585-310-174
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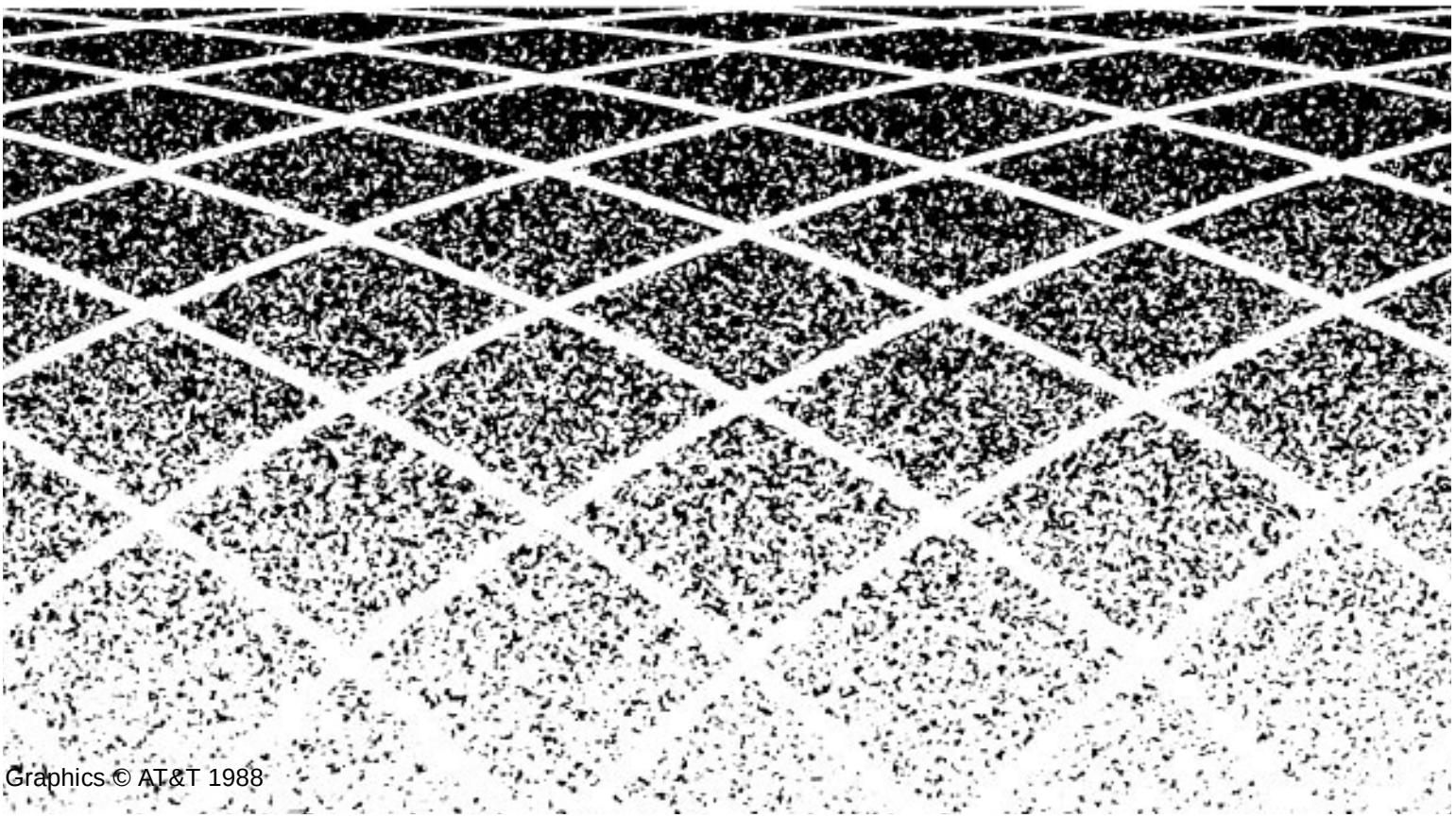
INTUITY Messaging Solutions Release 4.0 MAP/100 Maintenance



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About This Book

Purpose

This book, *Lucent INTUITY Messaging Solutions Release 4 MAP/100 Maintenance, Issue 1*, *585-310-174* contains information for troubleshooting and diagnosing problems associated with the MAP/100 hardware. Component replacement procedures and common system procedures are also included in the book. Installation procedures for base system software, Lucent INTUITY system software, UNIX Multi-User software, and RFUs are also included. Appendices contain a system configuration description, a list of component ordering numbers, a checklist for building a system, and checklists for disaster recovery.

Intended Audiences

This book is intended primarily for the on-site service technician and system administrators. Secondary audiences include the following from Lucent:

- Field support — Technical Service Organization (TSO)
- Helpline personnel

We assume that the primary users of this book have completed the Lucent MAP/100 hardware installation training course (see "Related Documentation and Training" below).

Release History

This is the first release of this book.

How to Use This Book

This book is designed to help you maintain your Lucent INTUITY system. It should be used as a quick-reference to obtain specific information you may need on a particular topic.

For Troubleshooting Information

Basic troubleshooting information is available in “Chapter 1, "Troubleshooting".”

For Diagnostic Information

Instructions for conducting diagnostics are available in “Chapter 2, "Diagnostics".

