Critical Release Notice

Publication number: 297-1001-520
Publication release: Standard 03.05

The content of this customer NTP supports the SN06 (DMS) and ISN06 (TDM) software releases.

Bookmarks used in this NTP highlight the changes between the baseline NTP and the current release. The bookmarks provided are color-coded to identify release-specific content changes. NTP volumes that do not contain bookmarks indicate that the baseline NTP remains unchanged and is valid for the current release.

Bookmark Color Legend

Black: Applies to new or modified content for the baseline NTP that is valid through the current release.

Red: Applies to new or modified content for NA017/ISN04 (TDM) that is valid through the current release.

Blue: Applies to new or modified content for NA018 (SN05 DMS)/ISN05 (TDM) that is valid through the current release.

Green: Applies to new or modified content for SN06 (DMS)/ISN06 (TDM) that is valid through the current release.

Attention!
Adobe Ⓡ Acrobat Ⓡ Reader™ 5.0 is required to view bookmarks in color.

Publication History

March 2004

Standard release 03.05 for software release SN06 (DMS) and ISN06 (TDM).

Change of phone number from 1-800-684-2273 to 1-877-662-5669, Option 4 + 1.

DMS-100 Family

Maintenance System
Man–Machine Interface

Description

NØRTEL

NORTHERN TELECOM

DMS-100 Family

Maintenance System Man–Machine Interface

Description

Publication history

April 1999

BASE03 Standard 03.04

Cosmetic changes requested by NTJI.

February 1998

BASE03 Standard 03.03

Editing changes

September 1997

BASE03 Standard 03.02.

- Replaced DSU command string with TABLE PECINV and TABLE OFCSTD command strings
- Replaced all occurrences of Human-Machine Interface (HMI) with Man-Machine Interface (MMI)
- Added TESTTOOL to the MAPCI menu commands
- Added MTCNA to the MTC menu commands
- Added SRSTATUS to the MTC menu commands
- Added APPL to the MTC menu commands

May 1997

BASE03 Standard 03.01.

Updated references to other documentation structured for PCL releases.

August 1991

BCS19 Standard 02.03.

The NODISP option of the MAPCI command is an addition to this release (02.03). This issue also reflects minor editorial changes. Revision bars are not required for these minor changes.

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About this document

How to check the version and issue of this document

Numbers (for example, 01.01) indicate the version and issue of the document.

The first two digits indicate the version. The version number increases when updates to the document support a new software release. For example, the first release of a document is 01.01. In the *next* software release cycle, the first release of the same document is 02.01.

The second two digits indicate the issue. The issue number increases when the document has a revision and another release in the *same* software release cycle. For example, the second release of a document in the same software release cycle is 01.02.

This document applies to all DMS-100 Family offices. More than one version of this document can be present.

Check the release information in *Product Documentation Directory*, 297-8991-001, to determine:

- the version of this document that applies to the software in your office

- if you have the latest version and issue of this document that applies to the software in your office

- the structure of the documentation for your product

References in this document

The following documents are referenced in this document:

- *Central Control HMI Description*, 297-1001-511

- *Central Message Controller HMI Description*, 297-1001-512

- *Common Channel Signaling 7 Maintenance Reference Manual*, 297-1001-531

- *DMS SuperNode and DMS SuperNode SE Computing Module Maintenance Guide*, 297-5001-548

- *DMS SuperNode and DMS SuperNode SE Message Switch Maintenance Guide*, 297-5001-549

- *External Devices Maintenance Guide*, 297-1001-593

- *Input/Output Devices Maintenance Guide*, 297-1001-590

- *Input/Output System Reference Manual*, 297-1001-129

- *Lines Maintenance Guide*, 297-1001-594

- *Maintenance System DMS-100/200*, 297-1001-106

- *Network Management System Reference Manual*, 297-1001-453

- *Networks Maintenance Guide*, 297-1001-591

- *Operational Measurements Reference Manual*

- *Peripheral Modules Maintenance Guide*, 297-1001-592

- *Service Analysis*, 297-1001-471

- *Trunks Maintenance Guide*, 297-1001-595

What a precautionary message means

The types of precautionary messages used in NT documents include attention boxes and danger, warning, and caution messages.

An attention box identifies information that is necessary for the correct performance of a procedure or task. Attention boxes are necessary for the correct understanding of information or data. Danger, warning, and caution messages indicate possible risks.

Examples of the precautionary messages follow.

ATTENTION   Information needed to perform a task

ATTENTION

You must deprovision the DS-3 ports that were not in use, before the installation of a DS-1/VT Mapper. If you do not deprovision the ports, DS-1 traffic will not transmit through the DS-1/VT Mapper even if you correctly provision the DS-1/VT Mapper.

DANGER   Possibility of injury

> **DANGER**
> **Risk of electrocution**
> Do not open the front panel of the inverter before you
> remove fuses F1, F2, and F3. The inverter contains high
> voltage lines. The high voltage lines are active until you
> remove the fuses. The risk of electrocution exists.

WARNING   Possibility of equipment damage

> **WARNING**
> **Damage to the backplane connector pins**
> Align the card before you seat it, so that you do not bend
> the backplane connector pins. Use the least possible
> thumb pressure to align the card with the connectors. Use
> the levers on the card to seat the card into the connectors.

CAUTION   Possibility of service interruption or degradation

> **CAUTION**
> **Possible loss of service**
> Do not continue until you confirm that the card to be
> removed is from the inactive unit of the peripheral
> module. Removal of a card from the active unit results in
> loss of subscriber service.

How commands, parameters, and responses appear

Commands, parameters, and responses in step-action procedures conform to
the following standards.

Input prompt (>)

An input prompt (>) indicates that the information that follows is a
command:

>BSY

Commands and fixed parameters

Commands and fixed parameters entered at a MAP terminal appear in
uppercase letters:

>BSY CTRL

Variables

Variables appear in lowercase letters:

>BSY CTRL ctrl_no

You must enter the letters or numbers that the variable represents. The explanation of each variable appears in a list that follows the command string.

Responses

Responses correspond to the MAP display and appear in a different type:

```
FP 3 Busy CTRL 0: Command request has been submitted.
FP 3 Busy CTRL 0: Command passed.
```

The following section from a procedure shows the command syntax that appears in this document:

1   To manually busy the CTRL on the inactive plane, type

>BSY CTRL ctrl_no
and press the Enter key.

where

ctrl_no   is the number of the CTRL (0 or 1)

Example of a MAP response:

```
FP 3 Busy CTRL 0: Command request has been submitted.
FP 3 Busy CTRL 0: Command passed.
```

Introduction

This publication is an introduction document for system maintenance personnel of the DMS-100 Family offices. This publication provides general information about the maintenance system. The publication also describes the basic use of the Maintenance and Administration Position (MAP) terminal.

Purpose

This publication describes:

- the structure of the maintenance system and terminology for the DMS-100 Family.

- sample descriptions of MAP displays and their meanings

- use of the MAP terminal to

    — enter commands

    — display system responses to commands

Application

The information in this document applies to offices that have BASE03 release software. This information also applies to offices that have a software release greater than BASE03, unless Northern Telecom (NT) releases another issue of the document.

A PCL release and Northern Telecom (NT) Product engineering codes (PEC) identify software that applies to each DMS-100 Family office. PLN-8991-104 and the Office Feature Record D-190 describe the software represented by the PCL number and the PEC.

To obtain a display of the PCL number for the office, enter the following commands at a MAP terminal:

> **TABLE OFCSTD**
> **POS BCS_NUMBER**

Once the PCL number has been obtained, exit table OFCSTD by entering the following command at a MAP terminal:

> **QUIT**

To obtain a display of the PEC numbers for the office, enter the following commands at a MAP terminal:

> **TABLE PECINV**
> **LISTALL**

Once the PEC numbers have been obtained, exit table PECINV by entering the following command at a MAP terminal:

> **QUIT**

Command format standards

This publication uses a standard system to illustrate system commands and responses. This publication shows the order in which command elements appear, the punctuation, and the options. The text gives an explanation where the standards are not in use.

CAPITAL letters or special characters	show constants, commands, or keywords that the system accepts when you enter them as written.
lowercase letters	show a user- or system-supplied parameter. Each parameter has a description.
Brackets [ ] or ⎡ ⎤ ⎣ ⎦	enclose optional parameters. A vertical list enclosed in brackets means that you can select one or more of the parameters.

Underlined parameter	is a default. If you do not enter a selection, the system treats the underlined parameter as an entered selection.
Underscore connecting words	means you must treat the words as one item (for example, pm_type or #_one_two).
* * *	indicates repeated steps or items.

In addition, this publication uses the following standards:

n (lowercase n)	is a number from 0 to 9.
a (lowercase a)	is a letter from A to Z.
h (lowercase h)	is a hexadecimal integer from 0 to F.

Maintenance system description

Use the DMS-100 Family Maintenance System to identify faults in the switch and to take action to correct the faults.

The Maintenance System uses a telescoping method to access switch components through a sequence of system levels. The method requires you to enter a series of commands and parameters to locate and treat switch components. The example in Figure 2-1, on page 2-3, depicts use of the telescoping method to access a component.

Subsystems

The maintenance system, described in 297-1001-106, includes a quantity of operational areas, called subsystems. Each subsystem has hardware elements and software resources. Each subsystem is responsible for a node and all links that connect to the peripheral side of the node.

