011 x y: Card failed one or more BIc Tests. Reseat or replace the failing card

ACTION: Contact your technical support group.

BRI — LD 27 Basic Rate Interface

Refer to the *maintenance input/output guide* for messages and descriptions.

Refer to ISDN Northern Telecom Publications for details.

BSD — LD 45 Background Signaling

In this chapter

Before changing circuit cards, be aware of the procedures outlined in the section titled *Do this when replacing circuit cards*, found in the *Hardware maintenance tools* chapter of this guide.

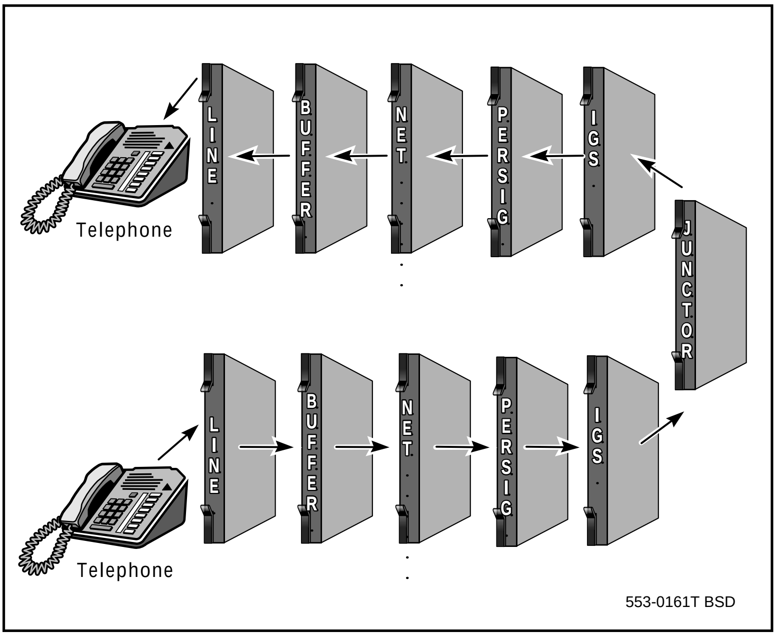
How the BSD works

Continuity tests

BSD performs continuity of speech path tests between the following:

network loops

- buffers
- line cards
- digital telephones
- Intergroup Switch (IGS)
- Clock Controller (CC) or System Clock Generator (SCG)
- Peripheral Signaling (PS)
- Segmented Bus Extenders (SBE) or Bus Extenders
- 3 Port Extenders (3PE)
- extender cables



After replacing any of the above listed components due to a suspected fault, run the continuity test to confirm the faults have been cleared.

Use LD 30 to test superloops.

Signaling test

The signaling test disables any digital telephone, terminal, console or card that fails. Passing a subsequent signaling test will automatically re-enable a failed device.

> ***Note:*** For systems running Release 15 and later, signaling tests are performed in LD 30. Include LD 30 if LD 45 is run as a background or midnight routine. Including LD 30, improves fault isolation as LD 30 detects network memory faults before LD 45 runs continuity tests.

Running LD 45 in the background mode

When run in the background, LD 45 performs the following on all enabled network loops:

- tests continuity of the speech path between each network card and its associated PE shelves
- tests continuity of the speech path between all network cards
- identifies non functioning paths between network cards

Note: When LD 45 is running in the background, only new faults are output.

BSD message makeup

BSD output messages indicate test problems and fall into three categories.

- interactive messages reporting non-admissible user input
- Peripheral Equipment messages reporting PE condition
- Network messages reporting network shelf equipment conditions

The commands apply to both regular networks and superloops in the following table:

BSD commands		
Command	**Description**	**Release**
LD 45 commands		
NSIG	Perform the network memory and continuity tests (Release 14 and earlier)	basic-1
TEST (loop)	Perform a complete continuity test for one or all loops Unplugged cards are not tested for continuity	basic-1
XINF	Display the tag numbers of all running and completed continuity tests	xpe-15
XSTA x	Get the status of a manual continuity test with TAG = x	xpe-15
XSTP x	Stop a manual continuity test with TAG = x	xpe-15

Manual Continuity Test

The Manual Continuity Test (MCT) allows you to isolate intermittent faulty points reported by the Background Continuity Test (BCT). For example, BCT reports faults between A, B, and C. Run the MCT between A and B, and then between B and C to determine how often the failure occurs.

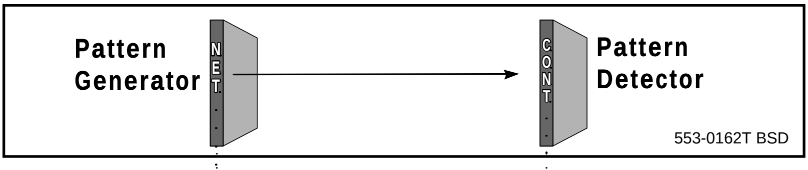
Manual Extended Continuity (XCON) test commands

The XCON command is used to test various communication paths on or between the following:

- NT8D04 Network
- NT8D01 Controller
- Multi-purpose ISDN Signaling Processor (MISP)
- S/T-Interface Line (SILC)
- U-Interface Line (UILC) cards

Only one XCON test at a time can be run on a superloop.

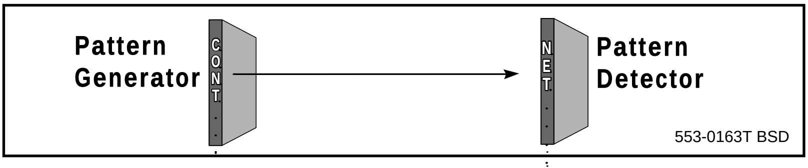
XCON Sub-prompts



TEST = 1 Network Card to Controller

	Enter one of the XCON commands shown at the left.	xpe-15
XCON 0	Perform test once and print out results	
XCON H hhh	Repeat Extended Continuity test for hhh hours (hhh = 1-255)	
XCON M mmm	Repeat Extended Continuity test for mmm minutes (mmm = 1-255)	
XCON S sss	Repeat Extended Continuity test for sss seconds (sss = 1-255)	
	This test uses the Network Card (NT8D04) as a pattern generator and the Controller (NT8D01) as the detector.	

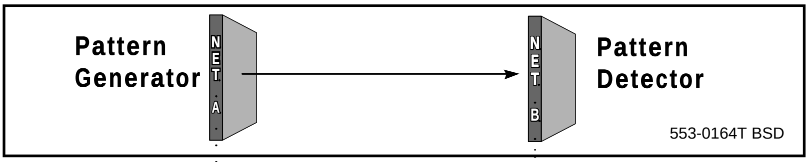
Prompt	Response	Description
TEST	`1`	Network Card to Controller
PATT	`x`	pattern (x = 0-7)
TYPG	`N`	Network Card is generator
SUPL	`loop`	0-156 in multiples of four
SLOT	`xxx`	timeslot 2-31, 34-63, 66-95, 98-127
TYPD	`P`	Controller is detector
TN	`l s c u`	valid TN on the Controller
TAG	`x`	tag number (1-15) assigned by the system



TEST = 2 Controller to Network Card

	Enter one of the XCON commands shown at the left.	xpe-15
XCON 0	Perform test once and print out results	
XCON H hhh	Repeat Extended Continuity test for hhh hours (hhh = 1-255)	
XCON M mmm	Repeat Extended Continuity test for mmm minutes (mmm = 1-255)	
XCON S sss	Repeat Extended Continuity test for sss seconds (sss = 1-255)	
	This test uses the Controller (NT8D01) as a pattern generator and the Network Card (NT8D04) as the detector.	

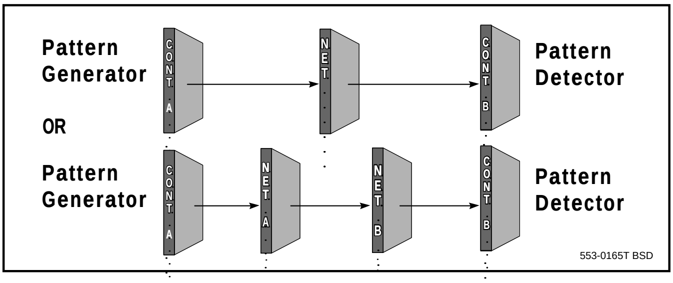
Prompt	Response	Description
TEST	2	Controller to Network Card
PATT	x	pattern (0-7)
TYPG	P	Controller is generator
TN	l s c u	valid TN on the Controller
TYPD	N	Network Card is detector
SUPL	loop	0-156 in multiples of four
SLOT	xxx	timeslot 2-31, 34-63, 66-95, 98-127
TAG	x	tag number (1-15) assigned by the system



TEST = 3 Network Card to different Network Card

	Enter one of the XCON commands shown at the left.	xpe-15
XCON 0	Perform test once and print out results	
XCON H hhh	Repeat Extended Continuity test for hhh hours (hhh = 1-255)	
XCON M mmm	Repeat Extended Continuity test for mmm minutes (mmm = 1-255)	
XCON S sss	Repeat Extended Continuity test for sss seconds (sss = 1-255)	
	This test uses the Network Card (NT8D04) as a pattern generator and another Network Card as the detector.	

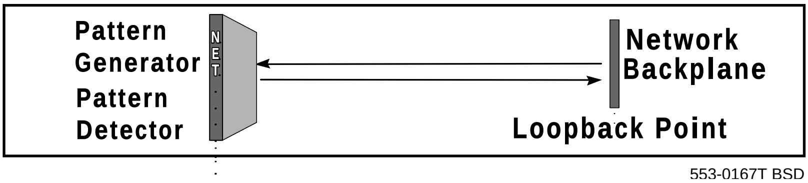
Prompt	Response	Description
TEST	3	Network Card to different Network Card
PATT	x	pattern (0-7)
TYPG	N	Network Card is generator
SUPL	loop	0-156 in multiples of four
SLOT	xxx	timeslot 2-31, 34-63, 66-95, 98-127
TYPD	N	Network Card is detector
SUPL	loop	0-156 in multiples of four
SLOT	xxx	timeslot 2-31, 34-63, 66-95, 98-127



TEST = 4 Controller to different Controller

	Enter one of the XCON commands shown at the left.	xpe-15
XCON 0	Perform test once and output results	
XCON H hhh	Repeat Extended Continuity test for hhh hours (hhh = 1-255)	
XCON M mmm	Repeat Extended Continuity test for mmm minutes (mmm = 1-255)	
XCON S sss	Repeat Extended Continuity test for sss seconds (sss = 1-255)	
	This test uses a Controller (NT8D01) as a pattern generator and another Controller as a detector. The pattern is sent through one or two Network Cards (NT8D04).	

Prompt	Response	Description
TEST	4	Network Card to Controller
PATT	x	pattern (0-7)
TYPG	P	Controller is generator
TN	l s c u	valid TN on the Controller
TYPD	P	Controller is detector
TN	l s c u	valid TN on the Controller
GSLT	xxx	timeslot 2-31, 34-63, 66-95, 98-127 on generator Network Card
DSLT	xxx	timeslot 2-31, 34-63, 66-95, 98-127 on detector Network card
JUNC	x	junctor if Network cards in different groups
TAG	x	tag number (1-15) assigned by the system

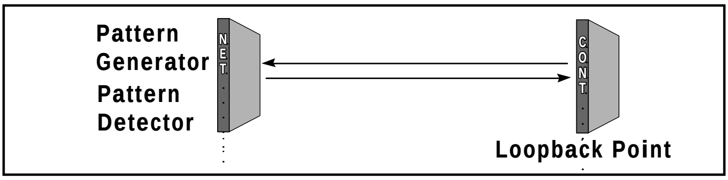


553-0167T BSD

TEST = 5 Network Card to Network Card (loopback at backplane)

	Enter one of the XCON commands shown at the left.	xpe-15
XCON 0	Perform test once and print out results	
XCON H hhh	Repeat Extended Continuity test for hhh hours (hhh = 1-255)	
XCON M mmm	Repeat Extended Continuity test for mmm minutes (mmm = 1-255)	
XCON S sss	Repeat Extended Continuity test for sss seconds (sss = 1-255)	
	This test uses the Network Card (NT8D04) as a pattern generator and detector. The pattern is sent to the network backplane and back.	

Prompt	Response	Description
TEST	5	Network Card to Network Card (loop back at backplane)
PATT	x	pattern (0-7)
TYPG	N	Network Card is generator
SUPL	loop	0-156 in multiples of four
SLOT	xxx	timeslot 2-31, 34-63, 66-95, 98-127
TYPD	N	Network Card is detector
SUPL	loop	0-156 in multiples of four
SLOT	xxx	timeslot 2-31, 34-63, 66-95, 98-127
LBTY	N	through network backplane
TAG	x	tag number (1-15) assigned by the system

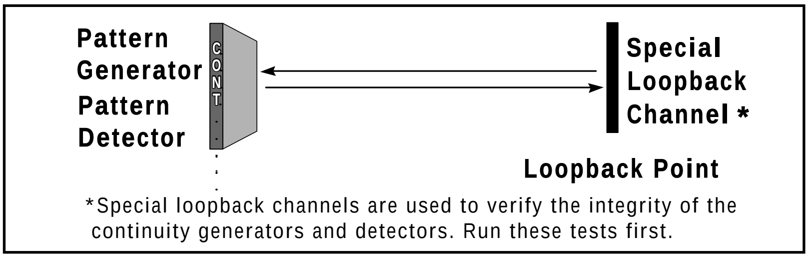


553-0168T BSD

TEST = 6
Network Card to Network Card (loopback through Controller)

	Enter one of the XCON commands shown at the left.	xpe-15
XCON 0	Perform test once and print out results	
XCON H hhh	Repeat Extended Continuity test for hhh hours (hhh = 1-255)	
XCON M mmm	Repeat Extended Continuity test for mmm minutes (mmm = 1-255)	
XCON S sss	Repeat Extended Continuity test for sss seconds (sss = 1-255)	
	This test uses the Network Card (NT8D04) as a pattern generator and detector.	

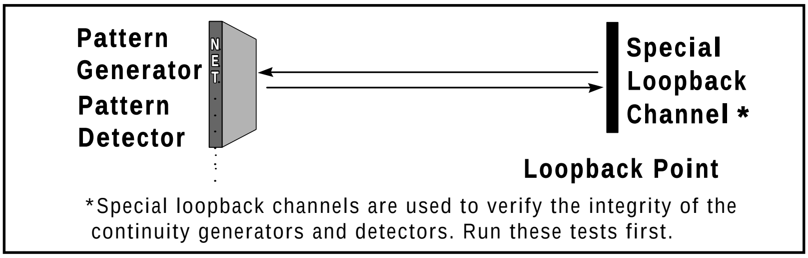
Prompt	Response	Description
TEST	6	Network Card to Network Card (loop back through Controller)
PATT	x	pattern (0-7)
TYPG	N	Network Card is generator
SUPL	loop	0-156 in multiples of four
SLOT	xxx	timeslot 2-31, 34-63, 66-95, 98-127
TYPD	N	Network Card is detector
		0-156 in multiples of four
SLOT	xxx	timeslot 2-31, 34-63, 66-95, 98-127
LBTY	P	through Controller
LBTN	l s 99 0	valid TN on the Controller
TAG	x	tag number (1-15) assigned by the system



TEST = 7 Controller to Controller (special loopback channel)

	Enter one of the XCON commands shown at the left.	xpe-15
XCON 0	Perform test once and print out results	
XCON H hhh	Repeat Extended Continuity test for hhh hours (hhh = 1-255)	
XCON M mmm	Repeat Extended Continuity test for mmm minutes (mmm = 1-255)	
XCON S sss	Repeat Extended Continuity test for sss seconds (sss = 1-255)	
	This test uses the Controller (NT8D01) as a pattern generator and detector. The pattern is looped back through a special loop back channel.	

Prompt	Response	Description
TEST	7	Controller to Controller (special loop back channel)
PATT	x	pattern (0-7)
TYPG	N	Controller is generator
TN	l s 99 0	special Controller loop back channel
TAG	x	tag number (1-15) assigned by the system



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TEST = 8 Network Card to Network Card (special loopback channel)

	Enter one of the XCON commands shown at the left.	xpe-15
XCON 0	Perform test once and print out results	
XCON H hhh	Repeat Extended Continuity test for hhh hours (hhh = 1-255)	
XCON M mmm	Repeat Extended Continuity test for mmm minutes (mmm = 1-255)	
XCON S sss	Repeat Extended Continuity test for sss seconds (sss = 1-255)	
	This test uses the Network Card (NT8D04) as a pattern generator and detector. The pattern is looped back through a special channel which is specified by timeslot 128.	

Prompt	Response	Description
TEST	8	Network Card to Network Card (special loop back channel)
PATT	x	pattern (0-7)
TYPG	N	Network Card is generator
SUPL	loop	0-156 in multiples of four
SLOT	128	special Network loop back channel
TAG	x	tag number (1-15) assigned by the system

TEST = 9 Loop back test on Digital Subscriber Loop		
	Enter one of the XCON commands shown at the left.	xpe-15
XCON 0	Perform test once and print out results	
XCON H hhh	Repeat Extended Continuity test for hhh hours (hhh = 1-255)	
XCON M mmm	Repeat Extended Continuity test for mmm minutes (mmm = 1-255)	
XCON S sss	Repeat Extended Continuity test for sss seconds (sss = 1-255)	
	This test uses the MISP as a pattern generator and detector. The pattern goes through the Network and Controller Card and is looped back at a single DSL. Both B- and D-channels are looped back.	

Prompt	Response	Description
TEST	9	Loop back test on Digital Subscriber Loop
PATT	x	pattern (0-7)
TYPG	N	Network Card is generator
SUPL	loop	0-156 in multiples of four
SLOT	128	special Network loop back channel
LBTY	3	DSL is requested for loop back
LBTN	l s c u	address of DSL
TAG	x	tag number (1-15) assigned by the system

TEST = 10 Loop back test on BRI line card		
	Enter one of the XCON commands shown at the left.	xpe-15
XCON 0	Perform test once and print out results	
XCON H hhh	Repeat Extended Continuity test for hhh hours (hhh = 1-255)	
XCON M mmm	Repeat Extended Continuity test for mmm minutes (mmm = 1-255)	
XCON S sss	Repeat Extended Continuity test for sss seconds (sss = 1-255)	
	This test uses the MISP as a pattern generator and detector. The pattern goes through the Network and Controller Card and is looped back at the line card level (for example, bus loop back). Both B- and D-channels are looped back.	

Prompt	Response	Description
TEST	`10`	Loop back test on BRI line card
PATT	`x`	pattern (0-7)
TYPG	`5`	MISP is generator
SUPL	`loop`	0-156 in multiples of four
SLOT	`128`	special Network loop back channel
LBTY	`4`	loop back at line card
LBTN	`l s c d`	address of DSL
TAG	`x`	g number (1-15) assigned by the system

Using the BSD message table to clear faults

To clear faults detected by the Background and Signaling Diagnostic, use the overlay loads located outside this chapter. To solve database programing errors, the action column in the BSD Message table in this chapter refers you to overlay loads in the *administration input/output guide*. For hardware faults, the action column refers you to diagnostic overlays found in this guide.

BSD messages

BSD000

The BSD program is loaded and ready for you to enter commands.

ACTION: Enter a command.

BSD001

Invalid command.

ACTION: Check to make sure your data is correct and re-enter the command.

BSD002

An attempt was made to enter a command while a previous TEST command was still being executed. The new command is ignored.

ACTION: Information only, no action required.

BSD020 c

During execution of a TEST command, the program detected an input buffer overflow of Peripheral Signaling (PS) card **c**, for instance some incoming signaling messages were lost. The signaling test was terminated.

ACTION: Retry TEST command. This message does not indicate a fault.

BSD021 c

During a requested test of Peripheral Signaling (PS) card **c**, a large number of SL-1 line faults were detected, but the program did not have sufficient memory space available to it to record all these faults. Test of card c was terminated. This message does not necessarily imply a PS card fault. Refer to the *CED* chapter to locate Peripheral Signaling circuitry that can be combined with other circuitry on one card.

ACTION: Retry the TEST command. If the same message appears, use STAT PER in LD 32 to get the status of the PS card(s). Enable any disabled PS card(s) and run TEST in LD 45 to verify that the fault is cleared. If the PS card(s) does not enable and the fault does not clear, replace the PS card(s) by following the steps in the *Hardware replacement* guide. Verify that the fault is cleared. If you need help with the commands or system responses refer to the *IGS* or *NPR* chapter in this guide.

BSD022

During execution of a TEST command, the continuity test procedure encountered an “all channels busy” condition. One or more of the continuity tests were not performed.

ACTION: Re-enter the TEST command later. This message does not indicate a visit.

BSD023 loop

During execution of a TEST command, a message request generating/detecting patterns is not able to be sent to the NT8D04 network card **loop**.

ACTION: Re-enter the command.

BSD024 loop

During execution of a TEST command, cannot query the continuity test result of the NT8D04 network card **loop**.

ACTION: Re-enter the command.

BSD080 c: s1 s2 sn

The program has switched to CPU **c**; when this CPU is active. IGS card(s) **s1, s2**, etc. either do not respond or fail the memory test.

Start at the first or most likely cause and go down the list until the fault is cleared. If the fault does not clear, call your technical support group.

1. Compare lists of IGS cards with the corresponding list for the following BSD080 and BSD082 message. If the same IGS appears in both, the fault is likely on the IGS card indicated in the message.

ACTION: Use STAT IGS x in LD 39 to get the status of the IGS card(s). Use ENL IGS x in LD 39 to enable any disabled IGS cards and run TEST in LD 45 to verify that the fault is cleared. If the IGS card(s) does not enable and the fault does not clear, replace the IGS card(s) by following the steps in the *Hardware replacement* guide. Verify that the fault is cleared. If you need help with the commands or system responses refer to the *IGS* chapter in this guide.

2. If an IGS designation appears in this BSD080 message only, or if there is no BSD082 message, the fault can be on the CE EXT connecting CPU c to the Network Shelf. The CPU could not access the IGS because the extenders between them are faulty.

ACTION: Use STAT EXT in LD 35 to get the status of the Segmented Bus Extender card or 3 Port Extender card. Use ENL EXT x in LD 35 to enable any disabled extenders and run TEST in LD 45 to verify that the fault is cleared. If the extender card does not enable and the fault does not clear, replace the extender card(s) by following the steps in the *Hardware replacement* guide. Verify that the fault is cleared. If you need help with the commands or system responses refer to the *CED* chapter in this guide.

BSD081 c: loop1 loop2 loop n

The program has switched to CPU **c**: when this CPU is active, Network **loop1**, **loop2**, etc. either do not respond or fail the memory test.

Start at the first or most likely cause and go down the list until the fault is cleared. If the fault does not clear, call your technical support group.

1. Compare the list of network **loop**s with the corresponding list for a BSD083 message. If the same network loop appears in both BSD081 and BSD083, then the network card for the indicated loop can be faulty.

ACTION: Use STAT l in LD 32 to get the status of the loops. Use ENLL l in LD 32 to enable the loops and run TEST in LD 45 to verify that the fault is cleared. If that loop does not enable and the fault does not clear, replace the Network card(s) by following the steps in the *Hardware replacement* guide. Verify that the fault is cleared. If you need help with the commands or system responses refer to the *NPR* chapter in this guide.

2. If no network card on a particular network shelf responds, suspect a or b or c as follows:

a) The IGS card, as indicated in the message, can be faulty.

ACTION: Use STAT IGS x in LD 39 to get the status of IGS cards. Use ENL IGS x in LD 39 to enable any disabled IGS cards and run TEST in LD 45 to verify that the fault is cleared. If the IGS card does not enable and the fault does not clear, replace the IGS card(s) by following the steps in the *Hardware replacement* guide. Verify that the fault is cleared. If you need help with the commands or system responses refer to the *IGS* chapter in this guide.

b) The cable, connecting the IGS card to the junctor, as indicated in the message, can be faulty.

ACTION: Replace the cable between the IGS card and the junctor by following the steps in the *Hardware replacement* guide. Run TEST in LD 45 to verify that the fault is cleared. If you need help with the commands or system responses refer to the *IGS* chapter in this guide.

c) The Peripheral Signaling card for the shelf indicated in the message, can be faulty. Refer to the *CED* chapter in this guide, to locate Peripheral Signaling circuitry that can be combined with other circuitry on one card.

ACTION: Use STAT PER x in LD 32 or LD 39 to get the status of the PS cards. Use ENPS x in LD 32 to enable PS and run TEST in LD 45 to verify that the fault is cleared. If PS card does not enable and fault does not clear, replace the PS card(s) by following the steps in the *Hardware replacement* guide. Verify that the fault is cleared. If you need help with the commands or system responses refer to the *IGS* or *NPR* chapter in this guide.

3. If Clock Controller 0 is active to shelf 0 suspect a or b as follows.

a) The Clock Controller cable can be faulty.

ACTION: Replace the cable between the SCC card and the junctor by following steps in the *Hardware replacement* guide. Run TEST in LD 45 to verify that the fault is cleared. If you need help with the commands or system responses refer to the *IGS* chapter in this guide.

b) The cable between the network card and the Peripheral Buffer card, can be faulty.

ACTION: Replace the cable between PB card and Network card by following steps in the *Hardware replacement* guide. Run TEST in LD 45 to verify that the fault is cleared. If you need help with the commands or system responses refer to the *NPR* chapter in this guide.

4. If a network loop message appears in BSD081 only, or if no BSD083 message follows, the probable fault is on CE EXT connecting the CPU c to the Network Shelf.

ACTION: Use STAT EXT in LD 35 to get the status of the Segmented Bus Extender card and the 3 Port Extender card. Use ENL EXT x in LD 35 to enable the extender pair and run TEST in LD 45 to verify that the fault is cleared. If the extenders do not enable and the fault does not clear, replace the extender card(s) by following the steps in the *Hardware replacement* guide. Verify that the fault is cleared. If you need help with the commands or system responses refer to the *CED* chapter in this guide.

BSD082 c: s1 s2 sn

The program has switched CPUs and CPU **c** has become the nonactive CPU. When CPU N was active prior to the switch, IGS cards **s1**, **s2** etc. either did not respond or failed the memory test.

Start at the first or most likely cause and go down the list until the fault is cleared. If the fault does not clear, call your technical support group.

1. Compare the list of IGS card with the corresponding list for the preceding BSD080 message. If the same IGS card appears in both lists, the fault can be on the IGS card.

ACTION: Use STAT IGS x in LD 39 to get the status of the IGS card(s). Use ENL IGS x in LD 39 to enable any disabled IGS card(s) and run TEST in LD 45 to verify that the fault is cleared. If the IGS card does not enable and the fault does not clear, replace the IGS card(s) by following the steps in the *Hardware replacement* guide. Verify that the fault is cleared. If you need help with the commands or system responses refer to the *IGS* chapter in this guide.

2. If an IGS card appears in the message list for BSD082 only, or if no BSD080 message is present, suspect a or b as follows:

a) Any CE EXT connecting the network shelf on which the indicated network card is located, to the nonactive CPU.

ACTION: Use STAT EXT in LD 35 to get the status of the Segmented Bus Extender card and the 3 Port Extender card. Use ENL EXT x in LD 35 to enable the extender pair and run TEST in LD 45 to verify that the fault is cleared. If the extenders do not enable and the fault does not clear, replace the extender card(s) by following the steps in the *Hardware replacement* guide. Verify that the fault is cleared. If you need help with the commands or system responses refer to the *CED* chapter in this guide.

b) The cable, connecting the CE EXT to the network shelf on which the indicated network card is located, can be faulty.

ACTION: Replace the cable between the two extenders. Use ENL EXT x in LD 35 to enable the extender pair and run TEST in LD 45 to verify that the fault is cleared. If the extenders do not enable and the fault does not clear, replace the extender card(s) by following the steps in the *Hardware replacement* guide. Verify that the fault is cleared. If you need help with the commands or system responses refer to the *CED* chapter in this guide.

BSD083 c: loop1, loop2, loopn

The program has switched CPUs and CPU **c** is now the nonactive CPU. When CPU **c** was active prior to the switch, network **loop1**, **loop2**, etc. either did not respond or failed the memory test.

Start at the first or most likely cause and go down the list until the fault is cleared. If the fault does not clear, call your technical support group.

1. Compare the list of network **loop**s with the corresponding list for following the BSD083 message. If the same network card appears in both lists, then the network card for the indicated loop can be faulty.

ACTION: Use STAT l in LD 32 to get the status of the loops. Use ENLL l in LD 32 to enable loops and run TEST in LD 45 to verify that the fault is cleared. If the loop does not enable and the fault does not clear, replace the Network card(s) by following the steps in the *Hardware replacement* guide. Verify that the fault is cleared. If you need help with the commands or system responses refer to the *NPR* chapter in this guide.

2. If no network card on a particular network shelf responds, the fault can be a or b or c as follows:

a) The IGS on the network shelf can be faulty.

ACTION: Use STAT IGS x in LD 39 to get the status of the IGS cards. Use ENL IGS x in LD 39 to enable any disabled IGS cards, and run TEST in LD 45 to verify that the fault is cleared. If the IGS card does not enable and the fault does not clear, replace the IGS card(s) by following the steps in the *Hardware replacement* guide. Verify that the fault is cleared. If you need help with the commands or system responses refer to the *IGS* chapter in this guide.

b) The cable connecting the IGS to the network group, can be faulty.

ACTION: Replace the cable between the IGS card and the junctor by following the steps in the *Hardware replacement* guide. Run TEST in LD 45 to verify that the fault is cleared. If you need help with the commands or system responses refer to the *NPR* chapter in this guide.

c) The Peripheral Signaling card for the shelf, can be faulty. Refer to the CED chapter to locate Peripheral Signaling circuitry that can be combined with other circuitry on one card.

ACTION: Use STAT PER x in LD 32 or LD 39 to get the status of the PS card. Use ENPS x in LD 32 to enable the PS and run TEST in LD 45 to verify that the fault is cleared. If the PS card does not enable and the fault does not clear, replace the PS card by following the steps in the *Hardware replacement* guide. Verify that the fault is cleared. If you need help with the commands or system responses refer to the *IGS* or *NPR* chapter in this guide.

3. If System Clock Controller 0 is active to shelf 0 the fault can be a or b or c as follows:

a) The SCC to the junctor board cable can be faulty.

ACTION: Replace the cable between the SCC card and the junctor by following the steps in the *Hardware replacement* guide. Run TEST in LD 45 to verify that the fault is cleared. If you need help with the commands or system responses refer to the *IGS* chapter in this guide.

b) The cable between the network card and the Peripheral Buffer card, can be faulty.

ACTION: Replace the cable between the PB card and the Network card, by following steps in the *Hardware replacement* guide. Run TEST in LD 45 to verify that the fault is cleared. If you need help with the commands or system responses refer to the *NPR* chapter in this guide.

c) The cable between the Peripheral Buffer cards, can be faulty.

ACTION: Replace the cable between the PB cards by following the steps in the *Hardware replacement* guide. Run TEST in LD 45 to verify that the fault is cleared. If you need help with the commands or system responses, refer to the *NPR* chapter in this guide.

4. If a network card appears in the message list for BSD083 only, or if there is no BSD081 message preceding, the probable fault can be a or b or c as follows.

a) Any CE EXT connecting the network shelf to the nonactive CPU, on which the indicated network card is located, can be faulty.

ACTION: Check for BSD081 message. Use STAT EXT in LD 35 to get the status of the Segmented Bus Extender card and 3 Port Extender card. Use ENL EXT x in LD 35 to enable the extender pair and run TEST in LD 45 to verify that the fault is cleared. If the extenders do not enable and the fault does not clear, replace the extender card(s) by following the steps in the *Hardware replacement* guide. Verify that the fault is cleared. If you need help with the commands or system responses refer to the *CED* chapter in this guide.

b) The cable connecting the CE EXT to the network shelf on which the indicated network card is located, can be faulty.

ACTION: Replace the cable between the two extenders. Use ENL EXT x in LD 35 to enable the extender pair and run TEST in LD 45 to verify that the fault is cleared. If the extenders do not enable and the fault does not clear, replace the extender card(s) by following the steps in the *Hardware replacement* guide. Verify that the fault is cleared. If you need help with the commands or system responses refer to the *CED* chapter in this guide.

BSD085

A possible CMA card fault.

ACTION: Use STAT CMA x in LD 35 to get the status of the CMA cards. Use ENL CMA x in LD 35 to enable CMA and run TEST in LD 45 to verify that the fault is cleared. If the CMA card does not enable and the fault does not clear, replace the CMA card by following the steps in the *Hardware replacement* guide. Verify that the fault is cleared. If you need help with the commands or system responses refer to the *CED* chapter in this guide.

BSD086 c

A possible CMA card fault.

ACTION: Use STAT CMA x in LD 35 to get the status of the CMA cards. Use ENL CMA x in LD 35 to enable CMA and run TEST in LD 45 to verify that the fault is cleared. If the CMA card does not enable and the fault does not clear, replace the CMA card by following the steps in the *Hardware replacement* guide. Verify that the fault is cleared. If you need help with the commands or system responses refer to the *CED* chapter in this guide.

BSD090

The program has detected a power fault indication.

ACTION: Check the QPC84 power monitor LED indicators. If you need help, refer to the *PWR* chapter in this guide.

BSD101 p: loop1, loop2, loopn

The **loop1, loop2**, etc. on the same Peripheral Signaling card **p**, all fail the signaling test. Error code BSD201 is implied for these loops. Refer to the *CED* chapter to locate Peripheral Signaling circuitry that can be combined with other circuitry on one card.

Start at the first or most likely cause and go down the list until the fault is cleared. If the fault does not clear, call your technical support group.

1. The probable fault is the PS card, which is located on the same shelves as **loop1, loop2**, etc.

ACTION: Use STAT PER x in LD 32 or LD 39 to get the status of the PS cards. Use ENPS x in LD 32 to enable PS and run TEST in LD 45 to verify that the fault is cleared. If the PS card does not enable and the fault does not clear, replace the PS card(s) by following the steps in the *Hardware replacement* guide. Verify that the fault is cleared. If you need help with the commands or system responses refer to the *IGS* or *NPR* chapter in this guide.

2. If the fault persists after the PS card is replaced, suspect a or b or c as follows.

a) The Miscellaneous Register card or IF card on the active CPU, can be faulty. Refer to the *CED* chapter to locate the Miscellaneous Register circuitry that can be combined with other circuitry on one card.

ACTION: Indiscriminate use of the following test command, especially during heavy telephone traffic periods, can cause the system to reload. Use TCPU in LD 35 to test the idle MISC circuitry or IF card. If the MISC circuitry or the IF card does not pass the test or the fault does not clear, replace it by following the steps in the *Hardware replacement* guide. Run TEST in LD 45 to verify that the fault is cleared. If you need help with the commands or system responses refer to the *CED* chapter in this guide.

b) The IGS cards located on the same shelves as **loop1**, **loop2**, etc., can be faulty.

ACTION: Use STAT IGS x in LD 39 to get the status of IGS cards. Use ENL IGS x in LD 39 to enable any disabled IGS cards and run TEST in LD 45 to verify that the fault is cleared. If the IGS card does not enable and the fault does not clear, replace the IGS card(s) by following the steps in the *Hardware replacement* guide. Verify that the fault is cleared. If you need help with the commands or system responses refer to the *IGS* chapter in this guide.

c) The network cards of **loop1**, **loop2**, etc., can be faulty.

ACTION: Use STAT l in LD 32 to get the status of the loops. Use ENLL l in LD 32 to enable loops and run TEST in LD 45 to verify that the fault is cleared. If the loop does not enable and the fault does not clear, replace the Network card(s) by following the steps in the *Hardware replacement* guide. Verify that the fault is cleared. If you need help with the commands or system responses refer to the *NPR* chapter in this guide.

d) The CE EXT connecting the active CPU to the affected PS card, can be faulty.

ACTION: Check and replace the Segmented Bus Extender card or the 3 Port Extender card by following the steps in the *Hardware replacement* guide. If this fails check the cable between the two extenders associated with the standby CPU and the network shelf, where the IGS card indicated in the message is located. Run TEST in LD 45 to verify that the fault is cleared. If you need help with the commands or system responses refer to the *CED* chapter in this guide.

e) Other network, conference or tone and digit switch (TDS) cards on the same shelf, can be faulty.

ACTION: Use STAT l in LD 32 to get the status of the network loops. STAT L of LD 34 for TDS loops and STAT L of LD 38 for conference loops. Use ENLL l in LD 32 to enable network loops, ENLL L of LD 34 for TDS loops, and ENLL L of LD 38 for conference loops. Run TEST in LD 45 to verify that the fault is cleared. If the loop does not enable and the fault does not clear, replace the card(s) by following the steps in the *Hardware replacement* guide. Verify that the fault is cleared. If you need help with the commands or system responses refer to the following chapters:

- the *NPR* chapter for network assistance
- the *TDS* chapter for tone and digit switch assistance
- the *CFN* chapter for conference assistance

BSD103 p

A fault is detected on outgoing signaling on peripheral signaling card **p**. Issue the TEST command several times. If this code reappears, PS card **p** is probably faulty. Refer to the *CED* chapter to locate Peripheral Signaling circuitry that can be combined with other circuitry on one card.

Start at the first or most likely cause and go down the list until the fault is cleared. If the fault does not clear, call your technical support group.

1. If the fault persists after the PS card is replaced as follows, then suspect a.

ACTION: Use STAT PER x in LD 32 or LD 39 to get the status of the PS cards. Use ENPS x in LD 32 to enable the PS card and run TEST in LD 45 to verify that the fault is cleared. If the PS card does not enable and the fault does not clear, replace the PS card(s) by following the steps in the *Hardware replacement* guide. Verify that the fault is cleared. If you need help with the commands or system responses refer to the *IGS* or *NPR* chapter in this guide.

a) The Miscellaneous Register card or IF card on the active CPU, can be faulty. Refer to the *CED* chapter to locate Miscellaneous Register circuitry that can be combined with other circuitry on one card.

ACTION: Indiscriminate use of the following test command, especially during heavy telephone traffic periods, can cause the system to reload. Use TCPU in LD 35 to test the idle MISC circuitry or IF card. If the MISC circuitry or the IF card does not pass the test or the fault does not clear, replace it by following the steps in the *Hardware replacement* guide. Run TEST in LD 45 to verify that the fault is cleared. If you need help with the commands or system responses refer to the *CED* chapter in this guide.

2. If the fault indication appears when one CPU is active but not when the other is active and the fault affects only one group, the probable fault is either a or b or c.

a) The CE EXT connecting the affected group to the CPU which is active when the fault indication appears, can be faulty.

ACTION: Check and replace the Segmented Bus Extender card or the 3 Port Extender card by following the steps in the *Hardware replacement* guide. If this fails, check the cable between the two extenders associated with the standby CPU and the network shelf where the IGS card indicated in the message is located. Run TEST in LD 45 to verify that the fault is cleared. If you need help with the commands or system responses refer to the *CED* chapter in this guide.

b) The cable between the extenders or other CE EXT, can be faulty.

ACTION: Replace the cable between the two extenders. Use ENL EXT x in LD 35 to enable the extender pair and run TEST in LD 45 to verify that the fault is cleared. If the extenders do not enable and fault does not clear, replace the extender card(s) by following the steps in the *Hardware replacement* guide. Verify that the fault is cleared. If you need help with the commands or system responses refer to the *CED* chapter in this guide.

c) Other PS card(s) can be faulty.

ACTION: Use STAT PER in LD 32 to get the status of the PS cards. Enable any disabled PS card(s) and run TEST in LD 45 to verify that the fault is cleared. If the PS card does not enable and the fault does not clear replace the PS card(s) by following the steps in the

Hardware replacement guide. Run TEST in LD 45 to verify that the fault is cleared. If you need help with the commands or system responses refer to the *IGS* or *NPR* chapter in this guide.

BSD110 loop1, **loop2**, **loopn**

The **loop1**, **loop2**, etc. are unable to transmit speech to any loop on the other network shelf of that group.

Start at the first or most likely cause and go down the list until the fault is cleared. If the fault does not clear, call your technical support group.

1. If there is only one terminal loop on the other shelf, the associated network card can be faulty.

ACTION: Use STAT l in LD 32 to get the status of the loops. Use ENLL l in LD 32 to enable loops and run TEST in LD 45 to verify that the fault is cleared. If the loop does not enable and the fault does not clear, replace the Network card(s) by following the steps in the *Hardware replacement* guide. Verify that the fault is cleared. If you need help with the commands or system responses refer to the *NPR* chapter in this guide.

2. If only one loop, for instance, **loop1** appears in the list, there can be a possible intermittent fault in the network for loop **loop1**.

ACTION: Use STAT l in LD 32 to get the status of the loops. Use ENLL l in LD 32 to enable loops and run TEST in LD 45 to verify that the fault is cleared. If the loop does not enable and the fault does not clear, replace the Network card(s) by following the steps in the *Hardware replacement* guide. Verify that the fault is cleared. If you need help with the commands or system responses refer to the *NPR* chapter in this guide.

3. If only one loop, for instance, **loop1** appears in the list, there is the possibility of an intermittent fault in one of the Peripheral Buffers or Controllers connected to **loop1**. Replacement of these cards should be attempted starting with the one on the highest numbered PE shelf of the loop.

a) One of the Peripheral Buffers or Controllers can be faulty.

ACTION: Use STAT l s in LD 32 to get the status of the Peripheral Buffer or Controller on loop1. Enable any disabled PB card. Run TEST in LD 45 to verify that the fault is cleared on the PB. Enable any disabled PB card. Use LD 32 XPCT x to test the controller card, or un-seat and re-seat the controller card to run a self-test to verify that the fault is cleared. Refer to the *NPR* chapter for test results as shown on the controller faceplate display.

4. Cables **a** or **b** can be faulty.

a) The cable between the network card and the Peripheral Buffer, can be faulty.

ACTION: Replace the cable between the PB card and Network card following steps in the *Hardware replacement* guide. Run TEST in LD 45 to verify that the fault is cleared. If you need help with the commands or system responses refer to the *NPR* chapter in this guide.

b) The cable between the Controller and the Superloop can be faulty.

ACTION: Replace the cable between the Controller backplane and the Superloop by following the steps in the *Hardware replacement* guide. Run TEST in LD 45 to verify that the fault is cleared. If you need help with the commands or system responses, refer to the *NPR* chapter in this guide.

5. The network card of **loop1**, **loop2**, for example, can be faulty.

ACTION: Use STAT l in LD 32 to get the status of the loops. Use ENLL l in LD 32 to enable loops and run TEST in LD 45 to verify that the fault is cleared. If the loop does not enable and the fault does not clear, replace the Network card(s) by following the steps in the *Hardware replacement* guide. Verify that the fault is cleared. If you need help with the commands or system responses refer to the *NPR* chapter in this guide.

6. The CE extenders cards can be faulty.

ACTION: Check and replace the Segmented Bus Extender card or the 3 Port Extender card by following the steps in the *Hardware replacement* guide; or the cable between the two extenders associated with the standby CPU and the network shelf, where the IGS card indicated in the message is located. Run TEST in LD 45 to verify that the fault is cleared. If you need help with the commands or system responses refer to the *CED* chapter in this guide.

7. The PS cards can be faulty. Refer to the *CED* chapter to locate Peripheral Signaling circuitry that can be combined with other circuitry on one card.

ACTION: Use STAT PER x in LD 32 or LD 39 to get the status of the PS cards. Use ENPS x in LD 32 to enable PS and run TEST in LD 45 to verify that the fault is cleared. If the PS card does not enable and the fault does not clear, replace the PS card(s) by following the steps in the *Hardware replacement* guide. Verify that the fault is cleared. If you need help with the commands or system responses refer to the *IGS* or *NPR* chapter in this guide.

8. The CFN cards can be faulty.

ACTION: Use STAT L in LD 34 to get the status of the conference loops. Use ENLL l in LD 34 to enable loops and run TEST in LD 45 to verify that the fault is cleared. If the loop does not enable and the fault does not clear, replace the Network card(s) by following the steps in the *Hardware replacement* guide. Verify that the fault is cleared. If you need help with the commands or system responses refer to the *CFN* chapter in this guide.

9. The TDS cards can be faulty.

ACTION: Use STAT L in LD 38 to get the status of the TDS loops. Use ENLL l in LD 38 to enable loops and run TEST in LD 45 to verify that the fault is cleared. If the loop does not enable and the fault does not clear, replace the Network card(s) by following the steps in the *Hardware replacement* guide. Verify that the fault is cleared. If you need help with the commands or system responses refer to the *TDS* chapter in this guide.

10. The IGS cards can be faulty.

ACTION: Use STAT IGS x in LD 39 to get the status of the IGS cards. Use ENL IGS x in LD 39 to enable any disabled IGS cards and run TEST in LD 45 to verify that the fault is cleared. If the IGS card does not enable and the fault does not clear, replace the IGS card(s) by following the steps in the *Hardware replacement* guide. Verify that the fault is cleared. If you need help with the commands or system responses refer to the *IGS* chapter in this guide.

11. The CPU cards can be faulty.

ACTION: Indiscriminate use of the TCPU command, especially during heavy telephone traffic periods, can cause the system to reload.

Use TCPU in LD 35 to test the idle MISC circuitry or IF card. If the MISC circuitry or the IF card does not pass the test, or the fault does not clear, replace it by following the steps in the *Hardware replacement* guide. Run TEST in LD 45 to verify that the fault is cleared. If you need help with the commands or system responses refer to the *CED* chapter in this guide.