For Common System Procedures

Instructions for conducting common system procedures are available in Chapter 3, "Common System Procedures".”

For Hardware Information

Instructions for replacing or installing hardware components of the MAP/100 are available in Chapter 4, "Getting Inside the Computer", Chapter 5, "Replacing or Installing Circuit Cards", Chapter 6, "Replacing the Hard Disk Drive", Chapter 7, "Replacing Other Components",” and Chapter 8, "Installing the Tip/Ring Distribution Hardware".”

For Software Information

Instructions for replacing or installing software components of the MAP/100 are available in Chapter 9, "Installing Base System Software", Chapter 10, "Installing Lucent INTUITY System Software", Chapter 11, "Installing the UNIX Multi-User Software", and Chapter 12, "Installing an RFU".”

Conventions Used in This Book

This section describes the conventions used in this book.

Terminology

- The word “type” means to press the key or sequence of keys specified. For example, an instruction to type the letter “y” is shown as

  Type **y** to continue.

- The word "enter" means to type a value and then press ENTER. For example, an instruction to type the letter “y” and press ENTER is shown as

  Enter **y** to continue.

- The word “select” means to move the cursor to the desired menu item and then press ENTER. For example, an instruction to move the cursor to the start test option on the Network Loop-Around Test screen and then press ENTER is shown as

  Select `Start Test.`

- The Lucent INTUITY system displays *windows, screens,* and *menus*. “Windows” show and request system information (Figure 1 and Figure 2, respectively). “Screens” request that you enter a command at the `enter command:` prompt (Figure 3). “Menus” (Figure 4) present options from which you can choose to view another menu, or a screen or window.

- The words "subscriber” and “user” are interchangeable terms that describe a person administered on the Lucent INTUITY system. The word “user” is the preferred term in the text; however, “subscriber” appears on most of the screens.