Nodes and Links

A node is a hardware unit that can receive or transmit messages. Examples of nodes are:

- Network Module (NM)

- Peripheral Module (PM)

- Input/Output Controller (IOC)

A link is a communication medium used to pass messages between nodes. A link is often a pair of wires with connectors on each end that interconnects two nodes. For example:

NM junctor	a link that connects one NM to another NM
speech link	a link that connects an NM to a PM

The following are two types of links:

speech links	transmit voice signals and some control signals
message links	transmit only control signals

The system uses references to subsystem elements during maintenance activities to indicate the direction toward:

- The Central Control (or the Message Switch [MS])
- The peripheral module

See Figure 2-2 on page 2-5.

The references are:

C-Side	toward the Central Control (CC) (or the Message Switch [MS])
P-Side	toward the peripheral module (PM)
busy	not accessible

Figure 2-1
Telescoping Process

NOTES: A = Maintenance and Administration systems level
B = Maintenance Subsystems level
C = Subsystem component level
*** indicates telescoping example
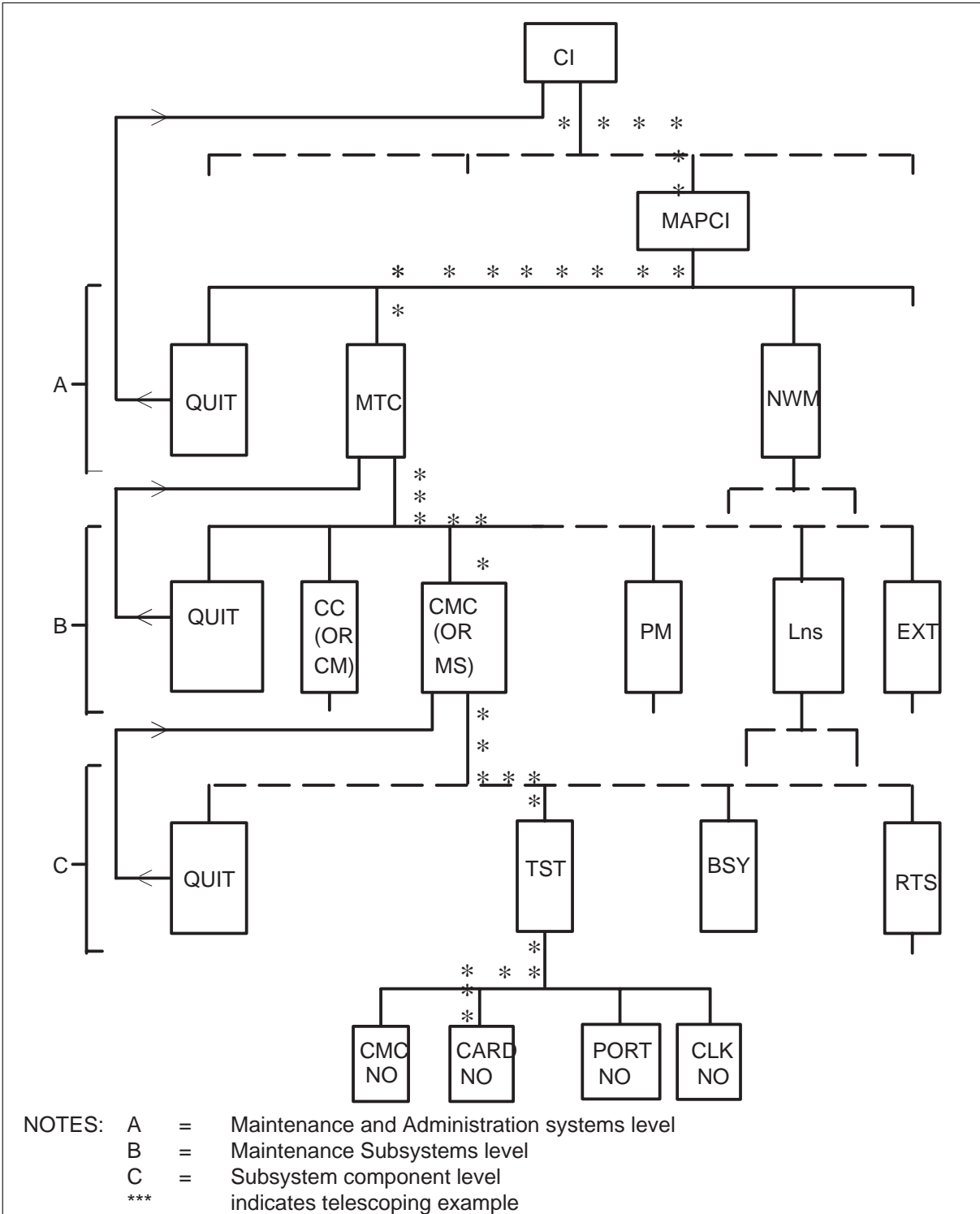
The system provides for maintenance action on a subsystem condition. The system provides tests on the C-Side of the node. The system also provides tests on the C-Side or P-Side of the links of the node. These tests determine if the subsystem has a problem.

Figures 2-3 on page 2-7, and 2-4 on page 2-8 show the design of the subsystems. The figures illustrate how each node and link can relate to the C-side and P-side parts of the system. The C-side of a link interfaces with the P-side of a node. The P-side of a link interfaces with the C-side of a node.

Interlocks

Software interlocks delay maintenance action. The delay prevents isolation of more subsystems until the system confirms the action. The system cannot make a node or link manual busy if the action will stop communications to other P-side nodes. The system can make a node or link manual busy when it receives a YES response to a request for approval. If a test fails, the system has two available options. The system lists the quantity of circuits in the tested nodes and link, or identifies the affected nodes and links. The system denies the action or requests approval.

Status

The system accesses a subsystem for maintenance purposes, and determines the status of its links and node. This procedure allows the system to take correct maintenance action. As a result of maintenance action, the status changes.

The status of a link or node is based on both its state and availability. The state of an element indicates that it exists and that the element is ready to function. The availability of an element indicates how accessible that element is for system processes.

State

The system indicates standard states of nodes or links by one of the following codes:

- or UNEQ   UNEQUIPPED. The node name or link exists, but the element is not specified. For example, space is present in store for an NM, but no links associate with the node.

O or OFFL   OFFLINE. The node exists and is not available for call processing and does not respond to maintenance functions. This state is a temporary state before the an equipped node is set in service. The offline state applies to a limited number of links (for example, DS-1 links).

Figure 2-2
Subsystem Structure
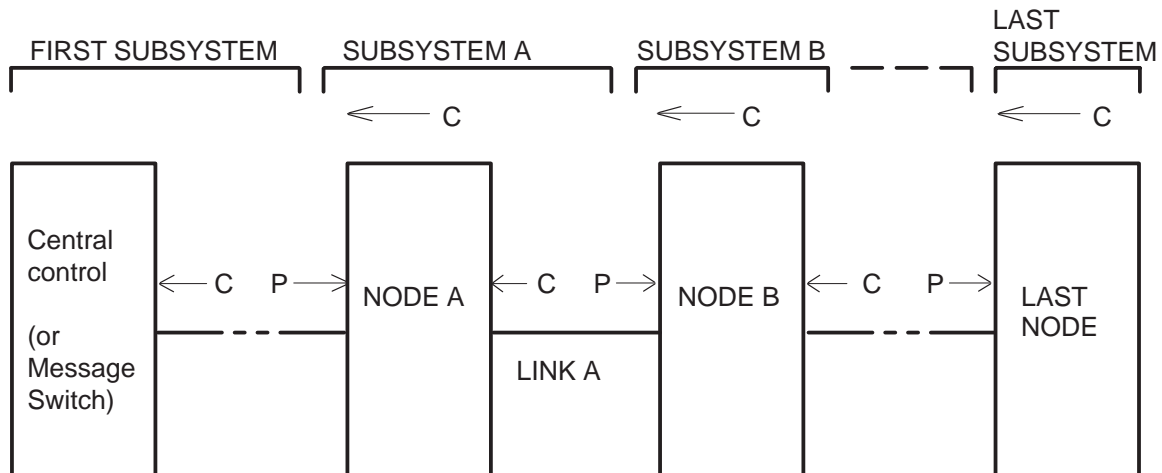
M or ManB	MANUAL BUSY. Manual request through a MAP terminal removes the node or link from service. You can make only manual requests for additional action. An element in this state allows the performance of maintenance functions on an element.
S or SysB	SYSTEM BUSY. System action removes the node or link from normal service because the system detects a fault. You can make requests for additional action (for example, test, return-to-service) system and manual requests for additional action (for example, test, return-to-service).*
* or Insv	NORMAL. The node or link is fully functional and available for call processing.

* Additional states that are exclusive to specific subsystems are in publications that describe the MMI for those subsystems.

Availability

The following codes indicate how available the node elements or link elements are:

*	the node or link is available
C or C-Side	the node or link is not accessible from the C-Side
P or P-Side	the link is not accessible from the P-Side. This indicator does not apply to node elements.

