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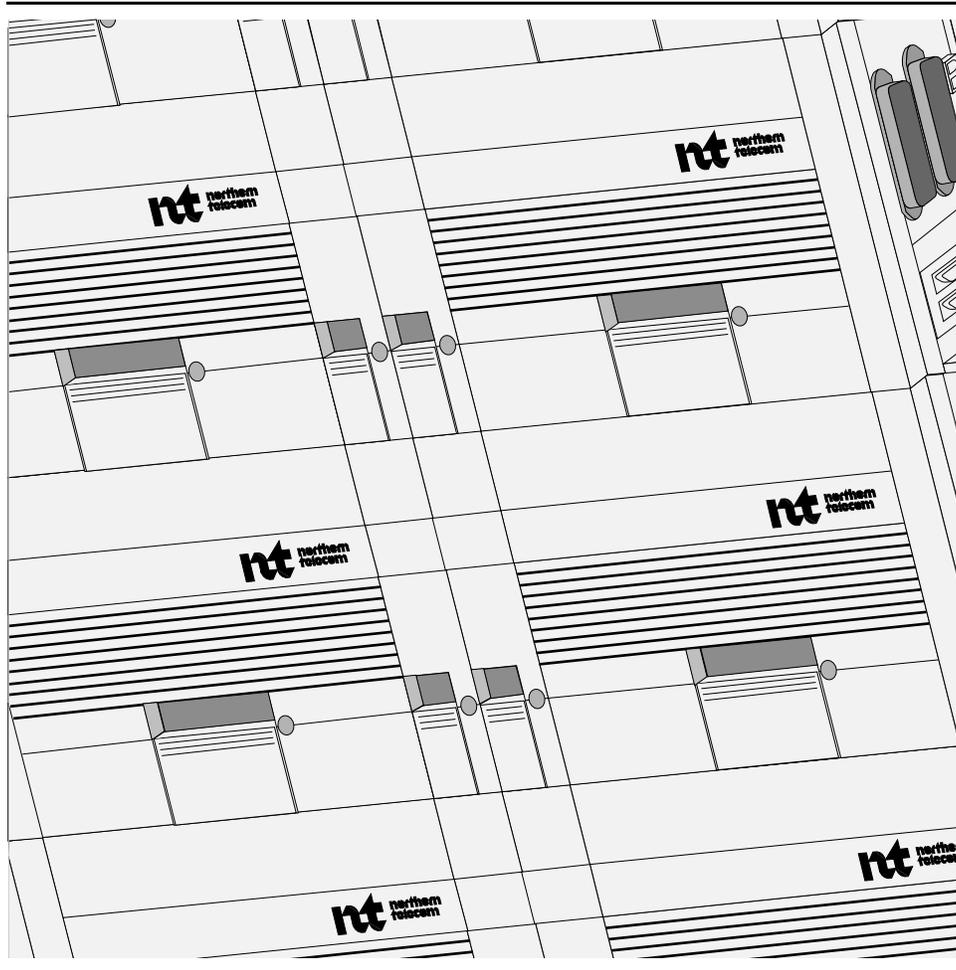
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SONET Products

AccessNode

OPC User Interface Description

Issue 4.0 October 1999



SONET Products

AccessNode

OPC User Interface Description

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- added information on the diskcheck utility to the “UNIX shell tool” section in Chapter 7
- revised information on the Manage Facility Assignments dialog in Chapter 8, “Network Administration Toolset.”
- added manuals to the list of documents referenced in this manual to “About this document”

August 1999

Added information on the TL1 enhanced security feature to the “OS Connection Manager tool” section in Chapter 9.

June 1999

AN17 Standard release of the document, Issue 2.0. Changes include the following:

- added Incremental Software Delivery, Phase 2, information to Chapter 6
- added Channel Route Rollover information to Chapter 8

February 1999

AN16 Standard release of the document, Issue 1.0. Changes include the following:

- updated chapters 4, 8, and 11 with ANX line size expansion information
- added Incremental Software Delivery tool information to Chapter 6
- updated tool information in various chapters to include new tools
- added OPC alarm information to chapters 1, 5, 7, 9, and 10

June 1998

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Revised this book so it focuses on the operations controller user interface (OPCUI). Information about the network element user interface can be found in *Network Element User Interface Description*, 323-3001-300.

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About this document

This document describes the operations controller user interface (OPCUI). For information about the network element user interface (NEUI), see *Network Element User Interface Description*, 323-3001-300, in this volume.

This document is organized into the following chapters:

Chapter	Title	Description
1	Overview of user interfaces	describes the types of user interfaces to the OPC and the functions that can be performed by each
2	Using the OPC character-mode user interface	introduces the OPC character-mode user interface
3	Using the OPC graphical user interface	introduces the OPC graphical user interface
4	Connecting, logging in, and logging out from the OPC	contains procedures for common OPC user interface tasks
5	Working with OPC tools	describes the main window, menus, and how to access the OPC tools
6	Software administration toolset	describes the tools that perform software administration tasks and how to use them
7	OPC administration toolset	describes the tools that perform OPC administration tasks and how to use them
8	Network administration toolset	describes the tools that perform network administration tasks and how to use them
9	System line-up and test toolset	describes the tools that perform system line-up and test (SLAT) tasks and how to use them
—continued—		

Chapter	Title	Description
10	Network surveillance toolset	describes the tools that perform network surveillance tasks and how to use them
11	Provisioning administration toolset	describes the tools that perform provisioning tasks and how to use them
12	Test administration toolset	describes the tools that perform test administration tasks and how to use them
13	Utilities toolset	describes the command interpreter utility tools and how to use them
14	Surveillance (view) toolset	describes the tools that perform surveillance tasks and how to use them
15	Restricted tools toolset	describes the tools that perform restricted tasks and how to use them
—end—		

Audience

This document is for the following groups who use the OPC character-mode interface or the OPC graphical interface:

- network administrators
- field maintenance
- maintenance engineers
- system lineup and testing (SLAT) engineers/technicians

How to use this document

This document describes the tools you need when connecting, provisioning, testing and maintaining OPC connections and should be used as a reference.

AD2000 Readiness

The AccessNode software ensures smooth transition to year 2000 for AccessNode and AccessNode Express products. Specifically:

- The transition from December 31, 1999 to January 1, 2000 is smooth and does not affect service or any equipment OAM&P activities.
- Year 2000 is recognized as a leap year.
- The system correctly interprets a “YY” date entry (for any date between 1995-1-1 and 2036-12-30). For example, a YY=25 entry is interpreted as 2025, not as 1925.

This book contains AD2000-compliant screen captures.

Warnings and safety precautions

This section has samples of the danger and caution warnings for proper handling and operation of equipment.

To avoid injury, follow all danger warnings included with this product, as well as safety procedures established by your company.

To avoid damage to equipment or service interruptions, follow all caution warnings included with this product, as well as procedures established by your company.

Samples of danger and caution warnings follow.

**DANGER****Risk of personal injury**

A danger warning advises you of a risk of personal injury.

**CAUTION****Risk of service interruption or equipment damage**

A caution warning advises you of a risk of service interruption or equipment damage.

**DANGER****Risk of electric shock**

This warning advises you of a possible electrical hazard. When you see this warning, proceed with care, to avoid personal injury.

General keyboard entries

The keys used to enter commands to the OPC are shown in bold. Where a function key is required, the first letter is capitalized, as follows:

press **Enter**

The Return key used in command sequences is represented by the following symbol:

↵

The Control, Delete, and Escape key names are abbreviated to Ctrl, Del, and Esc.

Onscreen buttons and menu items

Onscreen buttons and menu items (regardless of terminal type) are printed in bold type, capitalized as they appear on the screen, as follows:

click **Cancel** or **OK**

select **Sort** from the Applications menu

References in this document

This document refers to the following documents in the AccessNode Northern Telecom Publication (NTP) library.

Engineering, Configuration, and Ordering Guide, Volume 1

- *Engineering and Ordering Information*, 323-3001-032

Description, Volume 2A

- *Protection Switching Description*, 323-3001-103
- *Alarms and Surveillance Description*, 323-3001-104

Commissioning and Testing, Volume 3

Operations, Administration, and Provisioning, Volume 4A

- *Network Element User Interface Description*, 323-3001-300
- *System Administration Procedures*, 323-3001-302
- *Data Administration Procedures*, 323-3001-304

Operations, Administration, and Provisioning, Volume 4B

- *Provisioning and Operations Procedures*, 323-3001-310
- *Protection Switching Procedures*, 323-3001-311
- *Line Card Provisioning Procedures*, 323-3001-315
- *Line Card Testing Procedures*, 323-3001-316

Maintenance, Volume 4C

- *System Expansion Procedures*, 323-3001-324

Maintenance, Volume 5A

- *Alarm and Trouble Clearing Procedures*, 323-3001-543

Maintenance, Volume 5C

- *Network Surveillance Procedures*, 323-3001-510
- *Performance Monitoring Procedures*, 323-3001-520
- *Recovery Procedures*, 323-3001-545
- *Routine Maintenance Procedures*, 323-3001-546
- *Module Replacement Procedures*, 323-3001-547
- *Circuit Testing from the OPC User Interface*, 323-3001-548

Separate Documents

- *Bay in Central Office Installation Manual—ABM*, 323-3001-201
- *Traffic and Bandwidth Engineering Information*, 323-3001-152

AccessNode Express Volume

- *Commissioning and OAM&P*, 323-3051-220

Other Documents

- *Network Manager User Guide*, 323-4001-050
- *DMS-10 470 Series Generic - Data Modification Manual*, 297-3471-311Z
- *DMS-100 Commands Reference Manual*, 297-1001-822

Overview of user interfaces

This chapter describes the operations controller (OPC) user interface to the various tools you can use to control network elements (NE).

Depending on the equipment you use and the functions you perform, you can use either of the following user interfaces:

- OPC character mode user interface (UNIX-based)
- OPC graphical user interface (UNIX-based)
- OPC GUI (Windows 95-based)

The Network Manager, which is an optional software application that runs on a UNIX workstation, is also available.

The Network Manager is a centralized facility for managing OPC and NE software. It displays the following:

- a single point of access to the existing operations, administration, maintenance, and provisioning functions of your system
- a consolidated network-level view of your AccessNode installations
- a graphical end-to-end view of the alarms collected from the NEs in your system

Operations controller user interface

The operations controller (OPC) plays an important role in the enhanced operations, maintenance, and provisioning (OAM&P) supported by the AccessNode products. The OPC is a network manager or a supervisory system.

The OPC user interface supports communications with X terminals, local area networks (LANs), and the Network Manager.

It also offers TL1 interfaces to allow network management from higher layers of the telecommunications management network. See “Transaction Language 1” on page 1-4 for more information.

The OAM&P software running in the OPC allows a user working at a central location to control all the NEs in the cluster. A cluster includes all the NEs within the span of control of an OPC. For example, if an OPC serves 16 NEs, then those NEs are in the same cluster.

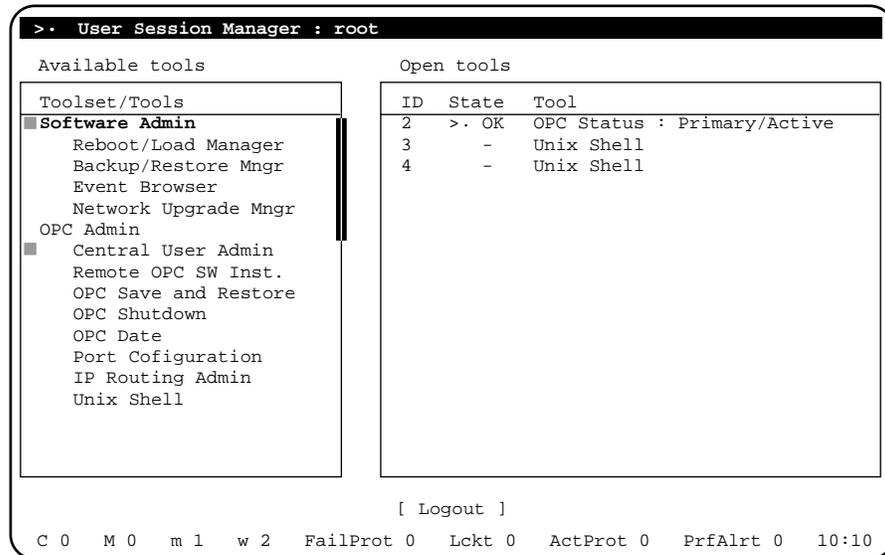
On the OPC, a user can perform cluster-wide OAM&P functions. The following are some of the functions supported by the OAM&P software:

- commissioning
- software and system administration
- sub network surveillance
- maintaining an inventory of components in each NE
- the recording and reporting of OPC logs, alarms, and alerts from all NEs
- system lineup and test (SLAT)
- software management and recovery

When you log in to the OPC user interface, the User Session Manager window appears automatically. This window displays a list of toolsets and tools. Figure 1-1 on page 1-3 shows an example of the User Session Manager window.

Figure 1-1
User Session Manager window

SC-10294



The User Session Manager window is the main menu for the OPC user interface. It displays the available OPC software tools, as well as a list of the tools that are already opened. You can select a tool and open it or, if the tool is already open, you can access it.

Note: In the OPC user interface, some tools can be opened more than once. However, when you reach the maximum number of times the tool can be open, a disable icon appears in front of the tool in the available tools list.

When you open an OPC software tool or access an already open tool, the main menu for the tool appears.

OPC GUI

The OPC GUI is a PC-based software application that runs on Windows 95 or higher. The OPC GUI can be used with AccessNode, OC-12, and OC-48. The software emulates a VT100 character mode terminal and provides a point-and-click user interface.

The point-and-click user interface performs the same actions as keypad and keyboard commands. Users can navigate through the OPC tools using the point-and-click interface (OPC GUI), or the keypad and keyboard commands of the UNIX-based OPC graphical user interface described in Chapter 3.

The OPC GUI is intended for day-to-day maintenance activities. The application is not intended for software upgrades and system reconfigurations. For more information on the OPC GUI, see the *OPC GUI User Guide*.

Transaction Language 1

Transaction Language 1 (TL1) is a set of generic messages that are exchanged between NEs and operations systems (OSs) to support the following functions:

- alarm surveillance
- performance monitoring
- DS0, DS1, and DS3 provisioning
- line/loop testing

TL1 allows OSs to communicate to vendor equipment through a common language protocol, which eliminates the need to support vendor-specific interfaces.

TL1/OPC interfaces

Using TL1, the OPC acts as an OS gateway or mediation device for communication between the AccessNode network elements and external network OSs. Through the OPC, the OSs can communicate with the NEs using an X.25 connection or an Ethernet LAN.

Terminal types compatible with the OPC user interface

The OPC can be accessed and operated through the following two types of terminals:

- a graphical interface using X windows (X-terminal)
- a character based interface (character mode terminal, CMT)

Graphic interface, X-terminal

The graphical interface uses X windows and requires a graphics terminal. It is referred to as an X-terminal and the connection to it is made on the front of the OPC module through the Ethernet connection. This interface supports the use of a mouse and provides multiple simultaneous displays.

Character based, CMT

The character-based interface runs on a VT100 compatible terminal and is referred to as a character mode terminal (CMT). This interface provides all the same information as the X-terminal; however, only one window can be viewed at a time. Navigating is done through keypad entries rather than the mouse. The OPC also supports X.25 and printer output.

Access to the OPC user interface

You can access the OPC user interface locally from the OPC, or you can remotely access the OPC user interface.

Local access to the OPC user interface

If you are at the OPC, you can access the OPC user interface as follows:

- Connect a graphics terminal or a VT100-compatible terminal to the OPC connector. The OPC connector is the J07 connector on the left side of the common-equipment shelf.
- Connect an X11 terminal or a workstation to the Ethernet port on the face plate of the OPC module.

Remote access to the OPC user interface

You can remotely access the OPC user interface from one of the NEs in the cluster as follows:

- Using a cable at one of the NEs, you can connect an X-terminal or a CMT to the OPC connector. The OPC connector is the J07 connector on the left side of the common equipment shelf.
- Using a modem at one of the NEs, you can connect a laptop computer to the J07 connector on the left side of the access bandwidth manager (ABM) shelf.

For more information on the OPC user interface, see the following task list.

OPCUI task list

If you want to	Then perform these procedures	Found on
Change the name of an OPC	Procedure 4-17 Changing the name of an OPC	page 4-60
Change your password	Procedure 4-15 Changing your password	page 4-53
Close an OPC tool	Procedure 4-13 Closing an OPC tool	page 4-49
Connect the portable OPC to the network element	Procedure 4-3 Connecting the portable OPC to the network element	page 4-20
Connect a remote terminal to the OPC using the internal modem	Procedure 4-4 Connecting a remote terminal to the OPC using the internal modem	page 4-26
Connect a remote terminal to the OPC using an external modem	Procedure 4-5 Connecting a remote terminal to the OPC using an external modem	page 4-27
Connect a terminal to an OPC	Procedure 4-1 Connecting a terminal to an OPC	page 4-3
Connect a terminal to the portable OPC	Procedure 4-2 Connecting a terminal to the portable OPC	page 4-17
Display OPC status	Procedure 4-16 Displaying OPC status	page 4-57
Learn how to use the graphical user interface	Chapter 3 Using the OPC graphical user interface	page 3-1
Learn how to use the OPC character-mode user interface	Chapter 2 Using the OPC character-mode user interface	page 2-1
Log in to the OPC	Procedure 4-8 Logging in to the OPC	page 4-34
Log in to an OPC from a network element	Procedure 4-10 Logging in to an OPC from a network element	page 4-42
Log in to the remote OPC from an OPC	Procedure 4-9 Logging in to the remote OPC from an OPC	page 4-39
—continued—		

If you want to	Then perform these procedures	Found on
Log out from the OPC	Procedure 4-14 Logging out of the OPC	page 4-51
Open an OPC tool	Procedure 4-12 Opening an OPC tool	page 4-47
See the OPC tool descriptions	Chapter 5 Working with OPC tools	page 5-1
Learn about OPC alarms	Chapter 7 OPC Alarm Provisioning tool	page 7-14
—end—		

Using the OPC character-mode user interface

This chapter introduces the operations controller (OPC) character-mode terminal (CMT) user interface. If you are using the OPC graphical user interface, see “Using the OPC graphical user interface” on page 3-1.

The CMT user interface can be accessed using two different types of equipment (HP host systems or Sun host systems) to log in to the User Session Manager and two methods of data entry (keyboard and keypad).

Chapter task list

This chapter includes the following tasks:

Procedure	Task	See
2-1	Logging in using HP host systems	page 2-2
2-2	Logging in using Sun host systems	page 2-3
2-3	Opening a tool	page 2-15
2-4	Accessing an open tool	page 2-18
2-5	Moving from one open tool to another	page 2-19
2-6	Using menus	page 2-20
2-7	Using lists	page 2-26
2-8	Using dialogs	page 2-29
2-9	Entering and editing information	page 2-32
2-10	Closing a tool	page 2-38
2-11	Logging out	page 2-39

Procedure 2-1

Logging in using HP host systems

Use the log in steps shown here if you are using an HP system. Your administrator sets up a userID and password for you to use at log in.

When your system comes up, the following HP prompt appears:

Figure 2-1
HP system login screen

FW-0740



Step	Action
------	--------

1	Type the userID after the login prompt.
---	---

userID

You are then prompted for the password.

2	Type the password after the password prompt.
---	--

password

The User Session Manager appears, containing the tools your user ID is authorized to use.

Note: Passwords do not appear in the field when you type them. Do not use capital letters unless the capitalization is part of the password, because the systems treat uppercase and lowercase letters differently.

—end—

Procedure 2-2

Logging in using Sun host systems

Use this procedure to log in if you are using a Sun system. Your administrator sets up a userID and password for you to use at log in.

When the system comes up, the cursor is at the beginning of the UserID field as shown below.

Figure 2-2
Sun host system logon screen

FW-20043

```

VT100 LOGON DIALOG

This software contains material which is
confidential to Northern Telecom Limited
and is made available solely pursuant to the
terms of a written license agreement with
Northern Telecom Limited.

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-----

UserID: |
Password:

<<< OK <- >>>

```

Step	Action
------	--------

- | | |
|---|--|
| 1 | Type your userID in the User ID field.
UserID |
| 2 | Tab to the Password field, then type your password.
password
Note: Passwords do not appear in the field when you type them. Do not use capital letters unless the capitalization is part of the password, because the systems treat uppercase and lowercase letters differently. |
| 3 | Tab to the OK button, then press Return .
<i>The User Session Manager appears, containing the tools your userID is authorized to use.</i> |

—end—

User Session Manager

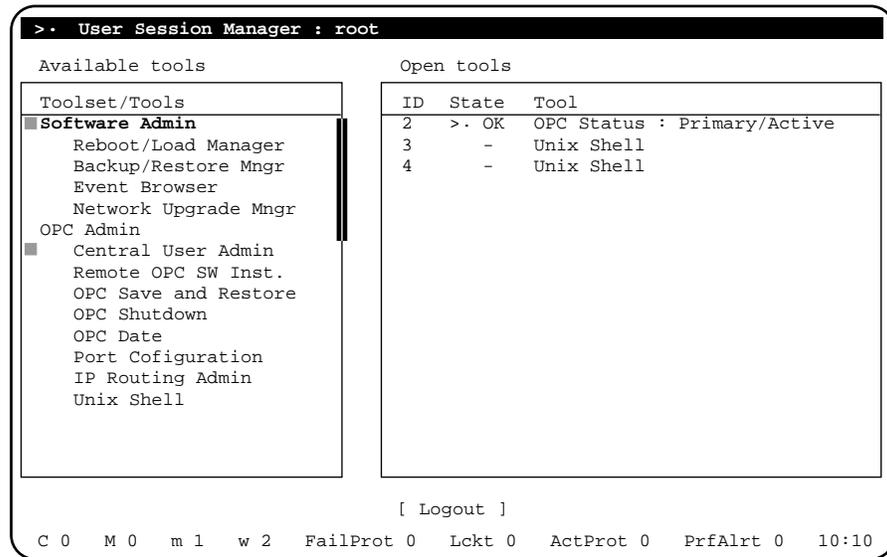
The User Session Manager is the main character mode interface screen for the AccessNode. It opens automatically when you log in. From here, you can open and access tools. Whenever you return here, you see the current status of your session. A session is defined as all interaction between the user and system from the time a user logs in until the time the user logs out.

The User Session Manager lets you control your movement among tools. It displays the available tools (grouped in toolsets) as well as the tools that have already been opened.

Figure 2-3 shows a typical User Session Manager window. In this example, three tools are open and available in this session.

Figure 2-3
User Session Manager window

SC-10294



Some OPC tools can be opened more than once. Each time you open a tool represents an *instance* of the tool. Each tool that is open (or *instance* of the tool) is listed in the Open tools window. When you reach the maximum number of instances allowed for a particular tool, you cannot open the tool again. A warning dialog appears and the disable icon appears in front of the tool in the Available tools list.

Using the keypad or keyboard

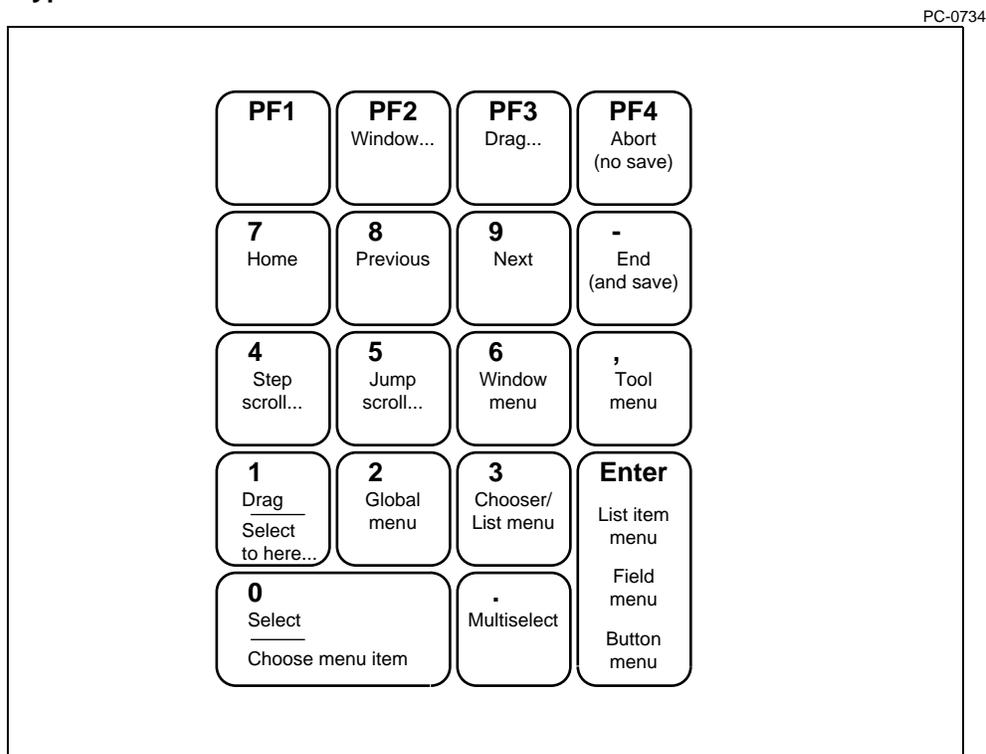
Before you log into the character-mode terminal environment, note the following descriptions of the keypad keystroke and the keyboard combination entry methods.

Using the keypad

Your terminal probably has a keypad. You might want to use it instead of keyboard combinations to navigate the screen, display menus, and perform numerous functions.

Figure 2-4 shows the keypad with its functions and explanations.

Figure 2-4
Keypad functions



Keys shown with an ellipsis require other keys to activate their functions:

- The Scroll..., Select to here... and Drag... keys must be followed by arrow keys.
- The Window... key must be followed by the Next or Previous Key.

Every session begins at the User Session Manager window. To perform procedures effectively, you must be familiar with the OPC user interface.

Figure 2-6 shows a brief summary of the keyboard conventions used with the VT100-compatible user interface.

Figure 2-6
VT100-compatible keyboard conventions

SC-10295

Starting your session

The session manager opens automatically when you log in, and it displays the current status of the session.

To open a tool

Move your cursor down the Available tools list to the tool you want and then select it (Keypad **0** or **Ctrl_A**).

The main window for that tool opens.

To access an open tool

Move your cursor down the Open tools list to the tool you want, and then select it (Keypad **0** or **Ctrl_A**).

or

Press **Ctrl_T**, followed by the ID of the tool (for example, **Ctrl_T 3** to access the Event Browser tool).

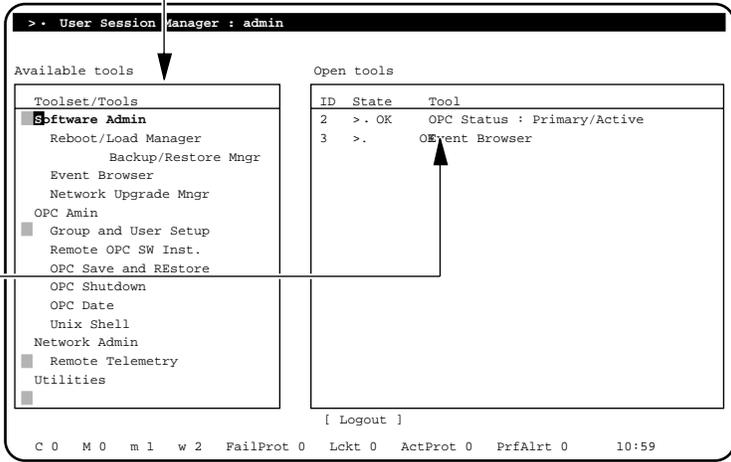
The main window for the tool opens.

To move through the tools

Press **Ctrl_T =** or **-** and continue to press **+ or -** until you reach the tool you want.

To refresh the screen

Press **Ctrl_T**, then a period (that is, **Ctrl_T.**)



The screenshot shows a terminal window titled "User Session Manager : admin". It is divided into two main sections: "Available tools" and "Open tools".

Available tools:

Toolset/Tools	
Software Admin	
Reboot/Load Manager	
Backup/Restore Mngr	
Event Browser	
Network Upgrade Mngr	
OPC Amin	
Group and User Setup	
Remote OPC SW Inst.	
OPC Save and REstore	
OPC Shutdown	
OPC Date	
Unix Shell	
Network Admin	
Remote Telemetry	
Utilities	

Open tools:

ID	State	Tool
2	>. OK	OPC Status : Primary/Active
3	>.	Event Browser

At the bottom of the window, there is a status bar with the following text: "[Logout]", "C 0 M 0 m 1 w 2 FailProt 0 Lckt 0 ActProt 0 PrfAlrt 0 10:59".

Moving the cursor and selecting objects

Before you perform any action, you must find out where the cursor is on the screen and how to navigate from object to object (such as from a list to a field or a button), within objects (as in a menu or a list), and how to return to the home object.

Table 2-1 shows the keys to use to move the cursor.

Table 2-1
Moving the cursor

To move	Use
from object to object	Tab or keypad 9 (for next object); Ctrl_B or keypad 8 (for previous object)
within an object	up, down, left, and right arrow keys
home	Ctrl_P or keypad 7

Figure 2-7 and Figure 2-8 show cursor movement and object selection.

Figure 2-7
Keypad and keyboard cursor control

PC-0601

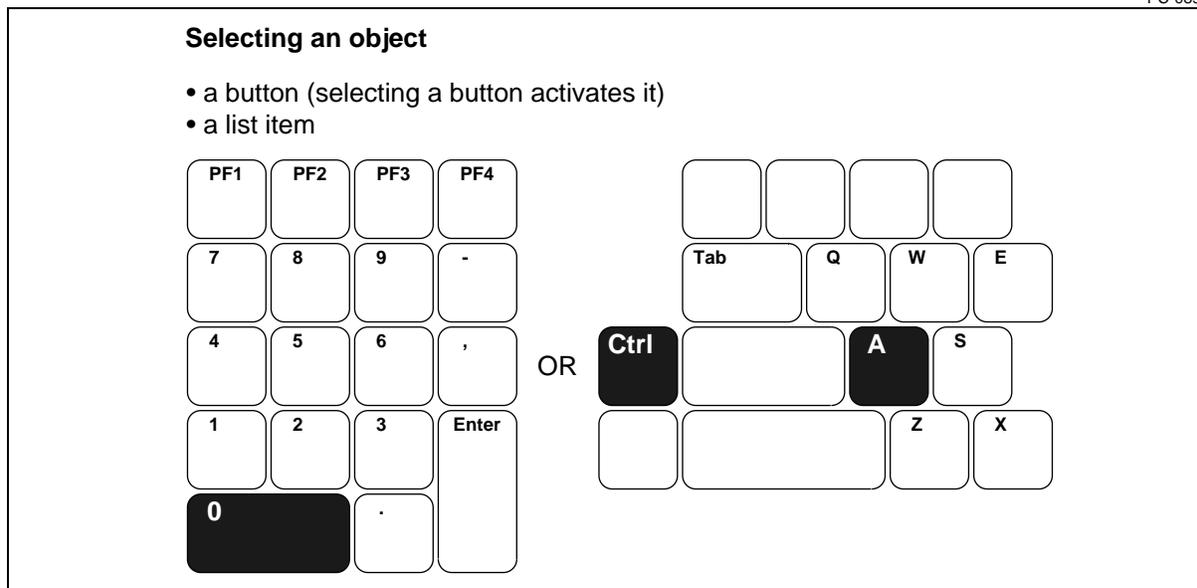
Moving the cursor
¥ from object to object (example, from a button to a field, or a field to a list item)

OR

¥ within an object (example, from list item to list item, or menu item to menu item).

Figure 2-8
Keypad and keyboard object selection

PC-0890



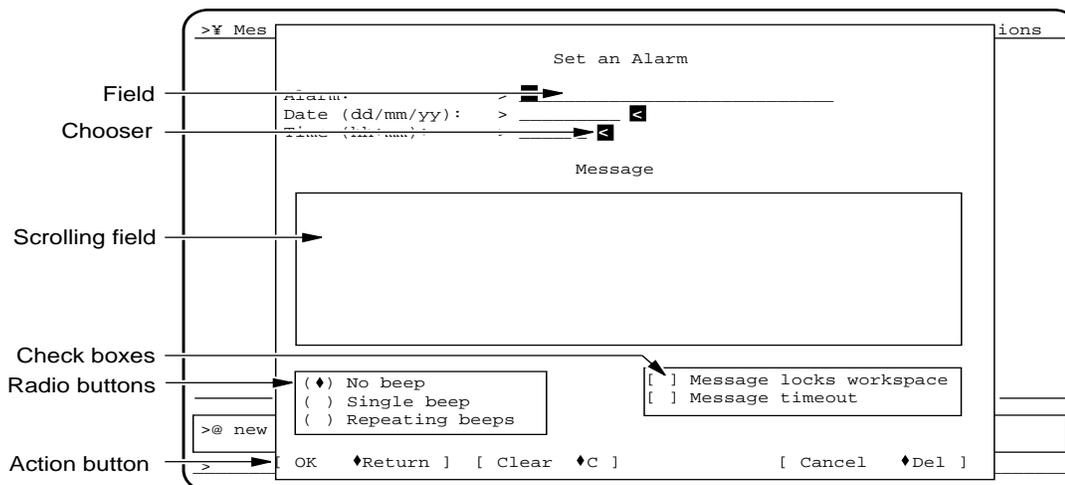
Using data fields

Several types of fields allow you to enter information. Some you type into and others where you choose from a list.

Figure 2-9 shows the different types of fields in the Set an Alarm dialog.

Figure 2-9
Example window

FW-21043



Moving to fields

A cursor appears in the window. To move to a field, press the Tab key.

Note: The greater than sign “>” before a field entry area indicates it is a mandatory field.

Selecting in chooser fields

Choosers allow you to select a preset value from a menu. For this example, the Date field has a chooser, as indicated by the “<” at the end of the field. With the cursor in the field, do the following:

Display the chooser menu by pressing Ctrl_L plus / (or keypad 3)

Note: You can also type directly into the field, or modify the chooser value.

Scrolling in text fields

The Message field in the example is a scrolling field. You can type multiple lines of information in scrolling fields. If the contents of a window (or a dialog or scrolling field or list) cannot be entirely displayed, a view bar appears. Both vertical and horizontal view bars may appear. When you reach the right side of the box, the text wraps to the next line. When the box becomes full, it scrolls downwards and a vertical view bar appears.

View bars represent the size and location of the current view in relation to the whole object. For example, the view bar in the main window help for Message Alarm indicates that the help information currently displayed is approximately half of the information available, and is located approximately half way through the whole amount.

Do the following to move through a scrolling text window:

Once the cursor is in the text field you want, enter scroll mode by pressing Ctrl_F.

Choose the amount of scroll you want. You can scroll by:

- steps (line by line; default). Press 1 or period (or keypad 4)
- half jump (half of the scroll area). Press 2 or colon
- full jump (whole scroll area). Press 3 or vertical bar (or keypad 5)

Use the arrow keys to scroll through the text.

- for vertical scrolling use Up and Down arrow keys.
- for horizontal scrolling use Left and Right arrow keys.

When you are finished scrolling, you can either end (and remain at the current cursor position) or exit (return to your previous cursor position) scrolling.

- To end, use Ctrl_] (or keypad —).
- To exit, use Ctrl_^ (or keypad PF4).

Radio buttons

Radio buttons set features. For example, you can set your terminal to beep once, repeatedly, or not at all to notify you of a message. Radio buttons allow you to select only one from a set of options. When you select a radio button, your previous selection is turned off.

Tab to the radio buttons box and use the arrow keys to go to the desired button. Select the button by pressing Ctrl_A (or keypad 0)

A black diamond appears between the brackets beside your selection.

Check boxes

Check boxes allow you to turn options on or off. More than one option can be active at a time.

In Figure 2-9 on page 2-9, if you select the first box (Message locks workspace), the alarm message locks your workspace when it comes up. The other box (Message time out) allows you to choose whether the alarm message disappears automatically after two minutes. You cannot do anything until you respond to a message. Tab to the box with the set of two squared brackets.

Use the arrow keys to go to the desired box. Select a check box to turn it on by pressing Ctrl_A (or keypad 0)

Select it again to turn it off by pressing the same key(s): Ctrl_A (or keypad 0)

Action buttons

The OK, Clear, and Cancel buttons are action buttons. Action buttons tell the system to do something. The disable icon preceding an action button field indicates that it is inactive.

Select an action button by pressing Ctrl_A (or keypad 0)

Working in modes

When you access tools, different actions create modes of operation. You establish a mode by performing certain actions or entering commands.

Table 2-2 is a list of the modes and how their functions perform,

Table 2-2
Modes of operation

Mode (action)	End	Exit
Menu (equivalent to choosing an item)	not applicable	closes the menu but does not choose item
Window/dialog	current window/dialog stays in view	returns to initial window/dialog
Drag (moving a dialog)	dialog will remain at the current position	dialog returns to original position
Resize (command pane)	command pane keeps the current size change	command pane returns to original size
Scrolling	view remains as is	view returns to original place
Select (for multi-select or text)	item or object stays selected	returns to previous selection

While in a mode you can perform actions such as scrolling, menu, window and tool navigation, drag (moving a dialog), and resize (resizing a command pane), or do the following to cancel or exit a mode:

- To cancel any mode, ignore any changes you made and return to the previous window, press Ctrl_^ or Esc (or keypad PF4).
- To exit any mode, save any changes you made and return to the previous window, press Ctrl_] (or keypad —).

Getting help

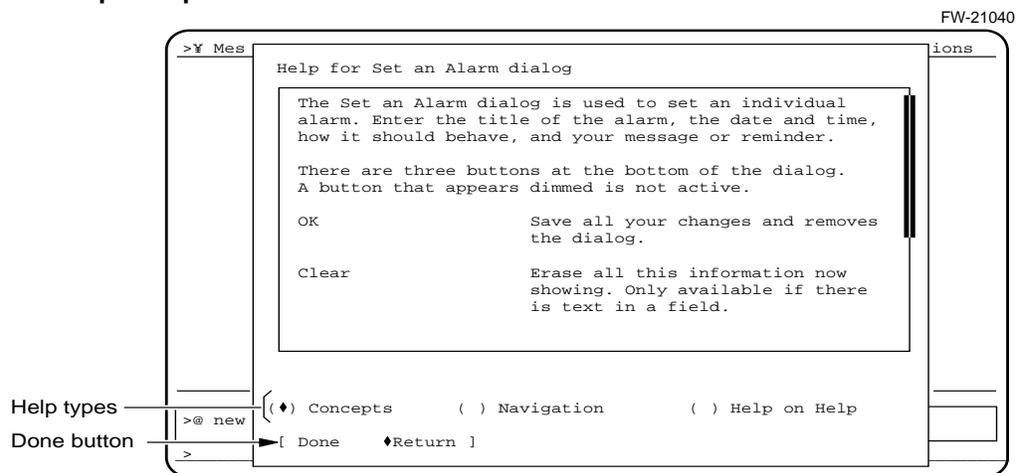
Online help is available for all windows, dialogs, and objects in them.

- For help on windows and dialogs, choose Help from the window or the background menu.
- For help on objects, choose Help from the list, list item, field, and button menus.

You choose Help by pressing the Spacebar (or keypad 0).

Help appears in an overlying window, as shown in the following Alarm dialog window example.

Figure 2-10
Example help window



Up to five types of help may be available, depending on the main window you accessed it from. As indicated by the buttons at the bottom of the window in Figure 2-10, concepts, navigation, and help on help are provided; other types of help may be available.

When a help dialog first appears, it displays concepts help, which gives you a general explanation of the purpose of the object (in this example, the Set an Alarm dialog).

To see another type of help, select the appropriate button. Tab to the radio buttons in a window, then use the arrow keys to move among the buttons. Select a radio button by pressing Ctrl_A (or keypad 0).

The following table describes the different types of help.

Type of help	Description
Concepts	provides a general explanation about the purpose of the object you are using: a window, a dialog, a list, a list item, a field, or a button menu
Commands	describes the effects of commands on the object
Navigation	describes how to use menus, move around the screen, manage your session, and to scroll
Procedures	describes how to perform tasks with a tool
Help on Help	explains how to use the help dialog

To close the help dialog, tab to the Done button and select it by pressing `Ctrl_A` (or keypad 0). You are returned to the window you were working in.

Refreshing the screen

Under certain circumstances, the screen might become garbled. You can correct this condition by refreshing the screen. To refresh the screen, press `Ctrl_T`, then a period (that is, `Ctrl_T.`).

Returning to the User Session Manager

To return to the User Session Manager anytime during a session, press `Ctrl_T` plus 0. The User Session Manager appears and the tool you were in before returning to the User Session Manager remains active.

Note: 0 is the permanent window ID of the User Session Manager.

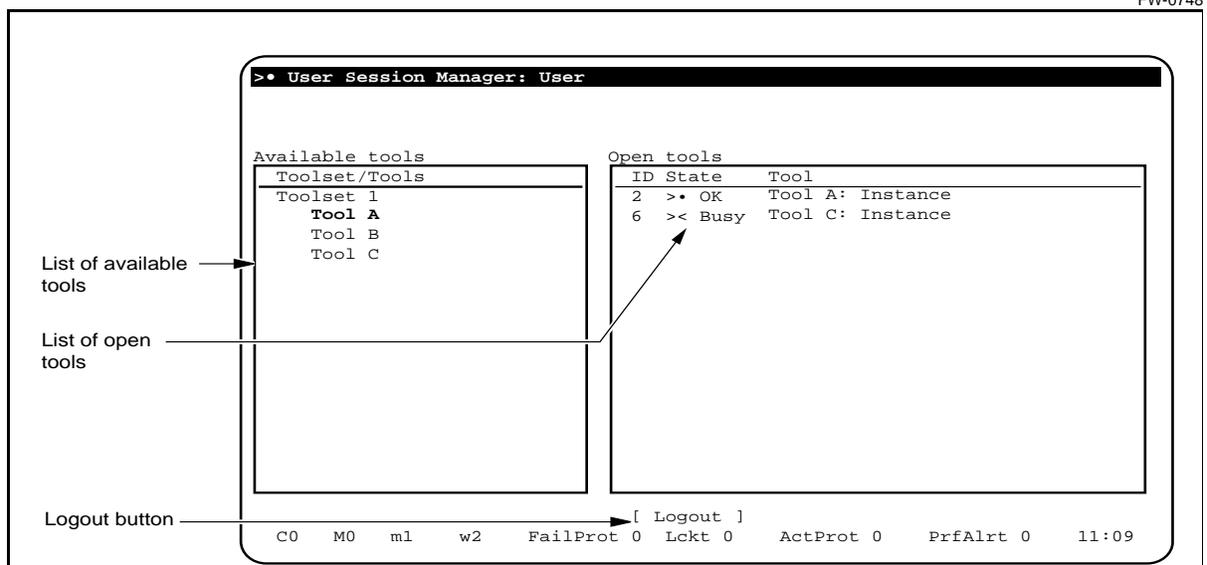
Procedure 2-3

Opening a tool

Use this procedure to open a tool. You must be in the Session Manager window.

Figure 2-11 shows the available tools and the tools that have been previously opened.

Figure 2-11
Tool selection



Step	Action
------	--------

- | | |
|---|--|
| 1 | Using the arrow keys, move the cursor down the Available tools list to the tool you want. |
| 2 | To select the tool, press the following:
Ctrl_A (or keypad 0)
<i>The main window for that tool opens immediately and fills the entire screen.</i> |

—end—

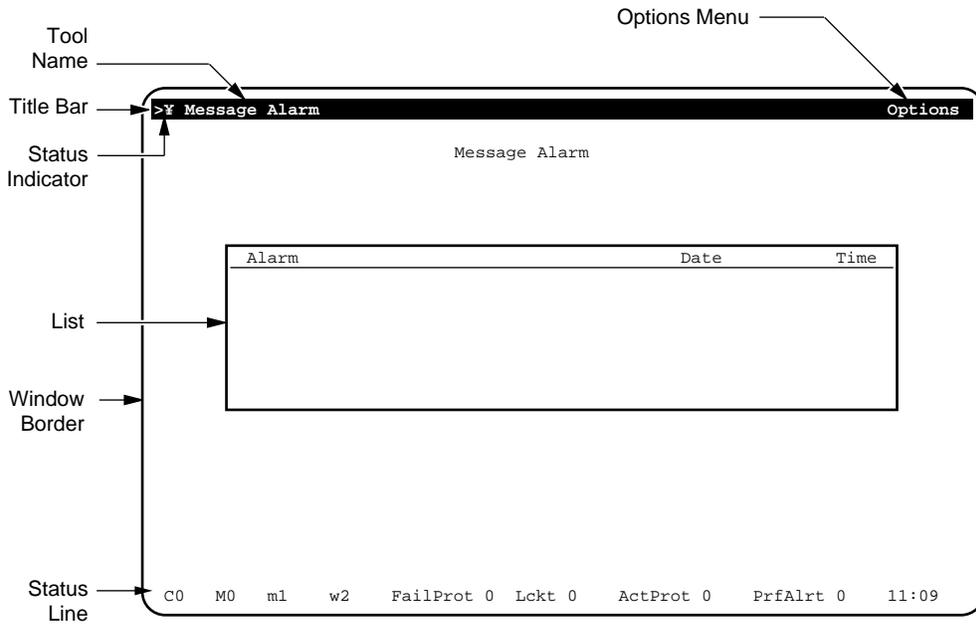
The tool main window

The tool main window, shown in Figure 2-12, has a title bar across the top including a tool status indicator, the name of the tool, and a tool menu. The tool status indicator, at the far left of the title bar, indicates whether the window is ready for use. A >• symbol means the window is ready.

Figure 2-12 shows the main window which is your homebase while using the tool.

Figure 2-12
Main tool window

PC-16336



Status icons

Title bar of main window

The following table lists the status icons that can appear in the title bar.

This status icon	Means
>•	OK
><	Busy
>X	Error
>>	Printing
!M	Major Alarm
*C	Critical Alarm
!m	Minor Alarm

List item and history field

The following table lists the status icons that can appear beside a list item or beside a command in a history field:

This status icon	Means
>•	OK
>X	Error
>>	Printing
+	Contains data
+X	Contains data in error
+<	Contains data pending
—	Contains no data
!M	Major alarm
*C	Critical alarm
!m	Minor alarm
><	Busy
>&	Background command
>@	Foreground command

Procedure 2-4

Accessing an open tool

Use this procedure to access tools in the Open tools list. If you do not know how to open a tool, see Procedure 2-3, “Opening a tool.” on page 2-15.

Step	Action
1	To access tools in the Open tools list, do one of the following: <ul style="list-style-type: none">• Use the arrow keys to move the cursor to the tool you want, then press Ctrl_A (or keypad 0)or• Enter the following: Ctrl_T <tool ID number> where <tool ID number> the tool instance of the tool (in the ID column).

The tool window opens and fills the entire screen.

—end—

Procedure 2-5

Moving from one open tool to another

Use this procedure when you are using one tool and want to access another.

Step	Action
1	To move to a particular tool, use the tool ID number as follows: Ctrl_T <tool ID number> where <tool ID number> = the tool instance of the tool (in the ID column). <i>The specified tool window opens.</i>
2	To move to the next tool in the list, use the plus sign: Ctrl_T plus +
3	To move the previous tool, use the minus sign: Ctrl_T plus -

—end—

Procedure 2-6

Using menus

Each OPC tool has several menus you use for different tasks. Use the steps in this procedure to access the menus in the tool windows.

Displaying a menu puts you in menu mode. In menu mode, you can do the following:

- choose the menu item
- go to the previous or next menu in the hierarchy for this object
- go to a specific menu
- go to the cascaded menu (if there is one)

Note: Keyboard shortcuts are available for some menu commands. To use a shortcut, press the Esc key (represented as a black P on the menu) and the letter associated with the command.

See “Working in modes” on page 2-12 for more information.

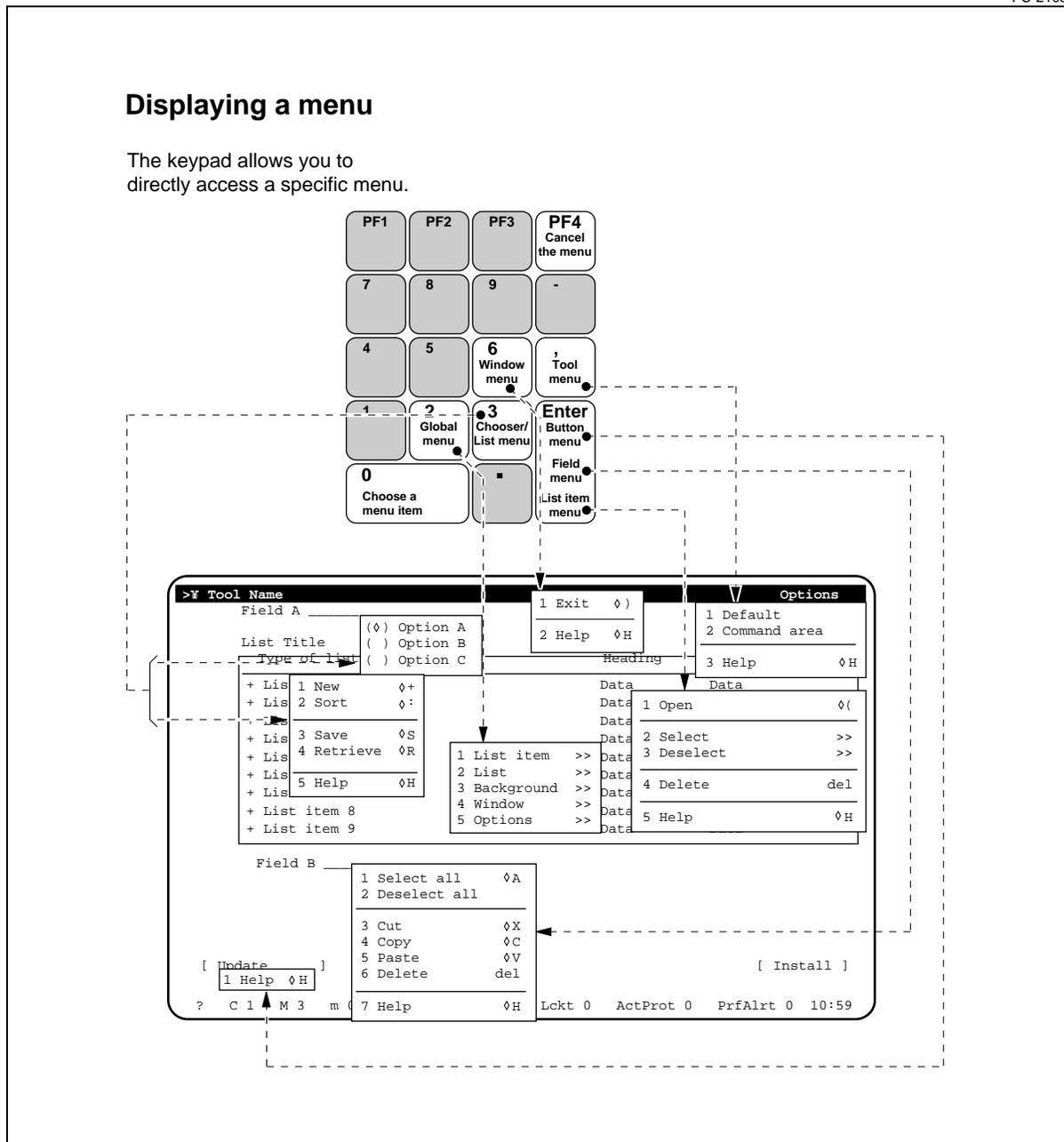
—continued—

Procedure 2-6 (continued)
Using menus

Figure 2-13 shows the keypad keys that access the tool menus.

Figure 2-13
Displaying a menu

PC-21035



—continued—

Procedure 2-6 (continued)
Using menus

Step Action

Figure 2-14 shows the menus that allow you to choose the actions you need.

Figure 2-14
Tool function menus

FW-21037

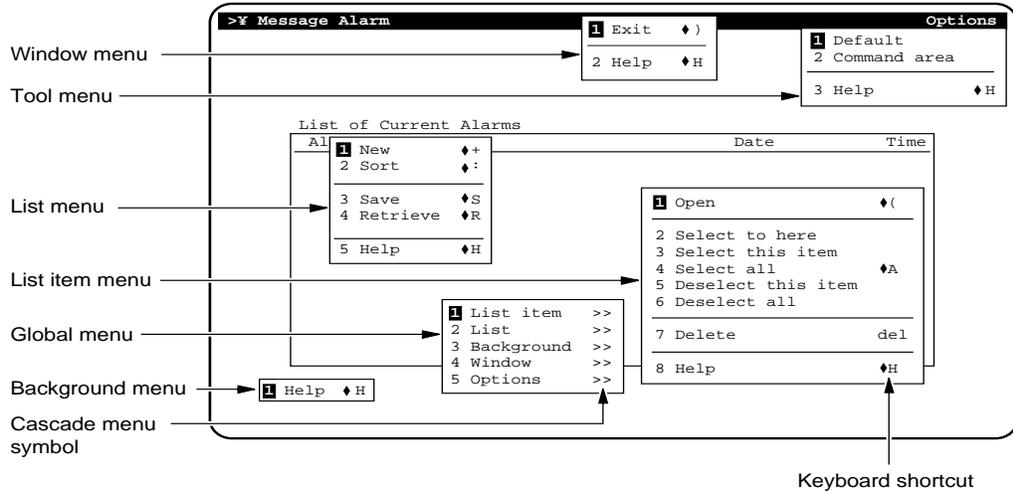


Table 2-3 lists different types of commands available in each window.

Table 2-3
Tool menu summary

This window	Presents commands to
Window menu	Control the window you are in
Tool menu	Affect tool you are using
List/Chooser menu	Select options and commands
List item menu	Select list items
Global menu	Move to another tool menu
Background menu	Access background functions such as Help

—continued—

Procedure 2-6 (continued)
Using menus

Step	Action
------	--------

Displaying the window menu

- 1 The window menu commands affect the entire tool window. Display the window menu by pressing **Ctrl_L W** (or keypad **Enter**).

The window menu appears in the top center of the tool window.

Displaying the tool menu

- 2 The tool menu commands affect the tool as a whole. Display the tool menu by pressing **Ctrl_L T** (or keypad,).

The tool menu appears at the right of the title bar.

Displaying menus for a list item, a field, or a button

- 3 Each object in the window has a menu of commands that affect it. Display the menu for an object by tabbing to a list item, field, or button, then pressing **Ctrl_L** (or keypad **Enter**).

The menu for the selected object appears in the window.

Displaying list menus and chooser menus

- 4 List menus have commands that affect a list as a whole; chooser menus show the valid entries for a field. Display a list menu or chooser menu by tabbing to a list or a field, then pressing **Ctrl_L /** (or keypad **3**)

The menu for the selected list or field appears in the window.

Displaying the global menu

- 5 The global menu gives you quick access to all of the menus that are available from the current cursor position. To display the currently available global menu, press **Ctrl_L G** (or keypad **2**)

The global menu for the current cursor position appears. The menu for the selected item appears cascaded to the right.

The examples below show the global menus for a list and for a field.

FW-0706

<pre> 1 List item >> 2 List >> 3 Background >> 4 Window >> 5 Options >> </pre>	<pre> 1 Field >> 2 Chooser >> 3 Background >> 4 Window >> 5 Options >> </pre>
<p>Global Menu (when cursor in list)</p>	<p>Global Menu (when cursor in field)</p>

You can move down the global menu from one item to the next using the arrow keys.

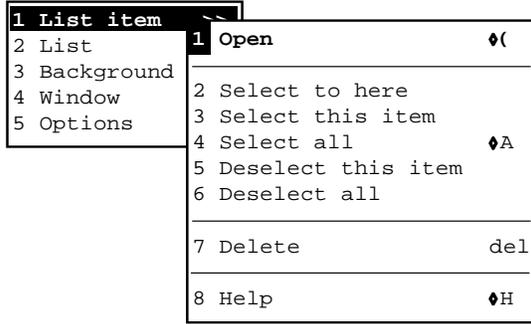
—continued—

Procedure 2-6 (continued)
Using menus

Step Action

The following example shows a global list menu with the first item selected and the submenu cascaded.

PC-0707



Note: Cascaded menus display, when available, as you move through a menu. Move to the cascaded menu using the right arrow key. You can use the up and down arrow keys, as well as choose an item (see “Choosing a menu item” on page 2-24). To return to the global menu, press the left arrow key.

Displaying the background menu

6 The background menu gives you access to help for the window area and to exit the window. To begin the menu cycling process, press **Ctrl_L +**.

The menu cycling process begins.

Note: You may have to repeat this step for the background menu to appear.

Choosing a menu item

7 Select an item using the Tab or arrow keys and press **Space** (or keypad **0**).

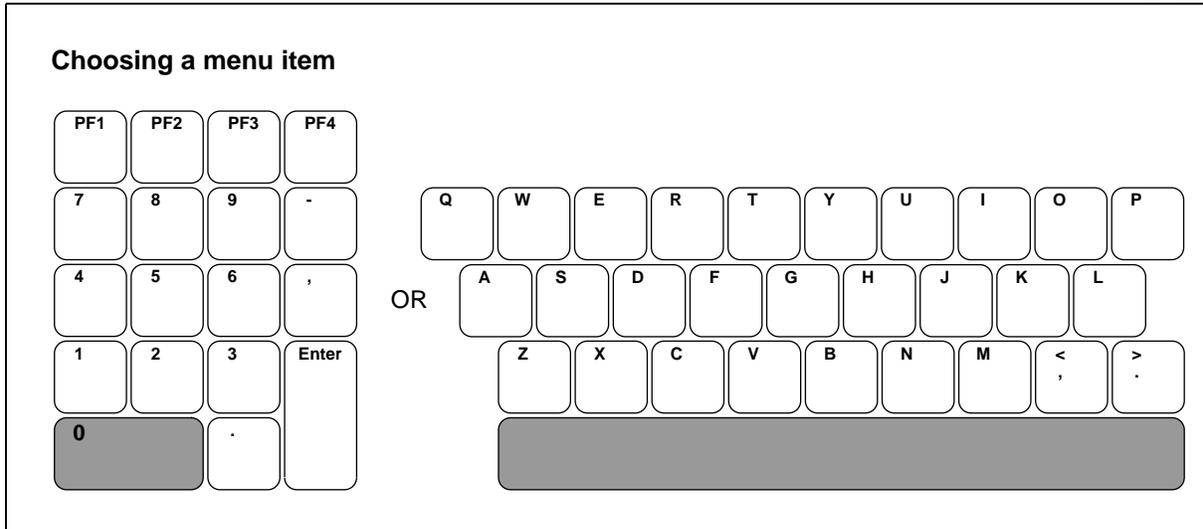
The requested item is displayed or the action taken.

—continued—

Procedure 2-6 (continued)
Using menus

Figure 2-15
Choosing a menu item

PC-0891



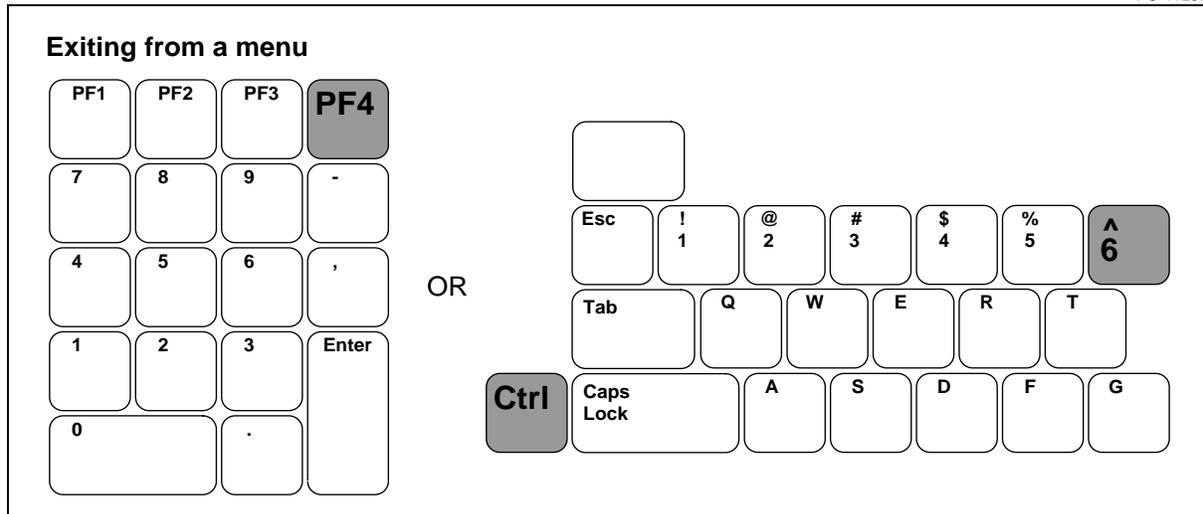
Exiting a menu

- 8 Exit a menu by pressing **Ctrl_6** (or keypad **PF4**).

You return to the cursor position in the window where you selected a menu.

Figure 2-16
Exiting a menu

PC-11297



—end—

Procedure 2-7 Using lists

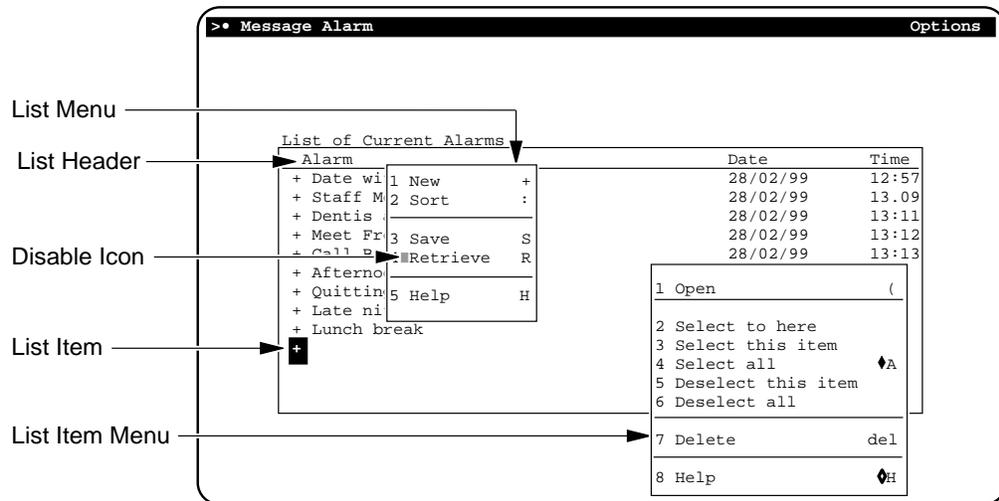
Use this procedure for working in lists. Lists allow you to select items for processing.

- Commands that affect the list as a whole are in the list menu. Inactive commands have a disable icon beside them. You can add a new item, sort the list, save your changes, retrieve the list, or get help.
- Commands that apply to an item (or items) in the list are in the list item menu. You can select or deselect one or more items in the list for processing.

Figure 2-17 shows a list of alarms, each preceded by a plus (+) sign.

Figure 2-17
Example list of alarms

FW-0708



Step	Action
------	--------

To modify the list

- 1 With the cursor anywhere in the list, display the list menu by pressing **Ctrl_L /** (or keypad **3**)
The list menu appears.
- 2 Select an action in the list menu by moving the cursor to the action you want, then press **Space** (or keypad **0**).

—continued—

Procedure 2-7 (continued)
Using lists

Step	Action
-------------	---------------

To process a single list item

- 3** In the list of items, move the cursor to the item, then press **Ctrl_A** (or keypad **0**).
- 4** Display the list item menu by pressing **Ctrl_L** (or keypad **Enter**).
The menu shows what can be done with the selected item.
- 5** Move the cursor down to the command you want. For example, if you want to delete the item, select Delete by pressing **Space** (or keypad **0**).
The selected item is deleted.
Note: To do step 5 more quickly, press the number of the menu command (in this case, 7) followed by a Space.

To process two or more consecutive list items

- 6** In the list of items, move the cursor to the first consecutive item, then press **Ctrl_A** (or keypad **0**).
- 7** Enter the Select to here mode by pressing **Ctrl_Z** (or keypad **1**).
No visible change happens.
- 8** Move the cursor to the last consecutive item. Display the list item menu by pressing **Ctrl_L** (or keypad **Enter**).
All of the items are selected and the menu shows what action you can take.
- 9** Move the cursor to the command you want. For example, if you want to deselect these items; then select Deselect all by pressing **Space** (or keypad **0**).
The selected items are deselected.
Note: To do step 9 more quickly, press the number of the menu command (in this case, 6) followed by a Space.

—continued—

Procedure 2-7 (continued)

Using lists

Step	Action
-------------	---------------

To process two or more non-consecutive items

- | | |
|-----------|---|
| 10 | In the list of items, move the cursor to the first item you want to select, then press Ctrl_A (or keypad 0) |
| 11 | Move the cursor down to the next item by pressing Ctrl_Y (or keypad.).
Note: Selecting an item in step 10 deselects all other previously selected items; selecting an item using step 11 adds the item to the selection. |
| 12 | Display the list item menu by pressing Ctrl_L (or keypad Enter).
<i>The menu shows what can be done with the selected items.</i> |
| 13 | Move the cursor down to the command you want and press Space (or keypad 0)
<i>The selected items are affected by the command you chose.</i>
Note: To do step 13 more quickly, press the number of the menu command followed by a Space. |

—end—

Procedure 2-8

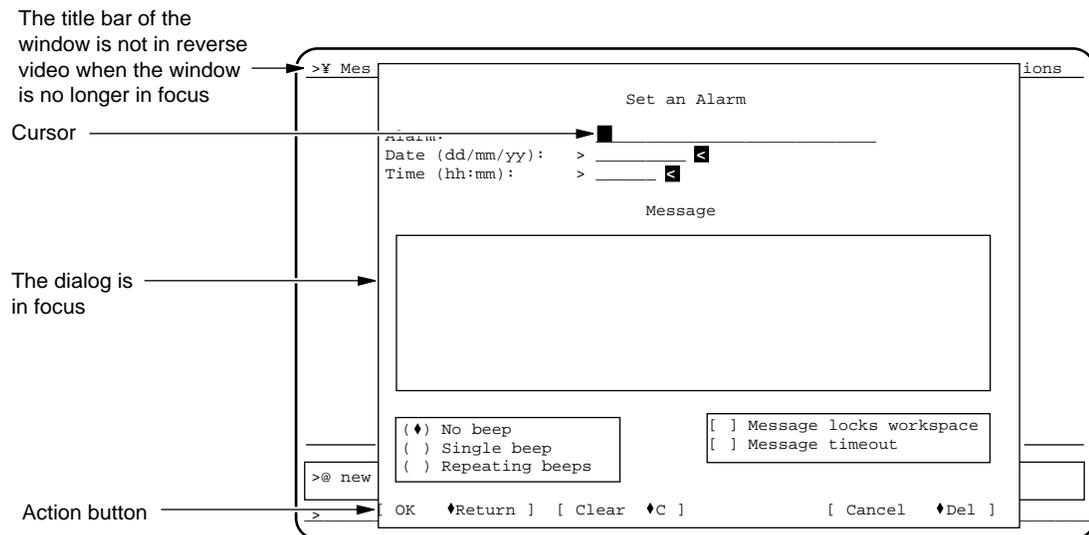
Using dialogs

Use this procedure to move a dialog window, move to another dialog window, close a dialog, and get help. Dialogs are subsidiary windows associated with a window. They appear in front of the tool to which they belong. The main window cannot be moved since it occupies the whole screen. Dialog windows can be moved and positioned where you want them.

Figure 2-18 shows the Set an Alarm dialog for entering information about a new alarm.

Figure 2-18
Example alarm dialog

FW-21038



Note: Some dialogs contain more text than can fit in the window (for example, the Set an Alarm dialog). You have to scroll to see all of the dialog. See “Scrolling in text fields” on page 2-10.

Step	Action
------	--------

To move a dialog

- 1 Enter drag mode by pressing **Ctrl_Z** (or keypad **PF3**).