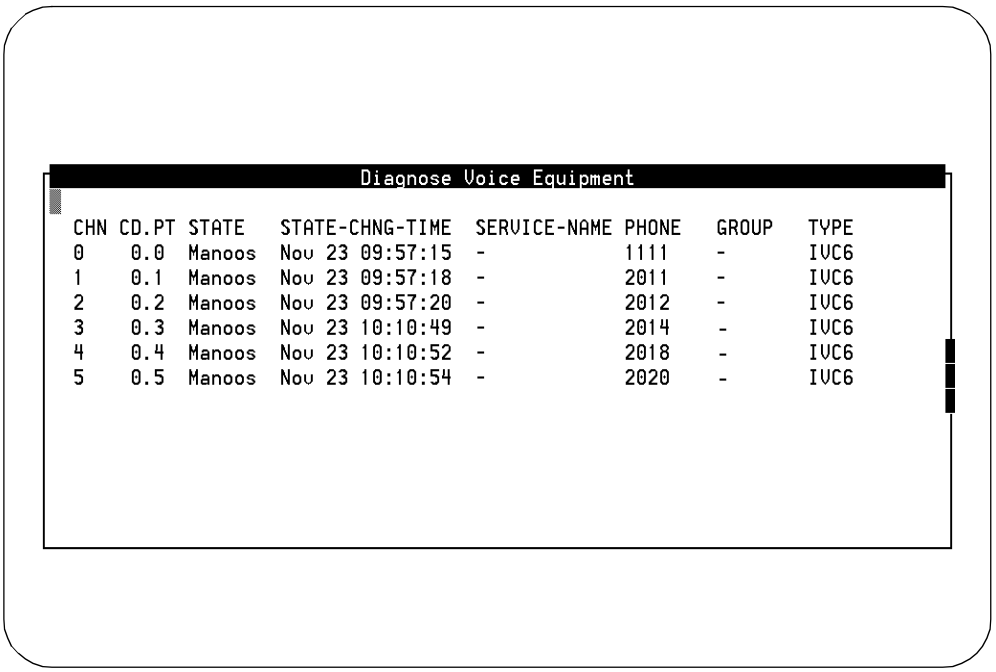


Figure 1. Example of an Lucent INTUITY Window

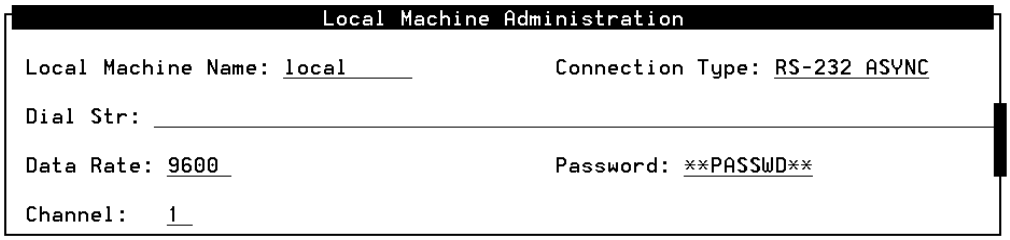


Figure 2. Example of an Lucent INTUITY Window

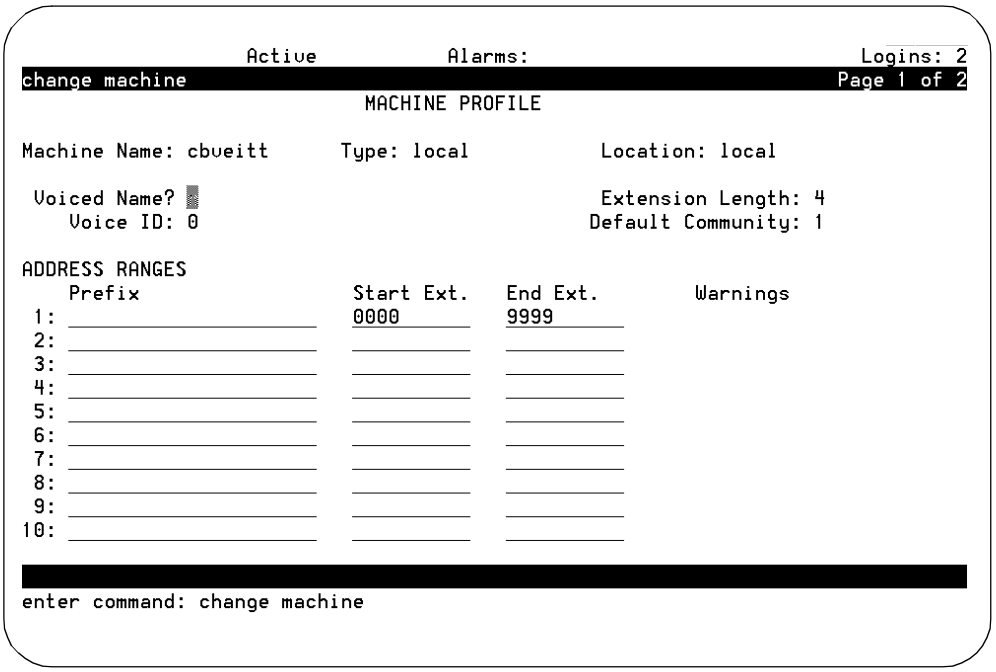


Figure 3. Example of an Lucent INTUITY Screen

Figure 4. Example of an Lucent INTUITY Menu

Terminal Keys

- Keys that you press on your terminal or PC are represented as rounded boxes. For example, an instruction to press the enter key is shown as

  Press (ENTER).

- Two or three keys that you press at the same time on your terminal or PC (that is, you hold down the first key while pressing the second and/or third key) are represented as a series of separate rounded boxes. For example, an instruction to press and hold (ALT) while typing the letter "d" is shown as

  Press (ALT) (D).

- Function keys on your terminal, PC, or system screens, also known as *soft keys*, are represented as square boxes followed by the function or value of that key enclosed in parentheses. For example, an instruction to press function key 3 is shown as

  Press [F3] (Choices).

- Keys that you press on your telephone keypad are represented as square boxes. For example, an instruction to press the first key on your telephone keypad is shown as

  Press [1] to record a message.

Screen Displays

- Values, system messages, field names, and prompts that appear on the screen are shown in typewriter-style `constant-width` type, as shown in the following examples:

  Example 1:

  Enter the number of ports to be dedicated to outbound traffic in the `Maximum Simultaneous Ports` field.

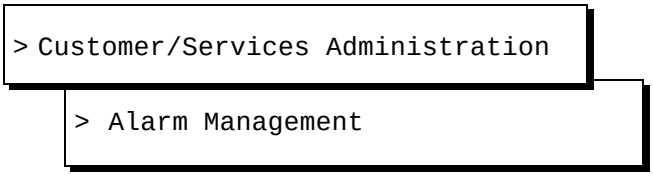
  Example 2:

  ```
  Alarm Form Update was successful.
  ```

```
Press <Enter> to continue.
```

- The sequence of menu options that you must select to display a specific screen or submenu is shown as follows:

  Start at the Lucent INTUITY Main Menu and select:

  In this example, you would access the Lucent INTUITY Main Menu and select the Customer/Service Administration menu. From the Customer/Service Administration menu, you would then select the Alarm Management screen.

- Screens shown in this book are examples only. The screens you see on your machine will be similar, but not exactly the same.

Other Typography

- Commands and text you type in or enter appear in **bold type**, as in the following examples:

  Example 1:

  Enter **change-switch-time-zone** at the `enter command:` prompt.

  Example 2:

  Type **high** or **low** in the `Speed:` field.

- Command variables are shown in ***bold italic*** type when they are part of what you must type in and *regular italic* type when they are not, for example

  Enter **ch ma *machine_name***, where *machine_name* is the name of the call delivery machine you just created.

Safety and Security Alert Labels

This book uses the following symbols to call your attention to potential problems that could cause personal injury, damage to equipment, loss of data, service interruptions, or breaches of toll fraud security:

⚠ CAUTION:
Indicates the presence of a hazard that if not avoided can or will cause minor personal injury or property damage, including loss of data.

WARNING:
Indicates the presence of a hazard that if not avoided can cause death or severe personal injury.

DANGER:
Indicates the presence of a hazard that if not avoided will cause death or severe personal injury.

SECURITY ALERT:
Indicates the presence of a toll fraud security hazard. Toll fraud is the unauthorized use of a telecommunications system by an unauthorized party.

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- CONVERSANT® Voice Information System is a registered trademark of Lucent Technologies™.
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- VT100™ is a trademark of Digital Equipment Corporation.
- Windows™ is a trademark of Microsoft Corporation.