Figure 2-3
System Directional References (for design with a Central Control)

LEGEND

CC	-	Central Control
CMC	-	Central Message Controller
NET	-	Network
PM	-	Peripheral Module
SVC CKT	-	Service Circuit
IOC	-	Input/Output Controller
DC	-	Device Controller
DEV	-	Device
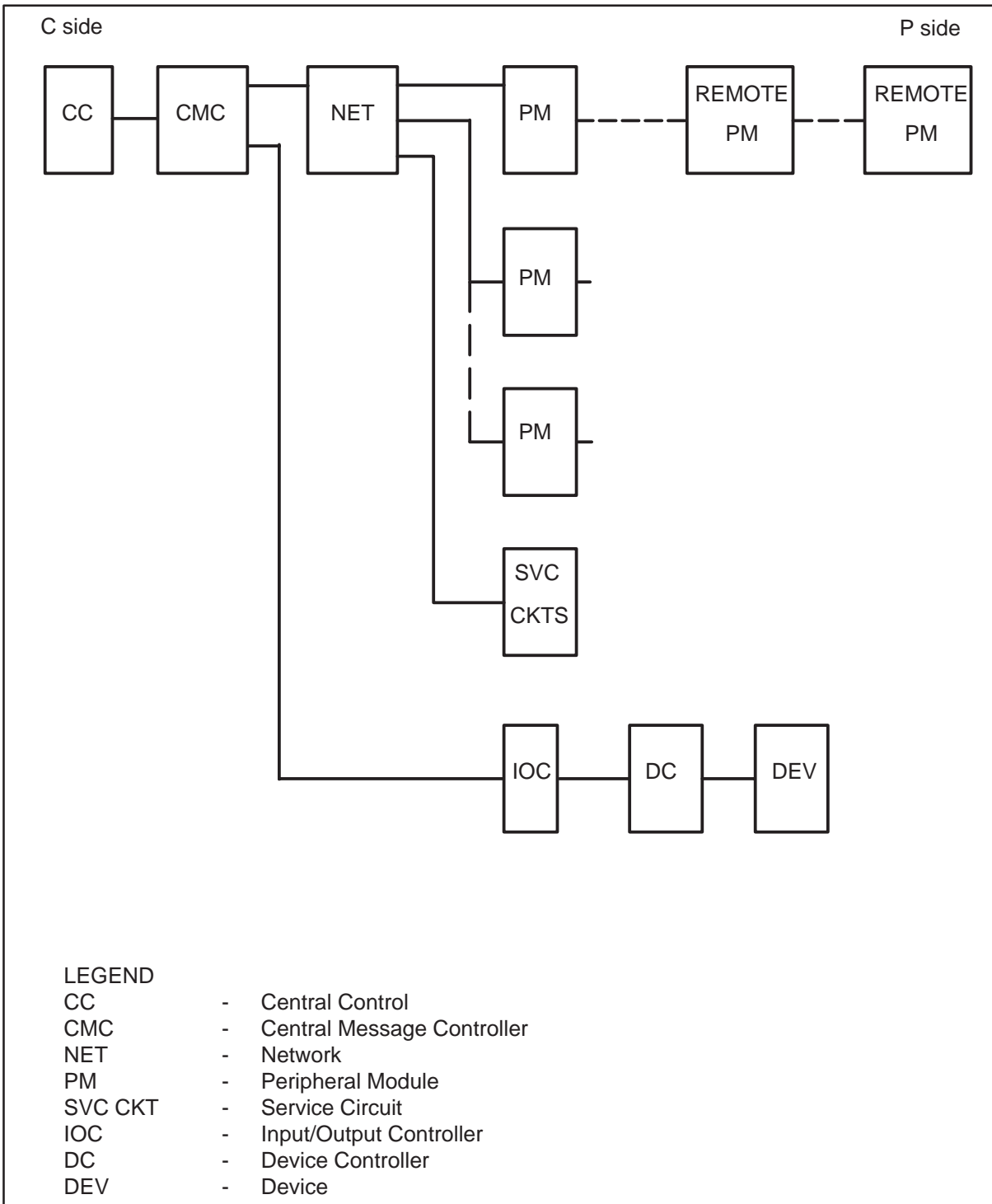
Figure 2-4
System Directional References (for design with a Message Switch)

C side	P side

LEGEND

CM	-	Computing Module
MS	-	Message Switch
NET	-	Network
PM	-	Peripheral Module
SVC CKT	-	Service Circuit
IOC	-	Input/Output Controller
DC	-	Device Controller
DEV	-	Device
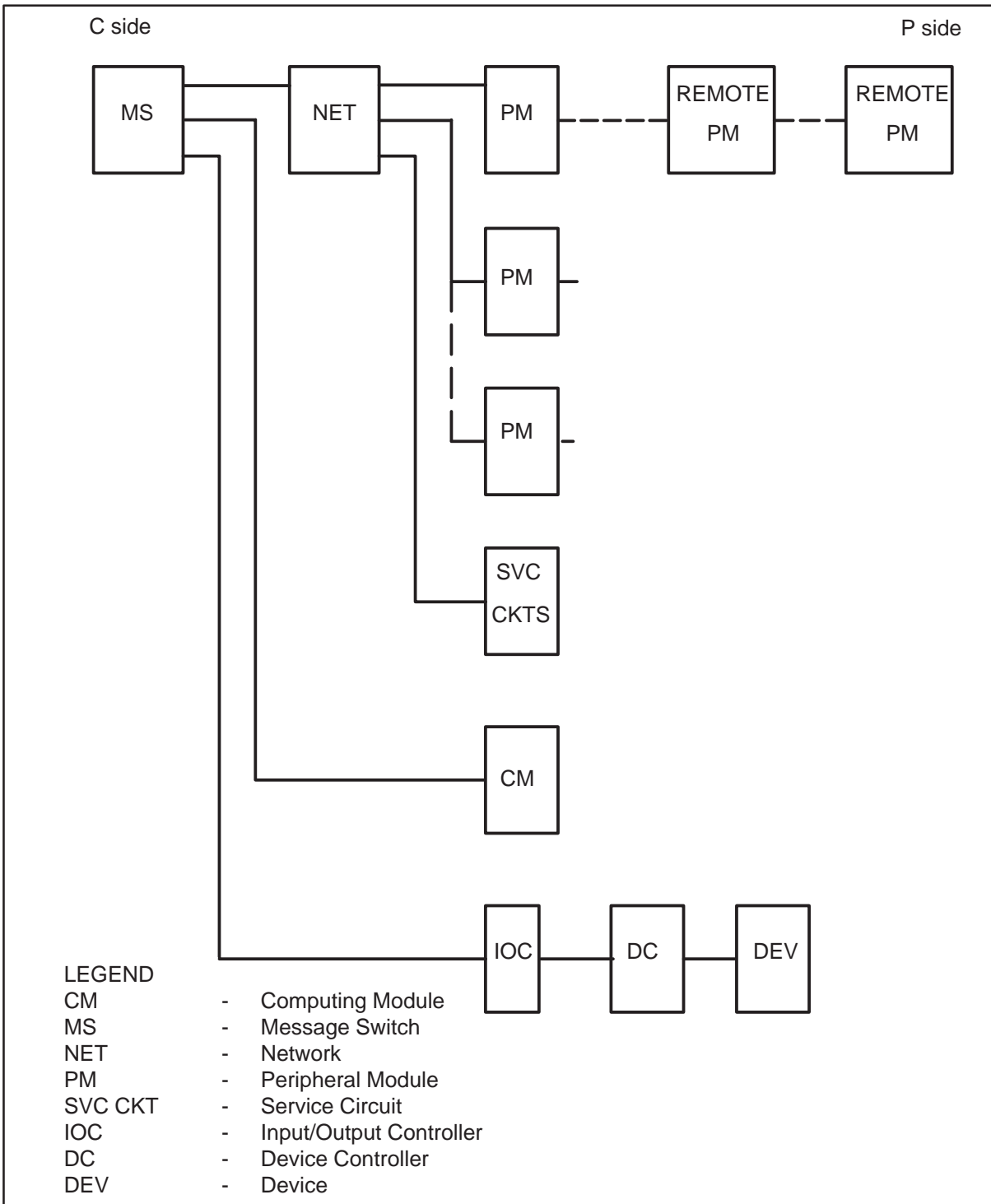
Man-machine interface

The operating company personnel use a man-machine interface (MMI) to perform maintenance. This interface uses the MAP terminal and the software for two-way communication between operating company personnel and the system.

The interface consists of:

- the MAP terminal

- the software required to change information from operating company personnel to information used by a machine, and the reverse.

Input functions are user commands for activities to:

- test equipment

- determine equipment configuration

- request status

- alter equipment status

- display equipment location

Output functions include:

- a menu of input commands for selection

- a display of equipment status

- a display of equipment location

- a display of system results

- a display of user-request results

Offices equipped with NT feature package NTX066AA contain a bilingual man-machine interface (BMMI). The BMMI allows communication with the system in English and another language, subject to availability from NT. The feature interprets commands, key words, and messages in the selected language, and responds in the same language. If the table OFCENG does not specify the default language, the language for the office is English. Refer to NTP 297-1001-129 for more information.

Your definition procedure specifies a command language for that userid. If you do not select a language, the default value is the value table OFCENG specifies. When you log in at a MAP terminal, the system recognizes and responds in the language specified for the userid. You can change the language of communication for the session after you log on. Table C on page 5-3 contains the procedure to change English to French and French to English.