—continued—

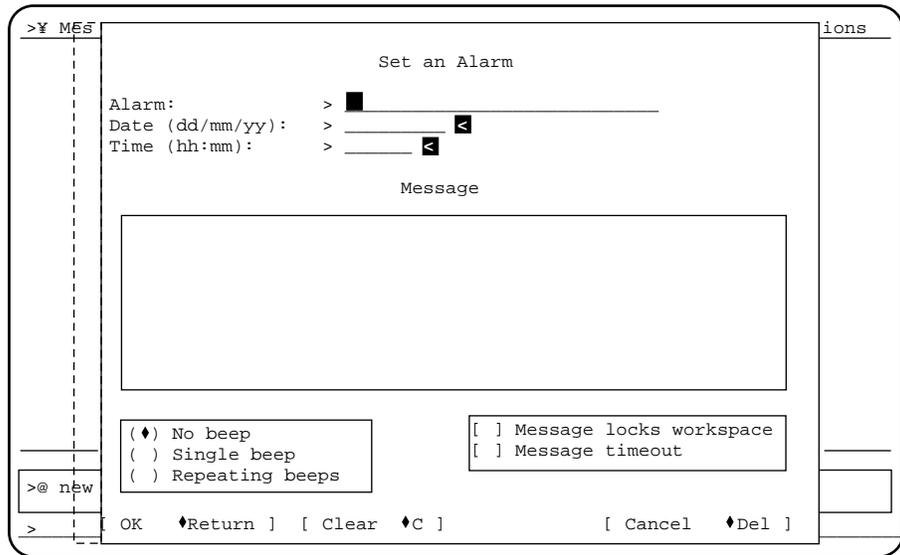
Procedure 2-8 (continued)
Using dialogs

- | Step | Action |
|------|---|
| 2 | Set the drag rate by pressing one of the following:
1 (for 1 line or 2 characters)
2 (for 2 lines or 5 characters)
3 (for 5 lines or ten characters) |
| 3 | Use the arrow keys to move the window left, right, up or down.
Note: Because of the size of the example dialog, it can be moved to the right and left only. |
| 4 | When the dialog is where you want it, exit the mode by pressing Ctrl_] (or keypad -).
<i>The main window appears and any changes are saved.</i> |
| 5 | To restore the dialog to its original position, cancel the mode by pressing Ctrl_^ (or keypad PF4). |

Figure 2-19 shows the dialog window moved toward the right of the screen.

Figure 2-19
Adjusted dialog window

FW-21039



To move from dialog to dialog

- 6 To enter window/dialog mode, press **Ctrl_W** (or keypad **PF2**).

—continued—

Procedure 2-8 (continued)
Using dialogs

Step	Action
-------------	---------------

- 7 Go to the next dialog, return to the previous dialog, or go to the home window, by doing one of the following:

If you want to	Do this
go to the next dialog	press +
return to the previous dialog	press -
go to the home window	press h

- 8 When the window/dialog you want appears on top, exit window/dialog mode by pressing **(Ctrl_)]** (or keypad **-**).

Note: Another way to cancel the mode and return to the initial dialog is by pressing **Ctrl_^** (or keypad **PF4**).

To close the dialog

- 9 Tab to the Cancel or OK button, then press **Ctrl_A** (or keypad **O**).

—end—

Procedure 2-9

Entering and editing information

Use this procedure to insert or delete characters and select blocks of text. You can then cut, paste, copy, and replace the selected text blocks.

When you want to add, delete or change the text in a list item, you must first select the item (Ctrl A or keypad 0), then display the list item menu (Ctrl_L or keypad Enter) to open the item (Space or keypad 0).

Step	Action
------	--------

- | | |
|---|---|
| 1 | To change text, position the cursor within the text where you want to edit. You can then <ul style="list-style-type: none">• Type in new text• Use the delete or backspace key to remove text. |
|---|---|

Selecting text blocks

To move, copy, or delete larger blocks of text, you must first select the text.

- | | |
|---|---|
| 2 | Use the arrow keys to position the cursor at the beginning of the block of text by pressing Ctrl_A (or keypad 0).
<i>The first letter in the text block is highlighted.</i> |
| 3 | Press Ctrl_Z (or keypad 0), then, use the arrow key to go to the end of the block of text you want to select.
<i>As you move along, the selected text is highlighted.</i> |

Note: You can change the selection using the arrow keys.

Cutting a text block

- | | |
|---|---|
| 4 | Cut a block of selected text by pressing Esc X .
<i>The selected text disappears.</i> |
|---|---|

Note: You can also display the field menu and choose Cut.

Pasting a text block

- | | |
|---|--|
| 5 | To paste a block of text you cut, position the cursor where you want the text to appear and press Esc V .
<i>The text appears in the new location.</i> |
|---|--|

Note: You can also display the field menu and choose Paste.

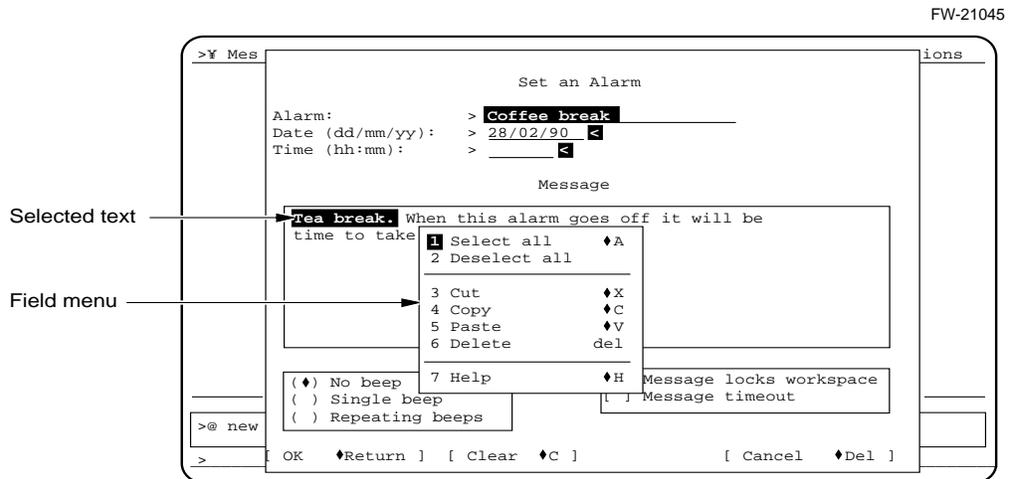
—continued—

Procedure 2-9 (continued)
Entering and editing information

Step Action

Figure 2-20 shows a block of selected text and the field menu. You can choose one of the actions in the menu or use the keystrokes that are described in this procedure.

Figure 2-20
Field menu



Copying and replacing a text block

- 6 After selecting the text you want to copy, press **Esc C** (or choose Copy from the field menu).
- 7 Tab to the beginning of the field where you want the text to appear, then press keypad **0**.
The selected text block remains highlighted.
- 8 Choose the **Select to here** command by pressing **Ctrl_Z** or keypad **1**. Using the arrow key, move the cursor to the end of text you want to replace, the press **Esc V**.

The text in the first block you selected is copied and replaces the text in the second block.

—end—

Editing shortcuts

Table 2-4 lists the basic editing commands as well as some miscellaneous commands you should know. The first five are also available on the object menu. (Remember, shortcuts can only be used when the menu is not displayed.)

Table 2-4
Editing commands

This editing command	Means
Esc A	Select all
Esc X	Cut
Esc C	Copy
Esc V	Paste
Backspace or Del	Delete backward
Esc (	Open
Esc)	Close
Esc <Return>	OK
Esc Del	Cancel
Esc H or Esc ?	Help

Using a command pane

Use Command panes to send typed UNIX commands to a tool. Command panes have the following two parts:

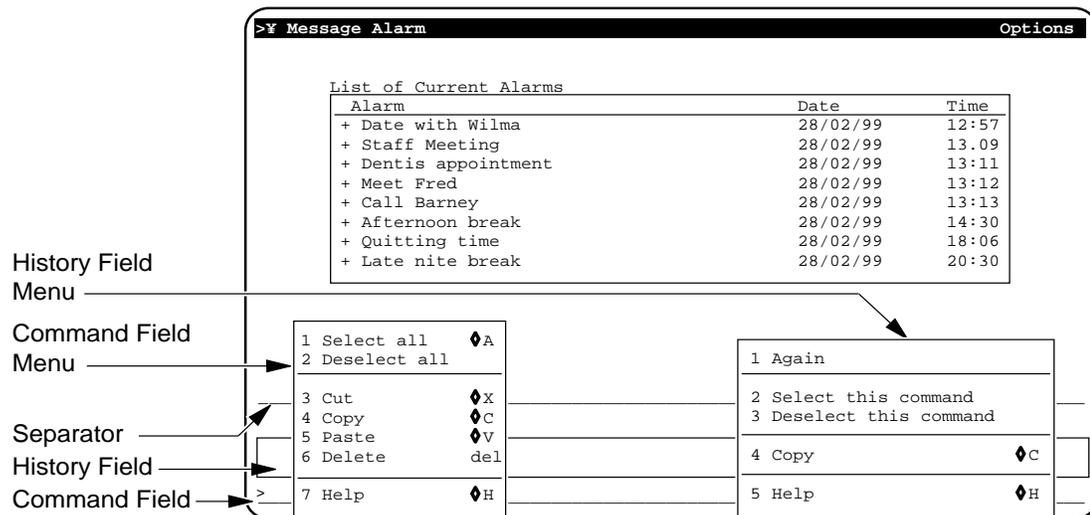
- a command field, where you enter commands
- a history field, which keeps a record of the commands you enter

Open the tool menu labeled Options on the title bar (keypad, or **Ctrl_L T**) and choose Command area. A command pane appears in the bottom half of the window.

Figure 2-21 shows the Command area and the two available menus.

Figure 2-21
UNIX command pane

FW-0718



The command you enter are recorded in the history field. You can copy an old command and paste it into the command field using keyboard editing commands (or through the menus).

You can increase or decrease the size of a field by activating the resize function. Press **Ctrl_R** to turn resizing on, then use the up/down keys to move the pane separator as required.

To end resizing press **Ctrl_1** or keypad **—**. To cancel resizing press **Ctrl_^** or keypad **PF4**.

Using UNIX

UNIX command strings

The UNIX command string that you enter at the OPC user interface appears in bold type, followed by a (↵) Return or Enter symbol, as follows:

admin ip ↵

Type the command string exactly as shown (including spaces) and end by pressing Return. If a command string shows characters in uppercase letters, enter these characters in uppercase. All UNIX commands are case sensitive.

If the command string continues onto a second line, an ellipsis (...) is shown at the end of the first line to indicate a space. Do not press Return. Press Return only when you see the ↵ symbol in the instructions.

Variable parameters are enclosed by angle brackets. An explanation of the variable including a range of values is included immediately after the command string, as follows:

dtlport <port#> ↵

where

<port#> user interface port number **1** or **2**

System prompts and responses are printed and capitalized as they appear on the screen, as follows:

type your password

The result of an action is shown in italic type, as follows:

The alarm screen appears.

UNIX editor quick reference

The UNIX editor (vi) can be used to edit OPC files. This section contains a brief vi guide, which is adequate for OPC administration. The vi editor has many more commands and capabilities. For more information, consult a book such as *An Introduction to Display Editing with Vi*, by W.M. Joy and M. Horton, or *Vi Command and Function Reference*, by A.P.W. Hewett and M. Horton.

The vi editor has two basic modes: command mode and insert mode. Letters typed in command mode execute the commands listed in Table 2-5. Letters typed in insert mode are added as text. To get into the insert mode, type a or i. To get out of insert mode, press the Esc key.

Table 2-5
UNIX commands

Function	Action	Command
managing files	open a file save a file close a file save and close a file close a file, without saving changes	vi [filename] :w [filename] :q :wq :q!
moving around	up/down 1 line left/right 1 character	up/down arrows left/right arrows
inserting text	append text after the cursor insert text before the cursor open new line below current line end insertion, return to command mode	a i o ESC
deleting text	delete character delete line	x dd
finding text	search forward	/<text>
copying text	copy lines to temporary storage paste copied lines below current line	[number of lines]Y p
other commands	undo last change	u

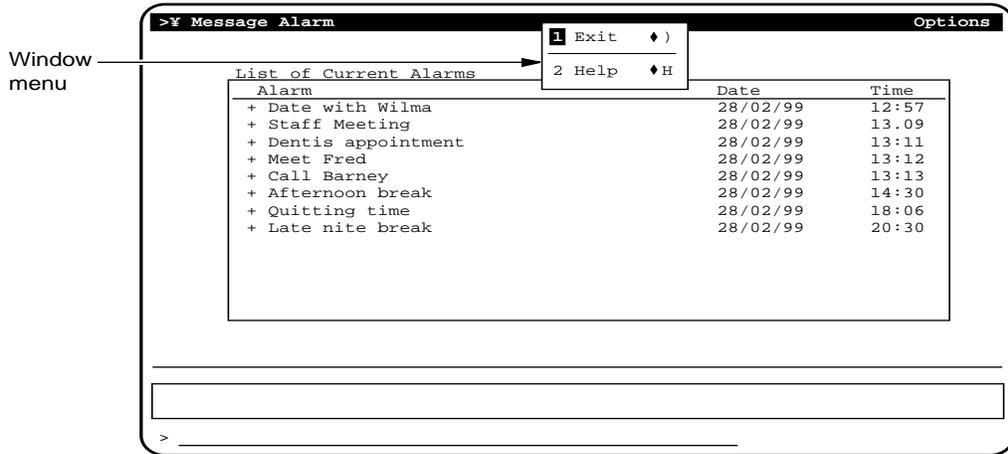
Procedure 2-10 Closing a tool

Use this procedure to return to the User Session Manager when you are finished with a tool.

Figure 2-22 shows the window menu where you can close a tool.

Figure 2-22
Closing a tool

FW21047



Step	Action
------	--------

- 1 Open the window menu by pressing **Ctrl_L W** (or keypad **6**).
- 2 To close the tool, choose **Exit**.

Note: Press **Esc + Esc** (Escape twice) to return to the current tool window without exiting.

A confirmation dialog appears asking you whether you want to save the changes you have made.

FW-21048



- 3 Tab to the button you want, then press **Ctrl_A** (or keypad **0**).

—end—

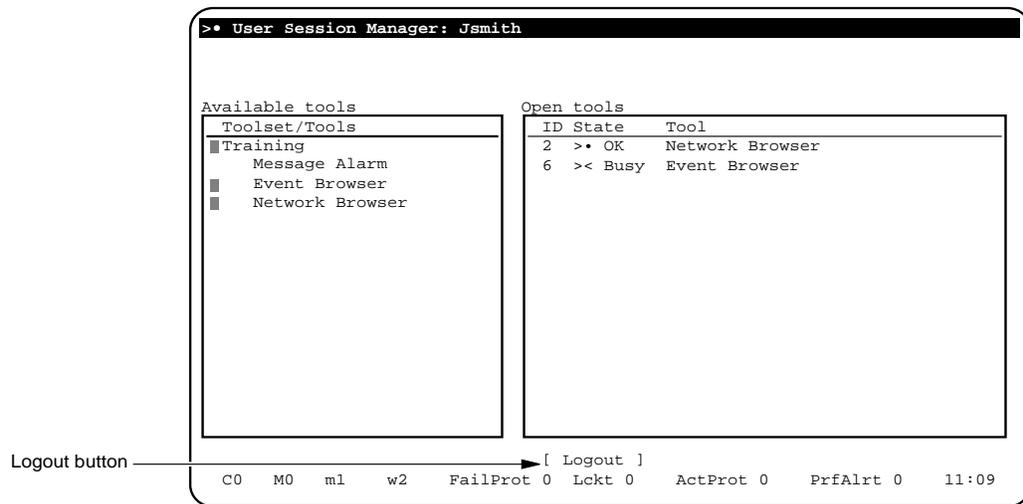
Procedure 2-11

Logging out

Use this procedure to end your work session. When you close a tool, you return to the User Session Manager. Figure 2-23 shows that the Alarm tool, that has been used throughout the example figures in this section, is no longer in the open tools list since it was closed using Procedure 2-10, “Closing a tool.”

Figure 2-23
Logout button

FW-0721



Step	Action
------	--------

- | | |
|---|---|
| 1 | To log out, tab to the Logout button, then press Ctrl_A (or keypad 0).
<i>A confirmation dialog appears, asking you to confirm your intention.</i> |
| 2 | Tab to the button you want, then press Ctrl_A (or keypad 0). <ul style="list-style-type: none"> If you select the Logout button, your session ends.
<i>All open windows are closed automatically. If there are any unsaved changes in a window, a dialog may appear asking whether to save changes before closing, or whether to cancel the logout command.</i> If you select Return, you return to the tool window you were using when you chose to exit. If you select the Cancel button, you return to the User Session Manager to choose another option. |

—end—

Using the OPC graphical user interface

This chapter introduces the operations controller (OPC) graphical user interface. If you are using a character-mode (VT100 type) terminal, see “Using the OPC character-mode user interface” on page 2-1.

The OPC graphical user interface can be accessed from several types of workstations. The keyboard and the mouse are both used to perform the actions required during OPC work sessions.

This chapter describes how to use the mouse and keyboard and outlines the procedures to follow when using OPC tools.

Note: For information about the Windows 95-based OPC GUI see the section “OPC GUI” on page 1-3.

Chapter task list

This chapter includes the following tasks:

Procedure	Task	See
3-1	Logging in	page 3-5
3-2	Accessing the workspace menu	page 3-8
3-3	Displaying a menu and choosing an option	page 3-11
3-4	Targeting a window	page 3-12
3-5	Sending windows forward or backward	page 3-13
3-6	Moving windows	page 3-14
3-7	Minimizing windows	page 3-16
3-8	Maximizing windows	page 3-17
3-9	Restoring a window	page 3-18
—continued—		

3-2 Using the OPC graphical user interface

Procedure	Task	See
3-10	Resizing a window	page 3-20
3-11	Scrolling	page 3-22
3-12	Getting help	page 3-24
3-13	Accessing tools	page 3-28
3-14	Using tool menus	page 3-31
3-15	Using tool lists	page 3-34
3-16	Entering information	page 3-36
3-17	Editing text	page 3-42
3-18	Closing a tool	page 3-45
3-19	Logging out	page 3-47
—end—		

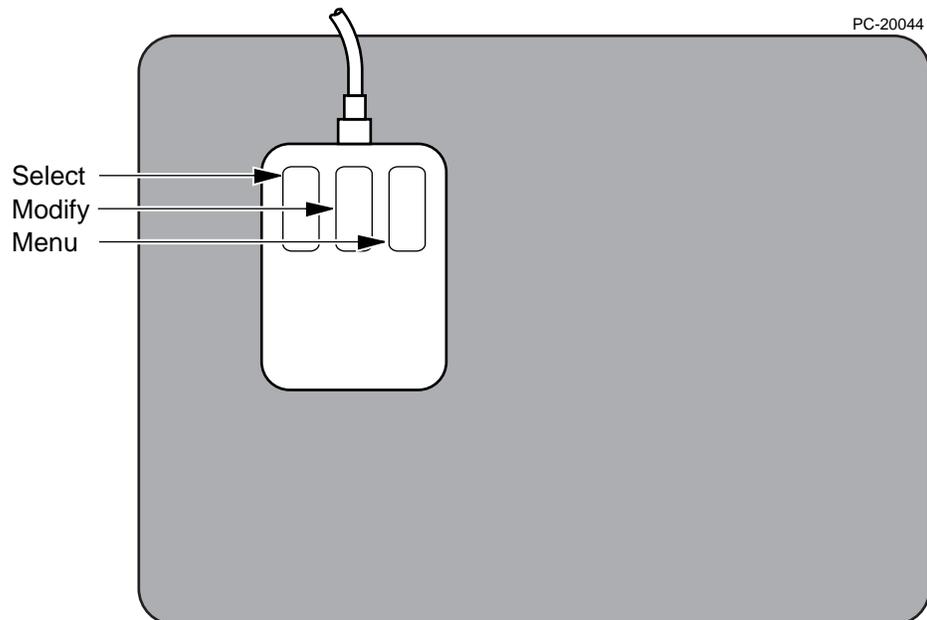
Moving through the graphical interface

You use the mouse to select menus and items and to perform tasks during an OPC session. In most cases, there are alternative keystrokes and shortcut keys to perform these functions and tasks. This section provides an overview of the methods you can use in the OPC graphical user interface.

Using the mouse

The mouse is a small plastic box with three buttons. It is attached to your workstation by a cord and sits on a pad. As you move the mouse, the cursor on the screen moves.

Figure 3-1
Mouse buttons



Note: An optical mouse has an LED on its underside. To work properly, the pad for an optical mouse should be aligned so the long sides are at the top and bottom.

Table 3-1
Mouse button actions

Use this button	In this position	To do this
Select	usually the left mouse button	make selections. To do this, move the cursor to a specific place on the screen, press and hold down the left mouse button, move the cursor to highlight the information you want, then release the button.
Modify	usually the center mouse button	modify selections.
Menu	usually the right mouse button	display a menu of commands or a choice of data values. To do this, move the cursor to a specific place on the screen, press and hold down the right mouse button, move the cursor to the menu item you want, then release the button.

The Select, Modify, and Menu buttons also have window manipulation functions, described in “Managing the workspace” on page 3-10.

Using the keyboard

Keyboard strokes are most often combined with either the Alt key, the Shift key, or the Control key and are referred to as shortcut keys. They are used directly from the window that is active and do not require you to view or select from a menu.

When you use the Alt, Shift or Control key as part of a keyboard combination, hold that key down while you press the other key. A Plus sign, as in Ctrl+K, indicates this hold-and-press action.

Note: On the HP 9000 keyboard, the Alt key is labeled “Extend char.” On some Sun keyboards, it is labeled “Left” and “Right,” and on others with a symbol. On NCD X terminals, it is labeled “Alt.” Use the key on your keyboard that is appropriate.

Shortcuts are used in the interface to provide keyboard equivalents for common activities that would otherwise have to be activated using the mouse. When you access the menus, shortcut key combinations for each action are shown on the right for your reference. The shortcut key combinations, however, do not operate from the menus; instead, they are used directly from the active window. The following procedures explain the shortcut key combinations you can use, as well as the comparable mouse actions.

Procedure 3-1 Logging in

When you first boot up the system, the following dialog appears asking for your name and password. All workstation users must have their own user IDs and passwords. If you do not know your userID and password see your systems administrator.

Figure 3-2
Login window

PC-21160

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User ID:

Password:

Done **Alt+Return**

Action

Step	Action
1	Enter your userID and password in the appropriate fields. <i>Your password is not displayed when you enter it.</i> Note: Do not use capital letters unless the capitalization is part of the password. The system treats upper case and lower case letters differently. Use the mouse or your Tab key to move between fields.
2	When you have finished, press Return , or click on Done with the Select (left) button on your mouse. <i>Once you have successfully logged in, a grey workspace appears with toolset icons at the top left of the screen.</i>

—continued—

Procedure 3-1 (continued)

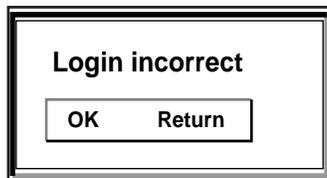
Logging in

Step	Action
-------------	---------------

If you make a mistake, the system displays the following message asking you to try again.

Figure 3-3
Incorrect login message

PC-21158



3 Click **OK** with the Select (left) button of the mouse.

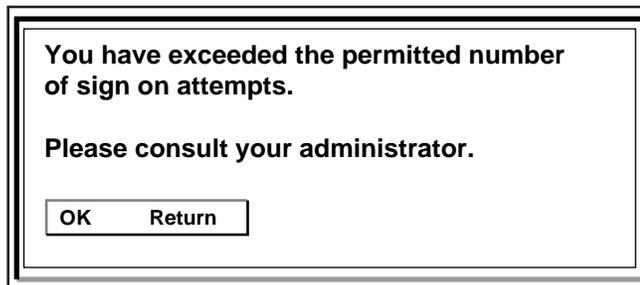
Both fields are cleared.

4 Reenter both userID and password correctly.

You are allowed a limited number of attempts, after which the following message appears.

Figure 3-4
Login exceeded message

PC-21159



If this message appears, the System Administrator must log in as the root user and reset the system record of invalid login attempts before you can try again.

—end—

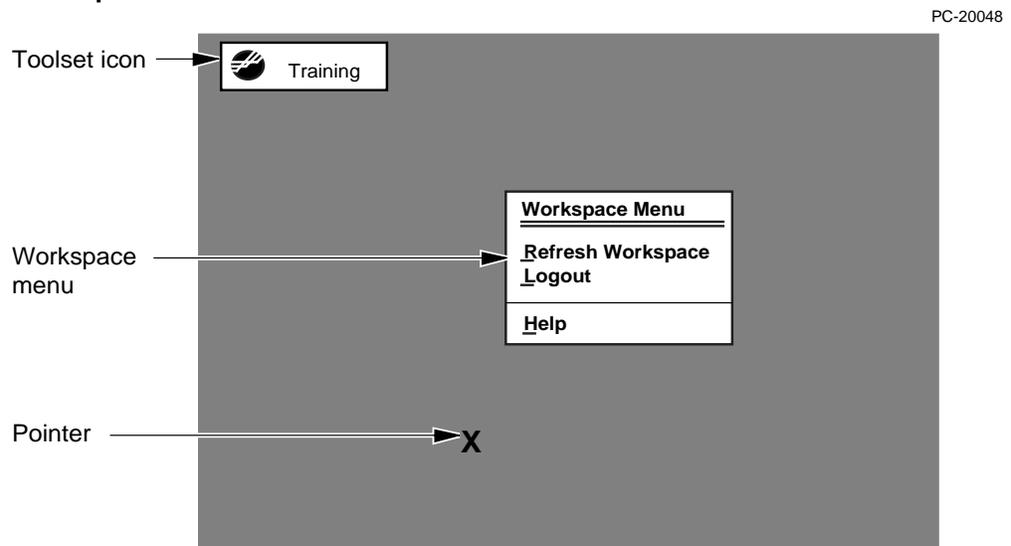
Using the workspace

The workspace is a gray screen with one icon in the top left corner and a pointer that looks like an X.

The icon in the top left corner of the workspace represents the training toolset. Toolsets are collections of tools.

A workspace menu remains hidden when you first log in. When it is active, it allows you to log out of the workstation, refresh the workspace or a window within it, or get help. To access the functions in the workspace menu, follow the steps in Procedure 3-2 on page 3-8.

Figure 3-5
Workspace window



Procedure 3-2

Accessing the workspace menu

Use this procedure to refresh the workspace screen, to logout out of the work session and to get help. The workspace menu controls actions that affect your sessions as a whole.

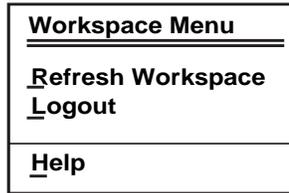
Action

Step	Action
------	--------

- 1 With the pointer in the workspace background, **Press and hold** the Menu (right) mouse button.

The workspace menu appears.

PC-20243



To refresh the workspace screen

- 2 Still holding the Menu (right) mouse button, move the cursor to Refresh Workspace and release the button.

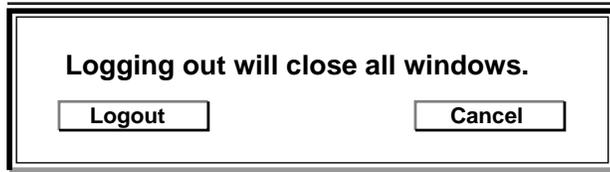
The system redraws the screen image, reflecting any changes you made.

To logout of the work session

- 3 Holding the Menu (right) mouse button, move the cursor to Logout and release.

The following dialog appears, asking you to confirm your intentions. Choosing Cancel returns you to the screen where you chose to logout.

PC-21157



—continued—

Procedure 3-2 (continued)

Accessing the workspace menu

Step	Action
-------------	---------------

To get help for the workspace

- 4** With the mouse held down, move the cursor to the Help selection and release the button.

The help window is displayed, describing how to use the workspace.

Note: Most menu items show underlined characters, such as **R**, **L** or **H** as seen in the Workspace Menu above. Pressing the underlined key on the keyboard performs the same action as selecting the option with the mouse.

—end—

Managing the workspace

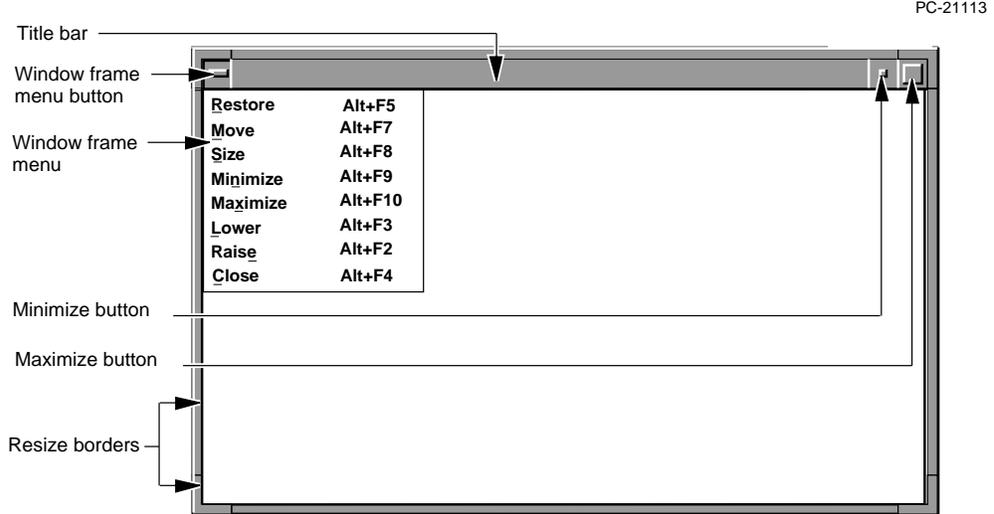
All windows are surrounded by a frame (see Figure 3-6). The frame allows you to use the mouse to manipulate the window. Using the mouse, you can:

- target a window
- send a window forward or backward
- move a window around the workspace
- resize a window
- change a window into an icon (minimize)
- enlarge a window to its maximum size (maximize)
- restore a minimized or maximized window to the previous size and location in the workspace

Note: The keyboard can also be used to perform the same window operations. Key combinations you can use in the following procedures are included with the mouse actions.

Figure 3-6 shows a window frame with the frame menu visible. To display the window frame menu, see Procedure 3-3 on page 3-11.

Figure 3-6
Frame around windows



Using the **Select** (left) mouse button you can click on or drag to change the size and shape of the frame window or to move it from one side to another.

Note: A dialog is the primary method of user interaction with any tool and is a data display area or data entry area. The frame around dialog windows does not have a title bar, a minimize button, a maximize button, or a frame menu button. There are also no handle bars or resize borders.

Procedure 3-3

Displaying a menu and choosing an option

Use this procedure to display a window frame menu and choose an option.

Step	Action
1	With the cursor on the window frame menu button in the upper left corner of the frame, press the Select (left) mouse button. (If using the keyboard, press Alt+Space .) <i>The window frame menu appears.</i>
2	Press the Select (left) button on the operation you want to perform on the frame. (With the keyboard, use the arrow keys to move to the item and press Return .) Note: You can perform any of the operations listed in the frame window menu without opening the menu. Press the shortcut key combination shown to the right in the pulldown menu, for example, press Alt+F4 to close the frame.

—end—

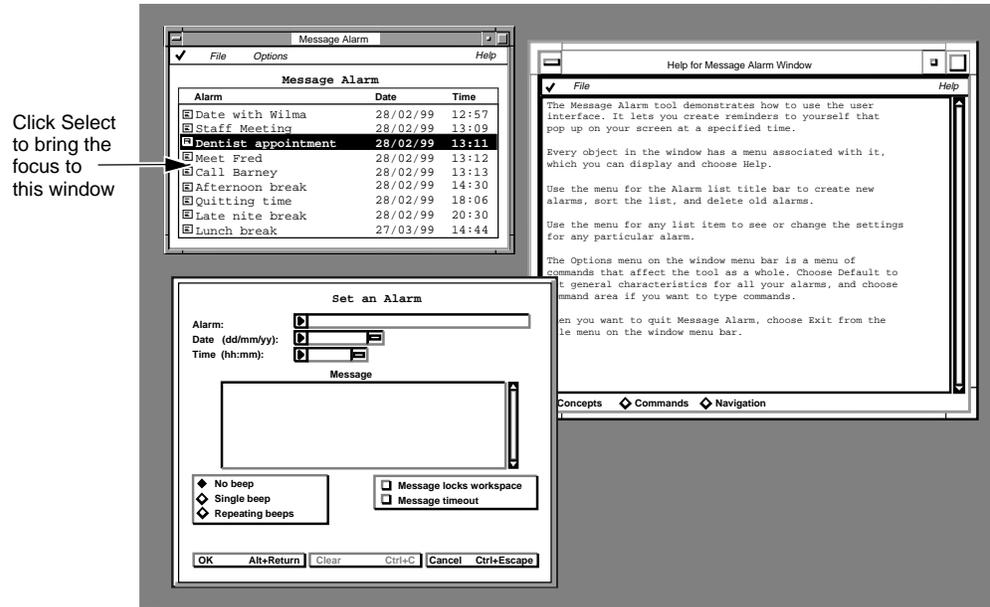
Procedure 3-4 Targeting a window

Use this procedure to target the window you want. The window that is in focus (that is, the target window) appears with its frame grey and its title bar and left border darkened. (The left and top borders of dialog windows appear darkened.)

Keyboard input affects only the window (or dialog) that is currently in focus. Figure 3-7 shows a window that is in focus in the main window.

Figure 3-7
Targeting windows

PC-21095



Step Action

1 To target the window you want, move the cursor into the window frame, then press the **Select** (left) button.

Using the keyboard, you can:

- Press **Alt+F6** from the main window to target the dialog for a single tool
- Press **Alt+Tab** to move from one main window to another.

Note: When you target a Help window, it takes the focus but does not come to the front.

—end—

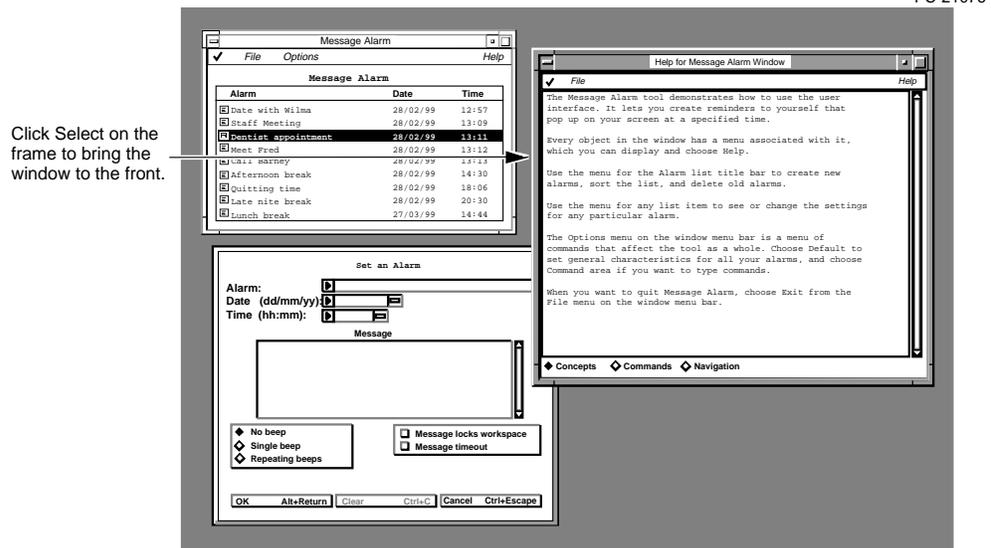
Procedure 3-5

Sending windows forward or backward

Use this procedure to move a window forward or backward. Sometimes windows get stacked up and the one you want is not at the front.

Figure 3-8 shows a window that is forward in the workspace.

Figure 3-8
Sending a window forward



Step Action

Bringing a window to the front

- 1 Using the mouse, position the cursor on the frame of a window, then click **Select**. (From the keyboard, press **Alt+F2**.)

The window you chose appears forward of all other open windows.

Note 1: When using the keyboard, the window or dialog that you want to bring to the front must be targeted first.

Note 2: You cannot raise a main window over any of its dialogs.

Sending a window to the back

- 2 Using the mouse, position the cursor on a window frame, then hold down the **Shift** key and click the **Select** button. (From the keyboard, press **Alt+F3**.)

Note: When using the keyboard, the window or dialog that you want to send to the back must be targeted first.

—end—

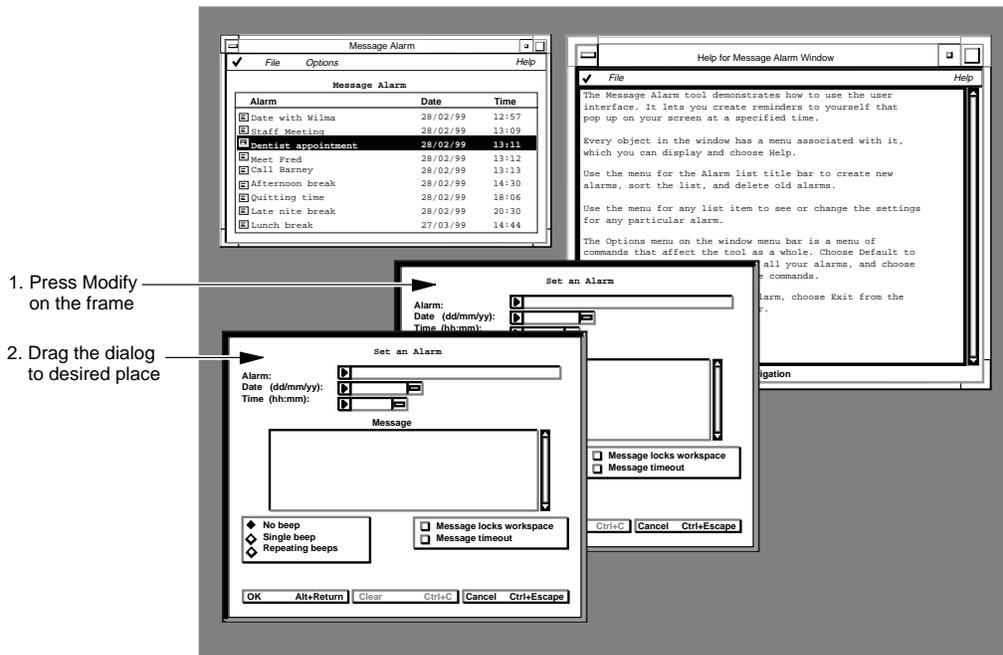
Procedure 3-6 Moving windows

Use this procedure to move both windows and dialogs around the workspace. For example, you may want to move a window so that it doesn't obscure the help window.

Figure 3-9 shows how a window can be moved.

Figure 3-9
Moving a window

PC-21100



Step	Action
------	--------

- | | |
|---|--|
| 1 | Using the mouse, position the cursor anywhere on the frame, then press and hold the Modify (center) button.
<i>The window you chose becomes focused.</i> |
| 2 | Continuing to hold the mouse button, move the window to another location in the workspace.
<i>The window moves with the cursor.</i> |
| 3 | Release the Modify button when the dialog is correctly positioned.
<i>The window remains where you placed it and is focused.</i> |

—continued—

Procedure 3-6 (continued)

Moving windows

Step	Action
-------------	---------------

Using the keyboard, you can:

- Bring the window you want into focus, then press **Alt+F7**
- Use the arrow keys to move the window
- Press **Return** when you have correctly positioned the window

The window remains where you moved it and is in focus.

—end—

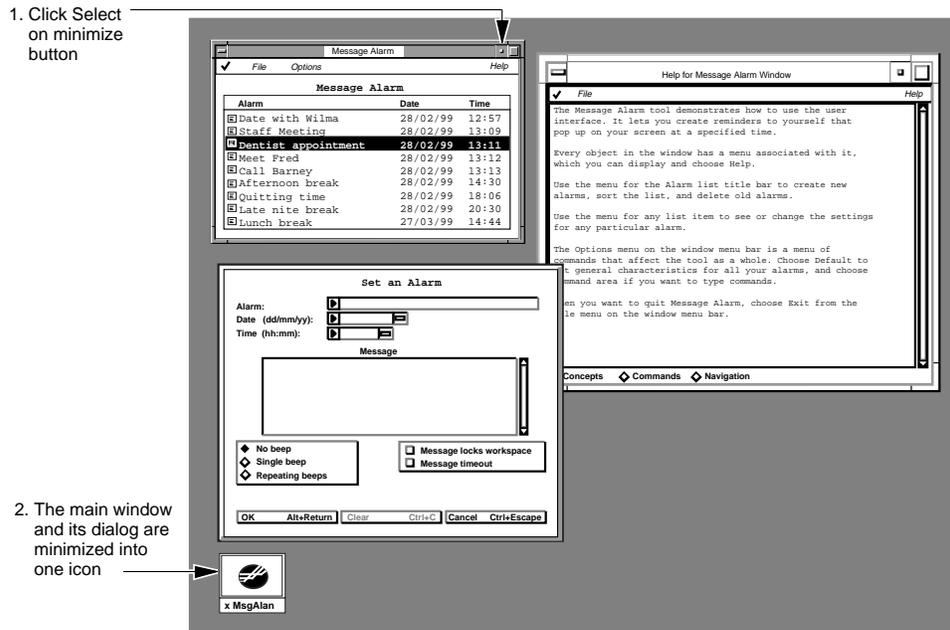
Procedure 3-7 Minimizing windows

Use this procedure to reduce any window to icon size. Minimized windows are still active and can continue processing.

Figure 3-10 shows a window that has been minimized to icon size.

Figure 3-10
Minimizing windows

PC-21099



Step	Action
------	--------

- | | |
|---|---|
| 1 | Using the mouse, position the cursor on the minimize button in the upper right corner of the window you want to reduce, then click the Select (left) mouse button. |
|---|---|

The window and associated dialogs become an icon that is placed at the bottom left of the workspace.

Using the keyboard, do the following:

- Bring the window you want to reduce into focus, then press **Alt+F9**.

The window and associated dialogs become an icon.

- Move the icon to the left side of the workspace to keep it out of the way.

Note: You can move icons the same way you move windows.

—end—

Procedure 3-8

Maximizing windows

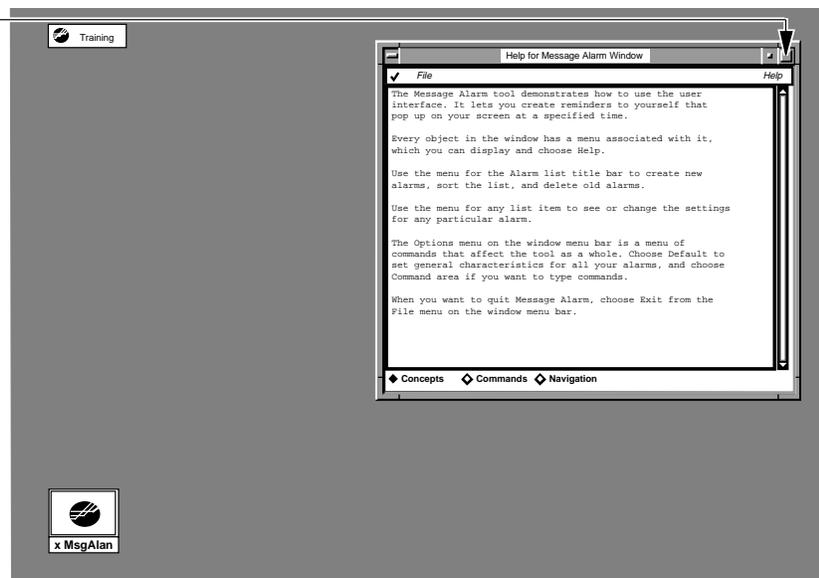
Use this procedure to increase the size of any window to the maximum allowable size. In the following example, the Help window is maximized.

Figure 3-11 shows the location of the maximize button in a focused Help window.

Figure 3-11
Maximize button

PC-21102

Click Select
on maximize
button



Step	Action
1	<p>Using the mouse, position the cursor on the maximize button of the window, then click the Select (left) mouse button.</p> <p><i>The window fills the screen.</i></p> <p>Using the keyboard, bring the window into focus, then press Alt+F10.</p> <p><i>The window fills the screen.</i></p> <p>Note: On Sun 3 keyboards, F10 is not available and another key must be used.</p>

—end—

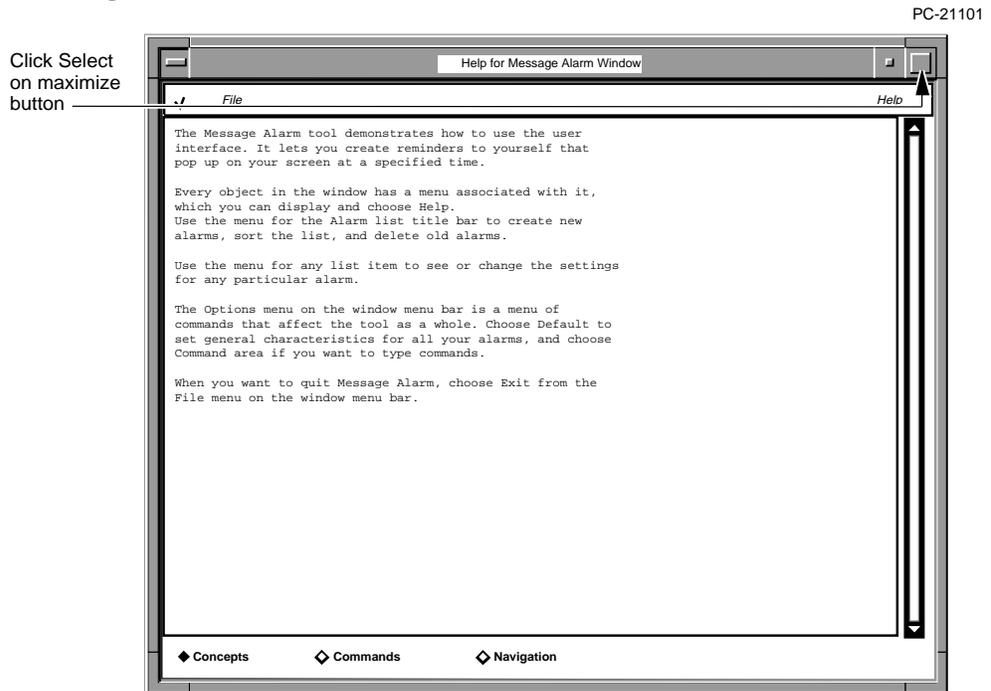
Procedure 3-9

Restoring a window

Use this procedure to restore windows to their previous size and location that have been maximized or minimized.

Figure 3-12 shows a maximized window and its resize buttons.

Figure 3-12
Restoring a maximized window



Step	Action
------	--------

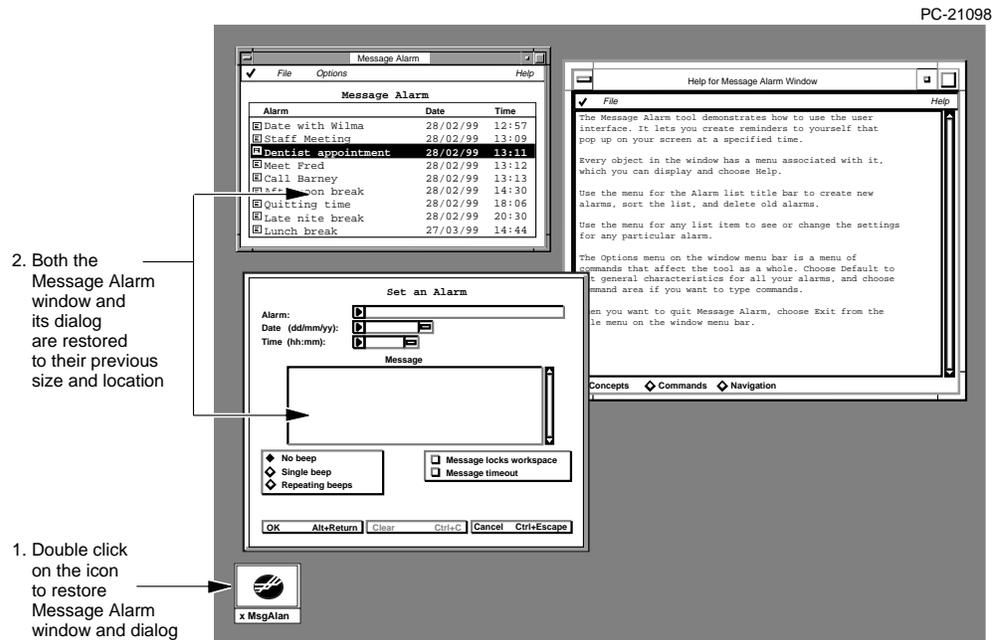
Restoring a window from maximum size

- 1 Using the mouse, position the cursor on the maximize button in the upper right corner of the window, then click the **Select** (left) mouse button.
Using the keyboard, bring the window into focus and press **Alt+F5**.
The window returns to its original size and location.

—continued—

Procedure 3-9 (continued)
Restoring a window

Step Action



Restoring a window from icon size

- 2 Using the mouse, position the cursor on the icon, then **double click** the **Select** (left) mouse button.

Note: To double click, press down and release the mouse button quickly, two times.

Using the keyboard, bring the icon into focus, then press **Alt+F5**.

The main window and its associated dialog return to their previous size and location.

—end—

Procedure 3-10 Resizing a window

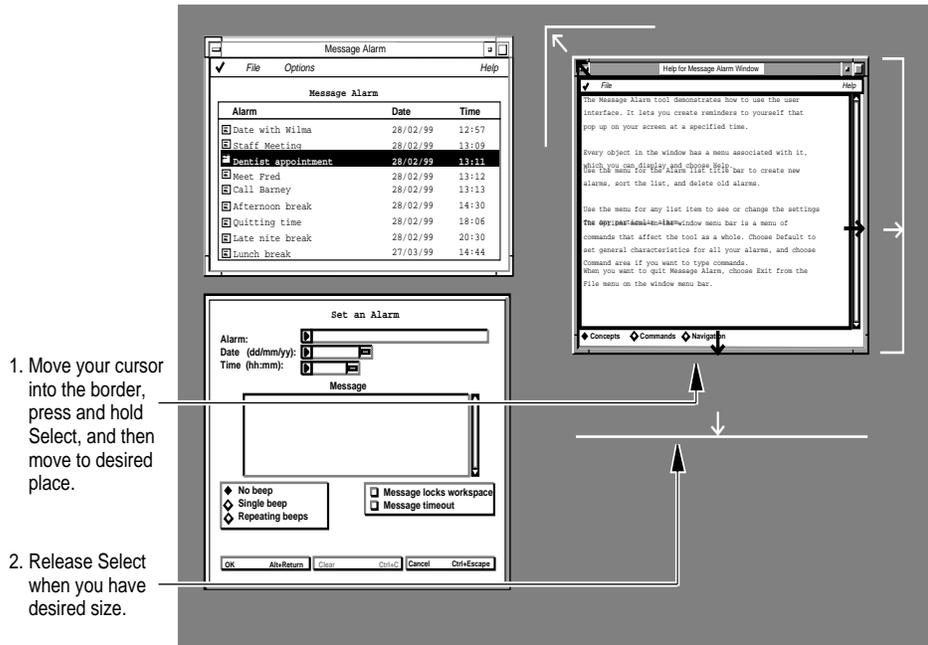
Use this procedure to increase or decrease the size of any window horizontally, vertically or proportionally.

Note: Some tools restrict the resizing of their windows and do not allow you to reduce or enlarge them beyond a certain size.

Figure 3-13 shows the borders around windows that you use to change their size and shape.

Figure 3-13
Resizing a window

PC-21114



Step	Action
------	--------

- | | |
|---|---|
| 1 | Using the mouse, position the cursor in the left, right, top, bottom or any corner of the border you want to change.
<i>The cursor changes shape to indicate the direction of size change chosen.</i>
Using the keyboard, tab to the window you want to change, the press Alt+F8 to activate resize mode.
<i>The window title bar lightens.</i> |
|---|---|

—continued—

Procedure 3-10 (continued)
Resizing a window

Step	Action
2	<p>Press and hold the Select (left) mouse button and move the pointer in the direction you want to go.</p> <p><i>The border of the window follows the cursor.</i></p> <p>With the keyboard, press and hold the appropriate arrow key (left or right for width, up or down for height).</p> <p><i>The border of the window moves with the arrow.</i></p>
3	<p>Release the Select button when you reach the desired size.</p> <p><i>The sizing stops.</i></p> <p>On the keyboard, release the arrow key when you reach the desired size, then press Return to exit the resize mode.</p>

—end—

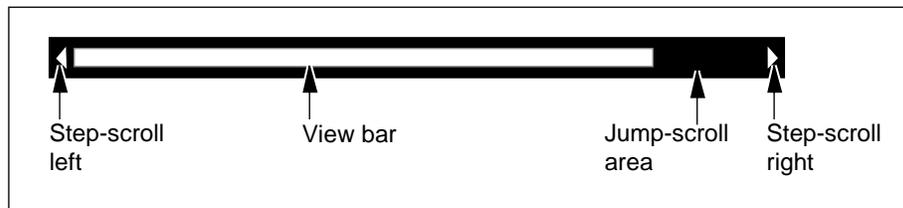
Procedure 3-11 Scrolling

Use this procedure to display text or lists that exceed the size of a window. Scroll bars appear when a window, field, or list cannot fully display its contents. Both vertical and horizontal scroll bars can appear, however, not all windows produce scroll bars.

A scroll bar has an arrow button at each end of a trough and a slider (or view bar) in the trough. The slider represents the current position and size of the viewed portion of the data relative to all the data (as represented by the trough). When the slider totally fills the trough, all the data is visible.

Figure 3-14 shows three distinct areas of scroll bars.

Figure 3-14
Scroll bar



When you use the keyboard to scroll, you can use the arrow keys to move the cursor up or down, line by line, through lists and multi-line text fields. To move more quickly either up, down, left or right, press Page Up or Page Down.

Note: The Page Up and Page Down keys may vary depending on the type of keyboard you are using. For HP keyboards, Prev and Next may be used; for SUN3, F29 and F35; and for SUN 4 keyboards, PgUp and PgDn may be the keys to use.

—continued—

Procedure 3-11 (continued)

Scrolling

When you use the mouse to scroll, there are several ways to navigate through text or lists that exceed the window's size.

Step	Action
------	--------

Dragging the scroll bar within a window

- 1 Move the cursor to the slider (view bar), then press and hold the **Select** (left) mouse button. Drag the mouse until the information you want is visible on the screen.

Paging through the information in a window

- 2 Move the cursor to the trough on either side of the view bar. Click the **Select** (left) mouse button to page up or down (or left or right).

Stepping through the information in a window

- 3 Move the cursor to the arrow buttons located at the end of the trough, then click the **Select** (left) mouse button.

Accessing information in a window directly

- 4 Move the cursor to the desired place on the trough, and click the **Menu** (right) mouse button.

—end—

Procedure 3-12 Getting help

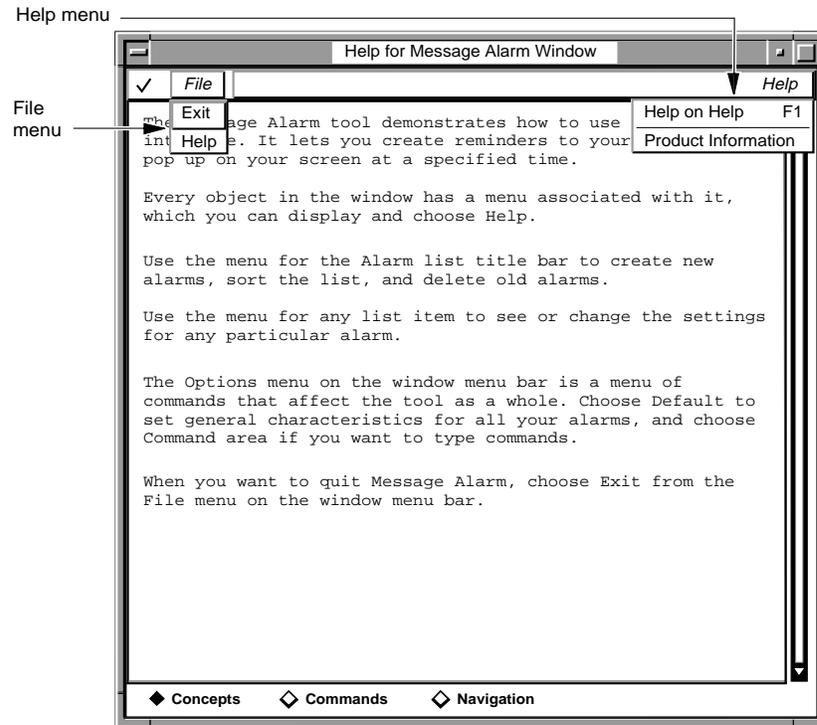
Use this procedure to access the Help that is available whenever you are logged in to the OPC. Online help is available for every window and dialog and for all objects within a window or dialog.

There are three kinds of Help: Concepts, Commands and Navigation. When you access Help from within a tool, the Concepts Help appears. You can choose the Commands or Navigation Help at the bottom of the screen by clicking on the appropriate button with the mouse.

Figure 3-15 shows how you can access Help and the buttons that select another type of help.

Figure 3-15
Help screen options

PC-21073



You can choose Help from the background menu or from the menu bar item at the far upper right of a window. The available Help can include: an overview of the tool you are using when you request Help; Using Help; Navigation; and Product Information.

—continued—

Procedure 3-12 (continued)

Getting help

Note: For dialogs, there is no Menu bar, so help is available only from the background menu.

Step	Action
-------------	---------------

Help on a window

- 1 Using the mouse, move the cursor to the background then press the **Menu** (right) mouse button.

The background menu appears.

- 2 Move the cursor to the Help entry, then release the Menu button.

Using the keyboard, press **F1**.

Help appears at the top right of the screen in a separate window.

Note: When the help window appears, it displays Concepts help. Concepts help gives you a general explanation of the purpose of the object (in this case, the Message Alarm main window). Concepts and Navigation help types are always provided; other types may or may not be.

Viewing another Help type

- 3 Using the mouse, move the cursor to the appropriate button at the bottom of the window, then click the **Select** (left) mouse button.

Using the keyboard, move the cursor using the arrow keys to the appropriate help type, then press **Return**.

The content of the help window changes for each type of help.

Note: Figure 3-16 shows a window for commands help which describes the command functions.

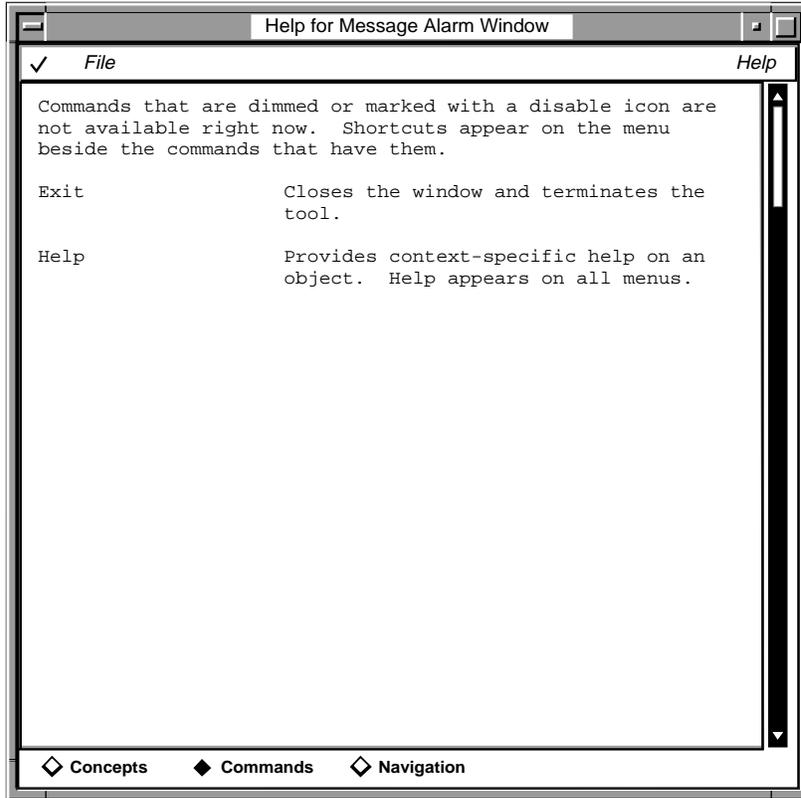
—continued—

Procedure 3-12 (continued)
Getting help

Step Action

Figure 3-16
Commands help

PC-21074



Help for Commands describes the commands on the menu. For example, for an object such as a List menu, help for commands describes the commands on the List menu. Help for Navigation describes how to navigate around the screen, as well as how to perform basic functions.

—continued—

Procedure 3-12 (continued)
Getting help

Step	Action
------	--------

Getting help for help

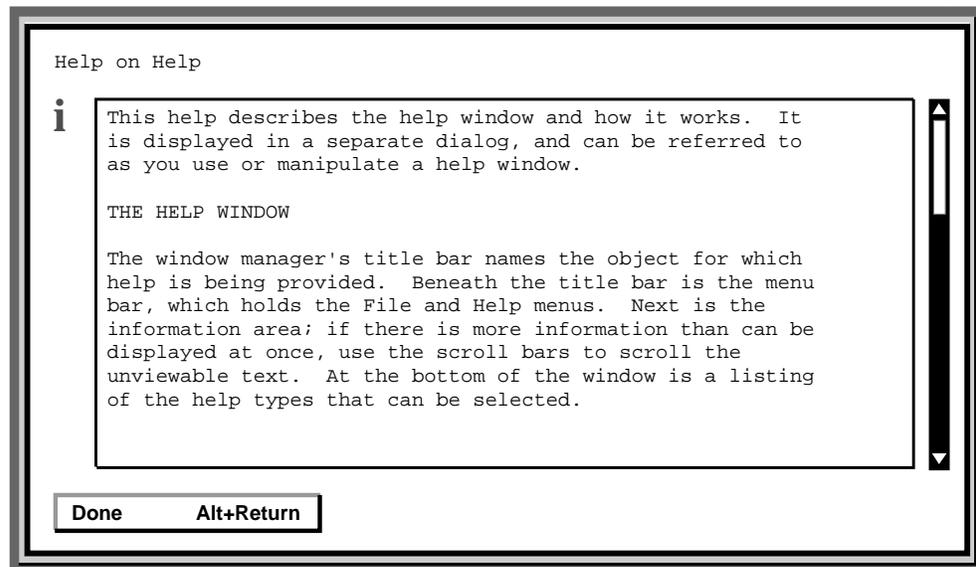
- 4 Using the mouse, move the cursor to Help in the menu bar and press the Menu (right) mouse button.

Using the keyboard, press **Ctrl+H** or **F1**.

The Help on Help window appears.

Note: Help on Help describes the help window and how it works. It appears in a separate dialog, and can be referenced as you use or manipulate a help window.

PC-21075

**Return to a help screen**

- 5 Using the mouse, move the cursor to **Done**, then press the **Select** (left) button.

Using the keyboard, press **Alt+Return**.

You are returned to the previous Help window.

Exiting help

- 6 Close the help window by choosing **Exit** from its File menu.

The help window closes and you are returned to the tool window.

—end—

Procedure 3-13 Accessing tools

Use this procedure to access the OPC tools. OPC software is organized into small parts called tools. A tool is a discrete unit of functionality designed to facilitate a particular type of user task. The same tool can be used in different situations to perform similar tasks.

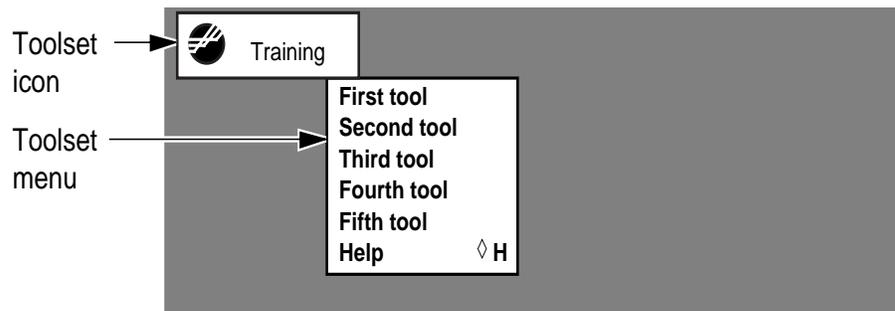
Tools are grouped into toolsets which are groups of related tools and are represented in the workspace by icons. The tools that toolsets contain can be chosen from the toolset menu.

Step	Action
------	--------

Displaying the toolset menu

- 1 Move the cursor to the toolset icon, then press and hold the **Menu** (right) mouse button (or tab to the toolset icon and press **F4**).

The toolset menu appears.



Starting a tool from a toolset menu

- 2 Holding down the mouse button, move the cursor over the tool you want to start (or use the arrow keys to move the cursor).

The menu item is highlighted.

- 3 Release the Menu button (or press **Return**)

After a short delay, the tool opens.

Note 1: Tools can sometimes be started from within other tools. The new tool inherits context from the previous one. For example, if you access help from within another tool, it shows help for the tool from where you accessed help.

Note 2: You can access most tools more than once in a session, each with a different context. Help, however, can be accessed only once, to cut down on the number of windows.

—continued—

Procedure 3-13 (continued)
Accessing tools

Step Action

Status icons

The following status icons can appear in the tool's main window status area (at the left of the title bar), or beside a list item or field. They indicate the current status of that tool, list item, or field.

Figure 3-17
Status icons

PC-20202

	OK Ready for keyboard or pointer input. No alarm is active.
	Error The window contains errors, or the tool has encountered an error.
	Printing The window cannot accept input because the tool is printing.
	Processing The window cannot accept input because the tool is processing data, doing calculations, or accessing a disk.
	Contains data The item contains data (is not empty).
	Minor alarm The window contains information about an equipment or network alarm of minor severity.
	Major alarm The tool contains information about an equipment or network alarm of major severity.
	Critical alarm The window contains information about an equipment or network alarm of critical severity.

—continued—

Procedure 3-13 (continued)

Accessing tools

Step Action

Using the tool window

The first window of a tool is called the main window. It has a menu bar across the top which shows a tool status indicator, followed by the File menu, any Tool-related menus (optional), and a Help menu.

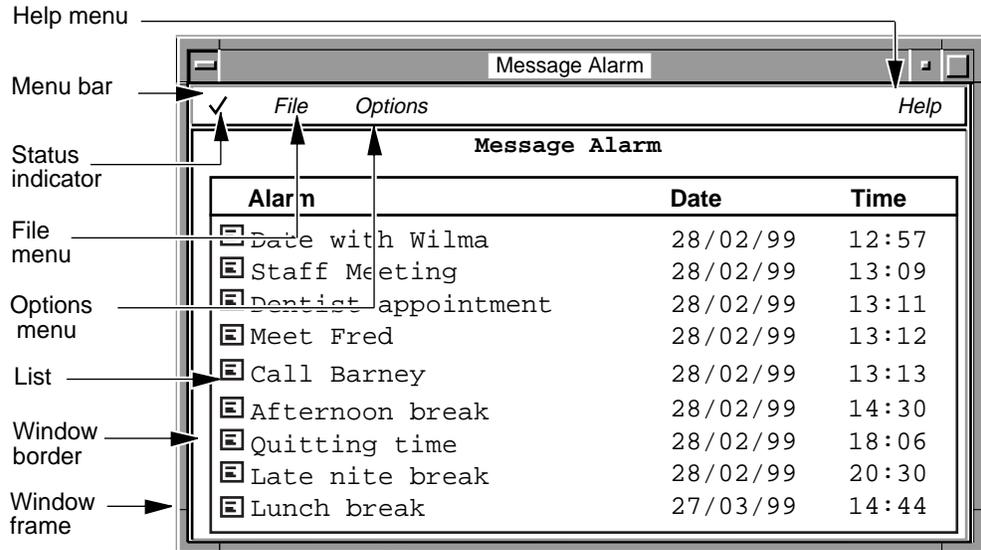
The tool status indicator shows the window status. For example, whether the window is being used for the task of printing or is in an error condition. A check mark (✓) means that the window is ready for keyboard or pointer input, and its contents do not indicate an alarm condition.

The main window is your home base while using the tool. From the main window, you can access all the tasks available to the tool.

Note: All windows and dialogs are surrounded by a frame. The frame allows you to manage the screen. (See “Managing the workspace” on page 3-10).

Figure 3-18
Tool main window

PC-21060



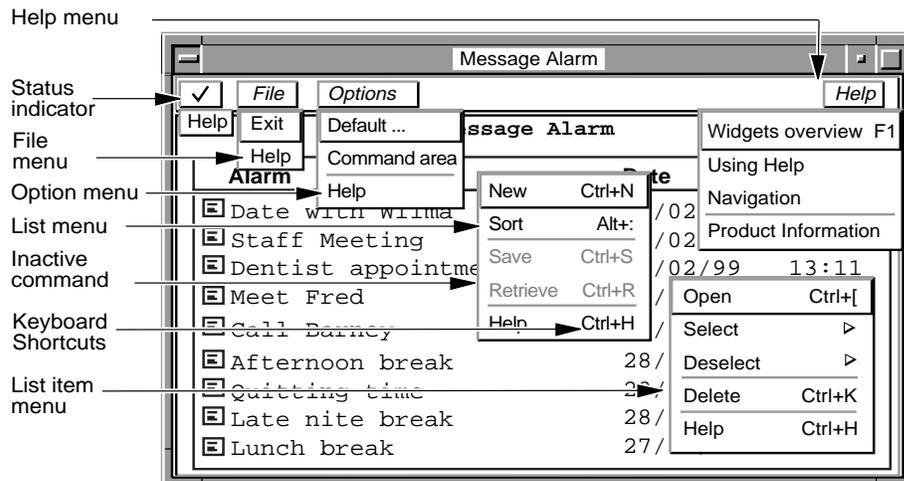
—end—

Procedure 3-14 Using tool menus

Use this procedure to access the menus that are available in tool windows. Workstation tools provide several menus. Figure 3-19 shows all of the tool menus, however, only one menu can be displayed at a time.