Related Resources

This section describes additional documentation and training available for you to learn more about installation of the Lucent INTUITY product.

Documentation

NOTE:
The *INTUITY Messaging Solutions Release 4 Documentation Guide*, 585-310-540, contains a detailed description of all books included in the Release 4 Lucent INTUITY documentation library. Always refer to the appropriate book for specific information on planning, installing, administering, or maintaining an Lucent INTUITY system.

It is suggested that you obtain and use the following books in conjunction with this installation book:

- *INTUITY Messaging Solutions System Description*, 585-310-235, for a complete description of the Lucent INTUITY product and features
- *INTUITY Messaging Solutions Release 4 MAP/100 System Installation*, 585-310-173, for a detailed source of complete maintenance procedures and troubleshooting information

It is suggested that you obtain and use the following book for information on security and toll fraud issues:

- *GBCS Products Security Handbook*, 555-025-600

See the inside front cover for information on how to order Lucent INTUITY documentation.

Training

The following training class is recommended as a prerequisite to installing a Release 4 Lucent INTUITY system:

- Course No. MO1616A, INTUITY Messaging Solutions Installation and Maintenance

For more information on Lucent INTUITY training, call the BCS Education and Training Center at one of the following numbers:

- Organizations within Lucent: (904) 636-3261
- Lucent customers and all others: (800) 255-8988

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We are interested in your suggestions for improving this book. Please complete and return the reader comment card that is located behind the title page.

If the reader comment card has been removed, send your comments to:

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Room 22-2H15
11900 North Pecos Street
Denver, Colorado 80234

Please be sure to mention the name and order number of this book.

Troubleshooting

1

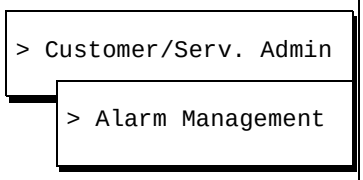
Overview

This chapter describes some basic troubleshooting procedures for the most common system problems.

Purpose

The purpose of this chapter is to provide the on-site technician or system administrator with repair procedures for the most common system procedures. All of the troubleshooting procedures can be accomplished with a craft login.

3820 Modem Does Not Answer

Possible Cause	Check/Refer To	Probable Fix
There is no power to the 3820 Modem.	Check the power source.	Apply power to the 3820 Modem.
The 3820 Modem is not connected.	The 3820 Modem should be connected with a D25F cord through a 25 to 9 pin adapter to COM2.	Connect the 3820 Modem correctly.
The normal D4 conductor cord is not plugged in to the correct port.	Make sure that the normal D4 cord is plugged into the Dial portion of the 3820 Modem. This cord should not be plugged into the Phone portion.	Plug the normal D4 cord into the Dial portion of the 3820 Modem.
There is no continuity.	Check the Alarm Management window by doing the following: 1. Starting at the Lucent INTUITY Main Menu window, select: 	Fill in the Alarm Screen. 1. Enter the product ID in the `Product ID` field. If the product ID is not known, enter **2200000000** 2. Enter a valid telephone number in the `Alarm Destination` field. 3. Press CHG-KEYS (F8). 4. Press Test_Alrm (F1). 5. If the product ID was not known in Step 1 call INADS for the correct number.

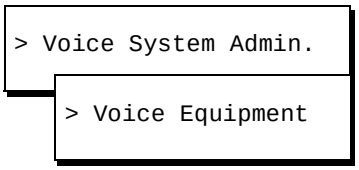
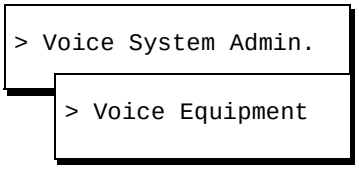
The Tape Backup Alarm Is Activated Daily at 3:00 a.m.

Possible Cause	Check/Refer To	Probable Fix
The tape is not in the drive	Check the position of the tape in the drive.	Position the tape correctly.
The tape is write protected.	Check the read/write dial on the tape.	Place the read/write dial in the “not safe” position. The small dial on the front of the tape should be in the horizontal position.
The tape is not compatible with the drive.	Check the type of tape in the drive. All tapes created in a 2-Gbyte tape drive can be read by a 525-Mbyte tape drive. The only tapes, created in a 525-Mbyte tape drive, which can be read by a 2-Gbyte tape drive, are Lucent INTUITY system backup tapes.	Replace the tape with a compatible tape.
The tape is not formatted.	Check the format status.	Format the tape. See ‘‘Formatting Cartridge Tapes’’, in Chapter 3, ‘‘Common System Procedures’’ for the procedure.
The tape drive is not working correctly.	Check the operation of the tape drive during a backup. If the tape drive is spinning but there is no processor time being allotted to the cpio process, the tape drive is not working correctly.	Replace the tape drive. See ‘‘Replacing the SCSI Cartridge Tape Drive’’, in Chapter 7, ‘‘Replacing Other Components’’ for the procedure.