BSD111 g: loop1, **loop2**, **loopn**

The **loop1**, **loop2**, for example of group **g** could not transmit to any other group. The probable fault is on the IGS cards in group **g**.

ACTION: Use STAT IGS x in LD 39 to get the status of IGS cards. Use ENL IGS x in LD 39 to enable any disabled IGS cards and run TEST in LD 45 to verify that the fault is cleared. If the IGS card does not enable and the fault does not clear, replace the IGS card(s) by following the steps in the *Hardware replacement* guide. Verify that the fault is cleared. If you need help with the commands or system responses refer to the *IGS* chapter in this guide.

BSD121 g: j1 j2 jn

Junctors **j1, j2**, etc. could be received by only one of the two network shelves of group **g**. The probable fault is in the cables between the Junctor board and the Intergroup Switch.

ACTION: Replace the cable between the IGS card and the junctor by following the steps in the *Hardware replacement* guide. Run TEST in LD 45 to verify that the fault is cleared. If you need help with the commands or system responses refer to the *IGS* chapter in this guide.

BSD130 s g j: loop1, **loop2**, **loopn**

The **loop1**, **loop2**, etc. could not be transmitted to group **g** through junctor **j** of IGS cards.

Start at the first or most likely cause and go down the list until the fault is cleared. If the fault does not clear, call your technical support group.

1. The IGS card **s** can be faulty.

ACTION: Use STAT IGS x in LD 39 to get the status of the IGS cards. Use ENL IGS x in LD 39 to enable any disabled IGS cards and run TEST in LD 45 to verify that the fault is cleared. If the IGS card does not enable and the fault does not clear, replace the IGS card(s) by following the steps in the *Hardware replacement* guide. Verify that the fault is cleared. If you need help with the commands or system responses refer to the *IGS* chapter in this guide.

2. It is possible that an intermittent fault exists on group **g**, particularly if this message appears from time to time specifying different loops from one appearance of the message to the next. Probable fault is cable from IGS s to Junctor or IGS in the same position on group **g**.

ACTION: Replace the cable between the IGS card and the junctor by following steps in the *Hardware replacement* guide. Run TEST in LD 45 to verify that the fault is cleared. If the fault is not cleared, use step 1 above to clear the IGS card fault If you need help with the commands or system responses refer to the *IGS* chapter in this guide.

BSD201 loop: s1 s2 sn

Two or more shelves **s1**, **s2** for example, on the same **loop** fail the signaling test. Error code BSD301 is implied for these shelves.

Start at the first or most likely cause and go down the list until the fault is cleared. If the fault does not clear, call your technical support group.

1. If **loop** is an RPE loop this can be faulty.

ACTION: Refer to the input/output guide. Use LD 33 and RPE NTP to test RPE loop.

2. The network card for **loop** can be faulty.

ACTION: Use STAT l in LD 32 to get the status of the loops. Use ENLL l in LD 32 to enable the loops and run TEST in LD 45 to verify that the fault is cleared. If the loop does not enable and the fault does not clear, replace the Network card(s) by following the steps in the *Hardware replacement* guide. Verify that the fault is cleared. If you need help with the commands or system responses refer to the *NPR* chapter in this guide.

3. The **loop** cable to the PE shelves can be faulty.

ACTION: Replace the cable between the PB card and the Network card by following the steps in the *Hardware replacement* guide. Run TEST in LD 45 to verify that the fault is cleared. If you need help with the commands or system responses refer to the *NPR* chapter in this guide.

4. The PS card associated with **loop** can be faulty. Refer to the *CED* chapter to locate Peripheral Signaling circuitry that can be combined with other circuitry on one card.

ACTION: Use STAT PER x in LD 32 or LD 39 to get the status of the PS cards. Use ENPS x in LD 32 to enable the PS card and run TEST in LD 45 to verify that the fault is cleared. If the PS card does not enable and the fault does not clear, replace the PS card(s) by following the steps in the *Hardware replacement* guide. Verify that the fault is cleared. If you need help with the commands or system responses refer to the *IGS* or *NPR* chapter in this guide.

5. The Peripheral Buffer on shelf **s** of **loop** can be faulty.

ACTION: Use STAT l s in LD 32 to get the status of the PB card(s). Use ENLL l s in LD 32 to enable PB card(s) and run TEST in LD 45 to verify that the fault is cleared. If the PB card does not enable and the fault does not clear, replace the PB card(s) by following the steps in the *Hardware replacement* guide. Verify that the fault is cleared. If you need help with the commands or system responses refer to the *NPR* chapter in this guide.

a) One or more of the cards on shelves **s1 s2** etc., can be faulty.

ACTION: Use STAT l s c in LD 32 to get the status of the PE cards. Use ENLL l s c in LD 32 to enable cards and run TEST in LD 45 to verify that the fault is cleared. If the cards do not enable and the fault does not clear, replace the PE card(s) by following the steps in the *Hardware replacement* guide. Verify that the fault is cleared. If you need help with the commands or system responses refer to the *NPR* chapter in this guide.

6. The CE EXT connecting affected **loop** with active CPU can be faulty.

ACTION: Use STAT EXT in LD 35 to get the status of the Segmented Bus Extender card and the 3 Port Extender card. Use ENL EXT x in LD 35 to enable the extender pair and run TEST in LD 45 to verify that the fault is cleared. If the extenders do not enable and the fault does not clear, replace the extender card(s) by following the steps in the *Hardware replacement* guide. Verify that the fault is cleared. If you need help with the commands or system responses refer to the *CED* chapter in this guide.

7. The IGS cards in the same group can be faulty.

ACTION: Use STAT IGS x in LD 39 to get the status of IGS cards. Use ENL IGS x in LD 39 to enable any disabled IGS card(s) and run TEST in LD 45 to verify that the fault is cleared. If the IGS card does not enable and the fault does not clear, replace the IGS card(s) by following the steps in the *Hardware replacement* guide. Verify that the fault is cleared. If you need help with the commands or system responses refer to the *IGS* chapter in this guide.

8. All other network and conference loops can be faulty.

ACTION: Use STAT l in LD 32 to get the status of the network loops, STAT L of LD 34 for TDS loops and STAT L of LD 38 for conference loops. Use ENLL l in LD 32 to enable the network loops, ENLL L of LD 34 for TDS loops and ENLL L of LD 38 for conference loops. Run TEST in LD 45 to verify that the fault is cleared. If the loop does not enable and the fault does not clear, replace the card(s) by following the steps in the *Hardware replacement* guide. Verify that the fault is cleared. If you need help with the commands or system responses refer to the *NPR* chapter for network help or the *TDS* chapter for tone and digit switch help, or the *CFN* chapter for conference help.

9. The TDS message cards can be faulty.

ACTION: Use STAT L in LD 38 to get the status of the TDS loops. Use ENLL l in LD 38 to enable loops and run TEST in LD 45 to verify that the fault is cleared. If the loop does not enable and the fault does not clear, replace the Network card(s) by following the steps in the *Hardware replacement* guide. Verify that the fault is cleared. If you need help with the commands or system responses refer to the *TDS* chapter in this guide.

BSD202 loop: s1 s2 sn

Continuity test failed from network **loop** to shelves indicated by **s1** and **s2**, for example. If the **loop** is an RPE loop, using Overlay 33 can aid in fault location.

Start at the first or most likely cause and go down the list until the fault is cleared. If the fault does not clear, call your technical support group.

1. The Peripheral Buffer card(s) on shelves **s1, s2** etc. can be faulty Use STAT l in LD 32 s to get the status of the PB card(s).

ACTION: Use ENLL l in LD 32 s to enable PB card(s) and run TEST in LD 45 to verify that the fault is cleared. If the PB card does not enable and the fault does not clear, replace the PB card(s) by following the steps in the *Hardware replacement* guide. Verify that the fault is cleared. If you need help with the commands or system responses refer to the *NPR* chapter in this guide.

2. The interconnecting cable to PE shelves **s1, s2** etc**.**can be faulty.

ACTION: Replace the cable between the PB cards by following the steps in the *Hardware replacement* guide. Run TEST in LD 45 to verify that the fault is cleared. If you need help with the commands or system responses refer to the *NPR* chapter in this guide.

3. The network card **loop** can be faulty.

ACTION: Use STAT l in LD 32 to get the status of the loops. Use ENLL l in LD 32 to enable loops and run TEST in LD 45 to verify that the fault is cleared. If the loop does not enable and the fault does not clear, replace the Network card(s) by following the steps in the *Hardware replacement* guide. Verify that the fault is cleared. If you need help with the commands or system responses refer to the *NPR* chapter in this guide.

4. The IGS cards in the same group as the **loop** can be faulty.

ACTION: Use STAT IGS x in LD 39 to get the status of IGS cards. Use ENL IGS x in LD 39 to enable any disabled IGS cards and run TEST in LD 45 to verify that the fault is cleared. If the IGS card does not enable and the fault does not clear, replace the IGS card(s) by following the steps in the *Hardware replacement* guide. Verify that the fault is cleared. If you need help with the commands or system responses refer to the *IGS* chapter in this guide.

5. The CE EXT connecting the **loop** to the CPU can be faulty.

ACTION: Use STAT EXT in LD 35 to get the status of the Segmented Bus Extender card and 3 Port Extender card. Use ENL EXT x in LD 35 to enable the extender pair and run TEST in LD 45 to verify that the fault is cleared. If the extenders do not enable and the fault does not clear, replace the extender card(s) by following the steps in the *Hardware replacement* guide. Verify that the fault is cleared. If you need help with the commands or system responses refer to the *CED* chapter in this guide.

6. The PS cards servicing the **loop** can be faulty. Refer to the *CED* chapter to locate Peripheral Signaling circuitry that can be combined with other circuitry on one card.

ACTION: Use STAT PER x in LD 32 or LD 39 to get the status of the PS cards. Use ENPS x in LD 32 to enable the PS card and run TEST in LD 45 to verify that the fault is cleared. If the PS card does not enable and the fault does not clear, replace the PS card(s) by following the steps in the *Hardware replacement* guide. Verify that the fault is cleared. If you need help with the commands or system responses refer to the *IGS* or *NPR* chapter in this guide.

7. The CFN card **loop** can be faulty.

ACTION: Use STAT L in LD 34 to get the status of the conference loops. Use ENLL l in LD 34 to enable loops and run TEST in LD 45 to verify that the fault is cleared. If the loop does not enable and the fault does not clear, replace the Network card(s) by following the steps in the *Hardware replacement* guide. Verify that the fault is cleared. If you need help with the commands or system responses refer to the *CFN* chapter in this guide.

8. The TDS card **loop** can be faulty.

ACTION: Use STAT L in LD 38 to get the status of the TDS loops. Use ENLL l in LD 38 to enable the loops and run TEST in LD 45 to verify that the fault is cleared. If the loop does not enable and the fault does not clear, replace the Network card(s) by following the steps in the *Hardware replacement* guide. Verify that the fault is cleared. If you need help with the commands or system responses refer to the *TDS* chapter in this guide.

9. For superloops the continuity test failed from network card **loop** to Peripheral Controllers **s1** and **s2**. A fault can exist in a, b or c as follows.

a) The Peripheral Controller can be faulty.

ACTION: Use XPCT x in LD 32 to test the Controller. If the Controller does not pass the test, replace it by following the steps in the *Hardware replacement* guide. Run TEST in LD 45 to verify that the fault is cleared. If you need help with the commands or system responses refer to the *NPR* chapter in this guide.

b) The cables to the Peripheral Controller can be faulty.

ACTION: Replace the cable between the Peripheral Controller shelf backplane and the Superloop Network card by following the steps in the *Installation Guide*. Run TEST in LD 45 to verify that the fault is cleared. If you need help with the commands or system responses refer to the *NPR* chapter in this guide.

c) The NT8D04 superloop Network card can be faulty.

ACTION: Use STAT l in LD 32 to get the status of the superloop. Use XNTT l in LD 32 to test the superloop. If the superloop does not pass the test, replace it by following the steps in the *Hardware replacement* guide. Run TEST in LD 45 to verify that the fault is cleared. If you need help with the commands or system responses refer to the *NPR* chapter in this guide.

BSD203 loop: n

Memory test of **loop** failed, **n** speech channels on this loop are now disabled.

Start at the first or most likely cause and go down the list until the fault is cleared. If the fault does not clear, call your technical support staff.

1. The network card **loop** can be faulty.

ACTION: Use STAT l in LD 32 to get the status of the loops. Use ENLL l in LD 32 to enable loops and run TEST in LD 45 to verify that the fault is cleared. If the loop does not enable and the fault does not clear, replace the Network card(s) by following the steps in the *Hardware replacement* guide. Verify that the fault is cleared. If you need help with the commands or system responses refer to the *NPR* chapter in this guide.

2. The IGS cards in the same group as the **loop** can be faulty.

ACTION: Use STAT IGS x in LD 39 to get the status of IGS cards. Use ENL IGS x in LD 39 to enable any disabled IGS cards and run TEST in LD 45 to verify that the fault is cleared. If the IGS card does not enable and the fault does not clear, replace the IGS card(s) by following the steps in the *Hardware replacement* guide. Verify that the fault is cleared. If you need help with the commands or system responses refer to the *IGS* chapter in this guide.

3. The CE EXT connecting the CPU to the network **loop** shelf can be faulty.

ACTION: Use STAT EXT in LD 35 to get the status of the Segmented Bus Extender card and 3 Port Extender card. Use ENL EXT x in LD 35 to enable the extender pair and run TEST in LD 45 to verify that the fault is cleared. If the extenders do not enable and the fault does not clear, replace the extender card(s) by following the steps in the *Hardware replacement* guide. Verify that the fault is cleared. If you need help with the commands or system responses refer to the *CED* chapter in this guide.

4. The PS card servicing the **loop** can be faulty. Refer to the *CED* chapter to locate Peripheral Signaling circuitry that can be combined with other circuitry on one card.

ACTION: Use STAT PER x in LD 32 or LD 39 to get the status of the PS cards. Use ENPS x in LD 32 to enable the PS and run TEST in LD 45 to verify that the fault is cleared. If the PS card does not enable and the fault does not clear, replace the PS card(s) by following the steps in the *Hardware replacement* guide. Verify that the fault is cleared. If you need help with the commands or system responses refer to the *IGS* or *NPR* chapter in this guide.

5. All other network, conference and TDS cards in the same group as the **loop** can be faulty.

ACTION: Use STAT l in LD 32 to get the status of the network loops, STAT L of LD 34 for TDS loops and STAT L of LD 38 for conference loops. Use ENLL l in LD 32 to enable network loops, ENLL L of LD 34 for TDS loops, and ENLL L of LD 38 for conference loops. Run TEST in LD 45 to verify that the fault is cleared. If the loop does not enable and the fault does not clear, replace the Network card(s) by following the steps in the *Hardware replacement* guide. Verify that the fault is cleared. If you need assistance with the commands or system responses refer to the following chapters for help:

- the *NPR* chapter for network assistance
- the *TDS* chapter for tone and digit switch assistance
- the *CFN* chapter for conference assistance

BSD205 loop

Continuity checker on the **loop** indicates a faulty network.

ACTION: Use STAT l in LD 32 to get the status of the loops. Use ENLL l in LD 32 to enable loops and run TEST in LD 45 to verify that the fault is cleared. If the loop does not enable and the fault does not clear, replace the Network card(s) by following the steps in the *Hardware replacement* guide. Verify that the fault is cleared. If you need help with the commands or system responses refer to the *NPR* chapter in this guide.

BSD206 loop: loop1 loop2 loopn

Loop unable to receive speech from **loop1**, or **loop2**, for example.

Start at the first or most likely cause and go down the list until the fault is cleared. If the fault does not clear, call your technical support group.

1. The network card for the **loop** can be faulty.

ACTION: Use STAT l in LD 32 to get the status of the loops. Use ENLL l in LD 32 to enable loops and run TEST in LD 45 to verify that the fault is cleared. If the loop does not enable and the fault does not clear, replace the Network card(s) by following the steps in the *Hardware replacement* guide. Verify that the fault is cleared. If you need help with the commands or system responses refer to the *NPR* chapter in this guide.

2. If only one loop, for instance, **1oopl** cannot be received, possible intermittent fault in network card for loop **loop1** (particularly if any other loops cannot receive **1oopl** or if **1oopl** appears in a BSD110 message).

ACTION: Use same procedure as number one above.

3. If only one loop, for instance, **1oopl** cannot be received, there can be a possible intermittent fault in one of the Peripheral Buffers connected to **loop1**. Each Peripheral Buffer should be replaced in turn, starting with the one on the highest numbered PE shelf. The test should then be allowed to run for sufficient time to indicate whether the problem persists.

ACTION: Use STAT l s in LD 32 to get the status of the PB card(s). Use ENLL l s in LD 32 to enable the PB card(s) and run TEST in LD 45 to verify that the fault is cleared. If the PB card does not enable and the fault does not clear, replace the PB card(s) by following the steps in the *Hardware replacement* guide. Verify that the fault is cleared. If you need help with the commands or system responses refer to the *NPR* chapter in this guide.

4. All other network, conference and TDS cards in the same group as the **loop** can be faulty.

ACTION: Use STAT l in LD 32 to get the status of the network loops, STAT l of LD 34 for TDS loops and STAT l of LD 38 for conference loops. Use ENLL l in LD 32 to enable network loops, ENLL l of LD 34 for TDS loops and ENLL L of LD 38 for conference loops. Run TEST in LD 45 to verify that the fault is cleared. If loop does not enable and fault does not clear, replace the Network card(s) by following the steps in the *Hardware replacement* guide. Verify that the fault is cleared. If you need help with the commands or system responses refer to the *NPR* chapter for network help or *TDS* chapter for tone and digit switch help or *CFN* chapter for conference help.

BSD207 loop: j1 j2 jn

Junctor(s) **j1, j2,** for example, cannot be received by the **loop**.

Start at the first or most likely cause and go down the list until the fault is cleared. If the fault does not clear, call your technical support staff.

1. The network for **loop** is probably faulty.

ACTION: Use STAT l in LD 32 to get the status of the loops. Use ENLL l in LD 32 to enable loops and run TEST in LD 45 to verify that the fault is cleared. If the loop does not enable and the fault does not clear, replace the Network card(s) by following the steps in the *Hardware replacement* guide. Verify that the fault is cleared. If you need help with the commands or system responses refer to the *NPR* chapter in this guide.

2. An intermittent fault is also possible, particularly if multiple BSD207 messages appear for several loops in the same group, each message specifying the same junctor(s) for example **j1** or **j2**. The fault in this case can be a or b as follows.

a) The IGS card(s) for group(s) associated with the **loop** and junctors **j1**, **j2**, for example can be at fault. Refer to the introduction for Intergroup Switch shelf locations, IGS and group number associations.

ACTION: Use STAT IGS x in LD 39 to get the status of IGS cards. Use ENL IGS x in LD 39 to enable any disabled IGS cards and run TEST in LD 45 to verify that the fault is cleared. If IGS card does not enable and fault does not clear, replace the IGS card(s) by following the steps in the *Hardware replacement* guide. Verify that the fault is cleared. If you need help with the commands or system responses refer to the *IGS* chapter in this guide.

b) The IGS card(s) for originating group(s), on the same position as the **loop** can be at fault.

ACTION: Use the same procedure as 2. a) above.

BSD208 loop: ts

Software network map indicates that timeslot **ts** of the **loop** is idle but network memory word for that slot is not idle. The indicated slot is marked busy in the software map and the current continuity test of the **loop** is abandoned. There can be a possible software fault (similar to BUG365). If a number of BSD208 or BUG365 messages appear all involving the **loop** or if a BSD203 message appears involving the **loop**, the network for **loop** is probably faulty. Refer to the BSD203 comments. If replacing **loop** does not clear fault, then contact your technical staff support.

ACTION: Use STAT l in LD 32 to get the status of the loops. Use ENLL l in LD 32 to enable loops and run TEST in LD 45 to verify that the fault is cleared. If the loop does not enable and the fault does not clear, replace the Network card(s) by following the steps in the *Hardware replacement* guide. Verify that the fault is cleared. If you need help with the commands or system responses refer to the *NPR* chapter in this guide.

BSD209 loop

Network connection memory test of the **loop** detected an address decode fault. Frequently BSD209 messages will appear in pairs; normally only one fault is actually present. Disable either loop by using program LD 32. If the LED lights on network card for that loop and not on any other network card, the fault is probably on the network card.

Start at the first or most likely cause and go down the list until the fault is cleared. If the fault does not clear, call your technical support staff.

1. The LED network card with the LED lit can be faulty.

ACTION: Use STAT l in LD 32 to get the status of the loops. Use ENLL l in LD 32 to enable loops and run TEST in LD 45 to verify that the fault is cleared. If the loop does not enable and the fault does not clear, replace the Network card(s) by following the steps in the *Hardware replacement* guide. Verify that the fault is cleared. If you need help with the commands or system responses refer to the *NPR* chapter in this guide.

2. The CE EXT connecting the active CPU to the shelf housing the network card, or the interconnecting cable, can be faulty.

ACTION: Use STAT EXT in LD 35 to get the status of the Segmented Bus Extender card and 3 Port Extender card. Use ENL EXT x in LD 35 to enable extender pair and run TEST in LD 45 to verify that the fault is cleared. If the extenders do not enable and fault does not clear, replace the extender card(s) by following the steps in the *Hardware replacement* guide. Verify that the fault is cleared. If you need help with the commands or system responses refer to the *CED* chapter in this guide.

3. If disabling the loop results in an LED being lit on some other network, the probable fault is on the network on which the LED unexpectedly lit, or on cards listed in 2. above.

ACTION: Use same procedure as 1. above.

BSD301 loop s: c1 c2 cn

Two or more PE cards **c1**, **c2** for example on same **loop** and shelf **s** all fail signaling test. Error code BSD401 is implied for the cards listed. If a card number is preceded by a minus sign, one or more units on that card were disabled.

Start at the first or most likely cause and go down the list until the fault is cleared. If the fault does not clear, call your technical support staff.

1. The Peripheral Buffer on shelf **s** of **loop** can be faulty.

ACTION: Use STAT l s in LD 32 to get the status of the PB card(s). Use ENLL l s in LD 32 to enable the PB card(s) and run TEST in LD 45 to verify that the fault is cleared. If the PB card does not enable and the fault does not clear, replace the PB card(s) by following the steps in the *Hardware replacement* guide. Verify that the fault is cleared. If you need help with the commands or system responses refer to the *NPR* chapter in this guide.

2. One or more cards **c1**, **c2,** etc., can be faulty.

ACTION: Use STAT l s c in LD 32 to get the status of the PE cards. Use ENLL l s c in LD 32 to enable the cards and run TEST in LD 45 to verify that the fault is cleared. If the cards do not enable and the fault does not clear, replace the PE card(s) by following the steps in the *Hardware replacement* guide. Verify that the fault is cleared. If you need help with the commands or system responses refer to the *NPR* chapter in this guide.

3. The **loop** cable to the PE shelf can be faulty.

ACTION: Replace the cable between PB card and Network card following steps in the *Hardware replacement* guide. Run TEST in LD 45 to verify that the fault is cleared. If you need help with the commands or system responses refer to the *NPR* chapter in this guide.

4. The network card for **loop** can be faulty.

ACTION: Use STAT l in LD 32 to get the status of the loops. Use ENLL l in LD 32 to enable loops and run TEST in LD 45 to verify that the fault is cleared. If the loop does not enable and the fault does not clear, replace the Network card(s) by following the steps in the *Hardware replacement* guide. Verify that the fault is cleared. If you need help with the commands or system responses refer to the *NPR* chapter in this guide.

BSD401 l s c: u1 u2 un

The Line or trunk or Digitone receiver card loop **l** shelf **s** failed the signaling test. If the card number **c** is preceded by a minus sign, the card was disabled.

Start at the first or most likely cause and go down the list until the fault is cleared. If the fault does not clear, call your technical support group.

1. A line card can be faulty.

ACTION: Use STAT l s c in LD 32 to get the status of the PE or IPE cards. Use ENLL l s c in LD 32 to enable the cards and run TEST in LD 45 to verify that the fault is cleared. If the cards do not enable and the fault does not clear, replace the PE or IPE card(s) by following the steps in the *Hardware replacement* guide. Verify that the fault is cleared. If you need help with the commands or system responses refer to the *NPR* chapter in this guide.

2. A trunk card can be faulty.

ACTION: Use LDIC l s c u in LD 36 to list days since last call. Use STAT l s c in LD 36 to get status of card. Use ENLL l s c (u) in LD 36 to enable the trunk card or unit and run TEST in LD 45 to verify that the fault is cleared. If the cards do not enable and the fault does not clear, replace the trunk card(s) by following the steps in the *Hardware replacement* guide. Verify that the fault is cleared. If you need help with the commands or system responses refer to the *NPR* chapter in this guide.

3. A Digitone Receiver card can be faulty.

ACTION: Use STAT or SDTR in LD 34 to list the disabled DTR cards. Use ENLD l s c (u) in LD 34 to enable cards or units and run DTR l s c (u) in LD 34 to test the DTR card or the unit. If the cards or the units do not enable and the fault does not clear, replace the DTR card(s) by following the steps in the *Hardware replacement* guide. Run TEST in LD 45 to verify that the fault is cleared. If you need help with the commands or system responses refer to the *TDS DTR* chapter in this guide.

4. The Peripheral Buffer on loop **l** shelf **s** can be faulty.

ACTION: Use STAT l s in LD 32 to get the status of the PB card(s). Use ENLL l s in LD 32 to enable the PB card(s) and run TEST in LD 45 to verify that the fault is cleared. If the PB card does not enable and the fault does not clear, replace the PB card(s) by following the steps in the *Hardware replacement* guide. Verify that the fault is cleared. If you need help with the commands or system responses refer to the *NPR* chapter in this guide.

5. If the message includes unit numbers, then two or more SL-1 or Digital line units failed the signaling test, for example **u1**, **u2,** on card **l s c.** Error code BSD501 is implied for the telephones listed.

a) An SL-1, ISDLC or DLC line card **l s c** can be faulty.

ACTION: Use STAT l s c in LD 32 to get the status of the PE/IPE cards. Use ENLL l s c in LD 32 to enable cards and run TEST in LD 45 to verify that the fault is cleared. If the cards do not enable and the fault does not clear, replace the PE/IPE card(s) by following the steps in the *Hardware replacement* guide. Verify that the fault is cleared. If you need help with the commands or system responses refer to the *NPR* chapter in this guide.

b) The Peripheral Buffer on shelf **l s** can be faulty.

ACTION: Use the same procedure as step 4. above.

c) All SL-1 or Digital telephones associated with the units u1, u2, etc., could be faulty.

Use DISU l s c u in LD 32 to disable the PE/IPE unit(s). Disconnect the suspected faulty telephone and reconnect a working telephone in its place. Use ENLU l s c (u) in LD 32 to enable unit(s). Try the telephone to see if it works. If the telephone is not working, check t he wiring between the PE or IPE shelf backplane and the telephone. Run TEST in LD 45 to verify that the fault is cleared. If you need help with the commands or system responses refer to the *NPR* chapter in this guide.

BSD402 l s c: u1 u2 un

Two or more SL-1 or Digital line circuits **u1**, **u2**, etc. on card **l s c** failed the signaling test. The signal concentrator on the SL-1 line card also failed. Error code BSD501 is implied for the telephones listed.

Start at the first or most likely cause and go down the list until the fault is cleared. If the fault does not clear, call your technical support group.

If a unit number is preceded by a minus sign, the unit was disabled. There could be a fault on the following.

1. A SL-1, ISDLC or DLC line card **l s c** can be faulty.

Use STAT l s c in LD 32 to get the status of the PE/IPE cards. Use ENLL l s c in LD 32 to enable the cards and run TEST in LD 45 to verify that the fault is cleared. If the cards do not enable and the fault does not clear, replace the PE/IPE card(s) by following the steps in the *Hardware replacement* guide. Verify that the fault is cleared. If you need help with the commands or system responses refer to the *NPR* chapter in this guide.

2. The Peripheral Buffer on loop **l** shelf **s** can be faulty.

ACTION: Use STAT l s in LD 32 to get the status of the PB card(s). Use ENLL l s in LD 32 to enable PB card(s) and run TEST in LD 45 to verify that the fault is cleared. If the PB card does not enable and the fault does not clear, replace the PB card(s) by following the steps in the *Hardware replacement* guide. Verify that the fault is cleared. If you need help with the commands or system responses refer to the *NPR* chapter in this guide.

BSD501 l s c u

A SL-1 or Digital telephone associated with TN **l s c u** failed the signaling test. If the unit number u is preceded by a minus sign, the unit is disabled.

Start at the first or most likely cause and go down the list until the fault is cleared. If the fault does not clear, call your technical support group.

1. A SL-1 or Digital telephone can be faulty.

ACTION: Use DISU l s c u in LD 32 to disable the PE/IPE unit(s). Disconnect the suspected faulty telephone and reconnect a working telephone in its place. Use ENLU l s c (u) in LD 32 to enable unit(s). Try the telephone to see if it works. If the telephone is not working, check the wiring between the PE or IPE shelf backplane and the telephone. Run TEST in LD 45 to verify that the fault is cleared. If you need help with the commands or system responses refer to the *NPR* chapter in this guide.

2. A line circuit on the SL-1 or ISDLC line card indicated, can be faulty.

ACTION: Use STAT l s c in LD 32 to get the status of the PE/IPE cards. Use ENLL l s c in LD 32 to enable cards and run TEST in LD 45 to verify that the fault is cleared. If the cards do not enable and the fault does not clear, replace the PE/IPE card(s) by following the steps in the *Hardware replacement* guide. Verify that the fault is cleared. If you need help with the commands or system responses refer to the *NPR* chapter in this guide.

BSD600 loop1 loop2 g

Loop1 and **loop2** etc., on group **g** could not transmit to any other group. The Intergroup Switch on the same shelf as **loop1 loop2** can be faulty.

ACTION: Use STAT IGS x in LD 39 to get the status of IGS cards. Use ENL IGS x in LD 39 to enable any disabled IGS cards and run TEST in LD 45 to verify that the fault is cleared. If the IGS card does not enable and the fault does not clear, replace the IGS card(s) by following the steps in the *Hardware replacement* guide. Verify that the fault is cleared. If you need help with the commands or system responses refer to the *IGS* chapter in this guide.

BSD601 jl j2 g

No loop tested on group **g** could receive from junctors **j1**, **j2**.

Start at the first or most likely cause and go down the list until the fault is cleared. If the fault does not clear, call your technical support group.

1. The IGS cards from junctors indicated can be faulty.

ACTION: Use STAT IGS x in LD 39 to get the status of IGS cards. Use ENL IGS x in LD 39 to enable any disabled IGS cards and run TEST in LD 45 to verify that the fault is cleared. If the IGS card does not enable and the fault does not clear, replace the IGS card(s) by following the steps in the *Hardware replacement* guide. Verify that the fault is cleared. If you need help with the commands or system responses refer to the *IGS* chapter in this guide.

2. A 3PE card can be faulty.

ACTION: Use STAT EXT in LD 35 to get the status of the Segmented Bus Extender card and 3 Port Extender card. Use ENL EXT x in LD 35 to enable the extender pair and run TEST in LD 45 to verify that the fault is cleared. If the extenders do not enable and the fault does not clear, replace the extender card(s) by following the steps in the *Hardware replacement* guide. Verify that the fault is cleared. If you need help with the commands or system responses refer to the *CED* chapter in this guide.

3. A SCG can be faulty.

ACTION: Refer to the input/output guide and the *PRA/DCHI Maintenance Guide*. Use SSCK 0,1 in LD 60 to get the status of the clock cards. Use ENL CC 0,1 in LD 60 to enable the clock and run TEST in LD 45 to verify that the fault is cleared. If the clock does not enable and the fault does not clear, replace the clock controller card(s) by following the steps in the Clock Controller maintenance section of the *PRA/DCHI Maintenance Guide*.

BSD602 loop

A Digital Trunk Interface (DTI) or a Digital Link Interface (DLI) **loop** failed on the signaling test.

ACTION: Use LD 60 in the input/output maintenance guide, and refer to the *PRA/DCHI Maintenance Guide*.

BSD603 loop

A previously faulty Digital Trunk Interface or Digital Link Interface **loop** passed the signaling test.

ACTION: Use LD 60 in the input/output maintenance guide, and refer to the *PRA/DCHI Maintenance Guide*.

BSD604

A manual continuity test number does not match data entered.

ACTION: Check to make sure your data is correct and re-enter the command.

BSD606

It is not applicable to XNPD card.

ACTION: Check to make sure your data is correct and re-enter the command.

BSD659

Cannot perform test on non-BRSC card. Loopback address must be a BRSC card TN plus a dummy unit number. Enter a BRSC card TN plus a dummy unit number.

ACTION: Use LD 60 in the input/output maintenance guide, and refer to the *PRA/DCHI Maintenance Guide*.

BSD660

Cannot preform test on the ISDN line card or DSL. The BRSC BRI application that performs Layer 2 signalling processing for the line card or DSL must be in ENABLED state. Check the BRSC state and enable it if necessary.

ACTION: Use LD 60 in the input/output maintenance guide, and refer to the *PRA/DCHI Maintenance Guide*.

BSD661

Cannot perform test on the BRSC. The BRSC BASE application must be in ENABLED state and the BRI application must be in MANUALLY DISABLED state. If the BRI application is enabled, disable only the application in LD32 with the DISC BRI command. If the BASE application is disabled, enable only the BASE application in LD 32 with the ENLC BASE command.

ACTION: Use LD 60 in the input/output maintenance guide, and refer to the *PRA/DCHI Maintenance Guide*.

BSD662

Input TN is already in another test. Enter another TN.

ACTION: Use LD 60 in the input/output maintenance guide, and refer to the *PRA/DCHI Maintenance Guide*.

BSD663

Input DSL TN is undefined. Enter another DSL TN.

ACTION: Use LD 60 in the input/output maintenance guide, and refer to the *PRA/DCHI Maintenance Guide.*

BSD664

Unable to test a phantom loop, as it does not physically exist. Phantom loops are defined for call redirection and do not require any associated hardware.

ACTION: For further information, refer to the *Software feature guide*, Phantom TNs.

BSD800

A Command is being executed.

ACTION: Do not enter any more commands until the last one is finished.

BSD801

No call register available.

ACTION: Keep re-entering the command periodically until an idle register is available. If this message appears frequently, check the TFS004 Processor Load using LD 2. If you need help contact your Traffic Section or refer to the *Traffic Measurements Format and Output Guide*.

BSD802

No superloop network card.

ACTION: Check to make sure your data is correct and re-enter a command if applicable.

BSD803

No Controller card.

ACTION: Check to make sure your data is correct and re-enter a command if applicable.

BSD804

A requested time slot is busy.

ACTION: Keep re-entering the command periodically until an idle time slot is available.

BSD805

No time slots free on superloop.

ACTION: Keep re-entering the command periodically until an idle time slot is available.

BSD806

The Loop back channel is not available.

ACTION: Keep re-entering the command periodically until an idle channel is available.

BSD807

Time out, waiting for network response.

ACTION: Re-enter the command until the network responds. If the network does not respond, replace the Network card by following the steps in the *Hardware replacement* guide. Verify that the fault is cleared. If you need help with the commands or system responses refer to the *NPR* chapter in this guide.

BSD808

A requested TN is busy.

ACTION: Use STAT l s c u in LD 32 to determine when the TN is idle. Re-enter the command when the TN is idle.

BSD809

A requested TN is maintenance busy.

ACTION: Use STAT l s c u in LD 32 to determine when theTN is idle. Re-enter the command when the TN is idle.

BSD810

A Specified Controller card does not belong to the specified Network card.

ACTION: Check to make sure the correct shelf number is entered.

BSD811

No terminal at that TN.

ACTION: Check to make sure your data is correct and re-enter.

BSD812

Digital terminal at that TN.

ACTION: Check to make sure your data is correct and re-enter.

BSD813

A slot on a requested junctor is busy.

ACTION: Keep re-entering the command periodically until an idle junctor is available.

BSD814

No junctors available for generate slot.

ACTION: Keep re-entering the command periodically until an idle junctor is available.

BSD815

Wait for a prompt.

ACTION: Be patient.

BSD816

No free tags.

ACTION: Stop one of the other tests running or complete tests by using the XSTP command and start again.

BSD817

Cannot send Generate Message (resources cleaned up). The system is temporarily out of message registers.

ACTION: Keep re-entering the command periodically until an idle message register is available.

BSD818

Cannot send Detect Message (resources not cleaned up). The system is temporarily out of message registers.

ACTION: Keep re-entering the command periodically until an idle message register is available.

BSD819

Cannot send XMI Message. The system is temporarily out of message registers.

ACTION: Keep re-entering the command periodically until an idle message register is available.

BSD820

Last one shot test is still running.

ACTION: Do not enter the commands until the test is finished, or stop the test with the XSTP 0 command.

BSD821

A tag number is idle.

ACTION: If this message appears repeatedly, contact your technical support group.

BSD822

A database error: pointer nil.

ACTION: If this message appears repeatedly, contact your technical support group.

BSD823

One shot status not printed.

ACTION: Get the test status by using the XSTA 0 command.

BSD824

A Loop is disabled.

ACTION: Use ENLL loop in LD 32 to enable the loop. If the loop does not enable, replace the network card by following the steps in the *Hardware replacement* guide. Verify that the fault is cleared. If you need help with the commands or system responses refer to the *NPR* chapter in this guide. Re-enter the original command.

BSD825

A Controller is disabled.

ACTION: Use ENXP x in LD 32 to enable the controller. If the controller does not enable, replace the controller card by following the steps in the *Hardware replacement* guide. Verify that the fault is cleared. If you need help with the commands or system responses refer to the *NPR* chapter in this guide. Re-enter the original command.

BSD826

A TN is disabled.

ACTION: Use ENLU l s c u in LD 32 to enable the unit. If the unit does not enable, replace the PE card by following the steps in the *Hardware replacement* guide. Verify that the fault is cleared. If you need help with the commands or system responses refer to the *NPR* chapter in this guide. Re-enter the original command.

BSD827

Unable to send a message to the MISP application.

ACTION: Refer to the input/output guide, LD 60 and the *BRI Maintenance Guide*. Check the state of the MISP card and the application(s).

BSD828

No available “MISP Expedited” output buffer. Cannot send message to MISP.

ACTION: Use LD 60 in the input/output maintenance guide, and refer to the *BRI Maintenance Guide*.

BSD829

Cannot do loopback on a non-BRI line card.

ACTION: Use LD 60 in the input/output maintenance guide, and refer to the *BRI Maintenance Guide*.

BSD830

The loop back test can only be performed between an MISP card and one of the BRI line cards assigned to it.

ACTION: Use LD 60 in the input/output maintenance guide, and refer to the *BRI Maintenance Guide*.

BSD831

No response from the MISP.

ACTION: Use LD 60 in the input/output maintenance guide, and refer to the *BRI Maintenance Guide*. Try the command again, if the problem persists, use XSTP to terminate the test.

BSD832

Suspended tags refer to test cases where the network card did not acknowledge the reception of the test message.

ACTION: Use LD 60 in the input/output maintenance guide, and refer to the *BRI Maintenance Guide*. Use the command XSTP to free the test case.

BSD833

Not able to send message to the MISP.

ACTION: Use LD 60 in the input/output maintenance guide, and refer to the *BRI Maintenance Guide*. Check the status of the MISP.

BSD834

No line cards defined at the given TN.

ACTION: Use LD 60 in the input/output maintenance guide, and refer to the *BRI Maintenance Guide*.

BSD835

All deals must be in disabled state.

ACTION: Use LD 60 in the input/output maintenance guide, and refer to the *BRI Maintenance Guide.*

BSD836

The network loop is not an MISP card.

ACTION: Use LD 60 in the input/output maintenance guide, and refer to the *BRI Maintenance Guide*.

BSD837

Test case number does not match its test data.

ACTION: Use LD 60 in the input/output maintenance guide, and refer to the *BRI Maintenance Guide*.

BSD838

Not applicable to XNPD card.

ACTION: Use LD 60 in the input/output maintenance guide, and refer to the *BRI Maintenance Guide*.

BSD900

Command executing.

ACTION: Do not enter more commands until the last command is finished.

BSD901

No call register available.

ACTION: Wait and try the command again. If the problem persists, increase the number of call registers using LD 17.

BSD902

No Network card (NT8D04).

ACTION: Be sure you entered the correct shelf number.

BSD903

No Controller (NT8D01).

ACTION: Be sure you entered the correct shelf number.

BSD904

A requested timeslot is busy.

ACTION: Keep re-entering the command periodically until an idle time slot is available.

BS5D905

All time slots on that superloop are busy.

ACTION: Keep re-entering the command periodically until an idle timeslot is available.

BSD906

A Loopback channel is not available.

ACTION: Keep re-entering the command periodically until an idle channel is available.

BSD907

A XMI message was lost.

ACTION: Try the test again. If the problem persists, use STAT l in LD 32 to check the status of the Network card.

BSD908

A requested TN is busy.

ACTION: Use STAT l s c u in LD 32 to determine when the TN is idle. Re-enter the command when the TN is idle.

BSD909

A requested TN is disabled or maintenance busy.

ACTION: Use STAT l s c u in LD 32 to determine when the TN is idle. Re-enter the command when the TN is idle.

BSD910

Controller (NT8D01) does not belong to that Network card.

ACTION: Refer to the *administration input/output guide*. Use LD 97 PRT, XPE to check the controller configuration.

BSD911

No terminal at that TN.

ACTION: Check to make sure your data is correct and re-enter.

BSD912

Digital terminal at that TN.

ACTION: Check to make sure your data is correct and re-enter.

BSD913

Slot on requested junctor is busy.

ACTION: Keep re-entering the command periodically until an idle junctor is available.

BSD914

No junctors available for generator slot.

ACTION: Keep re-entering the command periodically until an idle timeslot is available.

BSD915

Wait for a prompt.

ACTION: Be patient, you are entering commands faster than the system can handle them.

BSD916

No free tags.

ACTION: Stop one of the other tests running or complete tests by using the XSTP command and start again.

BSD917

Could not send Generate message. The system is temporarily out of message registers.

ACTION: Keep re-entering the command until an idle register is available.

BSD918

Could not send Detect message. The system is temporarily out of message registers.

ACTION: Keep re-entering the command periodically until an idle register is available.

BSD919

Could not send XMI message. The system is temporarily out of message registers.

ACTION: Keep re-entering the command periodically until an idle register is available.

BSD920

Last one-shot test is still running.

ACTION: Wait for the test to complete or stop it by using XSTP 0.

BSD921

A tag number is idle.

ACTION: Use the XNIF command to get a list of completed and running tests.

BSD922

A Database error: pointer is nil.

ACTION: If this message appears repeatedly, contact your technical support group.

BSD923

One-shot test status not printed.

ACTION: Get the test status by using the XSTA 0 command.

BSD924

Network card (NT8D04) is disabled.

ACTION: Use XNTT loop in LD 32 to test the superloop. Use ENLL l in LD 32 to enable the loops and run TEST in LD 45 to verify that the fault is cleared. If the loop does not enable and the fault does not clear, replace the Network card(s) by following the steps in the *Hardware replacement* guide. Verify that the fault is cleared. If you need help with the commands or system responses refer to the *NPR* chapter in this guide.

BSD925

Controller card (NT8D01) is disabled.

ACTION: Use XPCT x in LD 32 to test the Controller. If the Controller does not pass the test, replace it by following the steps in the *Hardware replacement* guide. Use ENXP x in LD 32 to enable the controller and run TEST in LD 45 to verify that the fault is cleared. If you need help with the commands or system responses refer to the *NPR* chapter in this guide.

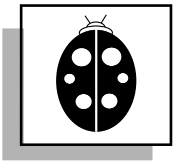
BSD926

ATN is disabled.

ACTION: Use STAT l s c in LD 32 to get the status of the PE/IPE cards. Use ENLL l s c in LD 32 to enable cards and run TEST in LD 45 to verify that the fault is cleared. If cards do not enable and fault does not clear, replace the PE/IPE card(s) by following the steps in the *Hardware replacement* guide. Verify that the fault is cleared. If you need help with the commands or system responses refer to the *NPR* chapter in this guide.

BUG — Software Error Monitor

How the BUG works



Software Error Monitor is a resident program. BUG does not have an overlay load (LD) associated with it. For more information refer to *Software maintenance tools* in the *You should know this* chapter.

The Software Error Monitor program continuously monitors call processing. When the call processing software detects information which is not in the correct format, or when invalid information is detected, a BUG message is output.

The second line of a BUG message, sometimes has a decimal TN or an SL-1 formatted TN right after the colon (:). The SL-1 formatted TN is referred to as a packed TN and the decimal TN, with spaces, is referred to as an unpacked TN. The packed TN is not a normal hexadecimal number, as its make-up is dependant upon the density of the PE cards used in the system. There are maintenance diagnostics that will convert packed TNs to unpacked TNs.

BUG messages are normally beyond the capabilities of anyone except Northern Telecom and licensee software engineers and code writers.

BUG messages

BUG001 - to - BUG480

Software code descriptions.

Certain faults will require gathering BUG messages and forwarding these messages to a Northern Telecom support group for resolution.

If BUG messages do not cause problems, they can be ignored.

ACTION: Contact your technical support group.

BUG004

pd EUROMCID_HANDLER has been called with an inalid source parameter.

ACTION: Contact yout technical support group.

BUG006

pd MCID_ACT_REQ incorrect msgcr pointer.

ACTION: Contact your technical support group.

BUG009

pd MCID-ACT-REQ incorrect state of the EUROISDN trk over which MCID is attempted, must be established or disconnected.