Figure 3-19
Tool menus

PC-21062



Menu bar menus

These menus are accessed from the menu bar across the top of every window.

Step	Action
------	--------

Display the menu bar menus:

- Using the mouse, move the cursor to a menu label, then press and hold the Menu (right) mouse button.

The menu appears.

Using the keyboard, press **F10**.

The leftmost menu on the menu bar appears.

Press the appropriate arrow key to move to other Menu bar menus.

Canceling a menu without choosing a command:

- Using the mouse, move the cursor outside the menu, then release the Menu mouse button.

Using the keyboard, press **Esc**.

—continued—

Procedure 3-14 (continued)
Using tool menus

Step Action

Table 3-2 shows the types of menus on the menu bar.

Table 3-2
Menu bar menus

Menu bar menu	Description
Status Indicator Menu	This menu is located on the left side of the menu bar. The status indicator shows the current status of the tool. The menu contains one entry, Help.
File menu	This menu, labeled file, is to the right of the Status Indicator menu. It has commands (for example, Exit) that affect the window.
Tool menu(s)	This menu appears to the right of the File menu. The commands on this menu affect the tool as a whole. There can be more than one tool menu.
Help menu	This menu, labeled Help, is located on the right side of the menu bar. The menu contains commands such as Tool overview, Using Help, Navigation, and Product Information.

Object menus

Every object in the window has a menu with commands that affect it.

Display the Object menus:

- 3** Using the mouse, move the cursor to the object, then press and hold the **Menu** (right) mouse button.
- Using the keyboard, tab to the object that you want a menu for and press **F4**.
- The menu appears.*

Note: The following exceptions apply when using the keyboard to display an object menu:

- to display a Chooser menu, move to the associated field and press **Shift+F4**
- to display a list title menu, move to any list item and press **Shift+F4**

—continued—

 Procedure 3-14 (continued)
Using tool menus

Step Action

Table 3-3 shows the types of object menus that are available.

Table 3-3
Object menus

Object menu	Description
List item menu	This menu is available at a list item. It contains commands (such as Select, Deselect, Delete) that affect the selected list items. See Figure 3-20 on page 3-34.
List menu	This menu is located in the heading area of a list. This menu contains commands (such as Sort, New) that affect the list as a whole.
Button menu(s)	This menu is located on the button area. It contains commands (such as Select, Deselect, Delete) that affect the text in the field.
Field menu	This menu is located within the field area. This menu contains commands (such as Select, Deselect, Delete) that alter the text in the field.
Chooser	This menu is located under a boxed rectangular label at the end of a field. This menu contains preselected information.
Background menu	This menu is located in the background of dialogs and windows, and contains the Help command.

—end—

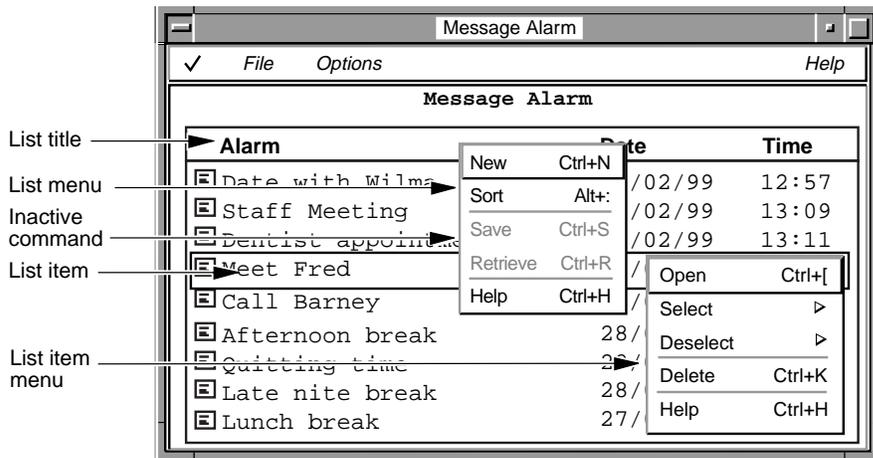
Procedure 3-15 Using tool lists

Lists allow you to select one or more of a number of objects for further action. Some lists allow only one selection; others allow multiple selections at one time. Lists can have any number of items and can be scrolled to show items not currently displayed. See Procedure 3-11 on page 3-22 for information on scrolling.

Lists have a list menu and a list item menu. The list menu contains commands that affect the list as a whole. List item menu commands affect an individual item (or group of items). Figure 3-20 shows a list, with a list menu and a list item menu.

Figure 3-20
List menus

PC-21063



Step Action

To select one or more list items:

- Using the mouse, move the cursor to a list item, then click the **Select** (left) mouse button (or keypad **0**).

Note: To select more than one list item, press and hold the Select mouse button and drag the mouse to highlight the list items you want.

Using the keyboard, tab to the list and use the arrow keys to move to an item.

The first list item is highlighted.

Note: To select more than one list item from the keyboard, hold the Shift key and use the arrow keys.

—continued—

Procedure 3-15 (continued)
Using tool lists

Step Action

Table 3-4 shows the standard list item menu commands.

Table 3-4
List item menu commands

Command	Description
Open	Opens a dialog filled with data about the selected list item. This command applies only to lists with items that can be opened, such as lists of data records. You can also use the keyboard shortcut Alt+O.
Select all	Selects all items in the list. You can also use the keyboard shortcut Alt+A.
Select to here	Selects all items in the list up to this point.
Select this item	Selects the item that was under the pointer.
Deselect this item	Cancel the selection of a single item.
Deselect all	Cancel all selections.
Delete	Deletes an item from the list. Alternatively, you can use the Delete key on your keyboard. This command is only active if you are permitted to alter the list.

—end—

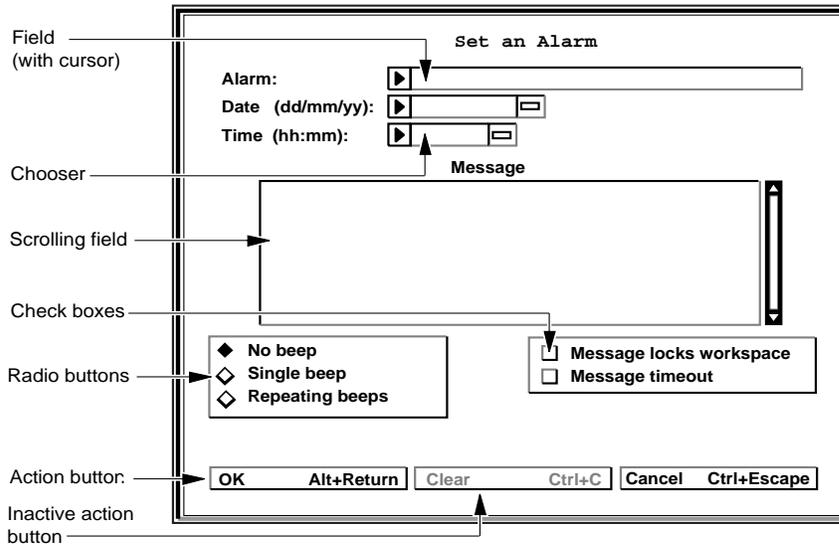
Procedure 3-16 Entering information

Use this procedure to enter data into dialog windows. Dialog have several fields and buttons. You navigate through a dialog to enter information into fields; to select items in chooser fields; to choose options; or to implement actions.

Figure 3-21 shows an example dialog that is used to set alarms.

Figure 3-21
Example dialog

PC-21065



Step	Action
------	--------

Navigating a dialog

- 1 Using the mouse, move the pointer to an object, then click the **Select** (left) mouse button.

Note: When you click the Select mouse button on some objects (such as action buttons) you activate that function.

Using the keyboard, press **Tab** or **Ctrl+Tab** to move forward or backward through the fields of the dialog window.

—continued—

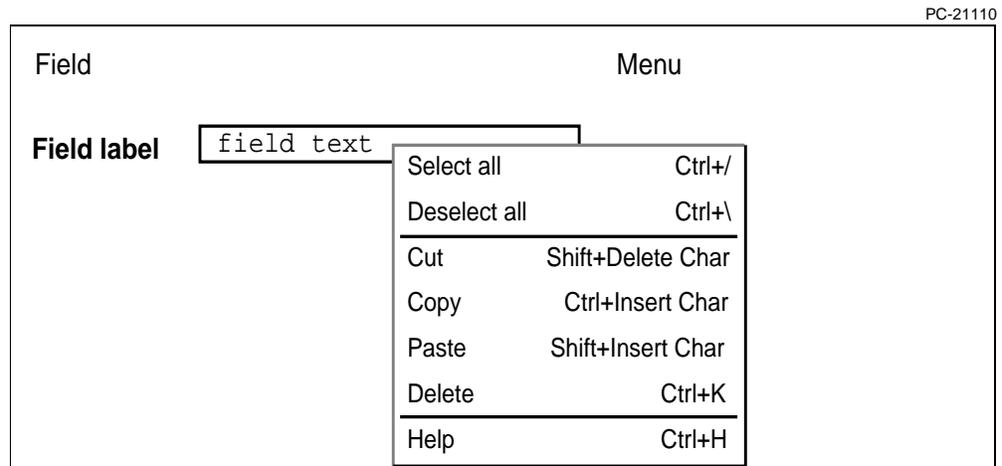
Procedure 3-16 (continued)
Entering information

Step Action

Standard fields

Figure 3-22 shows a standard field and its associated menu. Mandatory fields are marked with a black triangle at the left side of the field, and require an entry.

Figure 3-22
Standard fields



Typing data in a standard field

- 2 Using the mouse, move the pointer over the box, then click the **Select** (left mouse button). (Using the keyboard, tab to the field.)

A pointer, looking like an inverted T, appears in the field.

Type the information.

Note: You may be able to type more characters than fit in the box. If so, the field scrolls automatically to the right so that you can see what you are typing.

—continued—

Procedure 3-16 (continued)
Entering information

Step Action

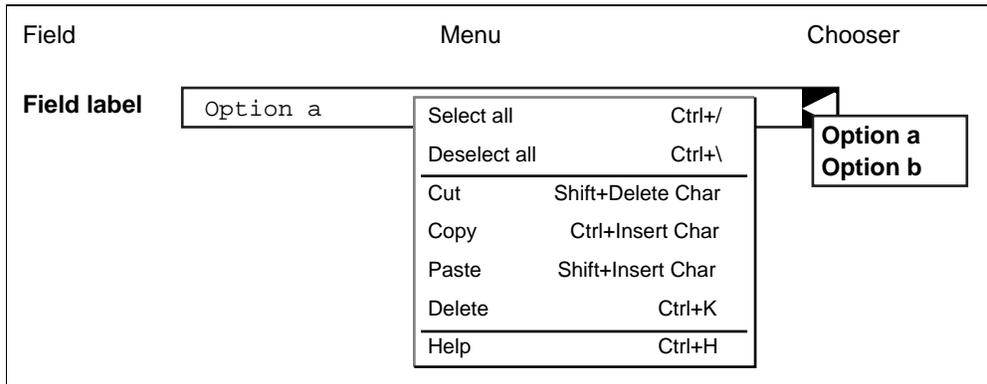
Chooser fields

Choosers allow you to select a preset value from a menu. Choose fields appear as a black box around a white triangle at the right end of the field.

Figure 3-23 shows a chooser field, its Chooser menu, and the Field menu.

Figure 3-23
Chooser menu

PC-21106



Selecting the correct chooser value:

- 3 Using the mouse, move the cursor to the rectangular box, press and hold the **Menu** (right) mouse button, then choose one of the options.

Using the keyboard, press **Shift+F4**. Use the arrow keys to move to the option you want, then press **Return**.

The selected option appears in the field.

—continued—

Procedure 3-16 (continued)
Entering information

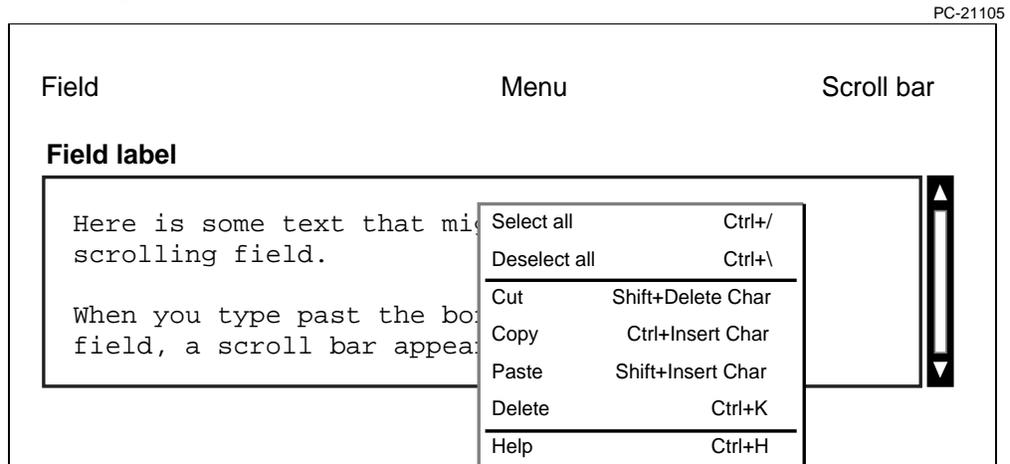
Step	Action
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Scroll fields

Scroll fields are much like standard fields, but allow you to enter several lines of information.

Figure 3-24 shows a scrolling field and its menu.

Figure 3-24
Scrolling field and menu



Typing in scroll fields

- 4** Position the cursor in the field and begin typing.

When the text reaches the edge of the field, it wraps to the next line. When the box is full, it scrolls downward to allow you to enter more information. A scroll bar appears.

Note: Scroll bars are described in Procedure 3-11 on page 3-22.

Moving to another object within the dialog or window

- 5** Using the mouse, move the cursor to the object, then click the Select (left) mouse button.

Using the keyboard, press **Ctrl+Tab**. (Tab does not take you out of the scrolling field.)

—continued—

Procedure 3-16 (continued)
Entering information

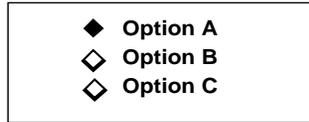
Step Action

Radio buttons

Radio buttons allow you to choose one of a set of options. These buttons appear as an array of labeled diamonds, one of which is highlighted. Figure 3-25.

Figure 3-25
Radio buttons

PC-21107



Selecting a radio button

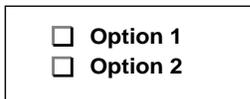
- 6 Using the mouse, click the **Select** (left) button on the radio button that you want to choose.
- Using the keyboard, use the arrow keys to move to the radio button you want, then press **Return**.
- The diamond beside that radio button is highlighted.*

Check boxes

Check boxes allow you to activate one or more of a set of options. Active options have check marks in them; inactive check boxes are dimmed. Figure 3-26 shows example check boxes.

Figure 3-26
Check boxes

PC-21108



Selecting or deselecting a check box

- 7 Using the mouse, move the cursor over the check box, then click the **Select** (left) mouse button.
- Using the keyboard, use the arrow keys to move the cursor to the check box you want, then press **Return**.
- If a check mark appears in the box, the option is on. If the check mark disappears from the box, the option is off.*

—continued—

Procedure 3-16 (continued)
Entering information

Step	Action
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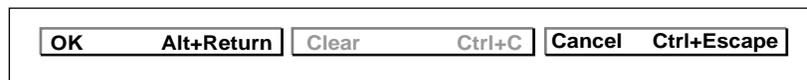
Action buttons

Action buttons tell the system to do something, such as apply changes to the system, or cancel a dialog. Action buttons have labels and may use pre-assigned keyboard shortcuts. Action buttons that are inactive are dimmed and cannot be selected.

Figure 3-27 shows two action buttons.

Figure 3-27
Action buttons

PC-21109:Selecting an action button



- 8** Using the mouse, move the cursor to the action button you want and click the Select (left) mouse button.

Using the keyboard, tab to the action button you want, then press **Return**.

The action associated with the button is activated.

—end—

Procedure 3-17

Editing text

Use this procedure to add, delete or change the information in dialogs. Before you can add text, you must first position your cursor. When you want to delete, copy or move text, you select the text you want to edit using the mouse or the keyboard commands.

When you want to edit a block of text, use the edit commands on the menu that appears, or use the keyboard equivalents. Table 3-5 show the menu commands and the keyboard strokes you use when you edit text.

Table 3-5
Editing commands

Menu command	Keystroke	Action
Select all	Ctrl+/	Selects all text in the field. (You can also use the Select (left) mouse button.)
Deselect all	Ctrl+\	Cancel a text selection.
Cut	Shift+Delete Char	Removes the selected text and places it in temporary memory.
Copy	Ctrl+Insert Char	Places a copy of the selected text in temporary memory.
Paste	Shift+Insert Char	Places the most recently copied or cut text at the point you have chosen.
Delete	Ctrl_K	Deletes the selected text. (Or you can use the Delete or Backspace key on the keyboard when you are using a mouse.)

Note: Shortcut keystrokes affect the object with keyboard focus. This might not be the object that your pointer is on. Be sure the cursor is in the field you want to edit before using shortcut keys.

—continued—

Procedure 3-17 (continued)
Editing text

Step	Action
-------------	---------------

Positioning the cursor

- 1 Using the mouse, move the cursor to where you want to edit, then click the **Select** (left) mouse button.

Using the keyboard, Use the arrow keys to move the cursor where you want to edit.

You can insert text, or use the Backspace key to delete.

Selecting a block of text

- 2 Using the mouse, move the cursor to the beginning of the text you want to select, press and hold the **Select** (left) mouse button, then **drag** the pointer to the end of the text.

Release the Select mouse button.

The selected text is highlighted.

Using the keyboard, use the arrow keys to move to the beginning of the text you want to select, then press **Shift**. Use the arrow keys to move the cursor to the end of the text.

Release the Shift key.

The selected text is highlighted.

Cutting the selected text

- 3 Using the mouse with the cursor in the selected text, press the **Menu** (right) button. The editing command menu appears.

Choose Cut from the command menu.

The selected text disappears.

Using the keyboard, press **Ctrl+Delete Char**.

The selected text disappears.

Copying the selected text

- 4 Using the mouse with the cursor in the selected text, press the **Menu** (right) mouse button to access the command menu.

Choose Copy from the field menu.

The selected text does not disappear.

Using the keyboard, press **Ctrl+Insert**.

The selected text does not disappear.

—continued—

Procedure 3-17 (continued)

Editing text

Step	Action
-------------	---------------

Pasting cut or copied text

5 Using the mouse, click the **Select** (left) mouse button at the place where you want the text to be pasted.

Press the **Menu** mouse button, then choose **Paste** from the field menu.

The previously cut or copied text appears in the new location.

Using the keyboard, use the arrow keys to move to where you want paste the text.

Press **Shift+Insert**.

The previously cut or copied text appears in the new location.

Replacing text with cut or copied text

6 Using the mouse, select the text you want to replace, press the **Menu** (right) mouse button to access the command menu.

Choose **Paste** from the field menu.

The text you cut or copied replaces the selected text.

Using the keyboard, use the arrow keys to select the text you want to replace, then press **Shift+Insert**.

The text you cut or copied replaces the selected text.

—end—

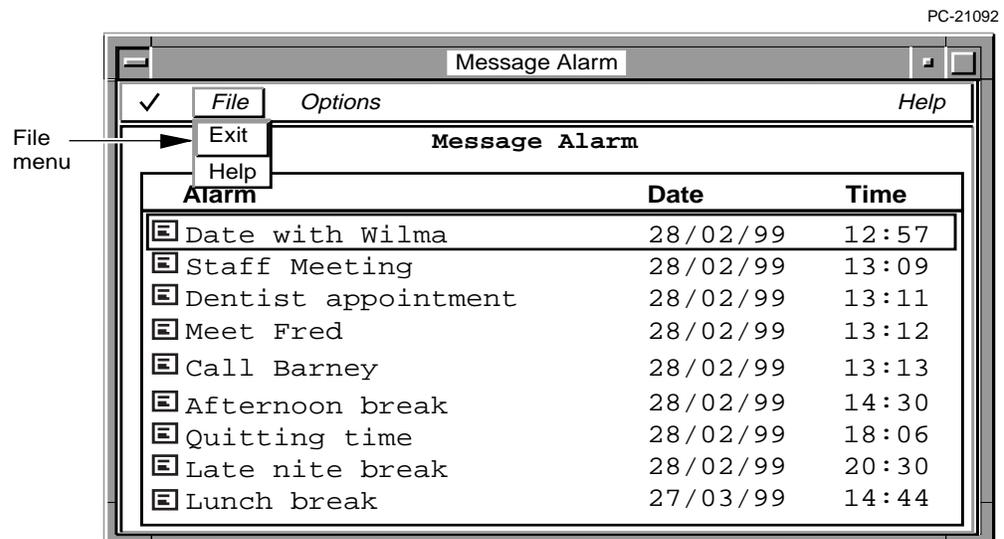
Procedure 3-18

Closing a tool

Use this procedure to end your work session with a tool. You can save the changes you made or you can quit without saving.

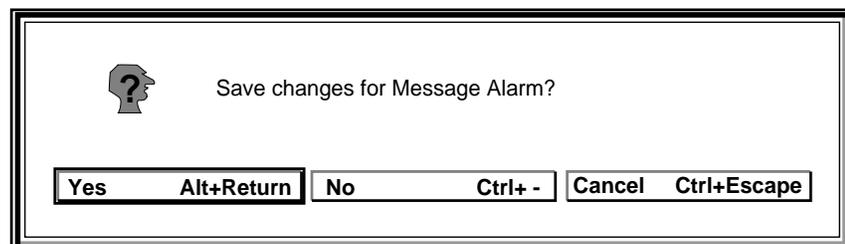
Step	Action
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- | | |
|---|---|
| 1 | <p>Using the mouse, move the cursor to left side of the menu bar, then press and hold the Menu (right) mouse button on File.</p> <p>Using the keyboard, press F10 to activate the File menu.</p> <p><i>The File menu appears.</i></p> |
|---|---|



- | | |
|---|--|
| 2 | <p>Using the mouse, drag to the Exit command and release the mouse button.</p> <p>Using the keyboard, use the right arrow key to move to the File menu and choose the Exit command.</p> <p><i>A dialog appears, asking whether you want to save the changes you have made to the tool.</i></p> |
|---|--|

PC-21096



—continued—

Procedure 3-18 (continued)

Closing a tool

Step Action

- 3 Choose the option at the save prompt that you want. Table 3-6 shows the three options available when you are asked to save changes.

Table 3-6
Save prompts

You can click on	Or use these keystrokes	To do this
Yes	Alt+Return	To save your changes, exit the tool, and return to the User Session Manager.
No	Ctrl+minus -	To not save your change, exit the tool, and return to the User Session Manager.
Cancel	Ctrl+Esc	To return to the tool at the location you chose Exit without saving or exiting/

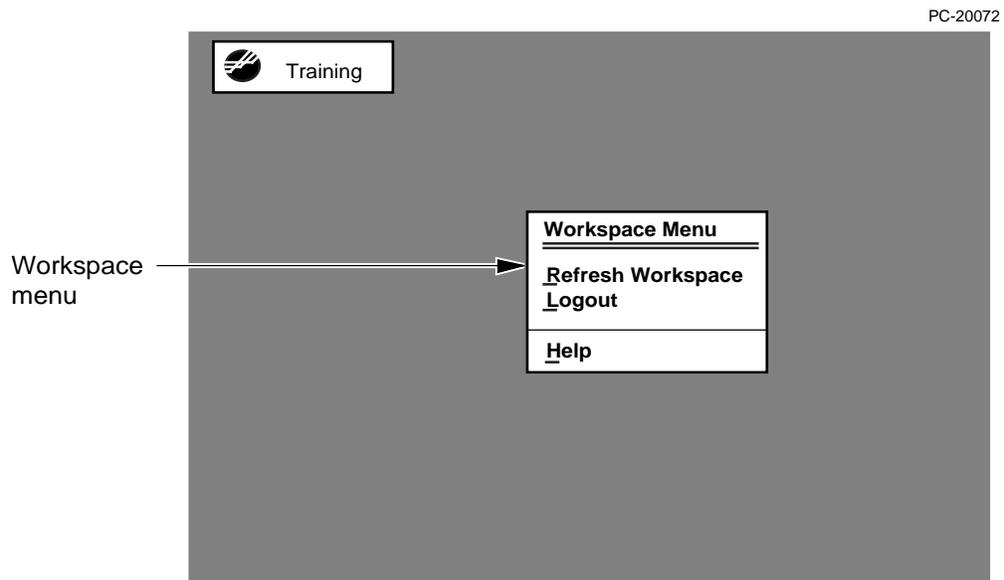
—end—

Procedure 3-19

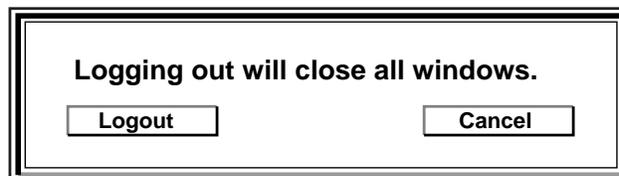
Logging out

Use this procedure when you are ready to leave the workspace altogether. Logging out completes your work session before you shut down your OPC connection.

Step	Action
1	Using the mouse, move the cursor to the workspace background, then press and hold the Menu (right) mouse button to open the workspace menu Using the keyboard, press F10 to activate the File menu. <i>The Workspace menu appears.</i>



2	Using the mouse, drag to the Logout command and release the mouse button. Using the keyboard, use the right arrow key to move to the Workspace menu and choose the Logout command. <i>A dialog appears telling you that login out will close all windows.</i>
---	---



—continued—

Procedure 3-19 (continued)

Logging out

Step	Action
-------------	---------------

3	Choose the action you want
----------	----------------------------

If you choose **Logout**, all open windows are closed automatically. If there are any unsaved changes in a window, a dialog may appear asking whether to save changes before closing, or whether to cancel the log out command.

If you click on **Cancel**, the log out command is canceled.

—end—

Using command areas

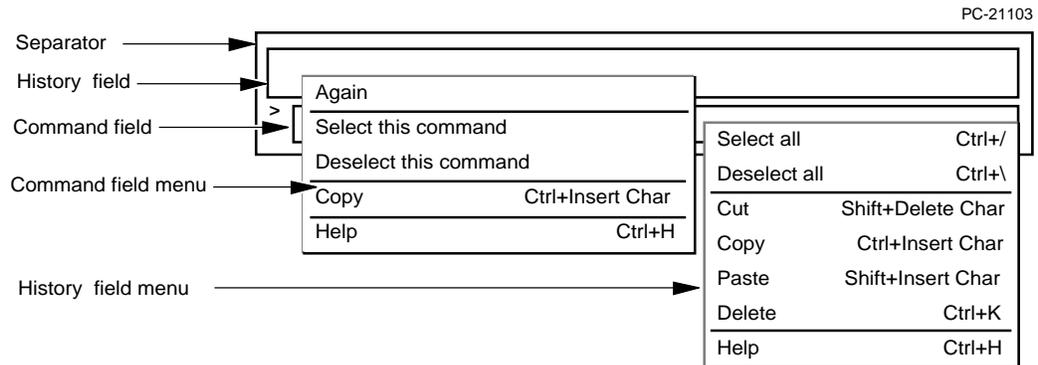
Use command areas to send typed UNIX commands to a tool. Command areas are not common in the graphical interface. Commands are typed UNIX command strings that are entered most often by system administrators, etc. See “UNIX command strings” on page 2-36 for a more detailed discussion of commands and UNIX command strings

Commands are more commonly chosen from menus in this interface. The command area has two main parts:

- a command field where you type commands
- a history field that keeps a record of the commands you have used.

Figure 3-28 shows the menus you use in the command area.

Figure 3-28
Command area menus



The Command field menu presents the standard editing commands, which are discussed in Procedure 3-17, “Editing text,” on page 3-42.

Table 3-7 shows the actions that result when you choose a command in the history field menu. These commands can be selected in the same way you use the commands for editing text.

Table 3-7
History field menu commands

Command	Action
Again	Copies and executes the selected command.
Select this command	Selects the command.
Deselect this command	Cancel a text selection.
Copy	Places a copy of the selected text in temporary storage so it can be pasted elsewhere. You can also use the keyboard shortcut Ctrl+Insert Char.

Changing the size of the history field

The history field in the command area can be resized to show larger lists of commands. When you move the cursor to the separator line, it becomes a double-ended arrow. You can press and hold the Select (left) mouse button to increase or decrease the size of the area when you drag up or down. Release the mouse button to stop resizing. With the keyboard, you can tab to the separator to highlight it, and then use the up or down arrow key to change the size of the area.

Connecting, logging in, and logging out from the OPC

This chapter contains procedures for common operations controller (OPC) user interface tasks. Use these procedures as required during testing, or when they are referenced in other procedures.

Chapter task list

This chapter includes the following tasks. If you cannot successfully complete these procedures, contact your next level of support.

Procedure	Task	See
4-1	Connecting a terminal to an OPC	page 4-3
4-2	Connecting a terminal to the portable OPC	page 4-17
4-3	Connecting the portable OPC to the network element	page 4-20
4-4	Connecting a remote terminal to the OPC using the internal modem	page 4-26
4-5	Connecting a remote terminal to the OPC using an external modem	page 4-27
4-6	Connecting a collocated DS1-fed AccessNode or host digital terminal to a DMS-10NA or APC-100	page 4-29
4-7	Connecting a remote DS1-fed AccessNode or host digital terminal to a DMS-10NA or APC-100	page 4-31
4-8	Logging in to the OPC	page 4-34
4-9	Logging in to the remote OPC from an OPC	page 4-39
4-10	Logging in to an OPC from a network element	page 4-42
4-11	Logging in to the DMS Access or APC-100 user interfaces	page 4-45
—continued—		

4-2 Connecting, logging in, and logging out from the OPC

Procedure	Task	See
4-12	Opening an OPC tool	page 4-47
4-13	Closing an OPC tool	page 4-49
4-14	Logging out of the OPC	page 4-51
4-15	Changing your password	page 4-53
4-16	Displaying OPC status	page 4-57
4-17	Changing the name of an OPC	page 4-60
—end—		

Procedure 4-1

Connecting a terminal to an OPC

Use this procedure to connect a local user terminal to a primary or backup OPC through (OPC) port 1 (also referred to as OPC port B).

You can also access the OPC by connecting a VT100-compatible terminal to a network element on port 2 on the local craft access panel (LCAP) and logging in to the OPC from the network element user interface (NEUI). See the procedure for connecting a local terminal to the network element LCAP in *Network Element User Interface Description*, 323-3001-300, in this volume.

In this release of AccessNode, OPC port 3 can also be configured for terminal communications. Port 3 is available only on an ABM shelf (on an I/O card in slot 40) or on a portable OPC (ESP port 2).

To access the OPC, use either a VT100-compatible terminal or a laptop computer with a VT100 emulation package. If you want to connect an X terminal to the OPC, see *Commissioning and Testing*, Volume 3.

Table 4-1 on page 4-5 shows port locations and designations for an OPC in an ABM shelf and an OPC in a TBM shelf.

—continued—



CAUTION

Risk of equipment damage

When handling the equipment, always observe the following precautions.

Extreme temperatures Do not operate the equipment immediately after exposure to extreme temperatures. Leave it in room temperature environment for two hours before operation. The operating range is 0°C to 40°C (32°F to 149°F).

Static discharge A carpeted floor can generate a static charge capable of damaging equipment. The use of antistatic mats or antistatic carpets is recommended.

Air vents Do not obstruct air vents. Leave 76.2 mm (3 in.) in front and behind to ensure adequate ventilation.

Safety earth ground The equipment must have a non-interruptible safety earth ground through the power cord.

Servicing Only trained service personnel should perform any servicing, adjustment, maintenance, or repair of this product.

Power Before connecting power, make sure that the equipment is configured for the local power source.

Equipment handling Improper handling can cause loss of data or equipment damage. Avoid sharp shocks, and always package the equipment in approved packaging before transporting it from one place to another.

—continued—

 Procedure 4-1 (continued)
Connecting a terminal to an OPC

Table 4-1
User interface port locations and designations

UI Port	ABM Shelf	TBM shelf	Port connector
OPC Port 1	SIL OPC J07	SIL OPC Port 1 J09	9-pin (or DB9)
OPC Port 3	I/O slot 40	not supported	25-pin (or DB25)
NEUI 2	LCAP (DTE)	LCAP (DTE)	25-pin
SIL - side interconnect left panel LCAP - local craft access panel			

Note: OPC Port 2 is an EIA 530 port offering RS422 signals. Since asynchronous devices like terminals and printers seldom use RS422 signals, this port is reserved for X.25 service.

Requirements

Before you can connect a terminal to an OPC, you must do the following:

- obtain a terminal to use. It can be a VT100-compatible terminal or laptop computer with VT100 terminal emulation.

Note: The customer is responsible for obtaining the laptop computer and emulation package from a third-party source.

- obtain the correct terminal connection cable (see Table 4-2 on page 4-6)

Note: OPC port 1 can be configured to support terminal, printer, or X.25 communications. To connect a terminal to OPC port 1, it must be configured for terminal service. This procedure assumes that the port is set up for default operation (terminal). If the login prompt does not appear after you connect the terminal, the fault-finding information at the end of the procedure indicates how to query and change the status of the port.

—continued—

4-6 Connecting, logging in, and logging out from the OPC

Procedure 4-1 (continued)

Connecting a terminal to an OPC

Cable connectors and pinouts

A number of EIA RS-232C standard compliant cables can be used to connect terminals to network element port 1; port 1 requires a 9-pin female connector. Generally, a VT100-compatible terminal is equipped with a 25-pin connector, whereas a laptop uses a 9-pin connector.

Table 4-2 lists the cables that can be ordered from Nortel to support your hardware:

Table 4-2
Terminal to user interface port cables

Terminal Type	OPC 1 (B)	OPC 3	NEUI 2
VT100 or printer	NT7E44RA/B	NT7E44VA/B	NT7E44FA/B
Laptop	NT7E44SA/B	NT7E44EA/B	not supported

Note: Code endings A and B correspond to 5 m and 20 m cables, respectively. The 20 m cables are limited to a maximum of 9600 baud transmission rates. (The OPC supports a maximum transmission rate of 9600 baud on OPC ports 1 and 3, regardless of cable length.)

Table 4-3 lists pin assignments for the NT7E44RA and NT7E44RB cables.

Table 4-3
Pin assignments—terminal and printer

Pin number and function (9-pin connector)	Wire color	Pin number and function (25-pin connector)
1 DCD	BK	4 RTS
2 RXD	BR	2 TXD
3 TXD	R	3 RXD
4 DTR	O	5 CTS
4 DTR	Y	6 DSR
5 GND	G	7 GND
6 DSR	BL	20 DTR
7 RTS	V	8 DCD
8 CTS	W	20 DTR
9 Not connected	—	—

—continued—

Procedure 4-1 (continued)

Connecting a terminal to an OPC

The network elements use the data carrier detect (DCD) line (pin 1) of the OPC port 1 to ensure proper logging off when the terminal is disconnected or the modem line is dropped. The North American version of the DEC VT320 and VT420 are two examples of terminals that do not support the full RS-232 protocol through their RJ-11 connectors. Therefore, these terminals cannot be used with the current NT7E44RA/RB cable. The international version of these models supports the full RS-232 protocol (25-pin connector).

For these North American terminals to operate, the cable must be modified. Connect pin 1 (DCD) to pin 4 (DTR) on the 9-pin connector side (into the OPC port 1 connector). This modification disables the security feature.

Table 4-4 lists the pin assignments for the NT7E44SA and NT7E44SB cables.

Table 4-4
Pin assignments—laptops

9-pin connector at laptop		9-pin connector at TBM shelf	
Pin	Signal	Pin	Signal
1	DCD (data carrier detect)	4	see note 1
2	Rx (receive)	3	
3	Tx (transmit)	2	
4	DTR (data terminal ready) see note 2	6	
4	DTR (data terminal ready) see note 2	1	
5	signal ground	5	
6	DSR (data set ready)	4	see note 1
7	RTS (ready to send)	8	
8	CTS (clear to send)	7	
9	not used		

Note 1: Pin 4 at the TBM shelf end of the cable connects to pins 1 and 6 at the laptop end of the cable.

Note 2: Pin 4 at the laptop end of the cable connects to pins 1 and 6 at the TBM shelf end of the cable.

Note 3: Pin 9 at the TBM shelf end of the cable is not used.

—continued—

4-8 Connecting, logging in, and logging out from the OPC

Procedure 4-1 (continued)

Connecting a terminal to an OPC

For additional information on the port locations, cabling options, and connector pin function, see the procedure for installing the external ABM bay cabling in *Bay in Central Office Installation Manual—ABM*, 323-3001-201.

VT100 terminal requirements

If you are using a VT100-compatible terminal, insure the parameters settings are as listed in Table 4-5.

Table 4-5
VT100 terminal setting parameters

Parameter	Value
data bits	8
baud rate	9600
stop bits	1
parity	none
duplex	full (no local echo)
emulation	VT100
scroll	jump
autowrap	off

—continued—

 Procedure 4-1 (continued)
Connecting a terminal to an OPC

Laptop function keys

Where possible, assign the following keyboard equivalents to the function keys indicated. When using the keyboard, the symbol “_” indicates that the Control key must be held down while you press the other key. For example, in the command Ctrl_A, you would press and hold the Control key while pressing the “A” key.

Table 4-6
Suggested key mapping assignment for laptop function keys

Function key	Keyboard equivalent	Operation
F1	Ctrl_A	Select—selects the object that is currently pointed to on the screen
F2	Ctrl_L +	Menu—displays the menu associated with the object currently pointed to on the screen
F3	Ctrl_L /	Alternate menu—displays a list menu or chooser, depending on the object currently pointed to on the screen
F4	Ctrl_L T	Tool menu—displays the tool menu for the tool currently in use
F5	Ctrl_F 1	Step scroll—moves the scrolling text field or list currently pointed to forward by a small amount
F6	Ctrl_F 3	Jump scroll—moves the scrolling text field or list currently pointed to forward by a larger amount
F7	Ctrl_L W	Window area—displays the window menu for the tool currently in use
F8	Ctrl_T	Tool—switches to tool mode
F9	Ctrl_^	End—stops an executing task
F10		Break—alerts the network element that the user wants to log in For the keyboard equivalent, consult the vendor documentation for the emulation package you are using.

—continued—

4-10 Connecting, logging in, and logging out from the OPC

Procedure 4-1 (continued)
Connecting a terminal to an OPC

Action

Step Action

- 1 Decide whether you are going to use a VT100-compatible terminal or a laptop computer with a VT100 emulator as the terminal to connect to OPC port 1.

If you are using a	Then go to
laptop computer	step 2
VT100-compatible terminal	step 7

- 2 Power up the laptop.
The MS-DOS prompt appears.
- 3 Consult and follow the vendor documentation for the emulation package you are using to determine how to configure your laptop.
- 4 If required by the emulation package, set the following parameters:

Parameter	Setting
baud rate	9600
mode (emulation)	VT100
port 1 (Serial Port A) as COM	yes
data bits	8
stop bit	1
parity	none
full duplex	no local echo
scroll	jump
autowrap	no
protocol	ASCII
modem type	direct connect (no modem)

For the rest of the parameters, accept the defaults.
See Table 4-6 on page 4-9 for a suggested key mapping assignment for laptop function keys. This mapping allows you to use the function keys for many of the common VT100-terminal user interface functions.

—continued—

Procedure 4-1 (continued)

Connecting a terminal to an OPC

- | Step | Action |
|------|--|
| 5 | Exit the emulation installation program as described in the vendor documentation.
<i>The laptop is now emulating a VT100 terminal and the MS-DOS prompt appears.</i> |
| 6 | Connect the appropriate RS-232 cable to OPC port 1 on the network element as shown in Figure 4-1 on page 4-12 and 4-2 on page 4-13. Connect the other end of the cable to serial port A on the laptop. |
| 7 | Connect the terminal to OPC port 1, using the appropriate RS-232 cable. |
| 8 | Power up the terminal. |
| 9 | Press Return.
<i>The OPC login prompt (login:) should appear on your screen.</i> |

If the prompt	Then
does appear	You are successfully connected. Go to Procedure 4-8, "Logging in to the OPC," on page 4-34 to log in to the OPC.
does not appear	go to step 10

- | | |
|----|---|
| 10 | Check all connections between the OPC port and the terminal. Ensure that the terminal is powered up and repeat steps 6 to 9. If the prompt still does not appear, maybe the port is not set up for terminal operation. Go to the next step. |
| 11 | Connect a VT100-compatible terminal to port 2 on the network element. See the procedure for connecting a local terminal to the network element LCAP, in <i>Network Element User Interface Description</i> , 323-3001-300, in this volume. |
| 12 | Log in to the network element. If you do not have a userID or password for the network element, consult your system administrator. |
| 13 | Log in to the OPC from the network element. If you do not have an admin userID or password, consult your system administrator.
<i>The User Session Manager appears.</i> |

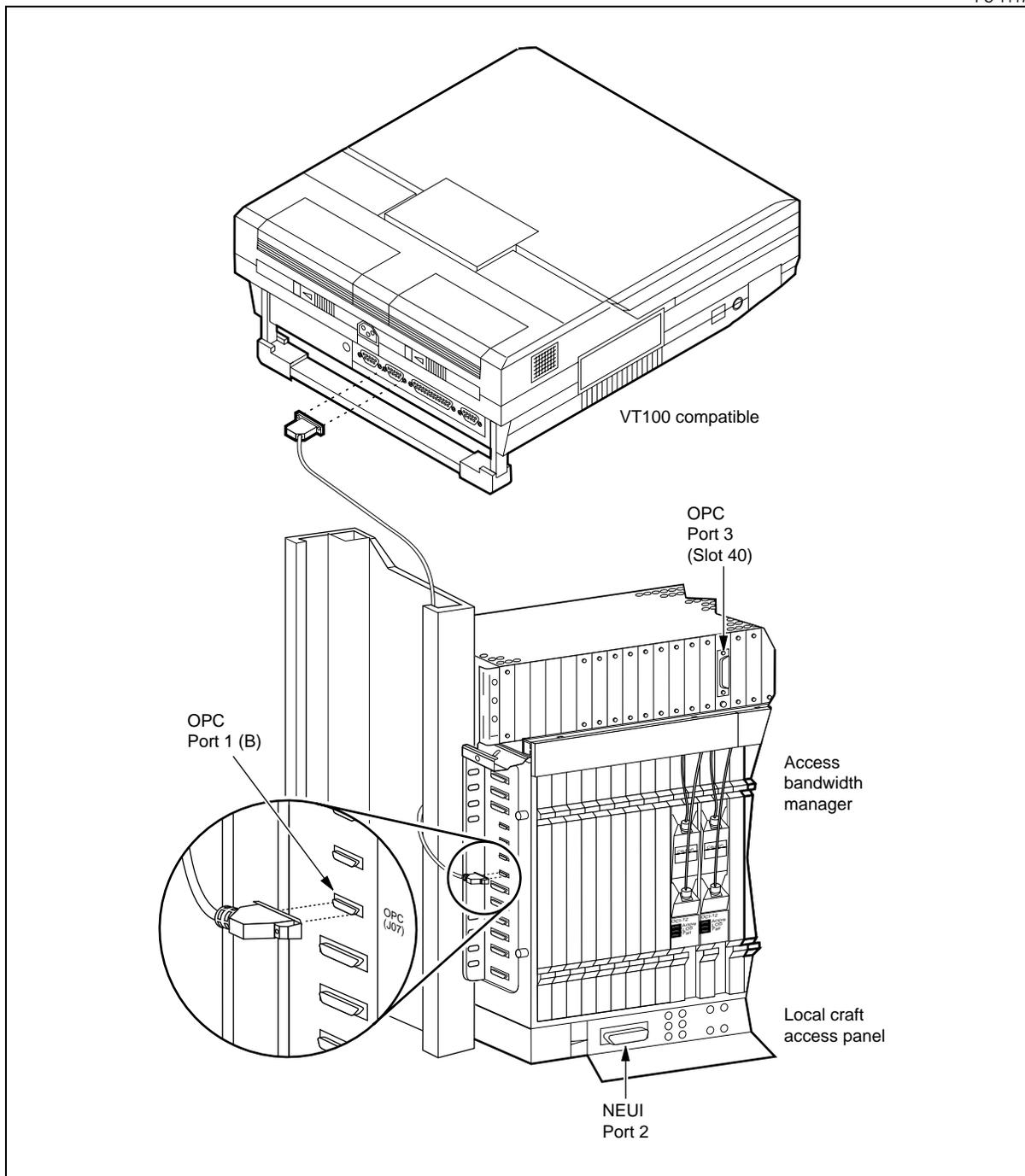
—continued—

4-12 Connecting, logging in, and logging out from the OPC

Procedure 4-1 (continued) Connecting a terminal to an OPC

Figure 4-1
Connecting a terminal to an ABM OPC

PC-11176

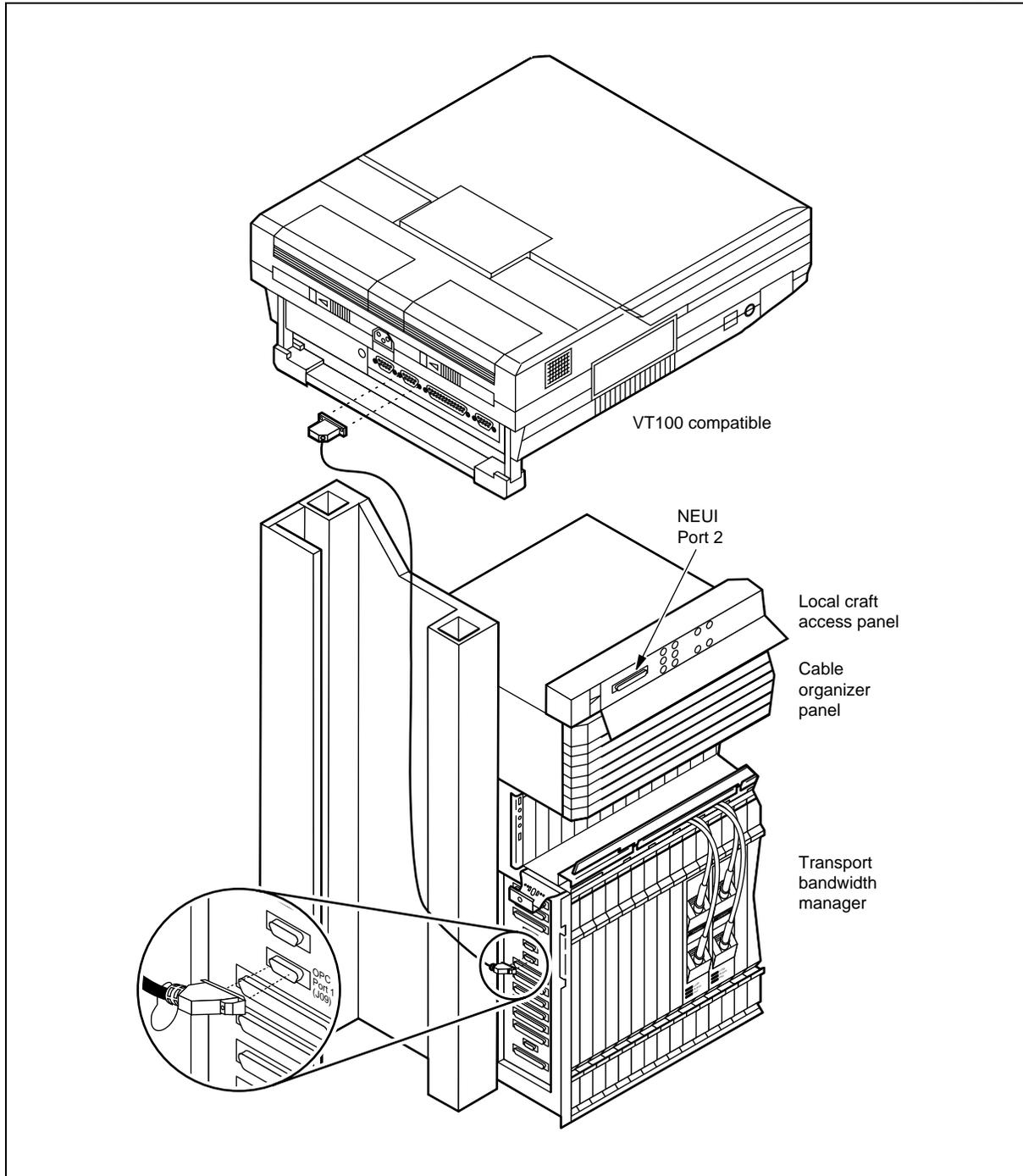


—continued—

Procedure 4-1 (continued)
Connecting a terminal to an OPC

Figure 4-2
Connecting a terminal to a TBM OPC

PC-21556



—continued—

4-14 Connecting, logging in, and logging out from the OPC

Procedure 4-1 (continued)

Connecting a terminal to an OPC

- | Step | Action |
|------|---|
| 14 | Tab to the Port Configuration tool, then press Ctrl_A (or keypad 0).
<i>The Port Configuration main menu appears.</i> |

PC-22029

```
Port Configuration Main Menu
-----
1  Query Port Configuration
2  Configure a Service
3  Unconfigure a Service
4  View Config_port file
9  Exit

Enter the number for your selection: █
```

- 15 Query the port configuration by entering:
1 ↵
The current state of all available ports appears.

Configure all ports other than port 1 for non-terminal communications

- 16 If any port other than port 1 is configured for terminal service or if port 1 is already configured for a service other than terminal, they must be reconfigured. Enter:

3 ↵
The service menu appears.

Note: The service menu is customized for the configured services. For example, the menu appears as follows when X.25 and X.3 PAD services are configured.

SC-10228

```
1  Terminal
2  Printer
3  X.25
4  X.3 PAD
5  PPL
6  TCP/IP over X.25
8  Return to Main menu
9  Exit

Enter the number for your selection: █
```

—continued—

Procedure 4-1 (continued)
Connecting a terminal to an OPC

Step	Action
17	Select the item number that corresponds to the menu item you need to reconfigure by entering: <item number> ↵ where <item number> one of the items listed in the menu Note 1: PPL services (if applicable) must be reconfigured before terminal services. (If PPL services are not reconfigured, they are automatically disabled.) Note 2: X.3 PAD must be reconfigured before X.25.
18	Repeat step 17 for each port that must be reconfigured. Then, continue with step 19.
19	Return to the main menu by entering: 8 ↵ <i>The main menu appears.</i>
20	Display the service menu by entering: 2 ↵ <i>The service menu appears:</i>
Configure port 1 as a terminal	
21	Select terminal service by entering: 1 ↵

—continued—

4-16 Connecting, logging in, and logging out from the OPC

Procedure 4-1 (continued)

Connecting a terminal to an OPC

Step	Action
22	Select OPC port 1 by entering: 1 ↵ <i>A message similar to the following appears:</i> Warning: Configuration on port 1 is changing from X.25 to terminal. Do you wish to continue? (Yes/No)
23	Confirm your action by entering: y ↵ <i>If terminal service is already configured on another port (such as 2 or 3), the configuration fails and the following message appears:</i> Terminal operation is already configured on port x It is not possible to have more than one terminal configured at any given time Port x remains configured as terminal <i>If the configuration operation is successful, a message similar to the following appears:</i> Warning: configuration on port 1 is changing from X.25 to terminal. Do you wish to continue? (Yes/No)
24	Confirm your action by entering: y ↵ <i>The service menu reappears:</i>
25	You can configure the other ports to whatever service you want. Repeat steps 21 through 24 as required. Remember that only one port can be configured for terminal service.
26	Exit the Config port program by entering: 9 ↵
27	Log out of the OPC.
28	Log out of the network element (if required).
29	Go back to step 1 and repeat the connection procedure to connect the terminal to port 1 (or B) of the OPC.

—end—

Procedure 4-2

Connecting a terminal to the portable OPC

Use this procedure to connect a terminal to a portable system line-up and test (SLAT) operations controller (OPC). It is recommended that you use a laptop as the display terminal.

**CAUTION****Risk of equipment damage**

When handling the equipment, always observe the following precautions.

Extreme temperatures Do not operate the equipment immediately after exposure to extreme temperatures. Leave it in room temperature environment for two hours before operation. The operating range is 0°C to 40°C (32°F to 149°F).

Static discharge A carpeted floor can generate a static charge capable of damaging equipment. The use of antistatic mats or antistatic carpets is recommended.

Air vents Do not obstruct air vents. Leave 76.2 mm (3 in.) in front and behind to ensure adequate ventilation.

Safety earth ground The equipment must have a non-interruptible safety earth ground through the power cord.

Servicing Only trained service personnel should perform any servicing, adjustment, maintenance, or repair of this product.

Power Before connecting power, make sure that the equipment is configured for the local power source.

Equipment handling Improper handling could cause loss of data or equipment damage. Avoid sharp shocks, and always repackage the equipment in approved packaging before transporting it from one place to another.

—continued—

Procedure 4-2 (continued)

Connecting a terminal to the portable OPC

Equipment

The following equipment is required:

- the portable OPC
- a VT100-compatible terminal, or terminal emulator
- a null modem RS-232 cable, to fit the VT100 terminal at one end and a 9-pin (male) at the other end

The following optional equipment is recommended and assumed in this document. It replaces the VT100 terminal and RS-232 cable listed in the previous paragraph:

- a laptop computer (battery pack can be required), configured for use as an OPC terminal
- a null modem 9-pin (female) to 9-pin (male) RS-232 cable

Action

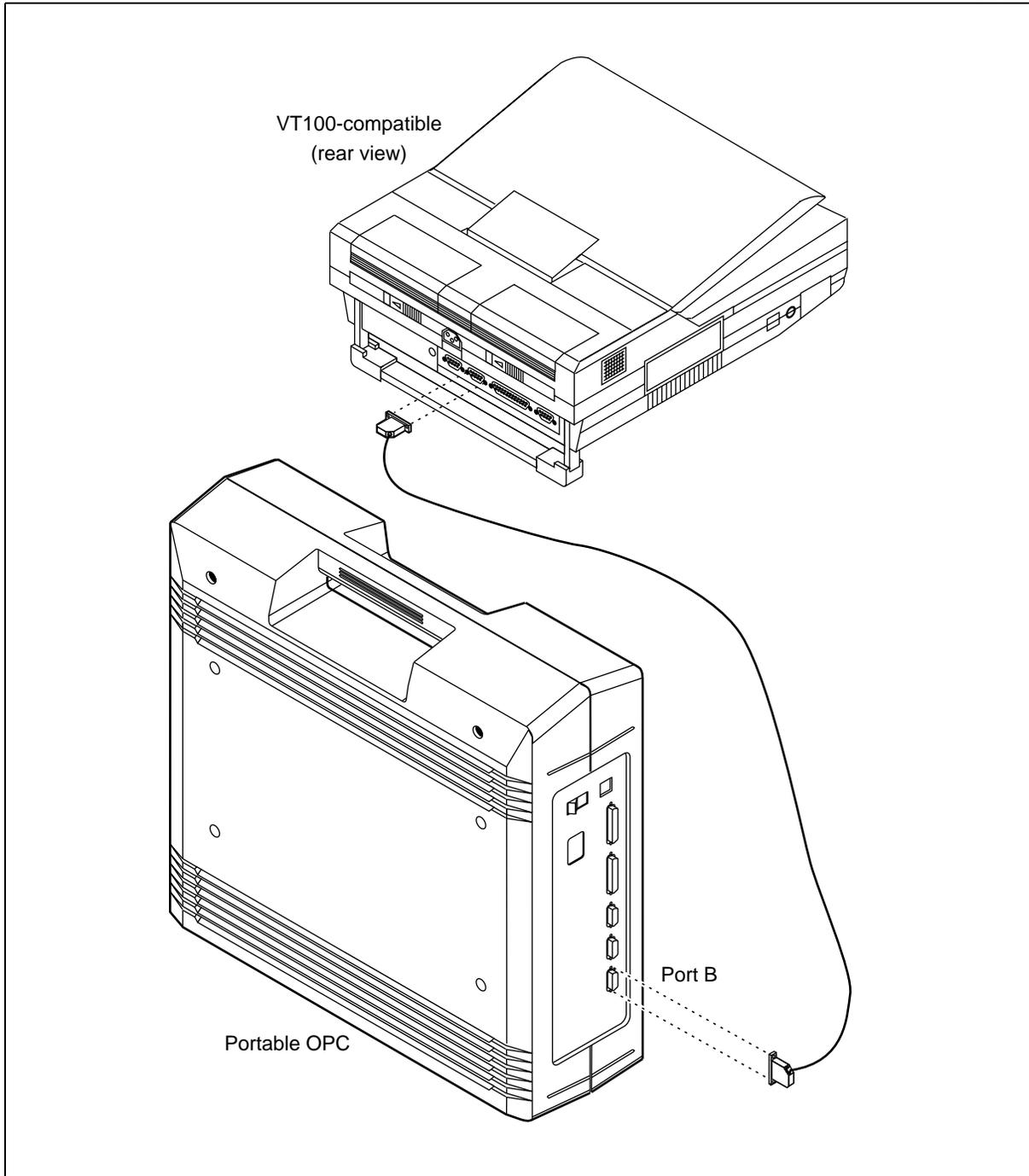
Step	Action
1	Connect the VT100-compatible terminal to the portable OPC using a 9-pin to 9-pin RS-232 cable (see Figure 4-3). Use the serial A port on the VT100-compatible terminal and Port B on the portable OPC.
2	Power up the portable OPC. (It takes up to five minutes.)
3	Power up the VT100 terminal. If you are using a laptop computer, verify that you have configured the terminal as an OPC terminal. (See <i>System Administration Procedures</i> , 323-3001-302, in this volume, for terminal configuration procedures.) Then, at the DOS prompt, enter: cd/xtalk ↵ xtalk call opc ↵ <i>The VT100 emulation screen appears.</i>
4	Press Return on the VT100 terminal. <i>When initialization is complete, the OPC logon prompt (login:) appears on your terminal screen.</i>

—continued—

Procedure 4-2 (continued)
Connecting a terminal to the portable OPC

Figure 4-3
Connecting a terminal to the portable OPC

PC-0865



—end—

Procedure 4-3

Connecting the portable OPC to the network element

Use this procedure to connect the portable operations controller (OPC) to the side interconnect left (SIL) circuit pack of the common-equipment shelf.

It is recommended that you use a laptop as the display terminal. Either a VT100 compatible terminal or a laptop computer with a VT100 emulation package can be used.



CAUTION

Risk of equipment damage

When handling the equipment, always observe the following precautions.

Extreme temperatures Do not operate the equipment immediately after exposure to extreme temperatures. Leave it in room temperature environment for two hours before operation. The operating range is 0°C to 40°C (32°F to 149°F).

Static discharge A carpeted floor can generate a static charge capable of damaging equipment. The use of antistatic mats or antistatic carpets is recommended.

Air vents Do not obstruct air vents. Leave 76.2 mm (3 in.) in front and behind to ensure adequate ventilation.

Safety earth ground The equipment must have a non-interruptible safety earth ground through the power cord.

Servicing Only trained service personnel should perform any servicing, adjustment, maintenance, or repair of this product.

Power Before connecting power, make sure that the equipment is configured for the local power source.

Equipment handling Improper handling can cause loss of data or equipment damage. Avoid sharp shocks, and always repackage the equipment in approved packaging before transporting it from one place to another.

—continued—

Procedure 4-3 (continued)

Connecting the portable OPC to the network element

Requirements

The primary OPC must be installed in the common-equipment shelf, powered up, and initialized. For instructions on installing the OPC module, see *Commissioning and Testing*, Volume 3.

The following equipment is required:

- the portable OPC
- a Control Network (CNet) cable, 9-pin D-sub (M) to 9-pin D-sub (M) (NT4K86)
- two control network terminator plugs (NT7E5072)

Action

Step	Action
1	Connect the portable OPC to the common-equipment shelf in the network element (NE), using a 9 pin to 9 pin CNet cable. Use the CNet ports on the portable OPC. Use the CNet In connector on the side interconnect left (SIL) circuit pack on the common-equipment shelf, as shown in Figure 4-4 on page 4-22 and Figure 4-5 on page 4-23.
2	Install control-network terminator plugs to cover unused control-network ports on the portable OPC and on the side interconnect left circuit pack, as shown in Figure 4-6 on page 4-24 and Figure 4-7 on page 4-25.

—continued—

4-22 Connecting, logging in, and logging out from the OPC

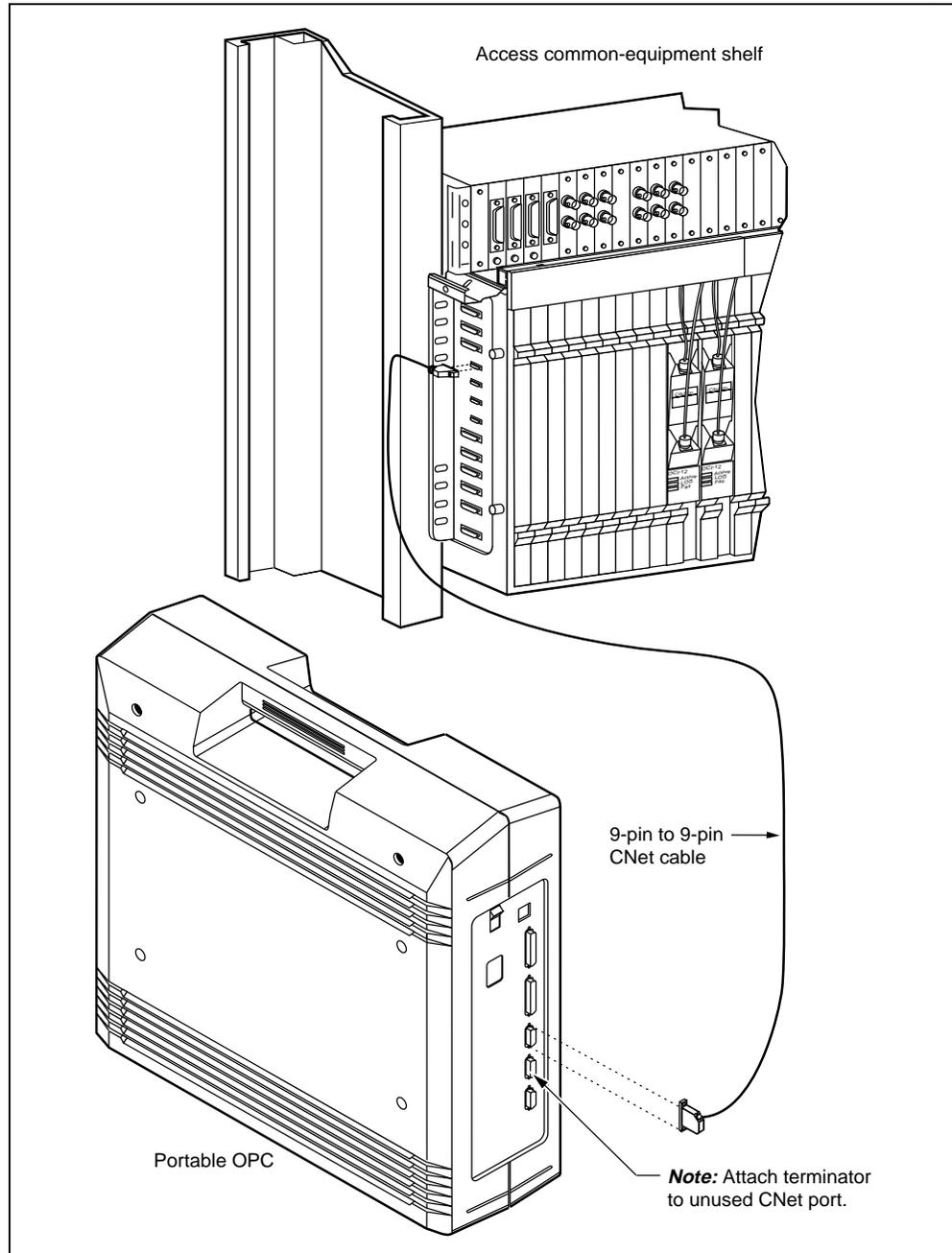
Procedure 4-3 (continued)

Connecting the portable OPC to the network element

Step	Action
------	--------

Figure 4-4
Connecting the portable OPC to the ABM shelf

PC-10248



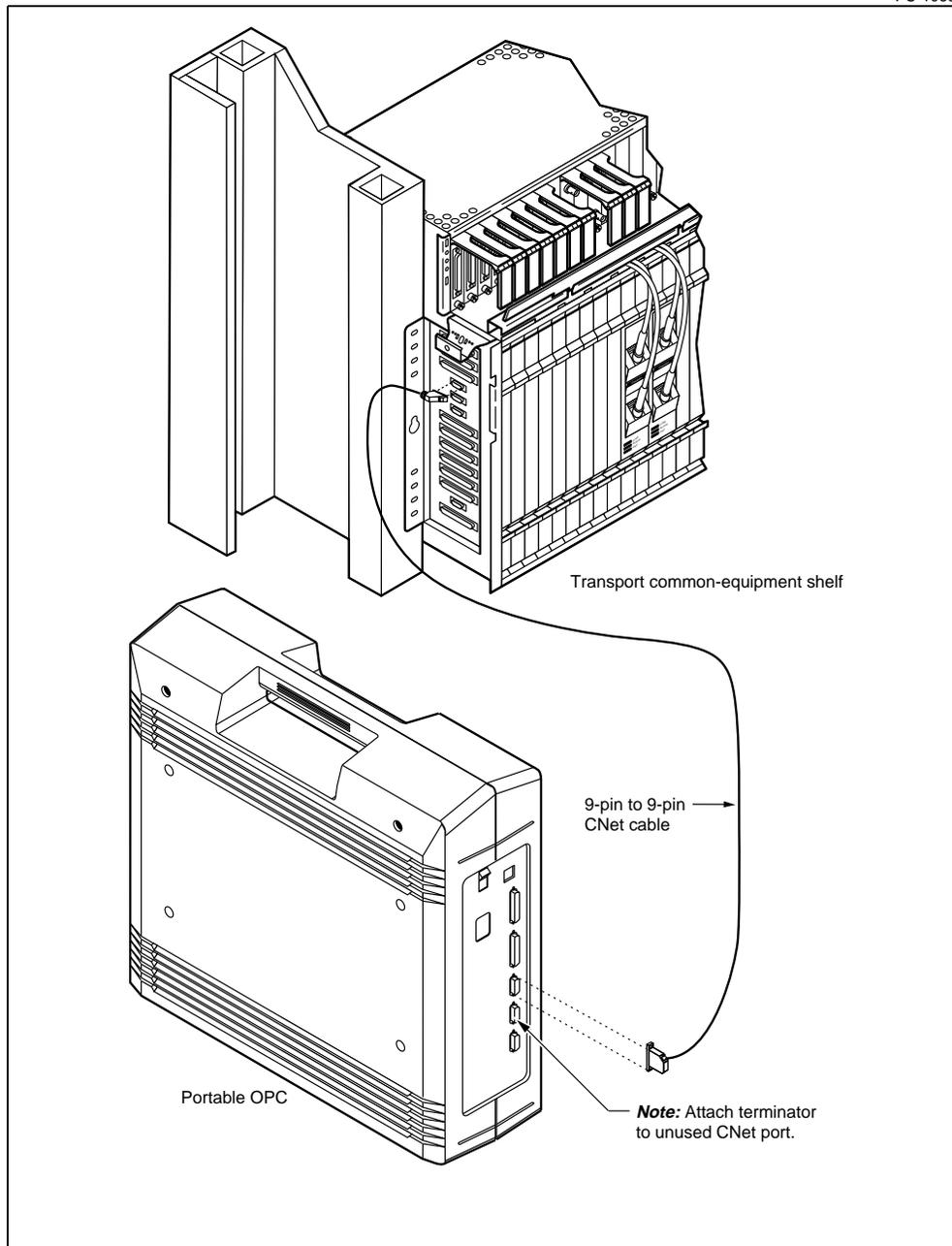
—continued—

Procedure 4-3 (continued)
Connecting the portable OPC to the network element

Step Action

Figure 4-5
Connecting the portable OPC to the TBM shelf

PC-10604



—continued—

4-24 Connecting, logging in, and logging out from the OPC

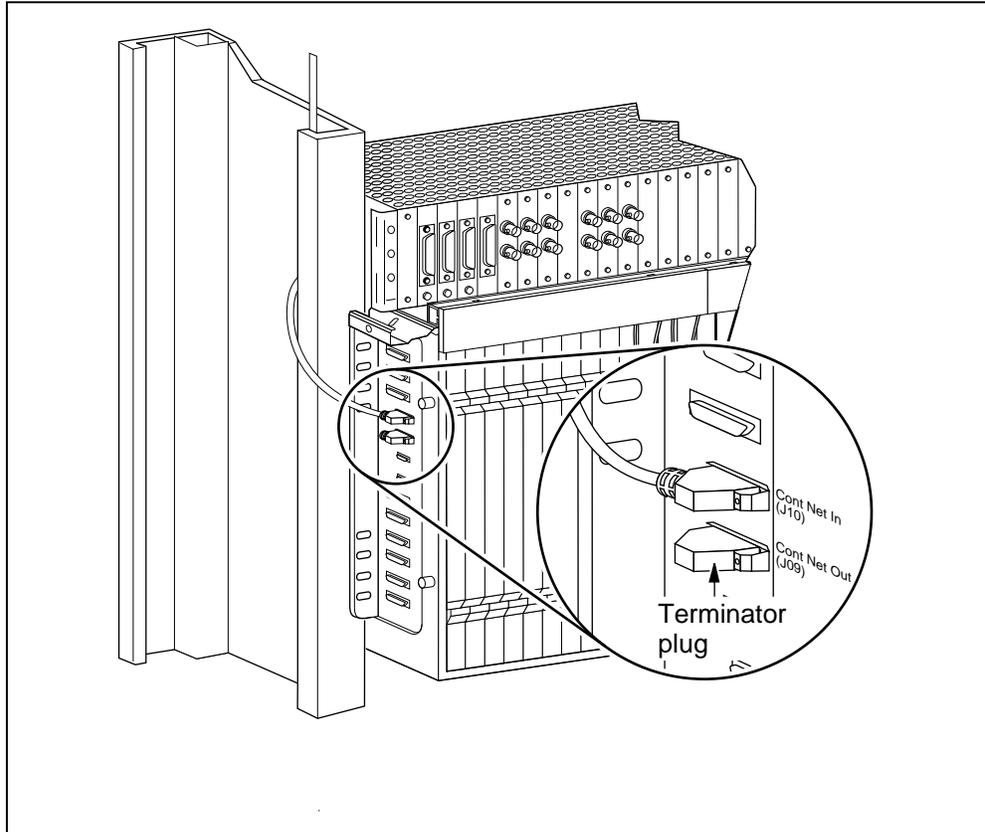
Procedure 4-3 (continued)

Connecting the portable OPC to the network element

Step Action

Figure 4-6
Terminator plug in the CNet jack (ABM shelf)

PC-10247



—continued—

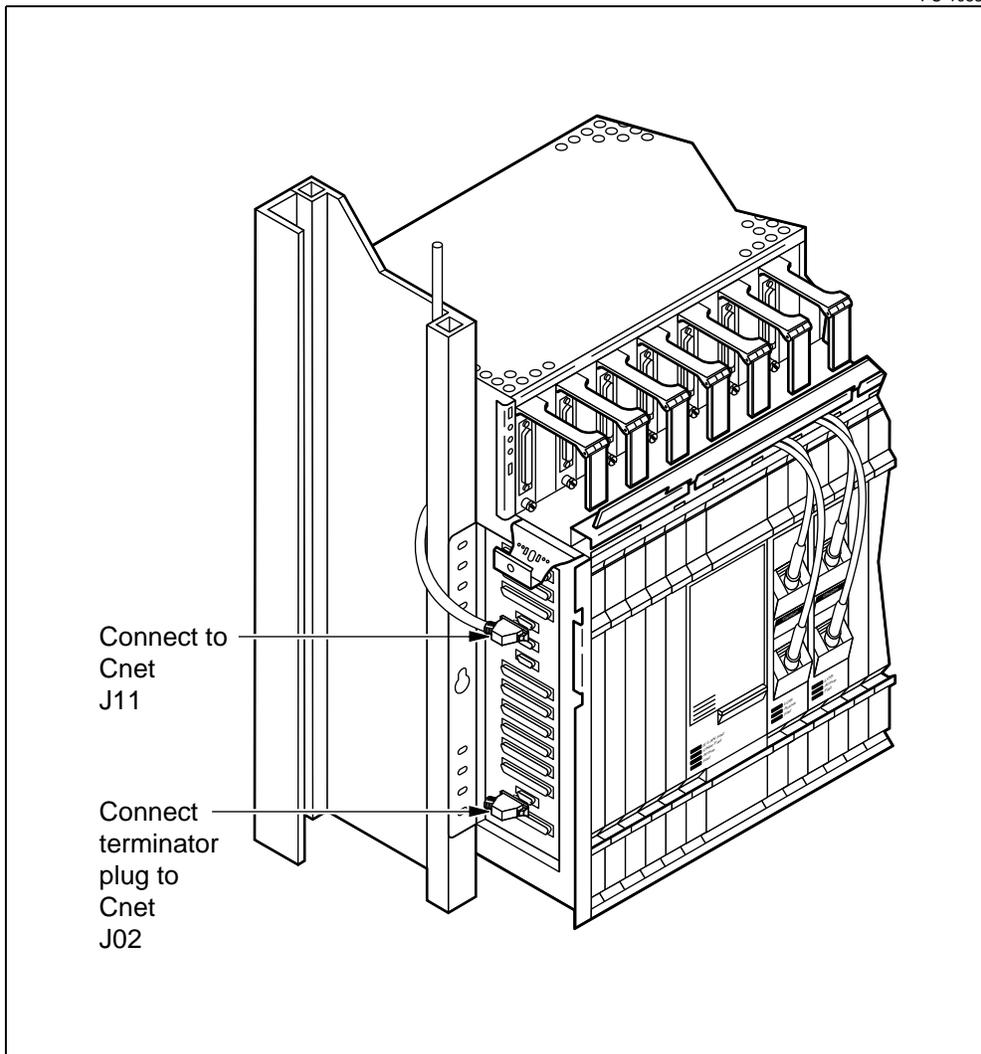
Procedure 4-3 (continued)

Connecting the portable OPC to the network element

Step Action

**Figure 4-7
Terminator plug in the CNet jack (TBM shelf)**

PC-10588



—end—

Procedure 4-4

Connecting a remote terminal to the OPC using the internal modem

Use this procedure to connect a terminal to an operations controller (OPC) through the modem located within the breaker interface panel (BIP).