The DCIU Link Is Not Functioning

Possible Cause	Check/Refer To	Probable Fix
The DCIU Link is not assigned properly.	Check the administrator's log for translation error entries Check the assignment parameters in the installation manual for both the switch and the Lucent INTUITY system.	Reassign the DCIU Link.
The assigned node number is not correct.	System 85 and G2 Refer to procedure 275, word 3, field 8.	Change the Lucent INTUITY node setting to match the switch setting. If the node number listed in the Lucent INTUITY system is above 20 escalate to tier 3.
	DEFINITY G1 Refer to the Display Dial Plan. If UDP is off then the correct node number is 1. If UDP is on then refer to page two and determine the correct node number from the RNX field. If this field is blank then escalate to tier 3.	Change the Lucent INTUITY node number to match the switch.
	DEFINITY G3 Refer to the Display Dial Plan page one.	Change the Lucent INTUITY node setting to match the switch setting. If the node number listed in the Lucent INTUITY system is above 20 escalate to tier 3.
Incorrect link connections	Check for proper connections	Adjust the connections as needed.

The Voice Ports Are Answering in Standalone Mode

Possible Cause	Check/Refer To	Probable Fix
The ports are not assigned in the correct order.	Check the connection order by dialing the ports directly and through the UCD.	To reassign the ports, do the following: 1. Starting at the Lucent INTUITY Main Menu window, select:  2. Press CHG-KEYS (F8). 3. Press Renumber (F2).
Incorrect entry in Services to Call Numbers field or Startup Services field	Refer to the Chapter 6, "Initial Administration and Test for Messaging" of the Installation Manual.	To enter the correct numbers in the `Services to Call Numbers` field, do the following: 1. Starting at the Lucent INTUITY Main Menu window, select:  2. Enter the correct numbers.
The link to the switch is out of service.	Check the link to the switch.	Restore the link to service.
Subscribers have the wrong host PBX assigned	Check the host PBX.	Reassign the host PBX.

DCS AUDIX Does Not Work

Possible Cause	Check/Refer To	Probable Fix
The DCS is not functional.	Check the DCS status.	Escalate to tier 3.
The Lucent INTUITY system is blank on the switch screen.	Refer to design personnel for the correct translations.	Input correct translations and save. If this does not work escalate to tier 3.

Cannot Assign Voice Ports

Possible Cause	Check/Refer To	Probable Fix
Additional port activation has not been purchased by the customer.	Verify number of ports purchased by the customer. Access Customer/Services Administration from the Lucent INTUITY Administration menu. Access the Feature Options screen and refer to the voice_ports line.	Refer the customer to sales personnel.

System Will Not Boot

Possible Cause	Check/Refer To	Probable Fix
There is a floppy disk in the “A” drive.	Check the “A” drive.	Remove the floppy disk.
The external SCSI connector circuit card terminating module is not properly connected.	Check the terminating module connection.	Properly connect the terminating module.
There is an odd number of SIMMs installed on the P575/CPU circuit card.	Check the number of SIMMs on the P575/CPU.	Correct the SIMM configuration. See ‘‘Memory and SIMM Description’’, in Chapter 7, ‘‘Replacing Other Components’’ for the correct configuration.

Optional Features Not Working

Possible Cause	Check/Refer To	Probable Fix
The Lucent INTUITY version does not support the optional feature.	Check the Lucent INTUITY version.	Refer the customer to their sales representative concerning a migration or upgrade.
The optional feature is not activated.	Check the activated optional features by: 1. Starting at the Lucent INTUITY Main Menu window. 2. Accessing `Customer/Services Administration`. 3. Accessing `Feature Options`.	If the customer has purchased the optional feature, activate the optional feature. If the customer has not purchased the optional feature, refer them to their sales representative.

System Will Not Outcall

Possible Cause	Check/Refer To	Probable Fix
The voice port translations are incorrect for trunk access.	Check the voice port translations for the FRL and access.	Correct the voice port translations.

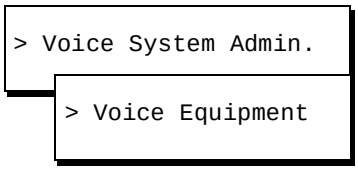
System Memory Test Fails

Possible Cause	Check/Refer To	Probable Fix
There is a SIMM missing from the P575/CPU circuit card.	Check the number of SIMMs on the P575/CPU.	Correct the SIMM configuration. See ''Memory and SIMM Description'', in Chapter 7, ''Replacing Other Components'' for the correct configuration.
There is a a defective SIMM on the P575/CPU circuit card.	Check the condition of the SIMMs on the P575/CPU. See ''Identifying a Damaged SIMM'', in Chapter 7, ''Replacing Other Components'' for the procedure.	Replace the defective SIMM. See ''Replacing Defective Memory Modules'', in Chapter 7, ''Replacing Other Components'' for the procedure.

System Terminal Is Blank after Reboot

Possible Cause	Check/Refer To	Probable Fix
The video controller circuit card which has been installed is not compatible with the P575/CPU circuit card.	Check the video controller circuit card. The following circuit cards are supported by the Lucent Lucent INTUITY system: ■ STB Horizon ■ WDXLR831124 ■ WDXLR83160	Replace the video controller circuit card with a supported circuit card. See ''Video Controller Circuit Cards'', in Chapter 5, ''Replacing or Installing Circuit Cards'' for the procedure.