ACTION: Contact your technical support group.

BUG014

pd MCID_ACT_REQ could not get a call register to handle MCID signalling (MCID_PROT_CR).

ACTION: Contact your technical support group.

BUG016

pd MCID_ACT_REQ could not link the protocol cr to the msg cr.

ACTION: Contact your technical support group.

BUG017

pd MCID_SND_FAC could not get a call register to build the facility msg.

ACTION: Contact your technical support group.

BUG018

pd MCID_RCV_RES on reception of the result to an MCID request culd not find the MCID protocol cr.

ACTION: Contact your technical support group.

BUG019

pd MCID_RCV_RES checks on apdu received unsuccessfully.

ACTION: Contact your technical support group.

BUG021

pd MCID_RCV_RES invalid value of rose component, must be ret-res, reject, ret-err.

ACTION: Contact your technical support group.

BUG022

pd MCID_RET_ERR invalid tag for error value.

ACTION: Contact your technical support group.

BUG026

pd MCID_RET_ERR invalid value of the error for MCID service.

ACTION: Contact your technical support group.

BUG028

pd MCID_RCV_MSG unexpected msg sent during MCID process.

ACTION: Contact your technical support group.

BUG029

pd MCID_SND_MSG unexpected message sent during MCID process.

ACTION: Contact your technical support group.

BUG031

pd MCID_IDLE_CR the MCID protocol call register is invalid.

ACTION: Contact your technical support group.

BUG032

NXT_TTR_GRP is corrupted. Value is reset.
:TTR_GROUP,NXT_TTR_THIS_GRP <TTR_GROUP>.

ACTION: Contact your technical support group.

BUG480 followed by BUG481

These messages appear when attempting to LOGI to the system and trying to load any overlay.

ACTION: Try a parallel reload to clear memory fragmentation, then check for the same BUG messages.

ACTION: If messages still persist use LD 137 SWAP to exchange main and secondary database files, and Cold Start the non-active side again. Check for the same BUG messages.

BUG481 - to - BUG769

Software code descriptions.

Certain faults will require gathering BUG messages and forwarding these messages to a Northern Telecom support group for resolution.

If BUG messages do not cause problems, they can be ignored.

ACTION: Contact your technical support group.

BUG770 followed by BUG1321:0000 xxx

TN translation failed.

ACTION: Use LD 22 PKG to print the list of software packages. Check to see if Package 70, Hot line Services, is included in the list.

ACTION: Check for analog (500/2500) telephones not programmed to access NARS/BARS through CLS/NCOS/TGAR.

BUG780 - to - BUG4035

Software code descriptions.

Certain faults will require gathering BUG messages and forwarding these messages to a Northern Telecom support group for resolution.

If BUG messages do not cause problems, they can be ignored.

ACTION: Contact your technical support group.

BUG1312

Distinctive ringing. If receiving a large quantity of messages, there could be a possible database mismatch of XCT cards, that is, if the system had Distinctive Ringing and was prompted to eliminate the feature.

ACTION: Do an initialization to clear the fault.

BUG2001

The number of Digital TNs configured in the system is equal to or is less than zero.

ACTION: Contact your technical support group.

BUG2002

The number of analog TNs configured in the system is equal to or is less than zero.

ACTION: Contact your technical support group.

BUG4036

NIL pointer in procedure call.

ACTION: Do a SYSLOAD. On continued failure, contact your supplier. CAUTION: SYSLOAD interrupts call processing.

BUG4037

Possible corruption of memory (global pointer).

ACTION: Do a SYSLOAD. On continued failure, contact your supplier. CAUTION: SYSLOAD interrupts call processing.

BUG4038

Attempt to idle a Call Register with a NIL pointer.

ACTION: Do a SYSLOAD. On continued failure, contact your supplier. CAUTION: SYSLOAD interrupts call processing.

BUG4039

Possible corruption of memory (global variable).

ACTION: Do a SYSLOAD. On continued failure, contact your supplier CAUTION: SYSLOAD interrupts call processing.

BUG4041

Possible corruption of memory (global variable).

ACTION: Do a SYSLOAD. On continued failure, contact your supplier. CAUTION: SYSLOAD interrupts call processing.

BUG4042

Possible corruption of memory (data).

ACTION: Do a SYSLOAD. On continued failure, contact your supplier. CAUTION: SYSLOAD interrupts call processing.

BUG4043

PSDL procedure called with an invalid command.

ACTION: Do a SYSLOAD; on continued failure, contact supplier. CAUTION: SYSLOAD interrupts call processing.

BUG4044 - to - BUG4340

Software code descriptions.

Certain faults will require gathering BUG messages and forwarding these messages to a Northern Telecom support group for resolution.

If BUG messages do not cause problems, they can be ignored.

ACTION: Contact your technical support group.

BUG4248:000006

Procedure MAX. KEYLINKS passed. Unit type is not a BCS unit. Receiving this message during daily (midnight) routines.

ACTION: Use LD 32 to check that the PWR TNs on the attendant console are disabled and not in the idle state.

BUG4341

TTY10BLK_PTL=NIL at FREE_U_X25_DATA.

ACTION: Investigate possible data corruption.

BUG4342

U_DATA_BLK_PTR=NIL at FREE_U_X25_DATA.

ACTION: Investigate possible data corruption.

BUG4343

X25_I_PTR=NIL at FREE_U_X25_DATA.

ACTION: Investigate possible data corruption.

BUG4344

X25_O_PTR=NIL at FREE_U_X25_DATA.

ACTION: Investigate possible data corruption.

BUG4345

U_X25_BLK_PTR=NIL at FREE_U_X25_DATA.

ACTION: Investigate possible data corruption.

BUG4346

Invalid case at X25 handler.

ACTION: Investigate data corruption problem.

BUG4347

Invalid X25 link with standby (CSLM). X25 link has no standby.

ACTION: Investigate data corruption problem.

BUG4348 - to - BUG4374

Software code descriptions.

Certain faults will require gathering BUG messages and forwarding these messages to a Northern Telecom support group for resolution.

If BUG messages do not cause problems, they can be ignored.

ACTION: Contact your technical support group.

BUG4375

NIL ptr found at init_X25_VC.

ACTION: Investigate possible data corruption.

BUG4376

X25_U_VC_ptr=NIC at update_V.

ACTION: Investigate possible data corruption.

BUG4377

X25_U_blk_ptr=NIL at upd_lay3_state.

ACTION: Investigate possible data corruption.

BUG4378

X25_U_VC_ptr=NIC at upd_data_xfer.

ACTION: Investigate possible data corruption.

BUG4379

Invalid constant at flow handler.

ACTION: Investigate possible data corruption.

BUG4380

No clr_call for PVC at DO_SND_CLR_IND.

ACTION: Investigate possible data corruption.

BUG4381 - to - BUG4409

Software code descriptions.

Certain faults will require gathering BUG messages and forwarding these messages to a Northern Telecom support group for resolution.

If BUG messages do not cause problems, they can be ignored.

ACTION: Contact your technical support group.

BUG4410

A truncation error has occurred in OMEGA memory management. It was corrected.

ACTION: Investigate further.

BUG4411 - to - BUG4552

Software code descriptions.

Certain faults will require gathering BUG messages and forwarding these messages to a Northern Telecom support group for resolution.

If BUG messages do not cause problems, they can be ignored

ACTION: Contact your technical support group.

BUG4553

X25-SET-PTR failed.

ACTION: Investigate data corruption.

BUG4554

Invalid case # at X25 handler.

ACTION: Investigate data corruption.

BUG4555

Invalid LAY3 state at X25.

ACTION: Investigate data corruption.

BUG4556

X25_VC_Set_ptr failed at X25.

ACTION: Investigate data corruption.

BUG4557

IO BLOCKLINK=NIL at X25.

ACTION: Investigate data corruption.

BUG4558

U_CSL_PTR=NIL at X25.

ACTION: Investigate data corruption.

BUG4559

Device address=NIL.

ACTION: Investigate data corruption.

BUG4560 - to - BUG5109

Software code descriptions.

Certain faults will require gathering BUG messages and forwarding these messages to a Northern Telecom support group for resolution.

If BUG messages do not cause problems, they can be ignored.

ACTION: Contact your technical support group.

BUG5110

The CRPTR is not in range when a release is requested during an ATTN_RLS_CALL.

ACTION: Notify the attendant to release the SRC/DEST if this occurs. If the release is not allowed and the request is ignored, there could be a stuck path.

BUG5111 - to - BUG5178

Software code descriptions.

Certain faults will require gathering BUG messages and forwarding these messages to a Northern Telecom support group for resolution.

If BUG messages do not cause problems, they can be ignored.

ACTION: Contact your technical support group.

BUG5179

The SET_ROUTE_PTRS failed in the TIE_INC_INP procedure.
A forced release is needed because you may have a stuck trunk.

ACTION: Check the TN indicated in the CRPTR information for status.

BUG5180 - to - BUG5208

Software code descriptions.

Certain faults will require gathering BUG messages and forwarding these messages to a Northern Telecom support group for resolution.

If BUG messages do not cause problems, they can be ignored

ACTION: Contact your technical support group.

BUG5209

No father CR found when SON_CR processed in queue.

ACTION: Wait to receive a tone.

BUG5210 - to - BUG5396

Software code descriptions.

Certain faults will require gathering BUG messages and forwarding these messages to a Northern Telecom support group for resolution.

If BUG messages do not cause problems, they can be ignored.

ACTION: Contact your technical support group.

BUG5397

The code for executing the MSDL commands in overlays 37, 42, 48 and 96 received a failure return code from SET_MSDLMISP_PTR.

ACTION: Check for MSDL database corruption.

BUG5398 - to - BUG5401

Software code descriptions.

Certain faults will require gathering BUG messages and forwarding these messages to a Northern Telecom support group for resolution.

If BUG messages do not cause problems, they can be ignored.

ACTION: Contact your technical support group.

BUG5402 x y

The CSUBSTAT field on the MDSL/MISP contained invalid data.

x = The MSDL/MISP card number (in decimal).

y = The value that was invalid.

When the card in question is an MSDL, one possible reason for this BUG message is that there are multiple cards in the system with the same device number as the MSDL. Therefore when the read is performed to the register on the MSDL, it may not be the MSDL card that is responding. (This will not be the case for the MISP, as the device address is determined by its position in the network shelf.)

ACTION: Use LD 22 PRT to check the MSDL device numbers. If any device numbers are the same, use LD 17 ADAN to change them.

BUG5403 - to - BUG5423

Software code descriptions.

Certain faults will require gathering BUG messages and forwarding these messages to a Northern Telecom support group for resolution.

If BUG messages cause no problems, they can be ignored.

ACTION: Contact your technical support group.

BUG5416

Conference timeslot is not in a valid state. Conference will not be set up or town down properly. :Conference loop, timeslot, conference number, function.

ACTION: Contact your technical support group.

BUG5417

Invalid number of conference members. Conference will not be set up or torn down properly. :Conference loop, timeslot, conference number, function members.

ACTION: Contact your technical support group.

BUG5424

No alerter defined for Enhanced Call Trace so it cannot be rung.

ACTION: Define alerter by the prompt CTAL in LD 56.

BUG5425

No background terminal defined and LD 15 CTBG option is set to Yes. The EMCT reports cannot be printed.

ACTION: Define a background terminal or change the CTBG option.

BUG5426 - to - BUG5537

Software code descriptions.

Certain faults will require gathering BUG messages and forwarding these messages to a Northern Telecom support group for resolution.

If BUG messages cause no problems, they can be ignored.

ACTION: Contact your technical support group.

BUG5538

A problem encountered when trying to setup MSDL pointers. TTY corruption on MSDL using STA application. In the LD 22 printout of the ADAN, CTYP shows ****.

ACTION: If a modem connection is used for the STA application, check the modem setting for no local echo, no modem status output, and dropping DCD when the modem disconnects.

ACTION: A system reload may be required to restore the I/O block table.

BUG5539 - to - BUG6016

Software code descriptions.

Certain faults will require gathering BUG messages and forwarding these messages to a Northern Telecom support group for resolution.

If BUG messages do not cause problems, they can be ignored.

ACTION: Contact your technical support group.

BUG6017

A problem occurred when attempting to recover packages during cold start (option 81 only).

ACTION: Print out the list of equipped packages in LD 22. If it does not match the label, restart the system. If it does, use LD 17 to configure the current language as desired.

BUG6018

The language setup information could not be recovered from the disk. Language is forced to English (option 81 only).

ACTION: Use LD 17 to configure the current language as desired.

BUG6019 - to - BUG6050

Software code descriptions.

Certain faults will require gathering BUG messages and forwarding these messages to a Northern Telecom support group for resolution.

If BUG messages do not cause problems, they can be ignored.

ACTION: Contact your technical support group.

BUG6051

The data in the language file has an incorrect format. The translation status is forced to NONE.

ACTION: First go to Load 17 and configure prompt TRNS with the desired option. Then do a data dump.

BUG6052 - to - BUG6243

Software code descriptions.

Certain faults will require gathering BUG messages and forwarding these messages to a Northern Telecom support group for resolution.

If BUG messages do not cause problems, they can be ignored.

ACTION: Contact your technical support group.

BUG6244

SETCUSTPTRS failed. Customer number and terminal are printed. Customer number is from the protected line block unless the terminal is a DTR, which takes it from its active call register.

ACTION: Print TN block (except DTR) and reconfigure if the customer number is not correct.

BUG6245 - to - BUG7018

Software code descriptions.

Certain faults will require gathering BUG messages and forwarding these messages to a Northern Telecom support group for resolution.

If BUG messages do not cause problems, they can be ignored.

ACTION: Contact your technical support group.

BUG6248

EvtEdt: Event Defaults Table does not exist.

ACTION: Contact your technical support group.

BUG6249

EvtEdt: Cannot open Error Severity lookup file.

ACTION: Contact your technical support group.

BUG6250

EvtEdt: Insufficient memory to build Event Defaults Table.

ACTION: Contact your technical support group.

BUG6251

EvtEdt: Error severity lookup file is missing. Attempting to build a new one.

ACTION: Contact your technical support group.

BUG6252

EvtEdt: Error Message lookup file is missing.

ACTION: Contact your technical support group.

BUG6268

Bad entry to global procedure IAGT.

ACTION: Contact your technical support group.

BUG6269

Invalid IAGT SFR feature.

ACTION: Contact your technical support group.

BUG6270

Unable to remove acquired agent from IAGT link list.

ACTION: Contact your technical support group.

BUG6271

Unable to set up U_CSL_PTR for an acquired IAGT agent.

ACTION: Contact your technical support group.

BUG6272

P_IAGT_TN_BLK prt is not found for an acquired agent.

ACTION: Contact your technical support group.

BUG6273

IAGT data pointer(s) are not found for an acquired IAGT agent.

ACTION: Contact your technical support group.

BUG6281

DPNNS NS: an attempt has been made to find another termination for a call after a night service divert request. The MIANPM returned <NARS_CALL> is not proper. A TERTN should already have been found for this call at this stage

ACTION: Contact your technical support group.

BUG6282

NS: a CCM has been received on a channel after a night service diversion.

ACTION: Ensure that the third party complies with the BTNR.

BUG6284

During retrieval, the controlling channel in a Night Service process was not tagged as DPNSS1.

ACTION: Contact your technical support group.

BUG6285

There is a mismatch in the new and old call.

ACTION: Contact your technical support group.

BUG6286

Flags or pointers not properly set in a call register associated with DPNNS1 Night Service.

ACTION: Contact your technical support group.

BUG6293

Incorrect input message received from the TDET when ARDL call processing.

ACTION: Contact your technical support group.

BUG6294

Cannot spawn to reset power supply.

ACTION: If the problem persists, contact your technical support group.

BUG6394

The VDN data structure is corrupted. Some VDN blocks may be lost.

ACTION: Run AUDIT to rebuild recoverable VDN blocks. Recreate VDN blocks that have been lost.

BUG6395

The call register passed to the global procedure IED_CHK is nil.

ACTION: If the problem persists, contact your technical support group.

BUG6396

G_GF_MSGCRPTR is nil, cannot build call-indp msg.

ACTION: Contact your technical support group.

BUG6397

Unexpected process type in GF_CR.

ACTION: Contact your technical support group.

BUG6398

The call register passed to the global procedure IED_CHK is nil.

ACTION: If the problem persists, contact your technical support group.

BUG6399

In procedure RO_NO_CIM_RECVD, TER must be DPNSS as Route Optimization process is in operation on this side of the CR of the new call.

ACTION: Run AUDIT, as there may be unreleased CR and/or wrong channel states (new channel remains in a Route Optimization state).

BUG6404

A network call park operation is tried from one node to another node for which the Call Park Networkwide feature is not defined.

ACTION: Contact your system administrator if the Call Park Networkwide operation is desired.

BUG6405

Unable to remove the reserved agent son cr from the main cr.

ACTION: Contact your technical support group.

BUG6406

Agent reserved son cr cannot be liked to NSBR call.

ACTION: Contact your technical support group.

BUG6407

NSBR call cannot be terminated to a CDN.

ACTION: Contact your technical support group.

BUG6438

Invalid message type is passed to procedure IAGT.

ACTION: Contact your technical support group.

BUG6439

Invalid agent resync state is found.

ACTION: Contact your technical support group.

BUG6440

Invalid IAGT is found from agent link list.

ACTION: Contact your technical support group.

BUG6441

CRPTR is out of range. Output: TERMINAL.

ACTION: Contact your technical support group.

BUG6442 <type of failure> <event/state> <parm1><parm2><parm3>

Call completion (CC) Supplementary Service. Software failure detected by CC QSIG protocol handler.

ACTION: Contact your technical support group.

BUG6443 <cause> <source>

Call Completion Supplementary Service. Error detected by CC TERMINAL handler.

ACTION: Contact your technical support group.

BUG6444 <type of error> (parms>

Call Completion (CC) Supplementary Service. Error detected by CC ETSI-T protocol handler.

ACTION: Contact your technical support group.

BUG6445 <type of error> <type of gateway> <source in sscc_gateway>

Call Completion (CC) Supplementary Service. Error at a gateway node.

ACTION: Contact your technical support group.

BUG6446 <protocol call-register pointer>

Call Completion (CC) Supplementary Service. Procedure FIND_USER_PTR failed.

ACTION: Contact your technical support group.

BUG6447 <protocol call register pointer>

Call Completion (CC) Supplementary Service. Procedure FIND_PRA_MSG_PTR failed.

ACTION: Contact your technical support group.

BUG6448 <protocol call register pointer>

Call Completion (CC) Supplementary Service. Procedure IDLE_PROT_CR failed.

ACTION: Contact your technical support group.

BUG6449 <RCAP id>

Call Completion (CC) Supplementary Service. Procedure HAS_RCAP failed. Invalid RCAP id.

ACTION: Contact your technical support group.

BUG6450 <source in sscc_utiltity <int1> <int2> <int3>

Call Completion (CC) Supplementary Service. Invalid parameter pointer passed in SSCC_UTILITY.

ACTION: Contact your technical support group.

BUG7019

MSYNC: Sync failure at address a (local = **b**; remote = **c**).

ACTION: Use the TEST CP command in OVL135 to try to recover memory shadowing.

BUG7020 - to - BUG7033

Software code descriptions.

Certain faults will require gathering BUG messages and forwarding these messages to a Northern Telecom support group for resolution.

If BUG messages do not cause problems, they can be ignored.

ACTION: Contact your technical support group.

BUG7034

Manual INIT button disabled.

ACTION: Reload the system with the Manual reload button.

BUG7035 - to - BUG7041

Software code descriptions.

Certain faults will require gathering BUG messages and forwarding these messages to a Northern Telecom support group for resolution.

If BUG messages do not cause problems, they can be ignored.

ACTION: Contact your technical support group.

BUG7042 x y

Checksum error at address **x** caused by cold start.

ACTION: Reset the SIMM in SIMM slot **y**. If the problem persists, replace the CP card.

BUG7043

System recovery failure. Task = **n**.

ACTION: Reload the system with the Manual reload button.

BUG7044

Restart subsystem failure. No automatic restart.

ACTION: Reload the system with the Manual reload button.

BUG7045 - to - BUG7062

Software code descriptions.

Certain faults will require gathering BUG messages and forwarding these messages to a Northern Telecom support group for resolution.

If BUG messages do not cause problems, they can be ignored.

ACTION: Contact your technical support group.

BUG7063

Failed in CMB access. Address: **n**.

ACTION: Reset or replace CP card.

BUG7064

Software code descriptions.

Certain faults will require gathering BUG messages and forwarding these messages to a Northern Telecom support group for resolution.

If BUG messages do not cause problems, they can be ignored

ACTION: Contact your technical support group.

BUG7065

Failed to spawn “TSWD” task.

ACTION: Reload the system with the Manual reload button. Reinstall software from the installation disks.

BUG7066 - to - BUG7068

Software code descriptions.

Certain faults will require gathering BUG messages and forwarding these messages to a Northern Telecom support group for resolution.

If BUG messages do not cause problems, they can be ignored

ACTION: Contact your technical support group.

BUG7069

Failed to allocate SWD memory.

ACTION: Reload the system with the Manual reload button.

BUG7070 - to - BUG7071

Software code descriptions.

Certain faults will require gathering BUG messages and forwarding these messages to a Northern Telecom support group for resolution.

If BUG messages do not cause problems, they can be ignored

ACTION: Contact your technical support group.

BUG7072

X CP database parse error(s) occurred.

ACTION: Restore the database from backup disks.

BUG7073 - to - BUG7076

Software code descriptions.

Certain faults will require gathering BUG messages and forwarding these messages to a Northern Telecom support group for resolution.

If BUG messages cause no problems, they can be ignored.

ACTION: Contact your technical support group.

BUG7077

CP database not found.

ACTION: Restore the database from the backup disk.

BUG7078

Local fault (parity) threshold exceeded. Performing switchover.

ACTION: Reset or replace the CP card.

BUG7079

Local fault (parity) threshold exceeded. Switchover failed.

ACTION: Reset or replace CP card.

BUG7080 - to - BUG7099

Software code descriptions.

Certain faults will require gathering BUG messages and forwarding these messages to a Northern Telecom support group for resolution.

If BUG messages do not cause problems, they can be ignored

ACTION: Contact your technical support group.

BUG7100

IPB database not found.

ACTION: Restore the database from the backup disk.

BUG7101

IPB database of an unexpected release.

ACTION: Restore the database from the backup disk.

BUG7102

IPB x database parse error(s) occurred.

ACTION: Restore the database from the backup disk.

BUG7103 - to - BUG7104

Software code descriptions.

Certain faults will require gathering BUG messages and forwarding these messages to a Northern Telecom support group for resolution.

If BUG messages do not cause problems, they can be ignored.

ACTION: Contact your technical support group.

BUG7105

IPB card inserted did not fully seat IRQ disabled.

ACTION: Check card keying, or re-seat the card.

BUG7106 - to - BUG7221

Software code descriptions.

Certain faults will require gathering BUG messages and forwarding these messages to a Northern Telecom support group for resolution.

If BUG messages do not cause problems, they can be ignored.

ACTION: Contact your technical support group.

BUG7222

Class <name> failed in init phase.

ACTION: Initialize the system with the manual INIT button.

BUG7223 - to - BUG7225

Software code descriptions.

Certain faults will require gathering BUG messages and forwarding these messages to a Northern Telecom support group for resolution.

If BUG messages do not cause problems, they can be ignored

ACTION: Contact your technical support group.

BUG7226

HI directory not known to DLO.

ACTION: Reinstall the software from the installation disks.

BUG7227

Corrupted HI directory name: <file name>.

ACTION: Restore the database from the backup disk.

BUG7228

Cannot open directory <name>. Error number??

ACTION: Restore the database from the backup disks.

BUG7229

Failed to copy from <drive> to <drive>.

ACTION: Check that the disk is in the correct drive.

BUG7230

Failed to save <file name>. Error number??

ACTION: Check the CMDU power switch.

BUG7231 - to - BUG7235

Software code descriptions.

Certain faults will require gathering BUG messages and forwarding these messages to a Northern Telecom support group for resolution.

If BUG messages cause no problems, they can be ignored.

ACTION: Contact your technical support group.

BUG7236

Cannot locate HI data directory.

ACTION: Restore the database from the backup disk.

BUG7237 - to - BUG7346

Software code descriptions.

Certain faults will require gathering BUG messages and forwarding these messages to a Northern Telecom support group for resolution.

If BUG messages do not cause problems, they can be ignored.

ACTION: Contact your technical support group.

BUG7347

Exception. restarting with code **x**.

ACTION: Check the CMDU power switch. Be sure the IP Enb/Dis switch is enabled. Check both ends of the IOP SCSI cable and both CMDUs.

BUG7348 - to - BUG7378

Software code descriptions.

Certain faults will require gathering BUG messages and forwarding these messages to a Northern Telecom support group for resolution.

If BUG messages do not cause problems, they can be ignored.

ACTION: Contact your technical support group.

BUG7379

Failed to find the IOP that passed the self test.

ACTION: Be sure the IOP enable/disable switch is up. Re-seat or replace the security cartridge on the IOP.

BUG7380

Failed to find the IOP that passed the self test. Switchover and restart will be attempted.

ACTION: Re-seat or replace the IOP.

BUG7381

Failed to find IOP on both sides.

ACTION: Reseat or replace both Hips. Be sure the enable/disable switches are up.

BUG7382 - to - BUG7431

Software code descriptions.

Certain faults will require gathering BUG messages and forwarding these messages to a Northern Telecom support group for resolution.

If BUG messages do not cause problems, they can be ignored.

ACTION: Contact your technical support group.

BUG7432

Exception. Restarting with code **x**.

ACTION: Be sure the CMDU power is on. Check that the IOP Enb/Dis switch is up. Check both connectors of the IOP SCSI cable, and both CMDUs.

BUG7433 - to - BUG7463

Software code descriptions.

Certain faults will require gathering BUG messages and forwarding these messages to a Northern Telecom support group for resolution.

If BUG messages do not cause problems, they can be ignored.

ACTION: Contact your technical support group.

BUG7464

Failed to find the IOP that passed the self test.

ACTION: Be sure the IOPEnb/Dis switch is up. Reseat or replace the security cartridge on the IOP.

BUG7465

Failed to find the IOP that passed the self test. Attempting switchover.

ACTION: Be sure the IOP Enb/Dis switch is up. Reseat or replace the security cartridge on the IOP.

BUG7466

Failed to find any IOP. Attempting switchover.

ACTION: Be sure the IOP Enb/Dis switch is up. Reseat or replace the security cartridge on the IOP.

BUG7467

Graceful switchover during IOP search was rejected.

ACTION:

BUG7468

Failed to find any IOP on this side. Switchover was rejected.

ACTION: Be sure the IOP Enb/Dis switch is up. Reseat or replace the security cartridge on the IOP.

BUG7469

Failed to find IOP on both sides.

ACTION: Be sure the IOP Enb/Dis switch is up. Reseat or replace the security cartridge on the IOP.

BUG7470 - to - BUG7485

Software code descriptions.

Certain faults will require gathering BUG messages and forwarding these messages to a Northern Telecom support group for resolution.

If BUG messages do not cause problems, they can be ignored.

ACTION: Contact your technical support group.

BUG7486

OS **x y** may not match “diskos” loaded from **z**.

ACTION: Check floppies in floppy drives.

BUG7487

OS **x y** does not match “diskos” loaded from **z**.

ACTION: Check floppies in floppy drives.

BUG7488

SEC Cartridge check failed.

ACTION: Check SEC Cartridge/Dongle. Proceeding without File System.

BUG7489

Attempt to select IOP/CMDU failed. File System may not be accessible.

ACTION: Check the IOP/CMDU. Use MAN INIT when ready.

BUG7490 - to - BUG7493

Software code descriptions.

Certain faults will require gathering BUG messages and forwarding these messages to a Northern Telecom support group for resolution.

If BUG messages do not cause problems, they can be ignored.

ACTION: Contact your technical support group.

BUG7494

A may not match “diskos” loaded from **b**.

ACTION: Check floppies in floppy drives.

BUG7495

A does not match "diskos" loaded from **b**.

ACTION: Check floppies in floppy drives.

BUG7496

Failed to find the IOP.

ACTION: Reseat or replace IOP. Check that IOP enable/disable switch is enable (up).

BUG7497 - to - BUG7579

Software code descriptions.

Certain faults will require gathering BUG messages and forwarding these messages to a Northern Telecom support group for resolution.

If BUG messages cause no problems, they can be ignored.

ACTION: Contact your technical support group.

BUG7580

RST: Remote access timed out.

ACTION: Change to SINGLE mode. Check to make sure that the CP to CP cable is properly connected, and that power on the remote side is not faulty. Also make sure the remote CP board is seated.

BUG7581

Number of SIMMs on both sides does not match.

ACTION: Be sure both sides have the same number of SIMMs installed. Verify the number of good SIMMs in the system by verifying the SYS702 messages received during the cold start.

BUG7582 - to - BUG8999

Software code descriptions.

Certain faults will require gathering BUG messages and forwarding these messages to a Northern Telecom support group for resolution.

If BUG messages do not cause problems, they can be ignored.

ACTION: Contact your technical support group.

BUG9000

Global procedure PTU, returned invalid value. Module: MFC: Procedure: ACTV_UPF_CNI_PTU.

ACTION: Contact your technical support group.

BUG9001

Procedure called with an invalid source. Module: MFC. Procedure: PTU.

ACTION: Contact your technical support group.

BUG9002

Different values returned when procedure called twice in the same timeslice with the same parameters (for early check traffic pegging purposes). Module: NARS. Procedure: NARS_FIND_ROUTE.

ACTION: Contact your technical support group.

BUG9003

The parameters sent are incorrect; either the unprotected route pointer is NIL, or the value assigned to the TRK_BUSY_BIT is incorrect (must be zero or one). Note: the parameters are printed in the BUG message. Module: TRK. Procedure UPD_TRK_BUSY_BIT.

ACTION: Contact your technical support group.

BUG9004

An attempt was made to increment or decrement the idle trunk counter beyond its allowable range (0-254). Procedure: UPD_TRK_BUSY_BIT.

ACTION: Contact your technical support group.

BUG9005

Procedure is called during a PTU early check. Procedure: DIGPROC.

ACTION: Contact your technical support group.

BUG9006

Task spawn failed.

ACTION: If the problem persists, initialize the switch. If the problem continues, contact your technical support group.

BUG9007

A CDR call register has timed out after 5 minutes while waiting for PPM information from the trunk. That call register is idled

ACTION: Contact your technical support group.

BUG9008

Error occurred writing Alarm Management Database.

ACTION: Check the file and the hard disk.

BUG9009

Cannot make a Backup of the existing Alarm Management Database.

ACTION: Check the file and the hard disk.

BUG9010

Cannot close Alarm Management Database file.

ACTION: Check the file and the hard disk

BUG9011

Cannot create/open Alarm Management Database directory.

ACTION: Check the file and the hard disk.

BUG9012

Cannot create Alarm Management Database directory.

ACTION: Check the file and the hard disk.

BUG9013 <list type> <cust> <list>

Corruptions in MANP or DGCR list of CLIP list.

ACTION: Contact your technical support group.

BUG9014

MMIH: Failure to spawn task <taskname>.

ACTION: Contact your technical support group.

BUG9015

MMIH: Failure to create print task message queue.

ACTION: Contact your technical support group.

BUG9016

MMIH: Failure to create semaphore for message buffer.

ACTION: Contact your technical support group.

BUG9017

MMIH: Failure to create message buffer.

ACTION: Contact your technical support group.

BUG9018

An mCIDR return error component (see Appendix C) has been returned with the indication ’invalidCallState’. This means that the network has received the mCIDRequest invoke component from the called party in a state other than the Active state (N10) or the Disconnect indication state (N12).

ACTION: If this is a frequent message, report the problem to your technical suport group.

BUG9019

A mCIDRequest return error component (see Appendix C) has been returned with the indication ’notIncomingCall’. This is considered a bug: mCIDRequest is not to be sent for outgoing calls.

ACTION: If this message appears frequently, report the problem to your technical support group.

BUG9020

A mCIDRequest return error component (see Appendix C) has been returned with the indication ’supplementaryServiceInteractionNotAllowed". This means that the MCID supplementary service is invoked when another supplementary service is already activated or has already been invoked. The Network does not allow this MCID supplementary service invocation in combination with the other supplementary service.

ACTION: Report the problem to your technical support group.

BUG9023

Path replacement: problem when switching from the old to the new connection.

ACTION: Contact your technical support group.

BUG9024

Path replacement protocal failure.

ACTION: Contact your technical support group.

BUG9025

Path replacement: problem with the GF.

ACTION: Contact your technical support group.

BUG9026

Path replacement: Invalid pointer.

ACTION: Contact your technical support group.

BUG9027

Path replacement encoding/decoding proble.

ACTION: Contact your technical support group.

BUG9079

Call Register idled still in RAN queue.

ACTION: Contact your technical support group if the condition persists.

BUG9080

Call Register idled still in broadcast trunk list.

ACTION: Contact your technical support group if the condition persists.

BUG9081

ORIGTN = 0 in a call waiting for RAN.

ACTION: Contact your technical support group if the condition persists.

BUG9082

TERTN = 0 in a call linked to a RAN broadcasting trunk.

ACTION: Contact your technical support group if the condition persists.

BUG9083

Data in the TITH Call Register and the RAN Route data block does not match.

ACTION: Contact your technical support group if the condition persists.

BUG9084

It is not valid to send a Discard Buffer Message for APNSS configurations.

ACTION: Please check the configuration for D-Channel number n.

BUG9085

The Layer 2 Reset Option (prompt L2_RST) does not apply for this type of pcakc.

ACTION: Please check the configuration for D-channel number n.

BUG9087

Call register pointer (CRPTR) passed to procedure BRDCST_UTILITY is out of range.

ACTION: Report the problem if the condition persists

BUG9088

Music Broadcast trunk list is broken.

ACTION: Report the problem if the condition persists.

BUG9089

The number of RAN connecitons available in the system is equal to less than 0.

ACTION: Report the problem and reduce the number of RAN connections until the problem disappears.

BUG9090

The number of RAN Broadcast in route available in the system is equal to less than 0.

ACTION: Report the problem and remove broadcasting RAN route until the problem disappears.

BUG9091

RAN waiting calls list is broken.

ACTION: Contact your technical support group if the condition persists.

BUG9092

RAN trunk list is broken.

ACTION: Contact your technical support group if the condition persists.

BUG9093 LISPTY_TN BRDCST_TN LISPTY_GROUP LISPTY-JUNC

Invalid junctor value in procedure BRDCST_GET_J when looking for a junctor for a RAN or Music Broadcast call. Parameters: LISPTY_TN, BRDCST_TN, LISPTY_GROUP, LISPTY_JUNC

ACTION: Contact your technical support group if the condition persists.

BUG9094 BRDPTY_TN, LISPTY_TN, TALKSLOT_WORD, TALKJUNC_WORD

Attempt to write to NTWK memories with bad timeslot data (zero) avoided for a RAN of Music Broadcast call in procedure BRDCST_SETSPEECH. Parameters: BRDPTY_TN, LISPTY-TN, TALKSLOT_WORD, TALKJUNC_WORD

ACTION: Contact your technical support group if the condition persists.

BUG9095 GLOOP U_G_LOOP:PTRY

Network Loop pointer corruption in BRDCST_SETSPEECH. Parameters: GLOOPX, U_G_LOOP: PTRY

ACTION: Contact your technical support group if the condition persists.

BUG9120

GDLS_CALLPROC, GDLSHTPTR is undefined. Serious software fault which will affect system performance.

ACTION: Contact your technical support group.

BUG9121

GDLS_CALLPROC called with improper SOURCE value.

ACTION: Contact your technical support group.

BUG9123

No port type could be assigned to the TN which was invalid in previous ERR 1 message.

ACTION: Contact your technical support group.

BUG9124

IDLE pads could not be sent. Invalid IDLEFLAG value.

ACTION: Contact your technical support group.

BUG9125

PADS column is outside specified range (0-1). The TN and the PADS values are printed.

ACTION: Check the loss plan for out of range values and modify through the distributor and the manufacturer.

BUG9126

RPAD or TPAD column is outside specified range. The TN RPAD and TPAD are printed.

ACTION: Check the loss plan for out of range values and modify through the distributor and the manufacturer.

BUG9127

An invalid message type was received for a TN specified to receive PAD messaging. The TN and Message type are printed.

ACTION: Check card.db file used for mapping against published values in NTP and modify through the distributor and the manufacturer.

BUG9128

An empty (NULL) value was specified in the loss plan and could not be sent.

ACTION: Contact your technical support group.

BUG9129

An invalid message type was received for a TN specified to receive flexible level messages. The TN and message type are printed.

ACTION: Contact your technical support group.

BUG9130

An invalid message type was encountered when trying to retrieve the encoded message for a specified Receive or Transmit dB value. The message type is printed.

ACTION: Contact your technical support group if the problem persists.

BUG9131

A value smaller than -12dB RX was passed to be encoded but GDLS encoding tables start at this value. A value of -12dB was used instead.

ACTION: Check loss plan table for improvements.

ACTION: Note: Extreme values may be beyond the capabilities of the hardware device.

BUG9132

A value greater than +14dB RX was passed to be encoded but GDLS encoding tables finish at this value. A value of +14dB was used instead.

ACTION: Check the loss plan table for improvements.

ACTION: Note: Extreme values may be beyond the capabilities of the hardware device.

BUG9133

A value smaller than -12dB TX was passed to be encoded but GDLS encoding tables start at this value. A value of -12dB was used instead.

ACTION: Check the loss plan table for improvements.

ACTION: Note: Extreme values may be beyond the capabilities of the hardware device.

BUG9134

A value greater than +14dB TX was passed to be encoded but GDLS encoding tables finish at this value. A value of +14dB was used instead.

ACTION: Check loss plan table for improvements.

ACTION: Note: Extreme values may be beyond the capabilities of the hardware device.

BUG9135

The default port type for the TN passed was not allocated.

ACTION: Contact your technical support group.

BUG9136

The PLOOPTR for the TN passed for default port type allocation was invalid.

ACTION: Contact your technical support group.

BUG9140

Call register removed from the RAN waiting queue still in the RAN waiting call register's list.

ACTION: Report the problem if the condition persists.

BUG9141

A call is connected after the RAN re-started . The beginning of the announcement could be missed.

ACTION: Increase the delay between the two announcements on the RAN machine (up to 2 seconds), or reduce the maximum number of RAN connections.

BUG9149

ACD DN was not found in agent's MQA data block whereas the TN of the agent appears in the position list of the ACD DN.

ACTION: AUDIT_POSITIONS

ACTION: Agent's TN is removed from the position list of the ACD DN. Loop variable is adjusted so that the TN can be audited in the same place where MQA agent's TN used to be. AGENT_ID is removed from ID_TBL if it exists, and from P_POSITION PTR.

BUG9157

A problem occurred during QSIG Diversion.

ACTION: Report the problem along with the parameters output.

BUG9159

The broadcast speechpath was not set-up.

ACTION: Report the problem if the condition persists.

BUG9160

While idling a broadcast call the broadcast timeslot junctor was found to be empty.

ACTION: Report the problem if the condition persists.

BUG9174

The problem occurs when the VI use the GF functionalities.

ACTION: Contact your technical support group.

BUG9175

Attempting to format an invalid or unsupported DPNSS NSI string.

ACTION: FORMAT_NSI. Module DIO.

BUG9176

CRM received in invalid Supplementary Service State.

ACTION: MWIGW_CRM_INPUT. Module DSS.

BUG9177

Invalid GW_FUNCTION..

ACTION: MWIGW_SERVICE. Module IDAGW.

BUG9178

Could not send a Facility (Request) message.

ACTION: RCVD_MWI_ISRM. Module IDAGW.

BUG9179

Could not send a Facility message (either a Facity (Acknowledge) or a Facility (Reject).

ACTION: RCVD_MWI_CRM. Module IDAGW.

BUG9180

Could not send an ISRM containing a Message Waiting NSI string.

ACTION: RCVD_MWI_FAC_REQ. Module IDAGW).

BUG9181

Could not send a CRM with a Clearing Cause of Acknowledge.

ACTION: RCVD_MWI_FAC_ACK. Module IDAGW.

BUG9182

Could not send a CRM.

ACTION: RCVD_MWI_FAC_REJ. Module IDAGW.

BUG9183

Could not send a Facility Reject message.

ACTION: Contact your technical support group.

BUG9184

Could not send a Facility Reject message.

ACTION: MWIGW_FAC_PROB. Module IDAGW.

BUG9185

Invalid direction for MCDN TCAP Diagnostic Code {-} DPNSS Clearing Cause mapping.

ACTION: MAP_DIAG_CC. Module IDAGW).

BUG9186

Invalid new call state.

ACTION: MWIGW_SET_STATE. Module IDAGW.

BUG9187

ITEMPTR is NIL.

ACTION: MWIGW_PARM_CHK. Module IDAGW.

BUG9188

MCDN Message CR pointer is invalid.

ACTION: MWIGW_PARM_CHK. Module IDAGW.

BUG9189

CRPTR is invalid.

ACTION: MWIGW_PARM_CHK. Module IDAGW.

BUG9190

Invalid GW_FUNCTION.

ACTION: MWIGW_PARM_CHK. Module IDAGW.

BUG9191

Could not map the digits for the OLI of the outgoing Message Waiting ISRM.

ACTION: MWIGW_GET_OLI. Module IDAGW.

BUG9225

Corruption of word RINGSLOT_JUNC in the UBCS_BASICBLK has occurred.

ACTION: Contact your technical support group.

BUG9234

Wrong parameters have been passed to MEET_HANDLER, MEET_RCV_MSG or MEET-HANDLER_NAS. Output: {x} = 1 MEET-HANDLER, 2 MEET_RCV_MSG, 3 MEET_HANDLER_NAS {y} = REQ value, {z} = DATA1 value

ACTION: Contact your technical support group.

BUG9235

Registration to GF of MCDN End to End Transaparency has failed.

ACTION: Contact your technical support group.

BUG9236

The message indicates a QSIG call transfer protocol failure.

ACTION: Action: Contact your technical support group.

BUG9237

QSIG call transfer. A problem exists with the GF.

ACTION: Action: Contact your technical support group.

BUG9238

QSIG call transfer. A pointer is invalid.

ACTION: Action: Contact your technical support group.

BUG9239

A problem exists with the QSIG call transfer encoding and decoding.

ACTION: Action: Contact your technical support group,.

BUG9258

An invalid state for incoming TWR1 call. Output data: trktn source tw_inc_pm.

ACTION: Contact your technical support group.

BUG9259

The current maximum interface number was found to be invalid when using overlay 73 to add an interface to the D-channel list.

ACTION: Action: Contact your technical support group.

BUG9260

Itempointer is nil in TAIWAN_HANDLER.

ACTION: Contact your technical support group.

BUG9262

This supervision type is not for Japan DID or CO.

ACTION: Contact your technical support group.

BUG9263

The ACLI son call register is NIL.

ACTION: Contact your technical support group.

BUG9265

The number of portalbes configured in the system has reached the limit.

ACTION: Contact your technical support group.

BUG9266

A problem occured during QSIG Call Transfer.

ACTION: Action: Report the problem.

BUG9267

Procedure DV_CLEAR_FLAGS: NIL pointer passed.

ACTION: Contact your technical support group.

BUG9271

VNS processing was unable to release recourses by calling VNS_END_OF_DIAL. Possible system INI was prevented.

CCED — LD 135 Core Common

In this chapter

How the CCED works

LD 135 (Core Common Equipment Diagnostic) provides diagnostic and maintenance information for Option 51C/61C/81 machines. It provides a means of performing the following functions:

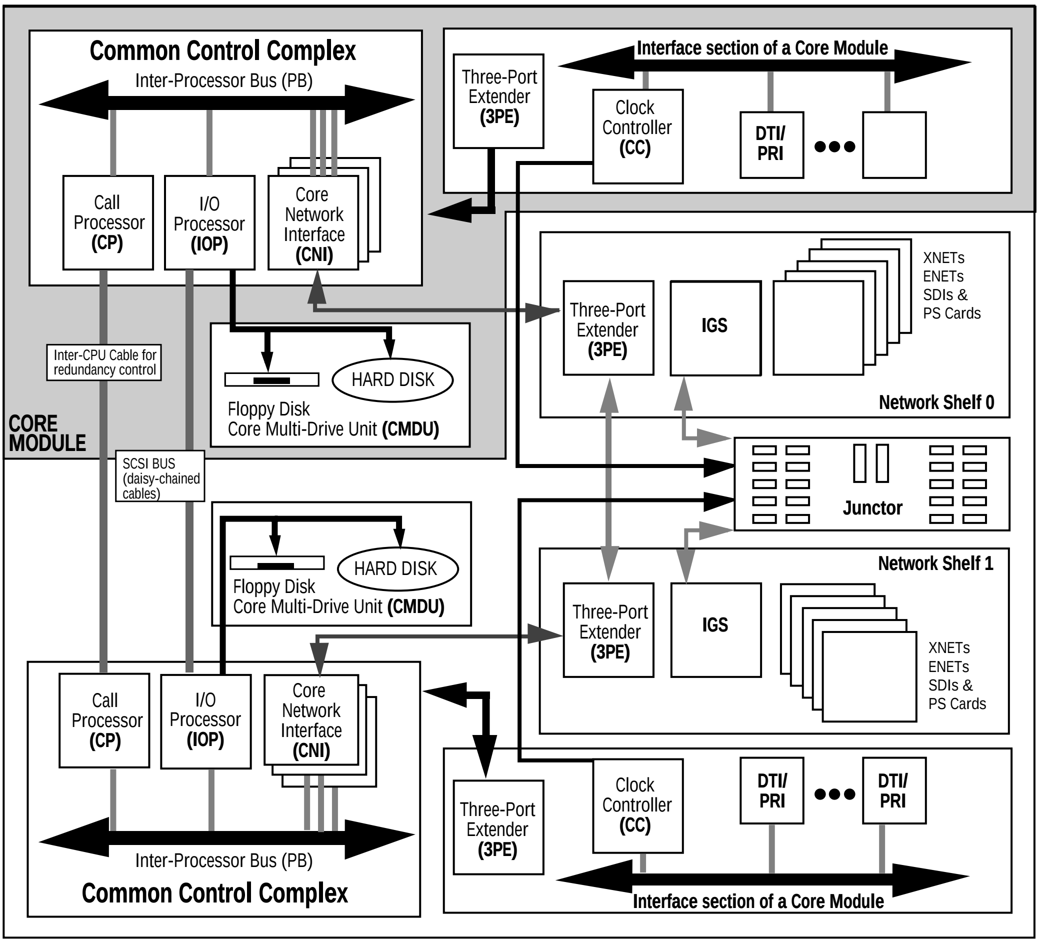
- clearing minor and major alarms
- clearing and printing maintenance display contents for the primary Core
- testing the idle Core
- displaying CP card status and ID
- enabling and disabling CNI cards
- displaying CNI card ID and status
- testing SIMMs, inactive CNIs, and standby Core during daily routines
- switching Cores when in redundant mode
- during midnight routines checking primary CNIs, checking for Core redundancy, and attempting to switch Cores

Common control complex

The common control complex (Core) consists of an Inter Processor Bus (IPB), Call Processor (CP), Input/Output Processor (IOP), Core to Network Interface (CNI), and Core Multi-Drive Unit (CMDU), all contained in a Core Module.