Note: The modem is an optional item and must be ordered separately. See *Engineering and Ordering Information*, 323-3001-032, in *Engineering, Configuration, and Ordering Guide*, Volume 1.

To access the OPC remotely using a modem, you must connect to the network element (NE) and use the network element user interface (NEUI). This is required because there is an extra level of security to log in to the NE. In addition, if the line is noisy, the erroneous data will be caught by the NE.

The procedures are described in *Network Element User Interface Description*, 323-3001-300, in this volume.

If you want to	Go to this procedure in <i>Network Element User Interface Description</i>
connect the remote terminal to the network element	Procedure 3-2, "Connecting a remote VT100-compatible terminal using the optional BIP modem"
connect directly to the OPC by connecting the modem to the shelf OPC port, rather than port 1 from the NE	Procedure 3-3, "Connecting a remote VT100-compatible terminal using an external modem"

—end—

Procedure 4-5

Connecting a remote terminal to the OPC using an external modem

Use this procedure to connect a terminal to the OPC port using an external modem.

Requirements

Verify that the remote terminal has been configured for VT100 emulation. The following are default parameters, which are found on the terminal communication setup screen:

- VT100
- data bits (8)
- stop bit (1)
- parity (none)
- no local echo (full duplex)
- baud rate = 2400 (most modems, default for modem [DTE] port on shelf right wing)

Equipment

One user interface cable (NT7E44EA or EB) is required.



CAUTION

Risk of fiber damage

Handle all cabling very carefully to avoid damage to the fibers.

Action

Step	Action
1	Connect one end of the NT7E44EA/EB 9/25-pin user interface cable to the 9-pin OPC port 1 connector J09 (for transport bandwidth manager (TBM) shelf or access bandwidth manager (ABM) shelf).

—continued—

4-28 Connecting, logging in, and logging out from the OPC

Procedure 4-5 (continued)

Connecting a remote terminal to the OPC using an external modem

- | Step | Action |
|------|---|
| 2 | Connect the 25-pin end of the cable directly to the modem. The following table lists the pin assignments for the shelf connector: |

Table 4-7
Shelf connector pin assignments

Pin	Function	Pin	Function
8	DCD	6	N/C
3	Rx	4	RTS
2	Tx	5	CTS
20	DTR	1	N/C
7	GND		

Note: N/C = not connected.

- 3 Verify that OPC Port 1 is configured for terminal operation. See *System Administration Procedures*, 323-3001-302, in this volume, for the procedure on configuring the OPC ports.
- 4 Set the following parameters for the modem:

Table 4-8
Modem parameters

Assignment	ON or OFF
Enable DTR recognition	ON
Provide word result codes	ON
Send result codes	ON
Echo commands	OFF
Auto-answer enable	ON
Carrier detect	ON
RJ-11 jack	ON
Enable commands	OFF
Enable RTS detection	OFF
Constant CTS	ON

Note: Default configuration parameters in this table are for OPC port 1. These default configurations are used when the shelf is first installed or after a system reboot. However, these user interfaces can be reprovisioned. Therefore, the terminal, or modem, or both must be configured accordingly.

—end—

Procedure 4-6

Connecting a collocated DS1-fed AccessNode or host digital terminal to a DMS-10NA or APC-100

Use this procedure to connect a collocated DS1-fed AccessNode (DFA) or host digital terminal to a DMS-10NA or APC-100 switch.

Note 1: There is a 50-foot limit for connecting two NT7E44TB cables together.

Note 2: You must install the NT4K52GB processor card on the DFA or HDT.

Step	Action
------	--------

At the switch

- 1 Connect the NT7E44TB cable to the DMS-10NA or APC-100 serial port.

At the DFA or HDT

- 2 Insert the NT4K58LA serial I/O card into slot 40 of the common equipment shelf on the AccessNode.
This card is required so you can use the DMSTerm tool as described in step 5.
- 3 Connect the other end of the NT7E44TB cable to the serial I/O card in slot 40 on the AccessNode.
- 4 Login to the operations controller (OPC).
Note: If you do not know how to do this, see Procedure 4-8 on page 4-34.
- 5 Open the DMSTerm tool from the Utilities toolset as described in procedure 4-11.
- 6 Select **Set bps** from the main menu, then set the baud rate to either the DMS-10NA's baud rate or the APC-100's baud rate.
- 7 Select **Terminal mode** from the main menu.
The DMS-10NA or APC-100 now accept switch commands.

—continued—

4-30 Connecting, logging in, and logging out from the OPC

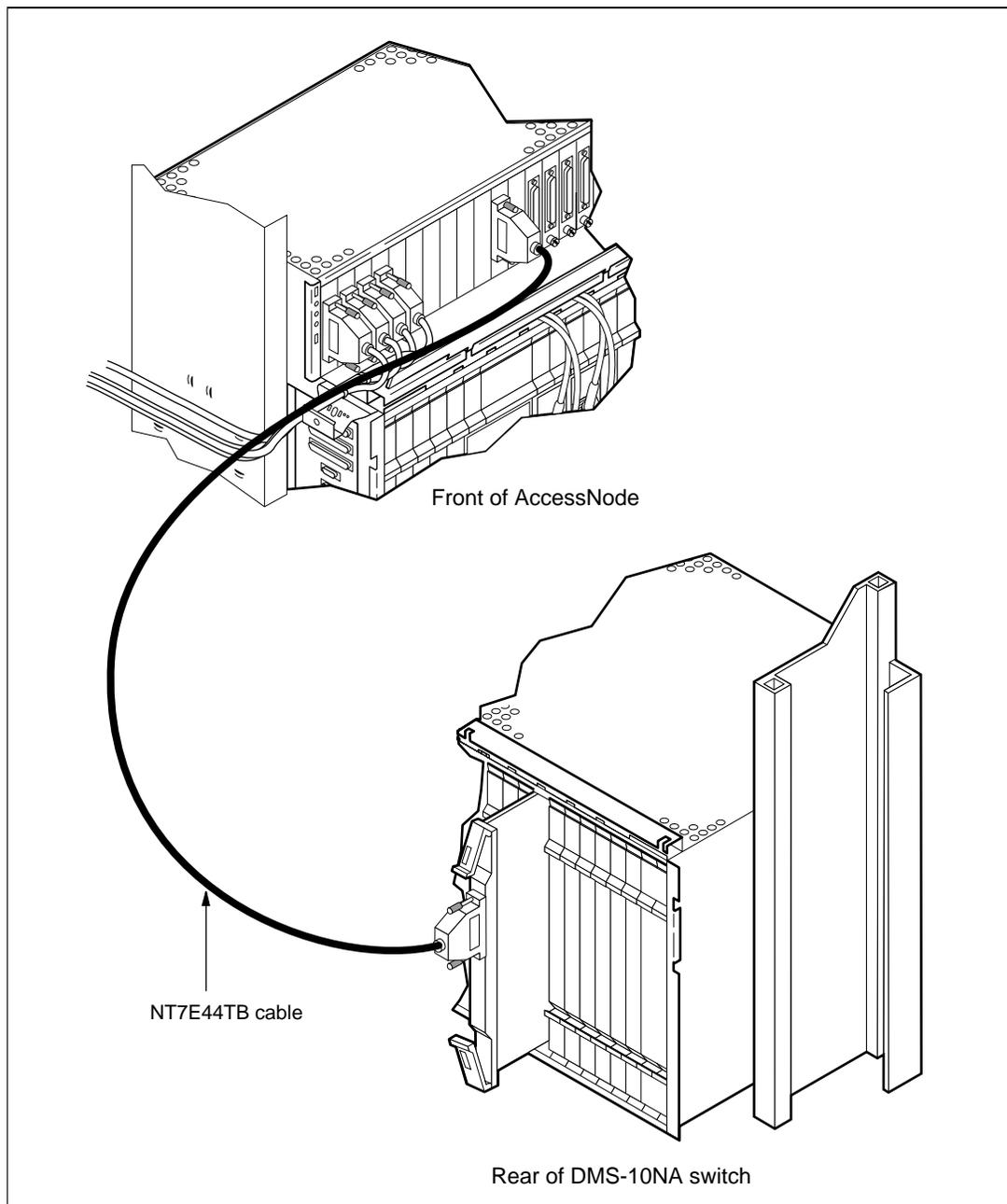
Procedure 4-6 (continued)

Connecting a collocated DS1-fed AccessNode or host digital terminal to a DMS-10NA or APC-100

Step Action

Figure 4-8
AccessNode connected to a DMS-10NA switch

PC-16330



—end—

Procedure 4-7

Connecting a remote DS1-fed AccessNode or host digital terminal to a DMS-10NA or APC-100

Use this procedure to connect a remote DS1-fed AccessNode (DFA) or host digital terminal to a DMS-10NA or APC-100 switch.

You must have the operations controller (OPC) and available telephone line at each end.

Note 1: Modems used for serial port communication with the OPC are not supplied with AccessNode.

Note 2: You must install the NT4K52GB processor card on the DFA or HDT.

Step	Action
At the switch	
1	Connect the NT4K86TE or NT4K86TF cable to the DMS-10NA or APC-100 serial port.
2	Connect the other end of the cable to the modem.
3	Connect the telephone line to the modem.
At the DFA or HDT	
4	Insert the NT4K58LA serial I/O card into slot 40 of the common equipment shelf on the AccessNode. <i>This card is required so you can use the DMSTerm tool as described in step 9.</i>
5	Connect the NT4K86TE or NT4K86TF cable to the serial I/O card in slot 40 on the AccessNode.
6	Connect the other end of the cable to the modem.
7	Connect the telephone line to the modem.
8	Login to the OPC. Note: If you do not know how to do this, see Procedure 4-8 on page 4-34.
9	Open the DMSTerm tool from the Utilities toolset as described in Procedure 4-11 on page 4-45.
10	Select Set bps from the main menu, then set the baud rate to either the DMS-10NA's baud rate or the APC-100's baud rate.
11	Select Configuration and dialing , then select View Numbers .

—continued—

4-32 Connecting, logging in, and logging out from the OPC

Procedure 4-7 (continued)

Connecting a remote DS1-fed AccessNode or host digital terminal to a DMS-10NA or APC-100

Step	Action
12	Determine if the modem number to dial for the DMS-10 or APC-100 is in the configuration file.
13	If the modem's number is not in the configuration file, select Add number(s) , then add the number to the configuration file.
14	Select Dial number to dial the modem number and establish a connection with the DMS-10NA or APC-100. <i>The DMS-10NA or APC-100 can now accept switch commands.</i>
15	To hangup the modem, select Hangup .
16	To hangup the modem and exit the tool, select Hangup and Exit .

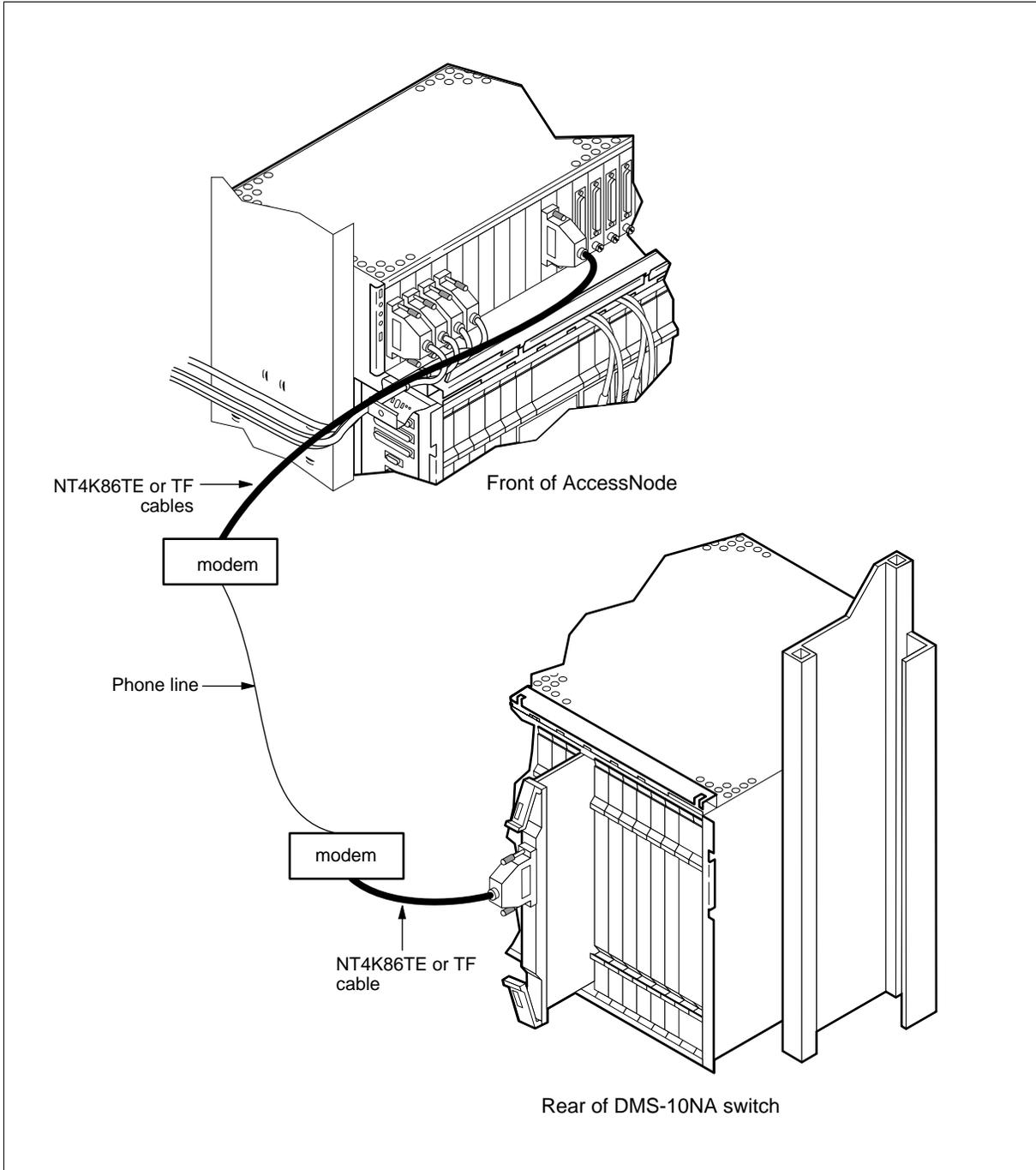
—continued—

Procedure 4-7 (continued)

Connecting a remote DS1-fed AccessNode or host digital terminal to a DMS-10NA or APC-100

Figure 4-9
AccessNode connected to a DMS-10NA switch

PC-16331



—end—

Procedure 4-8

Logging in to the OPC

Use this procedure to log in to the active operations controller (OPC) using a VT100-compatible terminal or laptop computer with VT100 terminal emulation. This method starts the login at the OPC login screen and displays the User Session Manager. You can also use this procedure to log in from an X terminal so the login starts at the OPC login screen at the X terminal.

Requirements

To log in to the OPC you must:

- have a userID and password that allows access to the OPC.
- have your terminal connected, configured, and powered up.
- be familiar with the command conventions for the interface type you are using (character mode terminal (CMT) or graphical user interface (GUI)). See “Using the OPC character-mode user interface” on page 2-1 or “Using the OPC graphical user interface” on page 3-1 of this document.

Action

Step	Action
------	--------

If you are using the	Then go to
character-mode terminal (CMT) user interface	step 1
graphical user interface	step 7

Logging in to the OPC (CMT interface)

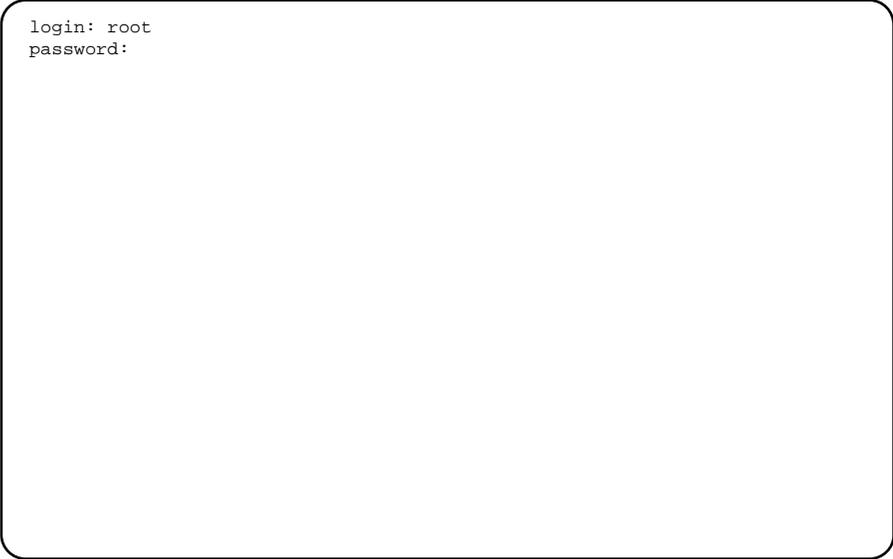
- 1 At the OPC login screen, type your userID at the login prompt, then press **Return**.

—continued—

Procedure 4-8 (continued)
Logging in to the OPC

Step	Action
-------------	---------------

PC-20299



```
login: root
password:
```

- 2** At the password prompt, type your password, then press **Return**.

The following prompt appears: Term = (VT100).

Note: The password does not appear in the field when you type it. The password field is case sensitive so do not use capital letters unless the capitalization is part of the password.

—continued—

4-36 Connecting, logging in, and logging out from the OPC

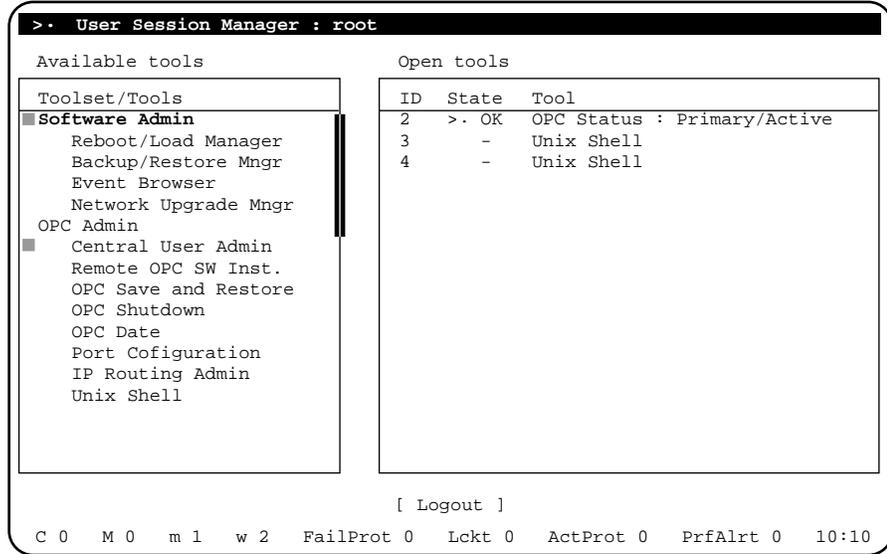
Procedure 4-8 (continued)
Logging in to the OPC

- | Step | Action |
|------|--|
| 3 | Press Return . |
| 4 | As a root user, you can execute certain script commands, as directed in the procedures, or you can start the User Session Manager. |

If you want to	Then
execute script commands	you have finished this procedure
open tools from the User Session Manager	go to step 5

- 5 Enter the following:
opcui ↵
The User Session Manager window appears displaying the available tools.

SC-10294



—continued—

Procedure 4-8 (continued)
Logging in to the OPC

- | Step | Action |
|------|---|
| 6 | To open an OPC tool listed in the User Session Manager window, see Procedure 4-12, "Opening an OPC Tool," on page 4-47. |

Logging in to the OPC (graphical interface)

- | | |
|---|---|
| 7 | At the OPC login screen, enter your userID in the user ID field (as shown following). |
|---|---|

PC-21160

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User ID:

Password:

Done **Alt+Return**

—continued—

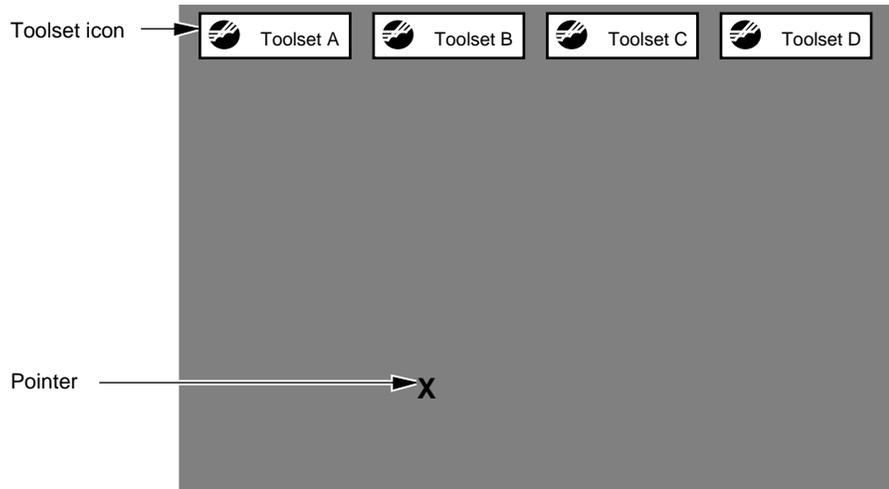
4-38 Connecting, logging in, and logging out from the OPC

Procedure 4-8 (continued)

Logging in to the OPC

Step	Action
8	Tab to the Password field, then type your password. Note: The password does not appear in the field when you type it. The password field is case sensitive so do not use capital letters unless the capitalization is part of the password.
9	Tab to the Done button, then press Alt_Return . Note: The Alt key is labeled Alt on NCD, Extend Char on HP, and Left or Right or the <diamond symbol> on SUN terminals. <i>The workspace appears, showing the available tools.</i>

PC-21699



See Chapter 3, “Using the OPC graphical user interface”, in this document for details on using the graphical user interface (GUI).

—end—

Procedure 4-9

Logging in to the remote OPC from an OPC

Use this procedure to log in to a remote operations controller (OPC) with a graphical terminal session. This procedure displays the User Session Manager, not the graphical desktop for the remote OPC. After logging in, you can perform any operation that can usually be done on that OPC.

Note: The Remote OPC Login tool is not available if you are using a character mode terminal session; therefore it does not appear in the available toolsets list.

Requirements

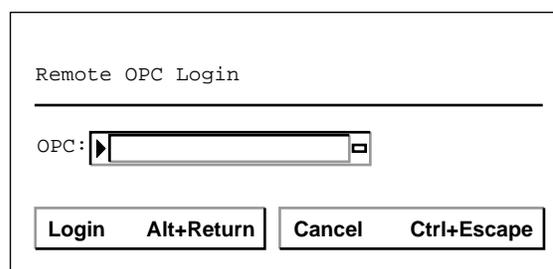
To perform this procedure, you must:

- make sure the remote OPC has been added to the list of OPCs, using the Commissioning Manager tool, that this OPC can access
- have a userID and password that allow you to access the local OPC
- have a userID and password that allow you to access the remote OPC
- log in to the local OPC
- Be familiar with the command conventions for the type of interface you are using (CMT or graphical). See “Using the OPC character-mode user interface” on page 2-1 and “Using the OPC graphical user interface” on page 3-1 in this document.

Action

Step	Action
1	Display the Utilities toolset and select the Remote OPC Login tool. <i>The Remote OPC Login dialog appears.</i>

FW-20656



—continued—

4-40 Connecting, logging in, and logging out from the OPC

Procedure 4-9 (continued)

Logging in to the remote OPC from an OPC

- | Step | Action |
|------|--|
| 2 | In the OPC field, display the chooser menu and select the OPC that you want to log in to, or enter the name of the OPC directly in to the field.
<i>The name of the OPC appears in the OPC field.</i> |
| 3 | Select the Login button.
<i>A session window appears with the Login prompt.</i> |

PC-20658

```
OPC LOGIN (OPCM001P)
login: █
```

- 4 At the login prompt, type your userID, then press **Return**.
The Password prompt appears.

PC-20659

```
OPC LOGIN (OPCM001P)
login: admin
Password: █
```

—continued—

Procedure 4-9 (continued)

Logging in to the remote OPC from an OPC**Step Action**

- 5** At the Password prompt, enter your password, then press **Return**.
The password does not appear in the field when you type it. The password field is case sensitive so do not use capital letters unless capitalization is part of the password.
You are now logged in to the remote OPC. The User Session Manager for the remote OPC appears.
Remember to log out when you no longer need the connection.

SC-10294

```

>. User Session Manager : root

Available tools
-----
Toolset/Tools
■ Software Admin
  Reboot/Load Manager
  Backup/Restore Mngr
  Event Browser
  Network Upgrade Mngr
OPC Admin
■ Central User Admin
  Remote OPC SW Inst.
  OPC Save and Restore
  OPC Shutdown
  OPC Date
  Port Cofiguration
  IP Routing Admin
  Unix Shell

Open tools
-----
ID  State  Tool
2   >. OK  OPC Status : Primary/Active
3   -     Unix Shell
4   -     Unix Shell

[ Logout ]

C 0  M 0  m 1  w 2  FailProt 0  Lckt 0  ActProt 0  PrfAlrt 0  10:10

```

—end—

Procedure 4-10

Logging in to an OPC from a network element

Use this procedure to log in to an operations controller (OPC) from a network element (NE).

Requirements

To perform this procedure, you must:

- have a userID and password for the NE
- have a userID and password for the OPC
- connect a terminal to the NE in the same span of control as the OPC that you want to access
- log in to the NE
- be familiar with the command conventions for the interface you are using. See “Using the OPC character-mode user interface” on page 2-1 or “Using the OPC graphical user interface” on page 3-1 of this document.

Action

Step	Action
------	--------

- | | |
|---|---|
| 1 | From the network element user interface (NEUI) screen, enter the following:
rlogin opc ↵
<i>A screen similar to the following appears.</i> |
|---|---|

PC-0740



—continued—

Procedure 4-10 (continued)

Logging in to an OPC from a network element

Step Action

Table 4-9 shows the commands you use to login in to the OPC.

Table 4-9
NE log in commands

Command	Result
rlogin opc	sets up a session with the active OPC for the network element that you issue the command from.
rlogin opc9999b	sets up a session with the backup OPC that has an alias of opc9999b.
rlogin opc9999p	sets up a session with the backup OPC that has an alias of opc9999p.
rlogin opc backup	displays an error message. This release does not support this parameter.
rlogin london	does not set up a session if the real name of this network element is London. For uppercase and lowercase names, use quotes around the name.
rlogin	invokes the listnodes command and the user is requested to enter a valid name.

Note: Nortel recommends that you use the opc name as the alias, that is, if you call the primary OPC “opc9999p,” then this is the number you enter for the alias. Similarly, the alias for the backup is opc9999b. The alias name is the name that is stored against the OPC serial number. In the current release, this is the only way that you can set up a session with an OPC other than the active OPC for the span of control that you are in.

- 2 Enter your userID at the login prompt. Your userID is case sensitive.
You are prompted for a password.
- 3 Enter the password at the password prompt. Your password is case sensitive.
The password does not appear in the field when you type it.
- 4 If you log in as a root user, you access the UNIX shell layer of the interface. To access the OPC user interface, enter:

opcui ↵

The User Session Manager appears showing you the tools that you are allowed to use.

—continued—

4-44 Connecting, logging in, and logging out from the OPC

Procedure 4-10 (continued)

Logging in to an OPC from a network element

Step Action

SC-10294

```
>. User Session Manager : root

Available tools

Toolset/Tools
■ Software Admin
  Reboot/Load Manager
  Backup/Restore Mngr
  Event Browser
  Network Upgrade Mngr
OPC Admin
■ Central User Admin
  Remote OPC SW Inst.
  OPC Save and Restore
  OPC Shutdown
  OPC Date
  Port Cofiguration
  IP Routing Admin
  Unix Shell

Open tools

ID  State  Tool
2   >. OK  OPC Status : Primary/Active
3   -      Unix Shell
4   -      Unix Shell

[ Logout ]

C 0  M 0  m 1  w 2  FailProt 0  Lckt 0  ActProt 0  PrfAlrt 0  10:10
```

—end—

Procedure 4-11

Logging in to the DMS Access or APC-100 user interfaces

Use this procedure to log in to the DMSTerm tool to commission, provision, and maintain the DMS-10NA or APC-100 switch and lines from the AccessNode operations controller (OPC).

Note 1: DMSTerm provides access to the DMS-10NA and APC-100 switches. For details on the switch interface and its commands, see *DMS-10 470 Series Generic - Data Modification Manual*, 297-3471-311Z.

Note 2: For information about how to login to the OPC, see Procedure 4-8, “Logging in to the OPC” on page 4-34.

Note 3: For a table of available APC-100 (DMS-100) commands, see *DMS-100 Commands Reference Manual*, 297-1001-822.

Requirement

The DMSTerm tool will not work if port 3 on the OPC has been configured. If port 3 has been configured, a warning message appears. Before proceeding, you must use the Port Configuration tool to unconfigure port 3. The tool is described in Chapter 7, “OPC Administration Toolset.”

Action

Step	Action						
1	Determine which type of OPC interface you are using.						
	<table border="1"> <thead> <tr> <th>If you are using a</th> <th>Then go to</th> </tr> </thead> <tbody> <tr> <td>character-mode terminal (CMT) user interface</td> <td>step 2</td> </tr> <tr> <td>graphical user interface</td> <td>step 6</td> </tr> </tbody> </table>	If you are using a	Then go to	character-mode terminal (CMT) user interface	step 2	graphical user interface	step 6
If you are using a	Then go to						
character-mode terminal (CMT) user interface	step 2						
graphical user interface	step 6						
2	Log in to the OPC.						
	<table border="1"> <thead> <tr> <th>If you logged in</th> <th>Then go to</th> </tr> </thead> <tbody> <tr> <td>as a root user</td> <td>step 3</td> </tr> <tr> <td>not as a root user</td> <td>step 4</td> </tr> </tbody> </table>	If you logged in	Then go to	as a root user	step 3	not as a root user	step 4
If you logged in	Then go to						
as a root user	step 3						
not as a root user	step 4						

—continued—

Procedure 4-11 (continued)

Logging in to the DMS Access or APC-100 user interfaces

Step	Action						
3	When the (opc>) prompt appears, enter: opcui ↵ <i>The User Session Manager window appears and displays the tools available to you.</i> Go to step 5.						
4	The CMT user interface appears and displays the tools available to you.						
5	Scroll down to the Utilities toolset, then open the DMSTerm tool. <i>You are now logged in the DMS-10NA or APC-100 interface and are ready to enter switch-level commands.</i> You have completed this procedure.						
6	Log in to the OPC. <table><thead><tr><th>If you logged in</th><th>Then</th></tr></thead><tbody><tr><td>as a root user</td><td>Enter /iws/usm/usm start to access the graphical version of the User Session Manager.</td></tr><tr><td>not as a root user</td><td>The graphical version of the User Session Manager will appear.</td></tr></tbody></table>	If you logged in	Then	as a root user	Enter /iws/usm/usm start to access the graphical version of the User Session Manager.	not as a root user	The graphical version of the User Session Manager will appear.
If you logged in	Then						
as a root user	Enter /iws/usm/usm start to access the graphical version of the User Session Manager.						
not as a root user	The graphical version of the User Session Manager will appear.						
7	Select the DMSTerm tool from the Utilities toolset. <i>You are now logged in to the DMS-10NA or APC-100 interface and are ready to enter switch-level commands.</i>						

—end—

Procedure 4-12

Opening an OPC tool

Use this procedure to open an operations controller (OPC) tool.

Some tools allow you to open the same tool more than once in a session. For example, you can open some tools three times. If you cannot open a tool because the maximum number of instances are open, a disable icon appears in front of the tool name. You must use one of the open instances of the tool.

Requirements

To carry out this procedure, you must:

- be logged in to the OPC
- be familiar with the command conventions for the interface you are using. See “Using the OPC character-mode user interface” on page 2-1 or “Using the OPC graphical user interface” on page 3-1 of this document.

Action

Step	Action
------	--------

- | | |
|---|--|
| 1 | Display the User Session Manager by pressing Ctrl_T 0 .
<i>The Session Manager window appears.</i> |
|---|--|

SC-10294

```

>. User Session Manager : root

Available tools
-----
Toolset/Tools
■ Software Admin
  Reboot/Load Manager
  Backup/Restore Mngr
  Event Browser
  Network Upgrade Mngr
OPC Admin
■ Central User Admin
  Remote OPC SW Inst.
  OPC Save and Restore
  OPC Shutdown
  OPC Date
  Port Cofiguration
  IP Routing Admin
  Unix Shell

Open tools
-----
ID  State  Tool
2   >. OK  OPC Status : Primary/Active
3   -      Unix Shell
4   -      Unix Shell

[ Logout ]

C 0  M 0  m 1  w 2  FailProt 0  Lckt 0  ActProt 0  PrfAlrt 0  10:10

```

—continued—

Procedure 4-12 (continued)

Opening an OPC tool

Step Action

- 2 In the User Session Manager window, look for the tool name in the Available tools list.

If the tool name	Then
does not have a disable icon	using the arrow keys, move the cursor to the tool you want to open, then press Ctrl_A (or keypad 0). A progress dialog appears while the tool is opening. Then the main window for the tool appears. Go to step 3.
has a disable icon	If the disable icon appears beside the tool name, you cannot open the tool, but you can use an open instance of the tool. Look for the tool name in the Open tools list. If the tool you want is listed, tab to the Open tools list. Using the arrow keys move the cursor to the tool you want, then press Ctrl_A (or keypad 0). <i>The main window for that tool appears.</i> Go to step 3.

- 3 You have completed the procedure. Return to the main procedure that directed you to this procedure.

—end—

Procedure 4-13

Closing an OPC tool

Use this procedure to close an operations controller (OPC) tool.

If you have a tool open only once, then this procedure closes the tool and automatically displays the Session Manager, leaving you logged in to the OPC.

If you have more than one tool (or instance of a tool) open, then you must repeat this procedure to close each open tool. Alternatively, go to the Session Manager and log off the OPC. See “Logging out of the OPC” on page 4-51.

Requirements

To perform this procedure you must:

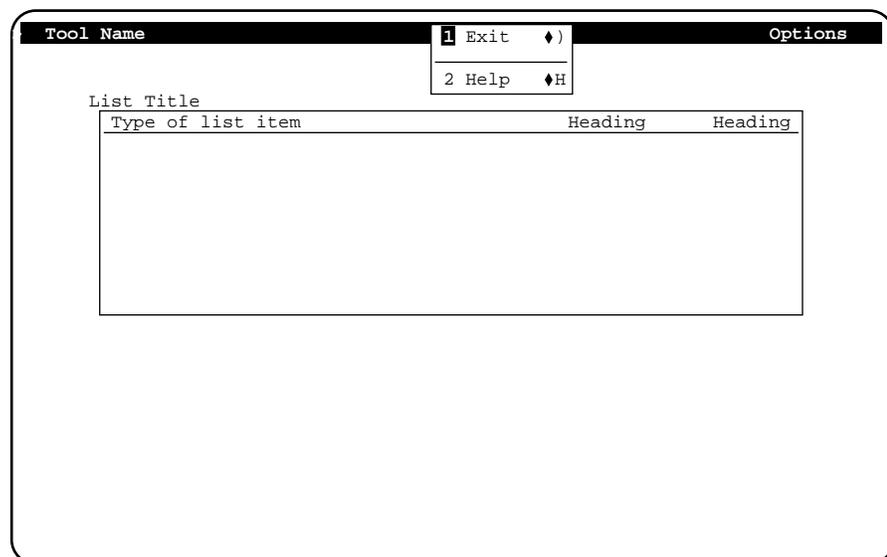
- be familiar with the command conventions for the interface you are using. See “Using the OPC character-mode user interface” on page 2-1 or “Using the OPC graphical user interface” on page 3-1 of this document.
- be in the main window of the tool you want to close.

Action

Step	Action
------	--------

- | | |
|---|---|
| 1 | Display the window menu by pressing Ctrl_L W (or keypad 6).
<i>The window menu appears.</i> |
|---|---|

PC-20782



—continued—

4-50 Connecting, logging in, and logging out from the OPC

Procedure 4-13 (continued)

Closing an OPC tool

- | Step | Action |
|------|--|
| 2 | Select the Exit command by pressing Space (or keypad 0).
<i>The tool closes. The Session Manager window appears.</i> |

SC-10294

```
>. User Session Manager : root

Available tools
-----
Toolset/Tools
■ Software Admin
  Reboot/Load Manager
  Backup/Restore Mngr
  Event Browser
  Network Upgrade Mngr
OPC Admin
■ Central User Admin
  Remote OPC SW Inst.
  OPC Save and Restore
  OPC Shutdown
  OPC Date
  Port Cofiguration
  IP Routing Admin
  Unix Shell

Open tools
-----
ID  State  Tool
---  ---  ---
2   >. OK  OPC Status : Primary/Active
3   -      Unix Shell
4   -      Unix Shell

[ Logout ]

C 0  M 0  m 1  w 2  FailProt 0  Lckt 0  ActProt 0  PrfAlrt 0  10:10
```

—end—

Procedure 4-14

Logging out of the OPC

Use this procedure to log out of the operations controller (OPC). If any OPC tools are open, this procedure automatically closes all tools and removes their windows. This procedure is performed from the Session Manager window.

Requirements

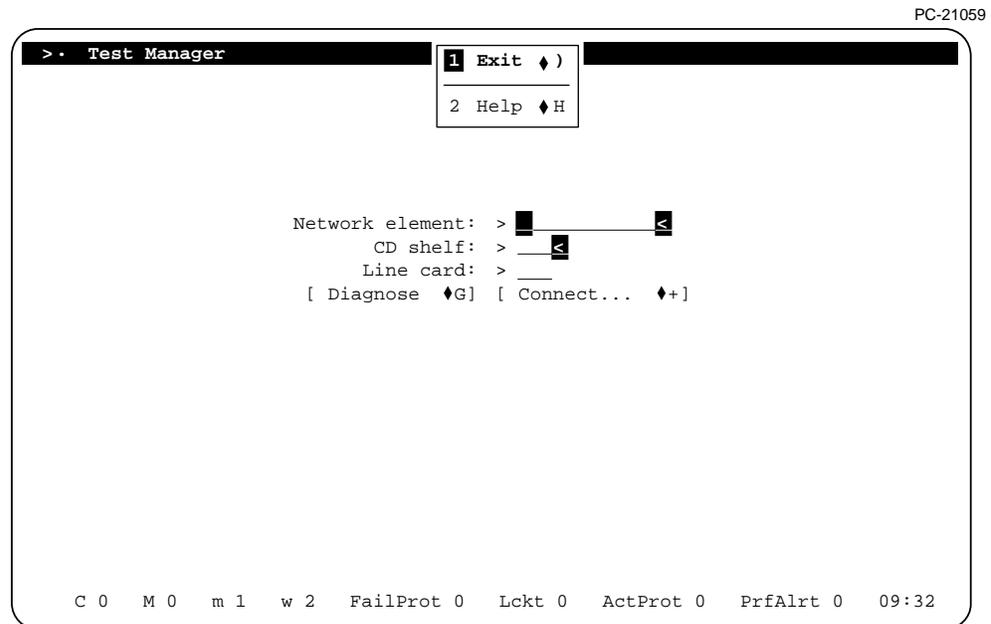
To perform this procedure you must:

- be logged in to the OPC
- be familiar with the command conventions for the interface you are using. See “Using the OPC character-mode user interface” on page 2-1 or “Using the OPC graphical user interface” on page 3-1 of this document.

Action

Step	Action
------	--------

- | | |
|---|---|
| 1 | If the Session Manager is not displayed, then press Ctrl_T 0 .
<i>The Session Manager window appears.</i> |
|---|---|



—continued—

Procedure 4-14 (continued)

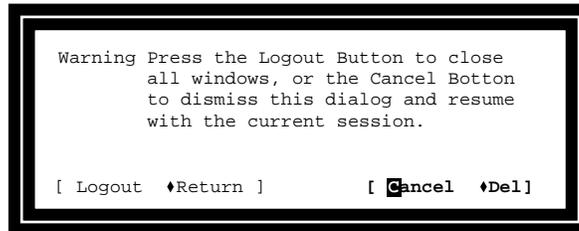
Logging out of the OPC

Step	Action
-------------	---------------

- 2 Tab to the Logout button, then press **Ctrl_A** (or keypad **0**).

The following confirmation dialog appears:

SC-20664



- 3 Tab to the Logout button, then press **Ctrl_A** (or keypad **0**).

The confirmation dialog closes, the User Session Manager window closes, and the login screen appears.

—end—

Procedure 4-15

Changing your password

Use this procedure to change your password for a particular userID. If you have different user IDs for different network elements, you have to change the password for each userID separately.

UserIDs are stored on the operations controller (OPC). Therefore, you have different userIDs for different spans of control.

**CAUTION****Risk of security vulnerability**

Root and root1 users have access to the UNIX passwd command. Do not use the passwd command to change an OPC password. The passwd command updates the password only on the OPC, not on the network elements.

In addition, the new password is not subject to any security validation checks. For example, the passwd command allows you to enter a null password, which allows anyone to log in to that userID without a password. To change the root or root1 password, log in as root or root1 and use the Password Update tool according to this procedure.

Requirements

Before performing this procedure, you must:

- connect a terminal to the OPC
- have a userID and password that allow you to access the OPC
- log in to the OPC
- select a new password that conforms to the security criteria of your installation. It must be different from your current password.

A new password must meet the following criteria:

- The password must have between five and eight characters.
- The first character must be alphabetic (a–z, lowercase only) or a \$ symbol.
- The remaining characters can be alphabetic (a–z, lowercase only), digits 1–9, _ (underscore), or a \$ symbol.

—continued—

4-54 Connecting, logging in, and logging out from the OPC

Procedure 4-15 (continued) Changing your password

Action

Step	Action
------	--------

- 1 Open the Password Update tool.
The Password Update tool main window appears.

PC-21120



- 2 Enter your old password by entering:

<old password> ↵

If you entered your password correctly, the text changes to "Type in new password followed by Return".

If the password is incorrect, an X appears beside the field and the field label does not change.

If	Then
the password is correct	continue step 3
the password is incorrect	repeat step 2
you want to exit the tool	go to step 6

—continued—

 Procedure 4-15 (continued)
Changing your password

Step	Action
------	--------

- | | |
|---|---|
| 3 | Enter your new password by entering:
<new password> ↵
<i>Note: the characters do not appear as you enter them, but the cursor moves.
 If the password is accepted, the text changes to "Retype new password followed by Return."
 If the password is rejected, an X is placed beside the field. Repeat this step, then go to Step 4.</i> |
|---|---|

- | | |
|---|---|
| 4 | Reenter your new password by entering:
<new password> ↵
<i>If the password matches your previous entry, the text changes to "Password Match," and the field is removed. If the passwords do not match, an X appears beside the field.</i> |
|---|---|

If	Then
the passwords match	continue with step 5
the passwords do not match	return to step 3
you want to exit the tool	go to step 6

- | | |
|---|--|
| 5 | Select the Update button by pressing Ctrl_A (or keypad 0).
<i>Your password is changed on all network elements that you have permission to access (if they are up), and the new password is in effect. The Password Update dialog appears.</i>
<i>Note: If your new password does not go into effect immediately, select Audit User Profile Data from the Utilities menu. Select Yes on the dialog that appears.</i> |
|---|--|

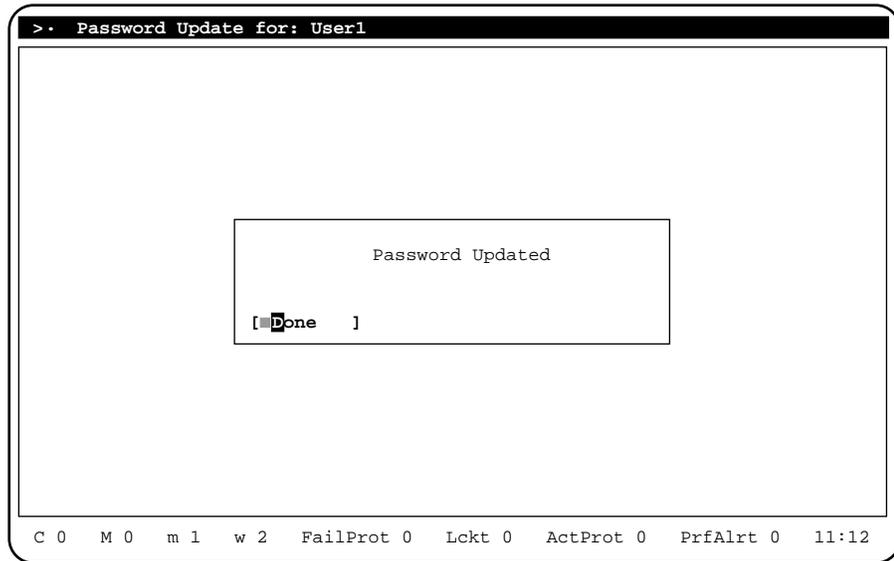
—continued—

4-56 Connecting, logging in, and logging out from the OPC

Procedure 4-15 (continued) Changing your password

Step	Action
------	--------

PC-21119



- 6 Close the tool by pressing **Esc**) or do the following:
 - a. Display the Window menu by pressing **Ctrl_L** (or keypad **6**).
The Window menu appears.
 - b. Select the Exit command by pressing **Space** (or keypad **0**).
The Password Update tool closes.

—end—

Procedure 4-16

Displaying OPC status

Use this procedure to display the following information about the operations controller (OPC):

- OPC name, as defined by the system line-up and test (SLAT) user during OPC commissioning
- OPC function, which can be primary or backup
- OPC status, which can be active, inactive, or out of service
- network element (NE) where the OPC is located
- version of software that is currently running on the OPC
- status of the backup OPC if you are logged in to the primary OPC, or the status of the primary OPC if you are logged into the backup OPC
 - Backup OPC status is not commissioned, active, or unknown
 - Primary OPC status is active or unknown

Knowing what OPC you are logged into is important when you are performing data backups or restores, installing software, or commissioning NEs.

Requirements

To perform this procedure you must:

- be logged into the OPC.
- be familiar with the command conventions for the interface you are using. See “Using the OPC character-mode user interface” on page 2-1 or “Using the OPC graphical user interface” on page 3-1 of this document.

—continued—

4-58 Connecting, logging in, and logging out from the OPC

Procedure 4-16 (continued)
Displaying OPC status

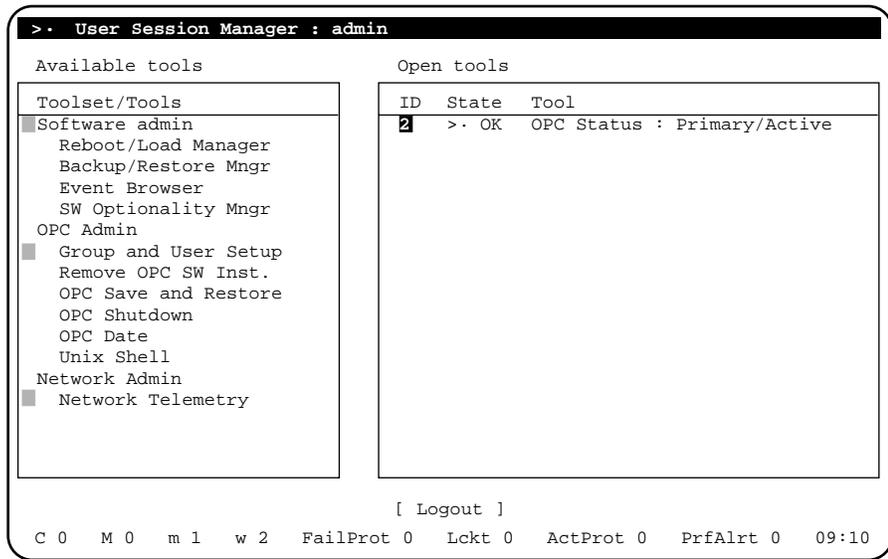
Action

Step Action

- 1 Press **Ctrl_T 0** to return to the User Session Manager. If you are already there, this command is ignored.

The User Session Manager appears. The OPC Status tool is at the top of the Open tools list.

SC-10293



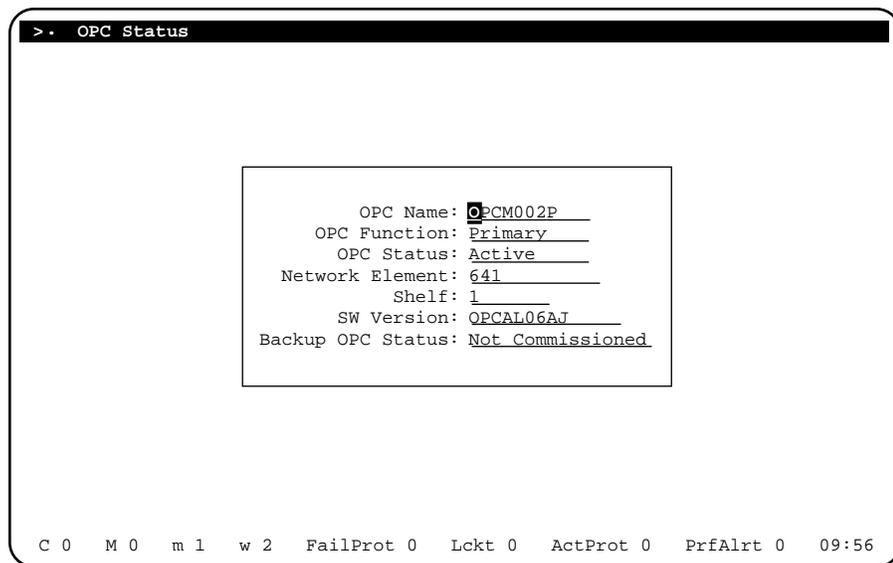
Note: The OPC Status tool is always open during a session; you cannot close it. In the User Session Manager screen, the OPC Status tool always appears in the Open tools list, never in the Available tools list.

—continued—

Procedure 4-16 (continued)
Displaying OPC status

- | Step | Action |
|------|--|
| 2 | Tab to the Open tools list. |
| 3 | Using the arrow keys move the cursor to the OPC Status entry, then press Ctrl_A (or keypad 0).
<i>The OPC Status window appears.</i> |

PC-10796



```

> . OPC Status

      OPC Name: OPCM002P
      OPC Function: Primary
      OPC Status: Active
      Network Element: 641
      Shelf: 1
      SW Version: OPCAL06AJ
      Backup OPC Status: Not Commissioned

C 0  M 0  m 1  w 2  FailProt 0  Lckt 0  ActProt 0  PrfAlrt 0  09:56
  
```

- 4 After viewing the OPC status, press **Ctrl_T 0** to return to the User Session Manager.
The User Session Manager appears. The OPC Status tool remains at the top of the Open tools list.

—end—

Procedure 4-17

Changing the name of an OPC

Use this procedure to change the name of an in-service operations controller (OPC).

Requirements

Before performing this procedure, you must do the following:

- have a userID and password for the SLAT security level of a network element (NE) in the OPC span of control
- have a userID and password of the primary and the backup OPC at the slat security level
- make the OPC that you want to rename the primary OPC for that span of control
- connect a VT100-compatible terminal to an NE in the OPC span of control
- log in to the NE at the SLAT security level. The default userID is “slat” and slat is the default password.
- log in to the primary OPC from the NE at the slat security level. The default userID is “slat” and slat is the default password.

The following equipment is required:

- VT100-compatible terminal
- RS-232C user interface cable with D-subminiature, 25-pin male connectors, such as the NT7E44FA (5 m), or NT7E44FB (20 m)

Action

Step	Action
------	--------

- | | |
|---|---|
| 1 | Open the Commissioning Manager tool.
<i>The Commissioning Manager main window appears.</i> |
|---|---|

—continued—

 Procedure 4-17 (continued)
Changing the name of an OPC

- | Step | Action |
|------|---|
| 2 | Tab to the Edit system data button and select it by pressing Ctrl_A (or keypad 0). |

The following dialog appears.

PC-20677

```

System Commissioning Data
  Network number: 1
  Network name: _____
  System ID: 1
  System name: _____
  System type: > [dropdown]
  OPC name: > OPC
  Primary OPC serial number: > _____
  Primary OPC alias: _____
  Backup OPC serial number: > _____
  Backup OPC alias: _____
  [ OK ♦Return]                [ Cancel ♦Del]
  
```

- 3 Tab to the OPC name field, and enter the name for the primary OPC. The backup OPC will take this name also. OPC names must be unique within the network and have the following format:

OPC<xxxx>

where

<xxxx> integers from 0 to 9 or letters from A to Z
 (For example: OPC1D37)

- 4 Tab to the OK button and select it by pressing **Ctrl_A** (or keypad **0**).
- 5 Return to the User Session Manager on the OPC by entering **Ctrl_T 0**.
- 6 Copy the data from the primary OPC to the backup OPC (see *Data Administration Procedures*, 323-3001-304, in this volume).
- 7 Reboot the primary OPC.
- 8 Log out of the primary OPC.
- 9 Log in to the backup OPC from the NE.
- 10 Reboot the backup OPC. See *Data Administration Procedures*, 323-3001-304, in this volume.

All NEs in the OPC span of control are automatically updated with the new OPC name. If a NE is rebooted, it can reach its newly named OPC and reload its software.

—end—

Working with OPC tools

This chapter provides examples of typical toolset configurations and the common features in the main window when working with tools.

Toolset configurations

Toolsets are provided for different OPC functions, such as OPC administration or software administration. Tools can be duplicated between toolsets. The following lists show typical toolset configurations:

- Software Admin toolset contains:
 - Reboot/Load Manager
 - Backup/Restore Manager
 - Event Browser
 - Alarm Monitor
 - Network Upgrade Manager
 - Incremental Software Delivery

- OPC Admin toolset contains:
 - Centralized User Administration
 - Remote OPC Software Installation
 - OPC Save and Restore
 - OPC Shutdown
 - OPC Date
 - UNIX Shell
 - Port Configuration
 - IP Routing Administration
 - OPC Status and Clock (on GUI version only)
 - OPC Alarm Provisioning Manager
 - OPC TID/NE Mapping
 - OPC PM Collection Filter

- Network Admin toolset contains:
 - Telemetry-TBOS Mapping
 - E2A Alarm Manager
 - Configuration Manager
 - Connection Manager
 - Cluster Inventory
 - Host Provisioning Manager
 - Alarm Provisioning Manager
- Training toolset contains:
 - Message Alarm Demo
- Network Surveillance toolset contains:
 - Alarm Monitor
 - Network Summary
 - Event Browser
 - Network Browser
 - Protection Manager
- SLAT toolset contains:
 - Commissioning Manager
 - Configuration Manager
 - PGTC/MTA Prov Manager
 - Event Browser
 - Reboot/Load Manager
 - OPC Shutdown
 - OPC Date
 - OS Connection Manager
 - OPC Alarm Provisioning Manager

- Provisioning Admin toolset contains:
 - Provisioning Manager
 - Default Provisioning Manager
 - Host Provisioning Manager
 - Connection Manager
 - TR-08 Default Provisioning Manager
 - Alarm Provisioning Manager
- Test Admin toolset contains:
 - Specials Lineup Manager
 - Test Manager
 - Provisioning Manager
- Utilities toolset contains:
 - NE Login Manager
 - DMSTerm
 - Password Update
- Surveillance (View) toolset contains:
 - Alarm Monitor
 - Network Summary
 - Event Browser
 - Network Browser
 - Protection Manager (V)
 - NE Login Manager
- Restricted Tools toolset contains:
 - OPC Switch
 - Enable/Clear Commissioning
 - Ethernet Admin

OPC tool main window features

The windows for each tool have common features. Rather than explain these common window features within each tool description, these explanations are included in this section. All windows can have the following common features.

Status line

The status line is a summary of all alarms and alerts in the system. The status line (for the VT-100 user interface) appears in the User Session Manager and most OPC tools. For more information on the status line, see *Network Surveillance Procedures*, 323-3001-510, in *Maintenance*, Volume 5C.

Title bar

The title bar identifies the OPC tool, and has a status icon and a window menu.

The title bar can also have additional items depending on the tool you are using. These items are included in the explanations for the individual tools.

Status icon

The status icon indicates the current state of the tool, as listed in Table 5-1.

Table 5-1
Status icon symbols

Symbol	Description
>.	The tool is operating normally.
>X	An error has occurred. You might not be able to use the tool until you correct the error.
> <	The tool is busy processing information or a request, or the tool is initializing and no other actions are possible at this time.

Window menu

The window menu is hidden until you display it. For details on the command conventions for the type of interface you are using (CMT or graphical), see Chapters 2 and 3 in this document.

Table 5-2 lists the commands on the window menu.

Table 5-2
Window menu commands

Command	Description
Exit	This command closes the window and terminates the tool.
Help	This command provides context-specific help on an object. Help appears on all menus.

List menus and list item menus

Generally, if a window has a list menu, it also has a list item menu. The list item menu is hidden until you display it. The items in these menus vary depending on the tool you are using. These items are included in the explanations for the individual tools.

Global menu

The global menu is hidden until you display it. The global menu contains all menus available at this screen level and the commands listed in Table 5-3. These commands vary depending on the tool you are using. These commands are included in the explanations for the individual tools.

Table 5-3
Global menu commands

Menu item	Description
List item	Displays the List Item menu
List	Displays the Chooser menu
Background	Displays the Background menu that contains a Help command
Window	Displays the Window menu
Options	Displays the Tools menu

Tool menu

The Tool menu is hidden unless you display it. The items in this menu vary depending on the tool you are using. These items are included in the explanations for the individual tools.

Dialogs

Dialogs are pop-up windows that are associated with a selection or option from the primary window. From the dialog, you can provide additional information needed to complete an action started on the main window.

Some of the more common OPC tool dialogs are error dialogs, start-up dialogs, and wait dialogs. In general, these common dialogs deliver the same message for all the OPC tools and can ask you for input.

In addition, most of the tools use dialogs that require you to enter additional information based on your selection at the tool's main window. The dialogs are explained with their corresponding tool.

Buttons

From both the main window and dialogs, buttons are available that you can select to initiate an action. Table 5-4 lists some of the more common buttons. Any button not explained in Table 5-4 is described under the individual tool.

Table 5-4
Common buttons

Button	Description
Cancel	The Cancel button closes the dialog without saving changes.
Done	The Done button closes any dialog that is open.
No	The No button acts like the Cancel button. Its action depends on the dialog or window you are using.
OK	The OK button saves the changes and initiates the process you have just entered in the dialog or window.
Proceed	The Proceed button Initiates a process and returns you to previous dialog or window.
Return	The Return button returns you to previous dialog or window without saving changes or initiating a change.
Revert	The Revert button replaces current data with default data if you have made changes and you want to return to the default data.
Save	The Save button saves any changes you have made.
Yes	The Yes button acts like an OK button. Its action depends on the dialog or window you are using.

Error dialog

An error dialog warns you that a field has invalid information. The error message explains the problem. When an error dialog appears, an “Error Status” icon appears in the title bar of the window.

Validation of a field usually occurs when you exit from a dialog. An “X” appears on the field containing the error, and the dialog remains on the screen.

To remove the error dialog and continue, you must select the Done button.

Start-up dialog

When you select the Default Provisioning tool, a start-up dialog appears on the screen to indicate that the tool is initializing. Because Default Provisioning is a complex tool, initialization can take several seconds. When this process completes, the start-up dialog closes and control returns to the main window.

Training toolset

The Training toolset is used as a training exercise to practice using different widgets (boxes) on the OPC screens. A Legal Notice screen is displayed and Message Alarm tool screen are only to practice on and do not impact any functions in the OPC.

Software Administration Toolset

This chapter describes the function of each of the software administration tools and shows the main window and menus. The following table describes the tools.

Tool	Description	See
Reboot/Load Manager	supports software release upgrade procedures and reboots network elements (NE) that have requested an automatic reboot	page 6-2
Backup/Restore Manager	manages the NE database backup files stored on the operations controller (OPC) and uses them to restore data to an NE	page 6-4
Event Browser	browses the history of OPC and NE logs, alarms, and alerts for an NE, and displays or prints detailed information about individual events	page 6-8
Network Upgrade Manager	upgrades the OPC and NE software from earlier to later releases	page 6-12
Incremental Software Delivery	installs a software increment to one or all NEs without requiring a complete software release or upgrade	page 6-15

Note: During periods of peak processing, some user interface screens may not be dynamically updated because traffic and fault handling activities are a priority. To update a screen, back out of it, then reenter the screen. An up-to-date equipment or facility status appears.

Reboot/Load Manager tool

The Reboot/Load Manager is one of several OPC tools used to manage software for a NE. This tool has a release view that supports management by release and reboots network elements that have requested an automatic reboot.

This tool updates the current software load of an individual processor in a network element, either automatically or manually. When a processor requests a reboot, the tool automatically sends the current software release load.

The Reboot/Load Manager tool can be accessed from the following toolsets:

- Software Admin
- SLAT

Reboot/Load Manager main window

Figure 6-1 shows the Reboot/Load Manager main window with all menus displayed.

Figure 6-1
Reboot/Load Manager main window

SC-10345

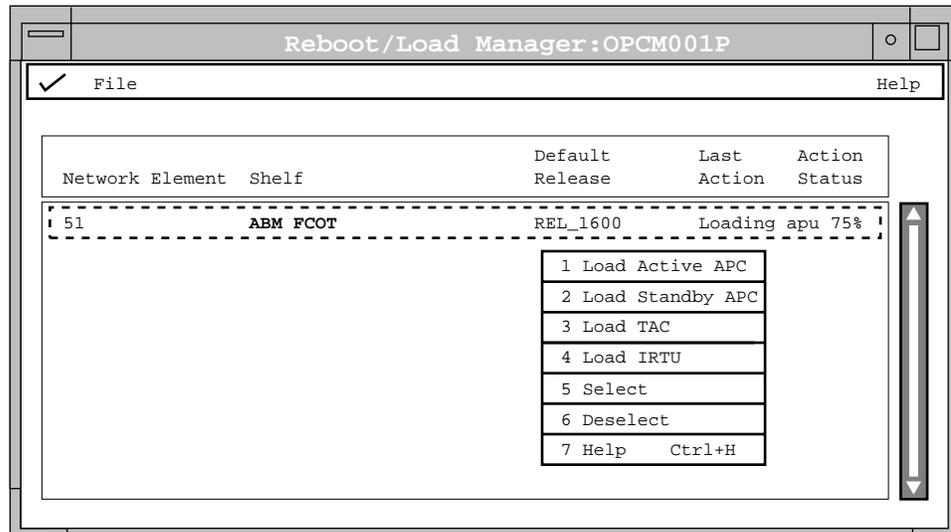


Table 6-1 describes the Reboot/Load Manager main window.