Displays

The hardware and software condition of the system, and the maintenance action and responses, appear at the MAP terminal. Information appears in the form of a basic display or a MAPCI display.

BASIC display

The character string CI: and the character > appear on two lines in the upper left-hand corner of the screen. These characters indicate that the MAP terminal is ready to interact with the command interpreter (CI). These characters indicate that the MAP terminal is ready to analyze entered data and execute acceptable commands. This basic display operates in the scroll mode.

The scroll mode advances each entered line to the next one higher when you enter an additional line. When you enter input for all lines in the display, the display can lose the top line if you enter additional lines. Use the basic display when you apply non-menu commands. Use the basic display when output display areas cannot contain all reported information. For example, activities that involve the Table Editor or Operational Measurements require the greater space that the basic display allows.

MAPCI display

Figure 4-1 on page 4-3 shows the MAPCI display. The MAPCI display is the highest level of the MAP displays. You access the MAPCI display from the basic display level.

The MAPCI display shows the menu of commands that are available to access the maintenance and administration systems. The commands are:

QUIT	(return to last level)
MTC	Maintenance System
SASelect	Service Analysis
NWM	Network Management
CPSys	Call Processing System
IBNMEAS	IBN Measurements
TESTTOOL	Test Queries Utility

The MAPCI NODISP option provides access to MAPCI levels without the MAP display. This command only provides output from the Command Interpreter (CI).

The following areas do not appear:

- the control position
- the system status area
- the display area for the command menu
- userid
- time

Figure 4-1
MMI display at MAPCI level

```
        0       Quit
        2       MTC
        3       SASelect
        4       NWM
        5       CPSys
        6       IBNMEAS
        7
        8
        9       TESTTOOL
       10
       11
       12
       13
       14
       15
       16
       17
       18


       User ID
       Time hhmm >
```
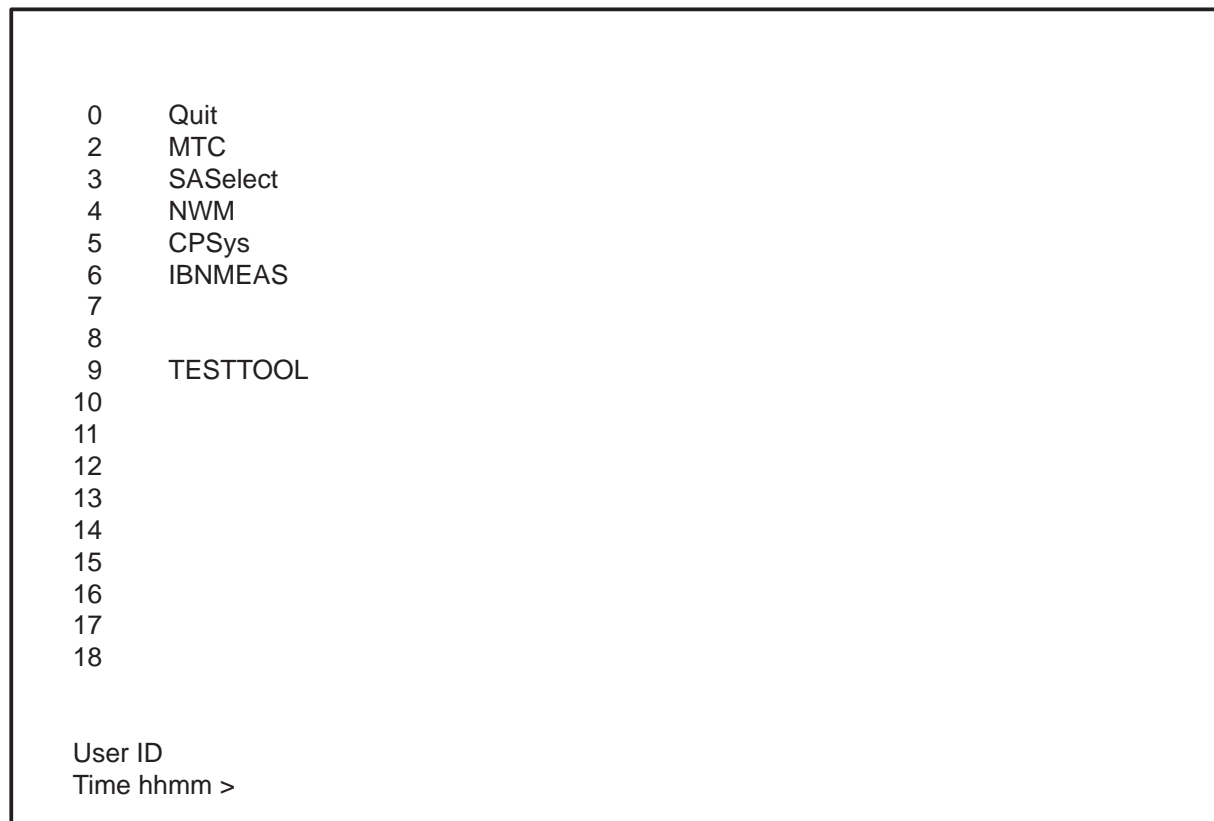
MAP format

The MAP screen area available for system output consists of 24 lines of 80 characters (Figure 4-2 on page 4-5). In the maintenance mode, the screen divides into areas used to display the following types of information:

- System status area (three lines of 80 characters), which displays the alarm and/or operational status of the system. The system updates the system status area display immediately and automatically to show the current status of the system.

- Work area (variable number of lines of 68 characters), which displays:

  — descending levels of subsystem status that automatically update to show current status

  — applied and measured working data (for example, voltage and frequency levels)

- Command menu display area (19 lines of 12 characters), which displays the functions that are available

- The Output area of the command interpreter (variable number of lines of 68 characters), which displays:

  — output of system reports (includes error, action taken, and diagnostic messages) after a user request.

  — system responses to commands that the user enters.

- The Input echo area (one line of 68 characters), which provides an echoed statement of the most current commands that you enter.

- User ID and Time areas (two lines of 12 characters), which provide:

  — identification of the user that logs into the MAP terminal

  — the time of day.

The MAP display contains the "flashing field" feature. The indicators flash to draw the attention of the user to alarm status and other items.

The Work area and the Output area for the command interpreter have a total of 20 lines. The number of lines allocated to each area varies according to the entered command.

If the MAP terminal can display characters at high or low intensity, and has inverse video capability (black characters on white background):

- the MAP terminal displays the menu area in inverse video

- the MAP terminal displays row and column headers at low intensity

Other types of MAP terminals separate the menu area from the work area and the Output area for the command interpreter displays. These MAP terminals separate the areas by means of a column of diagonal lines (/) to the right of the menu area.

Figure 4-2
MAPCI display areas

	System status area
Command menu display area	Work area Output area for the Command interpreter (CI)
User ID	
Time hhmm	Input echo area
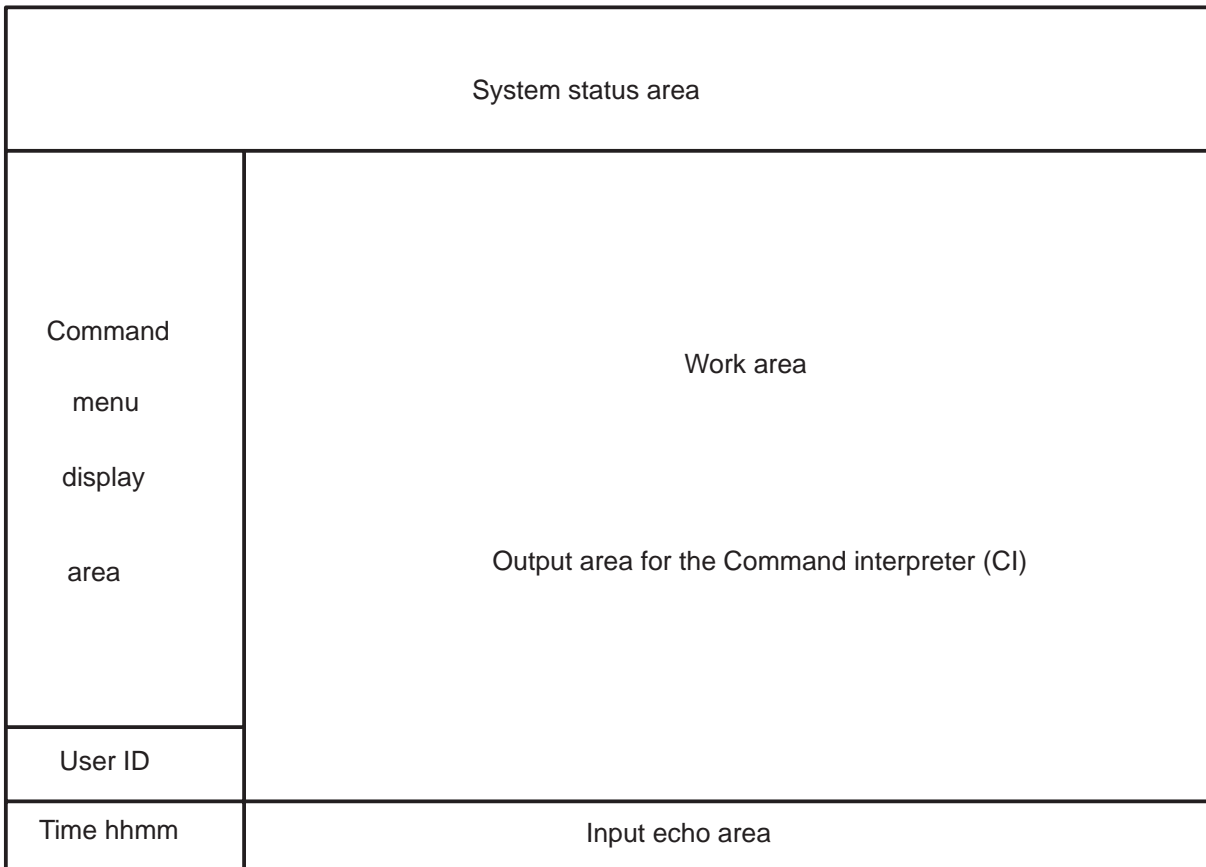
Alarm indicator displays

The system produces audible and visible alarms to signal to maintenance personnel that problems are present. The system classifies faults according to the severity of the problem. The system assigns the faults to one of the critical, major, or minor alarm classes. The operating company determines the time the maintenance personnel need to take action for each alarm class.