Tip/Ring Circuit Card Is Not Recognized by the Lucent INTUITY System

Possible Cause	Check/Refer To	Probable Fix
The Tip/Ring card has incorrect switch settings.	Check the switch settings on the Tip/Ring cards. See "Tip/Ring Circuit Card", in Chapter 5, "Replacing or Installing Circuit Cards" for the correct settings.	Correct the switch settings.
The Tip/Ring cards are incorrectly numbered.	There is nothing to check in this instance. If this is the suspected problem continue with the probable fix.	Renumber the Tip/Ring circuit cards by doing the following: This will start and stop the voice system. 1. Starting at the Lucent INTUITY Main Menu window, select:  2. Press CHG-KEYS (F8). 3. Select Renumber. 4. Press RENUM (F3).

Diagnostics

2

Overview

This chapter describes

- Procedures for conducting audits
- Procedures for diagnosing digital networking, multi-port serial cards, switch integration, TCP/IP, voice cards, and voice ports

Purpose

The purpose of this chapter is to provide the on-site technician or system administrator with the correct procedures to diagnose trouble with the Lucent INTUITY system.

Conducting Audits

Auditing Databases

During normal operation the Lucent INTUITY system databases work independently under the direction of a set of software managers. These managers, in tandem with hardware and firmware managers, allow the files, databases, and system hardware to work together.

Because databases are handled separately, it is possible for different databases to contain conflicting information. For example, if a user is removed from INTUITY AUDIX Voice Messaging, other databases may contain messages addressed to that user. In addition, mailing lists that include the deleted user's name could still exist.

To reconcile possible conflicts among databases, software programs called audits run automatically to check for inconsistencies. Audits can also be run on demand by you.

INTUITY AUDIX Voice Messaging monitors several areas of data using database audits. All of the audits below run automatically at some frequency (daily, weekly, etc.) but can also be run on demand as part of an alarm repair procedure or in response to a specific problem while troubleshooting the system. Use the instructions provided with each audit to run it on demand.

Automatic audits are run at night so as not to compete for system time with call processing. These audits are normally complete in several hours, depending on the size of the system. It is important that you become familiar with audits and their operation to enable them to continually monitor system performance.

The system runs the audits listed in Table 2-1 automatically at the specified frequency. These audits can also be run on demand using the procedures outlined below.

Table 2-1. INTUITY AUDIX Voice Messaging Database Audits

Audit	Function	Frequency
Mailboxes	Checks and deletes old messages and login announcements	Daily
	Clears broadcast-deleted messages from user mailboxes	Daily
	Verifies that Lucent INTUITY MWL status matches with the switch's MWL status for each user.	Daily
	Checks for valid mailbox structure	Weekly
	Makes space-accounting corrections on a per-user and system basis	Weekly
	Checks for valid message user IDs	No
Mailing Lists	Counts user lists and entries on a system and per-user basis to ensure that they are not exceeding internal limits. Use the **list measurement load day or hour** command in the INTUITY AUDIX administration screens for more information.	Weekly
	Removes deleted users from lists	Weekly
	Removes deleted remote users from local mailing lists.	Daily
	Audits delivery manager queues and makes undeliverable entries for deleted users. The senders are notified accordingly.	Daily
Names	Matches each voice name with a valid local or remote user	Weekly
	Logs messages in administrator's log for first 20 local users not having voiced names. Under the VM application identifier the Event ID is ADM_lnnr.	Weekly
Network Data	Deletes information on remote nodes that have been eliminated from network	Weekly
	Compares internal network files to synchronize information on nodes and users, for example, which node each user belongs to.	Weekly

Continued on next page

Table 2-1. INTUITY AUDIX Voice Messaging Database Audits — *Continued*

Audit	Function	Frequency
Personal Directories	Removes deleted users (local and remote) from local users' personal directories	Weekly
Subscriber Data	Checks delivery lists associated with current outgoing messages	Weekly
	Validates fields in class-of-service templates, user profiles, and automated attendant profiles	Weekly
	Counts users to ensure that the number is not exceeding internal limits. Use the **list measurement feature day or hour** command in the INTUITY AUDIX administration screens for more information.	Weekly
	Checks the system guest password against individual user passwords, and makes appropriate entries in the administration log	Weekly
	Checks user profiles against class-of-service templates and changes users to class-of-service if a match exists	Weekly
	Deletes remote unverified users who have not been on delivery lists in last 24 hours	Daily
	Deletes remote users with no valid nodes	Daily
	Deletes unadministered remote users who have not used the system for a specified time period	Daily
	Cross-checks name, extension, touch-tone, user directory and remote node list translations files for consistency with user profiles	Weekly
Voice files	Deletes files in the voice filesystem not having message headers	Weekly

Continued on next page

Auditing Mailboxes

The Audit Mailboxes screen initiates a demand audit on each user's mailbox and displays the results of the audit.

To audit mailboxes, do the following.

1. Start at the Lucent INTUITY Main Menu (Figure 2-1).

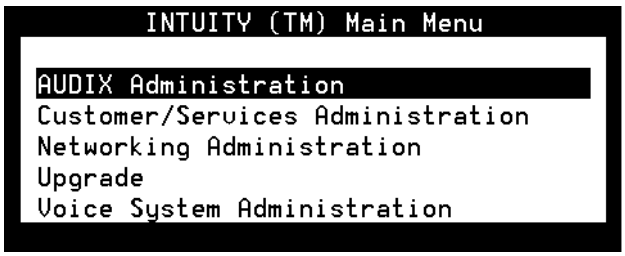


Figure 2-1. Lucent INTUITY Main Menu

2. Select

.

```
> AUDIX Administration
```

The system displays the AUDIX Administration screen (Figure 2-2).