Table 6-1
Reboot/Load Manager menu

Menu item	Description										
Network Element list	<p>lists the NEs in the OPC span of control. You can select only one NE at a time from the list. The NE list is dynamically updated. If a software download is in progress as you open the Reboot/Load Manager, the Action Status column indicates this.</p> <p>For each NE, the NE list displays the following information:</p> <table border="0"> <tr> <td>Network Element</td> <td>identifies an NE element by name or number</td> </tr> <tr> <td>Shelf</td> <td>identifies the equipment type of the NE (ABM or TBM)</td> </tr> <tr> <td>Default Release</td> <td>displays the release of the load running on the NE</td> </tr> <tr> <td>Last Action</td> <td>displays the software download. It also indicates the processor type.</td> </tr> <tr> <td>Action Status</td> <td>displays the percent of the load that is being downloaded</td> </tr> </table>	Network Element	identifies an NE element by name or number	Shelf	identifies the equipment type of the NE (ABM or TBM)	Default Release	displays the release of the load running on the NE	Last Action	displays the software download. It also indicates the processor type.	Action Status	displays the percent of the load that is being downloaded
Network Element	identifies an NE element by name or number										
Shelf	identifies the equipment type of the NE (ABM or TBM)										
Default Release	displays the release of the load running on the NE										
Last Action	displays the software download. It also indicates the processor type.										
Action Status	displays the percent of the load that is being downloaded										
Status line	summarizes all alarms and alerts in the system (for the VT-100 user interface)										

Reboot/Load Manager tool tasks

Table 6-2 lists some of the tasks that you can perform using the Reboot/Load Manager tool. It also indicates where the tasks are discussed.

Table 6-2
Tasks performed using the Reboot/Load Manager tool

Task	See
downloading software to a NE	<i>Commissioning and Testing, Volume 3</i>
sending a load to a processor	<i>Commissioning and Testing, Volume 3</i>
transferring an existing OPC to another shelf	<i>System Expansion Procedures, 323-3001-324, in Operations, Administration, and Provisioning, in Volume 4C</i>
replacing an OPC	<i>Module Replacement Procedures, 323-3001-547, in Maintenance, Volume 5C</i>

Backup/Restore Manager tool

The OPC stores the two most recent backup files for each network element (NE). The Backup/Restore Manager lets you manage the NE database backup files stored on the OPC. These database files are used to restore data to an NE after it is rebooted or after a software upgrade. You can list all of the backup files that exist and delete backup files that are no longer needed. For more information on this tool, see *Data Administration Procedures*, 323-3001-304, in *Operations, Administration, and Provisioning*, in this volume.

Backup/Restore Manager main window

Figure 6-2 shows the Backup/Restore Manager main window.

Figure 6-2
Backup/Restore Manager main window

FW-22244

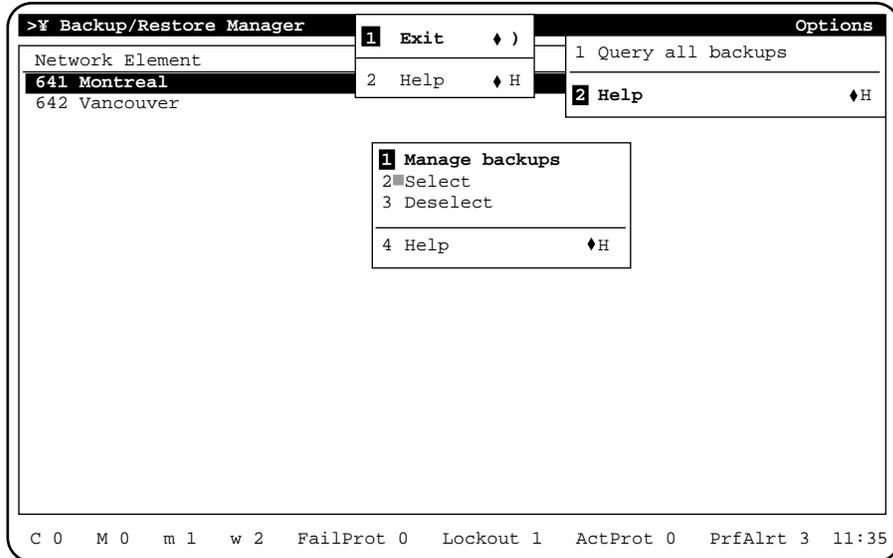


Table 6-3 describes the Backup/Restore Manager main window.

Table 6-3
Backup/Restore Manager main window

Menu/Item	Description
Options menu	contains the Query all backups command that displays a list of all backups currently stored on the OPC
Network Element list	lists all the NEs in the OPC span of control
NE list item menu	contains the following commands that apply only to the selected NE: Manage backups, Select, and Deselect
Status line	summarizes all alarms and alerts in the system (for the VT-100 user interface)

Backup/Restore dialogs

Table 6-4 describes the dialogs that are available through the Reboot/Load Manager tool.

Table 6-4
Backup/Restore Manager dialogs

Dialog/Description	Item	Description
Manage Backups: lists the current backups for the selected NE and lets you delete a backup	Backups list	lists the backup files currently stored on the OPC for the selected NE. The Backups list contains the following information: Backup a backup file current stored on the OPC for the selected NE Release shows the software release for the backup file Time shows the time that the backup file was last modified Date shows the date that the backup file was last modified Status indicates the progress and result of a request to delete a file. When you delete a file, it disappears from the list.
	Backup file list item menu	lets you select or deselect a backup, and lets you delete the selected backup
—continued—		

Table 6-4 (continued)
Backup/Restore Manager dialogs

Dialog/Description	Item	Description
Query All Backups: lists the current backups for the OPC	Backups list	lists the backup files currently stored on the OPC. The Backups list contains the following information: Network Element shows the number of the NE for the backup Backup Name shows the name of the NE for the backup Release shows the software release for the backup Time shows the time that the backup file was last modified Date shows the date that the backup file was last modified Status indicates the progress and result of the last request to delete a file
	Backup file list item menu	lets you select or deselect a backup, and lets you delete the selected backup
—end—		

Backup/Restore Manager tool tasks

Table 6-5 lists some of the tasks that you can perform using the Backup/Restore Manager tool. It also indicates the book where the tasks are discussed.

Table 6-5
Tasks performed using the Backup/Restore Manager tool

Task	See
testing backup and restoration of NE data	<i>Commissioning and Testing, Volume 3</i>
backing up and restoring the NE database to the OPC	<i>Commissioning and Testing, Volume 3</i>
displaying and deleting backups for an NE or an OPC	<i>Data Administration Procedures, 323-3001-304, in this volume</i>
setting the backup schedule on the NE	<i>Data Administration Procedures, 323-3001-304, in this volume</i>
performing a manual NE database backup	<i>Data Administration Procedures, 323-3001-304, in this volume</i>
restoring an NE database from the OPC	<i>Data Administration Procedures, 323-3001-304, in this volume</i>

Event Browser tool

Use the Event Browser tool to browse the history of OPC and network element (NE) logs, alarms and alerts for an NE and OPC alarms. You can also use this tool to display or print detailed information about individual events.

You can customize the Events list display to show only the event reports that you want to see, in the order that you want to see them. You can update the Events list to include the most recent events. For more information on this tool see *Network Surveillance Procedures, 323-3001-510, in Maintenance, Volume 5C.*

The Event Browser tool can be accessed from the following toolsets:

- Software Admin
- Network Surveillance
- SLAT
- Surveillance (View)

Event Browser main window

Figure 6-3 shows the main window with all menus displayed.

Figure 6-3
Event Browser main window

SC-10304

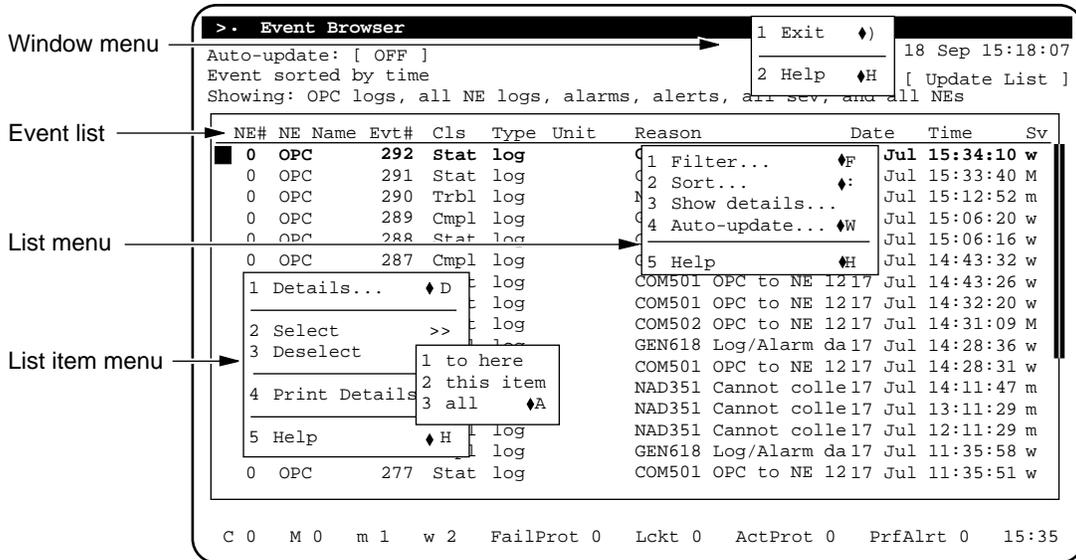


Table 6-6 describes the main window items.

Table 6-6
Event Browser main window

Item	Description
Auto-update	turns the automatic update on or off
Events list	displays a summary for each OPC and NE log, OPC alarms, and NE alarms and alerts, as selected in the Events List Filter dialog. Commands on the list menu let you filter, sort the list, or show details for an event. Commands on the list item menu let you display or print more information about a specific event.
New events	displays events logged since the events list was last updated by selecting the Update list button.
Update list	updates the Events list to include events logged since the last capture.

Event Browser dialogs

Table 6-7 explains the dialogs that are available through the Event Browser tool and the purpose of each dialog.

Table 6-7
Event Browser dialogs

Dialog/Description	Item	Item Description
Show Details: lets you locate a specific event in the Events list	Network Element	the name of the NE for which you want to find log, alarm, or alert details
	Event #	the number of the event you are searching for
—continued—		

Table 6-7 (continued)
Event Browser dialogs

Dialog/Description	Item	Item Description
Events List Filter: lets you customize the display in the Events list for the current session or as the default	Number of events	sets a maximum number of events (up to 500) to retrieve and add to your Events list
	Events type check button	determines whether OPC or NE logs, or NE alarms or alerts appear in the Events list
	Network Element list	lists NEs and events. Use this list to add or remove NEs to or from the events list.
	Severity check button	determines the types of events that display in your Events list
	Class check buttons	specifies the event class that appears in the Events list. The first two columns of class buttons apply to OPC logs. The third (Alarms) applies to NE alarms and alerts.
	Occurrences	specifies the number of occurrences of an event that appears in the Events list
	Unit	specifies the type of unit that appears in the Events list
	Reason	specifies the reason that caused the event in the Events list
	NE Logs list	lists the NE log classes for which events are displayed. NE logs are divided into general and technical.
	Date and time	specifies the events that appear in the Events list, based on date and time. For example, to show only events raised since March 9, 1998, enter 9 Mar 98 00:00:00 in the from field
	Revert to last saved button	replaces temporary filter data with the default filter data reverting to the last saved
Event List Sorting:	Time	time when the event was recorded
	Network Element	the name of the network element for which you want to sort by log, alarm, or alert details
	Specification	displays the time in ascending or descending order displays the network element by name or number
	Reason	displays the reason that caused the event in the Events list
	Unit	displays the type of unit that appears in the Events list
	Class	displays the event class that appears in the Events list
	Severity	displays the severity level of the event in the Events list
—continued—		

Table 6-7 (continued)
Event Browser dialogs

Dialog/Description	Item	Item Description
Log Details: includes detailed information about a log, an alarm, or an alert.	Event identification fields	displays the log number, source (NE) type, problem severity, and date and time when the event was recorded
	Details text	displays a log message. The first three letters identify the type of log such as COM, GEN, NAD, SDA, and STBY. Three digits identify the log class where <ul style="list-style-type: none"> • 300–399 indicates a trouble log • 400–499 indicates a usage log • 500–599 indicates a state change • 600–699 indicates a completion log • 700–799 indicates a progress log. The text that follows explains what event has occurred or is in progress and what user action, if any, is required.
—end—		

Event Browser tool tasks

Table 6-8 lists some of the tasks that you can perform using the Event Browser tool. It also indicates the book where the tasks are discussed.

Table 6-8
Tasks performed using the Event Browser tool

Task	See
Verifying communication between primary and backup OPCs	<i>Commissioning and Testing, Volume 3</i>
Verifying communication between primary and backup OPCs	<i>Commissioning and Testing, Volume 3</i>
Displaying and printing detailed event reports	<i>Network Surveillance Procedures, 323-3001-510, in Maintenance, Volume 5C</i>
Sorting, updating, and filtering the events list	<i>Network Surveillance Procedures, 323-3001-510, in Maintenance, Volume 5C</i>
Performing routine maintenance on an OPC	<i>Routine Maintenance Procedures, 323-3001-546, in Maintenance, Volume 5C</i>

Network Upgrade Manager tool

The Network Upgrade Manager tool lets you upgrade the OPC and NE software. This tool is only available on the VT-100 user interface.

Procedures for upgrading the system software are described in a change application procedure (CAP). For more information, call your local Nortel Networks representative.

Note: VTBM firmware download is automatic when you perform a system software upgrade and occurs when the OPC and the active APU processor are at the new software release.

Network Upgrade Manager main window

The Network Upgrade Manager main window displays the current status of the system upgrade. You can interrupt the upgrade at any time. The status line in the middle of the dialog displays information about the progress of each step of the upgrade.

Figure 6-4 shows the Network Upgrade Manager main window.

Figure 6-4
Network Upgrade Manager main window

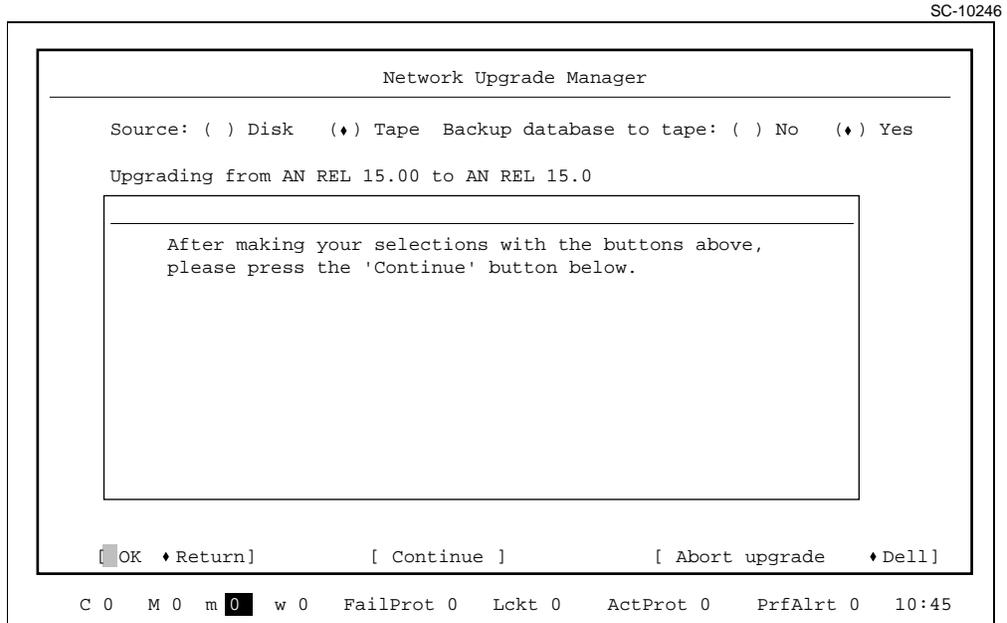


Table 6-9 describes the Network Upgrade Manager main window.

Table 6-9
Network Upgrade Manager main window

Item	Description
Source	specifies the source of the upgrade
Backup database to tape	indicates whether to back up the existing database on tape
Status line	displays the progress of the upgrade
Return	returns to the previous screen
Continue	starts the upgrade of the OPC and NEs in the system to the latest software release
Abort upgrade	discontinues the upgrade process

Upgrading network element and OPC software

The Network Upgrade Manager lets you upgrade software for nodes in an OPC span of control. A node can be an OPC (primary or backup) or an NE in the OPC span of control. You can upgrade one, several, or all nodes using the Network Upgrade Manager.

The Network Upgrade Manager lets you

- specify the new software release and loads
- specify the nodes (OPCs and NEs) to be upgraded
- specify the order in which the NEs are to be upgraded (the upgrade order for OPCs is specified automatically and cannot be changed)
- specify where pauses occur during an upgrade
- initiate an upgrade
- add or delete pauses from an upgrade in progress

The Network Upgrade Manager does not let you upgrade firmware for NE control processors, set a specific firmware load to be downloaded, or cancel a firmware upgrade that is in progress. However, it does show loading firmware in the Action column of the Node list so that you can distinguish a software upgrade from a firmware upgrade.

For systems using the Network Manager, electronic delivery of OPC software is available. See the *Network Manager User Guide*, 323-4001-050, for more information.

After you initiate the upgrade process, software is downloaded to the specified nodes in sequence. All nodes are processed in the order they appear in the main window.

When NEs are being upgraded, all NEs in the OPC span of control appear in the main window, in the order you specify (usually starting with the NE farthest from the primary OPC). Each NE is processed, whether it is upgraded or not.

If an NE is upgraded, the software is downloaded and the NE is passed to the control of the backup OPC. If it is not upgraded, the NE is passed to the control of the backup OPC. During the upgrade, both the primary OPC and backup OPC are active and network surveillance is maintained.

For further information about the Network Upgrade Manager tool, see the appropriate upgrade change application procedure (CAP). For more information, contact your local Nortel Networks representative.

Tool requirements and restrictions

You cannot cancel the upgrade after you select the OK button in the main window of the tool.

This version of the Network Upgrade Manager requires the following:

- primary OPC in the active state and a backup OPC in the standby state
- established communications between the primary OPC and all network elements in the OPC span of control
 - when the tool opens
 - before the upgrade starts
 - while network elements are upgraded
- established communications between the primary OPC and the backup OPC

Note: Upgrading the OPC only does not require all of these conditions. However, only the root user account can upgrade the OPC. After the OPC is upgraded, the user can login as admin and continue to upgrade the NEs.

Procedures for upgrading the system software are described in a change application procedure (CAP). The CAP has all NE and OPC procedures necessary to upgrade a system (both NEs and OPCs). For more information, call your local Nortel Networks representative.

Incremental Software Delivery tool

Use the Incremental Software Delivery (ISD) tool to install a software modification without installing a complete software release or upgrade. The following processors support software increments.

Table 6-10
Processors supported by ISD

Processor	Application	Apply the increment in
Access processing unit (APU) which resides on the access processor card (APC)	AccessNode and AccessNode Express	consecutive order
Loopback access interface card (LAIC)	AccessNode Express	any order
Shelf processor (SP)	AccessNode Express	any order
Operations controller (OPC)		any order
Time division multiplexer (TDM) on the UE9000 shelf	AccessNode	any order
Line cards	AccessNode and AccessNode Express	any order (delivery only)

You provide the software increment to the OPC using a tape or electronic delivery (see the *Incremental Software Delivery Quick Reference Card*). You can select specific ISD tool commands to download the software increment to all of the NEs in the OPC span of control or to one NE as a trial. Other ISD tool commands let you remove software increments, display data about increments, dump incremented loads from the APU to the OPC, and rebuild the ISD database.

Note: You cannot open the ISD tool while an upgrade is in progress.

Trial increments

The ISD tool lets you apply the software increment to one NE as a trial so that it can operate for a period of time before you apply the increment to all the NEs. However, if a reboot occurs after you apply the trial increment, the NE loses the trial increment and reverts to the previous load. If an active and a standby APU exist, then a trial increment applies only to the active APU. However, you can remove the increment or SWACT back to the standby APU that contains the original software if the increment does not function properly or causes traffic problems.

Once you are satisfied with the trial increment, you can apply the increment to all the NEs in the OPC span of control. For APU increments, you must dump the image from the NEs to the OPC, and the image becomes the default load which contains all the increments.

Rebooting

If you reboot an APU after you apply a software increment, the APU uses the default load. If you want the increments on the APU to survive a reboot, you must issue the dump image command (see Table 6-11). Increments on the SP, LAIC, and a dumped APU survive a reboot, except in the case of an upgrade.

Incremental Software Delivery main window

Figure 6-5 shows the Incremental Software Delivery main window. It provides access to all of the ISD actions.

Figure 6-5
Incremental Software Delivery main window

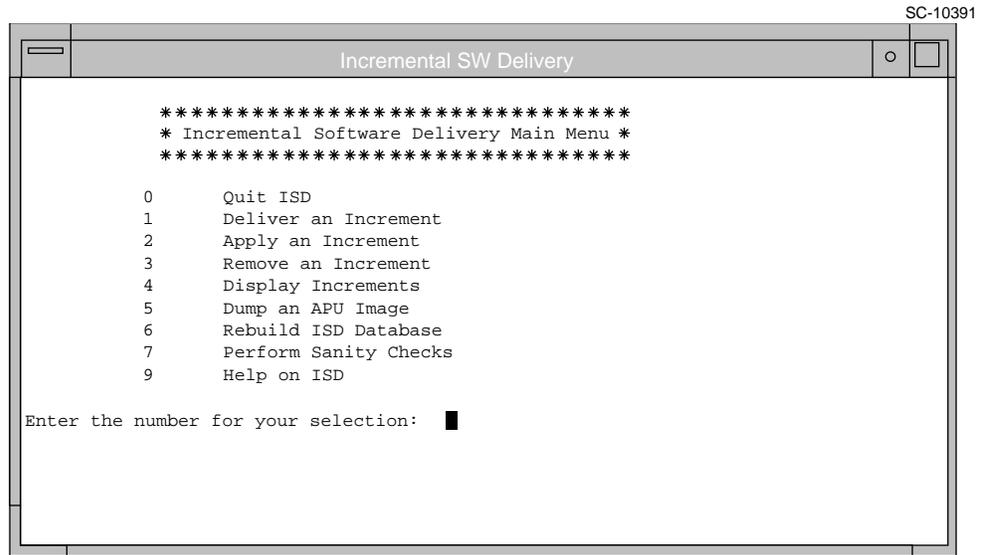


Table 6-11 describes the Incremental Software Delivery main window.

Table 6-11
Incremental Software Delivery main window

Item	Description
0 Quit ISD	Exits from the ISD main window.
1 Deliver an Increment	Prompts for the location to deliver from (tape or electronic) and triggers the increment delivery process.
2 Apply an Increment	Lists IDs that can be applied to either one NE as a trial, or to all the NEs in the span of control.
—continued—	

Table 6-11 (continued)
Incremental Software Delivery main window

Item	Description
3 Remove an Increment	<p>Lists IDs that can be removed from either the NE that was the trial NE or from all the NEs in the span of control.</p> <p>Note: Increments that have been applied to ALL NEs must be removed from ALL NEs.</p>
4 Display Increments	<p>Prompts for the location to display (either to the screen or a file) the following information about each increment in the system:</p> <ul style="list-style-type: none"> • increment ID • title • description • network element ID -- Status
5 Dump an APU Image	<p>Copies the image from the APU processor for the NE to the OPC to save increments that have been applied to ALL NEs. You cannot use this command for increments applied to one NE for a trial.</p> <p>Note 1: Use the Backup/Restore Manager tool to perform a database backup <i>before</i> every image dump.</p> <p>Note 2: Use the OPC Save and Restore tool to perform a tape backup <i>after</i> every image dump.</p>
6 Rebuild ISD Database	<p>Rebuilds the ISD database if it is corrupted or missing.</p> <p>Do not use this command unless the database is corrupted or missing because all detailed information about delivered increments will be lost. For example, if the status was removed, it appears in the rebuilt database as delivered, or if the status was remove_failed, it appears as applied.</p> <p>Note: This procedure does not affect the system database.</p>
7 Perform Sanity Checks	<p>Performs basic system sanity including:</p> <ul style="list-style-type: none"> • validates OPC connectivity • checks association • reports alarms
9 Help on ISD	<p>Displays help information about all the ISD commands.</p>
—end—	

Network element ISD CI

You can use the ISD command interpreter (CI) tool at the APU and the HMI port to determine what increments have been applied to the NE that you are connected to. To use this tool, log into the NE and issue this command at the prompt:

```
isdci ↵
```

The ISDCI prompt appears.

Type the name of the desired command:

Command	Result
help	for information on the use of this CI
helpdisplay	for information when display fails
display	for increment id and status
quit	to exit

You can use the help command to understand how the ISD CI works. When you use the display command, all of the increments on the NE and the statuses of each appear on the screen. The status can be any of the following:

- applied
- removed
- apply failed
- remove failed
- apply partial fail
- remove partial fail
- apply in progress
- remove in progress
- trial applied
- null status
- not applicable
- delivered
- unknown status
- load delivered (line card only)

OPC Administration Toolset

This chapter describes the functions of each of the OPC Administration tools and shows their main windows and menus. The following table describes the tools.

Tool	Description	See
Centralized User Administration	supports the network administrator in creating, modifying, or deleting user accounts and user groups	page 7-2
Remote OPC Software Installation	transfers operations controller (OPC) software from the local OPC tape drive and automatically installs it on remote OPCs	page 7-9
OPC Alarm Provisioning	enables, disables, and manually clears OPC alarms and provisions the OPC pointer alarms	page 7-14
OPC Save and Restore	creates a backup tape of OPC data, including network element (NE) software and database files, and saves them in a single directory	page 7-21
OPC Shutdown	shuts down the OPC as part of configuration or troubleshooting activities	page 7-28
OPC Date	changes the OPC time-of-day clock and the time zone where the OPC is operating	page 7-30
UNIX Shell	executes UNIX shell commands	page 7-34
Port Configuration	configures the OPC serial ports	page 7-36
IP Routing Administration	adds and deletes entries from the gateway to a network routing table	page 7-38
OPC PM Collection Filter	turns performance monitoring on or off for various facility types	page 7-40
TL1 Configuration tool	configures TL1 services for the OPC	page 7-42
TID/NE Mapping tool	retrieves the NE ID, NE name, and TID for all NEs under one OPC's span of control	page 7-45

Note: During periods of peak processing, some user interface screens are not dynamically updated because traffic and fault handling activities are a priority. To update a screen, back out of it, then reenter the screen. An up-to-date equipment or facility status appears.

Centralized User Administration tool

The Centralized User Administration tool is available only to the admin user group. To invoke the Centralized User Administration tool, log in as the admin user, then select Centralized User Administration tool from the OPC Admin toolset menu.

Centralized User Administration main window

From the main window, you can create, modify, or delete user accounts and user groups using the appropriate dialogs. Figure 7-1 shows the Centralized User Administration main window with all the menus.

Figure 7-1
Centralized User Administration main window

PC-21414

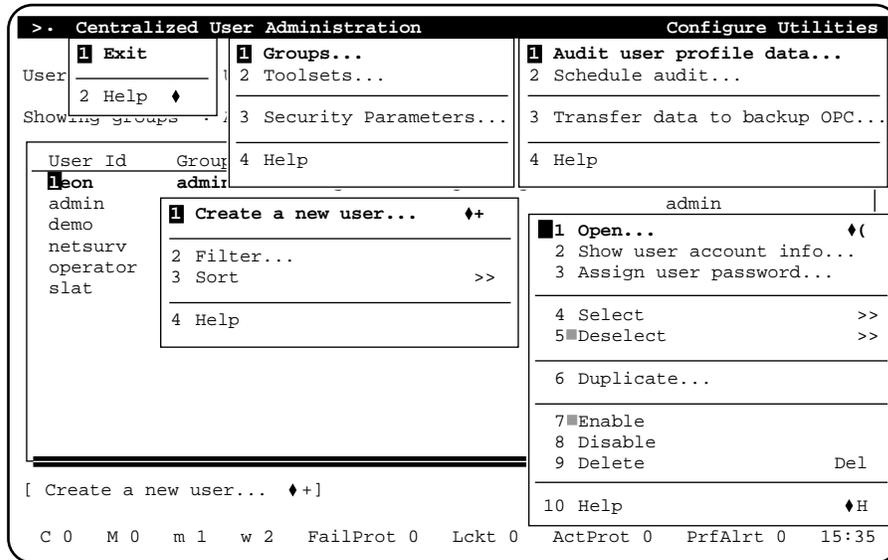


Table 7-1 describes the Centralized User Administration main window.

Table 7-1
Centralized User Administration main window

Item	Description
Configure menu	lets you configure or specify groups, toolsets, and security parameters
Utilities menu	displays the following commands: <ul style="list-style-type: none"> • Audit user profile data • Schedule audit • Transfer data to backup OPC
Information fields	displays the following user information: <ul style="list-style-type: none"> • users sorted by • number of users shown • showing groups
Users list	shows all or a subset of users, depending on the filter applied to all users. Two menus are associated with this list: <ul style="list-style-type: none"> • users list menu • users list item menu
Create a new user button	displays the Create User Profile dialog where you specify the userID, group, user name, and any other detail to describe the user account. You can specify the accessibility to NEs and the access class.
Status line	displays a summary of all alarms and alerts in the system (for the VT-100 user interface only)

Centralized User Administration dialogs

Table 7-2 describes the dialogs that are available through the Centralized User Administration tool.

Table 7-2
Centralized User Administration dialogs

Dialog/Description	Item	Description
Create User Profile: lets you manage user accounts and access permissions	User ID	lets you enter a unique user ID (up to eight characters). The user ID can use any alphanumeric characters (lowercase only) and must start with an alpha character.
	Group	lets you enter the group where the user belongs
	User Name	lets you enter the owner of the user account (up to 20 characters)
	Detail	lets you enter additional information about the user (up to 40 characters)
	Network Element view list	displays available NEs within the OPC span of control and identifies the type of access that this user has to those NEs. "?" indicates that communications have been lost between that NE and the OPC.
Assign Password: lets you assign a password	Password	lets you enter and verify a user's password
User Account Information: displays user account information	Account Status	displays the current status of the user's password: valid, disabled, assigned, or expired
	Last OPC Login	displays the time that the user last logged in to the OPC. "-" indicates that the user has never logged in.
	Last OPC Logout	displays the time that the user last logged out from the OPC
	Past Last Changed	displays the time that the password was last changed or assigned
	Password Expiration Date	displays the date that the password will expire

—continued—

Table 7-2 (continued)
Centralized User Administration dialogs

Dialog/Description	Item	Description
Filter Users List: filters the user list in the main window	Show All Groups button	displays all groups
	Show Included Groups button	displays only the groups assigned to the included set
	Group list	displays a list of all define groups and shows whether each one is included in the filter
	Group list item menu	lets you add, remove, select, and deselect groups
Configure Groups: lets you manage user groups	Groups list	displays all user groups and the number of users in each group
	Groups list menu	displays a screen that lets you create new user groups
	Groups list item menu	lets you modify, delete, or duplicate user groups. It also lets you configure auto-start tools.
Edit Group Profile: lets you create and edit user groups and configure toolsets for a group	Group Name	displays the name of the user group
	Description	describes the user group
	Default NE Accessibility	indicates whether users in the group have default accessibility to all NEs
	Default NE Access Class	identifies the default access (Read, Read/Write, or Read/Write/Admin) that this group has for all NEs
	Current Toolsets	lists the toolsets defined for the group
	Available Toolsets	lists all the toolsets that are available but not defined for the group. The List item menu lets you move, select, and deselect toolsets.
	Move right button	moves the selected toolsets from the Current Toolsets list to the Available Toolsets list
	Move left button	moves the selected toolsets from the Available Toolsets list to the Current Toolsets list

—continued—

Table 7-2 (continued)
Centralized User Administration dialogs

Dialog/Description	Item	Description
Configure Auto-Start Tools: lets you define auto-start tools for a group	Tool Name	displays the name of the tool selected in the auto-start tools list
	Window X position	displays the initial horizontal position for the selected tool (relative to the left edge of the screen)
	Window Y position	displays the initial vertical position for the selected tool (relative to the top edge of the screen)
	Window height	displays the initial height of the selected tool
	Instance #	shows the instance number of the auto-start tool. The first occurrence of a tool in the Auto-Start Tools list is instance #1. The second occurrence of the same tool is instance #2.
	Auto-start Tools list	lists the auto-start tools defined for this group. The List item menu lets you move, select, or deselect tools.
	Available Tools list	lists the tools available but not defined as auto-start for this group. The List item menu lets you move, select, or deselect tools.
	Move right button	moves the selected tools from the Auto-Start Tools list to the Available Tools list
	Move left button	moves the selected tools from the Available Tools list to the Auto-Start Tools list
Configure Toolsets: displays the currently defined toolsets	Toolset Name list	lists the currently defined toolsets in alphabetical order
	Toolsets list menu	displays a window that lets you create a new toolset
	Toolsets list item menu	displays the following commands that let you modify, delete, and duplicate toolsets: open, select, deselect, duplicate, and delete
—continued—		

Table 7-2 (continued)
Centralized User Administration dialogs

Dialog/Description	Item	Description
Edit Toolset Profile: lets you create or edit toolsets	Toolset Name	lets you enter the name for the new toolset profile
	Toolset Title	lets you enter the text that appears for this toolset in the User Session Manager
	Detail	describes the function of the toolset
	Current Tools list	lists all the tools defined for this toolset. The List item menu lets you move, select, or deselect tools.
	Available Tools list	list all the tools available but not defined for this toolset. The List item menu lets you move, select, or deselect tools.
	Move right button	moves the selected tools from the Current Tools list to the Available Tools list
	Move left button	moves the selected tools from the Available Tools list to the Current Tools list
Schedule User Profile Audit: lets you define the user profile audit schedule	Run every	shows the frequency of audits
	Time unit	identifies the time unit ("hour", "day", or "minute") for the schedule
	Next run	shows the next scheduled audit time and date
	Default	sets fields to their default values
—end—		

Centralized User Admin tool tasks

Table 7-3 lists some of the tasks that you can perform using the Centralized User Admin tool. It also indicates the book where the tasks are discussed.

Table 7-3
Tasks performed using the Centralized User Admin tool

Task	See
creating, changing, and deleting user accounts, user groups, and toolsets	<i>System Administration Procedures</i> , 323-3001-302, in this volume
creating auto-start tools for user groups	<i>System Administration Procedures</i> , 323-3001-302, in this volume
managing system parameters	<i>System Administration Procedures</i> , 323-3001-302, in this volume
changing user account passwords	<i>System Administration Procedures</i> , 323-3001-302, in this volume
sorting and filtering the users list	<i>System Administration Procedures</i> , 323-3001-302, in this volume
auditing, scheduling, and transferring user profile data	<i>System Administration Procedures</i> , 323-3001-302, in this volume

Remote OPC Software Installation tool

The Remote OPC Software Installation tool lets you transfer OPC software packages from the local OPC tape drive and automatically install them on remote OPCs. The installation process can take up to two hours to complete. The main window of the tool displays a list of software installations and their status. It also has the buttons that let you create an installation (that is, select the software packages and their destination OPCs) and initiate all installations in the list.

Remote OPC Software Installation main window

Figure 7-2 shows the main window, with all menus displayed.

Figure 7-2

Remote OPC Software Installation main window

FW-20723

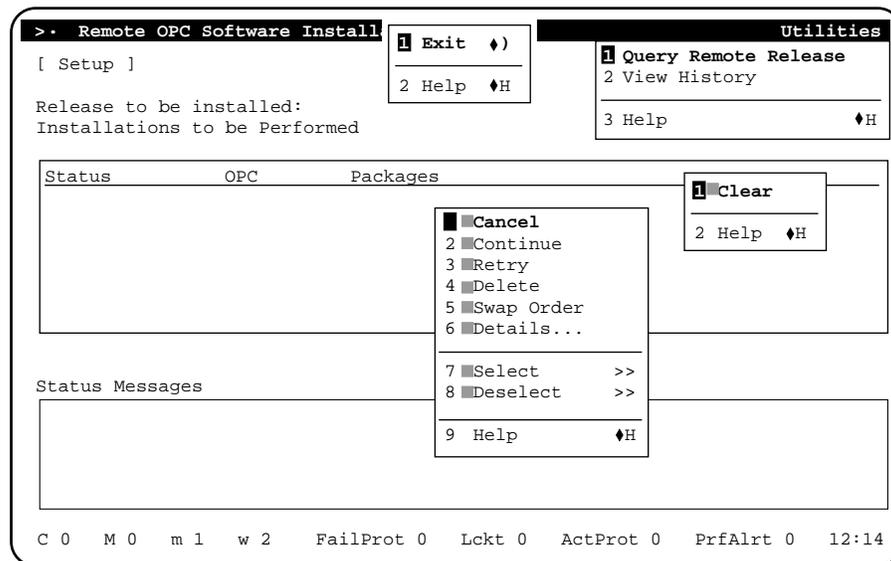


Table 7-4 describes Remote OPC Software Installation main window.

Table 7-4
Remote OPC Software Installation main window

Item	Description						
Utilities tool menu	displays commands that let you check the active software release on a remote OPC and display error messages for previous installations initiated by the local OPC						
Install button	installs all the items in the Installations to be Performed list.						
Setup button	displays the Installation Setup dialog that lets you specify the software packages and remote OPC involved in an installation						
Release to be Installed	displays the OPC software release stored on the local OPC tape drive after you select the Query Tape button in the Installation Setup dialog						
Installations to be performed list	lists the software installations that are performed when you select the Install button in the main window. An installation appears in this list after you select the appropriate software packages and remote OPC from the Installation Setup dialog.						
List item menu	lets you clear, select, deselect, view, and swap items in the list and manage a software installation operation.						
Installations to be performed list	<p>has the following columns:</p> <table border="0"> <tr> <td>Status</td> <td>indicates the current state of an installation operation. An operation can be in one of the following states: Requested, In Progress, End, Cancel, or Error.</td> </tr> <tr> <td>OPC</td> <td>displays the destination OPC for a software installation operation after you select it in the Installation Setup dialog</td> </tr> <tr> <td>Packages</td> <td>specifies the software packages installed on a remote OPC when you select the Install button. Software packages appear in this column after you select them from the Packages list in the Installation Setup dialog.</td> </tr> </table>	Status	indicates the current state of an installation operation. An operation can be in one of the following states: Requested, In Progress, End, Cancel, or Error.	OPC	displays the destination OPC for a software installation operation after you select it in the Installation Setup dialog	Packages	specifies the software packages installed on a remote OPC when you select the Install button. Software packages appear in this column after you select them from the Packages list in the Installation Setup dialog.
Status	indicates the current state of an installation operation. An operation can be in one of the following states: Requested, In Progress, End, Cancel, or Error.						
OPC	displays the destination OPC for a software installation operation after you select it in the Installation Setup dialog						
Packages	specifies the software packages installed on a remote OPC when you select the Install button. Software packages appear in this column after you select them from the Packages list in the Installation Setup dialog.						
Status Messages	displays status and error messages for an installation currently being performed. You cannot edit this field.						

Remote OPC Software Installation dialogs

Table 7-5 describes the dialogs that are available through the Remote OPC Software Installation tool.

**Table 7-5
Remote OPC Software Installation dialogs**

Dialog/Description	Item	Description
Installation Details: displays information about a selected installation	Status	displays the status of the selected software installation
	OPC name	displays the name of the remote OPC
	Packages	displays the full titles of each package in the installation
Installation Setup: lets you configure a software installation	Destination OPCs list	displays the remote OPCs you can select as a destination for an installation
	Query Tape button	displays information about the OPC software release on the local OPC tape
	Release	displays the name of the OPC software release on the local OPC tape drive after you select the Query Tape button
	Packages list	lists the OPC software packages that you can transfer to a remote OPC. Items appear in the list after you select the Query Tape button. The Packages list contains the following information: Package displays the name of the OPC software package Size (kB) displays the size of the OPC software package Title displays the title of the OPC software package
	OK button	copies the selected remote OPCs and the selected software packages to the Installations to be Performed list
	Cancel button	removes the dialog without transferring any information to the main window
Tape Package Details: displays information about a tape package on the local OPC tape	Release	displays the name of the release
	Package	displays the name of the package
	Size (kB)	displays the size of the package
	Title	displays the full title of the package
—continued—		

Table 7-5 (continued)
Remote OPC Software Installation dialogs

Dialog/Description	Item	Description
Query Remote Release: displays information about the active release on a remote OPC	Destination OPCs list	lists the names of the OPCs that you can select
	Remote Active Release	displays the active OPC software release on the selected OPC after you select the Query Release button
	OPC Name	displays the name of the selected remote OPC
	Packages list	lists the OPC software packages installed on the remote OPC. Packages appear in the list after you select the Query Release button.
	Package	displays the name of a software package in the OPC software release
	Query Release button	displays information about the selected remote OPC
Stop Query: prompts you to cancel a query	Stop Query	lets you confirm that you want to cancel the software query
Remote OPC Package Details: displays information about a software package on a selected remote OPC	Release	displays the name of the software release
	Package	displays the name of the software package
	State	identifies whether the software package is initialized
	Size (kB)	displays the size of the software package
	Title	displays the title of the software package
Installation History: lists messages for previous installations	Message list	displays the date and time of the message and the text of the message
—end—		

Remote OPC Software Installation tool tasks

Table 7-6 lists some of the tasks that you can perform using the Remote OPC Software Installation tool. It also indicates the book where the tasks are discussed.

Table 7-6
Tasks performed using the Remote OPC Software Installation tool

Task	See
installing OPC software on a remote OPC	<i>Commissioning and Testing, Volume 3</i>
canceling an installation	<i>Commissioning and Testing, Volume 3</i>
identifying the software release on a remote or local OPC	<i>Commissioning and Testing, Volume 3</i>
viewing the Installation History dialog	<i>Commissioning and Testing, Volume 3</i>

OPC Alarm Provisioning tool

The OPC Alarm Provisioning tool lets you enable, inhibit, and manually clear OPC alarms. It also lets you provision

- the severity of the OPC pointer alarms
- the NE on which to raise the OPC pointer alarms for the primary and the backup OPC.

You can access the OPC Alarm Provisioning tool from the following toolsets:

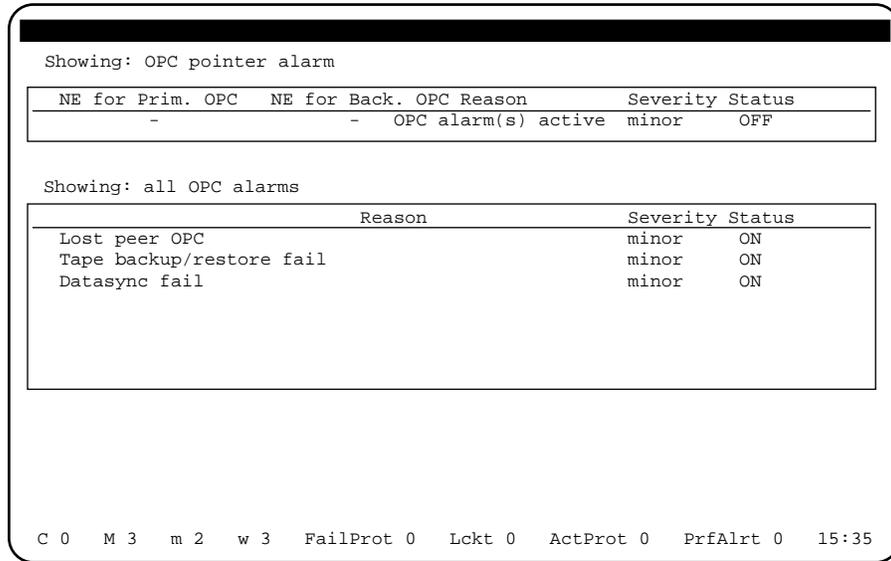
- OPC Admin
- Master Admin
- SLAT

OPC Alarm Provisioning main window

The OPC Alarm Provisioning tool main window is the access point for all provisioning related commands. You can access this tool from the OPC Admin, Master Admin, or SLAT toolsets.

Figure 7-3
OPC Alarm Provisioning main window

SC-10301



The main window displays two lists. The first list shows the OPC pointer alarm and the second list shows all OPC alarms. The List item menu lets you perform operations for the pointer alarm or for the OPC alarms. The Utilities menu lets you transfer data to the backup OPC. See Table 7-7 for a description of each command.

**Table 7-7
OPC Alarm Provisioning tool commands**

Command	Menu	Description
Change status	List item menu	enables or inhibits an OPC alarm or the pointer alarm
Manual clear	List item menu	manually clears an OPC alarm
Change severity	List item menu	changes the severity of the OPC pointer alarm to critical, major, minor, or warning
Transfer data to backup OPC	Utilities menu	transfers provisioning data to the backup OPC
Select	List item menu	selects and highlights an entry in the pointer alarm list or in the OPC alarms list, indicating that you can apply a list item command to the selected pointer alarm or OPC alarm
Deselect	List item menu	deselects and removes the highlight from a selected entry in the pointer alarm list or in the OPC alarms list
Help	Global menu, Utilities menu, List menu, List item menu	displays help information for the item where the cursor is located. This command is available from anywhere on the main window.
Exit	Global menu	Closes the OPC Alarm Provisioning tool

The status line at the bottom of the VT-100 screen summarizes all of the alarms and OPC alarms in the OPC span of control.

OPC alarms

OPC applications raise and clear OPC alarms when they detect faults on the OPC. Table 7-8 summarizes the OPC alarms.

**Table 7-8
OPC alarms**

Alarm text	Description	Severity (service code)	Default status
Configuration audit fail	configuration audit fail	minor (nsa)	enabled
Connection audit fail	connection audit fail	minor (nsa)	enabled
Datasync fail	a data synchronization attempt between the primary and backup OPC failed	minor (nsa)	enabled
Lost peer OPC	data communications association between primary and backup OPCs is lost	minor (nsa)	enabled
NE DB missing/outdated	NE database backup is missing or outdated	minor (nsa)	enabled
Tape backup/restore fail	save to or restore from tape operation failed	minor (nsa)	enabled

The network view banner displays aggregate alarm counts for all the NEs in the OPC span of control and includes all OPC alarm counts.

You can view active alarms through the OPC Alarm Monitor, Network Alarm Summary, and Network Browser tools. You can view both active and cleared alarms through the Event Browser tool, which archives alarms, logs, and performance alerts.

NE pointer alarm

You can provision an NE to raise and clear alarms on behalf of the OPC. The alarm process begins when the OPC detects a fault and raises an alarm. The OPC notifies a specific NE in its span of control. That NE then raises one pointer alarm. From this point on, OPC alarms behave the same way as any NE alarm.

Using the OPC Alarm Provisioning tool on an active OPC, you can provision one NE to report OPC alarms raised by the primary OPC and another NE for OPC alarms raised by the backup OPC. Both NEs must be in the OPC span of control. When an OPC alarm occurs, the NE for the active OPC raises a pointer alarm to indicate an OPC alarm. Table 7-9 summarizes the pointer alarm.

Table 7-9
OPC pointer alarm

Alarm text	Description	Severity (service code)	Default status
OPC alarm(s) active	indicates an active OPC alarm	minor (nsa) Note: You can provision the severity of the pointer alarm to any of the valid severities. The severity is minor by default.	inhibited

It is recommended that you perform data synchronization between the primary and the backup OPC. Data synchronization allows each OPC to report alarms to the correct NE if a network break occurs.

The NE that raises the primary OPC pointer alarm should be the NE that contains the primary OPC circuit pack. If the OPC does not reside in an NE in its span of control, the NE that raises the pointer alarm should have the shortest communication path to the OPC. Similar recommendations apply to the backup OPC.

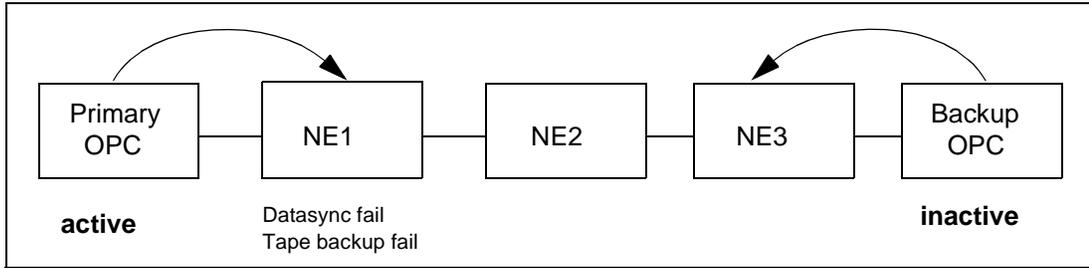
Note: You cannot decommission an NE that raises OPC alarms until you inhibit all the OPC alarms or provision another NE to raise OPC alarms. Use the OPC Alarm Provisioning tool for both of these tasks. See *Commissioning and OAM&P*, 323-3051-220, in the *AccessNode Express* volume.

The OPC can detect certain alarms, such as “Tape backup fail,” only after you initiate an action, or after the system initiates an action. The OPC clears this type of alarm when the action completes successfully. Therefore, after an OPC restart, the OPC does not detect this type of alarm and instructs the NE to clear them. However, if the tape problem is not solved before the next tape backup attempt, the alarm is raised at that time.

Special scenarios

See the following scenarios that illustrate network behavior and OPC alarms under certain conditions. Each of the following scenarios are based on a simple network (see Figure 7-4) where NE1 reports the OPC alarms of the primary OPC, and NE3 reports the OPC alarms of the backup OPC.

Figure 7-4
Initial scenario

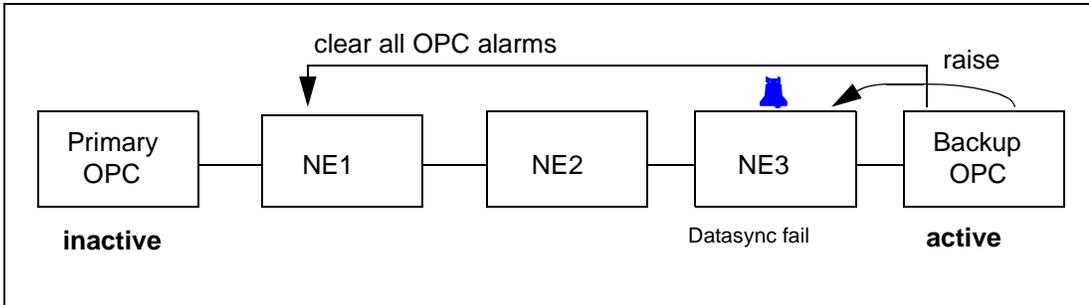


Switch to backup OPC scenario

When you switch to the backup OPC, the primary OPC becomes inactive and the backup OPC becomes active. The NE that raises OPC alarms for the backup OPC may not be the same as the NE that raises OPC alarms for the primary OPC.

When the backup OPC detects faults, it sends a “raise OPC alarm request” to the NE that raises OPC alarms for the backup OPC (NE3 in Figure 7-5). After the backup OPC audits the NE that raises OPC alarms for the primary OPC (NE1 in Figure 7-5), the backup OPC clears the active OPC alarms in that NE.

Figure 7-5
Switch to backup scenario



Network breaks

A break in the network communication line creates two subnetworks. Both the primary and the backup OPCs are active when they are located at different subnetworks. Ideally, the OPCs are located at opposite ends of the network so that the OPCs are in different subnetworks when a network break occurs.

When a network break occurs, the primary and backup OPCs are active and behave independently from each other. When the OPC applications detect faults, the OPC sends “raise OPC alarm requests” to the NE. The NE raises the OPC alarms if the NE receives messages from the OPC (they must be in the same subnetwork).

When a network break occurs, both OPCs raise the same OPC alarms at the same time but on different NEs. However, the alarms detected by one OPC may not be the same as the alarms detected by the other OPC.

The behavior of OPC alarms varies depending on where the network break occurs. Figure 7-6 shows a network break between NE1 and NE2. In this case, the backup OPC becomes active and starts raising OPC alarms in NE3.

Figure 7-6
Network break scenario - network break between NE1 and NE2

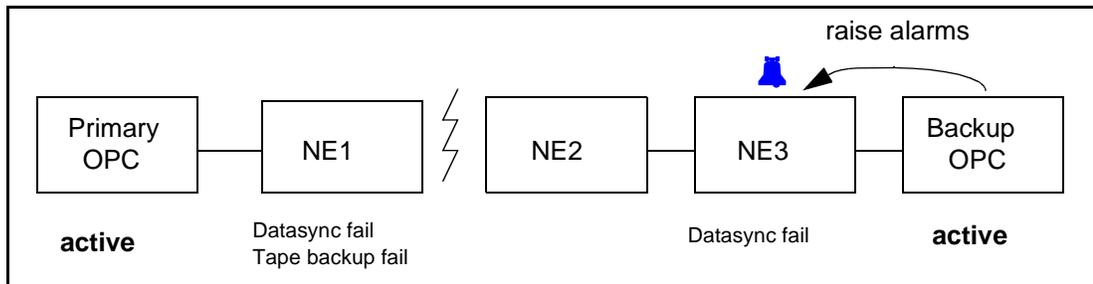


Figure 7-7 shows a network break between the primary OPC and NE1. In this case, the backup OPC becomes active, raises OPC alarms (detected by backup OPC applications) in NE3, and clears all OPC alarms in NE1.

Figure 7-7
Network break scenario - network break between the primary OPC and NE1

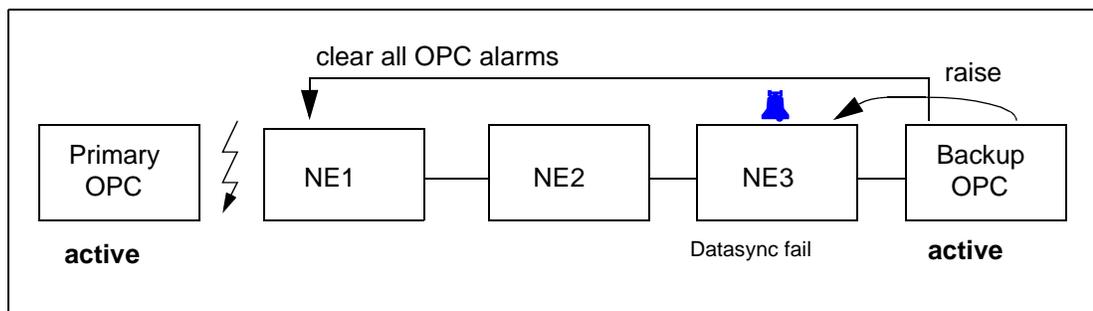
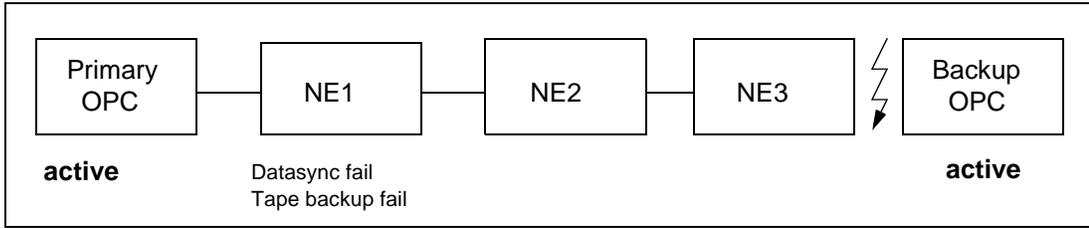


Figure 7-8 shows a network break between the backup OPC and NE3. In this case, the backup OPC becomes active but it cannot raise OPC alarms in NE3 because it cannot communicate with NE3.

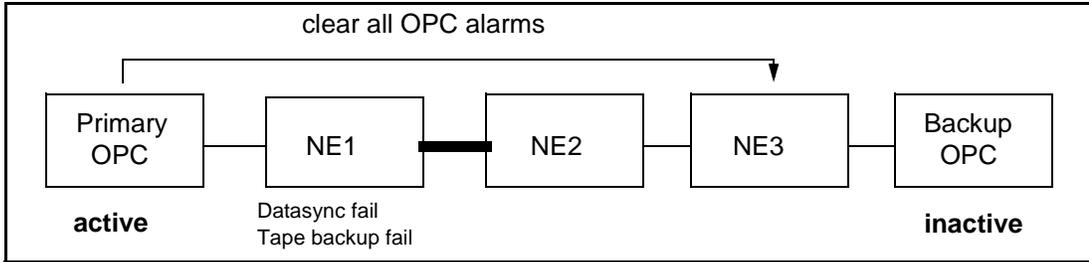
Figure 7-8
Network break scenario - network break between the backup OPC and NE3



Network join scenario

Figure 7-9 shows a network that has been joined after a break. When the network is joined, the backup OPC becomes inactive. The primary OPC audits NE3 and sends a “clear OPC alarm request” for each active OPC alarm in that NE. The primary OPC knows that the only NE that should have OPC alarms is NE1.

Figure 7-9
Network join scenario



OPC Alarm Provisioning tool tasks

Table 7-10 lists one of the tasks that can be performed using the OPC Alarm Provisioning tool. It also indicates the book where the tasks are discussed.

Table 7-10
Tasks performed using the OPC Alarm Provisioning tool

Task	See
Provisioning OPC alarms	<i>Provisioning and Operations Procedures, 323-3001-310, in Operations, Administration, and Provisioning, in Volume 4B</i>

OPC Save and Restore tool

Use the OPC Save and Restore tool to create a backup tape of OPC data. This backup tape includes NE software and database files as well as OPC database files. The OPC-specific files include network configuration files as well as group and user data. The tool also lets you restore OPC data from an existing backup tape and transfer OPC data from the local OPC disk to the backup OPC. Files are saved on a single directory.



CAUTION

Electrostatic sensitive devices

Electrostatic sensitive devices can be damaged by electrostatic discharge. Always ground yourself before handling the tape.

The tool automatically selects the appropriate data files. You cannot transfer individual files using this tool.

Note: Inconsistencies between the OPC and NE database can exist after you perform the restore operation. A mismatch can occur between the NE and the OPC since the data from the OPC database is based on the last save operation.

The main window toggles between save mode and restore mode. When you open the OPC Save and Restore tool, the main window appears in the save mode. The Save to tape button at the top of the main window is selected and the buttons for saving OPC data to tape appear in the bottom half of the main window. To toggle the main window to the restore mode, you must select the Restore from tape button at the top of the main window. The save buttons are then removed and the appropriate buttons to restore OPC data from tape appear in the bottom half of the main window.

An arrow appears to the left of the save or restore buttons. After you select a button, the arrow moves down to indicate the next recommended button.

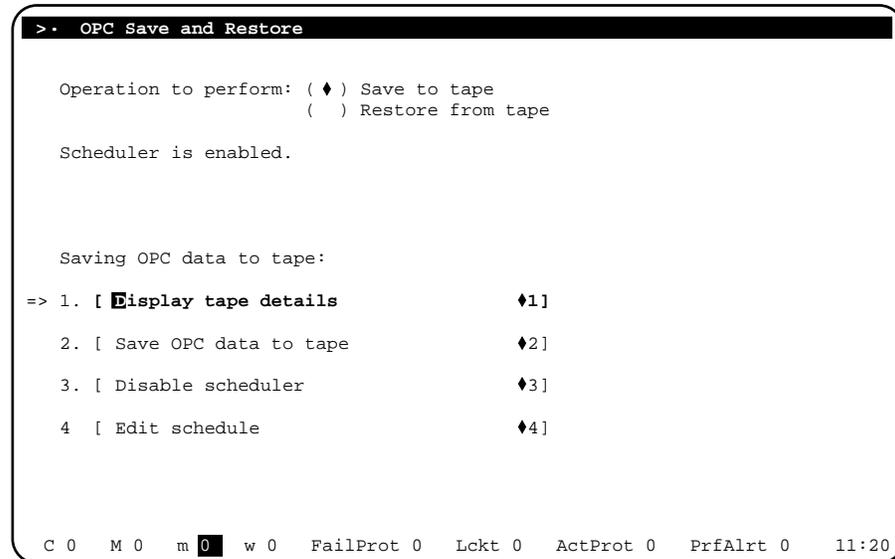
OPC Save and Restore main window—save mode

By default, buttons for saving OPC data to tape are displayed when you open the OPC Save and Restore tool.

Figure 7-10 shows the main window.

Figure 7-10
OPC Save and Restore main window—save mode

SC-10235



```
> OPC Save and Restore

Operation to perform: ( ♦ ) Save to tape
                   (   ) Restore from tape

Scheduler is enabled.

Saving OPC data to tape:
=> 1. [ Display tape details           ♦1]
    2. [ Save OPC data to tape         ♦2]
    3. [ Disable scheduler             ♦3]
    4. [ Edit schedule                 ♦4]

C 0  M 0  m 0  w 0  FailProt 0  Lckt 0  ActProt 0  PrfAlrt 0  11:20
```

Table 7-11 describes the main window in the save mode.

Table 7-11
OPC Save and Restore main window—save mode

Item	Description
Save to tape button	toggles the main window between the save mode and the restore mode
Restore from tape button	toggles the main window between the save mode and the restore mode
Display tape details button	displays general information about the tape in the local OPC tape drive
Save OPC data to tape button	copies OPC files from the OPC disk to a backup tape in the local OPC tape drive. You can cancel the save operation while it is in progress. The backup tape is then erased.
Status line	displays a summary of all alarms and alerts in the system
Disable/enable scheduler	disables or enables the Save and Restore scheduler
Edit schedule button	displays the Save Schedule dialog that lets you edit or view the current save schedule

OPC Save and Restore main window—restore mode

When you first open the OPC Save and Restore tool, the main window defaults to the save mode. To toggle the window into the restore mode, you must select the Restore from tape button at the top of the main window. The buttons to restore OPC data appear in the bottom half of the main window.

Figure 7-11 shows the main window in the restore mode.

Figure 7-11
OPC Save and Restore main window—restore mode

PC-22303

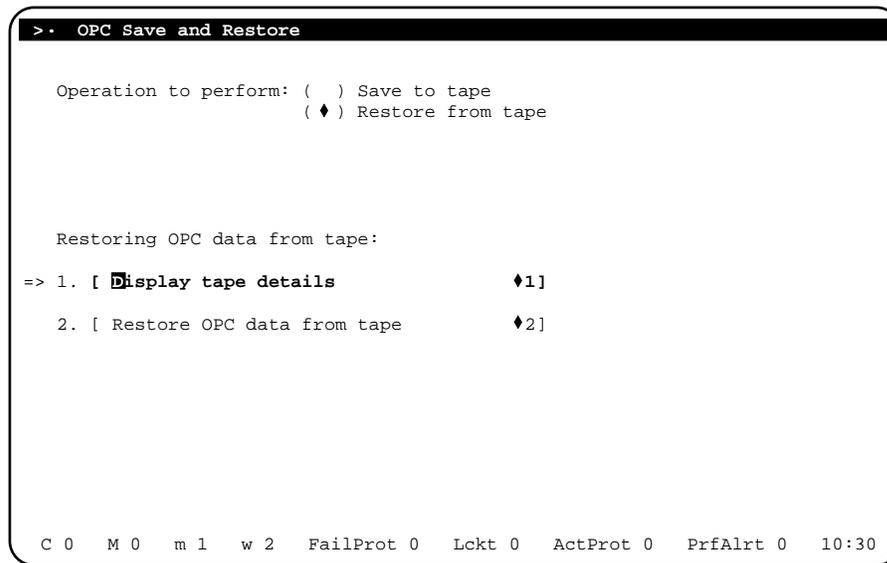


Table 7-12 describes the main window in the restore mode.

Table 7-12
OPC Save and Restore main window—restore mode

Item	Description
Restore from tape button	toggles the main window between the save mode and the restore mode.
Status line	displays summary of all alarms and alerts in the system
Save to tape button	toggles the main window between the save and restore mode
Display tape details button	displays general information about the tape in the local OPC tape drive.
Restore OPC data from tape button	copies OPC data from a backup tape in the local disk drive to the local OPC disk. Once you start a restore operation, you cannot cancel it. Restoring OPC data overwrites existing data on the OPC.

OPC Save and Restore dialog

Table 7-13 describes the dialog that is available through the OPC Save and Restore tool.

Table 7-13
OPC Save and Restore dialog

Dialog/Description	Item	Description
Tape Details: displays information about the tape in the local OPC tape drive	Tape type	indicates the type of tape, either archive or software installation. If this tape is valid for restoring files, this field shows "OPC data archive."
	Date created	shows the date the data was stored on the tape
	Created on network	shows the name of the network the data are from
	Created on system	shows the name of the system the data are from
	Created on OPC	shows the name of the OPC that created the tape
	From OPC load	shows the OPC load for the data. If this tape is valid for restoring files, this field matches the version displayed in the Commissioning Manager.
	From product	shows the name of the product, either AccessNode or TransportNode. If this tape is valid for restoring files, this field displays the kind of equipment for which this OPC is installed.

OPC Save and Restore tool tasks

Table 7-14 lists some of the tasks that you can perform using the OPC Save and Restore tool. It also indicates the book where the tasks are discussed.

Table 7-14
Tasks performed using the OPC Save and Restore tool

Task	See
testing OPC tape backup and restore	<i>Commissioning and Testing, Volume 3</i>
verifying OPC data backup and restoration	<i>Commissioning and Testing, Volume 3</i>
restoring OPC data from tape	<i>Data Administration Procedures, 323-3001-304, in this volume</i>
transferring OPC data to the backup OPC	<i>Data Administration Procedures, 323-3001-304, in this volume</i>
identifying the backup tape	<i>Data Administration Procedures, 323-3001-304, in this volume</i>
replacing an OPC	<i>Module Replacement Procedures, 323-3001-547, in Maintenance, Volume 5C</i>

OPC Shutdown tool

The OPC Shutdown tool lets you shut down the OPC as part of configuration or troubleshooting activities. You must shut down the OPC whenever it is going to be physically removed from the shelf or powered off. If you do not, the OPC database can be corrupted. You need to reboot the OPC if:

- port 1 is configured for TL1
- Ethernet port is disabled because data are restored from a backup tape
 - when the OPC module is replaced
 - when the OPC software load is removed then reinstalled (because you have abandoned a software upgrade)

The OPC Shutdown tool can be accessed from the following toolsets:

- OPC Admin
- SLAT

OPC Shutdown main window

The OPC Shutdown main window appears when you select the OPC Shutdown tool from the User Session Manager.

Figure 7-12 shows the OPC Shutdown main window.

Figure 7-12
OPC Shutdown main window



Table 7-15 describes the OPC Shutdown main window.

Table 7-15
OPC Shutdown main window

Item	Description
Shutdown	initiates the OPC shutdown process and displays Shutdown confirmation dialog

OPC Shutdown tool tasks

Table 7-16 lists some of the tasks that you can perform using the OPC Shutdown tool. It also indicates the book where the tasks are discussed.

Table 7-16
Tasks performed using the OPC Shutdown tool

Task	See
transferring data from the portable to the primary OPC	<i>Commissioning and Testing, Volume 3</i>
deleting a load from the backup OPC	<i>Commissioning and Testing, Volume 3</i>
restoring OPC data from tape	<i>Data Administration Procedures, 323-3001-304, in this volume</i>
shutting down an OPC	<i>Data Administration Procedures, 323-3001-304, in this volume</i>
checking the OPC tape identification	<i>Data Administration Procedures, 323-3001-304, in this volume</i>
transferring data between OPCs	<i>Data Administration Procedures, 323-3001-304, in this volume</i>

OPC Date tool

The OPC Date tool lets you change the OPC time-of-day clock and the time zone where the OPC is operating. You can use one of two methods to change the time:

- For small adjustments of less than 30 minutes, you can adjust the time gradually with no impact on the operation of the OPC.
- For larger changes in time, date, or time zone, you can make the adjustment immediately, but the OPC must be shut down temporarily.

The OPC Date tool supports an enabling function for the 1 Hz pulse that improves clock accuracy.

The OPC Date tool can be accessed from the following toolsets:

- OPC Admin
- SLAT

OPC Date Tool main window

Figure 7-13 shows the OPC Date tool main window.

Figure 7-13
OPC Date tool main window

SC-10234

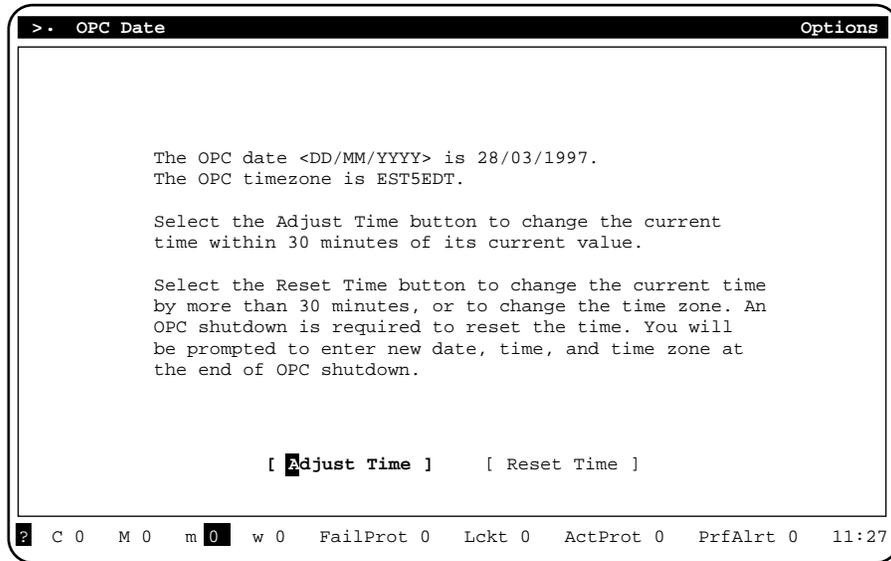


Table 7-17 describes the OPC Date tool main window.