When the system finds a failure, the system updates the status area on the screen to indicate the fault. The most important alarm status for each subsystem appears below the subsystem header in the system status area. The alarm status appears in the following codes:

CODE	ALARM CLASS
C	Critical alarm
M	Major alarm
(blank)	Minor alarm if the system displays a system fault. If a fault is not present, an alarm does not occur.

The alarm code flashes when the system finds a failure (if the flashing field feature is available on the MAP terminal). The flashing alarm code stops if

- you enter the silence (SIL) command

- you operate the alarm reset key on the alarm control and display panel (such as NT0X63AA).

The alarm code remains displayed in the steady state until the removal of the cause of the alarm.

If the system reports an additional alarm to the MAP terminal, the correct alarm class code flashes for the fault. When the user enters the SIL command, the alarm code stops flashing.

Order of state and availability display

A node or link can have a state and an availability indicator set to indicate a busy condition. Tables 4-1 (on page 4-7), and 4-2 (on page 4-8) provide the descriptions of the most common indicator displays. The tables also describe the equivalent of the most common indicator displays. Refer to paragraph 5 on page 2-4.

For example, the screen displays a P-side busy condition on a link as a P in the Work Area. Another maintenance action that makes the link manual busy, changes the P indicator on the screen to M.

Table 4-1
Node maintenance indicators and meanings

DISPLAY	INDICATES	MEANS, C-SIDE	NOTES
-	unequipped	not applicable	
O		- normal	
		- busy	
M	manual busy	- normal	3
		- busy	
S	system busy	- normal	2
		- busy	
C	normal	- busy	2,3
*	normal	- normal	

Note 1: The highest value in the order starts at the top (-). The highest value character appears.

Note 2: A node and all the links that connect to the C-Side of the node can be system busy. When the node and links are system busy, the maintenance indicator appears to indicate that the node is system busy. The maintenance indicator appears for a short time. The display changes to C for C-Side busy to indicate that the node is not available.

Note 3: If all message links from the C-Side of a node become system busy, the node becomes system busy. The links also become P-Side busy.

Table 4-2
Link maintenance indicators and meanings

DISPLAY	INDICATES	C-SIDE	P-SIDE	NOTE
-	unequipped	not applicable	not applicable	
O	offline	- normal	- normal	
		- busy	- normal	
		- normal	- busy	
		- busy	- busy	
M	Manual busy	- normal	- normal	
		- busy	- normal	
		- normal	- busy	
		- busy	- busy	
S	System busy	- normal	- normal	
		- busy	- normal	
		- normal	- busy	
C	normal	- busy	- normal	*
		- busy	- busy	
P	normal	- normal	- busy	*
*	normal	- normal	- normal	

Note: The system displays the maintenance indicator S when a link becomes system busy. The display changes to P for P-Side busy. This display indicates that the link is not available from the P-Side of the link.

Maintenance Display

To access the highest level of maintenance system MAP display, enter the command MTC while in the MAPCI level shown in Figure 4-1 (on page 4-3).

The MTC level display includes:

- three horizontal lines of system status information
- a vertical menu of the maintenance subsystems MMI available from the MTC level

The first line of the status display and menu numbers nine through 17 consist of headers for each maintenance subsystem. The headers that appear in the display depend on the configuration of the DMS switch. See Figure 4-3 on page 4-10 and Figure 4-4 on page 4-11.

The maintenance subsystem headers include:

CC	Central Control (Central Control configuration only)
CM	Computing Module (Message Switch configuration only)
CMC	Central Message Controller (Central Control configuration only)
MS	Message Switch (Message Switch configuration only)
IOD	Input/Output Device
Net	Network
PM	Peripheral Modules
CCS	Common Channel Signaling
Lns	Subscriber Lines
Trks	Trunks
Ext	External Alarms
APPL	Applications

Menu items five and six do not represent maintenance subsystems. The menu items indicate special testing and status tools. For this reason, the menu items do not appear across the top of the screen.

Status information for each maintenance subsystem appears on the second line of the MTC display and below the correct header. The displayed information concerns the most important condition in the subsystem at the time. A dot (.) indicates normal status. Letter or number codes for each subsystem indicate faults. The third line contains the alarm status information described in Alarm Indicator Displays on page 4-5.

Maintenance guides that describe human machine interfaces contain more information for each subsystem. The guides contain more information about the format and meaning of fault indicators and alarm status codes.

You can enter menu commands for the maintenance subsystem to test or locate subsystem elements. When you enter these commands, location information appears in the CI area in a standard format for all elements.

Figure 4-3
MMI display at MTC level for configuration with a central control

```
        CC       CMC      IOD      Net      PM       CCS      Lns      Trks     Ext

        .        .        .        .        .        .        .        .        .

        MTC

         0     Quit
         2     Activity
         3
         4
         5     BERP
         6     CPSTATUS
         7
         8
         9     CC
        10     CMC
        11     IOD
        12     Net
        13     PM
        14     CCS
        15     Lns
        16     Trks
        17     Ext
        18


        User ID
        Time hhmm >
```

Figure 4-4
MMI display At MTC level for configuration with a message switch

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


  MTC

   0      Quit
   2      Activity
   3      MTCNA
   4      SRSTATUS
   5      BERP
   6      CPSTATUS
   7
   8
   9      CM
  10      MS
  11      IOD
  12      Net
  13      PM
  14      CCS
  15      Lns
  16      Trks
  17      Ext
  18      APPL