The Option 61C and 81 has two Core modules to provide redundancy. The Option 51C has only one Core module.

The diagram below depicts an Option 81 layout. The layout for the Option51Cand 61C is similar except there is only one CNI card for each Core Module.



553-0171T CCED

Inter-Processor Bus

The IPB is a multi-master bus used by the CP to communicate with various core units. The address and data bus is capable of handling 32 bits.

Special circuit components

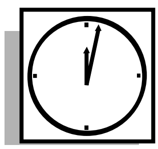
Bus Interface Chip — The BIC provides interface to the IPB, and replaces the Omega IF card. The BIC is found on all Core cards except CBT and CMDU cards.

System Resource ASIC — The SRA provides interrupt handling, timers and local bus arbitration on the CP. The SRA replaces part of the Omega FN card.

Changeover Memory Block — The CMB provides DRAM control and separate updating of memory (shadowing). The CMB replaces the CMA card.

CCED common commands

Command	Description	Release
Clear maintenance displays and alarms		
CDSP	Clear maintenance displays. This command sets the maintenance display for the primary CP to blank.	51C/61C/81-19
CMAJ	Clear major alarm, and reset power fail transfer.	51C/61C/81-19
CMIN ALL	Clear minor alarm indication for all customers.	51C/61C/81-19
CMIN n	Clear minor alarm indication for customers.	51/C61C/81-19
Run midnight routines		



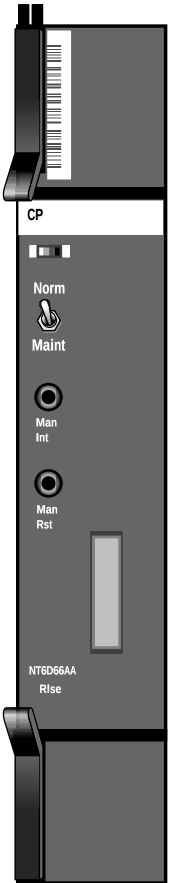
MIDN	Run midnight routines after LD 135 is aborted and TTY is logged out.	51C/61C/81-19

CCED common commands (continued)		
Command	**Description**	**Release**
Split mode		
SPLIT	Put a redundant (shadowed) system into single (non-shadowed) mode. The active Core remains active. Use this command for parallel reload, and for diagnostics requiring split mode operation. Additionally, the standby (inactive) Core “wakes up” and does a system level INIT. When the command is successful, OK is printed. If it is not successful, an error message is printed. This command has the same effect as putting both Cores into MAINT. If a terminal is connected to the secondary Core's CPIO port, OS level start-up messages appear as well as INI messages. This is not an error, and is operating according to design. If the disks are not synchronized, the command aborts, and an error message appears.	51C/61C/81-19
Restore redundancy		
SHDW	Restore redundancy to a system put in single mode by the SPLIT command. This command cannot be used unless the system is already SPLIT. This command MUST be entered by the CPIO port on the secondary CP. This command puts the secondary CP to “sleep”. Once the secondary CP is asleep, the primary CP begins the process of updating the secondary CP’s memories so they match the primary CP. This command does NOT synchronize the contents of the CMDUs. Use LD 137 to synchronize the CMDUs. When implementing this command, the following is output: WARNING: CP x will be put to SLEEP. Enter <YES> to continue, or press <return> to abort.	

CCED common commands (continued)		
Command	**Description**	**Release**
Switch cores		
SCPU	Switch Cores. This command causes the inactive CP to become active. If the switchover is successful, `OK` is printed. If it is not successful, an error message is printed. If, when attempting to switch CPs, the system determines that the currently active side is better than the standby side, and a message appears on the TTY: `FORCE? Enter <YES> to force SCPU to standby Core x. Press <Return> to abort SCPU.` Entering Yes continues the switch. Entering a Carriage Return <CR> defaults to No and retains the currently active side.	51C/61C/81-19
Print core ID		
IDC CPU	Print card ID for the active Core. The printout appears in the following format: **x y pppppppppp rrssss ccccccc** **x** = Core number (0 or 1) **y** = Slot number (8-12) **pppppppppp** = PEC code **rr** = Release number **ssss =** Serial number **cccccccc** = Comments (optional) .	51C/61C/81-19

CCED common commands (continued)		
Command	**Description**	**Release**
Test core		
TEST CPU	Test the inactive (standby) Core. This command performs NO tests upon the active (primary) Core. The Core Module Backplane, CP to CP cables, and memory are tested to ensure that Split mode can be entered safely. Then the CP is tested. The system enters split mode, runs the test, and returns to redundancy (memory shadowing). This may take a few minutes because of the time required to re-establish memory shadowing and contents. It is possible, during the test, that service may be interrupted if an error occurs on the single active Core. Output from this test is `OK,` or a CCED message. Refer to the specific message for more information. Testing the secondary (inactive) Core is done by performing a “reset” on the secondary Core. If a terminal is connected to the secondary Core's CPIO, cold start diagnostics are displayed on the terminal. This is not an error, and is operating according to design.	51C/61C/81-19

CP — Call Processor



553-0172T CP(CCED)

Purpose

The CP card provides control and switching sequences for Option 51C, 61C, 81 and 81C.

Function

The CP performs a function similar to the Omega processor, as described in the *CED* chapter, in this guide, with the following exceptions:

- the CP has twice the real time capacity of the Omega processor and uses a 32-bit Motorola 68030 processor.
- The CP card of the Option 81C uses a 68040 processor. This CP card can be used on the Option 81.
- the CP provides six slots for up to 24 megabytes of memory, using 4 megabyte Single In-line Memory Modules (SIMM). CPs are factory equipped with 16 megabytes of memory. Core memory is separate making it less susceptible to data corruption than previous memory
- system reload does not affect the real time clock
- each CP has two serial data interface ports, which are active when the CP is active. One is used for maintenance diagnostics with a DTE, and the other with a DCE for remote use by NT

Features

The CP faceplate includes the following features:

- a two line 24 LCD for plain language maintenance messages. At the bottom of the LCD a small rectangle flashes to indicate the active CP
- a reload button, Man Rst, for system software reloading
- an LED which flashes three times to indicate a passed self test, and when steady lit indicates a disabled processor
- a manual initialize button, Man Int, associated with the active processor, which when pushed will rebuild part of the memory and check for CE faults
- a normal maintenance switch, Norm Maint, when set to Maint is used to force the processor active. This switch is also used when updating from one software release to another

CP faceplate hex codes

The NT6D66 Call Processor (CP) card in Options 51C/61C/81 utilizes plain text messages as well as Hex messages for system maintenance, messages status, and errors. The Table on the following page lists the different LCD messages that appear on the CP card faceplate. The standard Hex messages also appear on this LCD display.

BOOT ERROR: RPT. Init

System failed to initialize correctly.

ACTION: Contact your technical support group.

Card is AP: IDLE

Checking to determine if the system can be Split.

ACTION: Information only, no action required.

Exit CP-BUG

The debug program is being exited.

ACTION: Information only, no action required.

In CP-BUG

The debug program was entered.

ACTION: Information only, no action required.

SIOx Created

CP serial port **x** already exists.

ACTION: Contact your technical support group.

SIOx Init Fail

CP serial port **x** failed to initialize the device specific database.

ACTION: Contact your technical support group.

SIOx No Drv

No device driver associated with CP serial port **x**.

ACTION: Contact your technical support group.

Type CTRL-B to run CP-BUG debugger

Options 51C/61C/81 start-up. Output to CP port prior to loading the operating system.

ACTION: Contact your technical support group.

Core commands		
Command	**Description**	**Release**
CP Display		
DSPL	Get contents of maintenance display for the active Core. If the maintenance display is blank, **BLANK** is output.	51C/61C/ 81-19
DISPL ALL	Get contents of maintenance display for the active Core, and previous 63 displays.	51C/61C/ 81-19
CP and SIMM Status		
STAT CPU	Get the status and core numbers for both CPs. Possible responses are: **ENBL** = CP is running **IDLE** = CP is in standby **DSBL** = CP is disabled If the status is DSBL, one of the following OOS reasons is printed: **0** = CP card local bus parity threshold exceeded **1** = CP card sanity timeout threshold exceeded **10** = Secondary CP is not accessible **16** = Secondary CP has a major fault This command also prints out the results of the latest self-test, and the position of the Maint/Norm switch.	51C/61C/81-19
STAT MEM c m	Get status of SIMMs on both CPs. To get the status of a single SIMM, or a specific side enter the following information. **c** = Core (0 or 1) **m** = SIMM number (0-5) If m is not entered, status for all SIMMs is printed. If the status is Disabled (DSBL), the device is not accessible.	51C/61C/81-19

Core commands (continued)

Command	Description	Release
Test CP		
TEST LCD	Test the LCD display on the active CP card. The following test pattern is displayed on the active CP card's display: **8888888888888888** **8888888888888888** **ABCDEFGHIJKLMNOP** **QRSTUVWXYZ123456** **abcdefghijklmnop** **qrstuvwxyz012345** The first two tests occur very quickly, so you may actually see only the third one.	51C/61C/81-19

Core to Network Interface

The CNI combines the functions of two Segmented Bus Extenders. Three CNI cards are used to connect the Core to five network groups.

Refer to the *CNI* chapter in this guide for a description of the CNI card.

CNI commands		
Command	**Description**	**Release**
Status CNI		
STAT CNI c s p	Get the status of all configured CNIs. Also prints the Network Group number of both ports on each CNI. To get the status of a specific CNI port, enter the following information. Entering only STAT CNI gets the status for all CNI ports. **c** = Core number (0 or 1) **s** = Slot number (8-12) **p** = Port number (0 or 1) If the P is not entered, the status of both ports is printed. If the status is **DSBL** (Disabled), one or more of the OOS reasons may appear. What actually appears are the numbers associated with the OOS text as follows: **0** = CP local bus parity threshold exceeded. **Action:** Contact your technical support group. **1** = CP card HPM time-out threshold exceeded. **Action:** Contact your technical support group. **8** = Unconfigured CNI card. **Action:** Refer to the *administration input/output guide*. Use LD7 CEQU to program CNI. **9** = Port has been disabled by craftsperson. **Action:** Information only. Take appropriate action as required.	51C/61C/81-19

CNI commands (continued)		
Command	**Description**	**Release**
Status CNI		
STAT CNI c s p continued	**10** = Device is not accessible. **Action:** Install a CNI card following the steps in the *Hardware replacement* guide. **16** = CNI to 3PE cable 1 on specified card and port lost. **Action:** Check both connector ends of the CNI-3PE cable. **17** = CNI to 3PE cable 2 on specified card and port lost. **Action:** Check both connector ends of the CNI-3PE cable. **18** = 3PE power lost. **Action:** Check the power supply circuit breakers on the network shelf where the 3PE is located and reset then if required. If the circuit breaker trips replace the power supply card following the steps in the *Hardware replacement* guide. If the circuit breaker trips after replacing the power supply card, remove all the cards and reset the circuit breaker. If the circuit breaker trips after all the cards are removed, replace the shelf backplane following the steps in the *Hardware replacement* guide. If the circuit breaker does not trip after all the cards are removed, replace the Network shelf cards one at a time until the card causing the circuit breaker to trip is found, then replace the card(s) following the steps in the *Hardware replacement* guide **19** = 3PE has been manually disabled. **Action:** Information only. Take appropriate action as required. **20** = CNI card has been manually disabled. **Action:** Information only. Take appropriate action as required.	

CNI commands (continued)		
Command	**Description**	**Release**
Status CNI		
STAT CNI c s p continued	**21** = Card test failed. **Action:** Replace the CNI card following the steps in the *Hardware replacement* guide. After replacing the card verify that the fault is cleared. **22** = Port test failed. **Action:** Replace the CNI card following the steps in the *Hardware replacement* guide. After replacing the card verify that the fault is cleared. **23** = Extender disabled by Meridian 1 initialization. **Action:** Use ENL CNI to enable the extender. **24** = Port interrupt line 0 disabled. **Action:** Contact your technical support group. **25** = Port interrupt line 1 disabled. **Action:** Contact your technical support group. **26** = Port interrupt line 2 disabled. **Action:** Contact your technical support group. **27** = Port interrupt line 3 disabled. **Action:** Contact your technical support group.	

CNI commands (continued)		
Command	**Description**	**Release**
Test CNI port		
TEST CNI c s p	Test the CNI port. **c** = Core number (0 or 1) **s** = Slot number (8-12) **p** = Port number (0 or 1) If the P is not entered, both ports are tested. This command can test Standby CNIs as well as active CNIs that are out-of-service. This may take a few minutes because of the time required to re-establish memory shadowing and contents. When the command is successful, `OK` is printed. If it is not successful, an error message is printed.	51C/61C/81-19
Disable CNI port		
DIS CNI c s p	Disable the CNI port. **c** = Core number (0 or 1) This must be the standby side. Disable the active side if the CNI is not in service. **s** = Slot number (8-12) **p** = Port number (0 or 1)	51C/61C/81-19
Enable CNI port		
ENL CNI c s p	Enable the CNI port. **c** = Core number (0 or 1) **s** = Slot number (8-12) **p** = Port number (0 or 1) If the P is not entered, both ports, and the card itself are enabled. A port cannot be enabled if the card is disabled. Enabling the CNI card will also enable the 3 Port Extender card.	51C/61C/81-19

CNI commands (continued)		
Command	**Description**	**Release**
Print CNI ID		
IDC CNI s	Print the card ID for the CNI on the active side. s = Slot number (8-12) The printout appears in the following format: **x y pppppppaa rrssss ccccccc** **x** = Core number (0 or 1) **y** = Slot number (8-12) **pppppppp** = PEC code **aa** = Attribute code **rr** = Release number **ssss** = Serial number **cccccccc** = Comments (optional)	51C/61C/81-19

CCED messages

CCED000 No errors detected.

ACTION: Information only, no action required.

CCED001 Invalid command.

ACTION: Ensure that this is the command you wanted to use.

CCED002 Invalid device name.

ACTION: Check to make sure your data is correct and if applicable, re-enter the command.

CCED003 Extra arguments.

ACTION: Check to make sure your data is correct and if applicable, re-enter the command.

CCED004 Insufficient arguments.

ACTION: Check to make sure your data is correct and if applicable, re-enter the command. You may need to be more specific about the side and slot.

CCED005 That device is already enabled.

ACTION: Ensure that this is the command you wanted to use.

CCED006 That device is already disabled.

ACTION: Ensure that this is the command you wanted to use.

CCED007 Core side numbers can only be 0 or 1.

ACTION: Check to make sure your data is correct and if applicable, re-enter the command.

CCED008 Invalid slot number.

ACTION: Check to make sure your data is correct and if applicable, re-enter the command. Slot numbers must be in the range of 8 to 12.

CCED009 Specified device is not configured, and not responding.

ACTION: Configure the device using the appropriate overlay, and if applicable, re-enter the command. If the device is configured and is seated in the backblane but does not respond, replace the device by following the steps in the *Hardware replacement* guide. After replacing the device verify that the fault is cleared.

CCED010 Specified device does not respond.

ACTION: If the device is configured and is seated in the backplane but does not respond, replace the device by following the steps in the *Hardware replacement* guide. After replacing the device verify that the fault is cleared.

CCED011 Specified device is not configured.

ACTION: Refer to the *administration input/output guide*.
Use the appropriate overlay to configure the device and re-enter the command.

CCED012 Unable to make the transition to split mode. The test is aborted.

ACTION: Check the cables on the core module backplane at 14A and 14C for bent pins or improper connections. Run TEST CPU to verify that the system will enter the split mode.

CCED013 Performing diagnostics.

ACTION: Wait for test completion(s) before continuing.

CCED014 Test failed because the system is unable to enter Split mode

ACTION: Check cables on the core module backplane at 14A and 14C for bent pins or improper connections. Run TEST CPU to verify that the system will enter the split mode.

CCED015 Operation failed because the system is only recognizing one CPU.

ACTION: Check the cables on the core module backplane at 14A and 14C for bent pins or improper connections. Check the system for redundancy. First, use STAT CPU to ensure that one CPU is running and the other is in standby; then use STAT in LD 137 to check for CMDU disk redundancy. If the fault does not clear, replace the CP card following the steps in the *Hardware replacement* guide. Verify that the fault is cleared.

CCED016 Invalid operand.

ACTION: Check to make sure your data is correct and if applicable, re-enter the command.

CCED017 Unable to restore redundancy.

ACTION: Check the cables on the core module backplane at 14A and 14C for bent pins or improper connections. Place the active CP into maintenance mode, and Sysload the secondary CP, allowing the prime CP to attempt to synchronize memories.

CCED018 Secondary side unable to complete test.

ACTION: Check the cables on the core module backplane at 14A and 14C for bent pins or improper connections. Place the active CP into maintenance mode, and Sysload the secondary CP, allowing the prime CP to attempt to synchronize memories.

CCED020 Cannot enter Split mode when disks are not synchronized.

ACTION: Use SYNC in LD 137 to re-synchronize the hard disks. If you need help with the commands or system responses refer to the *CIOD* chapter in this guide.

CCED021 Cannot perform SHDW command from CP running call processing.

ACTION: Enter this command from the CPIO port on the secondary CP.

CCED022 Cannot use SHDW command without using the SPLIT command first.

ACTION: Use the SPLIT command to put the system into single mode.

CCED023 Cannot perform TEST when primary SIMM is faulty.

ACTION: Use the SCPU command to switch Cores and try again.

CCED024 Cannot perform TEST when secondary SIMM is faulty.

ACTION: Use the SCPU command to switch Cores and try again.

CCED025 Command is not applicable to single CPU system.

ACTION: Ensure that this is the command you wanted to use.

CCED100 Error clearing major alarm.

ACTION: Check to make sure your data is correct and if applicable, re-enter the command. If this message reappears contact your technical support group.

CCED101 Unrecognized customer number.

ACTION: Refer to the *administration input/output guide*. Use LD 21 CDB to check the customer number. Check to make sure your customer number data is correct and if applicable, re-enter the command.

CCED102 Unable to clear the alarm for customer x.

ACTION: Check to make sure your customer number data is correct and if applicable, re-enter the command.

CCED200 CPU test failed.

ACTION: Replace the CP card following the steps in the *Hardware replacement* guide. Verify that the fault is cleared by running this test again. If this message reappears contact your technical support group.

CCED201 SRAM test failed.

ACTION: Replace the CP card following the steps in the *Hardware replacement* guide. Verify that the fault is cleared by running this test again. If this message reappears contact your technical support group.

CCED202 HPM test failed.

ACTION: Replace the CP card following the steps in the *Hardware replacement* guide. Verify that the fault is cleared by running this test again. If this message reappears contact your technical support group.

CCED203 SRA test failed.

ACTION: Replace the CP card following the steps in the *Hardware replacement* guide. Verify that the fault is cleared by running this test again. If this message reappears contact your technical support group.

CCED204 BIC test failed.

ACTION: Replace the CP card following the steps in the *Hardware replacement* guide. Verify that the fault is cleared by running this test again. If this message reappears contact your technical support group.

CCED205 CMB test failed.

ACTION: Replace the CP card following the steps in the *Hardware replacement* guide. Verify that the fault is cleared by running this test again. If this message reappears contact your technical support group.

CCED207 DUART test failed.

ACTION: Replace the CP card following the steps in the *Hardware replacement* guide. Verify that the fault is cleared by running this test again. If this message reappears contact your technical support group.

CCED208 TOD test failed.

ACTION: Replace the CP card following the steps in the *Hardware replacement* guide. Verify that the fault is cleared by running this test again. If this message reappears contact your technical support group.

CCED209 PEROM test failed.

ACTION: Replace the CP card following the steps in the *Hardware replacement* guide. Verify that the fault is cleared by running this test again. If this message reappears contact your technical support group.

CCED210 LCD test failed.

ACTION: Replace the CP card following the steps in the *Hardware replacement* guide. Verify that the fault is cleared by running this test again. If this message reappears contact your technical support group.

CCED211 ASIC ICC test failed.

ACTION: Replace the CP card following the steps in the *Hardware replacement* guide. Verify that the fault is cleared by running this test again. If this message reappears contact your technical support group.

CCED212 SIMM number x failed self test.

ACTION: Replace the CP card following the steps in the *Hardware replacement* guide. Verify that the fault is cleared by running this test again. If this message reappears contact your technical support group.

CCED213 Operation failed because the system is in maintenance mode.

ACTION: Use STAT CPU to verify that the CP card is not in the maintenance mode and then re-try the command.

CCED214 Cannot switch Cores (SCPU) because the secondary Core is faulty.

ACTION: Use TEST CPU, TEST IPB, TEST CNI to test the Common Control Complex. Use TEST CMDU, TEST IOP, TEST SCSI in LD 137 to test the Core Multi-drive Unit. Replace any faulty cards, one at a time, following the steps in the *Hardware replacement* guide and verify that the fault is cleared. If this message reappears when trying to switch Cores, contact your technical support group.

CCED215 Unable to perform switchover.

ACTION: Use TEST CPU, TEST IPB, TEST CNI to test the Common Control Complex.Use TEST CMDU, TEST IOP, TEST SCSI in LD 137 to test the Core Multi-drive Unit. Replace any faulty cards, one at a time, following the steps in the *Hardware replacement* guide and verify that the fault is cleared. If this message reappears when trying to switch Cores, contact your technical support group.

CCED216 Unable to lockout graceful switchover possibility.

ACTION: Try again. If this message reappears contact your technical support group.

CCED217 Cannot switch Cores (SCPU) because the core shelf resource is in use.

A critical core shelf resource was being accessed when the SCPU command was entered.
ACTION: Try again. If this message reappears contact your technical support group.

CCED218 Cannot switch Cores because the standby core resource has a fault.

One of the standby IPB devices has a fault.
ACTION: Use STAT CNI, STAT CPU, and STAT MEM commands to check cards on the Inter-processor Bus. Replace the faulty cards one at a time following the steps in the *Hardware replacement* guide. Verify that the fault is cleared by running this test again. If the fault is not cleared, check the cables on the core module backplane at 14A and 14C for bent pins or improper connections.

CCED219 Cannot switch Cores (SCPU) because the standby net resource has a fault.

One of the network shelves has a fault.
ACTION: Run LD 30 and LD 45 in the background to help identify network faults. If there are no further network faults and you still cannot switch Cores, use STAT CNI to verify that all CNIs are enabled. Use TEST CNI c s p test for faulty CNIs. Replace any faulty CNIs following the steps in the *Hardware replacement* guide. Use DIS CNI c s p and ENL CNI c s p to disable and re-enable the CNIs, then retry switching the Cores. If the Cores do not switch, contact your technical support group, as it is possible that the database file is in an OOS state.

CCED220 Cannot switch Cores (SCPU) because the system is not in redundant mode.

The system is currently running in single mode, so the SCPU command failed.
ACTION: Set the active CP Maint/Norm switch to Maint. Set the standby CP Maint/Norm switch to Maint. Press the Man Rst button on the standby CP and then switch the standby CP to NORM. Memories are synchronized when a DONE message appears. Set the active CP switch to Norm. Use STAT CMDU in LD 137 to check if CMDUs are synchronized and, if not, then use the SYNC command.

CCED221 Cannot SCPU because the memories are not synchronized.

ACTION: Place the Maint/Norm switch on the active CP to Maint, and press the Man Rst button on the standby CPU, allowing the active CP to synchronize memories. Re-enter the command.

CCED222 Fault found during SCPU. System returned to side x.

ACTION: Use TEST CPU, TEST IPB, TEST CNI to test the Common Control Complex. Use TEST CMDU, TEST IOP, TEST SCSI in LD 137 to test the Core Multi-drive Unit. Replace any faulty cards, one at a time, following the steps in the *Hardware replacement* guide and verify that the fault is cleared. If this message reappears when trying to switch the Cores, contact your technical support group.

CCED300 Invalid SIMM number.

ACTION: Use STAT CNI to get the SIMM number and re-enter the command.

CCED304 Memory test successful. All secondary SIMMs enabled.

ACTION: Information only, no action required.

CCED305 Memories are not synchronized.

ACTION: Wait a few minutes and try again.

CCED400 Port numbers can only be 0 or 1.

ACTION: Check to make sure your port number is correct and if applicable, re-enter the command.

CCED401 Cannot disable the CNI when it is active and in service.

ACTION: Use the SCPU command and re-enter the disable command.

CCED402 The far end extender did not respond and cannot be enabled.

ACTION: Use STAT CNI c s p and TEST CNI c s p to identify the extender. If appropriate, replace the 3PE card or the CNI card or the cable, following the steps in the *Hardware replacement* guide. Verify that the fault is cleared and try again.

CCED403 Cannot enable the port when the card is disabled.

ACTION: Check that the Enb/Dis switch CNI card faceplate is in the Enb position. Refer to the *administration input/output guide*. Use LD 17 to ensure the CNI card is configured correctly and then re-try the enable command.

CCED404 Cannot enable a port that does not have a group configured.

ACTION: Refer to the *administration input/output guide*. Use LD 17 to configure a loop for the group before enabling this port.

CCED405 Cannot test the CNI card that is active and in service.

ACTION: Use the SCPU command to put the CNI card in standby mode and retry the command.

CCED407 Cannot enable CNI card/port w x y because of reason z.

For CNI cards, **w** = side and **x** = slot.

For CNI ports, **w** = side, **x** = slot, and **y** = port.

Reason **z** may be one of the following.

8 = Unconfigured CNI

9 = Port has been disabled by craftsperson

10 = Device is not accessible

16 = CNI to 3PE cable 1 on specified card and port lost

17 = CNI to 3PE cable 2 on specified card and port lost

18 = 3PE power lost

19 = 3PE has been manually disabled

20 = CNI card has been manually disabled

21 = Card test failed

22 = Port test failed

23 = INI disabled network

24 = READY interrupt is stuck for this group

25 = I/O interrupt is stuck for this group

26 = LINE interrupt is stuck for this group

27 = CNI maintenance interrupt is stuck for this group

ACTION: Replace the faulty CNI card following the steps in the *Hardware replacement* guide. Repeat the command to verify that the fault is cleared.

CCED408 Will attempt to enable CNI card/port at the next switchover.

The CNI card or port has been noted as enabled. Because it resides on the standby side, it cannot actually be enabled until the standby side becomes active.
For CNI cards, **w** = side and **x** = slot.

For CNI ports, **w** = side, **x** = slot, and **y** = port.

ACTION: Information only, no action required. If the CNI needs to be enabled use the SCPU command.

CCED409 x loopback data errors on the MSB.

ACTION: Replace the CNI card following the steps in the *Hardware replacement* guide. Verify that the fault is cleared by running this test again. If this message reappears contact your technical support group.

CCED410 Event interrupt 0 test failed.

x = side (0-1)

y = slot (8-12)

z = port (0-1)

ACTION: Replace the CNI card following the steps in the *Hardware replacement* guide. Verify that the fault is cleared by running this test again. If this message reappears contact your technical support group.

CCED411 Event interrupt 1 test failed.

x = side (0-1)

y = slot (8-12)

z = port (0-1)

ACTION: Replace the CNI card following the steps in the *Hardware replacement* guide. Verify that the fault is cleared by running this test again. If this message reappears contact your technical support group.

CCED412 Event interrupt 2 test failed.

x = side (0-1)

y = slot (8-12)

z = port (0-1)

ACTION: Replace the CNI card following the steps in the *Hardware replacement* guide. Verify that the fault is cleared by running this test again. If this message reappears contact your technical support group.

CCED413 Event interrupt 3 test failed.

x = side (0-1)

y = slot (8-12)

z = port (0-1)

ACTION: Replace the CNI card following the steps in the *Hardware replacement* guide. Verify that the fault is cleared by running this test again. If this message reappears contact your technical support group.

CCED414 BIC test failed.

x = side (0-1)

y = slot (8-12)

z = port (0-1)

ACTION: Replace the CNI card following the steps in the *Hardware replacement* guide. Verify that the fault is cleared by running this test again. If this message reappears contact your technical support group.

CCED415 Loopback address errors.

x = side (0-1)

y = slot (8-12)

z = port (0-1)

ACTION: Replace the CNI card following the steps in the *Hardware replacement* guide. Verify that the fault is cleared by running this test again. If this message reappears contact your technical support group.

CCED416 Loopback parity test failed.

x = side (0-1)

y = slot (8-12)

z = port (0-1)

ACTION: Replace the CNI card following the steps in the *Hardware replacement* guide. Verify that the fault is cleared by running this test again. If this message reappears contact your technical support group.

CCED417 Loopback address parity invert errors.

x = side (0-1)

y = slot (8-12)

z = port (0-1)

ACTION: Replace the CNI card following the steps in the *Hardware replacement* guide. Verify that the fault is cleared by running this test again. If this message reappears contact your technical support group.

CCED418 Loopback data errors on LSB.

x = side (0-1)

y = slot (8-12)

z = port (0-1)

ACTION: Replace the CNI card following the steps in the *Hardware replacement* guide. Verify that the fault is cleared by running this test again. If this message reappears contact your technical support group.

CCED419 Loopback data errors on MSB.

x = side (0-1)

y = slot (8-12)

z = port (0-1)

ACTION: Replace the CNI card following the steps in the *Hardware replacement* guide. Verify that the fault is cleared by running this test again. If this message reappears contact your technical support group.

CCED420 Loopback data parity errors on LSB.

x = side (0-1)

y = slot (8-12)

z = port (0-1)

ACTION: Replace the CNI card following the steps in the *Hardware replacement* guide. Verify that the fault is cleared by running this test again. If this message reappears contact your technical support group.

CCED421 Loopback data parity errors on MSB.

x = side (0-1)

y = slot (8-12)

z = port (0-1)

ACTION: Replace the CNI card following the steps in the *Hardware replacement* guide. Verify that the fault is cleared by running this test again. If this message reappears contact your technical support group.

CCED422 Event interrupts occurring out of sequence.

x = side (0-1)

y = slot (8-12)

z = port (0-1)

ACTION: Replace the CNI card following the steps in the *Hardware replacement* guide. Verify that the fault is cleared by running this test again. If this message reappears contact your technical support group.

CCED423 Event interrupts lost.

x = side (0-1)

y = slot (8-12)

z = port (0-1)

ACTION: Replace the CNI card following the steps in the *Hardware replacement* guide. Verify that the fault is cleared by running this test again. If this message reappears contact your technical support group.

CCED424 Event interrupts time-out test.

x = side (0-1)

y = slot (8-12)

z = port (0-1)

ACTION: Replace the CNI card following the steps in the *Hardware replacement* guide. Verify that the fault is cleared by running this test again. If this message reappears contact your technical support group.

CCED425 Read strobe test failed.

x = side (0-1)

y = slot (8-12)

z = port (0-1)

ACTION: Replace the CNI card following the steps in the *Hardware replacement* guide. Verify that the fault is cleared by running this test again. If this message reappears contact your technical support group.

CCED426 Write strobe test failed.

x = side (0-1)

y = slot (8-12)

z = port (0-1)

ACTION: Replace the CNI card following the steps in the *Hardware replacement* guide. Verify that the fault is cleared by running this test again. If this message reappears contact your technical support group.

CCED427 CNI port x y z a incorrect. Restored.

x = side (0-1)

y = slot (8-12)

z = port (0-1)

a = EI

ACTION: Replace the CNI card following the steps in the *Hardware replacement* guide. Verify that the fault is cleared by running this test again. If this message reappears contact your technical support group.

CCED428 CNI port x y z is in incorrect mode. Restoring to a mode.

x = side (0-1)

y = slot (8-12)

z = port (0-1)

a = mode

ACTION: Replace the CNI card following the steps in the *Hardware replacement* guide. Verify that the fault is cleared by running this test again. If this message reappears contact your technical support group.

CCED429 CNI port x y z remote device (3PE) is not accessible.

x = side (0-1)

y = slot (8-12)

z = port (0-1)

ACTION: Check both connector ends of the CNI-3PE cable.
Be sure the 3PE Enb/Dis switch is in the Enb position.
Use TEST CNI c s p to check the connections to and from the 3PE card.

CCED500 IPB IRQ test failed. This may indicate a failure on the CP card.

ACTION: Replace the CP card following the steps in the *Hardware replacement* guide. Verify that the fault is cleared by running this test again. If this message reappears contact your technical support group.

CCED501 IPB master arbitration test failed. This may indicate a failure on the CP card.

ACTION: Replace the CP card following the steps in the *Hardware replacement* guide. Verify that the fault is cleared by running this test again. If this message reappears contact your technical support group.

CCED502 IPB event interrupt failed.

This may indicate a failure on the CP card
ACTION: Replace the CP card following the steps in the *Hardware replacement* guide. Verify that the fault is cleared by running this test again. If this message reappears contact your technical support group.

CCED503 IPB backplane parity test failed.

ACTION: Contact your technical support group.

CCED760 Graceful switchover to side x requested.

ACTION: Information only, no action required. This message is normal when using the SCPU command and when LD 135 is included during daily (midnight) routines.

CCED761 Ungraceful switchover to side x requested.

ACTION: Check for faults on side opposite to side **x**.

CCED762 Graceful switchover to side x completed. Previous graceful switchover at <time>.

ACTION: Information only, no action required.

CCED999 LD135 internal error in file <name> at line <number>.

ACTION: Contact your technical support group.

CCED1010
ERDN: SWO denied. Eth.Redundancy feature has already caused a SWO.

ACTION: Wait until the ethernet link on the current side becomes reliable: or disable ERDN feature in LD 137 if a switch-over is necessary.

CCR — Customer Controlled Routing

Refer to the *maintenance input/output guide* for messages and descriptions.

Refer to ACD Northern Telecom Publications for details.

CDM — LD 42 Call Detail Recording

Refer to the *maintenance input/output guide* for messages and descriptions.

Refer to CDR Northern Telecom Publications for details.

CED — LD 35 Common Equipment

In this chapter

> Before changing circuit cards, be aware of the procedures outlined in the *Do this when replacing circuit cards*, section found in *Hardware maintenance tools* chapter *of this guide*

How the CED works

LD 35 is used to maintain the Central Processing Unit (CPU) and related cards. It can run in the background during the daily routines, or be loaded manually to enter commands. Problems are reported by CED messages.

The CED overlay is used to do the following:

- clear the maintenance display
- switch CPUs in dual-CPU systems
- test the idle CPU in dual-CPU systems
- display the status of the CPU and buses
- enable, disable, test and display the status of memory and CMA cards
- enable, disable and display the status of CE extenders

When loaded during daily routines, memory modules are tested.
If there are two CPUs, a CPU switchover is made.

This overlay applies to all systems **except** Options 51C, 61C, 81 and 81C. Refer to LD 135 for Core Common Equipment Diagnostics.

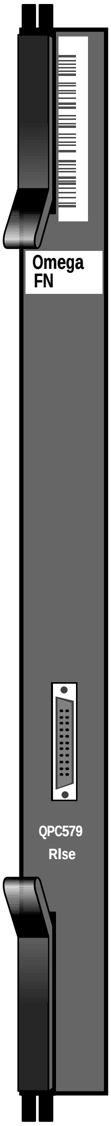
CED common commands		
Command	**Description**	**Release**
Clear display/alarm		
CMAJ	Clear major alarm, reset power fail transfer and clear power fault alarm.	basic-1
CMIN ALL	Clear minor alarm indication on all attendant consoles.	basic-1
CMIN c	Clear minor alarm indication on attendant consoles for customer c.	basic-1

Omega processor

The processor used in the Option 61, 71, Meridian SL-1NT and XT consists of the Omega Function (FN) and the Omega Interface (IF) card. The FN card acts as a central processing unit and the IF card provides a miscellaneous register capability.

The Option 21 and the Meridian 1 STE use a slightly different processor consisting of a combined CPU, and miscellaneous and memory circuits.

FN — Function



553-0173T FN(CED)

Purpose

The Function (FN) card , driven by Meridian 1 software commands, operates the system by providing the control and switching sequences required for the following:

- call processing — connecting phones and trunks
- PE processing — on, or off-hook and dialled DNs
- CE processing — administration and maintenance functions

Function

The software is loaded into the memory from mass storage upon system power-up, and during system operation the software is fed to the CPU through the CE buses. The SL-1 software is:

- written as people friendly High Level Source Code, then
- compiled into Opcode, and placed onto disk, loaded into memory, then
- assembled into a computer friendly Object or Machine code, which
- causes the CPU to operate in a sequence of eight states.

The FN card consists of six Am2901 four-bit bipolar microprocess or integrated circuits, capable of handling 24 bit words. The FN card has a fast RAM stack and associated circuitry which includes the following:

Arithmetic Logic Unit — (ALU) the main computing hardware of the CPU, performsthe following:

- all manipulation of data
- addressing of data storage
- input and output control functions
- arithmetic or mathematical functions such as;
  - add
  - subtract
  - logic and decision functions such as And, Or, Shift, and Complement.

Sequencer — (SEQ) directs the ALU to operate in a sequence of eight states, by providing the ALU with the correct control signals from a Read-Only Memory (ROM). The eight states are:

- trap
- fetch (instruction or data)
- page and word address
- logic function (number crunching)
- read write
- address modification
- deferred fetch
- jump

The fetch task is performed by the IF card.

ROM — contains an interpreter program which converts the operation code into an object code. An object code is a collection of short instruction sequences or subroutines, used to operate the ALU. An interpreter is used so that hardware can be updated by changing the ROM daughter board, instead of making radical changes to the high level software instructions.

16 word register file — is used to hold instructions, data, and addresses. It contains work registers, an instruction counter showing the next instruction to be fetched, a program counter showing the next instruction to be executed, as well as other related information. The result of the executed instruction determines what the next step will be. This is done by allowing the CPU to fetch and execute the instructions in sequence to complete a task or modify the sequence to change the task as the situation warrants, using deferred fetch and jump to new routine.

Opcode instruction register — used to load the register file from a stack of instructions. Data transfers and manipulation are accomplished efficiently using a temporary holding area in memory, called a stack. This stack machine is very well suited to call processing, as it allows the CPU to do subroutines and return to its main program, and to move and manipulate data items smaller than a complete word. Data words are stacked upon one another, and are pushed into the stack and popped out of it. The system has two locations; a main stack, used for data calculations and temporary storage, and a return address stack, which is used to remember the memory location for the next instruction after a subroutine has been executed.

The processors are arranged in a redundant configuration, with one in an active mode and the other in standby mode.

Features on FN card

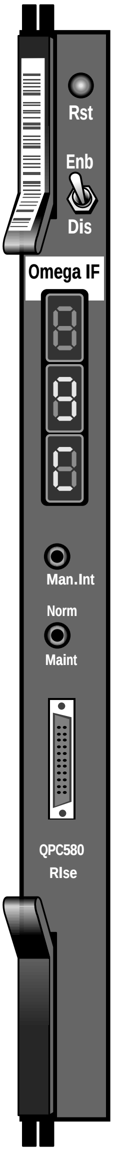
The Function card faceplate includes a 34 pin ribbon cable connector used for FN and IF control communications.

Features on Option 21 and STE/21E

The Option 21 and STE/21E CPU card face-plate features include the following:

- An LED, when lit indicates an inactive CPU or a malfunctioning or disabled CPU.
- The RS button, when pressed, causes the system to reload its software into memory. The system will not process calls until this operation is complete.
- The CPU cards used with the Option 21 and Meridian SL-1ST, MS, and S are equipped with an SDI port.
- The Option 21E and STE are equipped with a three element hex display, manual initialize button and a trickle charge circuit for a battery card mounted on the MPS/SDI card.

IF — Interface



553-0174T IF(CED)

Everything except the FN card(s), IF card(s) and memory is considered an input or output device, and these devices have to interrupt the processor for service.

Purpose

The IF card miscellaneous registers, continuously monitor the system for interrupt signals and fault indicators. When these occur the FN is informed so that appropriate action can be taken.

A Real Time Clock (RTC) is used to keep track of real time for the FN card which performs functions such as dial timing, and special tones.

The IF will send a HELP signal to the Omega CMA during a watchdog timeout, causing a processor changeover.

Function

Interrupt signals - An interrupt signal is an indication that an input or output device requires service or that there is an input message from the PE waiting to be processed. The FN suspends its workschedule and attends to these requests by executing an Interrupt Handler routine on the following priority basis:

Tape Handler — mass storage unit

I/O Handler — cards and devices

Loop Input Intrp Handler — loop ID, shelf-card-unit ID, messin, time stamp

Real Time Clock Handler — real time clock

Loop Output Handler — loop ID, shelf-card-unit ID, messout

Manual Interrupt — reset or reload button

Fault Indicators

Faults detected by the IF card are the result of the following conditions:

Response Timeout — a memory or input or output device has failed to respond with DUNIT to a read or write signal within 8 ms

Write Protected Violation — an attempt was made to write into a protected memory location

Watchdog Timer Runout — the FN has lost its sanity and cannot carry out an instruction due to a processor hardware fault or a software malfunction, and subsequently cannot reset the Watchdog timer within 1.024 seconds

Parity Error — a single bit parity error has been detected

When a fault is detected, the FN is forced to execute Trap Routine instructions held in the ROM. The fault can be isolated, corrected or a reloading of software and data from the storage device may take place. (For more information on the above process refer to *What the system does when things go wrong*, in the *You should know this* chapter.)

Features

The Interface card faceplate includes the following features:

- a LED, when lit indicates an inactive or disabled processor
- an Enb, Dis switch used to hardware disable the processor
- a Hex display indicating faulty components
- a manual initialize button, Man Int. When the Man In is pushed on the active processor will rebuild part of memory and check for CE faults
- a normal maintenance switch, Norm Maint, used to force the processor active or when updating from one software release to another
- a 34 pin ribbon cable connector used for FN and IF control communications

IF (MISC, CPU/MEM) faceplate hex codes

The hex codes are displayed as a result of CE faults. These codes will remain displayed until they are manually removed by diagnostic commands or are overwritten by another CE fault.

The hex code actions are useful when the processor cannot output a SYS or an INI message. If the system outputs a SYS or an INI message, follow that action.

Before you take any action on the following, be sure the displayed hex code is due to an existing fault and not left from a previous fault.

If the faceplate Hex code does not appear in the list below, refer to INI006 hex, in the INI chapter, to locate a specific card.

01

1. Manual or power monitor interrupt on an NT, RT, XT, 51, 61, or 71.

ACTION: Replace the IF or FN card(s) one at a time, following the steps in the *Hardware replacement* guide. After replacing each card verify that the fault is cleared.

2. Manual interrupt or Power Monitor interrupt on an XN.

ACTION: Replace the FN, CT, MISC card(s) one at a time, following the steps in the *Hardware replacement* guide. After replacing each card verify that the fault is cleared.

3. Manual interrupt or Power Monitor interrupt on all other systems.

ACTION: Replace the CPU or MISC or PS card(s) one at a time, following the steps in the *Hardware replacement* guide. After replacing each card verify that the fault is cleared.

02

1. Peripheral Signal ROM checksum error on an NT, RT, XT, 51, 61, or 71.

ACTION: Replace the IF cards, following the steps in the *Hardware replacement* guide. After replacing the card verify that the fault is cleared.

2. Peripheral Signal ROM checksum error on an XN.

ACTION: Replace the CIM card following the steps in the *Hardware replacement* guide. After replacing the card verify that the fault is cleared.

3. Peripheral Signal ROM checksum error on all other systems.

ACTION: Replace the ROM card following the steps in the *Hardware replacement* guide. After replacing the card verify that the fault is cleared.

03

1. Real-time Control (RTC) interrupt fault on an NT, RT, XT, 51, 61, or 71.

ACTION: Replace the IF card, following the steps in the *Hardware replacement* guide. After replacing the card verify that the fault is cleared.