Table 7-17
OPC Date tool main window

Item	Description
Adjust Time button	displays the Time and Date Change dialog where you can specify an adjustment to the system time. This button does not let you adjust the time by more than 30 minutes. Adjustment takes effect gradually.
Reset Time button	<p>displays the Time Change dialog where you can modify the system time by more than 30 minutes or change the time zone. Resetting the time requires an OPC shutdown. You must initiate the shutdown before you can specify the new time or time zone.</p> <p>If the time needs to be adjusted by only one or two hours, you should consider making several 30 minute adjustments over the next few days.</p>
Options menu	<p>lets you monitor the progress of time adjustments initiated using the Adjust Time button and control the use of the 1 Hz system pulse as an accurate source for the OPC clock. This menu contains the following commands:</p> <ul style="list-style-type: none"> • NTP Config • NTP Un-config • NTP Status backup • Query Time Adjust • Query 1 HZ pulse • Enable 1 HZ pulse • Disable 1 HZ pulse

OPC Date dialogs

Table 7-18 describes the dialogs that are available through the OPC Date tool.

**Table 7-18
OPC Date dialogs**

Dialog/Description	Item	Description
Query 1 Hz: indicates the clock tick source	Information	indicates whether the OPC clock is using the system one cycle per second pulse to provide an accurate clock tick or whether it is using the internal crystal. The 1 Hz pulse is more accurate.
Current Time Adjustment: shows the remaining adjustment time	Information	shows the amount of time left to be adjusted and the approximate time necessary to complete this adjustment
Time and Date Change: lets you adjust the system time	Date	displays the current date
	Time	lets you set the new system time, up to 30 minutes different from the current time
	Update	saves the changes to the system time
Time Change: lets you change the system time	Date	lets you set a new current date
	Time	lets you set a new system time
	Time Zone	lets you set a new time zone. Select a time zone from the time zone list.
	Update	saves the changes to the system time, date, and time zone

OPC Date tool tasks

Table 7-19 lists some of the tasks that you can perform using the OPC Date tool. It also indicates the book where the tasks are discussed.

Table 7-19
Tasks performed using the OPC date tool

Task	See
setting the time zone, date, or time	<i>Commissioning and Testing</i> , Volume 3
changing the OPC date and time	<i>System Administration Procedures</i> , 323-3001-302, in this volume
querying the current time adjustment and OPC clock source	<i>System Administration Procedures</i> , 323-3001-302, in this volume
replacing an OPC	<i>Module Replacement Procedures</i> , 323-3001-547, in <i>Maintenance</i> , Volume 5C

UNIX Shell tool

The UNIX Shell tool is available through the OPC User Session Manager and provides access to the UNIX shell. This tool executes UNIX shell commands.

Turning on the UNIX shell tool

To invoke the UNIX Shell tool, log in to the OPC using the “admin” userID, then select UNIX Shell from the OPC Admin toolset menu. In a few seconds the screen changes and the OPC UNIX shell prompt appears:

```
opc>
```

Note: This same prompt appears when you use the “root” UserID at the UNIX shell level.

UNIX shell commands

You can now use UNIX shell commands. A typical example of a UNIX shell command is `tidmap`, which lets you define a target identifier for a network monitoring and analysis (NMA) surveillance interface.

Using the tool for line loop testing of DMS-X interface to APC-100

You also use the UNIX shell tool to enable line loop testing for DMS-X interface to APC-100.

To enable the OPC for line loop testing of DMS-X interface to APC-100, enter the following:

```
dms10test -s <ne_id> DMSX enable
```

To disable the OPC for line loop testing of DMS-X interface to APC-100, enter the following:

```
dms10test -s <ne_id> DMSX disable
```

When using this command, you can also perform data dumps by entering the following:

```
dms10test -d
```

For help, enter the following:

```
dms10test -h
```

diskcheck utility

The diskcheck utility checks the integrity of a disk drive. You can execute this tool by entering the following at the `opc>` prompt:

diskcheck

The following tests are performed:

- check file system using `fsck`—checks the file system directory structure
- check system areas—checks the vital areas used to boot the system
- check allocated blocks—checks all files on disk for media corruption
- disk media check—checks all sectors on disk for media corruption

The diskcheck utility graphically (in ASCII) displays the block layout and “where” the bad blocks are located as it checks them. A log file is also generated that you can view or send to the appropriate support group.

Exiting the UNIX shell tool

The method that you use to exit the UNIX shell depends on the UserID.

If your userID is	And you want to	Then enter
admin	return to the User Session Manager	exit
root	end the session	exit
	invoke the User Session Manager	opcui

UNIX shell tool tasks

Table 7-20 lists some of the tasks that you can perform using the UNIX shell tool. It also indicates the book where the tasks are discussed.

Table 7-20
Tasks performed using the UNIX shell tool

Task	See
switching the activity states of OPC pairs	<i>System Administration Procedures</i> , 323-3001-302, in this volume
preventing, enabling, and canceling an activity switch	<i>System Administration Procedures</i> , 323-3001-302, in this volume
enabling and disabling the collection of performance statistics	<i>Performance Monitoring Procedures</i> , 323-3001-520, in <i>Maintenance</i> , Volume 5C
viewing performance statistics	<i>Performance Monitoring Procedures</i> , 323-3001-520, in <i>Maintenance</i> , Volume 5C

Port Configuration tool

The Port Configuration tool provides a menu-based user interface for configuring the OPC serial ports. How you access the Port Configuration tool depends on the userID that you are using.

If you use this userID	It invokes the	And you do the following to invoke the tool
admin	OPC User Session Manager	Select Port Configuration from the OPC Admin toolset.
root	UNIX shell prompt: opc>	At the prompt, enter: config_port

Port Configuration main window

Figure 7-14 shows the Port Configuration main window.

Figure 7-14
Port Configuration main window

PC-22029

```

Port Configuration Main Menu
-----
1  Query Port Configuration
2  Configure a Service
3  Unconfigure a Service
4  View Config_port file
9  Exit
Enter the number for your selection: █
    
```

Each menu includes options that are relevant to the current task. To select an option, you enter the menu number of the option and press the Return key. The menus are arranged so that you can configure a port by selecting the appropriate option from a succession of menus.

When you select the port to be configured

- Port 1 represents OPC Port B (9-pin, D-type connector, supporting EIA RS-232)
- Port 2 represents the port that supplies EIA-530 support using a 25-pin, D-type connector
- Port 3 represents the port that supplies EIA RS-232 support using a 25-pin, D-type connector.

The OPC supports X.25, X.3 PAD, VT100 terminal, PPL (electronic software delivery), or printer connectivity. For procedures on using the Port Configuration tool, see *System Administration Procedures*, 323-3001-302, in this volume.

The default configuration for Port 1 is VT100 terminal. Ports 2 and 3 are not configured in the default state.

Port Configuration tool tasks

Table 7-21 lists some of the tasks that you can perform using the Port Configuration tool. It also indicates the book where the tasks are discussed.

Table 7-21
Tasks performed using the Port Configuration tool

Task	See
defining and enabling an X.25 configuration	<i>System Administration Procedures</i> , 323-3001-302, in this volume
configuring an OPC port to support a printer	<i>System Administration Procedures</i> , 323-3001-302, in this volume
unconfiguring an OPC port	<i>System Administration Procedures</i> , 323-3001-302, in this volume

IP Routing Admin tool

The IP Routing Admin tool lets you add and delete entries from the gateway to a network routing table. This tool lets you define the gateways that connect networks when TCP/IP over X.25 is enabled. The gateway to the network routing table allows communication between the local network and remote networks. If the routing table is not defined, communication is possible only within the local X.25 network.

How you access the IP Routing Admin tool depends on the userID that you are using.

If you use this userID	It invokes the	And you do the following to invoke the tool
admin	OPC User Session Manager	Select IP Routing Admin from the OPC Admin toolset.
root	UNIX shell prompt: opc>	At the prompt, enter: ip_routing_admin

IP Routing Admin main menu

The IP routing admin main menu contains options for viewing the routing table, adding entries to the table, deleting entries from the table, viewing the log file, and closing the tool.

Figure 7-15 shows the IP Routing Admin menu.

Figure 7-15
IP routing admin main menu

SC-10229

```

IP routing admin menu:

    1  View routing table
    2  Add network entries
    3  Delete network entries
    4  View log file
    9  Exit

Enter the number for your selection: █
    
```

IP Routing Table dialog

The IP Routing Table dialog appears when you select option 1, View routing table, from the IP Routing Admin main menu. It shows the IP addresses of destination networks and the gateways to reach those networks. The entries marked with an asterisk (*) cannot be deleted.

Add Network Entries dialog

The Add Network Entries dialog appears when you select option 2, Add network entries, from the IP Routing Admin main menu.

If you want to	Do this
add a network entry	type the IP addresses of the destination network and the gateway to use to reach the network in the Destination network field
end the session	leave the Destination network field blank and press the Return key, or type q in the Gateway field and press the Return key

Delete Network Entries dialog

The Delete Network Entries dialog appears when you select option 3, Delete network entries, from the IP Routing Admin main menu.

If you want to	Do this
delete a network entry	Type the ID of the entry to be deleted from the routing table in the ID field. Note: Entries marked with an asterisk (*) cannot be deleted.
end the session	leave the ID field blank and press the Return key

View Log File dialog

The View Log File dialog appears when you select option 4, View log file, from the IP Routing Admin main menu. It shows the log file for the admin session.

OPC PM Collection Filter tool

The OPC PM Collection Filter tool lets you turn performance monitoring On or Off for the facilities you want to observe. If performance monitoring is turned On for a facility, performance statistics are reported.

Note: You must first enable the performance monitoring function for facilities to report any statistics. When performance monitoring is disabled, no statistics are reported, even if you have set performance monitoring On for various facilities.

You must log in as a root or admin user to use this tool.

Performance monitoring for all facilities defaults to a state of Off. During a system upgrade, the PM collector remembers the facility types, layer and locations for which PM counts to collect. However, the counts themselves are not maintained across upgrades.

To optimize system performance, turn On performance monitoring collection only for those facilities, layers, and locations that actually need to be monitored. This step saves CPU resources by not collecting PM counts that are not used.

OPC PM Collection Filter window

Figure 7-16 shows the OPC PM Collection Filter window.

Figure 7-16
OPC PM Collection Filter

SC-10298

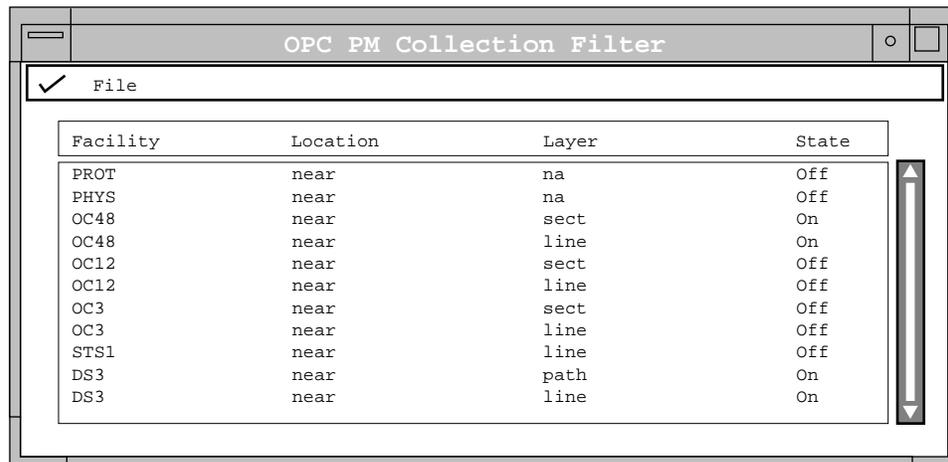


Table 7-22 describes the OPC PM Collection Filter window.

Table 7-22
OPC PM Collection Filter

Item	Description
Facility	displays the facilities that the system supports
Location	displays the location of the facilities that the system supports
Layer	displays the layer for the facilities that the system supports
State	<p>displays the selected state for PM Collection for each facility. You can set the state to On or Off.</p> <p>Note: For information on how to turn facilities On and Off, see <i>Performance Monitoring Procedures</i>, 323-3001-520, in <i>Maintenance</i>, Volume 5C.</p>

TL1 Configuration tool

The TL1 Configuration tool allows you to configure TL1 services for the operations controller (OPC), including the following:

- configure an X.25 port for TL1 communications
- manage TL1 sessions including querying active sessions or starting a session
- configure virtual circuit profiles, which must be defined to support the TL1 protocol
- provide TL1 Interface Router Service configuration
- configure TL1 over TCP/IP
- configure TL1 access identifiers (AID) for high speed optics
- configure TL1 ports

TL1 Configuration main menu

Figure 7-17 shows the TL1 Configuration main menu.

Figure 7-17
TL1 Configuration main menu

SC-10318

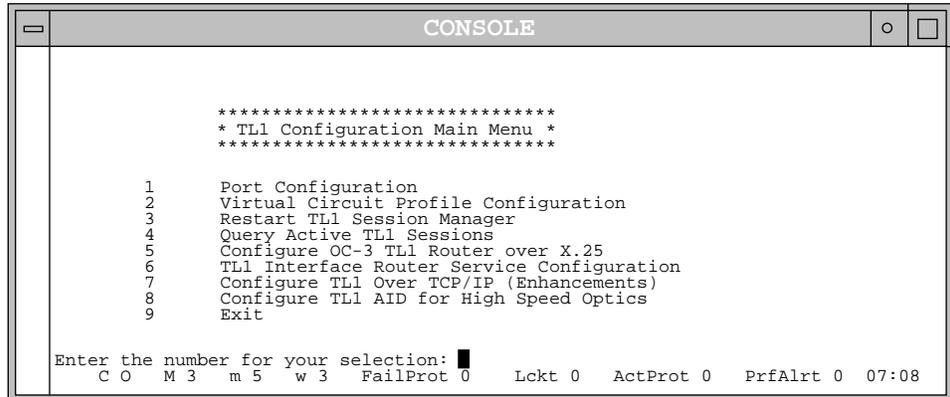


Table 7-23 describes the TL1 Configuration tool main menu.

Table 7-23
Centralized User Administration main menu

Item	Description
Port Configuration	defines and enables X.25 communications on OPC X.25 ports
Virtual Circuit Profile Configuration	configures virtual circuit profiles to support the TL1 protocol
Restart TL1 Session Manager	restarts the TL1 Session Manager without rebooting the OPC
Query Active TL1 Sessions	displays the number of active TL1 sessions for this OPC
Configure OC-3 TL1 Router over X.25	is not used in AccessNode
TL1 Interface Router Service Configuration	configures the TL1 Interface Router Service over TL1 or TCP/IP. This option also enables and disables the TL1 Interface Router Service.
Configure TL1 Over TCP/IP (Enhancements)	configures TL1 to operate over a TCP/IP connection
Configure TL1 AID for High Speed Optics	configures TL1 access identifies for high speed optics
Exit	exits the tool

TL1 Configuration tool tasks

Table 7-24 lists some of the tasks that you can perform using the TL1 Configuration tool. It also indicates the book where the tasks are discussed.

Table 7-24
Tasks performed using the TL1 Configuration tool

Task	See
Configuring and enabling the TL1 Interface Router Service	<i>System Administration Procedures</i> , 323-3001-302, in this volume
Configuring TL1 for Telnet or True TCP/IP	<i>Provisioning and Operations Procedures</i> , 323-3001-310, in <i>Operations, Administration, and Provisioning</i> , in Volume 4B

TID/NE Mapping tool

The target identifier/network element (TID/NE) mapping tool retrieves the NE identification (ID), NE name, and TID for all NEs under one OPC's span of control. It shows the user the NE's TID for use with TL1 commands.

Figure 7-18 shows the TID/NE Mapping Tool main window.

Figure 7-18
TID/NE Mapping Tool main window

File Menu		
NE	NENAME	TID
33	NE33	NE33
[DONE]		

Table 7-25 describes the TID/NE Mapping Tool main window

Table 7-25
Description of the TID/NE Mapping Tool main window

Item	Description
NE	NE is the identification for an NE under one OPC's span of control
NE NAME	NE NAME indicates if there is any name set for a particular NE
TID	TID indicates the alias for the NE. TID for the NE can be used in TL1 commands from OPS/INE interface.
DONE	DONE is a button that will close the main window

Network Administration Toolset

This chapter describes the functions of each of the Network Administration tools and shows the main windows and menus. The following table describes the tools.

Tool	Description	See
Telemetry—TBOS Mapping	shows serial telemetry displays assigned to TBOS ports and deletes or assigns up to eight displays to each TBOS port	page 8-2
E2A Alarm Manager	supports parallel telemetry for a network element (NE) cluster under an operations controller (OPC) span of control	page 8-6
Configuration Manager	lists the configurations created for a system and lets you create, display, edit, and delete point-to-point or ring configuration data	page 8-10
Connection Manager	specifies where STS-1 and VT 1.5 connections are added and dropped within a point-to-point or ring configuration	page 8-20
Cluster Inventory	generates and prints reports on the hardware components in the cluster	page 8-51
Host Provisioning Manager	assigns a remote fiber terminal (RFT) or fiber central office terminal (FCOT) pair to multiple host switches	page 8-54
Alarm Provisioning Manager	sets line card trouble events as either logs or alarms	page 8-57

Note: During periods of peak processing, some user interface screens may not be dynamically updated because traffic and fault handling activities are a priority. To update a screen, back out of it, then reenter the screen. An up-to-date equipment or facility status will appear.

Telemetry—TBOS Mapping tool

The TBOS Mapping tool shows serial telemetry displays that are assigned to TBOS ports. The tool also lets you delete or assign up to eight displays to each TBOS port. You can assign one of the following types of displays:

- a cluster display, which is a summary of alarms and status conditions for all network elements in the OPC span of control
- a monitor display, which is one of several displays that represent alarms or status conditions for an individual network element

TBOS Mapping main window

Figure 8-1 shows the TBOS Mapping main window.

Figure 8-1
TBOS Mapping main window

PC-22310

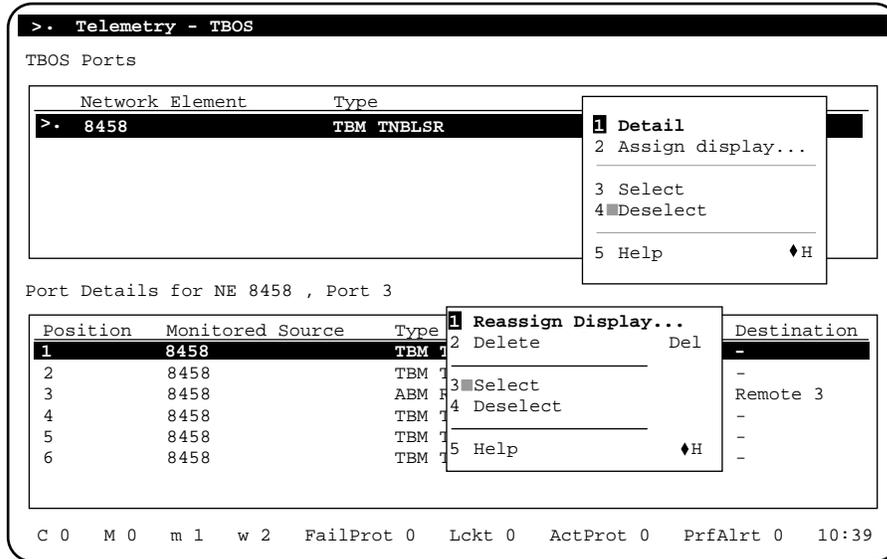


Table 8-1 describes the TBOS Mapping main window.

Table 8-1
TBOS Mapping main window

Item	Description
NEs with Active TBOS Ports list	<p>shows the NEs in the OPC span of control that have TBOS ports. You can select one port at a time. The list has the following columns:</p> <p>Network Element identifies network elements with TBOS ports by number and name. A question mark (?) to the left of a network element means that you cannot communicate with this network element. Items in the list are sorted numerically.</p> <p>Type identifies the type of equipment at a network element</p> <p>Port ID identifies by number a TBOS port on a network element</p>
List item menu	lets you view the displays that are assigned to a selected port.
Port Details list	<p>shows the displays assigned to the port selected in the NEs with Active TBOS Ports list. A port has up to eight slots.</p> <p>Items appear in the list based on the selected port after you select the Detail command from the List item menu. To assign a display to a position, first select the slot, then select the Reassign command in the list item menu. This list has the following columns:</p> <p>Position specifies the slot (that is the position number) of a display in the selected port. Each TBOS port has 8 slots.</p> <p>Monitored Source identifies the network element that is the source of the display. This column shows the NE number and name: "All", "Unknown", or "-". "All" means that a cluster display is assigned to the slot. "Unknown" means that the TBOS Mapping tool does not have any further information for the display assignment. A dash means that no display is assigned to this slot.</p> <p>Type identifies the type of equipment and shelf that is the source of the display. This column shows "ABM FCOT", "ABM RFT", "TBM FCOT", "All", or "-".</p>
—continued—	

Table 8-1 (continued)
TBOS Mapping main window

Item	Description
	<p>Display identifies the type of display that is assigned to the selected slot: cluster, monitor, control, or unknown. A dash means that no display is assigned to this slot. The word "Unknown" means that the tool does not have any further information for this display assignment.</p> <p>Destination specifies the location of the remote NE that is storing the display. This field shows "Remote n" (where n is a number from 1 to 32), "All", or "-". "All" means that a cluster display is assigned to the slot.</p>
—end—	

Telemetry—TBOS Mapping dialogs

Table 8-2 describes the dialogs that are available through the Telemetry—TBOS Mapping tool.

Table 8-2
Telemetry—TBOS Mapping dialogs

Dialog/Description	Item	Description
Mapping of Displays to TBOS Ports: lets you assign a display to a TBOS port	NE	specifies the NE where you want to assign a display
	Type (TBOS Port Number)	specifies the equipment type where you want to assign a display
	Port ID	specifies the TBOS port where you want to assign a display
	Position	specifies a position in the TBOS port where you want to assign a display
	Mon. Source	identifies the NE that is the source of a display
	Type (Display Number)	identifies the type of equipment that is the source of a display
	Display	identifies the type of display assigned to a TBOS port and slot

Telemetry—TBOS Mapping tool tasks

Table 8-3 lists some of the tasks that you can perform using the Telemetry—TBOS Mapping tool, and indicates the book where the tasks are discussed.

Table 8-3
Tasks performed using the Telemetry—TBOS Mapping tool

Task	See
testing remote network telemetry	<i>Commissioning and Testing, Volume 3</i>
testing remote network telemetry	<i>Commissioning and Testing, Volume 3</i>
viewing, assigning, and deleting TBOS ports	<i>System Administration Procedures, 323-3001-302, in this volume</i>
assigning a remote alarm	<i>System Administration Procedures, 323-3001-302, in this volume</i>

E2A Alarm Manager tool

The E2A Alarm Manager tool provides parallel telemetry for a network element (NE) cluster under an operations controller (OPC) span of control. The tool lets you monitor the overall, cluster-wide alarm states. The tool also lets you specify what cluster alarm is transmitted to remote monitoring equipment.

The E2A Alarm Manager collects alarms and status conditions from NEs to create a cluster display of this information. You can assign alarms from this cluster display to signal distribution points of an active NE. When an alarm changes state, parallel-telemetry output ports distribute this information to remote alarm-monitoring equipment. For more information on this tool, see *System Administration Procedures*, 323-3001-302, in this volume, and *Alarms and Surveillance Description*, 323-3001-104, in *Description*, Volume 2A.

E2A Alarm Manager main window

Figure 8-2 shows the E2A Alarm Manager main window with all menus displayed.

Figure 8-2
E2A Alarm Manager main window

PC-20575

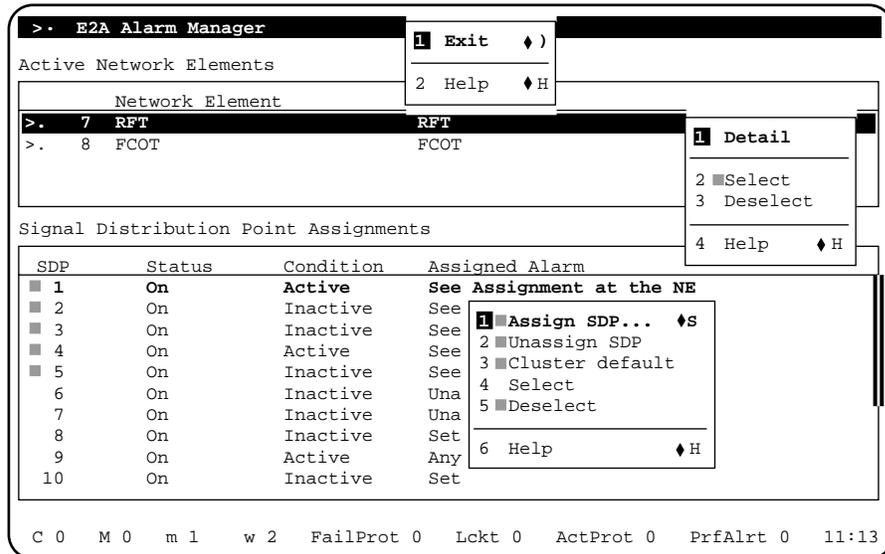


Table 8-4 describes the E2A Alarm Manager main window.

Table 8-4
E2A Alarm Manager main window

Item	Description
Active Network Elements list	displays all NEs within the OPC span of control that have parallel telemetry software and signal distribution ports. These ports are connected to remote alarm-monitoring equipment. The following symbols appear to the left of an NE to show its status: >. and ?.
List item menu	lets you view the signal distribution points and their associated alarms. It also lets you select or deselect an item in the list.
Signal Distribution Point Assignments list	lists the signal distribution points (SDPs) and associated alarms for the selected network element. The list has the following columns: <ul style="list-style-type: none"> <li>• SDP <li>• Status <li>• Condition <li>• Assigned Alarm
List item menu	lets you manage SDP assignments. The menu has the following commands: <ul style="list-style-type: none"> <li>• Assign SDP <li>• Unassign SDP <li>• Cluster default <li>• Select <li>• Deselect

Table 8-5 lists the default cluster alarm assignments to signal distribution points. These defaults are assigned using the Cluster Default command.

Table 8-5
Default cluster alarm assignments for signal distribution points

SDP	Default alarm
6	Cluster ID—C/M/m Alarms
7	Critical Alarm in Cluster
8	Major Alarm in Cluster
9	Minor Alarm in Cluster
10	Any OC-n Indication in Cluster
11	Any DS-n Indication in Cluster
12	OC-n/DS-n Equipment Failure in Cluster
13	OC-n/DSn Protection Switch Completion in Cluster
14	Common Equipment Failure in Cluster
15	AC Power Failure in Cluster
16	Low Battery in Cluster
17	Environmental Subset 1 Alarm in Cluster
18	Environmental Subset 2 Alarm in Cluster

E2A Alarm Manager dialog

Table 8-6 describes the dialog that is available through the E2A Alarm Manager tool.

Table 8-6
E2A Alarm Manager dialog

Dialog/Description	Item	Description
SDP Assignment: lets you specify a cluster alarm for a distribution point	Network Element	displays the name and NE ID selected from the main window
	SDP ID	displays the ID of the signal distribution point (SDP) selected in the main window
	Assigned Alarm	displays the cluster default alarm assigned to the signal distribution point in the SDP ID field

E2A Alarm Manager tool tasks

Table 8-7 lists some of the tasks that you can perform using the E2A Alarm Manager tool. It also indicates the book where the tasks are discussed.

Table 8-7
Tasks performed using the E2A Alarm Manager tool

Task	See
viewing, assigning, and deleting states and alarms for signal distribution points	<i>System Administration Procedures</i> , 323-3001-302, in this volume

Configuration Manager tool

The Configuration Manager lists the configurations created for a system using the Configuration Manager tool. When you select a linear (OC-3/OC-12 point-to-point) or a ring (OC-12 BLSR) configuration from the list, the tool also lets you create, display, edit, and delete configuration data for that configuration. The Configuration Manager tool has the following components:

- Configuration Manager main window
- Configuration Manager: Point-to-Point window
- Configuration Manager: Ring window

Each window must be closed independently.

The Configuration Manager tool can be accessed from the following toolsets:

- Network Admin
- SLAT

Configuration Manager main window

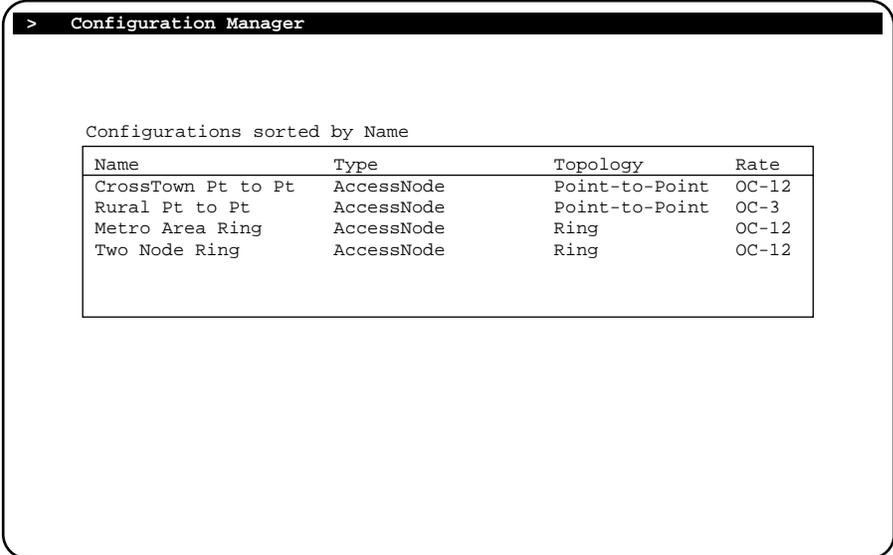
The Configuration Manager main window appears when you select the Configuration Manager tool from the User Session Manager.

The main window lists all the configurations created using the Configuration Manager tool. From the main window, you can create a new configuration or display or edit an existing configuration.

Figure 8-3 shows the Configuration Manager main window.

Figure 8-3
Configuration Manager main window

PC-22049



The screenshot shows a terminal window titled "Configuration Manager" with a prompt ">". Below the prompt, the text "Configurations sorted by Name" is displayed. A table with four columns (Name, Type, Topology, Rate) lists four configurations: CrossTown Pt to Pt, Rural Pt to Pt, Metro Area Ring, and Two Node Ring.

Name	Type	Topology	Rate
CrossTown Pt to Pt	AccessNode	Point-to-Point	OC-12
Rural Pt to Pt	AccessNode	Point-to-Point	OC-3
Metro Area Ring	AccessNode	Ring	OC-12
Two Node Ring	AccessNode	Ring	OC-12

Table 8-8 describes the Configuration Manager main window.

Table 8-8
Configuration Manager main window

Item	Description
Add menu	lists the types of configurations that you can add and specifies the type by product and topology. This menu displays all the valid configurations for this OPC.
Configuration list	displays all configurations in the system and describes each configuration by name, type, topology, and transmission rate.
List menu	lets you manipulate the list. In this menu, the "Sort" command sorts configurations by configuration name, topology or by transmission rate. The Configuration list item menu has the following items: <ul style="list-style-type: none">• edit• configuration• select• deselect
Status line	summarizes all alarms and alerts in the system.

Configuration Manager: Point-to-Point window

The Configuration Manager: Point-to-Point window appears when you select Add from the list menu or Edit Configuration from the list item menu. This window lets you create a new configuration and modify or display details for an existing configuration. This window appears in one of two modes: add mode and edit mode.

The add mode lets you define a new configuration, including

- the configuration name
- the transmission rate
- the fiber central office terminal (FCOT) network element (NE)
- the remote fiber terminal (RFT) NE

The edit mode lets you modify an existing configuration, including

- changing the transmission rate from OC-3 to OC-12 only
- changing the alarm management level
- changing the configuration name
- deleting the existing configuration

Figure 8-4 shows an example of the Point-to-Point window in the edit mode.

Figure 8-4
Configuration Manager: Point-to-Point window

PC-22057

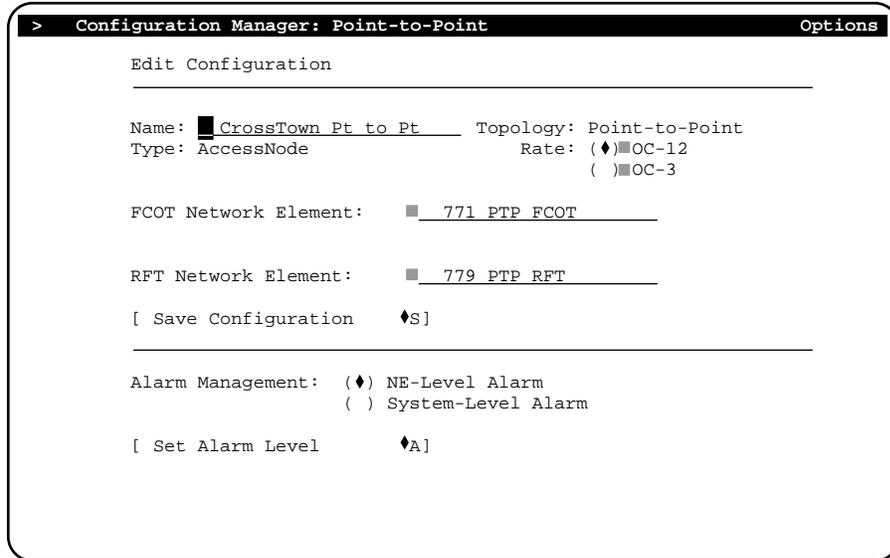


Table 8-9 describes the states of fields and buttons for both modes of the Point-to-Point window.

Table 8-9
Configuration Manager: Point-to-Point window modes

Window title	Displayed using	Field name	Filled in	Editable
Edit Configuration	Edit configuration command (list item menu in the main window)	Name	Yes	No
		Topology	Yes	No
		Type	Yes	No
		Rate	Yes	Yes (but only when upgrading from OC-3 to OC-12)
		Network elements	Yes	N/A
—continued—				

Table 8-9 (continued)
Configuration Manager: Point-to-Point window modes

Window title	Displayed using	Field name	Filled in	Editable
Add Configuration	AccessNode: Point-to-Point window command (list menu in the main window)	Name	No	No
		Topology	Yes	No
		Type	Yes	No
		Rate	Yes (defaults to OC-12)	Yes
		Network elements	No	N/A
—end—				

Table 8-10 describes both modes of the Point-to-Point window.

Table 8-10
Configuration Manager: Point-to-Point window

Item	Description
Options menu	lets you manage the configuration data for the currently displayed configuration in the dialog. Use this menu to <ul style="list-style-type: none"> • Transfer currently displayed configuration data from the primary OPC to backup OPC. The command is disabled until data are saved to the primary OPC. • Delete all configuration data for the currently displayed configuration (edit mode only). • Revert to the previous configuration (for example, cancel any unsaved configuration changes).
Name	identifies an individual configuration. In edit mode, this field shows the configuration name selected in the main window. In add mode, this field is empty.
Topology	identifies connectivity of the network elements in the configuration.
Type	specifies the product for the configuration. This version of the tool allows only one configuration type, AccessNode.
Rate	specifies the transmission rate (either OC-12 or OC-3) when the window is in add mode. You can change the rate from OC-3 to OC-12 when the window is in edit mode. You cannot change the rate from OC-12 to OC-3.
FCOT Network Element	adds an FCOT NE to the point-to-point configuration. The NE must be in the current OPC span of control.
RFT Network Element	adds the RFT NE to the point-to-point configuration. Each FCOT NE must be connected to an RFT NE. The NE must be in the current OPC span of control.
—continued—	

Table 8-10 (continued)
Configuration Manager: Point-to-Point window

Item	Description
Save Configuration data	saves any changes made to the configuration data. In add mode, you must save configuration data changes before you can change alarm levels or enable connection services.
Alarm Management	specifies whether alarms are reported on a system-wide basis or on an individual basis for the NEs in a pair: <ul style="list-style-type: none">• System Level allows all visual and audible alarms originating at either NEs to show on both NEs in the FCOT/RFT pair.• NE Level allows visual and audible alarms to show on the originating NE only.
Set Alarm Level	sets the alarm level for the configuration to the value selected using the Alarm Management buttons.
—end—	

Configuration Manager: Ring window

The Configuration Manager: Ring window lets you specify how add-drop multiplexers (ADMs) are interconnected in a ring configuration.

Note: On this window, ADM means the same as network element (NE).

The OPC uses this configuration data for protection-switching and to provision connections. The configuration data are stored in the OPC database and is distributed to all network elements in the ring.

The window lets you create and edit the database. It also lets you audit network elements to ensure that their ring configuration data are consistent with the OPC database.

To create a ring or add an ADM to an existing ring, select the buttons in the window in the order they are shown. After you select each button and complete the task, the arrow to the left of the button moves down to the next recommended button.

To change the automatic audit schedule, transfer configuration data to the backup OPC. To see a graphical representation of the ring, select the appropriate command from the Options menu.

To initiate an immediate audit, change the configuration. To view the configuration of a selected ADM, select the appropriate command from the list item menu.

Figure 8-5 shows an example of the Ring window in the edit mode.

Figure 8-5
Configuration Manager: Ring window

PC-22063

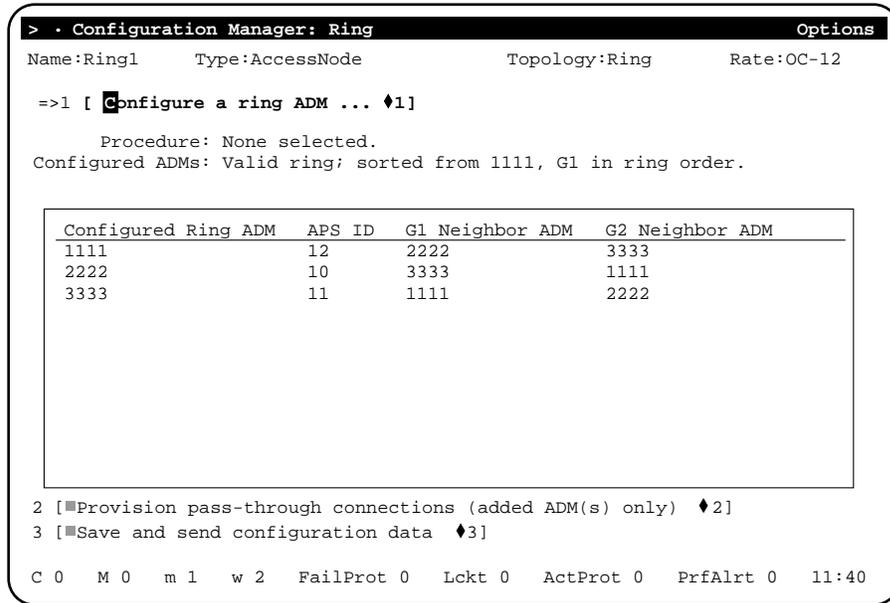


Table 8-11 describes the Ring window.

Table 8-11
Configuration Manager: Ring window

Item	Description
Configure a ring ADM	positions ADMs in a ring configuration. You must select a network element, assign an APS ID to it, and specify its circuit pack group G1 and G2 connections.
Configured Ring ADMs list	displays all ADMs in a ring. The list identifies each ADM and its neighbors. If a ring is not configured, the list is empty. To add an ADM to the list, select the Configure a ring ADM button and fill in the dialog that appears.
—continued—	

Table 8-11 (continued)
Configuration Manager: Ring window

Item	Description
Provision pass-through connections	automatically provisions pass-through connections for new ADMs in the ring. Only ADMs that are added to an existing ring are provisioned.
Save and send configuration data	copies any connection and configuration changes to the OPC database. This button also transfers this new configuration to all ADMs in the ring.
—end—	

Configuration Manager dialog

Table 8-12 describes the dialogs that are available through the Configuration Manager tool.

Table 8-12
Configuration Manager dialog

Dialog/Description	Item	Description
Transfer Data: confirms the transfer of data to the backup OPC	Yes	proceeds with the data transfer
	Cancel	returns to the Configuration Manager main window without transferring the data
Ring ADM: changes configuration information about an ADM	Network Element	specifies the number and name of the ADM to be configured.
	Ring ADM APS ID	specifies the automatic protection-switching (APS) number for the ADM to be configured.
	ADM (1) field	identifies the neighboring ring ADM that is connected to the G1 circuit pack group of the ADM to be configured.
	CPG (1) field	displays the circuit pack group that is connected to the G1 circuit pack group of the ADM to be configured.
	ADM (2) field	identifies the neighboring ring ADM that is connected to the G2 circuit pack group of the ADM to be configured.
	CPG (2) field	displays the circuit pack group that is connected to the G2 circuit pack group of the ADM to be configured.

Configuration Manager tool tasks

Table 8-13 lists some of the tasks that you can perform using the Configuration Manager tool. It also indicates the book where the tasks are discussed.

Table 8-13
Tasks performed using Configuration Manager tool

Task	See
configuring a network element	<i>Commissioning and Testing, Volume 3</i>
de-commissioning a network element	<i>Commissioning and Testing, Volume 3</i>
setting up for the progressive end-to-end tests	<i>Commissioning and Testing, Volume 3</i>
setting up and maintaining point-to-point and ring configurations	<i>Provisioning and Operations Procedures, 323-3001-310, in Operations, Administration, and Provisioning, in Volume 4B</i>
auditing configuration data for all ADMs in a ring or at a single ring ADM	<i>Provisioning and Operations Procedures, 323-3001-310, in Operations, Administration, and Provisioning, in Volume 4B</i>
scheduling an audit of configuration data	<i>Provisioning and Operations Procedures, 323-3001-310, in Operations, Administration, and Provisioning, in Volume 4B</i>
transferring configuration data to the backup OPC	<i>Provisioning and Operations Procedures, 323-3001-310, in Operations, Administration, and Provisioning, in Volume 4B</i>
sending configuration data to a ring ADM	<i>Provisioning and Operations Procedures, 323-3001-310, in Operations, Administration, and Provisioning, in Volume 4B</i>
moving DS1/VT mappers (GR-303 or DS1 tandem)	<i>System Expansion Procedures, 323-3001-324, in Operations, Administration, and Provisioning, in Volume 4C</i>

Connection Manager tool

The Connection Manager tool lets you specify where STS-1 and VT 1.5 connections are added and dropped within a configuration. A configuration can be either a ring (OC-12 BLSR) or a linear (OC-3/OC-12 point-to-point) topology. However, only virtual tributary bandwidth manager (VTBM) 2-Fiber BLSR configurations (on network elements equipped with the VTBM transport interface) support VT level bandwidth management.

The Connection Manager tool can be accessed from the following toolsets:

- Network Admin
- Provisioning Admin

Using the tool, you can set up logical connections by specifying the two terminating NEs and selecting the channel for each connection.

This connection data are then sent to the NEs in the configuration that are in the current OPC span of control. For the connection to carry traffic, the appropriate facilities must also be installed and provisioned at each NE.

The Connection Manager also lets you

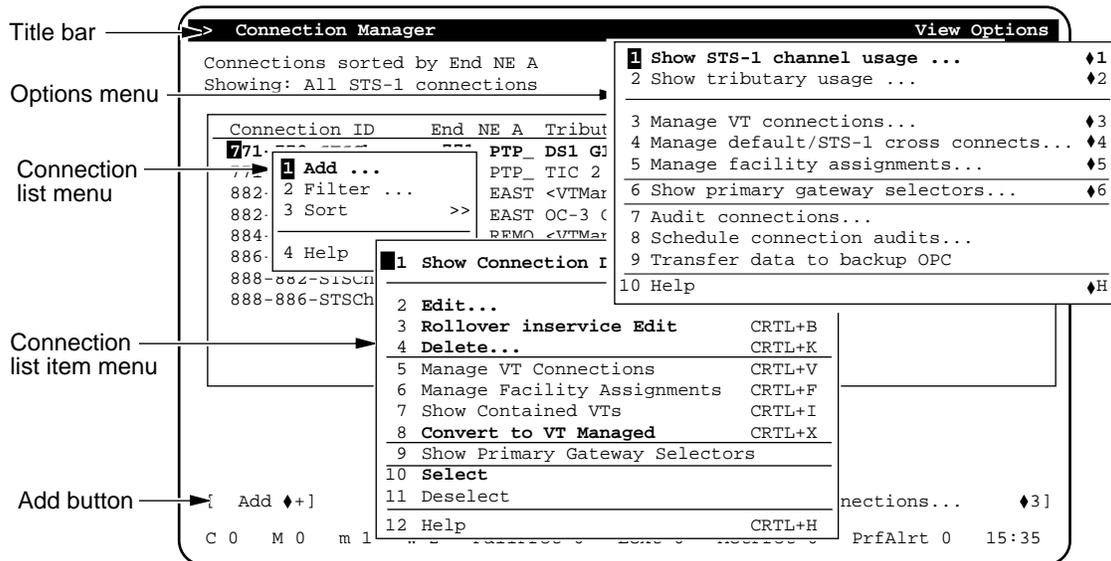
- provision and de-provision STS-1 and VT1.5 connections
- display a list of provisioned connections
- display available bandwidth between two NEs
- initiate a connection audit of all NEs, whether or not they are in configurations
- manage facility assignments for GR-303, DS1 Tandem and TR-08 DS1 connections
- provision default connections
- view tributary-to-transport, pass-through and DS1-fed AccessNode (DFA) hairpin cross connects within an NE
- accept and perform STS-1 connection provisioning and de-provisioning requests
- display available tributaries at a specified NE
- change a connection from STS managed to VT managed
- change the route and channel on an STS connection
- change the VT1.5 group and number for VT managed connections

Connection Manager main window

Figure 8-6 shows the main window, with all menus displayed.

Figure 8-6
Connection Manager main window

SC-10347



Status icon

The status icon indicates the current state of the Connection Manager tool. Table 8-14 shows the valid values for this icon.

Table 8-14
Status icons values

Icon	Description
>	The tool is operating normally.
X	An error has occurred. You might not be able to use the tool until you correct the error.

Connection list

The Connection list displays end-to-end connections in the OPC span of control. You can modify the list using the Sort and Filter commands in the list menu and the View menu.

To display details about a connection, or to edit or delete a connection, use the commands in the list item menu.

To add a connection to the list, select one of the following:

- the Add button in the main window
- the Add command in the list menu

Table 8-15 describes the Connection list.

Table 8-15
Connection list

Column	Description
Connection ID	identifies an STS-1 or STS-3c connection. This field is optional for STS-1 and STS-3c connections. STS connections appear in the list even if they do not have identifiers.
End NE A	identifies a terminating NE in the connection by network element ID and name.
Tributary	specifies the terminating tributary facilities at End NE Z by card type (DS1, DS3, OC-3, or TIC), circuit pack group (CPG) number (for DS1s, DS3s, OC-3), and port number (for DS3s, OC-3s, and TICs). For OC-3 tributaries, the port number field appears as "STS-1 Channel". Note: A plus sign (+) indicates concatenation.
End NE Z	identifies the second terminating NE in the connection by NE ID and name.
Tributary	specifies the terminating tributary facilities at End NE Z by card type (DS1, DS3, STS1, OC-3, or TIC), circuit pack group (CPG) number (for DS1s, DS3s, STS1s, OC-3), and port number (for DS3s, STS1s, OC-3s, and TICs). For OC-3 tributaries, the port number field appears as "STS-1 Channel".
Channel	specifies the STS-1 channel (time slot) of the signal channel. For STS-3c connections, displays the range of channels (1-3 or 4-6).

Status symbols may appear to the left of each connection. A plus sign (+) indicates a new or edited connection since the tool was opened.

Add button

The Add button lets you set up a new connection. This button performs the same function as the Add command in the Connection list menu.

Manage VT Connections button

The Manage VT Connections button lets you:

- add, delete, and edit VT connections
- show VT channel usage
- display facility assignments if an STS-1/OC-3/DS1-TIC port 1 connection appears in the VT list

This button allows the same functions as the Manage VT Connections command on the Connection list item menu.

Status line

The status line summarizes all alarms and alerts in the system (for the VT-100 user interface). The status line appears in the User Session Manager and most OPC tools. For more information on the status line, see *Network Surveillance Procedures*, 323-3001-510, in *Maintenance*, Volume 5C.

Window menu

The Window menu lets you exit the Connection Manager tool. It also lets you view context-specific help for an object.

View menu

The View menu lets you modify the list of STS-1 connections in the main window. Table 8-16 shows the commands available from this menu.

Table 8-16
View menu commands

Icon	Description
Filter	specifies the connections to appear in the main window. See "Filter dialog" on page 8-32 for more information.
Sort	lists network elements in the main window according to one of the following parameters: <ul style="list-style-type: none"> • Connection ID • channel • End NE A • End NE Z

Options menu

Press the keyboard sequence Ctrl_L T (or Keypad ,) to view the Options menu. This menu lets you view and audit connection data, specify a schedule for connection audits, or transfer the data to the backup OPC.

Table 8-17 describes the commands on the Options menu.

Table 8-17
Options menu commands

Command	Description
Show STS-1 channel usage	displays the availability of working STS-1 channels between two selected NEs. See "Set Preferences for Apply dialog" on page 8-43 for more information.
Show tributary usage	displays all tributary facilities that are provisioned at a selected NE. See "Table 8-34 describes the Subrate Usage dialog. Tributary Usage dialog" on page 8-45 for more information.
Manage VT Connections	lets you add, delete, and edit VT connections. See "Manage VT Connections dialog" on page 8-42 for more information.
Manage default/STS-1 cross connects	lets you perform the following tasks: <ul style="list-style-type: none"> • view STS-1 cross connects at any NE in the OPC span of control • provision nodal default cross connects for terminal NEs that are not in any configuration • provision end-to-end default connections for NEs in a point-to-point configuration • convert particular nodal connections to end-to-end connections See "Manage Default/STS-1 Cross Connects dialog" on page 8-34 for more information.
Manage facility assignments	lets you view and edit the facility assignments of STS-1s, OC-3s, and DS1s that are connected to the transport interface card (TIC) port 1 of an RFT. See "Manage Facility Assignments dialog" on page 8-36 for more information.
Show primary gateway selectors	Displays the primary gateway's service selectors, their current status, and associated connection. You may also operate or release a forced switch on the service selector.
Audit connections	performs an audit of the STS-1 connection data at selected NEs. See "Connection Audit dialog" on page 8-32 for more information.
Schedule connection audits	specifies the frequency, time, and date for an STS-1 connection data audit. See "Schedule Connection Data Audit dialog" on page 8-43 for more information.
Transfer data to backup OPC	copies connection data from the primary OPC to the backup OPC

Connection list item menu

Commands in the list item menu let you display details about the connection and to edit or delete a connection.

Table 8-18 lists the commands.

Table 8-18
Connection list item menu

Command	Description
Show Connection Details	displays more information about the selected connection. You cannot make changes to this dialog.
Edit	allows you to change the connection ID and facility assignment for a connection between selected NEs.
Rollover Inservice Edit	allows you to change the connection ID, the route, and the channel for a connection and to change the VT1.5 group and number for VT managed connections.
Delete	deletes the data for the selected connection.
Manage VT Connections	lets you perform the following tasks: <ul style="list-style-type: none"> • add, delete, and edit VT connections • show VT channel usage • display facility assignments if an STS-1/OC-3/DS1-TIC port 1 connection appears in the VT list. This command is enabled when the connection is a VT-managed STS-1.
Manage Facility Assignments	lets you view and edit the facility assignments of STS-1s, OC-3s, and DS1s that are connected to the TIC port 1 of an RFT. This command is enabled only for connections that are equipped STS-1/OC-3/DS1-TIC or TIC-DS1/STS-1/OC--3 connections.
Show Contained VTs	shows all VT connections contained in the VT-managed STS-1 connection. This command is enabled only for VT-managed STS-1 connections.
Show primary gateway selectors	Displays the primary gateway's service selectors, their current status, and associated connection. You may also operate or release a forced switch on the service selector.
Convert to VT Managed	allows you to convert an STS-managed connection to a VT-managed connection.
Select	selects the item the pointer is on.
Deselect	deselects the item the pointer is on.

Connection dialog

The Connection dialog lets you set up a new connection or view or change an existing one.

The “Transport Context” area appears in the upper half of the dialog. It contains parameters associated with the network or feeder of network elements. In this area, you can specify the bandwidth and STS-1/VT1.5 channel used to transport traffic.

The “Termination Context” area appears in the middle of the dialog. The “A Termination Context” lets you specify parameters for terminating traffic at the A end network element. The “Z Termination Context” lets you specify parameters for terminating traffic at the Z network.

Fields in the dialog are hidden or displayed depending on values of other fields in the dialog. For example, in the “Transport Context” area the following fields are displayed or hidden according to the value in the connection rate field.

Connection Rate	Fields available
VT1.5	Level field hidden VT Group field displayed VT Number field displayed
STS-1	Level field displayed VT Group field hidden VT Number field hidden

The Connection dialog changes, depending on whether you display it using the Details, Edit, or Add command and whether you display it from the Anchor window or the Manage VT Connections dialog.

Table 8-19 describes the different states of the dialog.

Table 8-19
Dialog states

Dialog title	Fields
Connection Details	<p>All fields in the dialog are filled in. You cannot edit these fields.</p> <p>Note: For pre-provisioned tributaries that have not been equipped, only the slot number and a tributary type of “unequipped” appear.</p>
Edit Connection	<p>All fields are filled in.</p> <p>If you invoke the edit command from the anchor window, you can only edit the Connection ID.</p> <p>If you invoke the edit command from the Manage VT Connections dialog, you can only edit the Connection ID and the Facility Assignment (if applicable).</p>
Add Connection	<p>Some fields are filled in.</p> <p>If you invoke the add command from the anchor window, the following fields are filled in:</p> <ul style="list-style-type: none"> • Connection Rate is set to STS-1 • Level is set to STS-Managed • Route is set to Short <p>If you invoke the add command from the Manage VT Connections dialog, the following fields are filled in:</p> <ul style="list-style-type: none"> • Connection Rate is set to VT 1.5 • Configuration, STS-1 Channel, Route, End NE A, and End NE Z are set the same as in the Manage VT Connections dialog.

Table 8-20 describes the Connection Details dialog.

Table 8-20
Connection Details dialog

Item	Description
Connection ID	identifies a connection between two end NEs. You cannot edit this field from a Connection Details dialog. You can enter up to 40 alphanumeric characters in this field from the Edit Connection or Add Connection dialogs.
Configuration	specifies a configuration
Connection rate	specifies the connection rate. For point-to-point systems, this field must be STS-1. For ring configurations, valid values are STS-1, STS-3c, and VT1.5.
Level	specifies the level of the signal. For point-to-point systems, this field must be STS-Managed (display only). For ring configurations, valid values are STS-Managed and VT-managed.
STS-1 channel	specifies the time slot of the signal channel.
VT group	specifies the VT group of the STS-1 channel.
VT number	specifies the VT number within the VT group of the channel.
Facility Assignment	assigns a DS1-TIC port 1 VT connection as GR-303 DMS, GR-303 MVI, Tandem, TR-08, or VLCM. This field also assigns an STS-1/OC-3 to TIC port 1 VT connection as GR-303 DMS or GR-303 MVI only.
End NE	identifies one of the NEs that terminates a selected connection.
Tributary Type	identifies the tributary circuit pack type
Group (or TIC)	identifies the tributary circuit pack group number. Values depend on the circuit pack type and the shelf type. For TIC tributaries, the name of this field changes to TIC.
Slot	identifies the slot number for the specified tributary circuit pack and group number
Port Number (or STS-1 Channel)	identifies the port number of a circuit pack. For OC-3 tributaries, this field appears as "STS-1 Channel".
VT Group	identifies the VT Group for terminating on a particular port of certain circuit packs.
VT Number	identifies the VT Number for terminating on a particular port of certain circuit packs.
—continued—	

Table 8-20 (continued)
Connection Details dialog

Item	Description
Subport	identifies the VT subport within a TIC port.
Route	specifies a short or long route between two NEs in a ring. This field does not apply to point-to-point configurations.
Route list	displays the NEs and optical circuit pack groups and STS channel traversed in a connection. For matched node connections, the primary and secondary gateway NEs are labeled.
—end—	

Edit Connection (Enabled for In-Service Rollover only) dialog

The Edit Connection (Enabled for In-Service Rollover only) dialog allows you to change the channel, route, VT group, and VT number of a connection.

Item	Description
Connection ID	identifies a connection between two end NEs.
Configuration	specifies a configuration
Connection rate	specifies the connection rate
STS-1 channel	specifies the time slot of the channel
Level	specifies the level of the signal
End NE A	specifies one of the NEs that terminate the selected connection
Tributary type	identifies the tributary circuit pack type
Group	identifies the tributary circuit pack group. The value depends on the circuit pack type and the shelf type.
Slot	identifies the slot for the specified tributary circuit pack and group
Port number	identifies the port of a circuit pack
End NE Z	specifies one of the NEs that terminate the selected connection
Tributary type	identifies the tributary circuit pack type
Group	identifies the tributary circuit pack group. The value depends on the circuit pack type and the shelf type
Slot	identifies the slot for the specified tributary circuit pack and group
Port number	identifies the port of a circuit pack
Route	identifies the route of the connection
NEs in route	specifies the NEs in the connection

Rollover Connection In-Service dialog

The Rollover Connection In-Service dialog displays the information that was changed for an in-service connection.

Item	Description
Connection ID	The ID of the connection you are changing
From channel	The number of the channel before the change
To channel	The number of the channel after the change
From route	The route before the change
To route	The route after the change
From VT Group	The VT group you are changing
To VT Group	The VT group after the change
From VT Number	The VT number you are changing
To VT Number	The VT number after the change
Next step to operate	The number of the next step needed to complete the rollover process. This number is 1, 2, or 3, depending on the status of the rollover process for the connection.

Connection Audit dialog

The Audit connections dialog lets you audit connection data. In this dialog, you can specify which NEs you want to audit. When you select the OK button, the connection data from the OPC are compared with the NEs included in the dialog.

The tool displays the results of the audit. If discrepancies are found, the tool indicates the affected NEs and lets you overwrite the NE connection data.

Table 8-21 describes the Connection Audit dialog.

Table 8-21
Connection Audit dialog

Item	Description
Network Element list	displays NEs that can be included in an audit of connection data.

Filter dialog

The STS connection list filter dialog lets you modify the list of connections in the main window. You can display

- new or modified connections only
- both STS and VT-managed connections
- In-service rollover in progress only
- STS-managed connections only
- Matched node connections
 - DCW only
 - DCP only
 - Mixed DCW and DCP connections
- VT-managed connections only
- a combination of the above

For example, you can filter the list to display the new or modified VT-managed connections.

Connections appear in the main window as long as one end NE for the connection displays the word “Included” in the filter list. To remove a connection from the main window, you must exclude both end NEs from the filter list.

Table 8-22 describes the Filter dialog.

Table 8-22
Filter dialog

Item	Description
Filter list	displays all NEs that have connections
New or modified connections	specifies that only connection changes to an NE are listed in the main window.
In-Service Roll in progress only	resumes an in-progress rollover.
Matched node connections only	specifies that only connections that have been set up with one or two secondary gateway nodes are listed in the main window. You must select this option to enable the DCW and DCP options.
DCW only	displays matched node connections that have secondary path connections provisioned for working channel protection schemes
DCP only	displays matched node connections that have secondary path connections provisioned for protection channel protection schemes
All	specifies that both STS and VT-managed connections appear on the main window
STS-managed only	specifies that the main window display only STS-managed connections
VT-managed only	specifies that the main window display only VT-managed STS-1 connections

Manage Default/STS-1 Cross Connects dialog

The Manage Default/STS-1 Cross Connects dialog lets you

- view STS-1 cross connections at any network element in the OPC span of control including terminal and ring node network elements.
- provision default cross connections for terminal network elements that are not in any configuration, for example, a DFA RFT, CServer or single-ended RFT. Terminal network elements are AccessNodes with shelf function of “RFT” or “FCOT” and transmission rates of “None,” “DS1,” “OC3,” or “OC12.” However, default connections are not supported for a TBM OPC shelf (TBM FCOT with transmission rate “None”).
- provision end-to-end default connections for network elements in a point-to-point configuration, if non-default connections have not already been provisioned.
- convert particular nodal default connections into end-to-end connections. That is, if an unconfigured FCOT and an unconfigured RFT, both with nodal default connections, are combined into a point-to-point configuration, this dialog lets you convert those nodal connections into end-to-end connections.

The Manage Default/STS-1 Cross Connects dialog supports all network elements, even those that do not belong in a configuration.

Figure 8-7 shows an example of Manage Default/STS-1 Cross Connects dialog.

Figure 8-7
Manage Defaults/STS-1 Cross Connects dialog

SC-10426

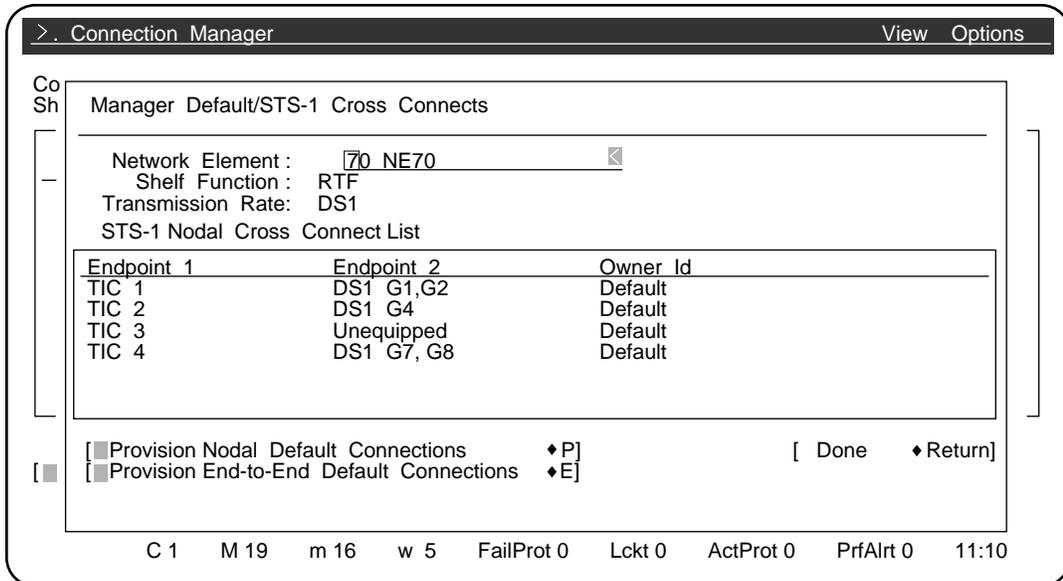


Table 8-23 describes the Manage Default/STS-1 Cross Connects dialog.

Table 8-23
Manage Default/STS-1 Cross Connects dialog

Item	Description
Network Element	selects a particular NE.
Endpoint 1 and Endpoint 2	describes the endpoints of a cross connect.
Owner ID	displays the owner ID of a cross connect: <ul style="list-style-type: none"> • “Default” for default cross connects. • the connection ID of the end-to-end STS-1 connection associated with the cross connect.
Provision Nodal Default Connections	downloads a set of default connections for a selected NEs.
Provision End-to-End Default Connections	provisions default connections on an end-to-end basis.
Convert Nodal Default Connections	converts nodal default connections into end-to-end connections.

Manage Facility Assignments dialog

Use the Manage Facility Assignments dialog to assign services to the DS1s managed by the following AccessNode systems:

- VTBM ring (services can also be assigned to STS-1s/OC-3s)
- point-to-point
- single-ended
- DS1-fed

Note: For an overview of interaction between the AccessNode and the switch, refer to *Traffic and Bandwidth Engineering Information*, 323-3001-152.

Figure 8-8 shows the Manage Facility Assignments main window with all menus displayed.

Figure 8-8
Manage Facility Assignments main window

SC-10424

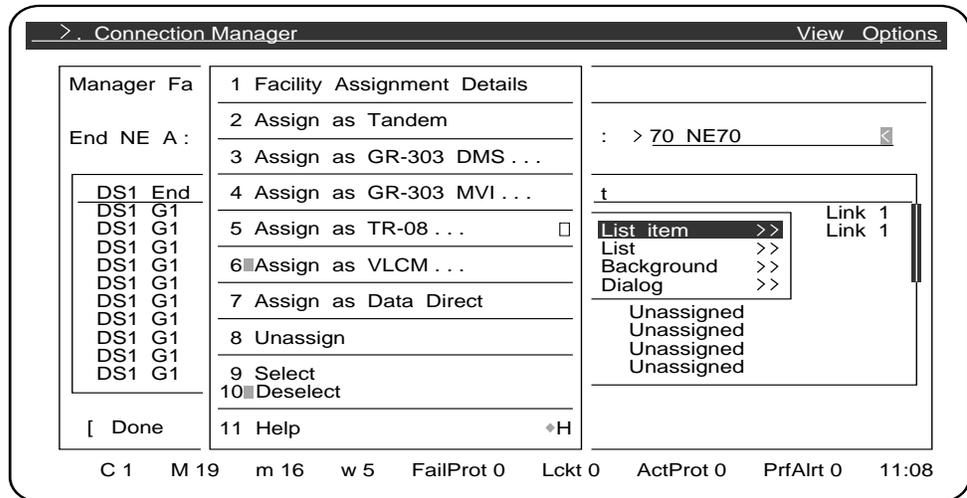


Table 8-24 describes the Manage Facility Assignments dialog.

Table 8-24
Manage Facility Assignments dialog

Item	Description
End NE A and End NE Z	identifies NE pair that controls the STS-1s/OC-3s/DS1s in the list. When you specify a valid NE pair, the DS1 facilities provisioned on that pair appear in the list.
Facilities list	all of the DS1 facilities that are supported on the selected NE pair and the service assigned to them.

STS-1s, OC-3s, and DS1s do not appear in the dialog if you have not made the STS-1/OC-3/DS1 to TIC connection (up to 28 VTs can be connected to TIC port 1). You can preassign services for facilities that are not physically present.

Although the Manage Facility Assignments dialog cannot assign DS1 facilities as operations maintenance channel (OMC), it shows the DS1 facilities assigned as OMC by the network element. OMC facilities perform operations, administration, maintenance, and provisioning (OAM&P) functions on DS1-fed systems.

Table 8-25 lists the services you can assign to a DS1/STS-1/OC-3.

Table 8-25
DS1 services

Service	Description
Tandem	non-switched and non-locally switched connections to the Special Services Digital Network (SSDN)
GR-303 DMS	interface to a DMS switch which supports proprietary GR-303
GR-303 MVI	interface to a switch other than DMS (MVI stands for multi-vendor interface) which supports generic GR-303
TR-08	interface to a digital switch which supports TR-08
VLCM	link to DMS-10J and DMS-10NA switches
Note: For an STS-1/OC-3 to TIC port 1 connection in a VTBM ring, you can assign GR-303 DMS and GR-303 MVI services only. No other configurations or services are supported for an STS-1/OC-3 to TIC port 1 connection.	

End NE A and End NE Z

The system automatically populates the End NE Z field based on your selection in the End NE A field.

Table 8-26 describes how the system populates the End NE Z field.

Table 8-26
End NE A and End NE Z

If you select ... in End NE A	Then ... appears in End NE Z
a point-to-point fiber central office terminal (FCOT) or remote fiber terminal (RFT)	the corresponding RFT or FCOT
a single-ended RFT or DS1-fed AccessNode (DFA) RFT	the same RFT
a DFA RFT	the same RFT
a bidirectional line-switched ring (BLSR) node	a menu from which you select an NE

Facility Assignment List

The Facility Assignment list contains different fields depending on the configuration. Table 8-27 lists the fields that appear based on your selection.

Table 8-27
Facility Assignment list

When you select	These fields appear
Two BLSR NEs or a point-to-point FCOT/RFT pair	NE A Tributary, NE Z Tributary, Assignment
A single-end RFT	STS-1, VT Group/No., TIC Endpoint, Assignment
A DFA RFT	DS1 Endpoint, TIC Endpoint, Assignment

The Show Details selection of the services dialog presents details about a facility assignment which may not be displayed in the main window due to lack of space. The Show Details selection works especially well for seeing details of a GR-303 facility.

Figure 8-9 shows an example of the Facility Assignments Details dialog.

Figure 8-9
Facility Assignments Details dialog

SC-10425

Facility Assignment Details of DS1 G1 1

IG Number	Link #	CLLI Name	IDT Number
GR303 MVI IG 1	Link 1	WWPA	IDT 70

[Done ♦ Return]

DS1 G1 2	TIC 1 (2)	GR303 DMS IG 2	Link 1
DS1 G1 3	TIC 1 (3)	Unassigned	
DS1 G1 4	TIC 1 (4)	Unassigned	
DS1 G1 5	TIC 1 (5)	Unassigned	
DS1 G1 6	TIC 1 (6)	Unassigned	
DS1 G1 7	TIC 1 (7)	Unassigned	
DS1 G1 8	TIC 1 (8)	Unassigned	
DS1 G1 9	TIC 1 (9)	Unassigned	
DS1 G1 10	TIC 1 (10)	Unassigned	

[Done ♦ Return]

C 1 M 19 m 16 w 5 FailProt 0 Lckt 0 ActProt 0 PrfAlrt 0 11:09

Assign as GR-303 dialog

Use the Assign as GR-303 dialog to assign an STS-1/OC-3/DS1-TIC VT to the RDTLink number of a GR-303 DMS or GR-303 multi-vendor interface (MVI) host. GR-303 DMS is an interface to DMS switches. GR-303 MVI is an interface to switches other than DMS switches.