  User ID
  Time hhmm >
```

MAP terminal use

This publication describes the entry of commands, based on the video display unit for a DEC VT-100. Some differences in identification of keyboard keys apply to other types of terminals.

Note: DEC VT-100 is a trademark of Digital Equipment Corporation.

The carriage return key

Many terminals contain the carriage return (CR) key with different identities (for example ENTER, RETURN, CARRIAGE RETURN). The CR key allows you to enter commands and parameters into the system. Type the information into the input echo area and edit the information when required. You can enter the commands and parameters into the system with the CR key.

If you press the CR key twice, and do not type additional input between the operations, the version of software used appears. The display appears in the output area for the command interpreter. The software version consists of:

- the number of the NT Purchase Order (PO)

- office location

- software release number

- software production status

- release date (yymmdd)

An example of a response is:

F35681 O'CONNOR TOLL BCS-14 RTM 840323

Where:

DISPLAY	DESCRIPTION
F35681	NT PO number
O'Connor Toll	office location
BCS-14	software release number
RTM	software production status "Ready to Manufacture"
840323	release date March 23, 1984

The cursor

The cursor is a short line, or a small rectangle, that appears on the screen. When you type a keystroke character, the character appears above the line or in the rectangle. The cursor moves a space to the right to prepare for the next character. When you press the CR key, the cursor returns to the start of the line to prepare for additional characters.

The cursor can change from a line to a rectangle (or the reverse). The cursor can change from a steady state to a flashing state (or the reverse). The manual of the terminal manufacturer explains how to make these changes.

How to log in at the MAP terminal

You must perform a login procedure to use a MAP terminal. To maintain the security of the system, the procedure limits access to operating company personnel with authorization.

Login procedures can vary for different types of terminals. Login procedures depend on the active security features. The following example provides a sequence of login actions and responses for a general purpose terminal:

ACTION	RESPONSE
press the BREAK key	– terminal beeps
type LOGIN	– screen displays the command LOGIN
press the CR key	– screen displays a request for user name and password
enter user name and password	– screen displays CI: and > on two consecutive lines of a blank screen.

When you complete the login procedure, CI: and > appear.

To maintain system security, operating company personnel with the correct authorization level can change user names and passwords known to the system. See 297-1001-129.

Communication language

The language of communication between the terminal and the system associates with the user name. You can change the language to another language prescribed for the machine. Table 5.1 contains the procedures to change from English to French, and from French to English.

When the office does not have feature package NTX066AA and you attempt to change the MAP language, the following response appears:

LANGUAGE LOADED IS ENGLISH

Table 5-1
Procedure to change MAP language

Language change	Enter	Response
English to French	BMMI	BMMI:
	ISPEAK FRENCH	IMMB: MAINTENANT LA LANGUE FRANCAISE EST UTILISEE
	LAISSER	(The system responds in French to French commands)
French to English	IMMB	IMMB:
	JEPARLE ANGLAIS	BMMI: YOU ARE NOW SPEAKING ENGLISH
	LEAVE	(The system responds in English to English commands)

Locked keyboard

During system activity, the terminal beeps in response to additional inputs when a function that you requested earlier is not complete. The beep indicates a keyboard lock until the activity is complete. During the period that the keyboard locks, the system ignores all keystroke information.

When the system reloads, the keyboard locks until the reload process is complete. At that time, the users at all MAP terminals must perform the login procedure. The main maintenance position, the OPERATOR position, is an exception. The ID area of the display identifies the MAP terminal as the OPERATOR position..

Response messages

Responses to commands originate in the system and in the maintenance subsystems. The command interpreter interprets and handles the responses.

After a requested function is complete, the function response appears in the output area of the command interpreter. If the function response appears, the prompt symbol (>) appears in the input echo area. If the function is not complete, the reason for the failure appears in the output area of the command interpreter. The system issues a fault report to identify the source of the failure.

If a terminal starts to output (for example, a MAP display update) while you are typing, you can continue to type. The characters will not appear in the input echo area of the display until the terminal output is complete.

The response "MORE..."

The amount of response output to a command can exceed the capacity of the CI display area of the MAP terminal. The response MORE... appears at the bottom line of the screen. The response MORE... can appear at the bottom line of the CI output area when you are in the MAPCI mode. If you press the CR key, the next full screen of response data replaces the current display. Additional output appears each time you press the CR key. Output appears until the absence of the response MORE... identifies the last display.

The response MORE... also appears at the bottom line of the CI output area of the MAPCI and subtending menus. The response MORE... occurs when prompts appear for missing parameters. The response does not continue when you enter the missing parameter or the command ABORT. The MORE... display remains until you enter a valid input. The MORE... display will not time out.

You do not have to press the BREAK key before you type any of the BREAK commands in response to the MORE... display.

Command menu description

Codes that represent acceptable commands and parameters appear in the menu area. A code has a one- or two-digit menu number that is different from other codes. The number appears to the left of the code. A total of 18 menu numbers are available for each subsystem. All menu numbers appear. When a command or parameter does not have a menu number, the number appears alone. You cannot use this number.

Command and parameter codes are abbreviations of one or more words that describe the function. In the menu, the first letter of each word appears in uppercase. Additional letters in the word appear in lowercase. For example, the abbreviation of the command TEST appears as Tst. The abbreviation of the command to replace spare equipment appears as SpRepl. The abbreviation of the Return To Service function appears as RTS.

Commands and parameters in the menu include the underscore character (_) to indicate the following conditions for their use:

Tst_   a command that requires a parameter

_Spare   a parameter

Card   a parameter that requires another parameter

Sync   a command that does not require a parameter

Quit   a command that accepts a non-menu parameter (for example: ALL). The command does not require this parameter.

How to enter commands

To enter the commands:

- type the menu number and press the CR key, or
- type the command code characters without regard to uppercase or lowercase format. Press the CR key. Do not type underscore characters.

If the command requires a parameter, and the parameter code appears in the menu, you can enter the parameter. You can enter the parameter by menu number or parameter code. If you enter the command menu number, you can enter the parameter menu number. If you enter the command code, you must enter the parameter code. When you reply to a prompt for parameters, the first keystroke character must be a space. The required parameter must follow the space.

The following are some examples of command entry requirements that illustrate these rules. These examples originate from CMC subsystem menu items 6 (Tst_) and 10 (_Card_):

**Correct
Entries**

610

6CARD

6 CARD

TST CARD

Wrong Entries

* 6 10	menu number entered after a character that is not
TST 10	a number (for example, a space)
* TST__CARD_	underscores that appear in the menu are entered

When you enter wrong characters or spacing, the system interprets these items as commands that do not exist. Commands that do not exist cause the text NO SUCH COMMAND to appear in the output area of the command interpreter.

You can enter non-menu parameters after a menu command or parameter. If you enter only menu numbers, you can enter the first parameter after the last menu number. You can enter the first parameter with or without an intervening space. If you entered the command or parameter code, you must type a space before the non-menu parameter. The following are some examples that illustrate these rules. These examples originate from CMC subsystem menu items 0 (Quit), 6 (Tst) and 10 (_Card_):

Correct Entries

* 6100 2	test card 2 of CMC 0
610 0 2	
TST CARD 0 2	

* 0ALL	exit from maintenance system MMI
0 ALL	
QUIT ALL	

Wrong Entries

* TST CARD0 2	there is no space before the first non-menu
6CARD0 2	parameter (0 in these examples) when you type
	the command or parameter code.

More than one command entry

A semicolon (;) separates each command in a series of commands. You can type and enter a series of commands with one CR operation. The series is a string, or chain, of commands. You can use the series in a subsystem and also to move to other subsystems. Command strings contain letters, numbers, and punctuation symbols (including spaces), or a group of them. For the MAP terminal, you can type the menu item number for the first command and the parameter. You can then type in full the commands and parameters that remain. When you use a line-at-a-time device (for example, a teleprinter), you must type all command and parameter codes in full. When you type a letter or symbol, you cannot use menu numbers in the remainder of the command string.

An example of a command string entry from the CMC subsystem is:

CC;PS 0;TST CONT 1; CMC

In this example the following series of actions occurs:

- you access the CC subsystem

- you access the PS level of side 0 of the CC subsystem

- you test the controller of PS1

- you access the CMC subsystem again

Commands from other menus

You can enter commands and parameters from menus other than the menu that appears. The following are conditions that allow you to enter the commands and parameters:

- the commands and parameters are in higher level menus than the menu that appears

- you type the commands and parameter codes in full

- the command code does not appear in the menu displayed. If the command code appears, you invoke the command code at the level displayed.

For example, you can access the CMC maintenance subsystem from the PS level of the CC subsystem. To access the CMC subsystem, you enter the MTC menu command CMC.

How to edit input lines

You can edit entered and displayed commands and parameters in the input echo area. You can edit these commands and parameters before you press the CR key. The edit function includes:

- the deletion of characters and lines
- the addition of characters and lines
- change in the horizontal position of the cursor.

The edit function requires terminal controller firmware in the NT1X67BC circuit card. To determine the installed version of the terminal controller firmware, you press the BREAK key. You then type VERSION and press the CR key. Refer to paragraph 3 on page 5-10.

Line commands that edit

CONTROL + (KEY)	F U E I X

The command edits the line before you enter the line.

Where:

F	moves the cursor one position to the right
U	deletes the complete line of keystroke characters
E	deletes all keystroke characters from the cursor position to the end of the line
I	puts the terminal in the mode to insert the next characters into the line. As you type each inserted character, the character at the cursor position moves one position to the right. All characters to the right of the cursor position also move one position to the right.
X	exits from the character insert mode.

Responses: The display for the input echo area changes according to the edit functions that are used. The display changes before you enter the information.