2. Real-time Control (RTC) interrupt fault on an XN.

ACTION: Replace the CT card following the steps in the *Hardware replacement* guide. After replacing the card verify that the fault is cleared.

04

1. Input Output (I/O) interrupt fault on an NT, RT, XT, 51, 61, or 71.

ACTION: Replace the IF card, following the steps in the *Hardware replacement* guide. After replacing the card verify that the fault is cleared.

2. Input Output (I/O) interrupt fault on an XN.

ACTION: Replace the MISC card following the steps in the *Hardware replacement* guide. After replacing the card verify that the fault is cleared.

3. Input Output (I/O) interrupt fault on all other systems.

ACTION: Replace the MISC, SDI, TDS or MFS card(s) one at a time, following the steps in the *Hardware replacement* guide. After replacing each card verify that the fault is cleared.

05

ACTION: Replace the PS card and follow the steps in the *Hardware replacement* guide. After replacing the card verify that the fault is cleared.

06

ACTION: Replace the MISC, PS or MFS card(s) one at a time. Follow the steps in the *Hardware replacement* guide. After replacing each card verify that the fault is cleared.

07

1. Real-time Control (RTC) interrupt fault on an NT, RT, XT, 51, 61, or 71.

ACTION: Replace the IF cards, following the steps in the *Hardware replacement* guide. After replacing the card verify that the fault is cleared.

2. Real-time Control (RTC) interrupt fault on an XN.

ACTION: Replace the CIM card following the steps in the *Hardware replacement* guide. After replacing the card verify that the fault is cleared.

3. Real-time Control (RTC) interrupt fault on all other systems.

ACTION: Replace the ROM card following the steps in the *Hardware replacement* guide. After replacing the card verify that the fault is cleared.

08

Too many initializations on this CPU.

ACTION: Contact your technical support group.

09

CMA transmission error.

ACTION: Replace the primary CMA, secondary CMA or Memory card(s). Follow the steps in the *Hardware replacement* guide. After replacing each card verify that the fault is cleared.

0A

CMA transmission error secondary, Memory Trouble Register (MTR) primary is disabled.

ACTION: Replace the primary CMA, secondary CMA. Follow the steps in the *Hardware replacement* guide. After replacing each card verify that the fault is cleared.

0B

CMA transmission error secondary, Memory Trouble Register (MTR) secondary is disabled.

ACTION: Replace the secondary MEM, secondary CMA and primary CMA. Follow the steps in the *Hardware replacement* guide. After replacing each card verify that the fault is cleared.

0C

PS ROM response timeout.

ACTION: Replace the CIM, IF card(s) one at a time. Follow the steps in the *Hardware replacement* guide. After replacing each card verify that the fault is cleared.

0D

Parity error at non-memory address.

ACTION: Replace the IF and CMA. Follow the steps in the *Hardware replacement* guide. After replacing each card verify that the fault is cleared.

0E

Parity error in PS ROM.

ACTION: Replace the IF and FN. Follow the steps in the *Hardware replacement* guide. After replacing each card verify that the fault is cleared.

0F

Trap with no known cause.

ACTION: Contact your technical support group.

10 to 1A

Memory card fault.

ACTION: To clear memory faults refer to the Output code INI004 section of the *INI* chapter of this guide.

20

1. Primary memory parity error on read or write on an NT, RT, XT, 51, 61, or 71.

ACTION: Replace the CMA and IF card(s) one at a time, following the steps in the *Hardware replacement* guide. After replacing each card verify that the fault is cleared.

2. Primary memory parity error on read or write on all other systems.

ACTION: Replace the CMA or MISC card(s) one at a time, following the steps in the *Hardware replacement* guide. After replacing each card verify that the fault is cleared.

21

1. Memory parity error - primary or secondary on an XN.

ACTION: Replace the prime CMA, or secondary CMA card(s) one at a time, following the steps in the *Hardware replacement* guide. After replacing each card verify that the fault is cleared.

2. Memory parity error - primary or secondary on all other systems.

ACTION: Replace the prime CMA, secondary CMA, or IF card(s) one at a time, following the steps in the *Hardware replacement* guide. After replacing each card verify that the fault is cleared.

22

1. Cannot clear CMA interrupt on an XN.

ACTION: Replace the prime CMA, secondary CMA, or MISC card(s) one at a time, following the steps in the *Hardware replacement* guide. After replacing each card verify that the fault is cleared.

2. Cannot clear CMA interrupt on all other systems.

ACTION: Replace the prime CMA, secondary CMA, or IF card(s) one at a time, following the steps in the *Hardware replacement* guide. After replacing each card verify that the fault is cleared.

23

CMA fault.

ACTION: Replace the CMA0 and CMA1 cards following the steps in the *Hardware replacement* guide. After replacing each card verify that the fault is cleared.

24

Data-store failed to respond when reading trap data block.

ACTION: Replace the Memory, CMA, IF, and FN cards following the steps in the *Hardware replacement* guide. After replacing each card verify that the fault is cleared.

25

Checksum failed.

ACTION: Replace the Memory, CMA, IF and FN cards following the steps in the *Hardware replacement* guide. After replacing each card verify that the fault is cleared.

40 to 49

Peripheral Signaler card fault.

ACTION: To clear PS faults refer to the Output code INI003 section of the *INI* chapter in the guide.

50 to 63

Intergroup Switch card fault.

ACTION: To clear IGS faults refer to the Output code INI007 section of the *INI* chapter in this guide.

70 to 71

Mass Storage Interface card fault.

ACTION: To clear MSI faults refer to the Output code INI002 section of the *INI* chapter in this guide.

80 to 8F

Serial Data Interface card fault.

ACTION: To clear SDI faults refer to the Output code INI002 section of the *INI* chapter in this guide.

90 to 1DF

Network loop fault.

ACTION: To clear loop faults refer to the Output code INI003 section of the *INI* chapter in this guide.

E0 to FF

Extender card fault.

ACTION: To clear extender faults refer to the Output code INI014 section of the *INI* chapter in this guide.

010

1. Sequence, status flag, conditional jump problems on an XN.

ACTION: Replace the CT, FN, IF, MISC, or CIM card(s) one at a time, following the steps in the *Hardware replacement* guide. After replacing each card verify that the fault is cleared.

2. Sequence, status flag, conditional jump problems on all other systems.

ACTION: Replace the FN, and/or IF card(s) one at a time, following the steps in the *Hardware replacement* guide. After replacing each card verify that the fault is cleared.

011

1. Call, return, micro return address stack problems on an XN.

ACTION: Replace the CT, FN, IF, MISC, or CIM card(s) one at a time, following the steps in the *Hardware replacement* guide. After replacing each card verify that the fault is cleared.

2. Call, return, micro return address stack problems on all other systems.

ACTION: Replace the FN, or IF card(s) one at a time, following the steps in the *Hardware replacement* guide. After replacing each card verify that the fault is cleared.

012

1. JNI to jump over to next page in ROM failed on an XN.

ACTION: Replace the CT, FN, IF, MISC, or CIM card(s) one at a time, following the steps in the *Hardware replacement* guide. After replacing each card verify that the fault is cleared.

2. JNI to jump over to next page in ROM failed on all other systems.

ACTION: Replace the FN, or IF card(s) one at a time, following the steps in the *Hardware replacement* guide. After replacing each card verify that the fault is cleared.

013

1. Micro-store parity on an XN.

ACTION: Replace the CT, FN, IF, MISC, or CIM card(s) one at a time, following the steps in the *Hardware replacement* guide. After replacing each card verify that the fault is cleared.

2. Micro-store parity on all other systems.

ACTION: Replace the IF card, following the steps in the *Hardware replacement* guide. After replacing the card verify that the fault is cleared.

020

1. Slice register arithmetic, logic problem on an XN.

ACTION: Replace the FN, CT, IF, MISC, or CIM card(s) one at a time, following the steps in the *Hardware replacement* guide. After replacing each card verify that the fault is cleared.

2. Slice register arithmetic, logic problem on all other systems.

ACTION: Replace the FN, or the IF card(s) one at a time, following the steps in the *Hardware replacement* guide. After replacing each card verify that the fault is cleared.

021

1. Sixteen-bit barrel shifter problems on an XN.

ACTION: Replace the FN, CT, IF, MISC, or CIM card(s) one at a time, following the steps in the *Hardware replacement* guide. After replacing each card verify that the fault is cleared.

2. Sixteen-bit barrel shifter problems on all other systems.

ACTION: Replace the FN, IF card(s) one at a time, following the steps in the *Hardware replacement* guide. After replacing each card verify that the fault is cleared.

022

1. Sixteen-bit barrel shifter problems with micro-store data on an XN.

ACTION: Replace the FN, CT, IF, MISC, or CIM card(s) one at a time, following the steps in the *Hardware replacement* guide. After replacing each card verify that the fault is cleared.

2. Sixteen-bit barrel shifter problems with micro-store data on all other systems.

ACTION: Replace the FN, or IF card(s) one at a time, following the steps in the *Hardware replacement* guide. After replacing each card verify that the fault is cleared.

023

1. Write to background while at interrupt level on an XN.

ACTION: Replace the FN, CT, IF, MISC, or CIM card(s) one at a time, following the steps in the *Hardware replacement* guide. After replacing each card verify that the fault is cleared.

2. Write to background while at interrupt level on all other systems.

ACTION: Replace the FN, or IF card(s) one at a time, following the steps in the *Hardware replacement* guide. After replacing each card verify that the fault is cleared.

024

1. Interrupt level did not write its bases on an XN.

ACTION: Replace the FN, CT, IF, MISC, or CIM card(s) one at a time, following the steps in the *Hardware replacement* guide. After replacing each card verify that the fault is cleared.

2. Interrupt level did not write its bases on all other systems.

ACTION: Replace the FN, or IF card(s) one at a time, following the steps in the *Hardware replacement* guide. After replacing each card verify that the fault is cleared.

025

1. Bad data written to some interrupt level bases on an XN.

ACTION: Replace the FN, CT, IF, MISC, or CIM card(s) one at a time, following the steps in the *Hardware replacement* guide. After replacing each card verify that the fault is cleared.

2. Bad data written to some interrupt level bases on all other systems.

ACTION: Replace the FN or IF card(s) one at a time, following the steps in the *Hardware replacement* guide. After replacing each card verify that the fault is cleared.

026

1. Bad base fetch through BN at some interrupt level on an XN.

ACTION: Replace the FN, CT, IF, MISC, or CIM card(s) one at a time, following the steps in the *Hardware replacement* guide. After replacing each card verify that the fault is cleared.

2. Bad base fetch through BN at some interrupt level on all other systems.

ACTION: Replace the FN, or IF card(s) one at a time, following the steps in the *Hardware replacement* guide. After replacing each card verify that the fault is cleared.

027

1. Twenty four-bit ALU shifter problem on an XN.

ACTION: Replace the FN, CT, IF, MISC, or CIM card(s) one at a time, following the steps in the *Hardware replacement* guide. After replacing each card verify that the fault is cleared.

2. Twenty four-bit ALU shifter problem on all other systems.

ACTION: Replace the FN or IF card(s) one at a time, following the steps in the *Hardware replacement* guide. After replacing each card verify that the fault is cleared.

042

1. CPU write protect failed on an XN.

ACTION: Replace the FN, CT, IF, MISC, or CIM card(s) one at a time, following the steps in the *Hardware replacement* guide. After replacing each card verify that the fault is cleared.

2. CPU write protect failed on all other systems.

ACTION: Replace the FN, or IF card(s) one at a time, following the steps in the *Hardware replacement* guide. After replacing each card verify that the fault is cleared.

080

1. Stuck bits in Y-registers on an XN.

ACTION: Replace the CT, FN, IF, MISC, or CIM card(s) one at a time, following the steps in the *Hardware replacement* guide. After replacing each card verify that the fault is cleared.

2. Stuck bits in Y-registers on all other systems.

ACTION: Replace the FN, or IF card(s) one at a time, following the steps in the *Hardware replacement* guide. After replacing each card verify that the fault is cleared.

081

1. Bad PSW register on an XN.

ACTION: Replace the IF, MISC, CT, FN, or CIM card(s) one at a time, following the steps in the *Hardware replacement* guide. After replacing each card verify that the fault is cleared.

2. Bad PSW register on all other systems.

ACTION: Replace the IF card following the steps in the *Hardware replacement* guide. After replacing the card verify that the fault is cleared.

082

1. Bad FSI register on an XN.

ACTION: Replace the IF, MISC, CT, FN, or CIM card(s) one at a time, following the steps in the *Hardware replacement* guide. After replacing each card verify that the fault is cleared.

2. Bad FSI register on all other systems.

ACTION: Replace the FN or IF card(s) one at a time, following the steps in the *Hardware replacement* guide. After replacing each card verify that the fault is cleared.

083

1. RAM addressing failure on an XN.

ACTION: Replace the FN, IF, CT, MISC, or CIM card(s) one at a time, following the steps in the *Hardware replacement* guide. After replacing each card verify that the fault is cleared.

2. RAM addressing failure on all other systems.

ACTION: Replace the FN or IF card(s) one at a time, following the steps in the *Hardware replacement* guide. After replacing each card verify that the fault is cleared.

084

1. Bad stack access at interrupt level on an XN.

ACTION: Replace the FN, MISC, CT, IF, or CIM card(s) one at a time, following the steps in the *Hardware replacement* guide. After replacing each card verify that the fault is cleared.

2. Bad stack access at interrupt level on all other systems.

ACTION: Replace the FN or IF card(s) one at a time, following the steps in the *Hardware replacement* guide. After replacing each card verify that the fault is cleared.

085

1. Faulty FAR register on an XN.

ACTION: Replace the IF, CT, FN, MISC, or CIM card(s) one at a time, following the steps in the *Hardware replacement* guide. After replacing each card verify that the fault is cleared.

2. Faulty FAR register on all other systems.

ACTION: Replace the FN or IF card(s) one at a time, following the steps in the *Hardware replacement* guide. After replacing each card verify that the fault is cleared.

086

Faulty FSR register.

ACTION: Replace the IF, CT, FN, MISC, or CIM card(s) one at a time, following the steps in the *Hardware replacement* guide. After replacing each card verify that the fault is cleared.

087

1. Read/Write failure on Miscellaneous registers on an XN.

ACTION: Replace the MISC, IF, FN, CT, or CIM card(s) one at a time, following the steps in the *Hardware replacement* guide. After replacing each card verify that the fault is cleared.

2. Read/Write failure on Miscellaneous registers on all other systems.

ACTION: Replace the FN or IF card(s) one at a time, following the steps in the *Hardware replacement* guide. After replacing each card verify that the fault is cleared.

088

1. Fault during read/write operation while doing CPU tests on an XN.

ACTION: Replace the IF, MISC, CT, FN, or CIM card(s) one at a time, following the steps in the *Hardware replacement* guide. After replacing each card verify that the fault is cleared.

2. Fault during read/write operation while doing CPU tests on all other systems.

ACTION: Replace the FN, or IF card(s) one at a time, following the steps in the *Hardware replacement* guide. After replacing each card verify that the fault is cleared.

089

1. PC auto-increment failure on an XN.

ACTION: Replace the IF, MISC, CT, FN, or CIM card(s) one at a time, following the steps in the *Hardware replacement* guide. After replacing each card verify that the fault is cleared.

2. PC auto-increment failure on all other systems.

ACTION: Replace the FN, or IF card(s) one at a time, following the steps in the *Hardware replacement* guide. After replacing each card verify that the fault is cleared.

08A

1. PS fetch using BIR, not blocked on an XN.

ACTION: Replace the MISC, IF, FN, CT, or CIM card(s) one at a time, following the steps in the *Hardware replacement* guide. After replacing each card verify that the fault is cleared.

2. PS fetch using BIR, not blocked on all other systems.

ACTION: Replace the FN, IF card(s) one at a time, following the steps in the *Hardware replacement* guide. After replacing each card verify that the fault is cleared.

08B

1. RTC did not tick or clear on an XN.

ACTION: Replace the CIM, MISC, IF, FN, or CT card(s) one at a time, following the steps in the *Hardware replacement* guide. After replacing each card verify that the fault is cleared.

2. RTC did not tick or clear on all other systems.

ACTION: Replace the FN or IF card(s) one at a time, following the steps in the *Hardware replacement* guide. After replacing each card verify that the fault is cleared.

08C

1. Bad response time-out in FSI on an XN.

ACTION: Replace the IF, CT, FN, MISC, or CIM card(s) one at a time, following the steps in the *Hardware replacement* guide. After replacing each card verify that the fault is cleared.

2. Bad response timeout in FSI on all other systems.

ACTION: Replace the prime FN or IF card(s) one at a time, following the steps in the *Hardware replacement* guide. After replacing each card verify that the fault is cleared.

08D

1. Bad data in program store fetch on an XN.

ACTION: Replace the IF, MISC, CT, FN, or CIM card(s) one at a time, following the steps in the *Hardware replacement* guide. After replacing each card verify that the fault is cleared.

2. Bad data in program store fetch on all other systems.

ACTION: Replace the prime FN, or IF card(s) one at a time, following the steps in the *Hardware replacement* guide. After replacing each card verify that the fault is cleared.

0FF

Bad CIM.

ACTION: Replace the CIM, IF, MISC, FN, or CT card(s) one at a time, following the steps in the *Hardware replacement* guide. After replacing each card verify that the fault is cleared.

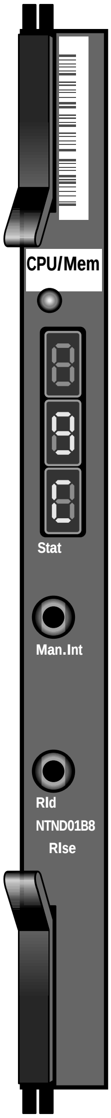
CPU commands		
Command	**Description**	**Release**
Status of both CPUs		
STAT CPUx	Get status of both CPUs. Responses are: **ENB**L = CPU is running **IDLE** = CPU is in standby **DSB**L = CPU is disabled Not applicable to Meridian SL-1 MS or S.	basic-1
Clear display of a CPU		
CDSP	Clear the maintenance display on the active CPU.	basic-1
Display active CPU		
DSPL	Get contents of maintenance display on the active CPU. If the maintenance display is blank, **000** is output.	basic-1
Switch CPU		
SCPU	Switch CPUs. In a dual CPU system, this command causes the inactive CPU to become the active CPU. If the changeover is successful, **OK** is output. This command cannot be used when the active CPU is in maintenance mode.	basic-1

CAUTION: Indiscriminate use of this command should be avoided as system reload may occur.

CPU commands (continued)		
Command	**Description**	**Release**
Test CPU system		
SHLF x	Perform memory decode fault test on CPU x. Performs a memory decode fault test on the disabled memories corresponding to the specified CPU (0 or 1). To use this test, disable the memory modules that are to be included in the test and issue the command to the appropriate shelf. If individual tests of memory modules using the MEM command pass but the SHLF test fails on the same modules, then the CMA or controller is probably faulty.	basic-1
TCPU	Test inactive CPU in a dual CPU system. This command tests the inactive CPU. If the CPU passes, **OK** is output. This command cannot be used when the active CPU is in maintenance mode.	basic-1

CAUTION: Indiscriminate use of this command should be avoided as system reload may occur.

MEM — Random Access Memory



553-0175T RAM(CED)

The Meridian 1 Option 21 Random Access Memory (RAM) is based on 64k word memory pages, located on memory modules or cards.

Options 61, 71, NT and XT RAM are based on contiguous memory rather than page memory, and use 24 bits rather than 16 bits.

Option 61 and SL-1NT — contain redundant RAM of one 768k memory module for each CPU, or 2Meg module for each CPU running Release 18

Option 71 and SL-1XT — contain redundant RAM of three 768k memory modules for each CPU, or maximum two 2Meg modules for each CPU running Release 18

Option 21 — houses a 768k memory module in the card labelled as MMPS

Option 21E and SL-1STE — houses 2Meg of memory in the CPU/Mem card

Purpose

The memory cards are loaded from a floppy disk with the SL-1 operating programs and provide the fuel to drive the CPU.

Function

The dynamic RAM or DRAM memory modules are refreshed by a memory controller circuit which generates signals every 15 microseconds while operating the RAM to ensure that the information is not lost.

All cards use 16 or 24 bit address words and one parity bit.

Features

The faceplate features a LED which, when lit indicates that the module is disabled.

Memory commands		
Command	**Description**	**Release**
Status		
BATT	Check status of memory battery backup. The response is **OK** or **CED503**. Only available on 21E and STE systems with X11 Release 18 and later.	21e -18
STAT MEM	Get status of all memory modules. This command outputs the number of enabled and disabled memory modules. Use STAT MEM x for status of a specific module.	basic -1
STAT MEM xx	Get status of memory module **xx**. Where xx is a 2-digit number. The first digit specifies which CPU the module is associated with and the second digit specifies the memory module number. Responses are: **ENBL** = module is enabled **ENBL BUT FAULTY** = module is enabled but faulty **REPL** = module is replaced **DSBL** module is disabled **UNEQ** = module is missing or not configured	basic -1
Disable		
DIS xx	Disable memory module **xx**. Where **xx** is a 2-digit number. The first digit specifies which CPU the module is associated with and the second digit specifies the memory module number.	basic -1

Memory commands (continued)		
Command	**Description**	**Release**
Enable		
ENL xx	Perform memory test on module **xx.** Performs a memory test on memory module xx. Where **xx** is a 2-digit number. The first digit specifies which CPU the module is associated with and the second digit specifies the memory module number. The module must not be in use by the system. Dual CPU systems only. System response of **OK** is output and the module is enabled if the test is passed.	basic -1
REPL xx	Enable new memory card **xx**. Where **xx** is a 2-digit number. The first digit specifies which CPU the module is associated with and the second digit specifies the memory module number.	basic -1
Test		
MEM xx	Test memory module **xx**. Where **xx** is a 2-digit number. The first digit specifies which CPU the module is associated with and the second digit specifies the memory module number. The module must be disabled first with the DIS x command. The module does not have to be defined in the Configuration Record (LD 17) to pass the test. System outputs **OK** if test is passed.	basic -1

Memory commands (continued)		
Command	**Description**	**Release**
Failure counts		
FCNT	Get soft failure counts of all memory modules.	basic-1

Sample response:

For system options NT, RT, XT, 51, 61 and 71:

```
CD        MTR       FCNT
 0         0          0
 0         1          0
 0         2          0
```

where:
CD = memory module number
MTR = Memory Trouble Register number on the 768K memory
FCNT = fault counts on that MTR

For all other system options:

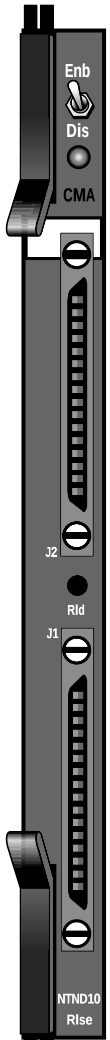
CD	PAGE	LFC	HFC
0	0	3	1
0	1	0	2
0	2	3	2
1	5	2	0
1	6	0	1

where:
CD = memory card number
PAGE = page number
LFC = fault count of low card module
HFC = fault count of high card module

Not applicable to SL-1 MS, S, ST or system Option 21.

Memory commands (continued)		
Command	**Description**	**Release**
List		
LDIS	List disabled memories. Not applicable to SL-1 MS, S, ST or system Option 21.	basic-1
LENL	List enabled memories. Not applicable to SL-1 MS, S, ST or system Option 21.	basic-1
Print		
IDC ICM, MSPS	Print card ID for ICM or MSPS card. The Integrated CPU with 4Meg Memory (ICM) or Misc/SDI and PS (MSPS) card ID is output in the following format. **pppppppaa rrssss cccccccc@ddddd** **pppppppp** = PEC code **aa** = Attribute code **rr** = Release number **ssss** = Serial number **cccccccc** = Comments (optional) @ = HEX 01 ASCII SOH character (non printing) **ddddd**= Design code	21e-18

CMA — Changeover and Memory Arbitrator



553-0176T CMA(CED)

The Changeover and Memory Arbitrator (CMA) is used in redundant CPU configuration on SL-1 N, NT, XT, Option 61 and 71. Two CMA circuit cards are required, and operate in a master-slave relationship. The master CMA card is always associated with the active CPU.

Purpose

The master CMA updates both the active and standby memories.

The master CMA monitors the active CPU and in the event of a failure can changeover control to the standby CPU.

The master CMA can arbitrate the connection of either memory system to the active CPU through the CMA faceplate cables.

Function

Both CMA cards combine to keep one CPU active. The master CMA will cause the standby CPU to become active when the following occurs:

- the active CPU fails to reset a three second timer after a lapse of 24 seconds
- the software calls for a CPU changeover during the daily or midnight routines
- neither CPU is active, and the CMA causes the power monitor to activate an emergency transfer

The active CMA has a memory trouble register which will disable either memory card when the following occurs:

- a data or address parity error is detected
- response time-out from memory during a read or write attempt fails to set a 10 μ-sec timer on the CMA

Features

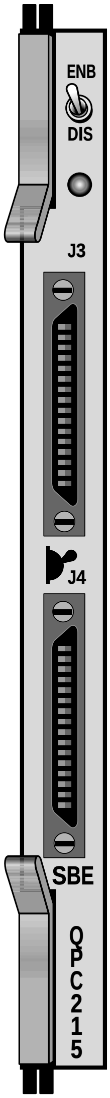
The faceplate includes the following features:

- ENB/DIS switch used to hardware enable or disable the card
- LED, when lit indicates a disabled CMA
- two 50 pin connectors (J3 and J4) used to interconnect the CMAs, extending CPU control to the opposite CE bus
- RLD button, which when pressed simultaneously on both CMA cards causes a system reload

The CMA cards are slot addressed.

CMA commands		
Command	**Description**	**Release**
Status		
STAT CMA	Get status of CMA x. Response is: **CMA x ACTIVE y MEM** = CMA is being used **CMA x DSBL** = CMA is disabled CMA x ENBL = CMA is enabled but in a standby state In some systems a value of “y MEM” is output. Ignore this value. Use STAT MEM to check memory status.	basic-1
Disable device		
DIS CMA x	Disable Changeover and Memory card x. This command disables the specified Changeover and Memory (CMA) card. It must be the CMA on the idle CPU and all the memories served by the CMA must be disabled before the CMA can be disabled.	basic-1
Enable		
ENL SBE	Enable the Segmented Bus Extender (SL-1 MS only)	basic-1
ENL CMA x	Enable Changeover and Memory card x. The CMA must be on the idle CPU.	basic-1

SBE/QPC496 — Bus extenders



553-0177T SBE(CE

There are two types of bus extenders:

QPC215 Segmented Bus Extender (SBE) — an active device, used with Option 71, multi-group systems, half group SL-1N, and NT, and is optional on SL-1S and MS.

QPC496 Bus Extender — a passive device, used in full group SL-1NT.

Purpose

Bus extenders interconnect the CE bus and the control bus on network shelves, through 3 Port Extenders or network shelf backplane connectors.

Function

The Segmented Bus Extender performs the following functions:

- drives address, data and control signals from the CE bus onto the network shelf control bus
- drives data, interrupts and DUNIT signals from the network shelf control bus onto the CE bus
- provides fault isolation to protect the CPU from bus faults on multi-group systems

Features

QPC496 — faceplate has three 36 pin connectors A, C, and B, used to interconnect the CE and control buses.

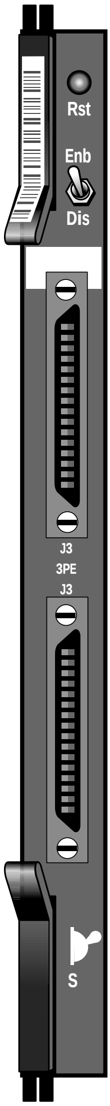
QPC215 — faceplate includes the following features:

- a LED, when lit indicates a disabled SBE card or in a multi-group system ndicates that the other SBE mate has a driver power problem
- Enb/Dis switch used to hardware enable or disable the card
- two 50 pin connectors (J3 and J4) used to interconnect the CE and control buses

A switch on the component side of the card matches the SBE to the group.

The bus extenders are slot addressed.

3PE — Three port extender



553-0178T 3PE(CED)

The three ports associated with a full group are as follows:

- Port A is the 3PE card edge connector which connects the 3PE to the CPU shelf through the network shelf backplane connector and cables to the CPU
- Port B is the 3PE card edge connector which connects the 3PE to the network shelf backplane
- Port C is the two faceplate connections between both 3PEs

The three ports used on a half group are as follows:

- Port A and Port B are the same as for the full group
- Port C is the two faceplate connection between the 3PE and the SBE

Purpose

The master 3PE transmits signals between the active CPU and network shelves, and isolates network faults that could adversely affect the total system.

Function

The 3PE card contains the following circuitry:

Address Decode — circuitry which checks to ensure that only cards residing on its network shelf respond to addressing. For example, a network card responding to a memory address is denied access to the CPU bus.

Disable Register — allows software to enable or disable either slave 3PE port B or C from the master 3PE.

Features

The faceplate includes the following features:

- ENB/DIS switch to hardware enable or disable the card
- LED, when lit, indicates that the master is 3PE disabled, or the slave 3PE and the port from master 3PE are disabled
- two connectors (J3 and J4) used to interconnect port C between 3PE cards

Switches on the component side can be set for 3PE located in the following systems:

- half group LE, N, NT or full and multi-group
- page 3 address or page 7
- single group or multi-group systems

The 3PE cards are slot addressed.

CE extender commands		
Command	**Description**	**Release**
Status		
STAT EXT	Get the status of the extender pair designation. This command outputs the extender pair designation and if disabled indicates the number of devices on the network shelf connected to the extender that would become inaccessible if a CPU changeover occurs. If the extender has been disabled by using the DIS EXT command, then the number output will be equal to the number of devices on the shelf. The extender pair designations are as follows: **0G0** = SBE of CPU 0 and 3PE of Network Group 0 **0G1** = SBE of CPU 0 and 3PE of Network Group 1 **0G2** = SBE of CPU 0 and 3PE of Network Group 2 **0G3** = SBE of CPU 0 and 3PE of Network Group 3 **0G4** = SBE of CPU 0 and 3PE of Network Group 4 **1G0** = SBE of CPU 1 and 3PE of Network Group 0 **1G1** = SBE of CPU 1 and 3PE of Network Group 1 **1G2** = SBE of CPU 1 and 3PE of Network Group 2 **1G3** = SBE of CPU 1 and 3PE of Network Group 3 **1G4** = SBE of CPU 1 and 3PE of Network Group 4	basic-1

CE extender commands (continued)		
Command	**Description**	**Release**
Status		
STAT EXT x	Get the status of specified extender. For extenders to network shelves, the response is: **x <status> <y NET>, where** **x <status>** = status of extender x, can be one of: **ENBL** = the extender is enabled. **DSBL** = the extender is disabled. **LEFT DSBL** = only shelf 0 of the group served by the extender is disabled **RIGHT DSBL** = only shelf 1 the group served by the extender is disabled **y NE**T = the number of network and PS cards that do not respond when accessed using the specified extender. The extender pair designations are as follows **0G0** = SBE of CPU 0 and 3PE of Network Group 0 **0G1** = SBE of CPU 0 and 3PE of Network Group 1 **0G2** = SBE of CPU 0 and 3PE of Network Group 2 **0G3** = SBE of CPU 0 and 3PE of Network Group 3 **0G4** = SBE of CPU 0 and 3PE of Network Group 4 **1G0** = SBE of CPU 1 and 3PE of Network Group 0 **1G1** = SBE of CPU 1 and 3PE of Network Group 1 **1G2** = SBE of CPU 1 and 3PE of Network Group 2 **1G3** = SBE of CPU 1 and 3PE of Network Group 3 **1G4** = SBE of CPU 1 and 3PE of Network Group 4	basic-1
STAT SBE	Get the status of the Segmented Bus Extender.	basic-1
Disable device		
DIS EXT x	Disable the specified extender pair. This command disables the extender pair specified by x. Only extenders on the nonactive CPU may be disabled. The extender is marked as unusable by the system and it will not attempt to use it, i.e., a CPU changeover will not be permitted. LEDs on the card faceplate do not reflect this command.	basic-1
DIS SBE	Disable the Segmented Bus Extender.	basic-1

CE extender commands (continued)		
Command	**Description**	**Release**
Enable		
ENL EXT x	Enable specified extender pair. Only extenders on the nonactive CPU may be enabled. See introduction for extender designations. The state of the LED on the circuit card faceplate does not reflect this command.	basic-1
ENL SBE	Enable the Segmented Bus Extender (SL-1 MS only).	basic-1

CED messages

CED000

No errors detected.

ACTION: Information only, no action required.

CED001

An invalid number of characters are entered in the command.

ACTION: Check to make sure your data is correct and re-enter the command.

CED002

An invalid character is entered in the command.

ACTION: Check to make sure your data is correct and re-enter the command.

CED003

An invalid command is entered.

ACTION: Ensure that this is the command you wanted to use.

CED004

Incorrect number of arguments.

ACTION: Check to make sure your data is correct and re-enter the command.

CED005

Invalid argument.

ACTION: Check to make sure your data is correct and if applicable, re-enter the command.

CED010

Memory number out-of-range. The allowable range depends on the system type.

ACTION: Check to make sure your data is correct and re-enter the command. If you need help refer to the *Random access memory* section in this chapter.

CED011

The specified card is active and may not be tested.

ACTION: Indiscriminate use of the following command may cause a system reload to occur. Use SCPU to switch the CPUs, this will change the specified card to standby mode.

CED012

The memory test on a specified card failed. The memory card can have a fault. Start at the first or most likely cause and go down the list until the fault is cleared.

The following is a list of possible faulty cards:

1. Memory cards.

ACTION: Replace the memory card(s) following the steps in the *Hardware replacement* guide. Run the test again to see if this message reappears. If it reappears try the next card on the list.

2. Changeover and Memory (CMA) card.

ACTION: Replace the CMA card following the steps in the *Hardware replacement* guide. Run the test again to see if this message reappears. If it reappears try the next card on the list.

3. Miscellaneous (MISC) card.

ACTION: Replace the MISC/IF card following the steps in the *Hardware replacement* guide. Run the test again to see if this message reappears. If it reappears contact your technical support group.

CED013

CED013 is a duplicate of CED012.

ACTION: See the action of CED012.

CED014

The Watchdog timer failed to time out. There is a probable fault on the MISC card or the IF card in the active CPU. Start at the first or most likely cause and go down the list until the fault is cleared.

The following is a list of possible faulty cards:

1. MISC or Interface (IF) card.

ACTION: Replace the MISC or IF card(s) following the steps in the *Hardware replacement* guide. If this message reappears try the next card on the list.

2. CPU card or Function (FN) card.

ACTION: Replace the CPU or IF card following the steps in the *Hardware replacement* guide. If this message reappears contact your technical support group.

CED015

The Memory card passed the test but is not in the configuration record. If the module is supposed to be in the system, check the configuration record.

ACTION: If the module is supposed to be in the system, refer to the *administration input/output* guide. Use LD 17 to program the card into the configuration record and follow steps required to have added a new memory card (system reload).

CED016

The specified spare is not on the active CPU and may be tested.

ACTION: Information only, no action required.

CED017

Spare number must be 0 or 1. Only relevant for the SL-1VL, L and M.

ACTION: Refer to the *administration input/output guide.* Use LD 22 to check the CFN record, then re-enter the command.

CED021

The spare R/W memory is not switched in for the card you wish to replace. Only relevant for the SL-1 VL, L and M.

ACTION: Refer to the *administration input/output guide*. Use LD 22 to check the CFN record, then re-enter the command.

CED022

The spare R/W memory card is being used by the system. Only relevant for the SL-1VL, L and M.

ACTION: Information only, no action required.

CED023

The card number of the spare is not between 32 and 47 inclusive. Only relevant for the SL-1VL, L and M.

ACTION: Refer to the *administration input/output guide*. Use LD 22 to check the CFN record, then re-enter the command.

CED024

Memory card could not respond to ENL N command because the soft-memory-failure threshold was exceeded. The ENL N command, used on SL-1, single memory redundant CPU equipment. Only relevant for SL-1L.

ACTION: Replace the memory card following the steps in the *Hardware replacement* guide. After replacing the card verify that the fault is cleared.

CED030

The extender is already enabled.

ACTION: Ensure that this is the command you wanted to use.

CED031

The near-end extender did not respond and therefore cannot be enabled. Suspect a faulty near-end extender.

ACTION: Replace the SBE card following the steps in the *Hardware replacement* guide. Verify that the fault is cleared.

CED032

The far end extender did not respond and therefore cannot be enabled. Start at the first or most likely cause and go down the list until the fault is cleared.

1. Suspect a faulty far end extender.

ACTION: Replace the 3PE card following the steps in the *Hardware replacement* guide. Run test again to see if this message reappears. If it reappears try the next card on the list.

2. The near end extender may be faulty as well.

ACTION: Replace the SBE card following the steps in the *Hardware replacement* guide. Verify that the fault is cleared.

CED033

The extender to the Intergroup Switch (IGS) through and the Junctor is not a Segmented Bus Extender (SBE) and therefore cannot be enabled. Only relevant for the SL-1 VL or VLE.

ACTION: Check and re-enter the command.

CED034

The extender to the IGS through the Junctor did not respond and therefore cannot be enabled. Suspect a faulty extender.

ACTION: Replace the SBE card following the steps in the *Hardware replacement* guide. Verify that the fault is cleared.

CED035

The SBE is not configured.

ACTION: If the SBE card is supposed to be in the system, refer to the *administration input/output guide*. Use LD 17 to program the card into the configuration record.

CED036

The SBE is already disabled.

ACTION: Ensure that this is the command you wanted to use.

CED037

The SBE is unequipped or is equipped and disabled.

ACTION: If the SBE card is unequipped, insert an SBE card into the proper card slot. If equipped and disabled, replace the SBE card following the steps in the *Hardware replacement* guide. Verify that the fault is cleared.

CED038

The SBE is enabled but not configured.

ACTION: If the SBE card is supposed to be in the system, refer to the *administration input/output guide*. Use LD 17 to program the card into the configuration record.

CED039

The SBE could not be enabled.

ACTION: Replace the SBE card following the steps in the *Hardware replacement* guide. Check to see if cable is installed properly. Verify that the fault is cleared.

CED050

Specified customer does not exist.

ACTION: Check to make sure your data is correct and if applicable, re-enter the command.

CED059

System does not have two CPUs.

ACTION: Check to make sure that you are working on a single CPU system. Check that your data is correct and then re-enter the command.

CED060

CMA card did not respond. Probable fault on CMA card associated with non-active CPU.

ACTION: Replace the CMA card following the steps in the *Hardware replacement* guide. Verify that the fault is cleared.

CED061

A CE bus is disabled and the CPU cannot be changed. Suspect a probable bus fault.

ACTION: Replace the CE shelf backplane following the steps in the *Hardware replacement* guide. Verify that the fault is cleared.

CED062

A spare has replaced a disabled card.

ACTION: Information only, no action required.

CED063

CPU changeover disallowed because the associated Peripheral Signaling (PS) card providing the real time clock is disabled.

ACTION: Use ENPS x in LD 32 or LD 39 to enable the PS card before using SCPU. If you need help with the commands or system responses refer to the *NPR* or *IGS* chapter in this guide.

CED065

Cannot use TCPU or SCPU commands when the active CPU is in maintenance mode. In this case, x indicates the inactive CPU, or: CPU **x** has failed.

ACTION: Place the faceplate MAINT/NORM switch to NORM on the active CPU and re-enter the command. If this message reappears, replace the CMA card following the steps in the *Hardware replacement* guide. After replacing the card verify that the fault is cleared.

CED066

CPU is in maintenance mode and an attempt is made to TCPU or SCPU in LD 35. Changeover card did not respond. Faulty CMA card on nonactive CPU.

ACTION: Replace the CMA card following the steps in the *Hardware replacement* guide. After replacing the card verify that the fault is cleared.

CED067

Changeover card did not respond. Requested function could not be performed. Faulty CMA card.

ACTION: Replace the CMA card following the steps in the *Hardware replacement* guide. After replacing the card verify that the fault is cleared.

CED068

Only extenders on the idle CPU may be enabled or disabled.

ACTION: Check to make sure you are working on the correct CPU and re-enter the command.

CED069

Extenders are not equipped.

ACTION: Refer to the *administration input/output guide.* Use LD 22 to check the CFN record for extenders, then re-enter the command.

CED070

1. Cannot perform CPU changeover because some loops, PS cards or Intergroup Switch cards do not work on the other CPU. An extender fault on the second CPU is suspected.

ACTION: Use the STAT EXT command to determine which extender is faulty. Replace the SBE or 3PE card(s) following the steps in the *Hardware replacement* guide. Verify that the fault is cleared.

2. Receiving this message, and cannot perform a test or swap CPU command on an Option 71 system.

ACTION: Verify that all CPU related cards, such as, the CMA, SBE, 3PE and memory cards are enabled.

CED071

1. Cannot switch CPUs because a section of memory does not work on the other CPU. Suspect CMA card.

ACTION: Replace the CMA card following the steps in the *Hardware replacement* guide. After replacing the card verify that the fault is cleared.

2. Receiving this message after upgrading to Release 19.

ACTION: Refer to the *administration input/output guide*. Use LD 22 CFN to check the configuration record for MTYP. It should be 2M or 4M and not 768. Use LD 17 to correct. Verify that the newly installed CMA (NTND10) is jumpered correctly, to allow for the new expanded memory card.

CED072

Cannot switch CPUs because spare memory is faulty. Suspect the CMA card.

ACTION: Replace the CMA card following the steps in the *Hardware replacement* guide. After replacing the card verify that the fault is cleared.

CED073

Cannot perform CPU changeover because the tape interface on the other CPU does not work.

ACTION: Replace the tape interface card following the steps in the *Hardware replacement* guide. After replacing the card verify that the fault is cleared.

CED074

Cannot switch CPUs because the other CPU has a stuck interrupt or faulty real time clock.

ACTION: Replace the MISC or IF card following the steps in the *Hardware replacement* guide. After replacing the card verify that the fault is cleared.

CED075

Cannot switch CPUs because the other CPU is faulty.

ACTION: Replace the MISC, IF card, CPU or FN card(s) one at a time following the steps in the *Hardware replacement* guide. After replacing each card verify that the fault is cleared.

CED080 xx

Spare memory card number **xx** has failed.

ACTION: Replace the memory card following the steps in the *Hardware replacement* guide. After replacing the card verify that the fault is cleared.

CED081 x

The spare R/W memory on CPU **x** failed the daily memory test. The spare 16K memory failed the daily checksum verification test on the spare I/C row. Only relevant for SL-1M.

ACTION: Replace the memory card following the steps in the *Hardware replacement* guide. After replacing the card verify that the fault is cleared.

CED082

No attempt was made to perform CPU changeover during midnight routines because of an uncleared fault.

ACTION: Use TCPU or STAT CMA command to determine if the CPU or extender is at fault. Replace the MISC or IF, CPU or FN and CMA cards one at a time following the steps in the *Hardware replacement* guide. After replacing each card verify that the fault is cleared.

CED083

The spare on the CPU that was active at the time of test, failed daily memory test.

ACTION: Replace the memory card following the steps in the *Hardware replacement* guide. After replacing the card verify that the fault is cleared.

CED085

The shelf number is not zero or one.

ACTION: Check to make sure your data is correct and if applicable, re-enter the command.

CED086

The shelf memory decode test failed. Test each Memory card individually using the MEM command. If all cards work but consistently fail the SHLF test, suspect the CMA or Memory cards. Only relevant for SL-1LE and VLE and XL.

ACTION: Replace the CMA or Memory card following the steps in the *Hardware replacement* guide. After replacing each card verify that the fault is cleared.

CED087

No test was performed as no cards are disabled on the specified shelf.

ACTION: Check the data and disable the cards to be tested on the shelf.

CED088

The memory card may not be enabled because the associated CMA card is not enabled.

ACTION: Use the ENL CMA command to enable the CMA. Try the test again.

CED089

The CMA may not be disabled because the associated memory is not disabled.

ACTION: Use the DIS command to disable all the associated memory.

CED090

You are not allowed to enable modules between 32 and 47, except for spares. Only relevant for SL-1VL, L and M.

ACTION: Refer to the *administration input/output guide.*
Use LD 22. To check the CFN record, then re-enter the command.

CED091

The module is already enabled.

ACTION: Ensure that this is the command you wanted to use.

CED092

The module is not equipped and therefore cannot be enabled.

ACTION: Check to make sure your data is correct. If the data is correct, you may have to install the module.

CED093

The card is a spare which has been used to replace a faulty card.

ACTION: Replace the memory card following the steps in the *Hardware replacement* guide. After replacing the card verify that the fault is cleared.

CED094

The card has failed the memory test. Suspect a probable fault on the memory card. Start at the first or most likely cause and go down the list until the fault is cleared.

The following is a list of possible faulty cards:

1. Memory cards.

ACTION: Replace the memory card(s) following the steps in the *Hardware replacement* guide. Run the test again to see if this message reappears. If it does reappear try the next card on the list.

2. Changeover and Memory (CMA) card.

ACTION: Replace the CMA card following the steps in the *Hardware replacement* guide. Run the test again to see if this message reappears. If it does reappear try the next card on the list.

3. Miscellaneous (MISC) card.

ACTION: Replace the MISC/IF card following the steps in the *Hardware replacement* guide. Run the test again to see if this message reappears. If it does reappear contact your technical support group.

CED095

The spare QPC30 card is required by the system. This module contains programs and may only be enabled by the REP command or a system reload. Only relevant for SL-1L.

ACTION: Enabled by the REP command and do a system reload.