You must specify a GR-303 (DMS or MVI) IG Number, IDT Number, and RDT Link Number. The IG Number represents a Host Name-IDT pair.

Note 1: The Host Provisioning Manager cannot verify the Host Name or IDT Number.

Note 2: For details concerning provisioning of the host switch using the Host Provisioning Manager, refer to “Host Provisioning Manager tool” on page 8-54.

Note 3: You must provision the DS1 facilities for GR-303 traffic. For details refer to *Provisioning and Operations Procedures*, 323-3001-310, in *Operations, Administration, and Provisioning*, Volume 4B.

Table 8-28 describes the Assign as GR-303 DMS dialog.

Table 8-28
Assign as GR-303 DMS dialog

Item	Description
IG Number	displays the IG number, which is assigned by the system, followed by the corresponding host name and integrated digital terminal (IDT) number in parentheses
RDT Link Number	contains a link value that corresponds to a defined logical link number in the host switch. Link 1 must be the first link provisioned since it carries the EOC. When deprovisioning GR-303 facilities, links 1 and 2 should be the last to be unassigned, since communication with the switch occurs over links 1 and 2.

Assign as TR-08 dialog

This dialog appears when you assign a DS1 to TR-08 service. If the DS1 was previously assigned to a GR-303 host, you must also update the RDTINV table in the host switch to reflect the change in assignment.

Note: You must provision the DS1 facilities for TR-08 traffic. For details refer to *Provisioning and Operations Procedures*, 323-3001-310, in *Operations, Administration, and Provisioning*, Volume 4B.

Table 8-29 describes the Assign as TR-08 dialog.

Table 8-29
Assign as TR-08 dialog

Item	Description
System Number	specifies a system number. You can enter a system number or select an item from the data selector. After you enter the system number, the next available link is filled in automatically. You can change this value unless you are assigning the first link to a TR-08 system. The A link carries the DDL format so it must be assigned before the remaining links.
Link ID	specifies the link ID. When you select the system number, the next available link is suggested. The A link must be the first link assigned in any given system since it carries the DDL format. The A link assignment is restricted to TIC subports 1, 5, 9, 13, 17, 21, and 25.

Assign as VLCM dialog

This dialog appears when you assign a DS1 to VLCM service.

Table 8-30 describes the Assign as VLCM dialog.

Table 8-30
Assign as VLCM dialog

Item	Description
System Number	specifies a system number. The value can be 1 to 2.
Switch Port #	specifies a switch port number from 0 through 5. Ports 0 and 3 are reserved as signalling links. If you select port 0 or 3, you must specify whether you want to assign a remote maintenance module (RMM) channel to the signalling link. RMM channels must be assigned on port 0 or 3 to perform switch-based line loop testing. For APC-100, RMM channels should not be assigned. Switch ports 1 and 4 are used for speech only. Ports 2 and 5 are only used for the DMS-100 and are used for speech only.

Manage VT Connections dialog

The Manage VT Connections dialog lets you set up a new VT connection or view or change existing ones. The dialog shows the configuration name, the two end network elements, the channel and the route. After you fill in the information, the list of VT connections for the specified VT-managed path appears.

Display the Manage VT Connections dialog by selecting the Manage VT connections command in the Options menu in the main window.

Table 8-31 describes the Manage VT Connections dialog.

Table 8-31
Manage VT Connections dialog

Component	Description
Configuration	specifies the configuration for which you want to display VT connections. Only ring configurations are valid. (Point-to-point configurations are invalid).
End NE A	identifies the NEs that terminate a selected VT-managed STS-1 connection
End NE Z	identifies the NEs that terminate a selected VT-managed STS-1 connection
STS-1 Channel field	specifies the channel for this VT-managed STS-1 connection.
Route	indicates the desired route for the VT-managed STS-1 connection around the ring
Complete VT-Managed STS-1 Channel	describes the status (Available or Not Available) of the intended end-to-end VT-managed STS-1 channel carrying VT traffic.
Manage VT Connections list	<p>Connection ID—identifies the VT connection between two NEs</p> <p>NE A Tributary—identifies the End NE A tributary that terminates the VT connection</p> <p>NE Z Tributary—identifies the End NE Z tributary that terminates the VT connection</p> <p>Group/Number—specifies the VT group and number that uniquely identify the VT within the transport STS-1 channel</p>

Schedule Connection Data Audit dialog

The Schedule Connection Data Audit dialog lets you set the frequency, start time, and start date for an audit of the Connection data. The OPC data are compared with the data from all NEs in the OPC span of control where the Connection Services are enabled. The Event Browser tool contains the results of the audit. The connection audit is performed continually; it has no end date.

Note: The start date can be either today or tomorrow. Any other date is invalid and the tool prompts you to enter another date.

Table 8-32 describes the Schedule Connection Data Audit dialog.

Table 8-32
Schedule Connection Data Audit dialog

Item	Description
Run every	specifies how often the audit is conducted. Valid range for this field varies, depending on selected time button: <ul style="list-style-type: none"> • Minutes: 15–59 • Hours: 1–23 • Days: 1–7
Time	specifies how often the Connection audit is conducted. For example, to audit all NEs once every two days, you would enter “2” in the Run every field and select the “day(s)” button.
Starting	specifies the time and date when the connection audit begins. The time field is in 24-hour format (hh:mm), where hh ranges from 00 to 23 and mm ranges from 00 to 59.
Default	resets all fields in the dialog to the default setting, which is an audit once a day, starting at 7:00 a.m. today.

Set Preferences for Apply dialog

The Set Preferences for Apply dialog lets you select certain fields to remain on the screen after you select the Apply button on the Add Connection dialog. By default, all of the check buttons are cleared. If you select one of the check buttons, the contents of that field are preserved when you select the Apply button in the Add Connection dialog.

STS-1 Channel Usage dialog

The STS-1 Channel Usage dialog lists all channels between two selected NEs in the configuration. The Usage column specifies which channels are available and which channels are not available for use. For BLSR configurations, the Complete VT-managed STS-1 Channel column indicates whether a complete VT-managed STS-1 connection exists on that channel that you can use to provision VT1.5 connections.

Table 8-33
STS-1 Channel Usage dialog

Item	Description						
Configuration	displays the unique name for the configuration.						
End NE A	identifies one of the NEs that terminates a connection. Connections are added and dropped at this NE.						
End NE Z	identifies one of the NEs that terminates a connection. Connections are dropped and added at this NE.						
Route	specifies the direction that the connection takes around the ring. This field does not appear for point-to-point configurations						
Include DCP channels	displays usage statistics for channels 7-12 (channels 1-6 are already displayed)						
STS-1 usage	<p>For point-to-point configurations, this field can be marked as <Default>, indicating that the channel is occupied by default connections at one or both ends. You can still provision an end-to-end connection on this channel, but the default connection is deleted in the process.</p> <p>For ring configurations, you use the Route buttons can select the direction of the channels around the ring using the Route buttons at the top of the list.</p>						
Complete VT-managed STS-1 Channel	<p>indicates whether all or part of a VT-managed channel exists. This field does not appear for point-to-point configurations.</p> <p>If a channel is not available, one of the following appears:</p> <table border="0"> <tr> <td>STSMAN</td> <td>One or more hops along the channel are occupied by provisioned STS-managed STS connections.</td> </tr> <tr> <td>Not Available</td> <td>One or more hops along the channel provide VT-managed STS-1 bandwidth, but the entire end-to-end channel does not. To complete the end-to-end channel and provision VT connections, you must provision transport VT-managed STS-1 bandwidth in the given channel.</td> </tr> <tr> <td>Available</td> <td> <p>The end-to-end channel provides contiguous VT-managed STS-1 bandwidth, composed of any combination of one or more transport VT-managed STS-1 connections.</p> <p>This designation does not indicate an available VT channel bandwidth. Select the Show VT Channel Usage command to determine the VT channel usage.</p> </td> </tr> </table>	STSMAN	One or more hops along the channel are occupied by provisioned STS-managed STS connections.	Not Available	One or more hops along the channel provide VT-managed STS-1 bandwidth, but the entire end-to-end channel does not. To complete the end-to-end channel and provision VT connections, you must provision transport VT-managed STS-1 bandwidth in the given channel.	Available	<p>The end-to-end channel provides contiguous VT-managed STS-1 bandwidth, composed of any combination of one or more transport VT-managed STS-1 connections.</p> <p>This designation does not indicate an available VT channel bandwidth. Select the Show VT Channel Usage command to determine the VT channel usage.</p>
STSMAN	One or more hops along the channel are occupied by provisioned STS-managed STS connections.						
Not Available	One or more hops along the channel provide VT-managed STS-1 bandwidth, but the entire end-to-end channel does not. To complete the end-to-end channel and provision VT connections, you must provision transport VT-managed STS-1 bandwidth in the given channel.						
Available	<p>The end-to-end channel provides contiguous VT-managed STS-1 bandwidth, composed of any combination of one or more transport VT-managed STS-1 connections.</p> <p>This designation does not indicate an available VT channel bandwidth. Select the Show VT Channel Usage command to determine the VT channel usage.</p>						

Subrate Usage dialog

The Subrate Usage dialog specifies whether the subrate terminations of a tributary are available or not available. If a tributary subrate termination is not available, information about the connection that terminates at that tributary can be displayed by selecting the Show connection details command from the list item menu.

The Subrate Usage dialog indicates the tributary information, including slot, tributary, port (DS1 tributaries only), VT group and number (STS-1/OC-3 tributaries only), and subport (TIC tributaries only).

Table 8-34 describes the Subrate Usage dialog. Tributary Usage dialog

Table 8-34
Subrate Usage dialog

Item	Description
Subrate Usage list	displays the port and usage of the subrate terminations.

Tributary Usage dialog

The Tributary Usage dialog lists the facilities that terminate at a selected NE in a configuration. It also specifies whether the facilities are available or not, and whether the tributary is VT-managed.

Facilities that have a connection set up are labeled “Not available.” If a connection is managed at the VT level, it is labeled <VTMan>. This means that one or more of the subrate terminations from the tributary are switched or cross connected to the VT-managed STS-1 channel.

On point-to-point network elements, if a tributary facility has a default connection set up, the usage is designated <Default>. Although you can provision an end-to-end connection on this facility, the default connection is deleted when the end-to-end connection is added.

When the Tributary Usage dialog first appears, the list is empty. After you enter the name of an NE, all provisioned facilities at that NE are listed.

Table 8-35 describes the Tributary Usage dialog.

Table 8-35
Tributary Usage dialog

Item	Description
Configuration	identifies the configuration that contains the selected connection
Network Element	identifies an NE that terminates channels.
Tributary list	displays the tributary facilities currently provisioned at a selected NE. Facilities that have a connection set up are labeled “Not available”.

VT Channel Usage dialog

The VT Channel Usage dialog lists the VT channel usage between two selected NEs in the configuration. A VT channel is indicated as a combination of the VT group within the STS-1 channel and the VT number within that group.

An available channel is one that provides a completely open VT channel between the endpoints on the given channel and for the given route. A series of VT-managed STS-1 paths provide this open VT channel. A channel that is not available is one that is already occupied by a provisioned VT1.5 connection anywhere along the channel path.

Table 8-36 describes the VT Channel Usage dialog.

Table 8-36
VT Channel Usage dialog

Item	Description
VT Channel list	specifies the VT group and number of the VT channel, and the availability of the channel.

VT Connections dialog

The VT Connections dialog lets you display all VT connections that pass through a selected VT-managed STS-1 connection, regardless of whether they terminate on the same endpoints as the VT-managed STS-1 connection.

Table 8-37 describes the VT Connections dialog.

Table 8-37
VT Connections dialog

Item	Description
Connection ID	displays the connection ID of the selected VT-managed STS-1 connection
Configuration	displays the configuration for the VT-managed STS-1 connection
End NE A	displays the "A" endpoint of the VT-managed STS-1 connection
End NE Z	displays the "Z" endpoint of the VT-managed STS-1 connection
STS-1 Channel	displays the STS-1 channel occupied by the selected VT-managed STS-1 connection
Connection ID	displays the connection ID of the VT connection
End NE A	displays the "A" endpoint of the VT connection
End NE Z	displays the "Z" endpoint of the VT connection.
Tributary	displays the tributary on the end NE where the VT connection terminates.
Group/Number	displays the VT group and number within the STS-1 channel
Route	indicates the direction the VT connection takes around the ring

Connection Manager tool tasks

Table 8-38 lists some of the tasks that you can perform using the Connection Manager tool. It also indicates the book where the tasks are discussed.

Table 8-38
Tasks performed using the Connection Manager tool

Task	See
provisioning a new host switch for an RFT	<i>Commissioning and Testing, Volume 3</i>
assigning new connections	<i>Commissioning and Testing, Volume 3</i>
setting up the OC-3 tributaries for the end-to-end tests	<i>Commissioning and Testing, Volume 3</i>
setting up for the progressive end-to-end tests	<i>Commissioning and Testing, Volume 3</i>
testing STS timeslot assignment and passthrough capabilities	<i>Commissioning and Testing, Volume 3</i>
testing VT1.5 timeslot assignment and passthrough capabilities	<i>Commissioning and Testing, Volume 3</i>
performing short-term bit-error rate (BER) tests	<i>Commissioning and Testing, Volume 3</i>
setting up for end-to-end tests for the whole ring	<i>Commissioning and Testing, Volume 3</i>
provisioning default connections on single-ended and point-to-point systems	<i>Provisioning and Operations Procedures, 323-3001-310, in Operations, Administration, and Provisioning, in Volume 4B</i>
finding available channels and tributaries	<i>Provisioning and Operations Procedures, 323-3001-310, in Operations, Administration, and Provisioning, in Volume 4B</i>
adding, editing, and deleting VT and STS connections	<i>Provisioning and Operations Procedures, 323-3001-310, in Operations, Administration, and Provisioning, in Volume 4B</i>
provisioning DS1 facility assignments	<i>Provisioning and Operations Procedures, 323-3001-310, in Operations, Administration, and Provisioning, in Volume 4B</i>
displaying and modifying connections	<i>Provisioning and Operations Procedures, 323-3001-310, in Operations, Administration, and Provisioning, in Volume 4B</i>
—continued—	

Table 8-38 (continued)
Tasks performed using the Connection Manager tool

Task	See
scheduling and performing audits of connection data	<i>Provisioning and Operations Procedures, 323-3001-310, in Operations, Administration, and Provisioning, in Volume 4B</i>
performing a manual backup of connection data	<i>Provisioning and Operations Procedures, 323-3001-310, in Operations, Administration, and Provisioning, in Volume 4B</i>
moving a DS1/VT mapper (GR-303 or DS1 tandem)	<i>System Expansion Procedures, 323-3001-324, in Operations, Administration, and Provisioning, in Volume 4C</i>
—end—	

Cluster Inventory tool

Use the Cluster Inventory tool to generate and print reports on the hardware components in the cluster. For more information on this tool, see *System Administration Procedures*, 323-3001-302, in this volume.

Cluster Inventory main window

Figure 8-10 shows the Cluster Inventory main window, with all menus displayed.

Figure 8-10
Cluster Inventory main window

SC-10414

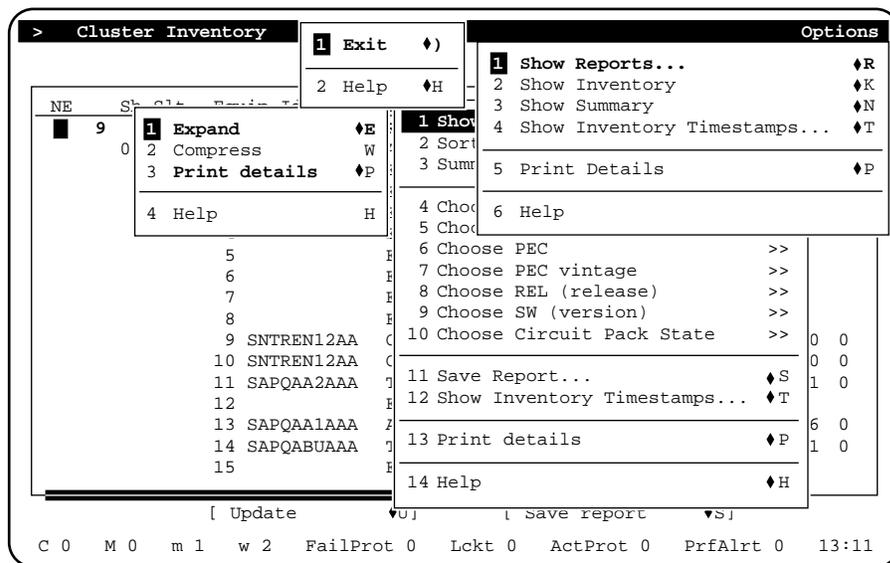


Table 8-39 describes the Cluster Inventory main window.

Table 8-39
Cluster Inventory main window

Item	Description
Update	updates the OPC database. Each NE in the cluster is updated with the current NE data. The update occurs automatically when you select the Update button and whenever the Cluster Level Inventory tool is started.
Save report	saves the displayed report in a compressed form as a file
Status line	summarizes all alarms and alerts in the system
List item menu	has the following commands: <ul style="list-style-type: none"> • Expand • Compress • Print details • Help
List menu	has the following commands: <ul style="list-style-type: none"> • Show inventory mode • Sort by • Summarize • Choose Type • Choose Service • Choose PEC • Choose PEC vintage • Choose Rel (release) • Choose SW (version) • Choose Circuit Pack State • Save Report • Show Inventory Timestamps • Print details • Help
Options menu	has the following commands: <ul style="list-style-type: none"> • Show Reports • Show Inventory • Show Summary • Show Inventory Timestamps • Print Details • Help

Cluster Inventory dialogs

Table 8-40 describes the dialogs that are available through the Cluster Inventory tool.

Table 8-40
Cluster Inventory dialogs

Dialog/Description	Item	Description
Save Report: lets you save the report	Enter name of report	the name of the report you want to save
Inventory Reports: displays a list of archived reports	Report name	the name of the archived report
	Date	the date when the report was generated
	Time	the time when the report was generated
	List item menu	lets you display, delete, or print the report
Inventory Timestamps: displays the timestamps of the backup files	Timestamps list	displays the timestamps of all the database files for each NE that is currently used in the list

Cluster Level Inventory tool tasks

Table 8-41 lists some of the tasks that you can perform using the Cluster Level Inventory tool. It also indicates the book where the tasks are discussed.

Table 8-41
Tasks performed using the Cluster Level Inventory tool

Task	See
generating, searching, sorting, and managing inventory reports	<i>System Administration Procedures</i> , 323-3001-302, in this volume
updating the database	<i>System Administration Procedures</i> , 323-3001-302, in this volume

Host Provisioning Manager tool

Use the Host Provisioning Manager tool to provision an RFT with the information about the GR-303 host switches to which the RFT is connected. You create up to five interface groups (IGs), and select the GR-303 interface type for each IG. The options are GR-303 DMS or GR-303 MVI.

The Host Provisioning Manager tool can be accessed from the following toolsets:

- Network Admin
- Provisioning Admin

For more information on the Host Provisioning Manager tool, see *Commissioning and Testing*, Volume 3.

Host Provisioning Manager main window

Figure 8-11 shows the Host Provisioning Manager main window.

Figure 8-11
Host Provisioning Manager main window

SC-10076



Table 8-42 describes the main window.

Table 8-42
Host Provisioning Manager main window

Item	Description
RFT	selects the RFTs on which you want to work
Provisioned Hosts list	lists all the IGs to which the selected RFT is assigned. The system automatically assigns an IG number from one to five every time you add an IG.
Add	adds an IG to the provisioned hosts list. Note: The Host Provisioning Manager cannot verify the host name or IDT.
Status line	summarizes all alarms and alerts in the system

Host Provisioning Manager tool tasks

Table 8-43 lists some of the tasks that you can perform using the Host Provisioning Manager tool. It also indicates the book where the tasks are discussed.

Table 8-43
Tasks performed using the Host Provisioning Manager tool

Task	See
provisioning a new host switch for an RFT	<i>Commissioning and Testing, Volume 3</i>
provisioning a host for an RFT	<i>Commissioning and Testing, Volume 3</i>
adding a new host and deleting an existing host from an RFT	<i>Provisioning and Operations Procedures, 323-3001-310, in Operations, Administration, and Provisioning, in Volume 4B</i>
listing all hosts for an RFT	<i>Provisioning and Operations Procedures, 323-3001-310, in Operations, Administration, and Provisioning, in Volume 4B</i>
making a host the primary alarm host	<i>Provisioning and Operations Procedures, 323-3001-310, in Operations, Administration, and Provisioning, in Volume 4B</i>
verifying connections at the RFT and the host switch	<i>System Expansion Procedures, 323-3001-324, in Operations, Administration, and Provisioning, in Volume 4C</i>

Alarm Provisioning Manager tool

Use the Alarm Provisioning Manager tool to set line card trouble events as either logs or alarms. When you use the alarm setting, the tool also lets you define the alarm severity level. The log/alarm settings can be for a group of network elements (NEs) within the OPC span of control, a single NE, or a line card on a NE.

The Alarm Provisioning Manager tool can be accessed from the following toolsets:

- Network Admin
- Provisioning Admin

For more information on this tool, see *Line Card Provisioning Procedures*, 323-3001-315, in *Operations, Administration, and Provisioning*, in Volume 4B.

Note: You must provision alarms for Universal Edge 9000 (UE9000) equipment using the NEUI rather than the Alarm Provisioning Manager tool. See the *UE9000 Voice OAM&P User Guide* for more information.

Alarm Provisioning Manager main window

The Alarm Provisioning Manager main window appears when you select the Alarm Provisioning Manager tool from the User Session Manager. From the Alarm Provisioning Manager main window, you can provision the alarms at the line card or service level.

Figure 8-12 shows the Alarm Provisioning Manager main window as displayed on a CMT interface.

Figure 8-12
Alarm Provisioning Manager main window

PC-21926

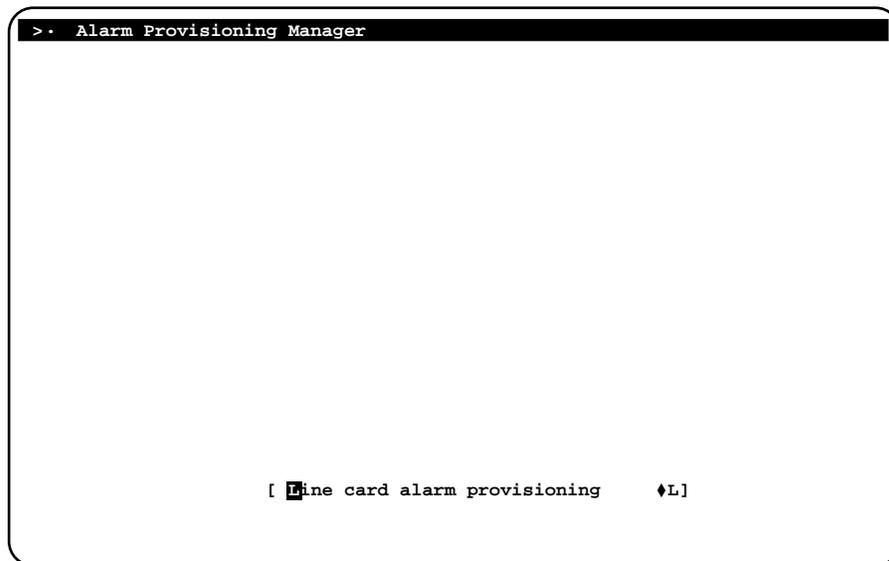


Table 8-44 describes the Alarm Provisioning Manager main window.

Table 8-44
Alarm Provisioning Manager main window

Item	Description
Line card alarm provisioning	initiates the alarm provisioning process. It displays the line card alarm provisioning dialog.

Alarm Provisioning Manager dialogs

Table 8-45 describes the dialogs that are available through the Alarm Provisioning Manager tool.

Table 8-45
Alarm Provisioning Manager dialogs

Dialog/Description	Item	Description
Line card alarm: lets you choose the provisioning scope	Scope of provisioning	specifies the provisioning scope for NEs or for a specific line card
Line card level LC alarm provisioning: lets you change default settings for a line card	NE	identifies the NE for the settings you are changing
	CD shelf	identifies the specific shelf for the settings you are changing
	Slot	identifies the slot where the trouble log or alarm is to be set
	Log/Alarm	sets a log or alarm for this NE, or resets this NE to service level
	Severity	sets the alarm severity
	Current setting	displays the current log or alarms setting for the selected line card. You must click the Current setting button to see this information.
	Apply	checks the service provisioned at the line card.
Service level provisioning: lets you change the default settings at the service level	Network element list	displays all the NEs in the OPC span of control and shows the status, the network element number, and the type
	Network element list item menu	selects or deselects one or more NEs
	Display setting	displays the log/alarm setting list for the selected NEs
	Service list	displays the service types for the selected NE and lets you change the NE log/alarm settings

Alarm Provisioning Manager tool tasks

Table 8-46 lists some of the tasks that you can perform using the Alarm Provisioning Manager tool. It also indicates the book where the tasks are discussed.

Table 8-46
Tasks performed using the Alarm Provisioning Manager tool

Task	See
setting service-level and line-card level logs and alarms	<i>Line Card Provisioning Procedures, 323-3001-315, in Operations, Administration, and Provisioning, in Volume 4B</i>
enabling and disabling line card alarms	<i>Line Card Provisioning Procedures, 323-3001-315, in Operations, Administration, and Provisioning, in Volume 4B</i>

System Line-up and Test Toolset

This chapter describes the functions of each of the System Line-up and Test (SLAT) tools and shows the main windows and menus. The following table describes the tools.

Tool	Description	See
Commissioning Manager	brings a new system or a new network element (NE) to a level of steady-state operations	page 9-2
Configuration Manager	creates, displays, edits, and deletes point-to-point or ring configuration data	page 9-8
PGTC/MTA Provisioning Manager	displays or changes the test type and test options for NEs in the operations controller (OPC) span of control	page 9-9
Event Browser	browses the history of OPC and NE logs, alarms, and alerts for an NE, and displays or prints detailed information about events	page 9-12
Reboot/Load Manager	supports software release upgrade procedures and reboots NEs that have requested an automatic reboot	page 9-12
OPC Alarm Provisioning	enables, inhibits, and manually clears OPC alarms	page 9-13
OPC Shutdown	shuts down the OPC as part of configuration or troubleshooting activities	page 9-13
OPC Date	changes the OPC time-of-day clock and the time zone where the OPC is operating	page 9-14
OS Connection Manager	defines and manages OS connection profiles and allows the root user to enable and disable security mode	page 9-14

Note: During periods of peak processing, some user interface screens may not be dynamically updated because traffic and fault handling activities are a priority. To update a screen, back out of it, then reenter the screen. An up-to-date equipment or facility status will appear.

Commissioning Manager tool



CAUTION

Loss of network element recognition

The Operations System (OS) must be disconnected from the OPC before any commissioning changes are made through the OPC Commissioning Manager tool. As soon as the commissioning changes are complete, the TL1 connection can be reestablished with the primary OPC. The TL1 connection to the backup OPC can be reestablished only after data sync is complete. If the OS is not disconnected while provisioning changes are made, alarms and events from network elements with changed commissioning data might not be reported or retrieved, and commands to these network elements might not be recognized.

Commissioning is the series of tasks required to bring a new system, or a new network element (NE) within an existing system, up to a level of steady-state operations.

A maximum of 16 NEs can be controlled by a single primary OPC; this constitutes one span of control. If the system has more than 16 NEs, multiple spans of control must be commissioned. OPC and NE IDs must be unique within the entire system.

The Northern Telecom Publications (NTPs) give detailed procedures to perform the steps involved in commissioning.

A written record of all commissioning data should be kept.

The following tasks must be done before you start the commissioning process:

- Personnel must become familiar with one of the OPC's two user interfaces: the character-mode terminal interface (CMT) or the graphical user interface (see chapters 2 and 3 in this document for detailed information on both of these user interfaces).
- All of the equipment required to set up the OPC must be obtained and installed.
- NE and OPC IDs must be selected. These IDs must be unique within the entire system.
- If a battery-operated laptop computer is being used, the battery pack must be fully charged.
- The “slat” and “admin” user IDs and passwords must be obtained.

To invoke the Commissioning Manager tool, log in to the OPC using the SLAT userID and select Commissioning Manager from the SLAT toolset menu. The Commissioning Manager tool main window appears.

Commissioning Manager tool main window

Figure 9-1 shows the Commissioning Manager tool main window.

Figure 9-1
Commissioning Manager tool main window

PC-21786

```

> . OPC Commissioning Manager (Version opc04cg_hp_65) Utilities
System: Chicago 1                               OPC Serial Number: Alf3e013a

  1. [ ] Clear commissioning data      ⬆1]
  2. [ ] Edit system data              ⬆2]
=> 3. [ ] Commission new network element ⬆3]

Commissioned network elements:


| NE | Shelf | Type | Function | Serial Number | OPC      |
|----|-------|------|----------|---------------|----------|
| 35 | 1     | ABM  | Terminal | A2 c 0180004  | OPCM051P |
| 36 | 1     | ABM  | Terminal | A2 2 0180006  | OPCM051  |



  4. [ ] Transfer data to Primary OPC (from SLAT OPC) ⬆4]

C 0 M 0 m 1 w 2 FailProt 0 Lckt 0 ActProt 0 PrfAlrt 0 09:27

```

Table 9-1 describes the Commissioning Manager tool main window.

Table 9-1
Commissioning Manager tool main window

Item	Description
Options Menu	lets you can select the following commands: <ul style="list-style-type: none">• Transfer data• Remote OPC list• Help
System	This field displays the value entered in the System name field in the System Commissioning Data dialog.
OPC Serial Number	displays in the OPC serial number field in the System Commissioning Data dialog
Clear commission data	removes all commissioning data from the OPC. Do this before starting to commission a new system, if the button is active.
Commission new system / Edit system data	lets you commission a new system or edit existing system data
Commission new network element	defines individual network elements within the span of control and downloads software to an NE after the maintenance and processor cards are inserted into the NE shelf.
Commission network elements list	displays all commissioned network elements. You can edit or delete data for a selected network element in this list.
Transfer data to Primary OPC	transfers commissioning data from the portable (SLAT) OPC to the primary OPC. The data replace any existing commissioning data on the primary OPC.

Commissioning Manager dialogs

Table 9-2 describes the dialogs that are available through the Commissioning Manager tool.

Table 9-2
Commissioning Manager dialogs

Dialog/Description	Item	Item Description
OPC Data Transfer: lets you specify the OPC you are commissioning	Transfer data to	specifies the destination OPC. The OPC that supports this dialog cannot be the destination OPC, and a backup OPC cannot exist.
	Slat OPC	selects the portable (SLAT) OPC. After you select SLAT OPC, you must enter the serial number of the portable OPC.
	Primary OPC/Backup OPC	transfers data from the backup OPC to primary OPC. The address of the primary OPC must be changed before the transfer, or the data transfer is denied.
Remote OPC Commissioning Data: lets you define a remote OPC so it appears on the Remote OPC list	Add remote OPC button	defines additional remote OPCs in this span of control. When you select the button, the OPC Commissioning Data dialog appears.
	Remote OPCs list	displays the remote OPCs that are defined in this span of control. The list does not include the primary OPC in this span of control.
OPC Commissioning Data: lets you define remote OPCs (outside the current span of control)	OPC Name	assigns a name to the OPC or OPC pair. OPC names must be unique within a system.
	Primary OPC serial number	specifies the serial number for the primary OPC
	Primary OPC alias	specifies an alias for the primary OPC
	Backup OPC serial number	specifies the serial number for the backup OPC. Use this field only if a backup OPC exists in the span of control.
	Backup OPC alias	specifies an alias for the backup OPC. Use this field only if a backup OPC exists in the span of control.
—continued—		

Table 9-2 (continued)
Commissioning Manager dialogs

Dialog/Description	Item	Item Description
System Commissioning Data: lets you specify system commissioning data	Network number	The network number is always 1. This field cannot be changed.
	Network name	specifies the name of the network where this fiber system is being commissioned
	System ID	The system ID is always 1. This field cannot be changed.
	System name	specifies the name of the system being commissioned. This name appears at the top of the main window.
	System type	identifies the type of system being commissioned
	OPC name	assigns a name to the OPC or OPC pair that controls the system. This field is required.
	Primary OPC serial number	specifies the serial number of the primary OPC
	Primary OPC alias	specifies the alias of the OPC. If you do not enter the OPC alias, the OPC name is used by default.
	Backup OPC serial number	specifies the serial number for the backup OPC. Use this field only if a backup OPC exists in the span of control.
	Backup OPC alias	specifies an alias for the backup OPC. Use this field only if a backup OPC exists in the span of control.
Network Element Commissioning Data: lets you enter or change commissioning data for NEs	Network element number	assigns an ID number to the NE you are commissioning
	Shelf type	identifies the equipment shelf type
	Shelf function	identifies the function of the shelf within the system
	Transmission rate	indicates the transmission rate that the shelf supports
	Shelf serial number	identifies the serial number of the shelf you are commissioning
	Software release	The OPC sets network element releases automatically. You cannot change this field. When the OPC updates the NE release, the release level appears in this field.
—end—		

Commissioning Manager tool tasks

Table 9-3 lists some of the tasks that you can perform using the Commissioning Manager tool, and indicates the book where the tasks are discussed.

Table 9-3
Tasks performed using the Commissioning Manager tool

Task	See
verifying the OPC serial number	<i>Commissioning and Testing, Volume 3</i>
entering system-level data	<i>Commissioning and Testing, Volume 3</i>
commissioning a network element	<i>Commissioning and Testing, Volume 3</i>
configuring a network element	<i>Commissioning and Testing, Volume 3</i>
transferring data to the primary OPC from another OPC	<i>Commissioning and Testing, Volume 3</i>
transferring data from the primary OPC to another OPC	<i>Commissioning and Testing, Volume 3</i>
commissioning remote OPCs	<i>Commissioning and Testing, Volume 3</i>
clearing commissioning data from the primary or backup OPC	<i>Commissioning and Testing, Volume 3</i>
de-commissioning a network element	<i>Commissioning and Testing, Volume 3</i>
transferring an existing OPC to another shelf	<i>System Expansion Procedures, 323-3001-324, in Operations, Administration, and Provisioning, Volume 4C</i>
adding a backup OPC	<i>System Expansion Procedures, 323-3001-324, in Operations, Administration, and Provisioning, Volume 4C</i>
upgrading a system from OC-3 to OC-12	<i>System Expansion Procedures, 323-3001-324, in Operations, Administration, and Provisioning, Volume 4C</i>
recovering a DFA using a portable OPC	<i>Recovery Procedures, 323-3001-545, in Maintenance, Volume 5C</i>
replacing an OPC	<i>Module Replacement Procedures, 323-3001-547, in Maintenance, Volume 5C</i>

Configuration Manager tool

The Configuration Manager lists the configurations created for a system using the Configuration Manager tool. When you select a linear (OC-3/OC-12 point-to-point) or a ring (OC-12 BLSR) configuration from the list, the tool also lets you create, display, edit, and delete configuration data for that configuration.

The Configuration Manager tool can be accessed from the following toolsets:

- Network Admin
- SLAT

For more information about the Configuration Manager tool, see “Configuration Manager tool” on page 8-10.

PGTC/MTA Provisioning Manager tool

The AccessNode universal system lets you execute either pair gain tests on the subscriber loop and channel, or metallic access tests on the customer loop. These are standard tests performed by most operating companies. Testing is supported by two pieces of equipment: the pair gain test controller (PGTC) and the metallic test access (MTA) controller. The PGTC/MTA Provisioning manager has an interface for selecting which of these tests are to be used in the current system.

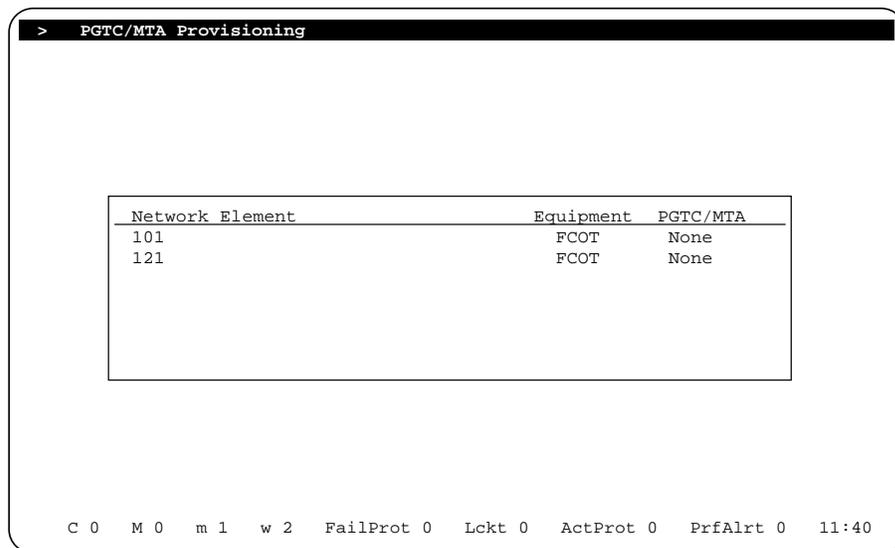
Use the PGTC/MTA Provisioning tool to display or change the test type and test options for network elements in the OPC span of control. When the tool you select from the OPC user session manager, the PGTC/MTA Provisioning main window appears.

PGTC/MTA Provisioning Manager main window

Figure 9-2 shows the PGTC/MTA Provisioning Manager main window.

Figure 9-2
PGTC/MTA Provisioning Manager main window

PC-20621



The status icon in the top left corner of the window indicates the state of the PGTC/MTA Provisioning tool.

Table 9-4 describes the PGTC/MTA Provisioning Manager main window.

Table 9-4
PGTC/MTA Provisioning Manager main window

Item	Description
Network Element list	lists the network elements in the OPC span of control. The list shows the NE ID and name, the equipment type, and the test option selected for the network element.
List item menu	gives the following commands to view the test options for the selected NE: Detail, Select, Deselect.
Status Icon	appears in the top left corner of the window. Indicates the PGTC/MTA Provisioning Tool state as follows: >• the PGTC/MTA Provisioning tool and the underlying software are operating normally. >X the PGTC/MTA Provisioning tool, or the underlying software is not operating normally. >< the PGTC/MTA Provisioning tool is busy processing information.

Provisioning Option dialog

The Provisioning Option dialog lets you define the test type and details of the test to be performed on a selected NE. Table 9-5 describes the Provisioning Option dialog.

Table 9-5
Provisioning Option dialog

Item	Description
Provisioning Option	specifies the test type. Valid values are PGTC pair gain test controller. MTA metallic test access None deactivates the test details
Remote Access Point	selects the point where the test bypass pair can be connected. Valid values are TBP Use when MTA to the customer loop is being granted to a test head at the maintenance center. External TAP 1 Use when MTA is being granted to an external remote test unit (RTU) connected to the TAP card installed at the remote location. External TAP 2 Use when metallic access is being granted to an external RTU connected to the TAP card installed at the remote location. Internal TAP 1 Use when metallic access is being granted to a test head on the integrated measurement Card installed at the remote location. Internal TAP 2 Use when MTA is being granted to a test head on the integrated measurement Card installed at the remote location. I/O card at the FCOT Used to enable or disable the TPB at the central office.
Takedown Signal	selects a positive or negative polarity for the coin control pulse to request the test results
Line Card Diagnostics	enables or disables line card diagnostics reporting.

PGTC/MTA Provisioning Manager tool tasks

Table 9-6 lists some of the tasks that you can perform using the PGTC/MTA Provisioning Manager tool. It also indicates the book where the tasks are discussed.

Table 9-6
Tasks performed using the PGTC/MTA Provisioning tool

Task	See
de-commissioning a network element	<i>Commissioning and Testing, Volume 3</i>
selecting PGTC or MTA test method	<i>Commissioning and Testing, Volume 3</i>

Event Browser tool

Use the Event Browser tool to browse the history of OPC and network element logs, alarms and alerts for a network element, OPC alarms, and to display or print detailed information about individual events.

The Event Browser tool can be accessed from the following toolsets:

- Software Admin
- Network Surveillance
- SLAT

For more information about the Event Browser tool, see “Event Browser tool” on page 6-8.

Reboot/Load Manager tool

The Reboot/Load Manager is one of several OPC tools used to manage software for network elements. This tool has a release view that supports management by release and is responsible for rebooting network elements that have requested an automatic reboot.

The Reboot/Load Manager tool can be accessed from the following toolsets:

- Software Admin
- SLAT

For more information about the Reboot/Load Manager tool, see “Reboot/Load Manager tool” on page 6-2.

OPC Alarm Provisioning tool

The OPC Alarm Provisioning tool lets you enable, inhibit, and manually clear OPC alarms. It also lets you provision

- the severity of the OPC pointer alarms
- the NE where you want to raise the OPC pointer alarms for the primary and the backup OPC

You can access the OPC Alarm Provisioning tool from the following toolsets:

- OPC Admin
- Master Admin
- SLAT

For more information about the OPC Alarm Provisioning tool, see “OPC Alarm Provisioning tool” on page 7-14.

For procedures to provision OPC alarms, see *Provisioning and Operations Procedures*, 323-3001-310, in *Operations, Administration, and Provisioning*, Volume 4B.

OPC Shutdown tool

The OPC Shutdown tool lets you shut down the OPC as part of configuration or troubleshooting activities. You must shut down the OPC whenever it is going to be physically removed from the shelf or powered off. If you do not, the OPC database can be corrupted.

The OPC Shutdown tool can be accessed from the following toolsets:

- OPC Admin
- SLAT

For more information about the OPC Shutdown tool, see “OPC Shutdown tool” on page 7-28.

OPC Date tool

The OPC Date tool lets you change the OPC time-of-day clock and the time zone where the OPC is operating. Two methods of changing the time are supported. For small adjustments of less than 30 minutes, the time is gradually adjusted with no impact on the operation of the OPC. For larger changes in time, date, or time zone, the adjustment is made immediately, but the OPC must be shut down temporarily.

The OPC Date tool can be accessed from the following toolsets:

- OPC Admin
- SLAT

For more information about the OPC Date tool, see “OPC Date tool” on page 7-30.

OS Connection Manager tool

Use the OS Connection Manager tool to define and manage OS connection profiles. Operation of these facilities depends on the terminal type in use. See “Using the OPC character-mode user interface” on page 2-1 and “Using the OPC graphical user interface” on page 3-1 for introductory and reference information on these terminal interfaces.

OS Connection Manager main window

The OS Connection Manager main window appears when you select the tool in the session manager. Within the main window, communications sessions to an OS can be connected, disconnected, or reset.

If you are the root user, you can enable and disable security mode from this window. Users other than root cannot change the security mode—the Enabled and Disabled buttons are only available to the root user.

You can use menu commands on the main window to access the OS Connection Profile dialog and the Protocol ID dialog.

Figure 9-3 shows the OS Connection Manager main window.

Figure 9-3
OS Connection Manager main window

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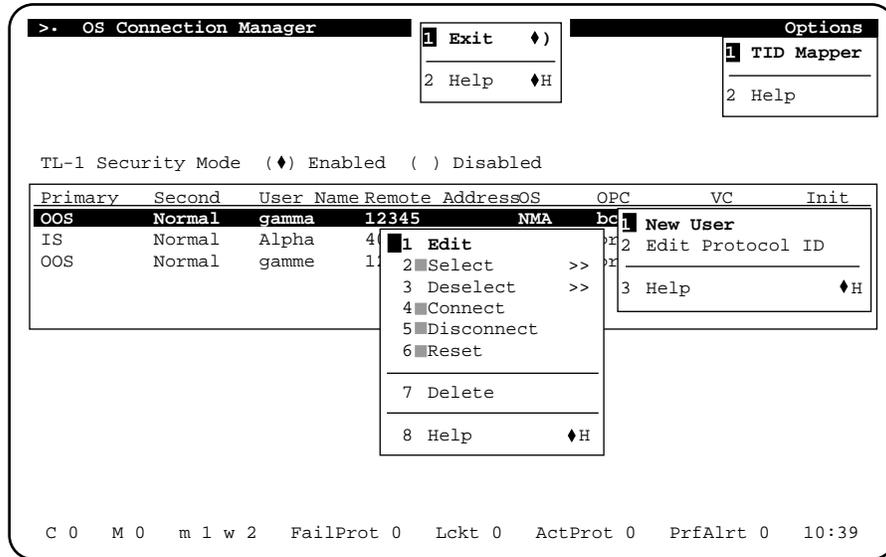


Table 9-7 describes the OS Connection Manager main window.

**Table 9-7
OS Connection Manager main window**

Item	Description
OPC menu	lets you assign or modify TID for testing and non-testing OSs.
Enable/ Disable security mode	Allows the root user to enable or disable security mode. When security mode is enabled, the ACT-USER command is required to login before other commands are accepted. When security mode is disabled, commands are accepted without the ACT-USER login (with the exception of the Security Administration commands).
OS Connection list	includes an entry for each OS connection profile. Each profile includes the following fields: <ul style="list-style-type: none"> • Primary • Second • User Name • Remote Address
Primary column	indicates whether the OS is currently connected to the OPC. Values are IS (in service) or OOS (out of service).
Second column	indicates transition states in connections between the OS and OPC.
User name column	indicates a user associated with an OS connection.
Remote Address column	displays the X.121 address of the remote operations system.
OS column	indicates the type of operations system supported by the connection. Possible values are NMA network monitoring and administration OPSINE Operational processing system/intelligent network element SARTS switched analog remote test system DARTS digital analog remote test system
OPC column	indicates that the OPCs are connected to the operations system. Possible values are "prime" and "bckup".
VC column	Indicates the type of virtual circuit (vc) that is used for the OS connection. Only the value "swtch" is valid.
—continued—	

Table 9-7 (continued)
OS Connection Manager main window

Item	Description
Init column	indicates the initiator of the connection between the OPC and the OS. Only the value "inbnd" (initiated by the OS) is valid. Init is specified in the OS Connection Profile dialog.
OS Connection list item menu	contains the following commands: <ul style="list-style-type: none"> • New User • Edit Protocol ID.
New User	defines a new OS connection profile.
Edit Protocol ID	defines the size and value of the protocol identifier. This field is required if more than one OPC application is receiving X.25 packets.
OS Connection list item menu	contains the following menu commands that apply to the selected OS connection entries: <ul style="list-style-type: none"> • Edit • Select • Deselect • Disconnect • Reset • Delete
—end—	

OS Connection Manager dialogs

Table 9-8 describes the dialogs that are available through the OS Connection Manager tool.

**Table 9-8
OPC Connection Manager dialogs**

Dialog/Description	Item	Description
OS Connection Profile: lets you define OS connection profiles	User Name field	indicates a user associated with the OS connection. This user name does not have to be unique.
	Remote Address field	indicates the X.121 address of the remote operations system.
	Virtual Circuit Type	selects the virtual circuit type that is used for the OS connection.
	Initialization Type buttons	selects the initiator of the connection between the OPC and the operations system.
	OS Type buttons	selects the OS type supported by the connection.
	Physical OPC buttons	identifies which OPC is connected to the OS.
Protocol ID: lets you define protocol IDs	Size in Bytes field	defines the size of the protocol ID.
	Protocol ID Bytes field	displays the protocol ID, consisting of a number of pairs of hexadecimal digits. The OPC administrator defines the values of the hexadecimal digits.
	OK	saves all the information that you entered.
TID Mapper: displays all the NEs commissioned in the system	Network Element list	displays each commissioned NE. For each NE, the assigned NE Name and any previously specified TID appear.
	Network Element list item menu	displays the TID Editor, which lets you modify the testing-testing OS TIDs.
TID Editor: modifies the OS identifiers for the selected NE.	NE ID	displays the NE ID numbers.
	NE Name	displays the name of the NE.
	Testing OS TID	specifies the current TID identifier for the Testing OSs (SARTS, DARTS, and ITS).
	Non Testing OS TID	specifies the current TID identifier for the non-testing OSs (NMA, OPS/INE, ISNMS, and NEC).
	OK	accepts your changes and closes the TID Editor dialog.
	Cancel	closes TID Editor dialog without saving your changes.

OS Connection Manager tool tasks

Table 9-9 lists some of the tasks that you can perform using the OS Connection Manager tool. It also indicates the book where the tasks are discussed.

Table 9-9
Tasks performed using the OS Connection Manager tool

Task	See
connecting to and disconnecting from an operations system	<i>System Administration Procedures</i> , 323-3001-302, in this volume
enabling and disabling security mode (can be performed by the root user only)	<i>System Administration Procedures</i> , 323-3001-302, in this volume
resetting a virtual connection to an operations system	<i>System Administration Procedures</i> , 323-3001-302, in this volume
creating, modifying, and deleting an OS connection profile	<i>System Administration Procedures</i> , 323-3001-302, in this volume
modifying the protocol identifier for an OS connection	<i>System Administration Procedures</i> , 323-3001-302, in this volume
assigning or modifying TIDs for testing or surveillance and provisioning	<i>System Administration Procedures</i> , 323-3001-302, in this volume

Network Surveillance Toolset

This chapter describes the functions of each of the Network Surveillance tools and shows the main windows and menus. The following table describes the tools.

Tool	Description	See
Alarm Monitor	monitors alarm counts for the OPC, for all network elements (NE), or for specific NEs in the operations controller (OPC) span of control, and views and prints detailed information about individual alarms	page 10-2
Network Summary	monitors changes in the total count of alarms, protection switching, and performance alerts for the OPC, the network, or for individual NEs	page 10-7
Event Browser	browses the history of OPC and NE logs, alarms, and alerts for a network element, and displays or prints detailed information about individual events	page 10-11
Network Browser	views network status information that includes alarm, protection, and performance data about all NEs and OPC alarms.	page 10-12
Protection Manager	views the current protection status for network elements	page 10-15

Note: During periods of peak processing, some user interface screens may not be dynamically updated because traffic and fault handling activities are a priority. To update a screen, back out of it, then reenter the screen. An up-to-date equipment or facility status will appear.

Alarm Monitor tool

Use the Alarm Monitor tool to watch the alarm counts and to view and print detailed information about individual alarms. You can see the alarm counts for all the NEs in the OPC span of control or only for the NEs that you select. An additional line displays OPC alarms. The network view banner and the user view banner include alarm counts for OPC alarms. For more information on the Alarm Monitor tool, see *Network Surveillance Procedures, 323-3001-510*, in *Maintenance, Volume 5C*.

Alarm Monitor main window

Figure 10-1 shows the Alarm Monitor main window.

Figure 10-1
Alarm Monitor main window

SC-10238

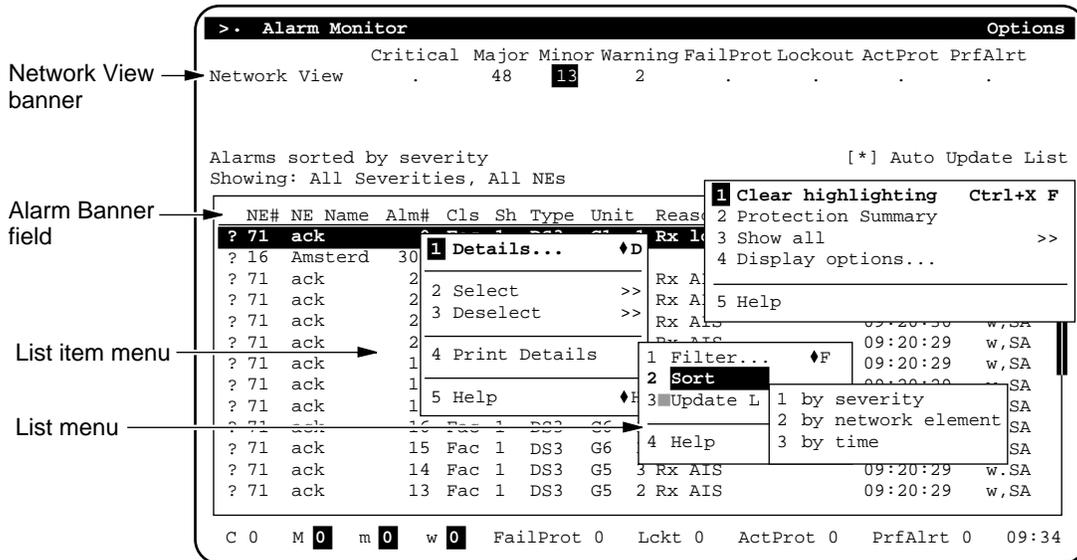


Table 10-1 describes the main items in the Alarm Monitor main window.

Table 10-1
Items in Alarm Monitor main window

Item	Description
Alarm Banner field	customizes the user view of the alarm banner. Use the Display option commands from the Tool menu to deselect the network elements you do not need to monitor.
Tool menu	performs various functions in Alarm Monitor
Network View Banner	displays the number of existing alarms. When a new alarm occurs, the count in the appropriate field increases and the field is highlighted. This happens even when existing alarms are raised or lowered in severity.
User View Banner line	does not appear if no user view is defined or if the user view is equivalent to the Network View
Protection Banner field	reflects a change in protection status
Alert banner field	shows the arrival of a new performance alert by increasing the field count and highlighting the field
Alarms list	shows a one-line alarm summary for each active alarm in the OPC span of control. "?" indicates the alarm is suspect because of loss of communication or other conditions. "+" indicates a new alarm since the tool was started or highlighting was last cleared.
Auto Update List button	specifies whether to automatically refresh the alarms list
Alarms list menu	lets you filter, sort, or update the list
List item menu	lets you display or print additional details about an alarm

Alarm Monitor dialogs

Table 10-2 describes the dialogs that are available through the Alarm Monitor tool.

Table 10-2
Alarm Monitor dialogs

Dialog/Description	Item	Item Description
Alarm Details: displays a history of the alarm.	Basic alarm details	displays the following basic information for all types of alarms: <ul style="list-style-type: none"> • Alarm # • Unit • Address • Location • Reason • Severity • Imp • Time • Date • Class
	Protection switch alarms	indicates why the protection switch took place. Fields are <ul style="list-style-type: none"> • SwTrigger • Reached
	Protection fail alarms	describes the reason for the protection switch failure. This alarm occurs when a protection switch fails. The field is SwFail.
	Invalid neighbor alarm	indicates that a network element (NE) at the end of a fiber span, in comparing node names with a neighboring NE, detected an node name that does not appear on the node list. The fields are: <ul style="list-style-type: none"> • Detected • Expected
	Intercard alarms	identifies the line cards that terminate a failed link when the link fails. These alarms identify the primary and secondary cards in the link. The primary card is the card that caused the link failure; the secondary card is the card at the opposite end of the link. The fields are: <ul style="list-style-type: none"> • Primary • Secondary
—continued—		

Table 10-2 (continued)
Alarm Monitor dialogs

Dialog/Description	Item	Item Description
Alarm List Filter: lets you customize the alarms that appear in the Alarms list.	Number of Alarms	sets a maximum number of alarm summaries (up to 500) that can appear in your Alarms list at one time.
	Network Elements list	adds or removes alarms from specific NEs or from the OPC to or from your Alarms list.
	Severity	selects the types of alarms that can appear in your Alarms list. You can select more than one alarm in any combination. The default selection is all alarm types except warning
	from: and to:	selects alarms to display in the Alarms list by date and time. If either field is blank, the tool does not use that parameter. For example, to show only alarms raised since March 9, 1990,: use "from: 09 Mar 1990 to:"
Alarm Monitor Display Options: lets you customize the feedback that accompanies new alarms.	Feedback for new alarms: Beeps	specifies up to five beeps to signal a new alarm in addition to highlighting the alarm. You can set this option for each alarm severity shown.
	Network Elements in the user view	adds or removes NEs from your user view. You can select more than one NE at a time to add or remove. The word "Included" is displayed beside the NEs in user view.
Protection Summary: displays a detailed summary of the protection counts for each network element.	Network Element list	identifies the protection event. It specifies the NE, the shelf, and the service type for each kind of protection event.
—end—		

Alarm Monitor tool tasks

Table 10-3 lists some of the tasks that you can perform using the Alarm Monitor tool. It also indicates the book where the tasks are discussed.

Table 10-3
Tasks performed using the Alarm Monitor tool

Task	See
installing ESI equipment	<i>System Expansion Procedures</i> , 323-3001-324, in <i>Operations, Administration, and Provisioning</i> , in Volume 4C
displaying alarms	<i>Network Surveillance Procedures</i> , 323-3001-510, in <i>Maintenance</i> , Volume 5C
sorting, filtering, modifying, and updating the alarms list	<i>Network Surveillance Procedures</i> , 323-3001-510, in <i>Maintenance</i> , Volume 5C
printing alarm details	<i>Network Surveillance Procedures</i> , 323-3001-510, in <i>Maintenance</i> , Volume 5C
displaying the network protection summary	<i>Network Surveillance Procedures</i> , 323-3001-510, in <i>Maintenance</i> , Volume 5C
defining a user view of the network	<i>Network Surveillance Procedures</i> , 323-3001-510, in <i>Maintenance</i> , Volume 5C

Network Summary tool

Use the Network Summary tool to watch for changes in the total count of alarms, protection switching, and performance alerts for the network, for individual network elements. This includes both cleared alarm counts and incoming new alarms from the network elements in your network. An additional line displays a summary for OPC alarms.

After you identify an alarm, you must log in to the affected network element to get more details about it or clear it. For more information about this tool, see *Network Surveillance Procedures*, 323-3001-510, in *Maintenance*, Volume 5C.

For more information about OPC alarms, see “OPC Alarm Provisioning tool” on page 7-14.

Network Summary main window

Figure 10-2 shows the Network Summary VT100 / CMT main window.

Figure 10-2
Network Summary main window

SC-10307

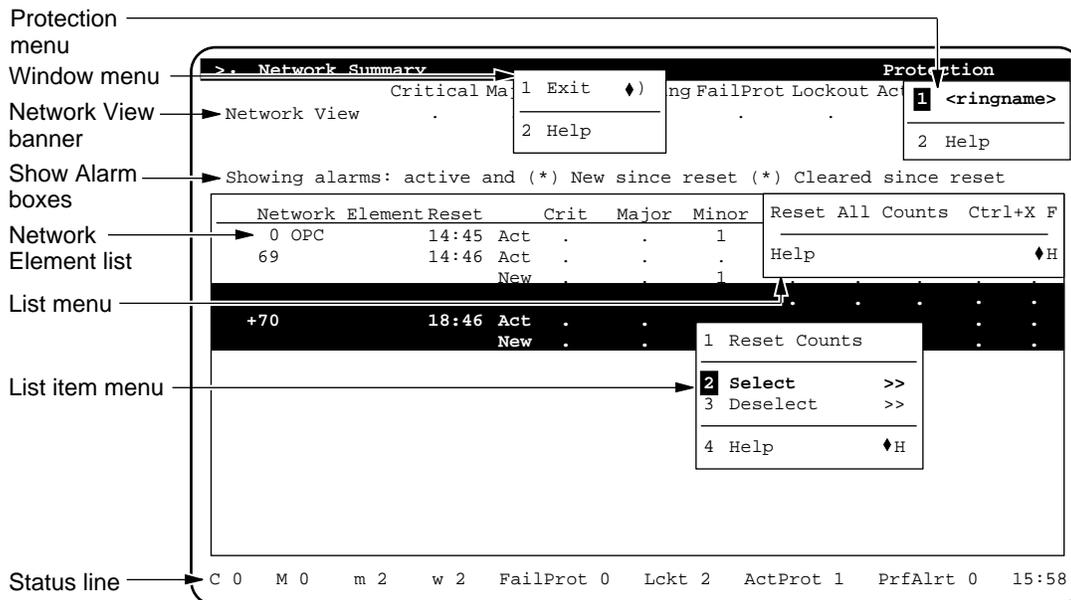


Table 10-4 describes the Network Summary main window.

Table 10-4
Network Summary main window

Window Item	Description
Protection menu	displays the Protection Menu using the keyboard sequence Ctrl_L T (or Keypad ,) for the VT-100 user interface. Protection menu is disabled.
Network View banner fields	<p>displays the alarm counts for the network, including any OPC alarms. When a new alarm is raised or an existing alarm is cleared, the appropriate banner field is updated. The field is highlighted in reverse video and the count increases or decreases.</p> <p>The banner is divided into eight alarm fields. A dot in any field indicates that the alarm count is zero. The eight fields are:</p> <ul style="list-style-type: none">• Critical• Major• Minor• Warning• FailProt• Lockout• ActProt• PrfAlrt
Showing alarms check boxes	allows you to customize the Network Element Alarm Count list. To display new alarms, select the New since reset check box. To display cleared alarms, select the Cleared since reset check box.
—continued—	

Table 10-4 (continued)
Network Summary main window

Window Item	Description
Network Element Alarm Count list	<p>shows all NEs and their associated alarm counts. An additional line shows the OPC alarm counts. When the list first displays, and active alarm count appears for each item. If you select the New since reset check box, new alarms that appeared since the reset time are displayed. If you select the Cleared since reset check box, alarms cleared since the reset time are displayed.</p> <p>The Reset column shows the start time for collecting alarms. The Act fields show the number of active alarms in the system. The New fields indicate the total number of new alarms since the Reset time. Cleared alarms remain displayed in the Clr field until the alarm count is reset to the current time.</p> <p>You can reset new and cleared alarm counts for the OPC, all NEs, or selected NEs to zero through the Alarm Count list menu or list item menu.</p> <p>The list does not immediately update if any NEs are deleted or added to the network while this tool is open. You must close the tool and reopen it to reflect any changes.</p> <p>The following columns identify total alarm counts for the network and for individual network elements:</p> <ul style="list-style-type: none"> • Network Element • Minor • Lock • Reset • Warn • Act • Crit • Fail • Prf • Major
Status line	summarizes all alarms and alerts in the system (for the VT-100 user interface).
—end—	

Network Summary tool tasks

Table 10-5 lists some of the tasks that you can perform using the Network Summary tool. It also indicates the book where the tasks are discussed.

Table 10-5
Tasks performed using the Network Summary tool

Task	See
performing optical protection-switching tests	<i>Commissioning and Testing</i> , Volume 3
displaying the protection status of a ring	<i>Protection Switching Procedures</i> , 323-3001-311, in <i>Operations, Administration, and Provisioning</i> , in Volume 4B
operating or releasing a lockout	<i>Protection Switching Procedures</i> , 323-3001-311, in <i>Operations, Administration, and Provisioning</i> , in Volume 4B
operating or releasing a forced or manual protection switch	<i>Protection Switching Procedures</i> , 323-3001-311, in <i>Operations, Administration, and Provisioning</i> , in Volume 4B
running or scheduling the exerciser for all ADMs in a ring or for a single ADM	<i>Protection Switching Procedures</i> , 323-3001-311, in <i>Operations, Administration, and Provisioning</i> , in Volume 4B
identifying a change in network status	<i>Network Surveillance Procedures</i> , 323-3001-510, in <i>Maintenance</i> , Volume 5C
customizing and resetting the alarm count list	<i>Network Surveillance Procedures</i> , 323-3001-510, in <i>Maintenance</i> , Volume 5C

Event Browser tool

Use the Event Browser tool to browse the history of OPC and network element logs, alarms and alerts for a network element, OPC alarms, and to display or print detailed information about individual events.

The Event Browser tool can be accessed from the following toolsets:

- Software Admin
- Network Surveillance
- SLAT
- Surveillance (View)

For more information about the Event Browser tool, see “Event Browser tool” on page 6-8.

Network Browser tool

Use the Network Browser tool to view network status information about the OPC and all the network elements. The information includes alarm, protection, and performance data. You can also use this tool to display a summary of protection switching data, or get detailed information about a shelf in a network element. For more information on this tool, see *Network Surveillance Procedures*, 323-3001-510, in *Maintenance*, Volume 5C.

Network Browser main window

The Network Element list on the Network Browser main window displays a one-line summary of all alarms, protection data, and performance alerts for each NE in the OPC span of control. An additional line includes summary information about OPC alarms. For more information about OPC alarms, see “OPC Alarm Provisioning tool” on page 7-14.

Figure 10-3 shows the Network Browser main window with all menus displayed.

Figure 10-3
Network Browser main window

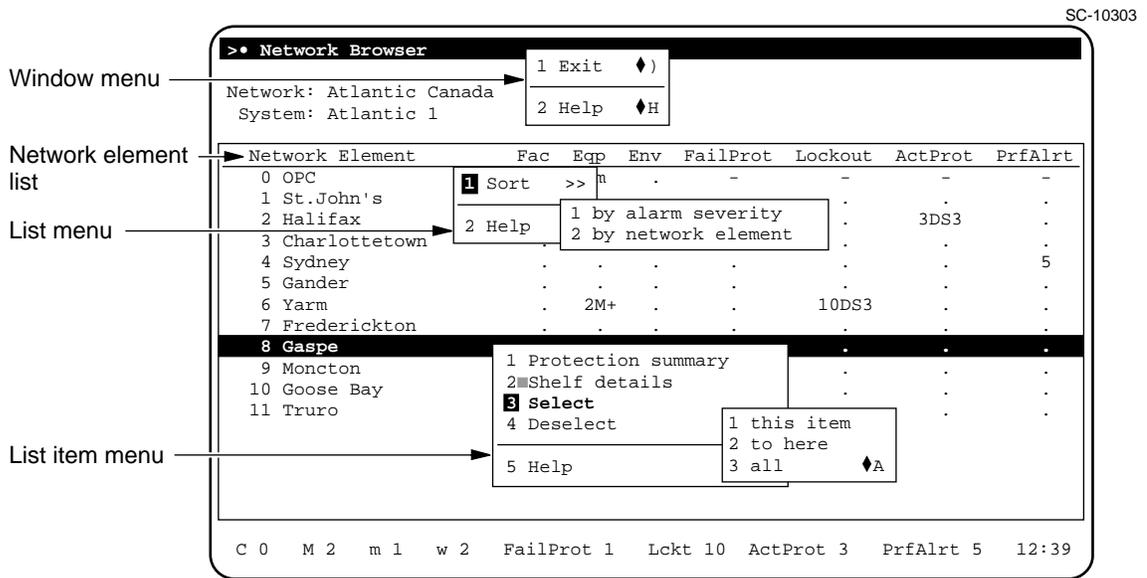


Table 10-6 describes the Network Browser main window.

Table 10-6
Network Browser main window

Item	Description
Network Element list	<p>displays a one-line summary of all alarms, protection data, and performance alerts for each NE in the OPC span of control. An additional line displays a summary of OPC alarms. Column symbols include:</p> <ul style="list-style-type: none"> • “?” shows an association to an AN NE in an OPC’s span of control has been lost • “C” for critical • “M” for major • “m” for minor • “w” for warning • “+” for one or more additional alarms of low severity • “.” for zero alarms or alerts <p>The Facility, Equipment, and Environment columns show summary counts of alarms of all severity for the OPC and for each NE. The FailProt, Lockout, and ActProt columns summarize the counts of all protection events for the NE. The PrfAlert column summarizes the counts of all performance threshold crossings that are reported as alerts for the network element.</p>

Network Browser dialogs

Table 10-7 describes the dialogs that are available through the Network Browser tool.

Table 10-7
Network Browser dialogs

Item	Description
Network Element list	identifies the protection event by specifying the network element, shelf, and service type, as well as the kind of protection event.
Shelf Details	displays details information about a shelf in a NE. It displays the location identifier of the shelf, the serial number, booting parameters, and backup parameters. For users of the CMT version of the Network Browser, the shelf type and function appear here rather than in the main window.

Network Browser tool tasks

Table 10-8 lists some of the tasks that you can perform using the Network Browser tool. It also indicates the book where the tasks are discussed.

Table 10-8
Tasks performed using the Network Browser tool

Task	See
surveying the network	<i>Network Surveillance Procedures, 323-3001-510, in Maintenance, Volume 5C</i>
sorting the network element list	<i>Network Surveillance Procedures, 323-3001-510, in Maintenance, Volume 5C</i>
displaying detailed information about a shelf	<i>Network Surveillance Procedures, 323-3001-510, in Maintenance, Volume 5C</i>
displaying the network protection summary	<i>Network Surveillance Procedures, 323-3001-510, in Maintenance, Volume 5C</i>

Protection Manager tool

Use the Protection Manager tool to view protection switching information about all the network elements in the OPC span of control. The information includes alarm, protection, and performance data. You can also use this tool to display a summary of protection switching data, or get detailed information about a shelf in a network element. If you have the proper authority, you can perform protection switches or exercise an NE. For more information on this tool, see the *Protection Switching Description, 323-3001-103*, in *Description, Volume 2A*.

The Protection Manager tool can be accessed from the following toolsets:

- Network Surveillance
- Surveillance (View)

Protection Manager main window

The Network Element list on the Protection Manager main window displays a one-line summary of all protection switching for each NE in the OPC span of control.

Figure 10-4 shows the Protection Manager main window.