Note 1: The plus symbol (+) indicates that you must press and hold the control key until the edit function selected activates. If you release the control key before the function activates, the next series of the characters overwrites the characters that appear at the cursor position in the input echo area.

Note 2: Each attempt to insert a character when the cursor is at the end of the line causes the terminal to beep.

Note 3: As you insert characters, characters to the right of the cursor move to the right again.

Note 4: To exit the character insert mode, release the CONTROL and letter keys. Characters that you type next replace characters at the cursor position.

Note 5: If no characters exist from the cursor to the end of the line, character deletion attempts cause the terminal to beep.

Note 6: When the cursor is at the end of the keystroke line, the terminal beeps if you press CONTROL KEY+F in an attempt to move the cursor to the right.

?	

This recall command causes one of the last three lines that you entered to appear again.

Responses:

— The line appears in the input echo area.

— The question mark character (?) appears in the CI output area.

Note 1: The character (?) must be in the first position in the input echo area to correct.

Note 2: Press the CR key to display the line that appeared again.

Note 3: The last line that you entered is the first line that appears again.

Note 4: An immediate repeat of steps in notes 1 and 2 causes the second to last line entered to appear again.

Note 5: If you repeat steps 1 and 2, the system causes the third to last line entered to appear again.

Note 6: When you enter additional recall commands, the lines mentioned in notes 3, 4 and 5 appear in sequence.

Note 7: All characters in the input echo area appear in the command interpreter area when you enter the recall command.

Note 8: To exit from recall, enter CTRL + U.

BACK SPACE (KEY)	

This command moves the cursor to the left.

Responses: The cursor that appears in the input echo area moves one position to the left.

Note 1: The BACKSPACE key is BACK SPACE or <—

Note 2: Each operation of the BACKSPACE key moves the cursor one position to the left.

Note 3: The cursor repeats a move to the left when you hold the BACKSPACE key down. This operation only occurs if the terminal has an automatic repeat feature.

Note 4: When the cursor is in the left-most position, a backspace attempt causes the terminal to beep.

DELETE (KEY)	

This command deletes an acceptable character.

Responses: The acceptable character at the cursor position disappears from the display of the input echo area.

Note: The cursor can be in a position where a character does not appear (space). When the cursor is in this position, an attempt to delete causes the terminal to beep.

How to change output displays

You can start and stop MAP command processes. You can change the display of system outputs. To complete these procedures, press the BREAK key before the entry of command codes.

The following is a list of codes and a description of their use.

BREAK (key)	HT RT STOP HX HXX CLEAR LED LEE VERSION

This command changes the MAP processes.

Where:

HT   (Halt Typing) stops the display of continuous responses to invoked commands.

RT   (Resume Typing) resumes the display of continuous responses to invoked commands (exit from Halt Typing mode).

STOP   clears the screen and exits to the CI: level

HX   another name for STOP

HXX   another name for STOP

CLEAR   clears the screen and stops the display of menus and headers during input and output activities. This command maintains the accessed level.

LEE   activates functions that edit lines.

LED   stops functions that edit lines.

VERSION   displays the version number of the terminal controller firmware.

Responses: The following are responses to the codes that you enter.

Code	Response
HT	output displays in the CI area stop
RT	output displays in the CI area resume
STOP	all screen displays clear and CI: > appears in the upper left corner of the screen
HX	the same as STOP
HXX	the same as STOP
CLEAR	input and output displays in all areas continue without headers or menus
LEE	you can edit line displays in the input echo area (see paragraph 4 on page 5-9)
LED	you cannot edit line displays in the input echo area (see paragraph 4 on page 5-9)
VERSION	the terminal uses the version number of the terminal controller firmware that appears in the CI area. For example, VERSION = 1

Note 1: The terminal beeps when you press the BREAK key.

Note 2: The code HT stops the display of responses to processes. HT starts with the response when you enter the code. HT does not affect the operation or responses in any other way.

Note 3: The code RT resumes the display of operation responses. RT starts with the response when you enter the code. RT does not affect the operation or responses in any other way.

Note 4: The codes HX and HXX function in the same way as STOP.

Note 5: When you enter the STOP command, an eight to ten second delay occurs. The delay occurs before the screen returns to the CI: display.

Note 6: You cannot use menu numbers when the terminal is in CLEAR mode.

Note 7: The exit for CLEAR is QUIT ALL. This command returns the screen to CI:. The system accepts only typed commands.

Note 8: Functions that edit lines are in active mode by default.

Command information

Information for online commands is available. This information describes the function of the command and indicates the parameters that you can enter. A description of how to access this information is in Non-Menu Command Q on page 5-14. The syntax that appears for the parameters uses the following symbols:

< >	angle brackets enclose a required parameter
[ ]	square brackets enclose one or more optional parameters
{ }	braces enclose a list of one or more parameter values, or a description of a parameter.

A parameter value is that text that you must type, not the words in < > or [ ]. A parameter description is often a range of numeric values. You must type one of the numeric values.

The following example shows the meaning of a command syntax description that appears on a MAP display:

ALMSTAT

Parms:	[<Alarm condition>	{D,
		F,
		S,
		N,
		PSPD}
	<Minor alarm threshold>	{0 to 32767}
	<Major alarm threshold>	{0 to 32767}
	<Critical alarm threshold>	{0 to 32767}]

In this example, you can enter one of the alarm condition parameters (D, F, S, N, PSPD) to change the alarm thresholds. You can then set the required threshold parameter for a minor alarm between the range of parameter values from 0 to 32767. The major alarm threshold and the critical alarm threshold are set between 0 and 32767.

Prompts for parameters not present

Many commands require the entry of parameters. The system prompts you to enter the missing or wrong parameters. To enter these parameters, the system displays the following information in the output area for the command interpreter. Work with the symbols in paragraph 1 on page 5-12:

- the name of the missing parameter

- a syntax statement that includes:

    — the exact spelling (optional)

    — the acceptable range of values.

An example of a sequence of prompts for missing parameters is:

ENTRY	**PROMPT**	
MAPCI;MTC;CC;DS	ENTER:	:CC NUMBER>
0	Wrong type:	:CC NUMBER>{0 to 1}
	Enter:	:CC NUMBER>
(space)0	There are no additional prompts	

Note 1: Capital letters indicate the characters that you enter.

Note 2: The system continues to prompt you to supply the missing parameters until the information arrives. The system can prompt you until you enter the command ABORT.

Note 3: A space is necessary before a prompted parameter 0 (zero).

Approval request

Some commands require additional action from you before the system can perform the commands. A message appears in the CI output area of the MAP display. This message describes the result of the command performance. The message requests confirmation of purpose to proceed. The message is: Please confirm (YES or NO). A YES entry performs the command. A NO entry cancels the command and clears the CI area of the screen. Confirmation requests repeat until you enter YES, NO or ABORT. ABORT responds in the same way as NO.

Non-menu commands

Non-menu commands are available at any level in every maintenance subsystem at all times. Some non-menu commands belong to only one or more subsystems. You can use CI commands at any level. Non-menu

commands do not appear on a menu. You must type the commands in full. Most of the commands are not in use in day-to-day system maintenance activities. This publication does not describe these commands. The following paragraphs describe the exceptions:

Non-menu commands in general use

SIL	

This command silences the audible alarm.

Responses: Flashing alarm indicators can appear in the system status area. These alarm indicators stop and remain in the steady state. The audible alarm stops.

Note 1: To silence additional alarms that appear after the SIL command, enter the SIL command again.

Note 2: Operation of the non-locking alarm reset key on the alarm control and display panel achieves the same result as entry of the SIL command.

Q	command

This command queries the function and format of any command.

Where:

command   the command is at the accessed level or a higher level.

Responses:

A description of the command and the syntax of the command appears in the CI output area of the MAP display.

Explanation: The information that appears on the MAP display explains the purpose of the command. The information also lists the required and optional parameters.

NO COMMAND IN LINE

Explanation: This response appears if one of the following events occurs:

- you query a menu number
- you query a command that is not in the accessed level or an earlier level

- you query a command that is not spelled correctly

Action:

- you type the command in full, not the menu number that you queried.
- you access the level that contains the command that you queried.
- you correct the spelling of the queried command.

Note 1: You cannot query commands with a function or format that belongs to only one maintenance subsystem when you are outside the subsystem.

Note 2: A space is necessary between Q and the command that you queried.

Note 3: You cannot query "Q". Q is not a command. Q is a parameter entered in front of the specified command.

Note 4: When you type a command, the system checks if you type something "in front of" the command. If you type Q or any string of characters, the system does not perform the command. A brief description of the command and syntax appears instead.

Example:

When you enter Q RTS in the CC subsystem, the output in the CI output area is:

RTS_ — RETURN TO SERVICE CC LINKS

PARMS: <_LINK_> {LINK CMC NUMBER} {0 to 1}}

ABORT	

This command stops a command that you entered earlier with parameters that were not complete or were wrong.

Responses: The CI output area of the MAP screen clears. ABORT appears.

Note 1: ABORT is correct only in response to a request for parameters or a confirmation request.

Note 2: The system repeats the request for the entry of missing or wrong parameters that are not optional. The system repeats this request until you supply the information or until you enter ABORT.

MAPCI	[NODISP]

This command places the VDU in the MAP terminal mode of operation.

Where:

NODISP provides access to the NODISP mode. See section 4, page 4-1.

Responses: The MAP screen shows available systems in the menu area. Refer to figure 4-1 on page 4-3.

Note: You can only enter the MAPCI command after the LOGIN or QUIT ALL command.

MAPCI menu commands

MAPCI is the highest level of MAP commands. Use MAPCI to obtain access to the available maintenance and administration menu of commands. The following paragraphs describe these commands. Figure 4-15 on page 4-3 shows these commands.

MTC	

This command accesses the maintenance subsystem.

Responses: The MAP terminal shows the status of the system in the top three lines of the screen. In the menu area, the MAP screen also shows the subsystems that you can access.

Note: You can enter item 2 in the MAPCI menu, in place of the command MTC.

SASelect	

This command requests the status display and menu for service analysis.

Responses: The SASelect menu display replaces the MAPCI menu display. Service analysis headers and data appear in the CI output area.

Note 1: You can enter item 3 in the MAPCI menu instead of the command SASelect.

Note 2: A description of service analysis appears in 297-1001-471.