CED096

Card may not be disabled because the corresponding card of the redundant configuration is disabled.

ACTION: Enable the corresponding card.

CED097

The CMA number is not 0 or 1.

ACTION: Check to make sure your data is correct and if applicable, re-enter the command.

CED098

The CMA on the active CPU may not be enabled or disabled.

ACTION: Use the SCPU command to perform CPU changeover so that the CMA is no longer on the active CPU.

CED099

The CMA failed to respond and therefore may not be enabled. Suspect a faulty CMA. The CMA on the active processor may also be faulty.

ACTION: Replace the CMA cards one at a time following the steps in the *Hardware replacement* guide. After replacing each card verify that the fault is cleared.

CED100 pg cpu xxxx

The read and write Memory Trouble Register (MTR) bits were different. The card will be disabled. Suspect CMA card.

pg = the page that had the problem. This problem could be in the card on shelf 0 or 1. “pg” is only printed for NT, RT, and XT systems. The “page” information can be ignored.

cpu = CPU that was active when the problem occurred.

xxxx = m1m2m 3m4, where m1m2 is the old contents of Memory Trouble Registers (MTR) for the page; m3m4 is the new contents of MTR for the page.

ACTION: Replace the CMA card following the steps in the *Hardware replacement* guide. After replacing the card verify that the fault is cleared.

CED101 pg cpu xxxx

Memory unequipped but MTR is not set. The MTR will be written to disable the card. If the memory is not equipped, suspect CMA card. Refer to CED100.

ACTION: Replace the CMA card following the steps in the *Hardware replacement* guide. After replacing the card verify that the fault is cleared.

CED102 mem cpu xxxx

The memory card should have been disabled but the MTR said it was enabled.

mem = memory card that had the fault.

cpu = CPU that was active when the problem occurred.

xxxx = m1m2m3m4, where m1m2 is the old contents of Memory Trouble Registers (MTR) for the page; m3m4 is the new contents of MTR for the page.

ACTION: Replace the memory card following the steps in the *Hardware replacement* guide. After replacing the card verify that the fault is cleared.

CED103 mem mtr xxxx

The indicated memory card has failed and is disabled. The card indicated may be faulty.

mtr = Memory Trouble Register. One MTR is allocated for every 768K memory type, or every 1 meg for 1MWG/2MEG memory types.

If the CED103 message continues with random memory failure, a faulty CMA card may be the cause. Replace faulty CMA card. Refer to CED102.

ACTION: Test the card manually using ENL xx. The card is to be replaced only after failing this test. Replace the memory card following the steps in the *Hardware replacement* guide. After replacing the card verify that the fault is cleared.

CED104 cma cpu 0000

The specified CMA failed to respond. The CMA that failed to respond is probably faulty.

cma = the CMA that failed

cpu = the active CPU when the fault occurred

0000 = always 0000

ACTION: Replace the CMA card following the steps in the *Hardware replacement* guide. After replacing the card verify that the fault is cleared.

CED105 cpu count

Invalid interrupts are occurring. Possible fault occurs on both CPUs, suspect a faulty card on a network shelf.

cpu = CPU that was active when the problem occurred.

count = number of invalid interrupts which have occurred in the last 30 seconds.

ACTION: Use the STAT loop in LD 32 to test the superloop. Use ENLL l in LD 32 to enable the loops and run TEST in LD 45 to verify that the fault is cleared. If the loop does not enable and the fault does not clear, replace the Network card(s) following the steps in the *Hardware replacement* guide. Verify that the fault is cleared. If you need help with the commands or system responses go to the *NPR* chapter in this guide.

CED106 p la ha

Soft memory failure has been recorded against memory card **p**. The number of failures now recorded against the low address range of the card **la** and the number of failures now recorded against the high address range **h**).

ACTION: Replace the Memory or CMA card following the steps in the *Hardware replacement* guide. After replacing each card verify that the fault is cleared.

CED107 p la ha

Hard memory failure has been recorded against memory card **p** because the fault count has exceeded the hard-failure threshold. The current number of failures now recorded against the low address range of the memory card **la** and the high address range **ha**.

ACTION: Replace the Memory or CMA card following the steps in the *Hardware replacement* guide. After replacing each card verify that the fault is cleared.

CED108 p

Single bit fault on memory card **p**.

ACTION: Replace the Memory or CMA card following the steps in the *Hardware replacement* guide. After replacing each card verify that the fault is cleared.

CED109 p

Memory fault on card p.

ACTION: Replace the Memory or CMA card following the steps in the *Hardware replacement* guide. After replacing each card verify that the fault is cleared.

CED110

Upper write protect boundary is incorrect. Choose hardware value.

ACTION: Contact your technical support group for guidance. To perform a parallel reload, refer to the S*oftware Conversion Procedures* guide and perform a parallel reload.

CED111

Upper write protect boundary is incorrect. Choose hardware value.

ACTION: Contact your technical support group for guidance. To perform a parallel reload, refer to the *Software Conversion Procedures* guide and perform a parallel reload.

CED112

Both hardware and software upper write protect boundaries are incorrect.

ACTION: Contact your technical support group for guidance. To perform a parallel reload, refer to the *Software Conversion Procedures* guide and perform a parallel reload.

CED113

Hardware lower write protect boundary is incorrect.

ACTION: Contact your technical support group for guidance. To perform a parallel reload, refer to the *Software Conversion Procedures* guide and perform a parallel reload.

CED114

Upper write protect boundary is incorrect. Choose hardware value.

ACTION: Contact your technical support group for guidance. To perform a parallel reload, refer to the *Software Conversion Procedures* guide and perform a parallel reload.

CED115

The masked software upper write protect boundary value falls below Z_SOFT_P_BND. Attempting to correct value by adding 4K.

ACTION: Contact your technical support group.

CED116

Updated value exceeds the Z_SOFT_U_BND. Attempting to determine the high write protect boundary from the linked list.

ACTION: Contact your technical support group.

CED117

FATAL: (The system has stopped processing calls). Invalid write protect boundaries. Attempts to correct boundaries failed.

ACTION: Contact your technical support group for guidance. To perform a parallel reload, refer to the *Software Conversion Procedures* guide and perform a parallel reload.

CED200 p1 p2 pn

The CED found those memory cards listed as disabled, partially disabled or some segments within the card disabled, during the midnight routines.

ACTION: Use DIS xx to disable the memory card(s) then use MEM xx or ENL xx to perform a memory test. If applicable, replace the memory card(s) following the steps in the *Hardware replacement* guide. After replacing the card verify that the fault is cleared.

CED201 cpu pg addr pf sf

A memory failed while the primary and secondary were being compared. These fields contain the same data as the fault code field 1 in the INI000 message (see INI error codes). This problem could be in the card on shelf 0 or 1. PG is only printed for NT, RT, and XT systems.

cpu = CPU that was active when the problem occurred

pg addr = failed memory location

pf = prime fault

sf = secondary fault

ACTION: Replace the memory card following the steps in the *Hardware replacement* guide. After replacing the card verify that the fault is cleared.

CED202 cpu pg addr pd sd

The data in the primary (pd) and secondary (sd) differed at the specified address. This error can result when a double bit error occurs in a word in a memory. If the fault occurred in a data store, CED will cause a Fault Code 0012 (second field) initialize to clear up the data.

cpu = CPU that was active when the problem occurred

pg addr = failed memory location

pf = prime fault

sf = secondary fault

1. If a CED203 occurs for the same page, the primary is suspect.

ACTION: Use DIS xx to disable the memory card(s) associated with the active CPU, then use MEM xx or ENL xx to perform a memory test. If applicable, replace the memory card(s) following the steps in the *Hardware replacement* guide. After replacing the card verify that the fault is cleared.

2. If a CED203 does not occur, suspect the secondary. If the fault occurred in a protected data store or firmware store and the contents of the primary module are correct (for instance the checksum is successful) the primary will be copied into the secondary.

ACTION: Use DIS xx to disable the memory card(s) associated with the nonactive CPU, then use MEM xx or ENL xx to perform a memory test. If applicable, replace the memory card(s) following the steps in the *Hardware replacement* guide. After replacing the card verify that the fault is cleared.

CED203 cpu pg

The checksum failed on the specified page. This means that the program or data stored in the memory is incorrect. If the page is protected data store, datadump will be inhibited because the integrity of the data cannot be guaranteed. If the page is a protected data page, data dump may be prevented.

cpu = CPU that was active when the problem occurred.

pg = the page that had the problem.

ACTION: Investigate and clear any SYSxxx messages which may appear concurrently with this message, then attempt to data dump onto a second copy of the storage medium. Use EDD CLR in LD 43, then reload from the new copy to check that the data is now valid. If this is done after a reload, the only further cause would be

CED203. On dual-memory machines, use ENL xx on the indicated memory card to test and re-enable (the data will be copied from the other memory). If this fails again (or for single memory machines), use EDD CLR in LD 43 to dump the data to a second copy of the storage medium, then reload and check any SYS or INI errors for possible data corruption. Refer to LD 43, message EDD016 for further information.

CED204 cpu memory

The memory card was tested at midnight and failed. Refer to the CED207 description.

cpu = CPU that was active when the problem occurred.

ACTION: Replace the memory card following the steps in the *Hardware replacement* guide. After replacing the card verify that the fault is cleared.

CED205 cpu mem

The memory card was tested at midnight and passed. The card was enabled. If the secondary was disabled, an attempt will be made to enable it. The card may have an intermittent fault.

cpu = CPU that was active when the problem occurred.

ACTION: Use DIS xx to disable the memory card(s) associated with the nonactive CPU, then use MEM xx or ENL xx to perform a memory test. If applicable, replace the memory card(s) following the steps in the *Hardware replacement* guide. After replacing the card verify that the fault is cleared.

CED206 cpu cma

The CMA failed when the midnight routine tried to enable it.
No further memory testing will be done.

cpu = CPU that was active when the problem occurred

cma = Changeover and Memory Arbitrator card

Start at the first or most likely cause and go down the list until the fault is cleared. If the fault does not clear, call your technical support group.

1. The CMA card could be faulty.

ACTION: Replace the CMA card associated with the CPU indicated in this message, following the steps in the *Hardware replacement* guide. After replacing the card verify that the fault is cleared.

2. The CMA cable could be faulty.

ACTION: Replace the inter-CMA cable following the steps in the *Hardware replacement* guide. After replacing the card verify that the fault is cleared.

3. The other CMA card could be faulty.

ACTION: Replace the CMA card associated with the opposite CPU as indicated in this message, following the steps in the *Hardware replacement* guide. After replacing the card verify that the fault is cleared.

CED207 cpu cma

The CMA was successfully re-enabled by the midnight routine. Interpretation of data accompanying CED100 to 207 is:

pg = the page that had the problem. This problem could be in the card on shelf 0 or 1. “pg” is only printed for NT, RT, and XT systems. The “page” information can be ignored.

cpu = CPU that was active when the problem occurred

cma = Changeover and Memory Arbitrator card

ACTION: If applicable, replace the CMA card following the steps in the *Hardware replacement* guide. After replacing the card verify that the fault is cleared.

CED300

A temporary module is not equipped or is faulty. Only relevant for SL-1LE, VLE, A, XL, and M.

ACTION: Refer to the *administration input/output guide*. Use LD 22 to check the CFN record. Replace the memory card following the steps in the *Hardware replacement* guide. After replacing the card verify that the fault is cleared.

CED301

Replaced module is not equipped or is faulty. Only relevant for SL-1LE, VLE, A, XL, and M.

ACTION: Refer to the *administration input/output guide*. Use LD 22 to check the CFN record. Replace the memory card following the steps in the *Hardware replacement* guide. After replacing the card verify that the fault is cleared.

CED302

Specified module has not been spared. One of the system memory modules is faulty. Only relevant for SL-1LE, VLE, A, XL, and M.

ACTION: Replace the memory card following the steps in the *Hardware replacement* guide. After replacing the card verify that the fault is cleared.

CED303

Spare is disabled. Module 0 should be replaced. Only relevant for SL-1LE, VLE, A, XL, and M.

ACTION: Replace the memory card following the steps in the *Hardware replacement* guide. After replacing the card verify that the fault is cleared.

CED304

Spare is in use. Only relevant for SL-1LE, VLE, A, XL, and M.

ACTION: Information only, no action required.

CED305

Spare failed memory test. Replace module 0. Only relevant for SL-1LE, VLE, A, XL, and M.

ACTION: Replace the memory card following the steps in the *Hardware replacement* guide. After replacing the card verify that the fault is cleared.

CED306

The specified module has not been replaced by the temporary module. Only relevant for SL-1LE, VLE, A, XL, and M.

ACTION: Information only, no action required.

CED307

The temporary module is in use. Only relevant for SL-1LE, VLE, A, XL, and M.

ACTION: Information only, no action required.

CED401

Cannot determine which CPU is active.

ACTION: Use STAT CMA to determine which CPU or CMA is active.

CED402

System Clock must be switched before proceeding.

ACTION: Use SCLK in LD 39 to switch the System Clock. If you need help with the commands or system responses refer to the *IGS* chapter in this guide.

CED403

The specified System Clock Generator (SCG) is out-of-range.

ACTION: Check to make sure your data is correct and re-enter the command.

CED404

The specified System Clock Generator (SCG) is not responding.

ACTION: Use SCLK in LD 39 to switch the System Clock. If you need help with the commands or system responses go to the *IGS* chapter in this guide.

CED405

The specified System Clock Generator (SCG) is already enabled.

ACTION: Ensure that this is the command you wanted to use.

CED406

The idle CPU must be switched in as the active CPU before proceeding with the command.

ACTION: Use SCPU in the *IGS* chapter to switch the CPU.

CED407

Intergroup Switch is out-of-range.

ACTION: Check to make sure your data is correct and re-enter the command.

CED408

Intergroup Switch is not responding.

ACTION: Check to make sure your data is correct and if applicable, re-enter the command. If the data is correct, replace the IGS card following the steps in the *Hardware replacement* guide. After replacing the card verify that the fault is cleared.

CED409

The specified Intergroup Switch is already enabled.

ACTION: Ensure that this is the command you wanted to use.

CED410

Only one DISI IGS is allowed at a time.

ACTION: Be patient, you are inputting commands faster than the system can handle them.

CED411

DISI IGS command is completed.

ACTION: Information only, no action required.

CED412 c

System Clock c cannot be switched to replace the presently active clock.

ACTION: If appropriate, replace the System Clock card following the steps in the *Hardware replacement* guide. After replacing the card verify that the fault is cleared.

CED450

Invalid command for single CPU systems.

ACTION: Ensure that this is the command you wanted to use.

CED502

That command is only valid for system Option 21 with X11 Release 18 and later.

ACTION: Ensure that this is the command you wanted to use.

CED503

1. The battery test failed.

ACTION: Replace the battery per steps in the *Hardware replacement guide*. Use BATT to retest. If the test does not pass, replace the MSPS card per steps in the *Hardware replacement* guide. After replacing the card verify that the fault is cleared.

2. Receiving this message after installing or upgrading to an OPT21E or STE. The battery may have been installed incorrectly or is missing.

ACTION: Check the MSPS (NTND02) card for correct battery installation.

CED504

The battery is not configured.

ACTION: If a battery is present on the MSPS (NTND02BA) refer to the *administration input/output guide*. Use LD 17 prompt BATT to Yes before doing a BATT test.

CED505

That command is not valid for system Option 21.

ACTION: Ensure that this is the command you wanted to use.

CIOD — LD 137 Core Input/Output

In this chapter

Before changing circuit cards, be aware of the procedures outlined in *Do this when replacing circuit cards,* found in the *Hardware maintenance tools* chapter.

How the CIOD works

LD 137 provides IOP and CMDU related diagnostic and maintenance information for Options 51C/61C/81 machines. Some commands in LD 37 can also be used. Refer to that program.

LD 137 provides a means of performing the following functions:

- enabling and disabling the CMDU and IOP cards
- displaying status and card ID for CMDU and IOP cards
- testing the IOP and CMDU (the hard and floppy disk drives are tested)
- testing individual disk drives
- enabling and disabling disk redundancy
- testing SCSI cable connections between IOPs and CMDUs
- testing disk synchronization on file or sector levels
- during midnight routines performs DATA CMDU, DATA RDUN commands

Note: The DATA CMDU and DATA RDUN midnight routines are run every five days.

CIOD common commands

Status

STAT	Get the status of both IOPs and CMDUs. For the IOP, the Enabled or Disabled, and Active or Standby state is printed. Status is given for active and standby IOPs. For the CMDU, Disk redundancy, enabled/disabled, and active/standby status are printed. ***Note:*** The status given for the standby IOP is a software status as it was last seen when that IOP was active. No hardware status is given because the standby IOP cannot be accessed. If the status of the IOP or CMDU is disabled, one of the following OOS messages may appear on the maintenance terminal as follows: **ASIC interrupt fault monitor threshold exceeded** **Action**: Contact your technical support group. **CMDU does not respond, the disk drive may be missing** **Action**: Be sure CMDU power is on and the IOP to IOP cable is in place. **CMDU has been disabled by the craftperson** **Action**: Information only, take appropriate action as required. **CMDU is disabled because the IOP is Out-of-Service** **Action**: Contact your technical support group. **CMDU is in split mode** **Action**: Information only, take appropriate action as required.	51C/61C/81-19

CIOD common commands (continued)

STAT
(continued)

CMDU is out of split mode

Action: Information only, take appropriate action as required.

CMDU Out-of-Service

Action: Contact your technical support group.

CMDU status is mismatched because of a software error

Action: Contact your technical support group.

CMDUs are not synchronized

Action: Information only, take appropriate action as required.

Fault interrupt fault monitor threshold exceeded

Action: Contact your technical support group.

General event interrupt fault monitor threshold exceeded

Action: Contact your technical support group.

Hard disk drive error

Action: Contact your technical support group.

Hard disk is inaccessible

Action: Be sure CMDU power is on and the IOP to IOP cable is in place.

Hard disk read error

Action: Contact your technical support group.

CIOD common commands (continued)

STAT
(continued)

Hard disk write error

Action: Contact your technical support group.

IOP disabled by craftperson

Action: Information only, take appropriate action as required.

IOP not responding

Action: Check that the IOP enable/disable switch is in the enable position (up). If the IOP does not respond after enabling it, reseat the IOP card. If the card does not respond after reseating, replace the IOP card by following the steps in the Hardware replacement guide.

IOP Out-of-Service

Action: Contact your technical support group.

IOP responding but cannot be enabled

Action: Contact your technical support group.

No access to hard disk (HDK)

Action: Be sure CMDU power is on and the IOP to IOP cable is in place.

Processor exception fault monitor threshold exceeded

Action: Contact your technical support group.

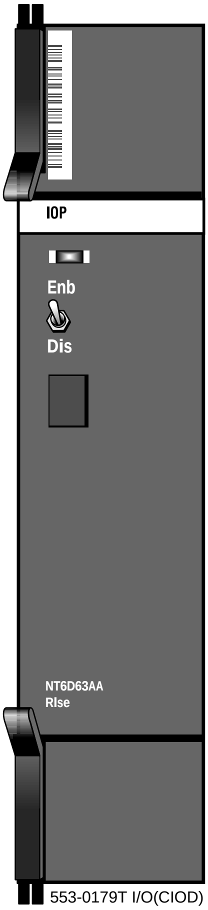
Unexpected interrupt fault monitor threshold exceeded

Action: Contact your technical support group.

CIOD common commands (continued)

STAT (continued)	**Unrecognized error fault monitor threshold exceeded** **Action**: Contact your technical support group.	
Print		
IDC	Print the IDs of both CMDUs and the active IOP. The printout appears in the following format: **pppppppppp rrssss cccccccc** **pppppppppp = PEC code** **rr** = Release number **ssss** = Serial number **cccccccc** = Comments (not always present)	51C/61C/81-19
Test		
TEST SCSI	Test the SCSI cables. This test ensures the cable connections between the IOPs are present. Access to the CMDUs is tested as well. If the test is successful, `OK` is printed. If the test is unsuccessful, CIOD messages are printed to indicate the problem.	51C/61C/81-19
TTY x	Test TTY x Response is: **ABCDEFGHIJKLMNOPQRSTUVWXYZ** **0123456789"#$%*!&()<>–.:,.?** **READY FOR INPUT** Anything entered on the keyboard will be echoed until END is input.	51C/61C/81-19

IOP — Input/Output Processor



553-0179T I/O(CIOD)

Purpose

The IOP loads the programs and office data into the system memory.

Function

The IOP interfaces the Core Multi-drive Unit or CMDU, a serial device, to the CP, a parallel device.

The IOP provides the interface between the CP and the CMDU via a SCSI bus interface, and utilizes a Motorola 68020 microprocessor.

The IOP card provides address matching, disk drive control, data buffering, and interrupt control circuits.

The IOP and CMDU are combined into one card on the Option 81C.

Features

The IOP face plate includes the following features:

- a hex display for IOP status codes
- a LED which flashes three times to indicate a passed self-test, and when steadily lit, indicates a disabled IOP.

IOP faceplate hex codes

The NT6D63 I/O Processor (IOP) card provides hexadecimal displays to indicate various phases of operation and the state of the card during those phases.

Assembly level initialization and basic card self-tests are noted on the HEX display by decimal points appearing to the left of the HEX code.

High level code initialization and card self-tests have the decimal point to the right of the code to indicate they are taking place.

Card operation is indicated by the alternating decimal points.

Assembly level initialization and basic card self-test messages

.0.

LED on. Bootstrap code on power up.

ACTION: Information only, no action required.

.1

LED on. ROM checksum for self-test 1.

ACTION: Information only, no action required.

.1/.E.

LED on. ROM checksum self-test 1 failed (alternates 3 times).

ACTION: Replace the IOP card by following the steps in the *Hardware replacement* guide. After replacing the card verify that the fault is cleared.

.2

LED on. SRAM self-test. Card LED is on for self-test 2.

ACTION: Information only, no action required.

.2/.E.

LED on. SRAM self-test 2 failed (alternates 3 times).

ACTION: Replace the IOP card by following the steps in the *Hardware replacement* guide. After replacing the card verify that the fault is cleared.

.3.

LED on. IOP debugger initialization.

ACTION: Information only, no action required.

.3./.E.

LED on. IOP debugger initialization failed (alternates 3 times).

ACTION: Replace the IOP card by following the steps in the *Hardware replacement* guide. After replacing the card verify that the fault is cleared.

.3

LED on. Processor self-test 3.

ACTION: Information only, no action required.

.3/.E.

LED on. Processor self-test 3 failed (alternates 3 times).

ACTION: Replace the IOP card by following the steps in the *Hardware replacement* guide. After replacing the card verify that the fault is cleared.

.4

LED on. BIC Initial Condition Check, self-test 4

ACTION: Information only, no action required.

.4/.E.

LED on. BIC Initial Condition Check, self-test 4 failed (alternates 3 times).

ACTION: Replace the IOP card by following the steps in the *Hardware replacement* guide. After replacing the card verify that the fault is cleared.

.8

LED on. Assembly level copying ROM to RAM, and miscellaneous initialization setup.

ACTION: Information only, no action required.

.D.

LED on. 3 second window to enter the debugger by typing ^B, or in debugger.

ACTION: Information only, no action required.

8.

LED off. Initialization and set up in C.

ACTION: Information only, no action required.

1.

LED off. IOP registers self-test a.

ACTION: Information only, no action required.

1./E

LED on. IOP registers self-test a failed (alternates 3 times).

ACTION: Replace the IOP card by following the steps in the *Hardware replacement* guide. After replacing the card verify that the fault is cleared.

2.

LED off. BIC self-test b.

ACTION: Information only, no action required.

2./E

LED on. BIC self-test b failed (alternates 3 times).

ACTION: Replace the IOP card by following the steps in the *Hardware replacement* guide. After replacing the card verify that the fault is cleared.

3.

LED off. SCSI self-test c.

ACTION: Information only, no action required.

3./E

LED on. SCSI self-test c failed (alternates 3 times).

ACTION: Replace the IOP card by following the steps in the *Hardware replacement* guide. After replacing the card verify that the fault is cleared.

5.

LED off. Security cartridge self-test e.

ACTION: Information only, no action required.

5./E

LED on. Security cartridge self-test e failed (alternates 3 times).

ACTION: Replace the IOP card by following the steps in the *Hardware replacement* guide. After replacing the card verify that the fault is cleared.

6.

LED off. DUART self-test f.

ACTION: Information only, no action required.

6./E

LED on. DUART self-test failed (alternates 3 times).

ACTION: Replace the IOP card by following the steps in the *Hardware replacement* guide. After replacing the card verify that the fault is cleared.

.9/9.

LED on. IOP hunt CP/IOP test in progress, Ping.

ACTION: Information only, no action required.

.A/A.

LED on. Operational and disabled, or waiting to hunt.

ACTION: Information only, no action required.

.A/A.

LED off. Operational and enabled.

ACTION: Information only, no action required.

.B/B.

LED off. Maintenance message sent (persists for about 1 second).

ACTION: Information only, no action required.

.F/F.

LED off. SCSI interrupt message sent (persists for about 1 second).

ACTION: Information only, no action required.

.D/D.

LED off. Operational, debugger enabled and DUART polled for ^B to enter.

ACTION: Information only, no action required.

.D/D.

LED on. Operational, debugger disabled and DUART polled for ^B to enter.

ACTION: Information only, no action required.

D

LED on. Active in debugger.

ACTION: Information only, no action required.

.E/E.

LED off. Soft reset occurred, error enabled.

ACTION: Information only, no action required.

.E/E.

LED on. Soft reset occurred, error disabled.

ACTION: Information only, no action required.

.E.

LED on. Hard reset initiated.

ACTION: Information only, no action required.

IOP commands

Status

STAT IOP	Provide status of the active IOP.	51C/61C/81-19

This command prints out the status whether the IOP is enabled or disabled. If it is disabled, the OOS reasons are printed. The following IOP OOS messages may appear on the maintenance terminal as follows:

ASIC interrupt fault monitor threshold exceeded

Action: Contact your technical support group.

Fault interrupt fault monitor threshold exceeded

Action: Contact your technical support group.

General event interrupt fault monitor threshold exceeded

Action: Contact your technical support group.

IOP disabled by craftperson

Action: Information only, take appropriate action as required.

IOP not responding

Action: Check that the IOP enable/disable switch is in the enable position (up). If the IOP does not respond after enabling it, reseat the IOP card. If the card does not respond after reseating, replace the IOP card by following the steps in the Hardware replacement guide.

IOP Out of Service

Action: Contact your technical support group.

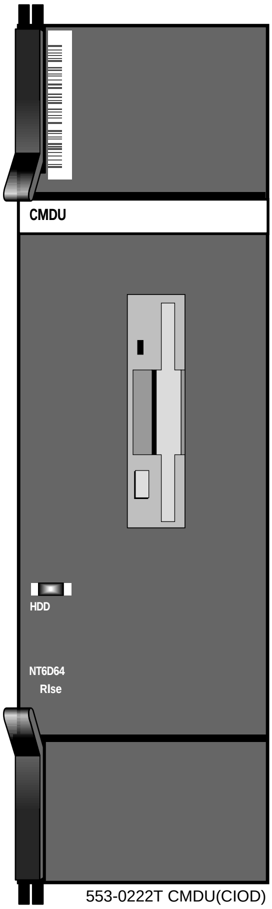
IOP commands (continued)

STAT IOP (continued)	**IOP responding but cannot be enabled** **Action:** Contact your technical support group. **Processor exception fault monitor threshold exceeded** **Action:** Contact your technical support group. **Unexpected interrupt fault monitor threshold exceeded** **Action:** Contact your technical support group. **Unrecognized error fault monitor threshold exceeded** **Action:** Contact your technical support group.	
Disable		
DIS IOP	Disable the active IOP. The LED is lit on the IOP faceplate, and both CMDUs are inaccessible.	51C/61C/81-19
Enable		
ENL IOP	Enable the IOP on the active Core. The LED is turned off on the IOP faceplate. The CMDUs are restored to the state they were in prior to the IOP being changed. However, if the cable between the IOPs is not connected, the CMDUs remain inaccessible until the cable is reattached. ***Note:*** If both CMDUs were enabled, a file level synchronization check is performed prior to restoring states. If the synchronization (disk redundancy) does not exist, only the previously active CMDU is enabled.	51C/61C/81-19

IOP commands (continued)

Test		
TEST IOP	Perform self test on the active IOP. The IOP must be disabled to perform this test.	51C/61C/81-19
Print		
IDC IOP	Print out the ID of the active IOP.	51C/61C/81-19

CMDU — Core Multi Drive Unit



553-0222T CMDU(CIOD)

Purpose

The CMDU is used to load programs and office data into the system memory.

Function

The CMDU occupies three adjacent card slots in each Core Module of the Option 81 and each Core/Network Module of Options 51C and 61C.

The CMDU requires 5V and 12V from the module backplane.

Each CMDU is controlled by an IOP card in the module. The IOP cards maintain redundancy of the CMDUs through a SCSI bus connection.

The IOP and CMDU are combined into one card on the Option 81C.

The CMDU cards can provide card-ID, which includes the card type, NT code, serial number and other relevant data about the CMDU.

Features

The CMDU contains the following:

- one 3.5-inch super high density floppy drive with a format capacity of 2.88 Mbytes
- a 3.5-inch hard drive with a minimum capacity of 120 Mbytes

CMDU commands

Status		
STAT CMDU n	Get status of the CMDU. **n** = Core number (0 or 1) If n is not entered, the status for both CMDUs is printed. If the CMDU is disabled, one of the following CMDU OOS reason may appear on the maintenance terminal.	51C/61C/81-19
	CMDU does not respond, the disk drive may be missing **Action**: Be sure CMDU power is on and the IOP to IOP cable is in place.	
	CMDU has been disabled by the craftperson **Action**: Information only, take appropriate action as required.	
	CMDU is disabled because the IOP is out-of-service **Action**: Be sure CMDU power is on and the IOP to IOP cable is in place.	
	CMDU is in split mode **Action**: Information only, take appropriate action as required.	
	CMDU is out of split mode **Action**: Information only, take appropriate action as required.	
	CMDU status is mismatched because of a software error **Action**: Contact your technical support group.	

CMDU commands (continued)

STAT CMDU n (continued)	**CMDUs are not synchronized** **Action**: Contact your technical support group. **Hard disk drive error** **Action**: Contact your technical support group. **Hard disk is inaccessible** **Action**: Be sure CMDU power is on and the IOP to IOP cable is in place. **Hard disk read error** **Action**: Contact your technical support group. **Hard disk write error** **Action**: Contact your technical support group. **No access to hard disk (HDK)** **Action**: Be sure CMDU power is on and the IOP to IOP cable is in place.	
Disable device		
DIS CMDU	Disable CMDU. **n** = Core number (0 or 1) You must enter the Core number. If disk redundancy is currently enabled (both CMDUs are enabled and enabled); disabling the CMDU also disables disk redundancy. The confirmation is displayed, **CURRENTLY CMDU N IS ACTIVE. DISK RDUN WILL BE DISABLED. ENTER Y(ES) TO CONFIRM, N(O) TO ABORT.** If the specified CMDU is in standby, its state is changed to disabled. If it is the active CMDU, it is disabled, and the standby CMDU becomes active.	51C/61C/81-19

CMDU commands (continued)

Enable		
ENL CDMU n	Enable the CDMU. **n** = Core number (0 or 1) You must enter the Core number. When the first CMDU is enabled, that CMDU's state is ACTIVE. If a second ENL CMDU is attempted, a file level synchronization on both hard disks is performed first. If the synchronization (disk redundancy) does not exist, a CIOD error message is printed, and the second CMDU remains disabled. If the synchronization exists, the confirmation is “displayed, **DISK RDUN WILL BE ENABLED, ENTER Y(ES) to CONFIRM, N(O) TO ABORT.** When disk redundancy is successful, both CMDU states are Enabled. The CMDU enabled first is active, and the second is standby.	51C/61C/81-19
Print		
ICD CMDUs	Print the ID for the CMDU. **n** = Core number (0 or 1) If n is not entered, card ID information is printed for both CMDUs.	51C/61C/81-19

CMDU commands (continued)

Test		
TEST CMDU n	Perform test for the CMDU. This test includes a self-test, read/write capability test, and disk access test on both hard and floppy disks for this CMDU. While the test is in progress, the CMDU is inaccessible. **n** = Core number (0 or 1) You must enter the Core number. A disk must be in the floppy drive when this test is run. If the floppy disk is not present, the floppy disk test will fail. The hard disk test will not be affected.	51C/61C/81-19
DATA CMDU n	Perform read tests on the specified CMDU. This data validity check is performed on both hard and floppy disks. While the test is in progress, the CMDU is inaccessible. Progress messages are output. **n** = core number (0 or 1). If n is not entered, this command checks both CMDUs. ***Note:*** This is more extensive than the TEST command, and may take longer.	51C/61C/81-19
Swap		
SWAP	Swap the CMDUs. After this command is issued, the active CMDU becomes standby, and the standby CMDU becomes active. This command is performed only when disk redundancy is enabled.	51C/61C/81-19
Synchronize		
SYNC	Synchronize the hard disks on both CMDUs. This is a sector level synchronization. It is performed by copying the data from the active CMDU to the disabled CMDU, sector by sector. This can only be done when one CMDU is active and one is disabled. The confirmation prompt appears when the system is ready to do the copying, **CMDU n ACTIVE HDK WILL BE COPIED AND DISK RDUN WILL BE ENABLED. ENTER Y TO CONFIRM.** Synchronization may take as long as 40 minutes. Progress reports appear on the TTY periodically.	51C/61C/81-19

Hard and Floppy Disk Commands

Test		
TEST CMDU n HDK, FDK	Perform test on the Hard or Floppy Disk. This test includes a self-test, read/write capability test, and disk access test on either the hard or floppy disk drive for this CMDU. While the test is in progress, the CMDU is inaccessible. **n** = Core number (0 or 1) You must enter the Core number. A disk must be in the floppy drive to be tested. If a floppy disk is not present, the floppy disk test will fail. The hard disk test will not be affected.	51C/61C/81-19
TEST RDUN	Perform file level checking on both hard disks. This test ensures that disk synchronization exists. It can only be performed when disk redundancy is enabled. If the test fails, a CIOD message appears, and disk redundancy is disabled. While this test is in progress, the disk is inaccessible	51C/61C/81-19
DATA CMDU n HDK, FDK	Perform read test on either the Hard Disk or Floppy Disk. This is a data validity check. While the test is in progress, the Disk is inaccessible. **n** = Core number (0 or 1) You must enter the Core number. ***Note:*** This is more extensive than the TEST command, and may take longer.	51C/61C/81-19

Test		
DATA RDUN	Perform sector level checking on both hard disks. This test ensures that disk synchronization (disk redundancy) exists. It can only be performed when disk redundancy is enabled. All data is checked on both disks, sector by sector. If the test fails, a CIOD message appears, and disk redundancy is disabled. ***Note:*** This is more extensive than the TEST command, and may take longer. While this test is in progress, the disks are inaccessible.	51C/61C/81-19

CIOD messages

Back-filling messages with zeros

The numerical portion of the following messages is depicted by three or four digits. For example, the same message can be represented by xxx0008 or xxx008.

CIOD001 Invalid command.

ACTION: Ensure that this is the command you wanted to use.

CIOD002 Invalid argument.

ACTION: Check to make sure your data is correct and re-enter the command.

CIOD003 The device number is out-of-range.

ACTION: Check to make sure your data is correct and re-enter the command. Enter 0 or 1.

CIOD004 HDK x test failed. The hard disk on CMDU x failed the test.

ACTION: Try the test again. If it fails three times, replace the CMDU by following the steps in the *Hardware replacement* guide. If you need help contact your technical support group.

CIOD005 Softerr: cannot access the device.

ACTION: Contact your technical support group.

CIOD006 That device is already enabled.

ACTION: Ensure that this is the command you wanted to use.

CIOD007 That device is already disabled.

ACTION: Ensure that this is the command you wanted to use.

CIOD008 FDK x failed. The floppy disk on CMDU x failed the test.

ACTION: Try the test again. If it fails three times, replace the floppy drive by following the steps in the *Hardware replacement* guide. If you need help contact your technical support group.

CIOD009 Failed to disable the device.

ACTION: Re-attempt the command. If the problem persists contact your technical support group.

CIOD010 Related data (CMDU status) is mismatched due to a software error.

ACTION: Contact your technical support group.

CIOD011 IOP test failed. See fault reporting for the reason for the failure.

ACTION: Replace the IOP card by following the steps in the *Hardware replacement* guide. After replacing the card verify that the fault is cleared.

CIOD012 Cannot access CMDU x because the system is in split mode. System must be redundant before attempting this command.

ACTION: Use SHDW in LD 135 to restore the system to redundancy. If you need help with the commands or system responses refer to the CCED chapter. Re-enter the command.

CIOD013 The CMDU number is required.

ACTION: Check to make sure your data is correct and re-enter the command. Enter 0 or 1 to indicate which device.

CIOD014 Receiving this message while the midnight routine runs or RDUN test failed because the disk contents are not synchronized.

ACTION: Use SYNC to synchronize the disks, then re-enter the command. Check for a possible bad CMDU. If the SCSI bus is busy, unseat the IOP in the opposite CORE. Use SYNC to synchronize the CMDUs. Reseat the IOP and re-enter the RDUN diagnostics in both COREs.

CIOD015 ENL command failed, and device cannot be enabled, because it cannot be accessed.

ACTION: Make sure the cables are connected, then re-enter the command.

CIOD016 RDUN command failed because the disk redundancy is in the disabled state.

ACTION: Use ENL CMDU n to enable the disk, then re-enter the command.

CIOD017 SYNC command failed because the disk redundancy is in enabled state.

ACTION: Use DIS CMDU n to disable the disk, then re-enter the command.

CIOD018 SYNC fail due to soft err.

ACTION: Contact your technical support group.

CIOD019 SYNC command failed.

1. Refer to fault reporting for the reason for the failure.
ACTION: Re-attempt the command. If the error continues contact your technical support group.

2. Receiving this message when attempting to resync the CMDUs after an upgrade or parallel reload.

ACTION: Disable the active IOP and re-enable in LD 137. Confirm that the CMDU at the far end can be recognized by using the IDC command. Try the SYNC command again if it still fails. Unseat the IOP off the bus in the opposite CORE and resync the CMDUs. Reseat the IOP and verify access. If the error continues contact your technical support group.

CIOD020 SYNC command failed because there is no system resource available at this time.

ACTION: Try again later.

CIOD021 SYNC in progress. xx percent complete.

This is a status message. Synchronization may take a long time. This message helps indicate how far along the synchronization is
ACTION: Information only, no action required.

CIOD022 CABLE yy is loose, or CMDU yy is inaccessible. The SCSI test was performed successfully on both sides.

The test failed because of a loose cable or inaccessible CMDU. Whichever is applicable is printed
xxxx may be CABL or CMDU:

CABL means that a cable is loose, or the status is unknown because both CMDUs are inaccessible.

CMDU indicates that the CMDU is inaccessible.

ACTION: Check the cable connection between the IOP and the CMDU. Reconnect the cable if it is loose. Perform a parallel reload if the CMDU does not respond.

CIOD023 Unable to switch to inactive CP. The current CP remains active.

The SCSI test was performed on the active side only, and the switchover attempt failed. Refer to CIOD024 for active side information
ACTION: Check the cable connection between the IOP and the CMDU.

CIOD024 This message displays cable status and CMDU accessibility for the active side.

xxxx can refer to CABL, or CMDU. Output may be one of the following.

CMDU by indicates which CMDU is inaccessible.

CABL by means the cable is loose, or the status in unknown.

ACTION: Check the cable connection between IOP and CMDU.

CIOD025 Unable to switch back to active CP.

The SCSI test was performed on both sides, but the system cannot return to the original active CP. The inactive CP is now active. Refer to CIOD026 for status
ACTION: Check the cable connection between the IOP and the CMDU. Perform a parallel reload if the CMDU does not respond

CIOD026 This message displays cable status and CMDU accessibility for both sides due to the inability to switch back to the original active CP.

xxxx can refer to CABL, or CMDU. Output may be one of the following.
CMDU yy indicates which CMDU is inaccessible.

CABL yy means the cable is loose, or the status in unknown.

ACTION: Check the cable connection between the IOP and the CMDU. Perform a parallel reload if the CMDU does not respond.

CIOD027 SCSI test failed because an invalid address was detected for SCSI address 6 or 7.

ACTION: Use TEST CMDU to test the drive. If the error continues contact your technical support group.

CIOD028 No resource is available for overlay input processing.

ACTION: Try again later.

CIOD029 Both CMDUs are disabled.

ACTION: Use ENL CMDU n to enable a CMDU.

CIOD030 Disk redundancy (RDUN) file level check failed. The CMDU and/or disk redundancy cannot be enabled.

ACTION: Contact your technical support group.

CIOD031 Abort delayed because a critical write is in progress. The abort will be delayed until the write is complete.

ACTION: Wait and try the command later.

CIOD032 To issue this command, the IOP must be enabled.

ACTION: Use ENL IOP to enable the IOP.

CIOD033 To test the IOP, it must be disabled.

ACTION: Use DIS IOP to disable the IOP.

CIOD034 To perform the Read/Write test, the CMDU must be enabled.

ACTION: Use ENL CMDU n to enable a CMDU.

CIOD035 That response is not allowed for this prompt.

ACTION: Check to make sure your data is correct and if applicable, re-enter the command.

CIOD036 Read test in progress (xx percent done).

This is a status message output during an exhaustive read test. This test may take a while, so this message helps keep track of the status.
ACTION: Information only, no action required.

CIOD037 Synchronization sector check in progress (xx percent done).

This is a status message output during the check. This check may take a while, so this message helps keep track of the status.
ACTION: Information only, no action required.

CIOD038 Card ID cannot be read

ACTION: Reseat or replace the card.

CIOD039 SYNC command failed because both CMDUs are disabled.

ACTION: Re-enable CMDU 0 then restore to CMDU 1.

CIOD040 Cannot access CMDU x. Ensure it is enabled, and check cabling.

ACTION: Check the cable connection between the IOP and the CMDU. Use ENL CMDU n to enable the CMDU.

CIOD041 Unexpected signal x raised, interfering with LD 137.

ACTION: Contact your technical support group.

CIOD042 Synchronization failed because the system is in split mode.

ACTION: Use SHDW in LD 135 to restore the system to the redundant mode. If you need help with the commands or system responses refer to the CCED chapter.

CIOD045 To issue the SWAP command, disk redundancy must be enabled.

ACTION: Use SHDW in LD 135 to restore the system to the redundant mode. If you need help with the commands or system responses refer to the CCED chapter.

CIOD046 Unable to lockout graceful switchover possibility. The switchover was performed while the maintenance command is in progress.

ACTION: Information only. No action required.

CIOD100 VALID IOP-IOP cable loss or CMDU removal store current CMDU states.

ACTION: Information only. No action required.

CIOD101 IOP-IOP Cable reconnected or CMDUs re-inserted: but IOP still disabled.

ACTION: Use ENL IOP to re-enable the IOP.

CIOD102 CMDU states previously stored when IOP was disabled.

ACTION: Information only. No action required.

CIOD103 CMDU x hard disk inaccessible: cannot restore to STANDBY.

ACTION: Be sure CMDU power is on and the IOP to IOP cable is in place.

CIOD104 CMDU x hard disk inaccessible: cannot restore to ACTIVE.

ACTION: Be sure CMDU power is on and the IOP to IOP cable is in place.

CIOD105 CMDU x cannot delete hard disk test file.

ACTION: Use DIS CMDU x to disable and ENL CMDU x to re-enable the CMDU, then re-enter the command.

CIOD106 CMDU x cannot delete floppy disk test file.

ACTION: Disable CMDU x and then re-enable in LD 137.

CIOD107 No floppy disk in drive.

ACTION: Place the proper floppy disk into the drive.

CIOD108 Floppy disk not formatted.

ACTION: Insert formatted disk or contact your local technical support group to have the disk formatted in PDT.

CIOD109 Floppy disk is Write Protected.

ACTION: Check that the write protect tab on the floppy disk is closed (no hole).

CIOD110 SCSI cable between IOPs is missing, both CMDUs are disabled.

ACTION: Check that both connectors on the IOP to IOP cable are in place.

CIOD111 Valid cable reconnect. Attempt to restore CMDU states.

ACTION: Information only.

CIOD112 Invalid cable loss. Multiple loss msgs: states not stored.

ACTION: Contact your technical support group.

CIOD113 Invalid cable loss. CMDU accessible, states not stored.

ACTION: Contact your technical support group.

CIOD114 CMDU x hard disk has insufficient memory for quick read/write test.

ACTION: Re-enter the command. If the error continues contact your technical support group.

CIOD115 CMDU x floppy disk has insufficient memory for quick read/write test.

ACTION: Contact your technical support group.

CIOD116 CMDU x hard disk: cannot open file for quick read/write test.

ACTION: Contact your technical support group.

CIOD117 CMDU x floppy disk: cannot open file for quick read/write test.

ACTION: Contact your technical support group.

CIOD118 CMDU x: cannot read card ID.

ACTION: Contact your technical support group.

CIOD119 CMDU x floppy disk cannot create quick test file.

ACTION: Contact your technical support group.

CIOD120 CMDU x hard disk cannot create quick test file.

ACTION: Contact your technical support group.

CIOD121 CMDU x hard disk input buff malloc err: quick test.

ACTION: Contact your technical support group.

CIOD122 CMDU x floppy disk input buff malloc err: quick test.

ACTION: Contact your technical support group.