Figure 10-4
Protection Manager main window

SC-10314

The screenshot shows a window titled "X Protection Manager". At the top, it displays "OC-12 2F BLSR Ring Protection" and "Configuration : TBM Ring". Below that, it shows "Protection scheme : 2-Fiber BLSR" and "Switch mode : Bi-directional".

Network Element	CPG	State	LckW	LckP	Frce	POC	Auto	Man	Exr	ET
■ 86 MDE	G2	IS Act	.	.	.	.	.	.	Off	-
	G1	IS Act	.	.	.	.	.	.		-
89	G2	IS Stdby	.	.	.	.	.	.	Off	-
	G1	IS Prot	.	.	.	.	.	.		-
92 CURLY	G2	IS Stdby	.	.	.	.	.	.	Off	-
	G1	IS Prot	.	.	.	.	.	.		-

At the bottom of the window, there is a filter prompt: "[Filter F1 Select the configuration(s) to display in the list". Below the table, there is a status bar with the following information: "C 2 M 5 m 10 w 1 FailProt 1 Lckt 0 ActProt 0 PrfAlrt 0 16:09".

Table 10-9 describes the Protection Manager main window.

Table 10-9
Items in Protection Manager main window

Item	Description
Network Element list	<p>displays a one-line summary of all protection switching data for each NE in the OPC span of control.</p> <p>The CPG and State columns summarize the circuit pack group (CPG) and the state of the CPG.</p> <p>The LckW, LckP, Frce, POC, Auto and Man columns indicate the status of the specified protection request.</p> <p>The Exr column indicates whether the exerciser is in progress for the selected NE. It is either On or Off.</p>
Item menu	lets you schedule exercisers or exercise all included configurations.
List item menu	lets you get details of a network element, lockout working or protection traffic handling by a circuit pack, operate or release a forced or manual switch, exercise a network element, exercise a configuration, select or deselect a network element.
Filter	lets you specify configurations to be included by the exerciser and on the main window list.

Protection Manager dialogs

Table 10-10 describes the dialogs that are available through the Protection Manager tool.

Table 10-10
Protection Manager dialogs

Item	Description
Network Element list	lists each CPG for each NE in the included configurations with a one-line summary of all protection switching and exerciser events.
Details	provides provisioning and configuration details of all the NEs in a configuration, including scheme, mode, provisioned wait-to-restore (WTR) period, and route diversity. If, in OC-48 systems, the wait-to-restore field displays eWTR (extended wait-to-restore mode), you must log in to the NE to query the status.
Exerciser Schedule list	displays the schedule data of an ADM or NE. You can edit the schedule for any ADM or NE in the list. The data includes the frequency, start time, start date, stop time, and stop date for the commissioned two fiber ring ADMs, four fiber ring ADMs, or linear NEs, depending on which one is supported. You cannot edit ring ADMs that are outside the OPC's span of control.

Protection Manager tool tasks

Table 10-11 lists some of the tasks that you can perform using the Protection Manager tool. It also indicates the book where the tasks are discussed.

Table 10-11
Tasks performed using the Protection Manager tool

Task	See
running the exerciser for a ring	<i>Protection Switching Description</i> , 323-3001-103, in <i>Description</i> , Volume 2A
operating or releasing a lockout	<i>Protection Switching Description</i> , 323-3001-103, in <i>Description</i> , Volume 2A
operating or releasing a forced or manual protection switch	<i>Protection Switching Description</i> , 323-3001-103, in <i>Description</i> , Volume 2A
operating or releasing a protection oscillation control switch	<i>Protection Switching Description</i> , 323-3001-103, in <i>Description</i> , Volume 2A
operating or releasing an automatic ring protection switch	<i>Protection Switching Description</i> , 323-3001-103, in <i>Description</i> , Volume 2A
identifying a change in network protection switching status	<i>Protection Switching Description</i> , 323-3001-103, in <i>Description</i> , Volume 2A

Provisioning Administration Toolset

This chapter describes the functions of each of the Provisioning Administration tools and shows the main windows and menus. The following table describes the tools.

Tool	Description	See
Provisioning Manager	provisions locally switched, non-locally switched, and non-switched circuits that pass through virtual tributary bandwidth manager (VTBM) ring, point-to-point, DS1-fed, and single-ended topologies	page 11-2
Default Provisioning Manager	specifies a range of end-to-end circuits in an AccessNode system and provisions those circuits with the plain old telephone service (POTS) default circuit type and service code	page 11-9
Host Provisioning Manager	assigns a remote fiber terminal (RFT) and fiber central office terminal (FCOT) pair to multiple host switches	page 11-12
Connection Manager	defines STS-1 and VT 1.5 connections within a ring or STS-1 connections in a point-to-point configuration	page 11-12
TR-08 Default Provisioning Manager	bulk-provisions end-to-end circuits in an AccessNode system assigned to a TR-08 system	page 11-13
Alarm Provisioning Manager	sets line card trouble events as either logs or alarms for a group of network elements (NEs) within the operations controller (OPC) span of control, a single NE, or a line card on a NE	page 11-16

Note: During periods of peak processing, some user interface screens may not be dynamically updated because traffic and fault handling activities are a priority. To update a screen, back out of it, then reenter the screen. An up-to-date equipment or facility status will appear.

Provisioning Manager tool

Use the Provisioning Manager to manage the provisioning of locally switched, non-locally switched, and non-switched circuits that pass through Virtual Tributary Bandwidth Manager (VTBM) ring, point-to-point, DS1-fed, and single-ended topologies.

The Provisioning Manager can be used to configure a wide variety of Plain Old Telephone Service (POTS) and non-POTS circuit types. Using the Provisioning Manager, you can add, detail (edit) or delete Universal Digital Loop Carrier (UDLC), DS1 Tandem channel, TR-08 channel, Tandem VT channel, and TR-08 VT channel circuits.

Note 1: The Provisioning Manager cannot add, detail, or delete integrated circuits.

Note 2: The Provisioning Manager tool does not support Universal Edge 9000 (UE9000) equipment. For information on provisioning UE9000 equipment, see the *UE9000 Voice OAM&P User Guide*.

Note 3: The Provisioning Manager tool does not support ANX equipment. For information on provisioning ANX equipment, see *AccessNode Express Commissioning and OAM&P*, 323-3051-220, in the *AccessNode Express Volume*.

The Provisioning Manager Tool acts as an inventory for circuits provisioned by the tool on the NEs under the span of control of a specific OPC. For more information about viewing the circuit information, see *Line Card Provisioning Procedures*, 323-3001-315, in *Operations, Administration, and Provisioning*, Volume 4B.

Universal circuits can be symmetrical or asymmetrical. Symmetrical circuits have endpoints that extend from the same physical shelf or slot locations in the FCOT and RFT. Asymmetrical circuits have endpoints that extend from different shelf or slot locations in both the FCOT and RFT.

DS1 tandem and DS1 TR-08 circuits have a line card shelf and slot endpoint in the RFT and extend to a DS0 termination in a DS1/VT Mapper in the FCOT.

When a provisioning session ends, any partially created circuits are automatically deleted when you close the Provisioning Manager tool.

Endpoint types specify the physical connectivity of either endpoint of a circuit. Each circuit has two endpoints. At least one endpoint must be a copper-distribution shelf (CDS) line card type. The endpoints of a circuit are referred to as End A and End Z and can be interchanged.

Table 11-1 shows the endpoint types supported for each system.

Table 11-1
Endpoint types supported for each system

Topology	End A Type	End Z Type
ABM/ABM point-to-point	CDS line card DS1 Tandem channel TR-08 channel	CDS line card
	CDS line card	CDS line card DS1 Tandem channel TR-08 channel
TBM/ABM point-to-point	DS1 Tandem channel TR-08 channel	CDS line card
	CDS line card	DS1 Tandem channel TR-08 channel
DFA/RFT	DS1 Tandem channel TR-08 channel	CDS line card
	CDS line card	DS1 Tandem channel TR-08 channel
Single-ended RFT	DS1 Tandem VT channel TR-08 VT channel	CDS line card
	CDS line card	DS1 Tandem VT channel TR-08 VT channel
VTBM Ring	DS1 Tandem channel TR-08 channel	CDS line card
	CDS line card	DS1 Tandem channel TR-08 channel

Provisioning Manager main window

Table 11-2 describes the Provisioning Manager main window.

**Table 11-2
Provisioning Manager main window**

Item	Description
Operations menu	lets you add, delete, or modify circuits within a system. Each selection brings up a dialog.
View menu	lets you select the sort option of the circuit inventory on the Main window.

Provisioning Manager dialogs

Table 11-3 describes the dialogs that are available through the Provisioning Manager tool.

**Table 11-3
Provisioning Manager dialogs**

Dialog/Description	Item	Description
Specify Circuit for Add: lets you select the type of circuit to add	End A Type	specifies the type of circuit you are adding
	End Z Type	This value is always CDS Line Card.
	NE	describes the FCOT or the remote NEs within the OPC span of control
	Shelf	identifies the physical shelf that has the card that supports this type of circuit
	Slot	identifies the physical slot in the common equipment (CE) shelf where the card is inserted.
	Port	identifies a specific DS1 circuit on the DS1 card
	DS0 Channel	identifies a specific channel within the DS1 circuit
	VT group	identifies the VT group in the STS-1 that you are provisioning
	VT number	identifies the VT number within the VT group
—continued—		

Table 11-3 (continued)
Provisioning Manager dialogs

Dialog/Description	Item	Description
Add Circuit: lets you create and add new circuits	Circuit ID	specifies the common language circuit identifier
	FCOT Loop Type and Service Code	represents the possible values for determining the valid service codes available
	FCOT line termination attribute form	describes the characteristics of the selected circuit type
	RFT, Shelf, and Slot	automatically filled in based on the corresponding specification dialog
	RFT Loop type	represents the possible values for determining the valid service codes available.
	ServCode	describes all of the existing analog line termination service codes defined for a system.
	RFT line termination attribute form	includes all of the parameters for the selected RFT service code
Specify Circuit for Details: lets you specify the circuit you want to retrieve	Circuit type options	specifies the circuit type to be modified
	CD Shelf	displays the CDS number where the line card is located
	Slot	displays the physical location of the slot in the CD shelf for CDS where the line card is inserted
	Port	identifies a specific DS1 circuit on the DS1 card
	Channel	describes a specific channel within the DS1 circuit
	VT group	refers to the VT group in the STS-1 that you are provisioning
	VT number	refers to the VT number within the VT group
—continued—		

Table 11-3 (continued)
Provisioning Manager dialogs

Dialog/Description	Item	Description
Circuit Details: lets you edit existing circuit information	Circuit ID	specifies the common language circuit identifier
	FCOT Loop Type and Service Code	represents the possible values for determining the valid service codes available
	FCOT line termination attribute form	describes the characteristics of the selected circuit type
	RFT, Shelf, and Slot	automatically filled in based on the corresponding specification dialog
	RFT Loop type	represents the possible values for determining the valid service codes available.
	ServCode	describes all of the existing analog line termination service codes defined for a system.
	RFT line termination attribute form	includes all of the parameters for the selected RFT service code
Specify Circuit for Delete: lets you choose a circuit to delete	Circuit type options	specifies the circuit type to be modified
	CD Shelf	displays the CDS number where the line card is located
	Slot	displays the physical location of the slot in the CD shelf for CDS where the line card is inserted
	Port	identifies a specific DS1 circuit on the DS1 card
	Channel	describes a specific channel within the DS1 circuit
	VT group	refers to the VT group in the STS-1 that you are provisioning
	VT number	refers to the VT number within the VT group
—end—		

Provisioning Manager tool tasks

Table 11-4 lists some of the tasks that you can perform using the Provisioning Manager tool. It also indicates the book where the tasks are discussed.

Table 11-4
Tasks performed using the Provisioning Manager tool

Task	See
configuring a network element	<i>Commissioning and Testing, Volume 3</i>
provisioning the DMS SuperNode host switch for TR-08 line testing	<i>Commissioning and Testing, Volume 3</i>
verifying the IRTU setup for CALRS	<i>Commissioning and Testing, Volume 3</i>
deleting a copper-distribution shelf	<i>Provisioning and Operations Procedures, 323-3001-310, in Operations, Administration, and Provisioning, Volume 4B</i>
adding, modifying, and deleting circuits	<i>Line Card Provisioning Procedures, 323-3001-315, in Operations, Administration, and Provisioning, Volume 4B</i>
changing the automatic gain control setting	<i>Line Card Provisioning Procedures, 323-3001-315, in Operations, Administration, and Provisioning, Volume 4B</i>
removing a line termination or a line card	<i>Line Card Testing Procedures, 323-3001-316, in Operations, Administration, and Provisioning, Volume 4B</i>
lining up a 2-wire special service circuit	<i>Line Card Testing Procedures, 323-3001-316, in Operations, Administration, and Provisioning, Volume 4B</i>
lining up a 4-wire or 6/8-wire special service circuit	<i>Line Card Testing Procedures, 323-3001-316, in Operations, Administration, and Provisioning, Volume 4B</i>
performing an end-to-end level test	<i>Line Card Testing Procedures, 323-3001-316, in Operations, Administration, and Provisioning, Volume 4B</i>
testing analog special services on DS1 tandem	<i>Line Card Testing Procedures, 323-3001-316, in Operations, Administration, and Provisioning, Volume 4B</i>
testing DDS (OCUDP) on DS1 tandem	<i>Line Card Testing Procedures, 323-3001-316, in Operations, Administration, and Provisioning, Volume 4B</i>
—continued—	

Table 11-4 (continued)
Tasks performed using the Provisioning Manager tool

Task	See
performing DX, E&M, and PLR signaling tests	<i>Line Card Testing Procedures, 323-3001-316, in Operations, Administration, and Provisioning, Volume 4B</i>
moving a DS1/VT mapper (GR-303 or DS1 tandem)	<i>System Expansion Procedures, 323-3001-324, in Operations, Administration, and Provisioning, Volume 4C</i>
—end—	

Default Provisioning Manager tool

Use the Default Provisioning Manager tool to specify a range of end-to-end circuits in an AccessNode system and to provision those circuits with the plain old telephone service (POTS) default circuit type and service code. The Default Provisioning tool main window is divided into the following two circuit termination areas:

- fiber central-office terminal (FCOT)
- remote fiber terminal (RFT)

All circuits provisioned with this tool are assigned the following default circuit attributes:

- point-to-point universal circuit type
- 2-wire POTS service code

You can provision up to 672 AccessNode universal circuits at once with the Default Provisioning Manager. You can provision a range of circuits by specifying all slots within a range of shelves, or a range of slots within a particular shelf.

Note 1: The Default Provisioning Manager tool does not support Universal Edge 9000 (UE9000) equipment. For information on provisioning UE9000 equipment, see the *UE9000 Voice OAM&P User Guide*.

Note 2: The Provisioning Manager tool does not support ANX equipment. For information on provisioning ANX equipment, see *AccessNode Express Commissioning and OAM&P*, 323-3051-220, in the *AccessNode Express Volume*.

The default provisioning operation does not affect existing circuits. If a specified slot already has a provisioned circuit, that circuit is not changed. An information dialog is generated to indicate these conditions, after the provisioning operation is completed.

Default Provisioning Manager main window

Figure 11-1 shows the Default Provisioning Manager main window.

Figure 11-1
Default Provisioning Manager main window

PC-22173

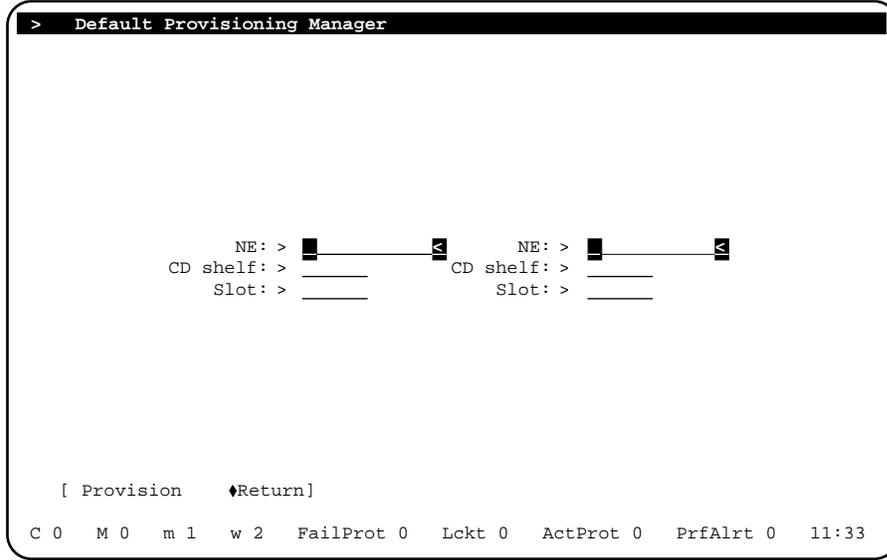


Table 11-5 describes the Default Provisioning Manager main window.

Table 11-5
Default Provisioning Manager main window

Item	Description
NE (FCOT)	defines the central office network element (NE) where the default circuits are to be provisioned
NE (RFT)	defines the remote NE where the default circuits are to be provisioned
CD shelf	specifies the shelf in the FCOT or RFT that has the line card circuit packs for the default circuit provisioning operation. To enter a range of shelves, enter the first shelf number in the range, followed by a dash, then the last shelf number in the range.
Slot	specifies a single slot or range of slots within a single specified shelf. To specify a range of slots, enter the first slot number in the range, followed by a dash, then enter the last slot number in the range.
Provision button	initiates the default provisioning process

Default Provisioning Error Browser

The Default Provisioning Error Browser appears only when an exception occurs during the circuit provisioning process. It lists all circuits that could not be created during the provisioning operation. An error text string explains the circuit creation problem.

Table 11-6 describes the Default Provisioning Error Browser dialog.

Table 11-6
Default Provisioning Error Browser dialog

Item	Description
NE ID and Name (FCOT)	displays the central office NE identifier and name where the exception occurred
Shf	identifies the copper-distribution shelf (CDS) where the exception occurred
SlT	identifies the slot where the exception occurred. These slots contain the endpoint equipment (for example, line cards).
RFT	identifies the remote NE identifier and name where the exception occurred
Error Text	gives a short explanation of why the provisioning of the defined circuit failed (for example, the defined equipment has already been provisioned)

Default Provisioning Manager tool task

Table 11-7 lists one of the tasks that you can perform using the Default Provisioning Manager tool. It also indicates the book where the task is discussed.

Table 11-7
Tasks performed using the Default Provisioning Manager tool

Task	See
bulk-provisioning universal circuits with POTS service code	<i>Line Card Provisioning Procedures</i> , 323-3001-315, in <i>Operations, Administration, and Provisioning</i> , Volume 4B

Host Provisioning Manager tool

Use the Host Provisioning Manager tool to assign an RFT/FCOT pair to multiple host switches. You create up to five interface groups (IGs), and select the GR-303 interface type for each IG. The options are GR-303 DMS or GR-303 MVI.

The Host Provisioning tool can be accessed from the following toolsets:

- Network Admin
- Provisioning Admin

For more information about the Host Provisioning Manager tool, see “Host Provisioning Manager tool” on page 8-54.

Connection Manager tool

The Connection Manager tool lets you specify where STS-1 and VT 1.5 connections are added and dropped within a configuration. A configuration can be either a ring (OC-12 BLSR) or a linear (OC-3/OC-12 point-to-point) topology. However, only virtual tributary bandwidth manager (VTBM) 2-Fiber BLSR configurations (on network elements equipped with the VTBM transport interface) support VT level bandwidth management.

The Connection Manager tool can be accessed from the following toolsets:

- Network Admin
- Provisioning Admin

For more information about the Connection Manager tool, see “Connection Manager tool” on page 8-20.

TR-08 Default Provisioning Manager tool

Use the TR-08 Default Provisioning Manager tool to bulk-provision end-to-end circuits in an AccessNode system assigned to a TR-08 system.

The main window is divided into two circuit termination areas—one for the fiber central office terminal (FCOT) and one for the remote fiber terminal (RFT). All circuits provisioned with this tool are assigned the default circuit attributes.

Up to 96 AccessNode end-to-end circuits can be provisioned at once with the TR-08 Default Provisioning Manager. You can provision one, two, three, or four links at a time by specifying a service code for the links to be provisioned. Leave service codes blank for the other links.

Note 1: The TR-08 Default Provisioning Manager tool does not support Universal Edge 9000 (UE9000) equipment. For information on provisioning UE9000 equipment, see the *UE9000 Voice OAM&P User Guide*.

Note 2: The Provisioning Manager tool does not support ANX equipment. For information on provisioning ANX equipment, see *AccessNode Express Commissioning and OAM&P*, 323-3051-220, in the *AccessNode Express Volume*.

The TR-08 default provisioning operation has no affect on existing circuits. If a specified slot already has a provisioned circuit, that circuit is not changed. An information dialog is generated to indicate these conditions, after the provisioning operation is completed.

TR-08 Default Provisioning main window

Figure 11-2 shows the TR-08 Default Provisioning main window.

Figure 11-2
TR-08 Default Provisioning main window

PC-22177

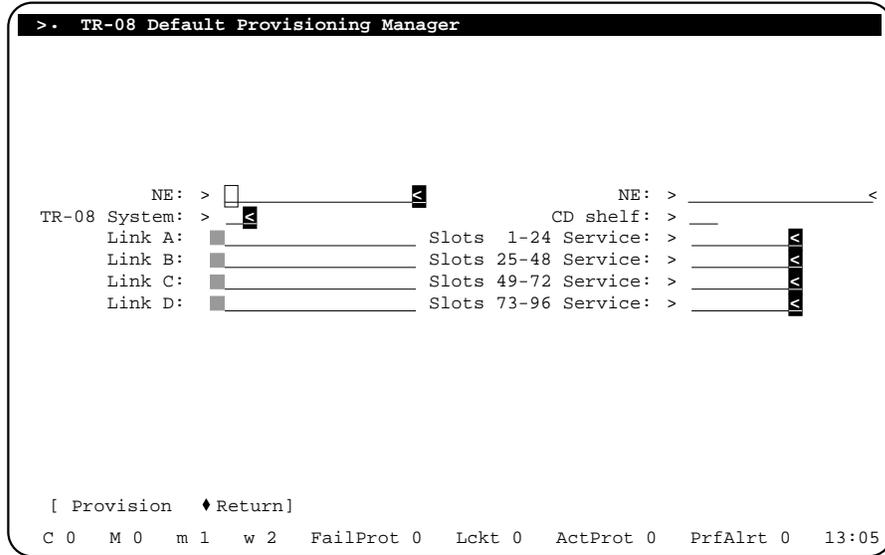


Table 11-8 describes the TR-08 Default Provisioning main window.

Table 11-8
TR-08 Default Provisioning main window

Item	Description
NE (FCOT)	specifies the central office NE where the default circuits are to be provisioned
NE (RFT)	specifies the remote NE where the default circuits are to be provisioned
CD Shelf	specifies a shelf in the FCOT or RFT. This shelf has the line card circuit packs for the default circuit provisioning operation. To enter a range of shelves, enter the first shelf number in the range, followed by a dash, then the last shelf number in the range. All slots within the range of shelves are provisioned.
Service	specifies the service code for the indicated range of slots
Provision	initiates the TR-08 default provisioning process. The provisioning information is created and sent to the FCOT and RFT. These network elements must be communicating with the OPC. If a specified slot already has a provisioned circuit, the TR-08 default provisioning operation does not change that circuit provisioning data.

TR-08 Default Provisioning Error Browser

The TR-08 Default Provisioning Error Browser appears only when an exception occurs during the circuit provisioning process. It has a list of all circuits that could not be created during the provisioning operation. An error text string explains the circuit creation problem.

Table 11-9 describes the error browser.

Table 11-9
TR-08 Default Provisioning Error Browser

Item	Description
FCOT ID name	identifies the central office NE identifier and name where the exception occurred
Shf	identifies the CD (copper-distribution) shelf where the exception occurred
Slr	identifies the slot where the exception occurred. These slots have the endpoint equipment (for example, line cards)
Prt	identifies the DS1 circuit being used
Chl	specifies the DS0 channel being used
RFT ID name	identifies the remote NE identifier and name where the exception occurred
Error Text	displays a short explanation of why the provisioning of the defined circuit failed.

TR-08 Default Provisioning Manager tool task

Table 11-10 lists one of the tasks that you can perform using the TR-08 Default Provisioning Manager tool. It also indicates the book where the task is discussed.

Table 11-10
Tasks performed using the TR-08 Default Provisioning Manager tool

Task	See
bulk-provisioning TR-08 end-to-end circuits	<i>Line Card Provisioning Procedures</i> , 323-3001-315, in <i>Operations, Administration, and Provisioning</i> , Volume 4B

Alarm Provisioning Manager tool

Use the Alarm Provisioning Manager tool to set line card trouble events as either logs or alarms. When you use the alarm setting, the tool also lets you define the alarm severity level. The log/alarm settings can be for a group of network elements (NEs) within the OPC span of control, a single NE, or a line card on a NE.

The Alarm Provisioning Manager tool can be accessed from the following toolsets:

- Network Admin
- Provisioning Admin

Note 1: The Alarm Provisioning Manager tool does not support Universal Edge 9000 (UE9000) equipment. For information on provisioning UE9000 equipment, see the *UE9000 Voice OAM&P User Guide*.

Note 2: The Provisioning Manager tool does not support ANX equipment. For information on provisioning ANX equipment, see *AccessNode Express Commissioning and OAM&P*, 323-3051-220, in the *AccessNode Express Volume*.

For more information about the Alarm Provisioning Manager tool, see “Alarm Provisioning Manager tool” on page 8-57.

Test Administration Toolset

This chapter describes the functions of each of the Test Administration tools and shows the main windows and menus. The following table describes the tools.

Tool	Description	See
Specials Lineup Manager	supports special service lineup on non-locally switched and non-switched circuits passing through the AccessNode	page 12-2
Test Manager	provides line card diagnostics and metallic testing applied at a specific location of a circuit	page 12-6
Provisioning Manager	provisions locally switched, non-locally switched, and non-switched circuits that pass through virtual tributary bandwidth manager (VTBM) ring, point-to-point, DS1-fed, and single-ended topologies	page 12-11

Note: During periods of peak processing, some user interface screens may not be dynamically updated because traffic and fault handling activities are a priority. To update a screen, back out of it, then reenter the screen. An up-to-date equipment or facility status will appear.

Specials Lineup Manager tool

The Specials Lineup Manager supports special service lineup on non-locally switched and non-switched circuits passing through the AccessNode, by providing OTLP/metallic jack access control and line card diagnostics for troubleshooting.

Specials Lineup Manager Main Window

The status indicator at the left end of the title bar of the main window indicates the status of the Specials Lineup Manager. The window title bar status shows the “OK Status” indicator when the Specials Lineup Manager is operating normally.

Figure 12-1 shows the Specials Lineup Manager main window (with the window menu displayed).

Figure 12-1
Specials Lineup Manager main window

PC-20597

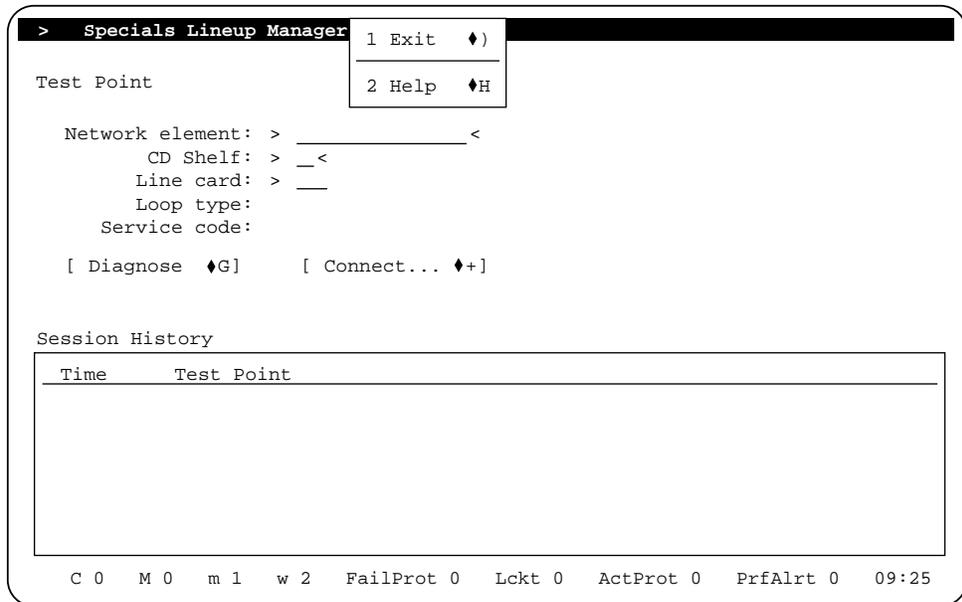


Table 12-1 describes the Specials Lineup Manager main window.

Table 12-1
Specials Lineup Manager main window

Item	Description
Network element	specifies the network elements within the OPC span of control
CD shelf	specifies the physical shelves in the network element where line card circuit packs are located
Line card	specifies the physical slot location in the shelf where the line card circuit pack is inserted.
Loop type	specifies the loop type for the line card specified by the test point specification fields
Connect and Disconnect	initiates a jack access connection to the line card defined by the test point specification
Diagnose	validates the test point specification
Session History	displays a summary of the activity for the current session of the Specials Lineup Manager tool
Jacks Image Area	shows the current jack access configuration, using a "." to indicate an unconnected port and an "o" to indicate a connected port. This area represents the physical jack access ports of the local craft access panel (LCAP).
Results	shows the current status of an activity, as well as the final results of line card diagnostics
—continued—	

Table 12-1 (continued)
Specials Lineup Manager main window

Item	Description
Service code	<p>The service code field is empty until you select the Connect or Diagnose button. If the specified line card is not provisioned, "Unassigned" appears. This field can have the following values:</p> <p>TO Transmission Only (4-wire only)</p> <p>TOO Transmission Only (Office, 2-wire only)</p> <p>TOS Transmission Only (Station, 2-wire only)</p> <p>DPO Dial Pulse Originating</p> <p>DPT Dial Pulse Terminating</p> <p>DX Duplex</p> <p>ETO Equalized Transmission Only (4-wire only)</p> <p>ETOO Equalized Transmission Only (Office, 2-wire only)</p> <p>ETOS Equalized Transmission Only (Station, 2-wire only)</p> <p>EM1 E & M Signalling (configuration 1)</p> <p>EM2</p> <p>EM3</p> <p>PLR1 Pulse Link Repeater (configuration 1)</p> <p>PLR2 Tandem (configuration 1)</p> <p>TDM1</p> <p>TDM2</p> <p>TDM1O Tandem (configuration 1, Office)</p> <p>TDM1S Tandem (configuration 1, Station)</p> <p>TDM2O</p> <p>TDM2S</p> <p>FXO Foreign Exchange Office</p> <p>FXS Foreign Exchange Station</p> <p>PLAR Private Line Automatic Ringdown</p> <p>MRD Manual Ringdown</p>
—end—	

Specials Lineup Manager dialog

Table 12-2 describes the dialog that are available through the Specials Lineup Manager tool.

Table 12-2
Specials Lineup Manager dialogs

Dialog/Description	Item	Item Description
Test Point Connect Parameters: specifies connect parameters	Jack access configuration	selects the jack access configuration for the specified test point

Specials Lineup Manager tool tasks

Table 12-3 lists some of the tasks that you can perform using the Specials Lineup Manager tool. It also indicates the book where the tasks are discussed.

Table 12-3
Tasks performed using the Specials Lineup Manager tool

Task	See
lining up a 2-wire special service circuit	<i>Line Card Testing Procedures</i> , 323-3001-316, in <i>Operations, Administration, and Provisioning</i> , Volume 4B
lining up a 4-wire or 6/8-wire special service circuit	<i>Line Card Testing Procedures</i> , 323-3001-316, in <i>Operations, Administration, and Provisioning</i> , Volume 4B
setting up a test access connection for special services lineup	<i>Line Card Testing Procedures</i> , 323-3001-316, in <i>Operations, Administration, and Provisioning</i> , Volume 4B
running diagnostics on a special service line card	<i>Line Card Testing Procedures</i> , 323-3001-316, in <i>Operations, Administration, and Provisioning</i> , Volume 4B

Test Manager tool

Use the Test Manager tool for the following:

- line card diagnostics
- metallic testing

For metallic testing, test functions are applied at a specific location of a circuit, called a “test point” (which is located within the RFT network element). The sequence of test functions associated with an individual test point is considered a “test session,” which begins with a connect test access function and ends with a disconnect test access function.

Note 1: This tool functions only for MVI, DMS-X, or UDLC lines.

Note 2: This tool does not support Universal Edge 9000 (UE9000) equipment. For information on testing UE9000 systems, see the *UE9000 Voice OAM&P User Guide*.



CAUTION
Loss of service
Testing a line card while it is carrying traffic causes the line card to drop the call.

Test Manager main window

Figure 12-2 shows the Test Manager main window.

Figure 12-2
Test Manager main window

PC-21559

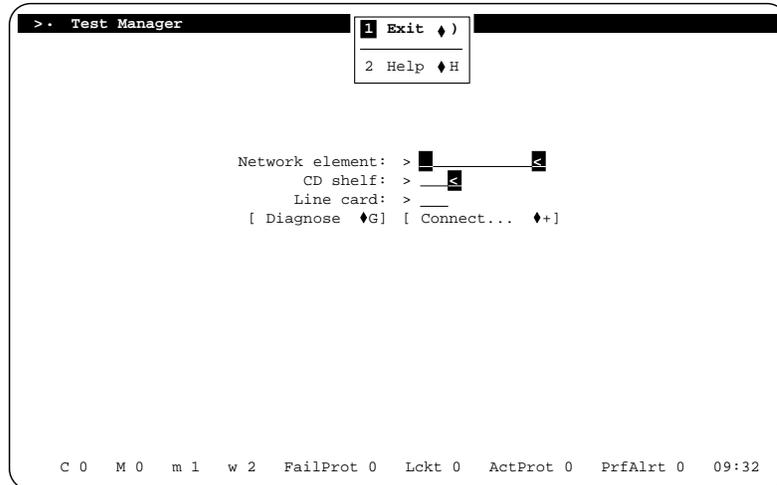


Table 12-4 describes the Test Manager main window.

Table 12-4
Test Manager main window

Item	Description
Network Element	lists the NEs within the OPC management domain
CD Shelf	specifies the physical shelf in the NE where the line card is located
Line card	specifies the physical location in the shelf where the line card circuit pack is inserted
Diagnose	starts final validation of the test point specification fields and, if valid, initiates the Diagnose line card command. If service on the line card is affected, a confirmation dialog appears.
Abort	lets you abandon the diagnostics
Connect	initiates the Connect Metallic Test Access command, which displays a Connect Parameters dialog
Status line	summarizes all alarms and alerts in the system (VT-100 user interface)

Test Manager dialogs

Table 12-5 describes the dialogs that are available through the Test Manager tool.

Table 12-5
Test Manager dialogs

Dialog/Description	Item	Item Description
Test Point Connect Parameters: specifies connect parameters	Test Head TLP	displays the provisioned values from the database
	Signaling Operation	specifies the type of signaling operation for this service: Loop normal Call started from station with loop closure followed by addressing information. Station alerted by 20-Hz ringing across tip and ring. Ground start and Automatic line Call started from station by applying ground to ring conductor followed by loop closure and addressing information. Call started from central office by applying ground to the tip conductor followed by 20-Hz ringing across tip and ring.
	Monitor/talk phone number	displays a telephone number that establishes a monitor/talk callback
Main Testing: performs metallic testing	Network element	lists an NE in the OPC management domain
	CD shelf	specifies the physical shelf where the circuit pack is located
	Line card	specifies the physical slot within the shelf where the circuit pack is located
	Loop type	displays the loop type value of the line card.
	Service code	displays the type of service provisioned at the test point
	Category	lists the categories for all the commands implemented in the Test Manager.
	Command	lists all the commands for the selected category
	Parameters	displays all the input parameters for the selected command
	Conditions applied	displays test signals and special terminations applied to the test point
	Measurement	displays the results of issued measurement commands
—continued—		

Table 12-5 (continued)
Test Manager dialogs

Dialog/Description	Item	Item Description	
Main Testing: performs metallic testing (continued)	Testing display area	displays a graphic representation of the test point with relevant test conditions. Label definitions are: Mn a monitor condition on the pair affected by the Connect, Set Monitor Establish, Set Monitor Listen, and Set Monitor Bridge commands. Tk a talk path connection on the pair affected by the Set Talk command. Rx a receive (measurement) condition, affected by any command that makes a measurement. Tx a transmit (signal generation) condition, affected by any command that generates a test signal, outpulsing, or ringing on the circuit. blank no supervisory conditions VFE pair open, VF transmission enabled VFD pair open, VF transmission disabled GND lead grounded, or pair closed and grounded BAT lead connected to battery -48 -48 V dc applied CL pair closed DON DX on-hook DOF DX off-hook	
	Change Ortn	flips the testing display area to correspond to the ordering in your circuit layout record	
	Exec	executes the selected command with the specified parameters	
	Hist	shows the command history of the current test session	
	Reset	restores the test point to the conditions that existed immediately after connection	
	Disc	disconnects the metallic test access command	
	Session History: shows the command history of the current session	Time	shows the time of the activity
		Details	shows the detailed test point activity information
	—end—		

Test Manager tool task

Table 12-6 lists one of the tasks that you can perform using the Test Manager tool. It also indicates the book where the tasks are discussed.

Table 12-6
Tasks performed using the Test Manager tool

Task	See
performing routine line and loop testing	<i>Circuit Testing from the OPC UI, 323-3001-548, in Maintenance, Volume 5C</i>

Provisioning Manager tool

Use the Provisioning Manager to manage the provisioning of locally switched, non-locally switched, and non-switched circuits that pass through Virtual Tributary Bandwidth Manager (VTBM) ring, point-to-point, DS1-Fed, and single-ended topologies.

The Provisioning Manager can be used to configure a wide variety of Plain Old Telephone Service (POTS) and non-POTS circuit types. Using the Provisioning Manager, you can add, detail (edit) or delete Universal Digital Loop Carrier (UDLC), DS1 Tandem channel, TR-08 channel, Tandem VT channel, and TR-08 VT channel circuits.

Note 1: The Provisioning Manager cannot add, detail, or delete integrated circuits.

Note 2: The Provisioning Manager tool does not support Universal Edge 9000 (UE9000) equipment. For information on provisioning UE9000 equipment, see the *UE9000 Voice OAM&P User Guide*.

Note 3: The Provisioning Manager tool does not support ANX equipment. For information on provisioning ANX equipment, see *AccessNode Express Commissioning and OAM&P*, 323-3051-220, in the *AccessNode Express* volume.

The Provisioning Manager Tool acts as an inventory for circuits provisioned by the tool on the NEs under the span of control of a specific OPC. For more information about viewing the circuit information, see *Line Card Provisioning Procedures*, 323-3001-315, in *Operations, Administration, and Provisioning*, Volume 4B.

The Provisioning Manager tool can be accessed from the following toolsets:

- Provisioning Admin
- Test Admin

For more information about the Provisioning Manager tool, see “Provisioning Manager tool” on page 11-2.

Utilities Toolset

This chapter describes the functions of each of the Utilities tools and shows the main windows and menus. The following table describes the tools.

Tool	Description	See
NE Login Manager	logs in to a node from the operations controller (OPC)	page 13-2
DMSTerm tool	logs in to the DMS-10NA or APC-100 switch from the AccessNode OPC	page 13-6
Password Update	makes changes to login passwords to the OPC and network elements (NEs)	page 13-9

Note: During periods of peak processing, some user interface screens may not be dynamically updated because traffic and fault handling activities are a priority. To update a screen, back out of it, then reenter the screen. An up-to-date equipment or facility status will appear.

NE Login Manager tool

Use the NE Login Manager to log in to a node from the OPC. When the tool is first opened, the main window displays the currently available nodes. The local node is also listed. The Refresh list button updates this list.

To log in to multiple nodes, you must log in to each node separately. For each login session, display the NE Login Manager main window and select the node. The NE Login Manager tool remains open until you close it.

The NE Login Manager lets you log in to a node the following ways:

- auto login: logs you in directly, using the OPC userID and password you entered for the current session
- login: prompts you to specify the userID and password that you want to use for this login session. You can reenter your previously entered userID or you can specify a different one for this session only.

The NE Login Manager tool can be accessed from the following toolsets:

- Utilities
- Surveillance (View)

NE Login Manager main window

Figure 13-1 shows the NE Login Manager main window with all menus displayed.

Figure 13-1
NE Login Manager main window

FW-22031

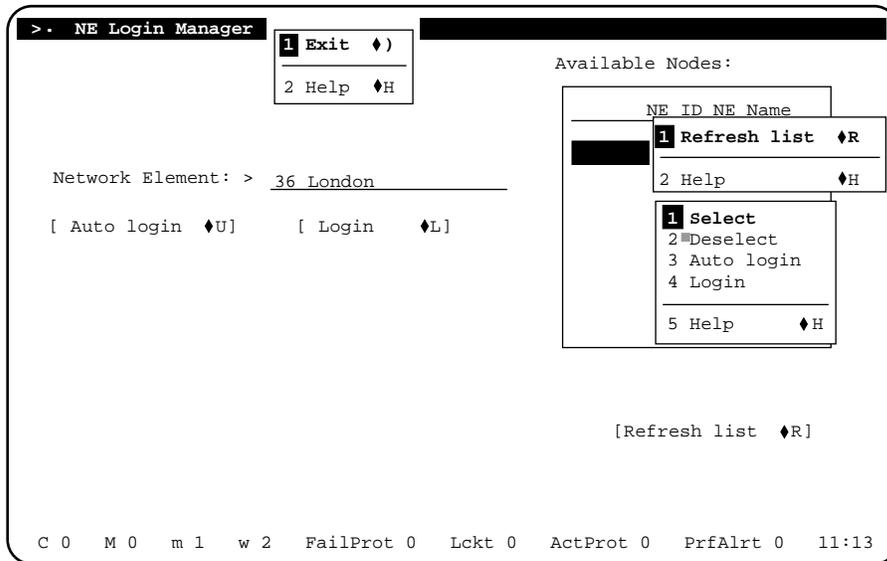


Table 13-1 describes the NE Login Manager main window.

Table 13-1
NE Login Manager main window

Item	Description
Network Element	displays the node you want to log in to. You select this from the Available Nodes list.
Auto login	lets you log in to a node without entering a userID and password. The system automatically uses the userID and password you used for the current session.
Login	lets you log in to a node by entering a userID and password to use for this session
Available Nodes list	displays the NEs you can log in to
List menu	lets you manually update the Available Nodes list
List item menu	includes the following commands: <ul style="list-style-type: none"> <li>• Select <li>• Deselect <li>• Auto login <li>• Login
Refresh list	lets you manually update the Available Nodes list. This button functions the same as the Refresh list command from the list menu.

NE Login Manager tool tasks

Table 13-2 lists some of the tasks that you can perform using the NE Login Manager tool. It also indicates the book where the tasks are discussed.

Table 13-2
Tasks performed using the NE Login Manager tool

Task	See
assigning a remote alarm	<i>System Administration Procedures</i> , 323-3001-302, in this volume
checking for bipolar violations on a drawer-link mapper	<i>Provisioning and Operations Procedures</i> , 323-3001-310, in <i>Operations, Administration, and Provisioning</i> , Volume 4B
clearing and displaying drawer-link mapper statistics	<i>Provisioning and Operations Procedures</i> , 323-3001-310, in <i>Operations, Administration, and Provisioning</i> , Volume 4B
diagnosing a drawer-link mapper	<i>Provisioning and Operations Procedures</i> , 323-3001-310, in <i>Operations, Administration, and Provisioning</i> , Volume 4B
provisioning locations and line build-outs for drawer-link mappers	<i>Provisioning and Operations Procedures</i> , 323-3001-310, in <i>Operations, Administration, and Provisioning</i> , Volume 4B
enabling and disabling DS1s	<i>Provisioning and Operations Procedures</i> , 323-3001-310, in <i>Operations, Administration, and Provisioning</i> , Volume 4B
querying a drawer-link mapper	<i>Provisioning and Operations Procedures</i> , 323-3001-310, in <i>Operations, Administration, and Provisioning</i> , Volume 4B
querying the status of the DS1s and the full services terminal	<i>Provisioning and Operations Procedures</i> , 323-3001-310, in <i>Operations, Administration, and Provisioning</i> , Volume 4B
using the show defaults and translate commands	<i>Provisioning and Operations Procedures</i> , 323-3001-310, in <i>Operations, Administration, and Provisioning</i> , Volume 4B
selecting the Hong Kong or North American PSTN software load	<i>Provisioning and Operations Procedures</i> , 323-3001-310, in <i>Operations, Administration, and Provisioning</i> , Volume 4B
upgrading a system from OC-3 to OC-12	<i>System Expansion Procedures</i> , 323-3001-324, in <i>Operations, Administration, and Provisioning</i> , Volume 4C
—continued—	

Table 13-2 (continued)
Tasks performed using the NE Login Manager tool

Task	See
logging into a network element	<i>Network Surveillance Procedures</i> , 323-3001-510, in <i>Maintenance</i> , Volume 5C
replacing an OPC	<i>Module Replacement Procedures</i> , 323-3001-547, in <i>Maintenance</i> , Volume 5C
displaying alarms	<i>Alarm and Trouble Clearing Procedures</i> , 323-3001-543, in <i>Maintenance</i> , Volume 5A
—end—	

DMSTerm tool

The DMSTerm tool lets you login to a DMS-10NA or APC-100 switch from the AccessNode operations controller (OPC). The DMS-10NA or APC-100 user interfaces appear as xterm window within the OPC environment. After logging in to the switch, you can commission, provision, and maintain the switch and its lines.

Note 1: This tool appears only if you login to the system using a root, admin, or slat user ID.

Note 2: For information about the switch interface and its commands, see *DMS-10 470 Series Generic - Data Modification Manual*, 297-3471-311Z.

Note 3: For a table of available APC-100 (DMS-100) commands, see *DMS-100 Commands Reference Manual*, 297-1001-822.

Requirements

Before you use the DMSTerm tool, you must have a serial I/O card (NT4K58LA) to provide the necessary OPC interface for a terminal or a modem. This card must be placed in slot 40 of the ABM shelf. See *Engineering and Ordering Information*, 323-3001-032, in *Engineering, Configuration, and Ordering Guide*, Volume 1, for more information.

ABM shelf to DMS-10 cables

If the distance between the DMS-10 interface port and the ABM shelf is less than 60 feet, then use cable NT7E44TB for a serial connection.

If the distance between the DMS-10 interface port and the ABM shelf is greater than 60 feet, then use modems for both the DMS-10 and ABM shelf as well as cable NT7E44TB to interface with the ABM shelf.

Interface port settings

The interface port at the DMS-10 should be set at terminal or modem interface.

DMSTerm main window

Figure 13-2 shows the options that appear after you log in to the DMS-10NA switch.

Figure 13-2
DMSTerm main window

SC-10240

```
1 Terminal mode
2 Set bps
3 Hangup
4 Hangup and Exit
5 Configuration and Dailing
6 Quit
</iwc/dms/dmsterm>
```

C 0 M 48 m 13 w 2 FailProt 0 Lckt 0 ActProt 0 PrfAlrt 0 13:13

Table 13-3 lists the options that are available from the DMSTerm main window.

Table 13-3
DMSTerm main window

Item	Description
Terminal mode	connects to the DMS-10NA or APC-100 switch when the OPC and the switch use a direct serial connection. The DMS-10NA or APC-100 can now accept commands.
Set bps	sets the baud rate on the modem on the OPC to the baud rate of the modem at the DMS-10NA or APC-100
Hangup	hangs up the modem
Hangup and Exit	hangs up the modem and exits the tool
Configuration and Dialing	displays a submenu with the following options: <ol style="list-style-type: none"> 1. Dial number - dials the modem number for the DMS-10NA or APC-100 and establishes a connection with the DMS-10NA or APC-100, which can now accept commands from the OPC. 2. Add number(s) - adds the modem number for the DMS-10NA or APC-100 to the configuration file. 3. Delete number(s) - deletes the modem number for the DMS-10NA or APC-100 from the configuration file. 4. View number - lets you check the DMS-10NA or APC-100 modem number in the configuration file.
Quit	Exits the DMSTerm tool.

DMSTerm tool tasks

Table 13-4 lists some of the tasks that you can perform using the DMSTerm tool. It also indicates the book where the tasks are discussed.

Table 13-4
Tasks performed using the DMSTerm tool

Task	See
connecting a collocated or remote DS1-fed AccessNode or host digital terminal to a DMS-10NA or APC-100	Chapter 4
logging in the DMS user interface	Chapter 4

Password Update tool

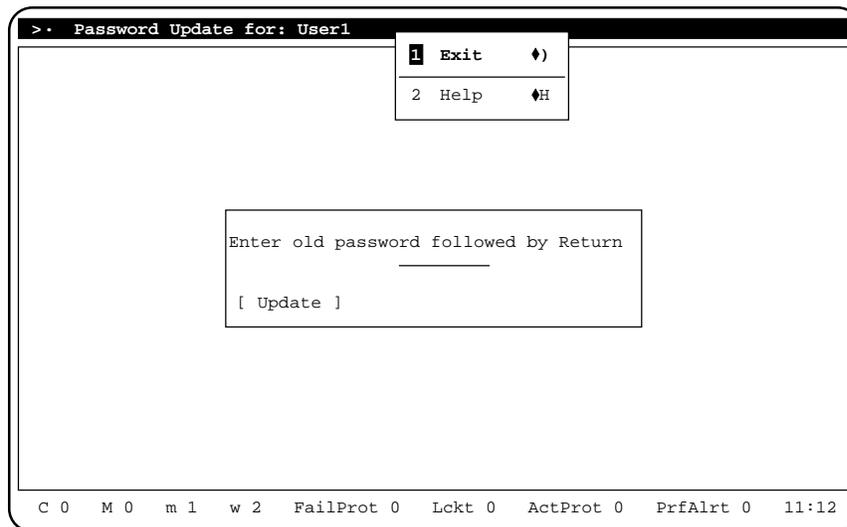
The Password Update tool lets you change your login password. Your password is supported by the OPC and any NEs you have permission to access. Changing your password on the OPC changes it for the NEs as well. To open the Password Update choose Password Update from the User toolset or session manager.

Password Update main window

Figure 13-3 shows the Password Update main window.

Figure 13-3
Password Update main window

FW-21222



See *System Administration Procedures*, 323-3001-302, in this volume for the procedure on how to update your password.

Table 13-5 describes the Password Update main window.

Table 13-5
Password Update main window

Item	Description
Password field	enter your new password in this field. Observe the following password criteria. <ul style="list-style-type: none"> • The password must be between five and eight characters. • The first character of the password must be a lowercase letter. • The remaining characters must be one of the following: a to z (lowercase), 1 to 9, \$, or _. Alphanumeric passwords are suggested, but not required.
Update button	completes the password change. This button is disabled until you have entered a new password.

Password Update tool tasks

Table 13-6 lists some of the tasks that you can perform using the Password Update tool. It also indicates the book where the tasks are discussed.

Table 13-6
Tasks performed using the Password Update tool

Task	See
testing OPC tape backup and restore	<i>Commissioning and Testing, Volume 3</i>
verifying OPC data backup and restoration	<i>Commissioning and Testing, Volume 3</i>

Surveillance (View) Toolset

This chapter describes the functions of each of the Surveillance (View) tools and shows the main windows and menus. The following table describes the tools.

Note: This toolset is read only.

Tool	Description	See
Alarm Monitor	monitors alarm counts for the OPC, for all network elements (NEs), or for specific NEs in the operations controller (OPC) span of control, and views and prints detailed information about individual alarms	page 14-2
Network Summary	monitors changes in the total count of alarms, protection switching, and performance alerts for the OPC, the network, or for individual NEs	page 14-3
Event Browser	browses the history of OPC and NE logs, alarms, and alerts for a network element, and displays or prints detailed information about individual events	page 14-4
Network Browser	views network status information that includes alarm, protection, and performance data about all NEs and OPC alarms.	page 14-5
Protection Manager	views the current protection status for network elements	page 14-6
NE Login Manager	logs into a node from the operations controller (OPC)	page 14-7

Alarm Monitor tool

Use the Alarm Monitor tool to watch the alarm counts and to view and print detailed information about individual alarms. You can see the alarm counts for all the network elements (NEs) in the OPC span of control or only for the NEs that you select. The network view banner and the user view banner include alarm counts for OPC alarms. For more information on the Alarm Monitor tool, see the *Network Surveillance Procedures*, 323-3001-510, in *Maintenance*, Volume 5C.

The Alarm Monitor tool can be accessed from the following toolsets:

- Software Administration
- Network Surveillance
- Surveillance (View)

For more information about the Alarm Monitor tool, see “Alarm Monitor tool” on page 10-2.

Network Summary tool

Use the Network Summary tool to watch for changes in the total count of alarms, protection switching, and performance alerts for the network, for individual network elements. This includes both cleared alarm counts and incoming new alarms from the network elements in your network. An additional line displays a summary for OPC alarms.

After you identify an alarm, you must log in to the affected network element to get more details about it or clear it. For more information about this tool, see *Network Surveillance Procedures*, 323-3001-510, in *Maintenance*, Volume 5C.

For more information about OPC alarms, see “OPC Alarm Provisioning tool” on page 7-14.

The Network Summary tool can be accessed from the following toolsets:

- Network Surveillance
- Surveillance (View)

For more information about the Network Summary tool, see “Network Summary tool” on page 10-7.

Event Browser tool

Use the Event Browser tool to browse the history of OPC and network element logs, alarms and alerts for a network element, OPC alarms, and to display or print detailed information about individual events.

The Event Browser tool can be accessed from the following toolsets:

- Software Admin
- Network Surveillance
- SLAT
- Surveillance (View)

For more information about the Event Browser tool, see “Event Browser tool” on page 6-8.

Network Browser tool

Use the Network Browser tool to view network status information about the OPC and all the network elements. The information includes alarm, protection, and performance data. You can also use this tool to display a summary of protection switching data, or get detailed information about a shelf in a network element. For more information on this tool, see *Network Surveillance Procedures*, 323-3001-510, in *Maintenance*, Volume 5C.

The Network Browser tool can be accessed from the following toolsets:

- Network Surveillance
- Surveillance (View)

For more information about the Network Browser tool, see “Network Browser tool” on page 10-12.

Protection Manager tool

Use the Protection Manager tool to view protection switching information about all the network elements in the OPC span of control. The information includes alarm, protection, and performance data. You can also use this tool to display a summary of protection switching data, or get detailed information about a shelf in a network element. If you have the proper authority, you can perform protection switches or exercise an NE. For more information on this tool, see the *Protection Switching Description*, 323-3001-103, in *Description*, Volume 2A.

The Protection Manager tool can be accessed from the following toolsets:

- Network Surveillance
- Surveillance (View)

When accessed from the Surveillance (View) toolset, the Protection Manager tool is view only. If you want to perform protection switches or exercise NEs, you must access the tool from the Network Surveillance toolset.

For more information about the Protection Manager tool, see “Protection Manager tool” on page 10-15.

NE Login Manager tool

Use the NE Login Manager to log in to a node from the OPC. When the tool is first opened, the main window displays the currently available nodes. The local node is also listed. The Refresh list button updates this list.

To log in to multiple nodes, you must log in to each node separately. For each login session, display the NE Login Manager main window and select the node. The NE Login Manager tool remains open until you close it.

The NE Login Manager allows you to log in to a node the following ways:

- auto login: logs you in directly, using the OPC userID and password you entered for the current session
- login: prompts you to specify the userID and password that you want to use for this login session. You can reenter your previously entered userID or you can specify a different one for this session only.

The NE Login Manager tool can be accessed from the following toolsets:

- Utilities
- Surveillance (View)

For more information about the NE Login Manager tool, see “NE Login Manager tool” on page 13-2.

Restricted Tools Toolset

This chapter describes the functions of each of the restricted tools and shows the main windows and menus. The following table describes the tools.

Tool	Description	See
OPC Switch	The OPC Switch tool is used to switch between the primary and backup OPCs, depending on which OPC is active. The tool also can be set to prevent or enable activity switches between the primary and backup OPCs, and to lock or release the backup OPC as inactive.	page 15-2
Enable Clear Commissioning	The Enable Clear Commissioning tool enables the Clear Commissioning Data button in the Commission Manager window.	page 15-5
Ethernet Admin	The Ethernet Administration tool adds or removes the Ethernet address to initialize, enable, and disable communications between the network and external operations systems.	page 15-7

Note: During periods of peak processing, some user interface screens may not be dynamically updated because traffic and fault handling activities are a priority. To update a screen, back out of it, then reenter the screen. An up-to-date equipment or facility status will appear.

OPC Switch tool

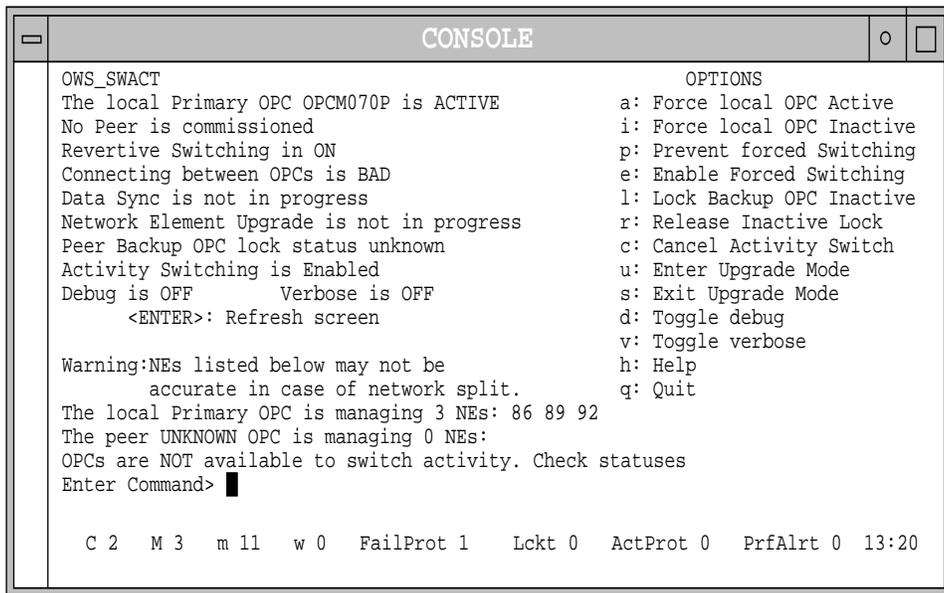
Use the OPC Switch tool to switch activity states of operations controller (OPC) pairs in a network. One OPC is active, usually the primary, and the other is inactive, usually the backup. This procedure can be used to force the active OPC to become inactive and the inactive OPC active. For more information on the OPC Switch tool, see *System Administration Procedures, 323-3001-302*, in this volume.

OPC Switch Tool main window

Figure 15-1 shows the OPC Switch Tool main window.

Figure 15-1
OPC Switch Tool main window

SC -10332



```
CONSOLE
OVS_SWACT
The local Primary OPC OPCM070P is ACTIVE
No Peer is commissioned
Revertive Switching in ON
Connecting between OPCs is BAD
Data Sync is not in progress
Network Element Upgrade is not in progress
Peer Backup OPC lock status unknown
Activity Switching is Enabled
Debug is OFF      Verbose is OFF
<ENTER>: Refresh screen

Warning:NEs listed below may not be
accurate in case of network split.
The local Primary OPC is managing 3 NEs: 86 89 92
The peer UNKNOWN OPC is managing 0 NEs:
OPCs are NOT available to switch activity. Check statuses
Enter Command> █

OPTIONS
a: Force local OPC Active
i: Force local OPC Inactive
p: Prevent forced Switching
e: Enable Forced Switching
l: Lock Backup OPC Inactive
r: Release Inactive Lock
c: Cancel Activity Switch
u: Enter Upgrade Mode
s: Exit Upgrade Mode
d: Toggle debug
v: Toggle verbose
h: Help
q: Quit

C 2  M 3  m 11  w 0  FailProt 1  Lckt 0  ActProt 0  PrfAlrt 0  13:20
```

Table 15-1 describes the main items in the OPC Switch Tool main window.

Table 15-1
Items in OPC Switch Tool main window

Item		Description
a.	Force local OPC Active	Makes the executing OPC active and the other OPC inactive.
i.	Force local OPC Inactive	Makes the executing OPC inactive and the other OPC active.
p.	Prevent Forced Switching	Prevents users from switching activity by disabling the force switch.
e.	Enable Forced Switching	Allows users to switch activity by enabling the force switch.
l.	Lock Backup OPC Inactive	Locks the backup OPC in the inactive state.
r.	Release Inactive Lock	Releases the inactive lock.
c.	Cancel Activity Switch	Causes the OPCs to revert to normal state.
u.	Enter Upgrade Mode	Warning! This mode makes both OPCs active and can affect system operations. Use this mode only during an upgrade.
s.	Exit Upgrade Mode	Returns the OPCs from upgrade mode to normal operations.
d.	Toggle debug	Displays debug messages.
v.	Toggle verbose	Displays all messages.

OPC Switch tool tasks

Table 15-2 lists the tasks that you can perform using the OPC Switch tool. It also refers you to the book where the tasks are discussed.

Table 15-2
Tasks performed using the OPC Switch tool

Task	See
switch the activity states of OPCs pairs	<i>System Administration Procedures</i> , 323-3001-302, in this volume.
prevent an activity switch	<i>System Administration Procedures</i> , 323-3001-302, in this volume.
enable an activity switch	<i>System Administration Procedures</i> , 323-3001-302, in this volume.
cancel an activity switch	<i>System Administration Procedures</i> , 323-3001-302, in this volume.

Enable Clear Commissioning tool

In a span of control that is commissioned, use the Enable Clear Commissioning tool to clear commissioning data from the primary or backup operations controller (OPC). This tool disables communications between the OPC and the network elements.

When you open the Commissioning Manager window in an OPC that is commissioned as primary OPC, the Clear Commissioning Data button on the main window is disabled. Use this tool to enable the Clear Commissioning Data button, allowing commissioning data to be cleared. You can use this tool on modular or portable OPCs.

For more information about this tool, see *Commissioning and Testing*, Volume 3.

Enable Clear Commissioning main window

Figure 15-2 shows the Enable Clear Commissioning main window.

Figure 15-2
Enable Clear Commissioning main window

SC-10342

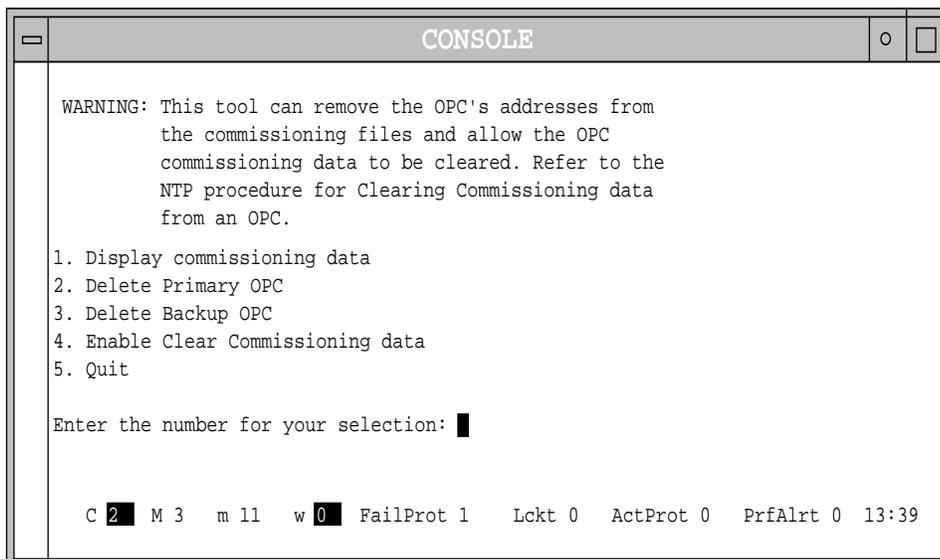


Table 15-3 describes the Enable Clear Commissioning main menu.

Table 15-3 Enable Clear Commissioning tool main menu

Item	Description
Display commissioning data	Displays system (OPC) commissioning data.
Delete primary OPC	Deletes the primary OPC commissioning data. This makes it possible to edit the commissioning data fields.
Delete backup OPC	Deletes the backup OPC commissioning data. This makes it possible to edit the commissioning data fields.
Enable clear commissioning data	Enables the Clear Commissioning Data button on the Commission Manager window.

Enable Clear Commissioning tool task

Table 15-4 lists one of the tasks that you can perform using the Enable Clear Commissioning tool. It also refers you to the book where the tasks are discussed.

**Table 15-4
Tasks performed using the Enable Clear Commissioning tool**

Task	See
enable clear commissioning data	<i>Commissioning and Testing, Volume 3</i>

Ethernet Administration tool

Use the Ethernet Administration tool to initialize, enable, or disable communications between the OPC and the network elements by adding or removing the Ethernet address.

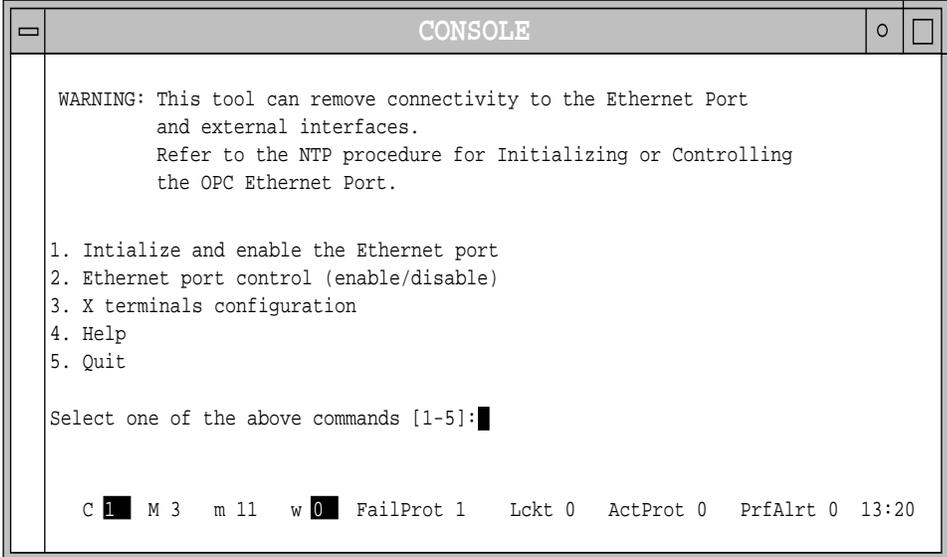
For more information about the Ethernet Administration tool, see *Commissioning and Testing*, Volume 3.

Ethernet Administration main window

Figure 15-3 shows the Ethernet Administration main window.

Figure 15-3
Ethernet Administration main window

SC-10331



```
CONSOLE

WARNING: This tool can remove connectivity to the Ethernet Port
and external interfaces.
Refer to the NTP procedure for Initializing or Controlling
the OPC Ethernet Port.

1. Intialize and enable the Ethernet port
2. Ethernet port control (enable/disable)
3. X terminals configuration
4. Help
5. Quit

Select one of the above commands [1-5]: █

C █ M 3 m 11 w █ FailProt 1 Lckt 0 ActProt 0 PrfAlrt 0 13:20
```

Table 15-5 describes the Ethernet Administration tool main window.

Table 15-5
Ethernet Administration tool main window

Item	Description
Initialize and enable the Ethernet port	<p>This option initializes and enables the ethernet port. Selecting this option automatically fills in the port nodename, IP address, netmask, and default gateway. The system sets the hostname to the nodename you specify. This option also automatically enables the port once the data fields contain data. The following files are affected by this option:</p> <ul style="list-style-type: none"> /etc/rc /etc/hosts /etc/netlinkrc
Ethernet port control (enable/disable)	<p>Enables or disables the ethernet port control. Warning! This option can be used with or without IP provisioning. The effect is as follows:</p> <ul style="list-style-type: none"> - if the Ethernet port has not been IP provisioned, enable/disable impacts only OSI traffic and no TCP/IP traffic passes through LAN0. - if the Ethernet port has been IP provisioned, enable/disable impacts OSI and TCP/IP. Enable turns on both TCP/IP and OSI traffic. Likewise, disable turns them off.
X terminals configuration	<p>This option adds or deletes remote configuration files for X terminals on the OPC. This only applies to NCD-19 X terminals configuration. Tektronix and HP X terminals do not require configuration on the OPC.</p>

Ethernet Administration tool tasks

Table 15-6 lists the tasks that you can perform using the Ethernet Administration tool. It also refers you to the book where the tasks are discussed.

Table 15-6
Tasks performed using the Ethernet Administration tool

Task	See
initializing the OPC Ethernet port	<i>Commissioning and Testing, Volume 3</i>
controlling the OPC Ethernet port	<i>Commissioning and Testing, Volume 3</i>
adding, changing, or deleting an NCD19 configuration file	<i>Commissioning and Testing, Volume 3</i>

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AccessNode

OPC User Interface Description

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