NWM	

This command requests the status display and menu for network management.

Responses: The NWM menu display replaces the MAPCI menu display. NWM headers and data appear in the CI output area.

Note 1: You can enter item 4 in the MAPCI menu in place of the command NWM.

Note 2: A description of NWM MMI appears in 297-1001-453.

CPSys	

This command requests the status display and menu for the call processing system.

Responses: The display for the call processing system menu replaces the MAPCI menu display. Call processing headers and data appear in the CI output area.

Note 1: You can enter item 5 in the MAPCI menu in place of the command CPSys.

Note 2: A description of the CPSys MMI appears in 297-1001-519.

IBNMEAS	

This command requests the status display and menu for measurements of the integrated business network.

Responses: The IBNMEAS menu display replaces the MAPCI menu display. IBN headers and data appear in the CI output area.

Note 1: You can enter item 6 in the MAPCI menu in place of the command IBNMEAS.

Note 2: A description of the IBNMEAS MMI appears in 297-1001-320.

TESTTOOL	

This command requests the status display and menu for network testing tools.

Responses: The TESTTOOL menu display replaces the MAPCI menu display. Testtool headers and data appear in the CI output area.

Note 1: You can enter item 9 in the MAPCI menu in place of the command TESTTOOL.

Note 2: A description of the TESTTOOL MMI appears in 297-1001-320.

MTC menu commands

MTC is the highest level of maintenance commands. Use MTC to obtain access to the available maintenance subsystem menu of commands. The following paragraphs describe the commands.

QUIT	$\begin{bmatrix} \text{ALL} \\ \text{PM} \\ \text{N} \\ 1 \end{bmatrix}$

This command retreats from the current maintenance level to a higher level.

Where:

ALL	achieves direct exit from any MAP level to CI.
PM	returns the display from any PM level to the MTC level.
n	is a specified number of retreat levels from the current level. The range of values is 1 to 5.
1	achieves retreat to the next higher level, and is the default parameter value.

Responses: The display of the level to retreat replaces the MAP display of the current level.

Note 1: You can enter item 0 in any of the menus in place of the command QUIT.

Note 2: The name of the level moved up appears before the replacement of the current level display. The name of the level moved up appears in the CI output area under the command that you entered.

ACTIVITY	

This command requests the status display and menu for switch activity.

Responses: The activity menu display replaces the MTC menu display. Switch activity headers and data appear in the CI output area.

Note 1: You can enter item 2 in the MTC menu in place of the command ACTIVITY.

Note 2: The system status display remains and continues to update.

MTCNA	

This command requests the status display and menu for MTC network analysis.

Responses: The MTCNA menu display replaces the MTC menu. MTCNA network analysis headers and data appear in the CI output area.

Note 1: You can enter item 3 in the MTC menu in place of the command MTCNA.

Note 2: The system status display remains and continues to update.

SRSTATUS	

The menu display of the system recovery status (SRSTATUS) replaces the MTC menu display. System recovery statistics appear in the CI output area of the display. The command input prompt :SRSTATUS appears after the system recovery statistics.

Note 1: You can enter item 4 in the MTC menu in place of the command SRSTATUS.

Note 2: The system status display remains and continues to update.

Note 3: A description of the SRSTATUS MMI appears in 297-1001-545.

BERP	

The menu display of the bit error rate performance (BERP) replaces the MTC menu display. Statistics for bit error rate appear in the CI output area of the display. The command input prompt :BERP appears after the statistics.

Note 1: You can enter item 5 in the MTC menu in place of the command BERP.

Note 2: The system status display remains and continues to update.

CPSTATUS	

The menu display of the call processing status (CPSTATUS) replaces the MTC menu display. Call processing statistics appear in the CI output area of the display. The command input prompt :CPSTATUS appears after the call processing statistics.

Note 1: You can enter item 6 in the MTC menu in place of the command CPSTATUS.

Note 2: The system status display remains and continues to update.

CC	

This command requests the status display and menu for central control maintenance.

The CC command is only for the CC/CMC configuration.

Responses: The CC menu display replaces the MTC menu display. CC headers and data appear in the CI output area.

Note 1: You can enter item 9 in the MTC menu in place of the command CC.

Note 2: The system status display remains and continues to update.

Note 3: A description of the CC MMI appears in 297-1001-511.

Note 4: A DMS switch can contain:

- a central control and a central message controller (CC/CMC) or

- a message switch and a computing module (MS/CM)

CM	

This command requests the status display and menu for computing module maintenance.

Responses: The CM menu display replaces the MTC menu display. CM headers and data appear in the CI output area.

Note 1: You can enter item 9 in the MTC menu in place of the command CM.

Note 2: The system status display remains and continues to update.

Note 3: A description of the CM MMI appears in 297-1001-529.

Note 4: A DMS switch can contain:

- a central control and a central message controller (CC/CMC) or

- a message switch and a computing module (MS/CM)

The CM command is only for the MS/CM configuration.

CMC	

This command requests the status display and menu for maintenance of the central message controller.

Responses: The CMC menu display replaces the MTC menu display. CMC headers and data appear in the CI output area.

Note 1: You can enter item 10 in the MTC menu in place of the command CMC.

Note 2: The system status display remains and continues to update.

Note 3: A description of the CMC MMI appears in 297-1001-512.

Note 4: A DMS switch can contain:

- a central control and a central message controller (CC/CMC) or

- a message switch and a computing module (MS/CM)

MS	

This command requests the status display and menu for message switch maintenance.

Responses: The MS menu display replaces the MTC menu display. MS headers and data appear in the CI output area.

Note 1: You can enter item 10 in the MTC menu in place of the command MS.

Note 2: The system status display remains and continues to update.

Note 3: A description of the MS MMI appears in 297-5001-549.

Note 4: A DMS switch can contain:

- a central control and a central message controller (CC/CMC), or

- a message switch and a computing module (MS/CM)

The MS command is only for the MS/CM configuration.

IOD	

This command requests the status display and menu for maintenance of input/output devices.

Responses: The IOD menu display replaces the MTC menu display. IOD headers and data appear in the CI output area.

Note 1: You can enter item 11 in the MTC menu in place of the command IOD.

Note 2: The system status display remains and continues to update.

Note 3: A description of the IOD MMI appears in 297-1001-590.

NET	

This command requests the status display and menu for network maintenance.

Responses: The NET menu display replaces the MTC menu display. NET headers and data appear in the CI output area.

Note 1: You can enter item 12 in the MTC menu in place of the command NET.

Note 2: The system status display remains and continues to update.

Note 3: A description of the NET MMI appears in 297-1001-591.

PM	

This command requests the status display and menu for peripheral module maintenance.

Responses: The PM menu display replaces the MTC menu display. PM headers and data appear in the CI output area.

Note 1: You can enter item 13 in the MTC menu in place of the command PM.

Note 2: The system status display remains and continues to update.

Note 3: A description of PM MMI appears in 297-1001-592.

CCS	

This command requests the status display and menu for maintenance of common channel signaling.

Responses: The CCS menu display replaces the MTC menu display. CCS headers and data appear in the CI output area.

Note 1: You can enter item 14 in the MTC menu in place of the command CCS.

Note 2: The system status display remains and continues to update.

Note 3: A description of the CCS MMI appears in 297-1001-531.

LNS	

This command requests the status display and menu for lines maintenance.

Responses: The LNS menu display replaces the MTC menu display. LNS headers and data appear in the CI output area.

Note 1: You can enter item 15 in the MTC menu in place of the command LNS.

Note 2: The system status display remains and continues to update.

Note 3: A description of LNS MMI appears in 297-1101-594.

TRKS	

This command requests the status display and menu for trunk maintenance.

Responses: The TRKS menu display replaces the MTC menu display. TRKS headers and data appear in the CI output area.

Note 1: You can enter item 16 in the MTC menu in place of the command TRKS.

Note 2: The system status display remains and continues to update.

Note 3: A description of TRKS MMI appears in 297-1001-595.

EXT	

This command requests the status display and menu for external alarms maintenance.

Responses: The EXT menu display replaces the MTC menu. EXT alarm headers and data appear in the CI output area.

Note 1: You can enter item 17 in the MTC menu in place of the command EXT.

Note 2: The system status display remains and continues to update.

Note 3: A description of EXT MMI appears in 297-1001-593.

APPL	

This command requests the status display and menu for maintenance application software.

Responses: The APPL menu display replaces the MTC menu. APPL headers and data appear in the CI output area.

Note 1: You can enter item 18 in the MTC menu in place of the command EXT.

Note 2: The system status display remains and continues to update.

List of Terms

APPL	Applications
BCS	Batch change supplement
BERP	Bit error rate performance
BMMI	Bilingual man-machine interface
CC	Central control
CCS	Common channel signalling
CI	Command interpreter
CM	Computing module
CMC	Central message controller
CPSTATUS	Call processing status
CPU	Central processing unit
CR	Carriage return
DS	Data store
IOC	Input output controller
IOD	Input output device
MAP	Maintenance and administration position
MMI	Man-machine interface
MS	Message switch
MTC	Maintenance
NET	Network
NT	Northern Telecom, Nortel
NTP	Northern Telecom publication

NM	Network module
PEC	Product engineering code
PCL	Product computing module load
PM	Peripheral module
PO	Purchase order
RTM	Ready to manufacture
TC	Terminal controller
VDU	Visual display unit

DMS-100 Family

Maintenance System
Man–Machine Interface

Description

Information is subject to change without notice. Northern
Telecom reserves the right to make changes in design or
components as progress in engineering and manufacturing
may warrant.This equipment has been tested and found to
comply with the limits for a Class A digital device pursuant to
Part 15 of the FCC Rules, and the radio interference
regulations of the Canadian Department of Communications.
These limits are designed to provide reasonable protection
against harmful interference when the equipment is operated in
a commercial environment. This equipment generates, uses
and can radiate radio frequency energy and, if not installed and
used in accordance with the instruction manual, may cause
harmful interference to radio communications. Operation of
this equipment in a residential area is likely to cause harmful
interference in which case the user will be required to correct
the interference at the user's own expense. Allowing this
equipment to be operated in such a manner as to not provide
for proper answer supervision is a violation of Part 68 of FCC
Rules, Docket No. 89-114, 55FR46066. The SL-100 system is
certified by the Canadian Standards Association (CSA) with the
Nationally Recognized Testing Laboratory (NRTL). This
equipment is capable of providing users with access to
interstate providers of operator services through the use of
equal access codes. Modifications by aggregators to alter
these capabilities is a violation of the Telephone Operator
Consumer Service Improvement Act of 1990 and Part 68 of the
FCC Rules
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