CIOD123 CMDU x is disabled due to fault monitoring.

ACTION: Use TEST CMDU n HDK to test the CMDU. If the test fails, replace the CMDU by following the steps in the *Hardware replacement* guide.

CIOD124 CMDU x is disabled due to IOP to IOP cable loss.

ACTION: Check that both connectors on the IOP to IOP cable are in place.

CIOD125 CMDU x is disabled because the IOP is disabled.

ACTION: Use ENL IOP to re-enable the IOP card.

CIOD126 CMDU x is disabled. Active CP can not access the standby CMDU because the system is in split mode.

ACTION: Use SHDW in LD 135 to restore the system to the redundant mode. If you need help with the commands or system responses refer to the *CCED* chapter. Re-enter the command.

CIOD127 CMDU x is disabled because the system is in split mode. The standby CMDU remains disabled.

ACTION: Use SHDW in LD 135 to restore the system to the redundant mode. If you need help with the commands or system responses refer to the CCED chapter. Use ENL CMDU to enable the CMDU.

CIOD128 CMDU x is disabled because of a software/hardware mismatch.

ACTION: Use ENL CMDU n to re-enable the CMDU.

CIOD129 CMDU x is disabled because it could not access hard disk.

ACTION: Check that the CMDU power is on and that both connectors on the IOP to CMDU cable are in place.

Receiving CIOD129, CIOD143 and COID136 messages when swapping over from CORE 0 to CORE 1. The CMDUs are not running in sync. The error indicates that the active CMDU 0 cannot communicate to the newly active CORE 1 after the switch.

ACTION: Check for faulty cabling or bent pins on the IOP, slot positions 16A on both CORE backplanes.

CIOD130 CMDU x is disabled due to a software mismatch on both active or standby CMDUs.

ACTION: Contact your technical support group.

CIOD131 CMDU x is restored to STANDBY because the IOP was enabled.

ACTION: Information only, no action required.

CIOD132 CMDU x is restored to ACTIVE because the IOP was enabled.

ACTION: Information only, no action required.

CIOD133 CMDU x is restored to STANDBY.

ACTION: Information only, no action required.

CIOD134 CMDU x is restored to ACTIVE.

ACTION: Information only, no action required.

CIOD135 CMDU x is standby due to switchover.

ACTION: Information only, no action required.

CIOD136 CMDU x is active due to switchover.

ACTION: Information only. No action required.

Receiving CIOD129, CIOD143 and COID136 messages when swapping over from CORE 0 to CORE 1. The CMDUs are not running in sync. The error indicates the active CMDU 0, cannot communicate to the newly active made CORE 1 after the switch.

ACTION: Check for faulty cabling or bent pins on the IOP, slot positions 16A on both CORE backplanes.

CIOD137 CMDU x is standby due to a warm start.

ACTION: Information only, no action required.

CIOD138 CMDU x is active due to a warm start.

ACTION: Information only, no action required.

CIOD139 CMDU x is standby due to a cold start.

ACTION: Information only, no action required.

CIOD140 CMDU x is active due to a cold start.

ACTION: Information only, no action required.

CIOD141 CMDU x is disabled and cannot access hard disk from a cold start.

ACTION: Check that the CMDU power is on and that cable connectors are in place.

CIOD142 CMDU x is disabled and cannot access hard disk from a warm start.

ACTION: Check that the CMDU power is on and that cable connectors are in place.

CIOD143 CMDU x is disabled cannot access hard disk (switchover).

ACTION: Check that the CMDU power is on and that cable connectors are in place.

Receiving CIOD129, CIOD143 and COID136 messages when swapping over from CORE 0 to CORE 1. The CMDUs are not running in sync. The error indicates the active CMDU 0, cannot communicate to the newly active made CORE 1 after the switch.

ACTION: Check for faulty cabling or bent pins on the IOP, slot positions 16A on both CORE backplanes.

CIOD144 CMDU x was in the standby mode and switched to the active mode due to a cold start.

ACTION: Information only, no action required.

CIOD145 CMDU x was in the standby mode and switched to the active mode due to a warm start.

ACTION: Information only, no action required.

CIOD146 CMDU x was in the standby mode and switched to the active mode due to a switchover.

ACTION: Information only, no action required.

CIOD147 CMDU x was in the standby mode and switched to the active mode due to a fault monitoring.

ACTION: Contact your technical support group.

CIOD148 CMDU x is disabled due to SPLIT mode from a cold start.

ACTION: Information only, no action required.

CIOD149 CMDU x is disabled due to SPLIT mode from a warm start.

ACTION: Information only, no action required.

CIOD150 CMDU x is disabled due to SPLIT mode from a switchover.

ACTION: Information only, no action required.

CIOD151 Cannot restore CMDU x to standby due to SPLIT mode.

ACTION: Use SHDW in LD 135 to restore the system to the redundant mode. If you need help with the commands or system responses refer to the CCED chapter. Re-enter the command.

CIOD152 Cannot restore CMDU x to active due to SPLIT mode.

ACTION: Use SHDW in LD 135 to restore the system to the redundant mode. If you need help with the commands or system responses refer to the CCED chapter. Re-enter the command.

CIOD153 CMDU x was in the standby mode and switched to active due to IOP being enabled.

ACTION: Information only, no action required.

CIOD154 CMDU x was in the standby mode and switched to active due to SCSI IOP to IOP cable.

ACTION: Information only, no action required.

CIOD155 Hard disks of both CMDUs are inaccessible.

ACTION: Check that the CMDU power is on and that cable connectors are in place.

CIOD156 CMDU x was in the standby mode and switched to active mode.

ACTION: Information only, no action required.

CIOD157 INFO: CMDU "a" is active, RDUN is "b".

ACTION: Information only, no action required.

CIOD158 CMDU x is disabled and the system cannot access hard disk on a warm start.

ACTION: Check that the CMDU is plugged in and is powered on.

CIOD159 CMDU x is disabled and the system cannot access hard disk on a cold start.

ACTION: Check that the CMDU is plugged in and is powered on.

CIOD160 CMDU was removed and the system automatically disabled it.

ACTION: Information only. Assuming that you removed the CMDU no action is required.

CIOD161 CMDU still disabled since it is not plugged in.

ACTION: Plug the CMDU in and then re-enter your command.

CIOD162 CMDU x hard disk is inaccessible and the system cannot restore to the active mode.

ACTION: Check that the CMDU is plugged in and that the power is on.

CIOD163 CMDU was reinserted, but is disabled since IOP is disabled.

ACTION: Use ENL IOP to enable the IOP and then use ENL CMDU n to enable the CMDU.

CIOD164 Cluster number beyond normal range: <clustNum> <filename>

ACTION: Contact your technical support group.

CIOD165 Cluster incorrectly terminated: <clustNum> <filename>

ACTION: Contact your technical support group.

CIOD166 Cluster multiply assigned: <filename>

ACTION: Contact your technical support group.

CIOD167 File size longer than cluster chain: <filename>

ACTION: Contact your technical support group.

CIOD168 Clusters lost in the FAT = <no of lostClusters>

ACTION: Contact your technical support group.

CIOD169 Illegal file name <oldName> renamed as <newName>

ACTION: Contact your technical support group.

CIOD200 Security cartridge is missing or not responding.

ACTION: Be sure the ID number, software version and options match on both the cartridge on the IOP and the disks supplied with the system.

CIOD201 Incorrect response from security cartridge.

ACTION: Ensure the cartridge is properly installed on the IOP.

CIOD202 The wrong security cartridge has been installed.

ACTION: Locate and install the correct cartridge.

CIOD203 Customer ID number mismatch.

ACTION: Locate and install the correct cartridge.

Receiving this message when attempting to install software. The CMDUs from manufacturing are loaded with a test database and will not match the serial number ID on the data cartridge you have installed.

ACTION: Contact your technical support group for help in verifying that the Options 51C, 61C, 81 *Installation Tool Reference* procedure was used.

CIOD204 Machine type mismatch.

ACTION: Locate and install the correct cartridge.

CIOD205 System type or version number mismatch.

ACTION: Locate and install the correct cartridge.

CIOD206 System issue number mismatch.

ACTION: Locate and install the correct cartridge.

CIOD207 Security cartridge data not valid.

ACTION: Locate and install the correct cartridge

CIOD208 Failed to read security Cartridge.

ACTION: Locate and install the correct cartridge

CIOD300 No IOP object can be created during HI OBJ creation phase.

ACTION: Information only, no action required.

CIOD301 IOP x in slot y is not responding.

ACTION: Check that the IOP enable/disable switch is in the enable position (up). If the IOP does not respond after enabling it, reseat the IOP card. If the card does not respond after reseating, replace the IOP card by following the steps in the *Hardware replacement* guide.

CIOD302 IOP x in slot y detects both CMDUs becoming inaccessible.

ACTION: Check both connector ends of IOP to IOP SCSI cable. Check that both CMDUs are plugged in and powered on.

CIOD303 IOP x in slot y detects either or both CMDUs becoming accessible.

ACTION: Check both connector ends of IOP to IOP SCSI cable. Check that both CMDUs are plugged in and that the power is on.

CIOD304 Cannot find IOP database file.

ACTION: Use RES in LD 43 to restore the database to both hard drives from backup floppy disks. Verify the fault is cleared. If you need help with the commands or system responses refer to the *EDD* chapter in this guide.

CIOD305 IOP x in slot y fails SCSI controller test.

ACTION: Reseat the IOP card. If the card does not respond after reseating, replace the IOP card by following the steps in the *Hardware replacement* guide.

CIOD306 IOP x in slot y fails to program/enable IOP BIC window.

ACTION: Reseat the IOP card. If the card does not respond after reseating, replace the IOP card by following the steps in the *Hardware replacement* guide.

CIOD307 IOP x in slot y cannot send message to IOP card.

ACTION: Reinitialize the system by pressing the manual INIT button on top of the active CP card.

CIOD308 IOP x in slot y space manager cannot allocate CSR address.

ACTION: Reload the system by pressing the reload button on the bottom of the active CP card.

CIOD309 IOP cannot write to IOP database file.

ACTION: Check CMDU power.

CIOD310 IOP: Cannot create binary semaphore for IOP.

ACTION: Contact you technical support group.

CIOD311 IOP cannot create IOP class.

ACTION: Contact you technical support group.

CIOD312 IOP x in slot y cannot be created.

ACTION: Contact you technical support group.

CIOD313 IOP x in slot y cannot enable IOP.

ACTION: Contact you technical support group.

CIOD314 IOP: Cannot open “a” database file.

ACTION: Contact you technical support group.

CIOD315 IOP: “a” database file is empty.

ACTION: Contact you technical support group.

CIOD316 x IOP: Release number is not found in “a” database file.

ACTION: Use RES in LD 43 to restore the database to both hard drives from backup floppy disks. Verify that the fault is cleared. If you need help with the commands or system responses refer to the *EDD* chapter in this guide.

CIOD317 IOP x in slot y: security cartridge test failed.

ACTION: Reseat or replace the security cartridge on IOP.

CIOD318 IOP x in slot y: fails to take SCSI low level semaphore.

ACTION: Contact you technical support group.

CIOD319 IOP x in slot y: fails to give SCSI low level semaphore.

ACTION: Contact you technical support group.

CIOD320 IOP x in slot y: fails to take SCSI high level semaphore.

ACTION: Contact you technical support group.

CIOD321 IOP x in slot y: fails to give SCSI high level semaphore.

ACTION: Contact you technical support group.

CIOD322 IOP x in slot y: Timeout waiting for response from control register test.

ACTION: Reseat the IOP card. If the card does not respond after reseating, replace the IOP card by following the steps in the *Hardware replacement* guide.

CIOD323 IOP x in slot y: BIC test failed.

ACTION: Reseat the IOP card. If the card does not pass the test after reseating, replace the IOP card by following the steps in the *Hardware replacement guide*.

CIOD324 IOP x in slot y: Timeout waiting for response from BIC test.

ACTION: Reseat the IOP card. If the card does not pass the test after reseating, replace the IOP card by following the steps in the *Hardware replacement* guide.

CIOD325 IOP: swo Graceful call failed with ret Code a.

ACTION: Contact you technical support group.

CIOD339 IOP x in slot y: SCSI cable test failed.

ACTION: Use STAT IOP to check the IOP. Check both connector ends of the IOP to IOP SCSI cable. Check that both CMDUs are plugged in and the power is on.

CIOD341 IOP x in slot y: Fails to set IOP general register B.

ACTION: Reseat the IOP card. If the card does not pass the test after reseating, replace the IOP card by following the steps in the *Hardware replacement* guide.

CIOD343 IOP x in slot y: fails to get general register A.

ACTION: Reseat the IOP card. If the card does not pass the test after reseating, replace the IOP card by following the steps in the *Hardware replacement* guide.

CIOD344 IOP x in slot y: fails to set IPB/Local T/O timer, EI mapping, TOC, or Arb Id.

ACTION: Reseat the IOP card. If the card does not pass the test after reseating, replace the IOP card by following the steps in the *Hardware replacement* guide.

CIOD346 IOP x in slot y: Fails to read BIC card ID.

ACTION: Reseat the IOP card. If the card does not pass the test after reseating, replace the IOP card by following the steps in the *Hardware replacement* guide.

CIOD347 IOP x in slot y: Space manager cannot allocate IPB address.

ACTION: Reload the system by pressing the reload button on the bottom of the active CP card.

CIOD348 IOP x in slot y: fails to program SCSI controller.

ACTION: Check the software in LD 137.

CIOD349 IOP x in slot y: Installing Event Interrupt ISR failure on CP.

ACTION: Check CP in LD 135 and replace if necessary by following the steps in the *Hardware replacement* guide.

CIOD350 IOP x in slot y: Control register test failed.

ACTION: Rerun the test. If the card continues to fail the test, replace the IOP card by following the steps in the *Hardware replacement* guide.

CIOD0351 x y

IOP x in slot y timeout waiting for response from security cartridge test.

ACTION: Replace or reseat security cartridge/dongle on IOP/IODU.

CIOD352 IOP x in slot y: Time-out waiting for response from SCSI cntrl test on top of the active CP card.

ACTION: Rerun the test. If the card continues to fail the test, replace the IOP card by following the steps in the *Hardware replacement* guide.

CIOD353 IOP x in slot y: Timeout waiting for response from SCSI cable test.

ACTION: Re-enter the command.

CIOD354 Hunt: Illegal response from IOP to ping test message.

ACTION: If the error persists replace the IOP by following the steps in the *Hardware replacement* guide.

CIOD355 Hunt: No response from IOP to ping test message.

ACTION: If the error persists replace the IOP by following the steps in the *Hardware replacement* guide.

CIOD356 Hunt: The IOP did not complete the self-test.

ACTION: If the error persists replace the IOP by following the steps in the *Hardware replacement* guide.

CIOD357 Hunt: The IOP failed the self-test.

ACTION: If the error persists replace the IOP by following the steps in the *Hardware replacement* guide.

CIOD358 Hunt: IOP x did not pass self-test.

ACTION: If the error persists replace the IOP by following the steps in the *Hardware replacement* guide.

CIOD359 Hunt: IOP x failed ping test.

ACTION: If the error persists replace the IOP by following the steps in the *Hardware replacement* guide.

CIOD360 Hunt: No IOPs recognized on side x.

ACTION: Check the cabling between the core modules.

CIOD361 IOP x in slot y: detects CMDU is accessible.

ACTION: Information only, no action required.

CIOD362 IOP x in slot y: detects CMDU is inaccessible.

ACTION: Check the CMDU for proper backplane seating.

CIOD 363 Ethernet has been restored to ACTIVE because the IOP is enabled.

ACTION: Information only. This message appears repeatedly or is associated with a system problem. Contact your technical support group.

CIOD364 Ethernet has been disabled because the IOP is disabled

ACTION: Information only if the IOP is manually disabled. If a manual disabled has not been done, investigate why the IOP is disabling.

CIOD0385

Command fails due to ELNK in DIS state.

ACTION: Enable the ethernet controller in LD 137.

CIOD0386

Problems encountered. ENL command aborted.

ACTION: Retry. If the problem persists, contact your technical support group.

CIOD0387

Problems encountered. DIS command aborted.

ACTION: Retry. If the problems persists, contact your technical support group.

CIOD0388

TEST command cannot be executed as long as ERDN feature is in ENL state.

ACTION: Disable the ERDN feature (in LD 137) and try again.

CIOD0389

Command fails. ERDN feature is not yet configured.

ACTION: Configure first the feature in LD 17. Try again.

CMF — LD 54 Multifrequency Signaling

In this chapter

Before changing circuit cards, be aware of the procedures outlined in *Do this when replacing circuit cards,* found in the *Hardware maintenance tools* chapter in this guide.

How the CMF works

Multifrequency Compelled Signaling (MFC) or Multifrequency Signaling (MFE) provides a handshaking facility between the Meridian 1 and the Central Office or Public Exchange (CO/PE) or between other PBXs over network/Tie trunks.

The MFD overlay program is used to diagnose, display or change the status of the MFC or MFE send/receive (S/R) cards.

LD 54 resets all available MFC or MFE cards (both channels idle) and performs loop-back tests during the midnight routines. After every SYSLOAD or power-up, all available MFC or MFE cards are initialized.

The overlay can be loaded by the system after every power-up (or SYSLOAD), as part of the daily routines, or loaded manually to enter commands.

Hardware initialization after SYSLOAD

After the system power-up, every idle MFC or MFE card is initialized (self-tested). During this test the card is disabled, the LED on the faceplate is ON, and the S/R card microprocessor executes sequential loop-back tests on both channels.

These tests entail looping the sender output of each card to the Receiver input. The sender transmits all thirty tone pairs (1 to 15 digits for both DOD/DID modes) with a default signal level of zero. Each time the receiver detects a tone pair, the microprocessor verifies the digit received. At the end of the test a command to enable the card is issued and the microprocessor sends the test results to the CPU.

Loop-around test during daily routines

This loop-around test is conducted by the system during the daily routines. The loop-around test is identical to the one conducted after power-up except for the following points:

- the test is conducted on one channel at a time for all available MFC or MFE cards
- the MFC or MFE S/R card remains enabled the LED on the faceplate is OFF
- the self-test can also be loaded manually by issuing a command on the specified channel

Loop-around test by command

The loop-around tests are performed by maintenance personnel on a specified channel of the MFC or MFE S/R card. There are two types of tests:

- one is identical to the daily routine test which is conducted on the specific channel
- the second is conducted on a specific channel for a specified digit and signal level

LD 54 also performs the following functions:

- resets all idle MFC or MFE cards once a day during the midnight routines
- enables and disables the MFC or MFE card or channel
- determines the status ofthe MFC card or channel
- lists all disabled MFC or MFE channels
- handles other common overlay operations (such as clearing alarms)

> ***Note 1:*** Use the DISL command to force-disable the MFC or MFE channel or card.
>
> ***Note 2:*** Use the DISI command in LD 32 to disable the card when idle.
>
> ***Note 3:*** No more than 50 percent of MFC channels can be disabled at one time as a result of system or manually initiated tests. However, this constraint does not apply using disable commands.

MFC/MFE Error handler and counter

The MFC/MFE error handlers are resident programs that monitor the number of MFC or MFE signaling errors. A one-word error field in the MFC or MFE block is initialized to zero. The Error Handler program allows a maximum of 10 errors. After every successful use of the MFC or MFE channel, the error field is decremental by one, if it is not already at zero. After every failure of the MFC or MFE channel the error field is incremental by one.

With X11 software, the Error Handler program generates only the **ERR700 l s c u** message. When an Error Handler code is output,
the MFD overlay must be loaded manually and the MFC or MFE channels tested.

CMF common commands

Clear display/alarm		
CDSP	Clear the maintenance display on the active CPU.	basic-1
CMAJ	Clear major alarm, reset power fail transfer and clear power fault alarm.	basic-1
CMIN ALL	Clear minor alarm indication on all attendant consoles.	basic-1
CMIN c	Clear minor alarm indication on attendant consoles for customer c.	basic-1
Status		
STAT	List all disabled MFC channels in the system.	basic-1
STAT l s c (u)	Get status of specified MFC or MFE card or unit. Status is one of **IDLE**, **BUSY**, **MBSY**, **DSBL** or **UNEQ** for both channels.	basic-1
Disable device		
DISC l s c	Disable specified MFC or MFE card. LED on card is ON when disabled.	basic-1
DISU l s c u	Disable specified MFC or MFE channel. When the other unit on the card is also in a disabled state in the software, a message is sent to disable the MFC or MFE card. LED on card is ON when disabled.	basic-1
Enable		
ENLC l s c	Enable specified MFC or MFE card. Response is **OK**. A message is sent to the MFC or MFE card to turn off the LED.	basic-1
ENLU l s c u	Enable specified MFC or MFE channel. Response is **OK**. A message is sent to the MFC or MFE card to turn off the LED.	basic-1

CMF common commands (continued)

Reset/Initialize		
MIDN 0	Reset all idle MFC or MFE cards. Resets all idle MFC or MFE cards and performs loop-around tests on all idle channels.	basic-1
MIDN 1	Initialize all idle MFC or MFE cards (recommended after installation).	basic-1
Test		
ATST l s c u	Test automatic loop-around for specified unit. Performs automatic loop-around test on specified unit with default signal level of zero. All 30 tone pairs are tested and verified by the card microprocessor. Digits 1 to 15 signify Forward Signals 1 to 15 (DOD mode) and digits 16 to 30 signify Backward Signals 1 to 15 (DID mode). The response is **OK** when the unit passes the test and is enabled. If the receiver sends no message within a predefined time period, an error message indicating timeout is printed. If the receiver indicates it has received a different signal than that sent, the failed signal, an error message and the TN are printed.	basic-1

CMF common commands (continued)

End

END	Stop further testing or cancel active command.	basic-1

Manual loop-around

MTST l s c u dl	Manual loop-around test on unit with specified digit level.	basic-1

MFC-30 tone pairs are tested and verified by the CPU. Digits 1 to 15 indicate forward signals 1 to 15 (DOD mode) and digits 16 to 30 indicate backward signals 1 to 15 (DID mode).

MFE-15 tone pairs are tested and verified. Digits 1-15 represent Forward Signals 1-15 (DID mode). Digit 0 represents the control frequency.

The MFC signal levels require a +3 dBm gain at the trunk end. The following list shows the level codes, their value at the S/R card output, and their value at the trunk.

Digit level	Level Values (at S/R card)	Level Values (at trunk)
0	8 dBm	5 dBm
1	11 dBm	8 dBm
2	12 dBm	9 dBm
3	13 dBm	10 dBm
4	14 dBm	11 dBm
5	15 dBm	12 dBm
6	16 dBm	13 dBm
7	35 dBm	32 dBm

The MFE signal level 0=-10.5 dBm level with skew -7.0 dBm control frequency level. Signal levels 1-7 are used for internal test purposes.

The response is **OK** when the unit passes the test and is enabled. If the unit fails the test, the appropriate error message and the TN are printed.

CMF messages

CMF messages identify software/hardware errors during call processing. Output is in the following format:

CMFxxx CMFTN TRKTN X0.... X8

Mnemonic description is as follows:

xxx = the error code number

CMFTN = the CMF register TN in packed format

TRKTN = the Trunk TN associated with the CMFTN in packed format

X0 to **X8** = the first 9 words of the unprotected CMF block for the CMF unit used.

CMF001

Noisy Multifrequency Compelled (MFC) card.

ACTION: Replace the MFC card following the stepsfollowing the steps in the *Hardware replacement* guide. After replacing the card verify that the faultverify that the fault is cleared.

CMF002

Large twist indicates a hardware fault.

ACTION: Replace the MFC card following the steps in the *Hardware replacement* guide. After replacing the card verify that the fault is cleared.

CMF003

Three frequencies indicates a hardware fault.

ACTION: Replace the MFC card following the steps in the *Hardware replacement* guide. After replacing the card verify that the fault is cleared.

CMF004

No inter-digit pause indicates a hardware fault.

ACTION: Replace the MFC card following the steps in the *Hardware replacement* guide. After replacing the card verify that the fault is cleared.

CMF005

Invalid decision indicates a hardware fault.

ACTION: Replace the MFC card following the steps in the *Hardware replacement* guide. After replacing the card verify that the fault is cleared.

CMF006

MFC card firmware fault.

ACTION: Replace the MFC card following the steps in the *Hardware replacement* guide. After replacing the card verify that the fault is cleared.

CMF007

Undefined error indicates a hardware fault.

ACTION: Replace the MFC card following the steps in the *Hardware replacement* guide. After replacing the card verify that the fault is cleared.

CMF008

Software timeout indicates a software fault.

ACTION: Contact your technical support group.

CMF009

Not ready to send indicates a software fault.

ACTION: Contact your technical support group.

CMF010

Undefined function/signal indicates a software fault.

ACTION: Contact your technical support group.

CMF011

CMF table not defined indicating a software fault.

ACTION: Contact your technical support group.

CMF012

Invalid backward signal (BWD) received. Call cleared down indicating a software fault.

ACTION: Contact your technical support group.

CMF013

Invalid Forward signal (FWD) received. Call cleared down indicating a software fault.

ACTION: Contact your technical support group.

CMF014

Warning: L1 sequence terminated at Level 1 indicates a software fault.

ACTION: Contact your technical support group.

CMF015

Invalid trunk type is attempting MFC signaling indicating a software fault.

ACTION: Contact your technical support group.

CMF023

Warning: trying to send signal not defined in the CMF signal table.

ACTION: Contact your technical support group.

CMON — Core Monitor

CMON messages

Core Monitor is a resident program. CMON does not have an overlay load (LD) associated with it. For more information refer to *Software maintenance tools* in the *You should know this* chapter.

Back-filling messages with zeros

The numerical portion of the following messages is depicted by three or four digits. For example, the same message can be represented by xxx0008 or xxx008.

CMON100 Card with PEC “x” inserted into side y slot z

ACTION: Information only, no action required.

CMON101 Card with PEC “x” removed from side y slot z

ACTION: Information only, no action required.

CMON102 Card with no PEC removed from side x slot y

ACTION: Information only, no action required.

CMON103 Card with no PEC inserted into side x slot y

ACTION: Reseat or replace the corresponding card. Contact your technical support group.

CMON104 Card with unknown PEC removed from side x slot y

ACTION: Information only, no action required.

CMON105 Card with unknown PEC inserted into side x slot y.

ACTION: Reseat or replace the corresponding card.

CMON400 The mask value of the CNI port on core side X, slot Y, port Z, mask M does not match the software image. The hardware image is being restored

ACTION: Information only, no action required.

CMON401 CNI intermittent interrupt occurring.

ACTION: Contact your technical support group.

CMON402 Core side X, slot Y, port Z cable 1 is detected. The system is putting it into Normal mode

ACTION: Information only, no action required.

CMON403 Core side X, slot Y, port Z cable 1 is lost. The system is putting it into Disabled mode

ACTION: Contact your technical support group.

CMON404 Core side X, slot Y, port Z cable 2 is detected. The system is putting it into Normal mode

ACTION: Information only, no action required.

CMON405 Core side X, slot Y, port Z cable 2 is lost. The system is putting it into Disabled mode

ACTION: Contact your technical support group.

CMON406 Core side X, slot Y, port Z cable 2 is lost. The system is putting it into Disabled mode

ACTION: Contact your technical support group.

CMON407 Core side X, slot Y, port Z remote power is lost. The system is putting it into Disabled mode

ACTION: Contact your technical support group.

CMON408 Core side X, slot Y, port Z 3PE physical switch is enabled. The system is putting it into Normal mode

ACTION: Information only, no action required.

CMON409 Core side X, slot Y, port Z 3PE physical switch is disabled. The system is putting it into Disabled mode

ACTION: Contact your technical support group.

CMON410 An event interrupt has been lost on core side x, slot y, port z

ACTION: Contact your technical support group.

CMON411 Core side X, slot Y CNI physical switch is enabled. The system is putting it into Normal mode

ACTION: Information only, no action required.

CMON412 Core side X, slot Y CNI physical switch is disabled. The system is putting it into Disabled mode

ACTION: Contact your technical support group.

CND — Caller’s Name Display

How the CND works

Caller’s Name Display is a resident program. CND does not have an overlay load (LD) associated with it. For more information refer to *Software maintenance tools* in the *You should know this* chapter.

The Caller's Name Display allows storage of user names in an Auxiliary computer such as a Property Management System (PMS). Problems with the link to the PMS are indicated by CND messages.

CND messages

CND001

CND link input/output block is missing.

ACTION: Check the CPND database through the background terminal.

CND002

CND link status block is missing.

ACTION: Check the CPND database through the background terminal.

CND003

Garbage character receive on the CND link.

ACTION: Refer to the *maintenance input/output guide* and disable and re-enable the PMS link. If the CND SDI is programmed as a TTY use LD 37. If the CND SDI is programmed as an AML, use LD 48. If the PMS link is used with the hospitality feature through Meridian Mail, logon and check the port.

CND004

Lost partially assembled message.

ACTION: Refer to the *maintenance input/output guide* and disable and re-enable the PMS link. If the CND SDI is programmed as a TTY, use LD 37. If the CND SDI is programmed as an AML, use LD 48. If the PMS link is used with the hospitality feature through Meridian Mail, logon and check the port.

CND005

CND SDI output buffer does not get emptied properly.

ACTION: Refer to the *maintenance input/output guide* and disable and re-enable the PMS link. If the CND SDI is programmed as a TTY use LD 37. If the CND SDI is programmed as an AML, use LD 48. If the PMS link is used with the hospitality feature through Meridian Mail, logon and check the port.

CND006

Wrong parameter passed to procedure CND_LINK_MSG_CR.

ACTION: Check the PMS link and make sure the database is correct.

CND007

Noisy CND Link.

ACTION: Refer to the *maintenance input/output guide* and disable and re-enable the PMS link. If the CND SDI is programmed as a TTY use LD 37. If the CND SDI is programmed as an AML, use LD 48. If the PMS link is used with the hospitality feature through Meridian Mail, logon and check the port.

CND008

Slow response on CND link.

ACTION: Contact your technical support group.

CND009

CND link is down.

ACTION: Refer to the *maintenance input/output guide* and disable and re-enable the PMS link. If the CND SDI is programmed as a TTY use LD 37. If the CND SDI is programmed as an AML, use LD 48. If the PMS link is used with the hospitality feature through Meridian Mail, logon and check the port.

CND010

CND messages are lost.

ACTION: Contact your technical support group.

CND011

CND link queue is not empty.

ACTION: Information only, no action required.

CND012

Cannot synchronize the CND link.

ACTION: Refer to the *maintenance input/output guide* and disable and re-enable the PMS link. If the CND SDI is programmed as a TTY use LD 37. If the CND SDI is programmed as an AML, use LD 48. If the PMS link is used with the hospitality feature through Meridian Mail, logon and check the port.

CND013

CND garbage collection pointers are corrupted.

ACTION: Contact your technical support group.

CND014

Attempt to acquire CND name block with length zero.

ACTION: Ensure that this is the command you wanted to use.

CND015

Not enough memory for CND name block.

ACTION: Check to make sure all unused names have been deleted. Disable the PMS link and re-enable it.

CND016

Out of boundaries for CND name block.

ACTION: Check to make sure you have up to 27 characters for the CPND name. Also verify that the XPLN does not exceed the MXLN.

CND017

Pointer corruption while trying to remove name block.

ACTION: Contact your technical support group.

CND018

Name block corruption.

ACTION: Re-enter the name by using the SEt CPnd command from the background terminal.

CND021

Wrong TN in the Call Register.

ACTION: No action required, but if the error continues contact your technical support group.

CND022

Special name table does not exist.

ACTION: Check the CPND database through the background terminal and re-enter the command.

CND023

Display's customer does not match unit's customer.

ACTION: Check and re-enter name through the background terminal.

CND024

Broken attendant queue.

ACTION: Information only, but if the error continues contact your technical support group.

CND025

Unable to initialize CND link because of calls waiting in attendant queue.

ACTION: Wait for the queue to become idle and re-attempt the initialization.

CNF — LD 38 Conference Circuit

In this chapter

> Before changing circuit cards, be aware of the procedures outlined in *Do this when replacing circuit cards*, found in the *Hardware maintenance tools* chapter in this guide.

How the CNF works

LD 38 is used to detect and isolate circuit faults on the system conferencing equipment.

LD 38 can detect the following problems on the conference circuit:

- channel faults on the network card which interfaces a conference card to the system
- channel faults on the conference card
- conference faults associated with conferee group numbers
- switching faults controlling the attenuation feature

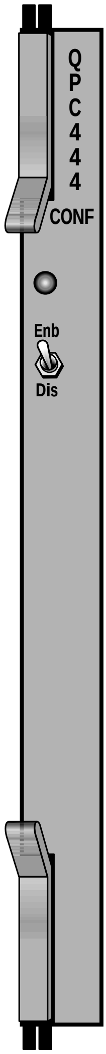
The overlay is used to do the following:

- enable a specific conference card
- disable a specific conference card
- check the status of channels and conferee groups
- clear alarms and displays

The overlay allows complete manual control in establishing a test conference, thus allowing the user to listen for noise and distortion. The following are included:

- selection of a specific conference card
- selection of a specific conferee group
- stepping through all free channels and groups with special test conference

CONF — Conference



553-0180T CFN(CCD)

The conference circuit uses two multiplex loops and is located in a network card position in the network shelf. The card contains both conference and network circuitry and uses one network card slot location.

Purpose

The conference circuit card can theoretically connect up to 30 people in a single conference. Practically, this number is limited by the trans-hybrid loss in the line circuits, so that a reasonable number of people in a single conference is somewhere between 6 and 12 parties. The card can originate a mix of multi-party conferences, for example, three in one conference, four in another and so on, provided the total number of conferees does not exceed 30.

Function

The conference card captures a full frame of PCM serial data from the network, that is, eight sample bits from each of the 30 time slots. The eight sample bits of a given time slot are re-configured to be available in a parallel and decoded to a 14-bit linear sample. All the linear samples from the time slots associated with a given conference are added. Each conferee has his linear sample subtracted from the total for the conference. This difference is then compressed into an 8-bit PCM sample, which is returned serially to the conferee's time slot via the network.

System software provides eight levels of attenuation for each conferee to reduce singing and background noise. Software can also select a specific conferee for listen only, as in Music On-Hold and Wake Up.

Features

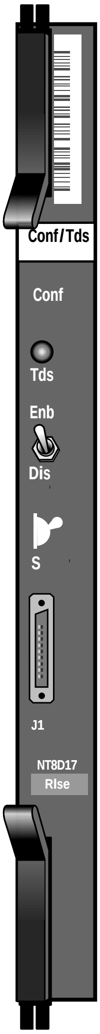
The face plate includes:

- a LED, when lit indicating a disabled card
- an ENB, DIS switch to hardware enable or disable the card

Conference cards are available with a warning tone to inform conferees that a conference is progress. The tone can be enabled or disabled by a switch mounted on the face plate.

Conference cards are slot addressed.

CONF/TDS — Conference Tone and Digit Switch



553-0181T CT(CCD)

The CT card combines the functionality of the existing conference and tone and digit switch. It occupies one network slot and will use two network loops.

Purpose

The conference portion of the CT card remains the same, except that A or µlaw is now provided. The T&DS portion of the card provides 256 tones, Music Trunk Interface (MTI) and Multifrequency Sender (MFS) tones.

Function

Conference — The selection of A law or µlaw is set in the software according to a country code. The code information is downloaded from the CPU to an on board CT microprocessor unit, which sets the card in the proper companding mode.

T&DS — The 256 tones are generated from 1Mega-bit EPROM.

A Master Cadence Table (MCT) will store up to 256 ringing cadences. The MCT table is created by the user for their particular country and is down loaded from the CPU during CT card enabling or initialization. Default is the North American MCT. The CT microprocessor firmware is used to generate the cadences, freeing the CPU for other tasks.

Music Trunk Interface, for certain international markets, uses external cards providing eight channels of Music Announcements, record tones and cadences. These announcements can come from an analog Music Trunk or a Kapsch Digital announcer.

Multi Frequency Sender tones are provided for the signaling of ANI digits over CAMA trunks to toll switching CAMA, TOPS or TSPS offices.

Features

The face plate includes:

- a LED for Conf and a LED for TDS when lit indicates a disabled function
- a Enb, Dis switch to hardware enable or disable the card
- a J1 connector to attach a Music Trunk Interface

The component side of the card contains a switch to set attenuation levels and the warning tone to on or off, and a strap to set the warning tone level.

CNF common commands		
Command	**Description**	**Release**
Clear		
CDSP	Clears the maintenance display on the active CPU.	basic-1
CMIN ALL	Clear minor alarm indication on all attendant consoles.	basic-1
CMIN c	Clear minor alarm indication on attendant consoles for customer c.	basic-1
Status		
STAT l s c u	List conference card and group used by specified TN. Lists which conference card and conferee group is being used by the specified terminal number.	basic-1
STAT loop	Provide status of conference card loop. Output format is: **CNFC N DSBL N BUSY** = number of conferee groups disabled and busy **CHAN N DSBL N BUSY** = number of channels disabled and busy **UNEQ** = card is not equipped in the system **DSBL** = card is disabled in software **FAULTY HW: NO RESPONSE** = loop identified as faulty by the LRIP function. Refer to the FHW chapter.	basic-1
Print		
IDC	Print the IDs of both CMDUs and the active IOP. The printout appears in the following format: **pppppppppp rrssss cccccccc** **pppppppppp** = PEC code **rr** = Release number **ssss** = Serial number **cccccccc** = Comments (not always be present)	51C/61C/81-19
ICD CMDUs	Print the ID for the CMDU. **n** = Core number (0 or 1) If n is not entered, card ID information is printed for both CMDUs.	51C/61C/81-19
IDC IOP	Print out the ID of the active IOP.	51C/61C/81-19

CNF common commands (continued)		
Command	**Description**	**Release**
Disable device		
DISL loop	Disable conference loop.	basic-1
DISX loop	Disable NT8D17 Conference/TDS card on loop L and L - 1. Disables all functions on the NT8D17 Conference/TDS card. Both the even numbered TDS/MFS loop and adjacent conference loop are disabled. Loop = 1, 3, 5. 159 ***Note 1:*** The DISL and ENLL commands can be used on the odd number loop for the conference functions provided the card has not been hardware disabled by the faceplate switch. The DISX and ENLX commands are recommended. The ENLX command must be used if the DISX command was used to disable the card. ***Note 2:*** This command can be used in LD 34, LD 38 and LD 46.	basic-1
Enable		
ENLL loop	Enable conference loop. ***Note 1:*** Enabling more than 16 conference loops may cause system to lock-up.	basic-1
Enable		
ENLX loop	Enable NT8D17 Conference/Ts card on loop L and L-1. Enables all functions on the NT8D17 Conference/TDS card. Both the even numbered TDS/MFS loop and adjacent conference loop are enabled. Loop = 1, 3, 5... 159 If one of the loops is already enabled, it is disabled and then both loops are enabled. This command initiates card tests and downloads software. ***Note 1:*** The DISL and ENLL commands can be used on the odd number loop for the conference functions, provided the card has not been hardware disabled by the faceplate switch. The DISX and ENLX commands are recommended. The ENLX command must be used if the DISX command was used to disable the card. ***Note 2:*** This command can be used in LD 34, LD 38 and LD 46. ***Note 3:*** The Conf/TDS card is not enabled automatically when it is inserted. ***Note 4:*** Enabling more than 16 conference loops may cause the system to lock-up.	basic-1

CNF common commands (continued)		
Command	**Description**	**Release**
List		
LCNF loop	List busy and disabled conference	basic-1
Test and manual conference test		
CNFC loop	Test conference loop. Tests conference loop for channel, group and switching faults.	basic-1
CNFC MAN loop g	Set up for manual conference on conference group g, following the steps outlined in the *Circuit card installation and testing NTP— Acceptance tests — Conference cards*. The conference group range is 1-15. Only one manual conference is allowed at a time. After this command, any telephone dialing `SPRE 93` enters the conference. SPRE is the special service prefix for the system. Going on-hook from that telephone takes it out of the conference. The `END` command removes all telephones in the manual conference. If `CNFC MAN` command is entered from a maintenance telephone, the telephone automatically becomes part of the manual conference.	basic-1
CNFC STEP	Ready system terminal for testing conference groups. This command puts the system TTY into a special command mode for testing various channels and conferee groups audibly. Two telephones are used: one to monitor and one to act as a signal source. The `CNFC MAN` command is first used to set up the 2-party conference. By entering `C`on the TTY, the conference will step on to the next available channel. Entering `G` will step to the next available conferee group. Entering an asterisk (*) will revert back to the normal command mode. Entering `END` or aborting LD 38 releases the manual conference.	

CNF common commands (continued)		
Command	**Description**	**Release**
CNFC STEP continued	The Manual Conference Test is performed by stepping through conference channels and groups. After each step, listen for noise. Noise indicates a faulty card. This test should be run when users complain of noisy conferences. A time slot is assigned to a telephone in a conference and another is assigned to the conference card. In other words a pair of time slots are used. This pair is referred to as a conference channel. There are 16 channels for every conference group on a conference card. Because channel 0 is applied to idle time slots, only 15 channels are actually used. The first channel assigned is 15 followed by 14 and so on down to channel 1. A conferee group is all the phones in a single conversation, with the conference card using a number to identify all parties in that conference. The maximum number of conference groups controlled by a conference card is 10, in other words, 10 three party conferences, utilizing 30 time slots, or 15 channels. The groups are assigned numbers from group 15 down to group 6. As four bits are required in the conferee group register to address a maximum of 10 groups, the register has the capability to count from 0 to 15. The test however will check for 15 conferee groups. Group 0 is not tested.	
End		
END	Abort all current test activity.	basic-1

CNF messages

CNF000

Program identifier.

ACTION: The CFN program is loaded and ready for you to re-enter the commands.

CNF001

Invalid command.

ACTION: Ensure that this is the command you wanted to use.

CNF002

Invalid argument.

ACTION: Check to make sure your data is correct and re-enter the command.

CNF003

Customer nonexistent or out-of-range. Range is 0 to 31 inclusive.

ACTION: Check to make sure your data is correct and if applicable, re-enter the command.

CNF004

Loop or conferee group out-of-range. Loop ranges are 0 to 158 and conferee group range is 1 to 15.

ACTION: Check to make sure your data is correct and re-enter the command.

CNF005

Unequipped or out-of-range TN. Ranges are: Loop, 0 to 158; Shelf, 0 to 3; Card, 1 to 10; Unit, 1 to 15.

ACTION: Check to make sure your data is correct and re-enter the command.

CNF006

Requested loop is not defined in the system or is not a conference group.

ACTION: Check to make sure your data is correct and if applicable, re-enter the command.

CNF007

Requested loop has been disabled.

ACTION: Use ENLL l to enable the loop.

CNF008

Requested conference loop is in use.

ACTION: Wait until the loop is free.

CNF009

The CNFC STEP command requires a 2-party conference. More or fewer sets are not allowed.

ACTION: Ensure that only two sets are in conference. If not, use END command to cancel the conference. Use the CNFC MAN L C command to set up 2 manual conferences by dialing SPRE 93 on any two sets, where SPRE is the customer's Special Service Prefix code.

CNF020 loop

Conference card failed to respond.

ACTION: Check the enable switch on the card. If the card still does not respond, replace the conference card following the steps in the *Hardware replacement* guide. After replacing the card verify that the fault is cleared. If the fault persists after the conference card is replaced, replace the Peripheral Signaling card following the steps in the *Hardware replacement* guide. After replacing the card verify that the fault is cleared.

CNF021 loop

Channel fault found on the Conference card.

ACTION: Replace the conference card following the steps in the *Hardware replacement* guide. After replacing the card verify that the fault is cleared.verify that the fault is cleared.

CNF022 loop

Channel fault found on the Conference card.

ACTION: Replace the conference card following the steps in the *Hardware replacement* guide. After replacing the card verify that the fault is cleared.

CNF023 loop

Conference fault found with one or more conferee groups on conference card. May also be a faulty network card.

ACTION: Replace the conference card following the steps in the *Hardware replacement* guide. After replacing the card verify that the fault is cleared. If the problem persists, replace the faulty network card as per the *Hardware replacement* guide.

CNF024 loop

Attenuation feature is not working on conference card. May also be a faulty network card.

ACTION: Replace the conference card following the steps in the *Hardware replacement* guide. After replacing the card verify that the fault is cleared. If problem persist replace the faulty network card as per the *Hardware replacement* guide.

CNF025 loop

Listen-only feature is not working on the Conference card.

ACTION: Replace the conference card following the steps in the *Hardware replacement* guide. After replacing the card verify that the fault is cleared.

CNF026

Attenuation level 12.2 dB is faulty.

ACTION: Replace the conference card following the steps in the *Hardware replacement* guide. After replacing the card verify that the fault is cleared.

CNF027

Attenuation level 10.4 dB is faulty.

ACTION: Replace the conference card following the steps in the *Hardware replacement* guide. After replacing the card verify that the fault is cleared.

CNF028

Attenuation level 8.2 dB is faulty.

ACTION: Replace the conference card following the steps in the *Hardware replacement* guide. After replacing the card verify that the fault is cleared.

CNF029

Attenuation level 7.2 dB is faulty.

ACTION: Replace the conference card following the steps in the *Hardware replacement* guide. After replacing the card verify that the fault is cleared.

CNF030

Attenuation level 5.4 dB is faulty.

ACTION: Replace the conference card following the steps in the *Hardware replacement* guide. After replacing the card verify that the fault is cleared.

CNF031

Attenuation level 4.0 dB is faulty.