Figure 2-2. AUDIX Administration Screen

3. Enter either **audit mailboxes** or **au mailb** after the `enter command` prompt and press ENTER.

   The system displays Audit Mailboxes screen (Figure 2-3)

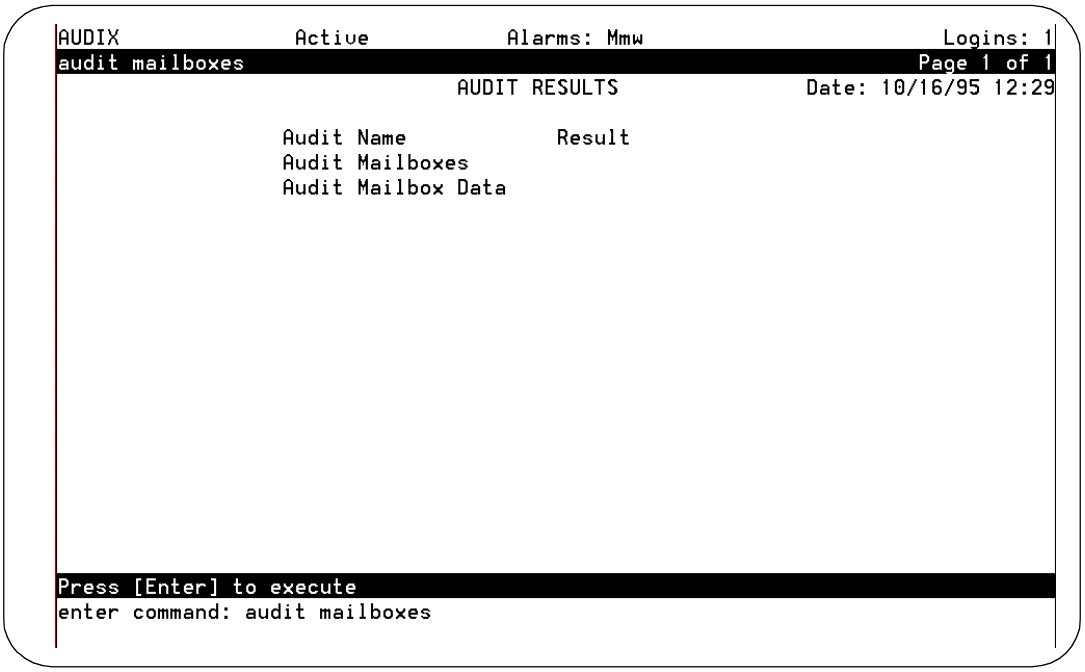


Figure 2-3. Audit Mailbox Screen

4. Press ENTER (F3).
5. The audit name and Result code R, which indicate that the audit is running, are displayed on the screen. You can wait for the audit to finish or take one of the following steps.
   - While the audit is running, press CANCEL (F1) to abort the audit and exit the form.
   - While the audit is running, press ENTER (F3) to put the audit in the background mode and return to the command line. Enter **status audit** to reconnect to the screen.

If the mailbox audit fails, do the following

1. Resolve any active alarms and rerun the audit. See Chapter 1, “Getting Started” in *“Lucent INTUITY Messaging Solutions Release 4.0 Alarms and Log Messages”* for the alarm resolve procedure.
2. If the audit fails again, contact the remote service center.
3. If the system is not providing service and the remote service center cannot help immediately, restart the system using the “Rebooting the System” procedure in Chapter 3, "Common System Procedures".

Field Descriptions

A description of each display field is provided below.

- Date — This field displays the date and time that the audit was requested.
- Audit Name — This field displays the name of the audit being run.
- Result — This field displays a 1-character code that indicates the last result of the named audit, and up to 20 characters of text of additional audit-result information. Table 2-2 lists the result codes and their meanings.

Table 2-2. Auditing Result Codes

Code	Meaning
blank	Audit has not been executed
R	Audit is running
P	Last audit passed
F	Last audit failed
A	Last audit aborted

Auditing Mailing Lists

The Audit Mailing Lists screen initiates a demand audit on each user's mailing lists and displays the results of the audit.

To audit mailing lists, do the following:

1. Starting at the Lucent INTUITY Main Menu (Figure 2-1), select

.

```
> AUDIX Administration
```

   The system displays the AUDIX Administration screen (Figure 2-2).