ACTION: Replace the conference card following the steps in the *Hardware replacement* guide. After replacing the card verify that the fault is cleared.

CNF032

Attenuation level 1.2 dB is faulty.

ACTION: Replace the conference card following the steps in the *Hardware replacement* guide. After replacing the card verify that the fault is cleared.

CNF033

TSM memory faulty.

ACTION: Replace the conference card following the steps in the *Hardware replacement* guide. After replacing the card verify that the fault is cleared.

CNF100

Cannot use the ENLX (Enable) or DISX (Disable) commands on a non-XCT card.

ACTION: Use ENLL l to enable a conference card. Use DISL l to enable a conference card.

CNF101

The XCT card is already enabled/disabled.

ACTION: Information only, no action required.

CNF102

The Conference/TDS card did not receive the message verifying download completion within six seconds, after the ENLX command.

ACTION: Use DISX to disable the card and re-enter the ENLX command.

CNF103

The Conference card did not receive the self test result within 10 seconds, after the CNFC l command.

ACTION: Wait a few minutes and then re-enter the command.

CNF104

Received an unexpected message from the Conference/TDS card.

ACTION: Use the DISX command to disable the card and re-enter the ENLX command.

CNF107

Superloop numbers must be a multiple of 4.

ACTION: Information only, no action required.

CNF108

Shelf parameter is out-of-range.

ACTION: Check to make sure your data is correct and re-enter the command.

CNF109

Card parameter is out-of-range.

ACTION: Check to make sure your data is correct and re-enter the command.

CNF110

Unit parameter is out-of-range.

ACTION: Check to make sure your data is correct and re-enter the command.

CNI — LD 135 Core to Network Interface

In this chapter

How the CNI works

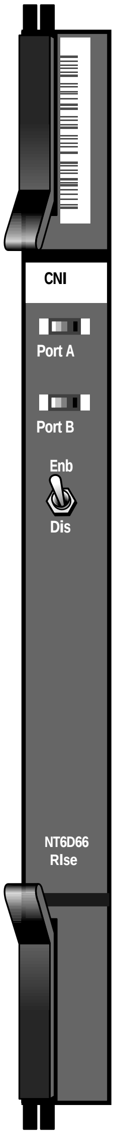
LD 135 provides diagnostic and maintenance information for Options 51/51C/61/61C/81 machines. It provides a means of performing the following functions.

- clearing minor and major alarms
- clearing and printing maintenance display contents for the primary Core
- testing the idle Core
- displaying CP card status and ID
- enabling and disabling CNI cards
- displaying CNI card ID and status
- testing SIMMs, inactive CNIs, and standby Core during daily routines
- switches Cores when in redundant mode
- checks primary CNIs, checks for Core redundancy, and attempts to switch Cores during midnight routines

CNI common commands

Command	Description	Release
Clear		
CDSP	Clear maintenance displays. This command sets the maintenance display for the primary CP to blank.	51C/61C/81-19
CMAJ	Clear major alarm, and reset power fail transfer.	51C/61C/81-19
CMIN ALL	Clear minor alarm indication for all customers.	51C61C/81-19
CMIN a	Clear minor alarm indication for customer a.	51C61C/81-19

CNI — Core to Network Interface



553-0182T CNI(CNI)

Purpose

The CNI combines the functions of two Segmented Bus Extenders. Three CNI cards are used to connect the Core to five network groups.

Function

The CBT faceplate is blank; however, a LED on the component side may become visible at certain viewing angles. The LED for Core side 1 is on, and the LED for Core side 0 is off.

Features

The CNI faceplate includes the following features:

- two LEDs to indicate the status of each port, and a light to indicate the inactive Core
- all CNI card LEDs light to indicate the inactive Call Processor or Core side
- Core Bus Terminator

CNI commands		
Command	**Description**	**Release**
Status CNI		
STAT CNI c s p	Get the status of all configured CNIs. Also prints the Network Group number of both ports on each CNI. To get the status of a specific CNI port, enter the following information. Entering only STAT CNI gets the status for all CNI ports. **c** = Core number (0 or 1) **s** = Slot number (8-12) **p** = Port number (0 or 1) If the P is not entered, the status of both ports is printed. If the status is **DSBL** (Disabled), one or more of the OOS reasons may appear.What actually appears are the numbers associated with the OOS text. as follows:. **0 =** CP local bus parity threshold exceeded. Contact your technical support group. **1 =** CP card HPM timeout threshold exceeded. **Action**: Contact your technical support group. **8** = Unconfigured CNI card. **Action**: Refer to the *administration input/output guide*. Use LD 17 CEQU to program CNI. **9** = Port has been disabled by craftsperson. **Action:** Information only. Take appropriate action as required. **10** = Device is not accessible. **Action:** Install a CNI card following the steps in the *Hardware replacement* guide. **16** = CNI to 3PE cable 1 on specified card and port lost. **Action:** Check both connector ends of the CNI-3PE cable.	51C/61C/81-19

CNI commands (continued)		
Command	**Description**	**Release**
STAT CNI c s p (continued)	**17** = CNI to 3PE cable 2 on specified card and port lost. **Action:** Check both connector ends of the CNI-3PE cable. **18** = 3PE power lost. **Action:** Check the power supply circuit breakers on the network shelf where the 3PE is located and reset if required. If the circuit breaker trips replace the power supply card following the steps in the *Hardware replacement* guide. If the circuit breaker trips after replacing the power supply card, remove all cards and reset the circuit breaker. If the circuit breaker trips after all cards removed, replace the shelf backplane following the steps in the *Hardware replacement* guide. If the circuit breaker does not trip after all the cards are removed, replace the network shelf cards one at a time until the card causing the circuit breaker to trip is found, then replace the card(s) following the steps in the *Hardware replacement* guide. **19** = 3PE has been manually disabled. **Action:** Information only. Take appropriate action as required. **20** = CNI card has been manually disabled. **Action:** Information only. Take appropriate action as required. **21** = Card test failed. **Action:** Replace the CNI card following the steps in the *Hardware replacement* guide. After replacing the card verify that the fault is cleared. **22** = Port test failed. **Action:** Replace the CNI card following the steps in the *Hardware replacement* guide. After replacing the card verify that the fault is cleared.	

CNI commands (continued)		
Command	**Description**	**Release**
	23 = Extender disabled by Meridian 1 initialization. **Action:** Use the ENL CNI command to enable the extender. **24** = Port interrupt line 0 disabled. **Action:** Contact your technical support group. **25** = Port interrupt line 1 disabled. **Action:** Contact your technical support group. **26** = Port interrupt line 2 disabled. **Action:** Contact your technical support group. **27** = Port interrupt line 3 disabled. **Action:** Contact your technical support group.	
Test CNI port		
TEST CNI c s p	Test the CNI port. **c** = Core number (0 or 1) **s** = Slot number (8-12) **p** = Port number (0 or 1) If the P is not entered, both ports are tested. This command can test Standby CNIs as well as active CNIs that are out-of-service. This may take a few minutes because of the time required to reestablish memory shadowing and contents. When the command is successful, OK is printed. If it is not successful, an error message is printed.	51C/61C/81-19
Disable CNI port		
DIS CNI c s p	Disable the CNI port. **c** = Core number (0 or 1) This must be the standby side. Disable the active side if the CNI is not in service. **s** = Slot number (8-12) **p** = Port number (0 or 1)	51C/61C/81-19

CNI commands (continued)		
Command	**Description**	**Release**
Enable CNI port		
ENL CNI c s p	Enable CNI port. **c** = Core number (0 or 1) **s** = Slot number (8-12) **p** = Port number (0 or 1) If the P is not entered, both ports, and the card itself are enabled. A port cannot be enabled if the card is disabled. Enabling the CNI card will also enable the 3 Port Extender card.	51C/61C/81-19
Print CNI ID		
IDC CNI s	Print the card ID for the CNI on the active side. **s** = Slot number (8-12) The printout appears in the following format: **x y ppppppppaa rrssss ccccccc** **x** = Core number (0 or 1) **y** = Slot number (8-12) **pppppppp** = PEC code **aa** = Attribute code **rr** = Release number **ssss** = Serial number **cccccccc** = Comments (optional)	51C/61C/81-19

CNI messages

Back-filling messages with zeros

The numerical portion of the following messages is depicted by three or four digits. For example, the same message can be represented by xxx0008 or xxx008.

CNI000 CNIP x y z: Intermittent interrupt occurring.

x = CNI core side (0-1)

y = CNI card slot (8-12)

z = CNI port (0-1)

ACTION: Use STAT CNI and TEST CNI to test the CNI cards. Replace any components that fail following the steps in the *Hardware replacement* guide. After replacement, verify that the fault is cleared.

CNI001 CNIP x y z: CNI-3PE Cable 1 (top) detected.

x = CNI core side (0-1)

y = CNI card slot (8-12)

z = CNI port (0-1)

ACTION: Check that the cables on the core module backplane between CNI and 3PE for bent pins or improper connections. Use STAT CNI and TEST CNI to test the CNI cards. Replace any components that fail following the steps in the *Hardware replacement* guide. After replacement, verify that the fault is cleared.

CNI002 CNIP x y z: CNI-3PE Cable 1 (top) lost.

x = CNI core side (0-1)

y = CNI card slot (8-12)

z = CNI port (0-1)

ACTION: Check that the cables on the core module backplane between CNI and 3PE for bent pins or improper connections. Use STAT CNI and TEST CNI to test the CNI cards. Replace any components that fail following the steps in the *Hardware replacement* guide. After replacement, verify that the fault is cleared.

CNI003 CNIP x y z: CNI-3PE Cable 2 (bottom) detected.

x = CNI core side (0-1)

y = CNI card slot (8-12)

z = CNI port (0-1)

ACTION: Check that the cables on the core module backplane between CNI and 3PE for bent pins or improper connections.Use STAT CNI and TEST CNI to test the CNI cards. Replace any components that fail following the steps in the *Hardware replacement* guide. After replacement, verify that the fault is cleared.

CNI004 CNIP x y z: CNI-3PE Cable 2 (bottom) lost.

x = CNI core side (0-1)

y = CNI card slot (8-12)

z = CNI port (0-1)

ACTION: Check that the cables on the core module backplane between CNI and 3PE for bent pins or improper connections.Use STAT CNI and TEST CNI to test the CNI cards. Replace any components that fail following the steps in the *Hardware replacement* guide. After replacement, verify that the fault is cleared.

CNI005 CNIP x y z: Remote Power (3PE) Detected.

x = CNI core side (0-1)

y = CNI card slot (8-12)

z = CNI port (0-1)

ACTION: Use STAT CNI and TEST CNI to test the CNI cards. Replace any components that fail following the steps in the *Hardware replacement* guide. After replacement, verify that the fault is cleared.

CNI006 CNIP x y z: Remote Power (3PE) Lost.

x = CNI core side (0-1)

y = CNI card slot (8-12)

z = CNI port (0-1)

ACTION: Use STAT CNI and TEST CNI to test the CNI cards. Replace any components that fail following the steps in the *Hardware replacement* guide. After replacement, verify that the fault is cleared.

CNI007 CNIP x y z: 3PE switch has been enabled.

x = CNI core side (0-1)

y = CNI card slot (8-12)

z = CNI port (0-1)

ACTION: Use STAT CNI to verify the status of the CNIs.

CNI008 CNIP x y z: 3PE switch has been disabled.

x = CNI core side (0-1)

y = CNI card slot (8-12)

z = CNI port (0-1)

ACTION: Use STAT CNI and TEST CNI to test the CNI cards. Replace any components that fail following the steps in the *Hardware replacement* guide. After replacement, verify that the fault is cleared.

CNI009 CNIP x y z: Event Interrupt Lost, mask reg=n. Reenabling all interrupts.

x = CNI core side (0-1)

y = CNI card slot (8-12)

z = CNI port (0-1)

ACTION: Information only, no action required.

CNI010 CNIP x y z: Faceplate switch enabled.

x = CNI core side (0-1)

y = CNI card slot (8-12)

z = CNI port (0-1)

ACTION: Information only, no action required

CNI011 CNIP x y z: Faceplate switch disabled.

x = CNI core side (0-1)

y = CNI card slot (8-12)

z = CNI port (0-1)

ACTION: Information only, no action required

CNI012 CNIP x y z: Putting Port into Disabled mode.

x = CNI core side (0-1)

y = CNI card slot (8-12)

z = CNI port (0-1)

ACTION: Information only, no action required.

CNI013 CNIP x y z: Putting port into Normal/Enabled mode.

x = CNI core side (0-1)

y = CNI card slot (8-12)

z = CNI port (0-1)

ACTION: Information only, no action required.

CNI020 CNIP x y z: Failure to change port mode.

x = CNI core side (0-1)

y = CNI card slot (8-12)

z = CNI port (0-1)

ACTION: Use STAT CNI and TEST CNI to test the CNI cards. Replace any components that fail following the steps in the *Hardware replacement* guide. After replacement, verify that the fault is cleared.

CNI021 CNIP x y z: Port has been placed into Normal mode.

x = CNI core side (0-1)

y = CNI card slot (8-12)

z = CNI port (0-1)

ACTION: Information only, no action required.

CNI022 CNIP x y z: Port has been placed into Disable mode.

x = CNI core side (0-1)

y = CNI card slot (8-12)

z = CNI port (0-1)

ACTION: Information only, no action required

CNI023 CNIP x y z: EI a register.

x = CNI core side (0-1)

y = CNI card slot (8-12)

z = CNI port (0-1)

ACTION: Check the cables on the core module backplane between the CNI and 3PE for bent pins or improper connections. Use STAT CNI and TEST CNI to test the CNI cards. Replace any components that fail following the steps in the *Hardware replacement* guide. After replacement, verify that the fault is cleared.

CNI024 CNIP x y z: ICC/Default values check.

x = CNI core side (0-1)

y = CNI card slot (8-12)

z = CNI port (0-1)

ACTION: Check the cables on the core module backplane between the CNI and 3PE for bent pins or improper connections.Use STAT CNI and TEST CNI to test the CNI cards. Replace any components that fail following the steps in the *Hardware replacement* guide. After replacement, verify that the fault is cleared.

CNI025 CNIP x y z: Loopback address.

x = CNI core side (0-1)

y = CNI card slot (8-12)

z = CNI port (0-1)

ACTION: Check the cables on the core module backplane between the CNI and 3PE for bent pins or improper connections.Use STAT CNI and TEST CNI to test the CNI cards. Replace any components that fail following the steps in the *Hardware replacement* guide. After replacement, verify that the fault is cleared.

CNI026 CNIP x y z: Loopback address parity.

x = CNI core side (0-1)

y = CNI card slot (8-12)

z = CNI port (0-1)

ACTION: Check the cables on the core module backplane between the CNI and 3PE for bent pins or improper connections.Use STAT CNI and TEST CNI to test the CNI cards. Replace any components that fail following the steps in the *Hardware replacement* guide. After replacement, verify that the fault is cleared.

CNI027 CNIP x y z: Loopback address parity invert.

x = CNI core side (0-1)

y = CNI card slot (8-12)

z = CNI port (0-1)

ACTION: Check the cables on the core module backplane between the CNI and 3PE for bent pins or improper connections. Use STAT CNI and TEST CNI to test the CNI cards. Replace any components that fail following the steps in the *Hardware replacement* guide. After replacement, verify that the fault is cleared.

CNI028 CNIP x y z: Loopback data LSB.

x = CNI core side (0-1)

y = CNI card slot (8-12)

z = CNI port (0-1)

ACTION: Check the cables on the core module backplane between the CNI and 3PE for bent pins or improper connections.Use STAT CNI and TEST CNI to test the CNI cards. Replace any components that fail following the steps in the *Hardware replacement* guide. After replacement, verify that the fault is cleared.

CNI029 CNIP x y z: Loopback data parity LSB.

x = CNI core side (0-1)

y = CNI card slot (8-12)

z = CNI port (0-1)

ACTION: Check the cables on the core module backplane between the CNI and 3PE for bent pins or improper connections.Use STAT CNI and TEST CNI to test the CNI cards. Replace any components that fail following the steps in the *Hardware replacement* guide. After replacement, verify that the fault is cleared.

CNI030 CNIP x y z: Loopback data MSB.

x = CNI core side (0-1)

y = CNI card slot (8-12)

z = CNI port (0-1)

ACTION: Check the cables on the core module backplane between the CNI and 3PE for bent pins or improper connections.Use STAT CNI and TEST CNI to test the CNI cards. Replace any components that fail following the steps in the *Hardware replacement* guide. After replacement, verify that the fault is cleared.

CNI031 CNIP x y z: Loopback data parity MSB.

x = CNI core side (0-1)

y = CNI card slot (8-12)

z = CNI port (0-1)

ACTION: Check the cables on the core module backplane between the CNI and 3PE for bent pins or improper connections.Use STAT CNI and TEST CNI to test the CNI cards. Replace any components that fail following the steps in the *Hardware replacement* guide. After replacement, verify that the fault is cleared.

CNI032 CNIP x y z: Event interrupts out of sequence.

x = CNI core side (0-1)

y = CNI card slot (8-12)

z = CNI port (0-1)

ACTION: Check that the cables on the core module backplane between CNI and 3PE for bent pins or improper connections. Use STAT CNI and TEST CNI to test the CNI cards. Replace any components that fail following the steps in the *Hardware replacement* guide. After replacement, verify that the fault is cleared.

CNI033 CNIP x y z: Event interrupts lost.

x = CNI core side (0-1)

y = CNI card slot (8-12)

z = CNI port (0-1)

ACTION: Check that the cables on the core module backplane between CNI and 3PE for bent pins or improper connections. Use STAT CNI and TEST CNI to test the CNI cards. Replace any components that fail following the steps in the *Hardware replacement* guide. After replacement, verify that the fault is cleared.

CNI034 CNIP x y z: Event interrupt time-out test.

x = CNI core side (0-1)

y = CNI card slot (8-12)

z = CNI port (0-1)

ACTION: Check that the cables on the core module backplane between CNI and 3PE for bent pins or improper connections. Use STAT CNI and TEST CNI to test the CNI cards. Replace any components that fail following the steps in the *Hardware replacement* guide. After replacement, verify that the fault is cleared.

CNI035 CNIP x y z: Read strobe test.

x = CNI core side (0-1)

y = CNI card slot (8-12)

z = CNI port (0-1)

ACTION: Check that the cables on the core module backplane between CNI and 3PE for bent pins or improper connections. Use STAT CNI and TEST CNI to test the CNI cards. Replace any components that fail following the steps in the *Hardware replacement* guide. After replacement, verify that the fault is cleared.

CNI036 CNIP x y z: Write strobe test.

x = CNI core side (0-1)

y = CNI card slot (8-12)

z = CNI port (0-1)

ACTION: Check that the cables on the core module backplane between CNI and 3PE for bent pins or improper connections. Use STAT CNI and TEST CNI to test the CNI cards. Replace any components that fail following the steps in the *Hardware replacement* guide. After replacement, verify that the fault is cleared.

CNI037 CNIP x y z: Event generation circuitry test.

x = CNI core side (0-1)

y = CNI card slot (8-12)

z = CNI port (0-1)

ACTION: Use STAT CNI and TEST CNI to test the CNI cards. Replace any components that fail following the steps in the *Hardware replacement* guide. After replacement, verify that the fault is cleared.

CNI050 CNIP x y z: Failure to access CNI Port hardware.

x = CNI core side (0-1)

y = CNI card slot (8-12)

z = CNI port (0-1)

ACTION: Check the CNI enable/disable switch. Use STAT CNI and TEST CNI to test the CNI cards. Replace any components that fail following the steps in the *Hardware replacement* guide. After replacement, verify that the fault is cleared.

CNI051 CNIP x y z: Failure to unmask event interrupt.

x = CNI core side (0-1)

y = CNI card slot (8-12)

z = CNI port (0-1)

ACTION: Use STAT CNI and TEST CNI to test the CNI cards. Replace any components that fail following the steps in the *Hardware replacement* guide. After replacement, verify that the fault is cleared.

CNI052 CNIP x y z: Mask a does not match. Interrupt being unmasked.

x = CNI core side (0-1)

y = CNI card slot (8-12)

z = CNI port (0-1)

ACTION: Use STAT CNI and TEST CNI to test the CNI cards. Replace any components that fail following the steps in the *Hardware replacement* guide. After replacement, verify that the fault is cleared.

CNI053 CNIP x y z: Mask a does not match, Interrupt being masked.

x = CNI core side (0-1)

y = CNI card slot (8-12)

z = CNI port (0-1)

ACTION: Use STAT CNI and TEST CNI to test the CNI cards. Replace any components that fail following the steps in the *Hardware replacement* guide. After replacement, verify that the fault is cleared.

CNI054 CNIP x y z: Could not find the source of the interrupt.

x = CNI core side (0-1)

y = CNI card slot (8-12)

z = CNI port (0-1)

ACTION: Use STAT CNI and TEST CNI to test the CNI cards. Replace any components that fail following the steps in the *Hardware replacement* guide. After replacement, verify that the fault is cleared.

CNI055 CNIP x y z: Testing the port.

x = CNI core side (0-1)

y = CNI card slot (8-12)

z = CNI port (0-1)

ACTION: Information only, no action required.

CNI056 CNIP x y z: Interrupt line x is STUCK, unmasking line.

x = CNI core side (0-1)

y = CNI card slot (8-12)

z = CNI port (0-1)

ACTION: Use DIS CNI c s p and ENL CNI c s p to clear the interrupt. If the interrupt does not clear, use STAT CNI and TEST CNI to test the CNI cards. Replace any components that fail following the steps in the *Hardware replacement* guide. After replacement, verify that the fault is cleared.

CNI060 CNIP x y z: Incorrect release. Option 81 must run X11 release 18 or later.

x = CNI core side (0-1)

y = CNI card slot (8-12)

z = CNI port (0-1)

ACTION: Have your technical support group contact Nortel Technical Assistance Service for the correct software release.

CNI061 CNIP x y z: LBA=a, LBD=b, BERZ=c, CD=d, SR=e.

x = CNI core side (0-1)

y = CNI card slot (8-12)

z = CNI port (0-1)

ACTION: Information only, no action required.

CNI062 CNIP x y z: The remote device is not accessible.

x = CNI core side (0-1)

y = CNI card slot (8-12)

z = CNI port (0-1)

ACTION: Use DIS CNI c s p and ENL CNI c s p. If the remote device is still not accessible, use STAT CNI and TEST CNI to test the CNI cards. Replace any components that fail following the steps in the *Hardware replacement* guide. After replacement, verify that the fault is cleared.

CNI064 cnipMon - Interrupt masked. Turn on “cnipMaskAutoRestore” to recover.

ACTION: Use DIS CNI c s p and ENL CNI c s p to clear the interrupt. If the interrupt does not clear, use STAT CNI and TEST CNI to test the CNI cards. Replace any components that fail following the steps in the *Hardware replacement* guide. After replacement, verify that the fault is cleared.

CNI065 cnipMon - EILOST reported, mask = n.

ACTION: Use DIS CNI c s p and ENL CNI c s p to clear the fault. If the fault does not clear, use STAT CNI and TEST CNI to test the CNI cards. Replace any components that fail following the steps in the *Hardware replacement* guide. After replacement, verify that the fault is cleared.

CNI066 cnipMon - Switch-over requested; side x is deemed better.

ACTION: Use STAT CNI and TEST CNI on the suspected faulty side to test the CNI cards. Replace any components that fail following the steps in the *Hardware replacement* guide. After replacement, verify that the fault is cleared.

CNI070 CNIP x y z: EI a register does not match. sw=n, hw=m. Restoring.

x = CNI core side (0-1)

y = CNI card slot (8-12)

z = CNI port (0-1)

ACTION: Contact your technical support group.

CNI071 EI Unmasking line x failed. Mask Reg = n.

ACTION: Contact your technical support group.

CNI072 EI Masking line x failed. Mask Reg = n.

ACTION: Contact your technical support group.

CNI073 CNIP x y z: Maintenance Interrupt Threshold exceeded. Subsequent changes in 3PE/cable status will be ignored.

x = CNI core side (0-1)

y = CNI card slot (8-12)

z = CNI port (0-1)

ACTION: Check the 3PE and CNI-3PE cable (if applicable) and then use ENL CNI c s p to re-enable the CNI.

CNI074 CNIP x y z: EI3 address repaired. EI3 address was set to: x. EI3 address restored to: y.

ACTION: Contact your technical support group.

CNI075 CNIP x y z: Cause for EI3 event unknown. Forcing the port into Normal mode.

x = CNI core side (0-1)

y = CNI card slot (8-12)

z = CNI port (0-1)

ACTION: Contact your technical support group.

CNI200 cnib a b configured but not present. Database mismatch.

ACTION: Refer to the *administration input/output* guide to put the CNI card in the right slot if applicable. Use LD 22 PRT to check for the correct CNI and configuration. Use LD 17 to make appropriate changes if required.

CNV — LD 66 Conversion Program

In this chapter

How the CNV works

When upgrading the software from a generic release to a higher release, software conversion is the process of transferring the customer data (programmable data) to the higher release.

Methods of software conversion

There are two ways to transfer customer data when upgrading the software:

- conversion programs that do it automatically, or
- load the new software and manually re-enter the customer data on a TTY.

The greater the difference between the old and new software and smaller line size, the more cost effective it is to manually re-enter the customer data.

Conversion program procedures

Prior to X11 Rls 2

Prior to X11 release 2, but including X08 and X37, conversion was done by data dump, LD 43, onto the target tape. After a successful data dump, the system was then reloaded. Conversion was automatically done as part of the sysload routine.

X11 Rls 2 to X11 Rls 12

After X11 release 2 and up to X11 release 12, software data structures changed, requiring new conversion procedures. The conversion program and a new conversion overlay, LD 66, were issued on a separate tape or disk. Each release required its own unique conversion program.

X11 Rls 12 to present

From X11 release 12 and onward, conversion is again part of the sysload function, and no longer requires a separate conversion media. The conversion program is contained in the target software, and is called Automatic Inline Conversion.

For information on how to prepare and operate each generic's conversion program, consult the applicable product bulletins and the *Software Conversion* NTP.

Conversion terms

Source — the software release currently running in the Meridian 1

Target — the software release you are converting to

Media — a tape or a disk(s) containing the software

Automatic Inline Conversion process

For a conversion without Auto Inline, the following steps are performed:

1. The EDD is loaded from the source media.
2. The source media is replaced with the target media
3. The Customer data is dumped to the target media
4. Sysload the target media software into memory
5. The Sysload sees that the customer data is not in the proper format for target release. It invokes the conversion program to convert the customer data to the right format.
6. Conversion is finished.

Conversion without Auto Inline process

For a conversion without Auto Inline, the following steps are performed:

1. Insert conversion media
2. Load conversion program LD66, when CDD 000 prompt is given
3. Insert target media
4. Type CDD
5. Customer data from memory is converted on target media
6. Sysload target media software into memory
7. Conversion done

CNV messages

CNV000

Identification of program (not an error).

ACTION: The CNV program is loaded and ready for you to input commands.

CNV100

Identification of program (not an error).

ACTION: Information only, no action required.

CNV601 t c b TNB l s c u

Not enough unprotected memory for data.

t = Data block type, if **t** = TNB, then it is followed by **l s c u**
c = Customer number
b = Block number or route number if **t** = RDB

ACTION: Re-allocate or add more memory.

CNV602 t c b TNB l s c u

Not enough protected memory for data.

t = Data block type, if **t** = TNB, then it is followed by **l s c u**
c = Customer number
b = Block number or route number if **t** = RDB

ACTION: Re-allocate or add more memory.

CNV630

Wrong number of parameters.

ACTION: Re-enter the proper command.

CNV631

Invalid command.

ACTION: Re-enter the proper command.

CNV632

Invalid argument(s).

ACTION: Re-enter the proper command.

CNV633

Wrong P_CUST_DATA length.

ACTION: Contact your technical support group.

CNV634

Wrong P_ROUTE_DATA length.

ACTION: Contact your technical support group.

CNV635

Warning: mismatched signaling and trunk type in PTRKBLOCK.

ACTION: Contact your technical support group.

CNV636

Warning: some serious error in TNTRANSLATOR.

ACTION: Contact your technical support group.

CNV637

Error: the conversion has already been run on this data.

ACTION: Contact your technical support group.

CNV638

Insufficient protected memory to run conversion.

ACTION: Re-allocate or add more memory.

CNV639 t c b TNB l s c u

Nil pointer to data block.

t = Data block type, if **t** = TNB, then it is followed by **l s c u**
c = Customer number
b = Block number or route number if **t** = RDB

ACTION: Contact your technical support group.

CNV640 TNB l s c u

TN block has an invalid unit type.

t = Data block type, if **t** = TNB, then it is followed by **l s c u**
c = Customer number
b = Block number or route number if **t** = RDB

ACTION: Contact your technical support group.

CNV641 t c b

Pointer does not point to correct data block.

t = Data block type, if **t** = TNB, then it is followed by **l s c u**
c = Customer number
b = Block number or route number if **t** = RDB

ACTION: Contact your technical support group.

CNV642 RMB c b

MR block number is greater than 99. See summary for output data.

ACTION: Contact your technical support group.

CSA — LD 48 Command and Status Link

Refer to the *maintenance input/output guide* for messages and descriptions.

CSA messages

CSA0110

The overloaded CSL MSDL port needs to be disabled before it can be enabled.

ACTION: Action: Place the AML LINK in the manually disabled mode with the command DIS AML x. Enable the Link with the command ENL AML x.

CSC — Customer Service Change

How the CSC works

Customer Service Change is a resident program. CSC does not have an overlay load (LD) associated with it. For more information refer to *Software maintenance tools* in the *You should know this* chapter.

The CSC messages indicate problems and progress within the Attendant Administration and Automatic Set Relocation features.

CSC messages

CSC001

Access code or password entered from console was incorrect.

ACTION: Check to make sure your data is correct and re-enter the command.

CSC002

Cannot log in because currently running overlay program refuses to leave.

ACTION: Contact your technical support group.

CSC003 x y

Start of attendant service change of a set. TN and Prime DN are given. Output data is

x = TN (l s c u) of set

y = Prime DN of set

ACTION: Information only, no action required.

CSC004

The feature selected by the attendant is shown, together with the old and new contents.

ACTION: Information only, no action required.

CSC005

Change of set data has been completed.

ACTION: Information only, no action required.

CSC006

Someone else has logged in and replaced the Attendant Administration user.

ACTION: Contact your technical support group.

CSC007

An error was encountered trying to load an overlay program.

ACTION: Try again. If this message appears repeatedly, contact your technical support group.

CSC010 x y

The first message produced by a set relocation at the point the set leaves the system. Output data is:

x = old TN l s c u of set

y = ID code entered

ACTION: Information only, no action required.

CSC011 x y

The second message produced by a set relocation at the point the set re-enters the system. The output data is:

x = old TN l s c u of set

y = new TN l s c u of set

ACTION: Information only, no action required.

CSC012 x

A set cannot be relocated back in. The output data is:

x = old TN l s c u of set

ACTION: Refer to the *administration input/output guide* and use LD 21 PRT type SRDT to confirm the telephone TN. Use LD 10 or 11 to manually relocate the telephone back into the customer database if applicable.

CSC013 x y

A set reassigned back in has been deassigned as an Associate Set (AST) for a DN. Output data is:

x = TN l s c u of set

y = Prime DN of set

ACTION: Information only, no action required.

CSC100 x l s c u

Set Installation message indicating that a set or trunk **l s c u** has been installed using AINS, where x is the model number.

ACTION: Information only, no action required.

CSC101 l s c u

Set Installation message indicating that a set or trunk **l s c u** has been removed from the database using AINS.

ACTION: Information only, no action required.

CSC102 DN nnnn NEW MARP l s c u

The DN **nnnn** appearance for a MARP TN has been changed in Attendant Administration. The new MARP for DN **nnnn** has defaulted to TN **l s c u**.

ACTION: Information only, no action required.

CSC104 x y z

Flexible Call Forward No Answer DN (FDN) updated through User Selectable Call Redirection (USCR) from telephone.

x = TN l s c u

y = old FDN

z = new FDN

ACTION: Information only, no action required.

CSC105 x y z

Hunt DN updated through User Selectable Call Redirection (USCR) from telephone.

x = TN l s c u

y = old Hunt DN

z = new Hunt DN

ACTION: Information only, no action required.

CSC106 x y z

External Call Forward No Answer DN (EFD) updated through User Selectable Call Redirection (USCR) from telephone.

x = TN l s c u

y = old EFD

z = new EFD

ACTION: Information only, no action required.

CSC107 x y z

External Hunt DN (EHT) updated through User Selectable Call Redirection (USCR) from telephone.

x = TN l s c u

y = old EHT

z = new EHT

ACTION: Information only, no action required.

CSC108 x y z

Ringing Cycle Option (RCO) updated through User Selectable Call Redirection (USCR) from telephone.

x = TN l s c u

y = old Ringing Cycle Option (RCO)

z = new RCO

ACTION: Information only, no action required.

CSC109 x y

Unacceptable Flexible Call Forward No Answer DN (FDN) dialed during User Selectable Call Redirection (USCR) programing from telephone. Invalid data was not stored.

x = TN l s c u

y = unacceptable FDN

ACTION: Check with the user to make sure that their data is correct and have them re-enter the command.

CSC110 x y

Unacceptable Hunt DN dialed during User Selectable Call Redirection (USCR) programing from telephone. Invalid data was not stored.

x = TN l s c u

y = unacceptable Hunt DN

ACTION: Check with the user to make sure that their data is correct and have them re-enter the command.

CSC111 x y

Unacceptable External Call Forward No Answer DN (EFD) dialed during User Selectable Call Redirection (USCR) programing from telephone. Invalid data was not stored.

x = TN l s c u

y = unacceptable EFD

ACTION: Check with the user to make sure that their data is correct and have them re-enter the command.

CSC112 x y

Unacceptable External Hunt DN (EHT) dialled during User Selectable Call Redirection (USCR) programming from telephone. Invalid data was not stored.

x = TN l s c u

y = unacceptable EHT

ACTION: Check with the user to make sure that their data is correct and have them re-enter the command.

CSC113 x y

Unacceptable Ringing Cycle Option (RCO) dialled during User Selectable Call Redirection (USCR) programming from telephone. Invalid data was not stored.

x = TN l s c u

y = unacceptable RCO

ACTION: Check with the user to make sure that their data is correct and have them re-enter the command.

CSC118

Multiple appearance of a DN that is associated with a DTM key is not permitted.

ACTION: Check to make sure your data is correct and re-enter the data.

ACTION:

CSC1000 x y z

Flexible Call Forward No Answer DN (FDN) updated with vacant DN through User Selectable Call Redirection (USCR) from telephone.

x = TN l s c u

y = old FDN

z = new vacant FDN of set

ACTION: Information only, no action required.

CSC1001 x y z

Hunt DN updated with vacant DN through User Selectable Call Redirection (USCR) from telephone.

x = TN l s c u

y = old Hunt DN

z = new vacant Hunt DN

ACTION: Information only, no action required.

CSC1002 x y z

External Call Forward No Answer DN (EFD) updated with vacant DN through User Selectable Call Redirection (USCR) from telephone.

x = TN l s c u

y = old EFD

z = new vacant EFD

ACTION: Information only, no action required.

CSC1003 x y z

External Hunt DN (EHT) updated with vacant DN through User Selectable Call Redirection (USCR) from telephone.

x = TN l s c u

y = old EHT

z = new vacant EHT

ACTION: Information only, no action required.

DBMT — Database Media Transfer

DBMT messages

Database Media Transfer is a resident program. DBMT does not have an overlay load (LD) associated with it. For more information refer to *Software maintenance tools* in the *You should know this* chapter.

Back-filling messages with zeros

The numerical portion of the following messages is depicted by three or four digits. For example, the same message can be represented by xxx0008 or xxx008.

DBMT001 Unable to determine default floppy device name.
ACTION: Contact your technical support group.

DBMT002 Unable to determine floppy device name.
ACTION: Contact your technical support group.

DBMT003 Unable to determine file names for transfer.
ACTION: Contact your technical support group.

DBMT004 Unable to open floppy drive.
ACTION: Be sure that the disk is properly inserted.

DBMT005 Unable to create temporary Database file.
ACTION: Contact your technical support group.

DBMT006 Unable to create temporary Config. file.
ACTION: Contact your technical support group.

DBMT007 Unable to transfer Database to hard disk.
ACTION: Contact your technical support group.

DBMT008 Unable to append Database and Config. files into one file.
ACTION: Contact your technical support group.

DBMT009 Unable to rename Config. file to Database file for s option.
ACTION: Contact your technical support group.

DBMT010 Unable to restore file to original state.
ACTION: Contact your technical support group.

DBMT011 Unable to rename all files correctly.
ACTION: Contact your technical support group.

DBMT012 Unable to read Private sector from floppy disk.
ACTION: Contact your technical support group.

DBMT013 Too many disks are being used.
ACTION: Contact your technical support group.

DBMT014 Incorrect disk in drive.
ACTION: Contact your technical support group.

DBMT015 Unable to identify record type.
ACTION: Contact your technical support group.

DBMT016 Unable to read sector(s) from disk.
ACTION: Contact your technical support group.

DBMT017 Unable to write Database file to hard disk.
ACTION: Contact your technical support group.

DBMT018 Unable to write Config. file to hard disk.
ACTION: Contact your technical support group.

DBMT019 Incorrect Database record count. Was x should be y.
ACTION: Contact your technical support group.

DBMT020 Incorrect Config. record count. Was x should be y.
ACTION: Contact your technical support group.

DBMT021 Incorrect floppy disk in drive.
ACTION: Insert disk A1.

DBMT022 Read Private Sector(s): Unable to read sector(s) from floppy disk.
ACTION: Contact your technical support group.

DBMT023 Read Private Sector: Invalid floppy disk.
ACTION: Contact your technical support group.

DBMT024 Read Private Sector: End of track 1 not found.
ACTION: Contact your technical support group.

DBMT025 Read Private Sector: End of track 3 not found.
ACTION: Contact your technical support group.

DBMT026 Get Record Type: Unable to identify record type.
ACTION: Contact your technical support group.

DMBT027 Unused message.
ACTION: Contact your technical support group.

DBMT028 Get Disk Buf: Unable to seek on floppy disk.
ACTION: Contact your technical support group.

DBMT029 Get Disk Buf: Unable to read from floppy disk.
ACTION: Contact your technical support group.

DBMT030 Append DB: Unable to seek DB on hard disk.
ACTION: Contact your technical support group.

DBMT031 Append DB: Unable to seek Config, on hard disk.
ACTION: Contact your technical support group.

DBMT032 Append DB: Unable to read from hard disk.
ACTION: Contact your technical support group.

DBMT033 Append DB: Unable to write to hard disk.
ACTION: Contact your technical support group.

DBMT034 Write DB: Unable to write to hard disk.
ACTION: Contact your technical support group.

DBMT035 Write DB: Unable to write to hard disk.
ACTION: Contact your technical support group.

DBMT036 Write DB: Unknown Database format.
ACTION: Contact your technical support group.

DBMT037 Get Directory: Unable to read Private Sector from floppy disk.
ACTION: Contact your technical support group.

DBMT038 Get Directory: Unable to read sector(s) from floppy disk.
ACTION: Check that diskette is in the correct drive. Check that the diskette is properly inserted.

DBMT039 Close Files: Unable to close floppy device.
ACTION: Contact your technical support group.

DBMT040 Close Files: Unable to close Database file.
ACTION: Contact your technical support group.

DBMT041 Close Files: Unable to close Config. file.
ACTION: Contact your technical support group.

DBMT042 Rename All Files: Unable to rename secondary Database file to holding file.
ACTION: Contact your technical support group.

DBMT043 Rename All Files: Unable to restore files to original state.
ACTION: Contact your technical support group.

DBMT044 Rename All Files: Unable to rename secondary Config. file to holding file.
ACTION: Contact your technical support group.

DBMT045 Rename All Files: Unable to rename primary Database file to secondary file.
ACTION: Contact your technical support group.

DBMT046 Rename All Files: Unable to rename primary Config. file to secondary file.
ACTION: Contact your technical support group.

DBMT047 Rename All Files: Unable to rename new Database file to primary file.
ACTION: Contact your technical support group.

DBMT048 Rename All Files: Unable to rename new Config. file to primary file.
ACTION: Contact your technical support group.

DBMT049 Get File Names: Unable to determine primary Database file name.
ACTION: Contact your technical support group.

DBMT050 Get File Names: Unable to determine secondary Database file name.
ACTION: Contact your technical support group.

DBMT051 Get File Names: Unable to determine holding Database file name.
ACTION: Contact your technical support group.

DBMT052 Get File Names: Unable to determine temporary Database file name.
ACTION: Contact your technical support group.

DBMT053 Get File Names: Unable to determine primary Config. file name.
ACTION: Contact your technical support group.

DBMT054 Get File Names: Unable to determine secondary Config. file name.
ACTION: Contact your technical support group.

DBMT055 Get File Names: Unable to determine holding Config. file name.
ACTION: Contact your technical support group.

DBMT056 Get File Names: Unable to determine temporary Config. file name.
ACTION: Contact your technical support group.

DBMT057 Restore Files: Unable to restore temporary Database file.
ACTION: Contact your technical support group.

DBMT058 Restore Files: Unable to restore primary Database file.
ACTION: Contact your technical support group.

DBMT059 Restore Files: Unable to restore secondary Database file.
ACTION: Contact your technical support group.

DBMT060 Restore Files: Unable to restore temporary Config. file.
ACTION: Contact your technical support group.

DBMT061 Restore Files: Unable to restore primary Config. file.
ACTION: Contact your technical support group.

DBMT062 Restore Files: Unable to restore secondary Config. file.
ACTION: Contact your technical support group.

DBMT063 Unable to initialize floppy driver to 2 Mb on side: x.
ACTION: Contact your technical support group.

DBMT064 Unable to initialize floppy driver to 4 Mb on side: x.
ACTION: Contact your technical support group.

DCH — LD 96 D-Channel Diagnostic

For messages and descriptions refer to the *maintenance input/output guide*.

Refer to ISDN Northern Telecom Publications for details.

DCH messages

DCH4288

The overloaded DCH MSDL port needs to be disabled before it can be enabled.

Action: Place the D Channel in the manually disabled mode with the command DIS DCH x.

DLO — Disk Layout

Disk Layout is a resident program. DLO does not have an overlay load (LD) associated with it. For more information refer to *Software maintenance tools* in the *You should know this* chapter.

Back-filling messages with zeros

The numerical portion of the following messages is depicted by three or four digits. For example, the same message can be represented by either xxx0008 or xxx008.

DLO messages

DLO001 Unable to find symbol.
ACTION: Contact your technical-support group.

DLO002 Unable to read from file, error x.
ACTION: Contact your technical-support group.

DLO003 Unknown error code <codename>.
ACTION: Contact your technical-support group.

DLO004 Unable to get active CMDU. Cannot look up symbol
ACTION: Contact your technical-support group.

DSET — Digital Set Download

How the DSET works

Digital Set Download is a resident program. DSET does not have an overlay load (LD) associated with it. For more information refer to *Software maintenance tools* in the *You should know this* chapter.

Digital telephone set downloading takes place during a system reload.

DSET messages

DSET000 DOWNLOAD 1 2 3 4 5 6 7 8

Digital-telephone set downloading has taken place. This information appears once during the system reload. Eight additional fields are associated with this output

Output format is:

1 = number of SSD messages sent

2 = number of M3000 telephone sets downloaded

3 = number of Digital telephone sets downloaded

4 = number of Digital attendant consoles downloaded

5 = number of M3000 telephone sets that failed the download

6 = number of Digital telephone sets that failed the download

7 = number of Digital attendant consoles that failed the download

8 = current real time clock

DTA — LD 60 Digital Trunks

For messages and descriptions refer to the *maintenance input/output guide*.

Refer to ISDN Northern Telecom Publications for details.

DTC — LD 60 Digital Trunk Clock

For messages and descriptions refer to the *maintenance input/output guide*.

Refer to ISDN Northern Telecom Publications for details.

DTD — LD 34 Dial Tone Detector

Go to *TDS — LD 34 Checking tone and digit switches* chapter.

DTI — LD 60 Digital Trunk Interface

Refer to the *maintenance input/output guide* for messages and descriptions.

Refer to ISDN Northern Telecom Publications for details.

DTI messages

DTI0209

Device locked by the Russian Call Monitoring feature. The command was not executed.

ACTION: Action: Contact your technical support group.

DTI4135 DO NOT PRINT

The DTI loop cannot be enabled unless the TMDI card is operational.

ACTION: Action: Ensure that the card is plugged in and then enable the card in overlay 96.

DTI4136 DO NOT PRINT

An attempt to enable the T1E1 application or port has failed.

ACTION: Action: Try ENLL again or the RST TMDI command in overlay 96.

DTI4137 DO NOT PRINT

An attempt to enable a T1E1 port timed out.

ACTION: Action: Try ENLL again or the RST TMDI command in overlay 96.

DTI4138 DO NOT PRINT

SET_MSDLMISP_PTR failed during the enabling of TIE1 port. Data corruption can occur.

ACTION: Action: Check for data corruption. Try a system initialization, but if the fails contact your technical support group.

DTM — LD 75 Digital Trunk Maintenance

For messages and descriptions refer to the *maintenance input/output guide*.

Refer to ISDN Northern Telecom Publications for details.

DTRK — LD 36, 41 Digital Trunks

Refer to the *maintenance input/output guide* for messages and descriptions.

Refer to ISDN Northern Telecom Publications for details.