2. Enter either **audit mailing-lists** or **au maili** after the `enter command` prompt and press ENTER.

   The system displays Audit Mailing-Lists screen (Figure 2-4)

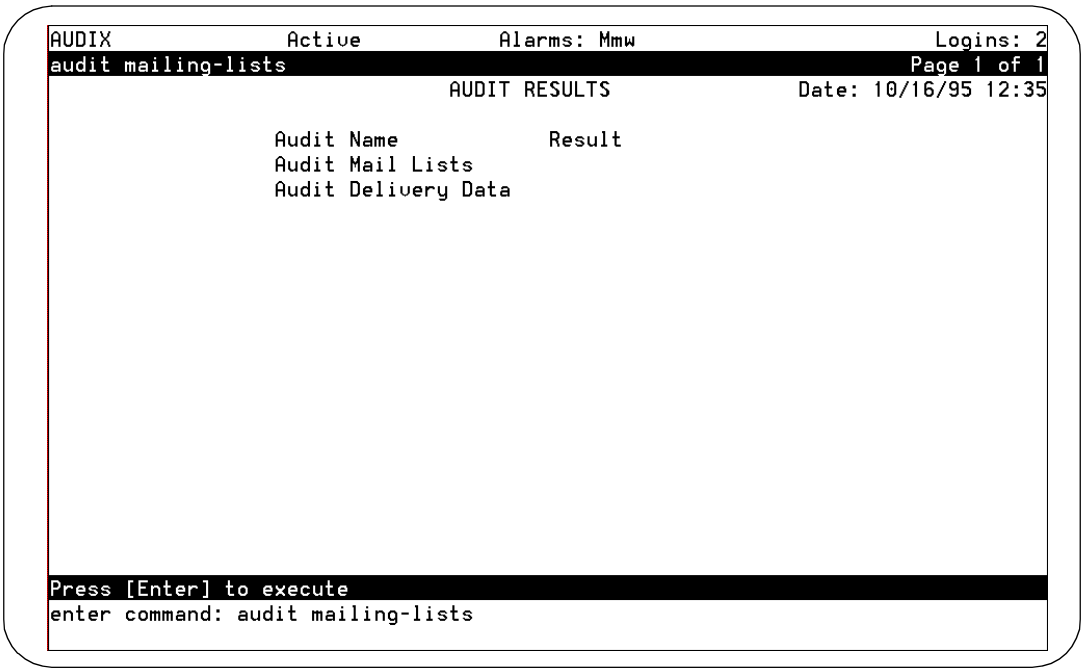


Figure 2-4. Audit Mailing-Lists Screen

3. Press ENTER (F3) to execute the audit or press CANCEL (F1) to exit the screen without executing the audit.
4. The audit name and Result code R, which indicate that the audit is running, are displayed on the screen. You can wait for the audit to finish or take one of the following steps.
    a. While the audit is running, press CANCEL (F1) to abort the audit and exit the form.
    b. While the audit is running, press ENTER (F3) to put the audit in the background mode and return to the command line. Enter **status audit** to reconnect to the screen.

If the mailing lists audit fails, refer to "Auditing Mailboxes" on page 2-5 to correct the problem.

Field Descriptions

A description of each display field is provided below.

- Date — This field displays the date and time that the audit was requested.
- Audit Name — This field displays the name of the audit being run.

- Result — This field displays a 1-character code that indicates the last result of the named audit, and up to 20 characters of text of additional audit-result information. Table 2-2 lists the result codes and their meanings.

Auditing Names

The Audit Names screen initiates a demand audit on user names and displays the results of the audit.

To audit names, do the following:

1. Starting at the Lucent INTUITY Main Menu (Figure 2-1), select

.

```
> AUDIX Administration
```

   The system displays the AUDIX Administration screen (Figure 2-2).

2. Enter either **audit names** or **au na** after the `enter command` prompt and press ENTER.

   The system displays Audit Names screen (Figure 2-5)

```
AUDIX              Active          Alarms: Mmw                    Logins: 2
audit names                                                      Page 1 of 1
                                AUDIT RESULTS            Date: 10/16/95 12:42

                Audit Name            Result
                Audit Voice Names

Press [Enter] to execute
enter command: audit names
```

Figure 2-5. Audit Names Screen

3. Press ENTER (F3) to execute the audit or press CANCEL (F1) to exit the screen without executing the audit.
4. The audit name and Result code R, which indicate that the audit is running, are displayed on the screen. You can wait for the audit to finish or take one of the following steps.
    a. While the audit is running, press CANCEL (F1) to abort the audit and exit the form.
    b. While the audit is running, press ENTER (F3) to put the audit in the background mode and return to the command line. Enter **status audit** to reconnect to the screen.

If the names audit fails, refer to "Auditing Mailboxes" on page 2-5 to correct the problem.

Field Descriptions

A description of each display field is provided below.

- Date — This field displays the date and time that the audit was requested.
- Audit Name — This field displays the name of the audit being run.
- Result — This field displays a 1-character code that indicates the last result of the named audit, and up to 20 characters of text of additional audit-result information. Table 2-2 lists the result codes and their meanings.

Auditing Network Data

The Audit Network Data screen initiates a demand audit on network data and displays the results of the audit.

NOTE:
This screen is available only if the system has Digital or AMIS Analog Networking. For more information on networking, see *AMIS Analog Networking,* 585-300-512 or *INTUITY AUDIX Digital Networking Administration,* 585-310-533.

To audit network data, do the following:

1. Starting at the Lucent INTUITY Main Menu (Figure 2-1), select

.

```
> AUDIX Administration
```

The system displays the AUDIX Administration screen (Figure 2-2).

2. Enter either **audit network-data** or **au ne** after the `enter command` prompt and press ENTER.

   The system displays Audit Network-Data screen (Figure 2-6)

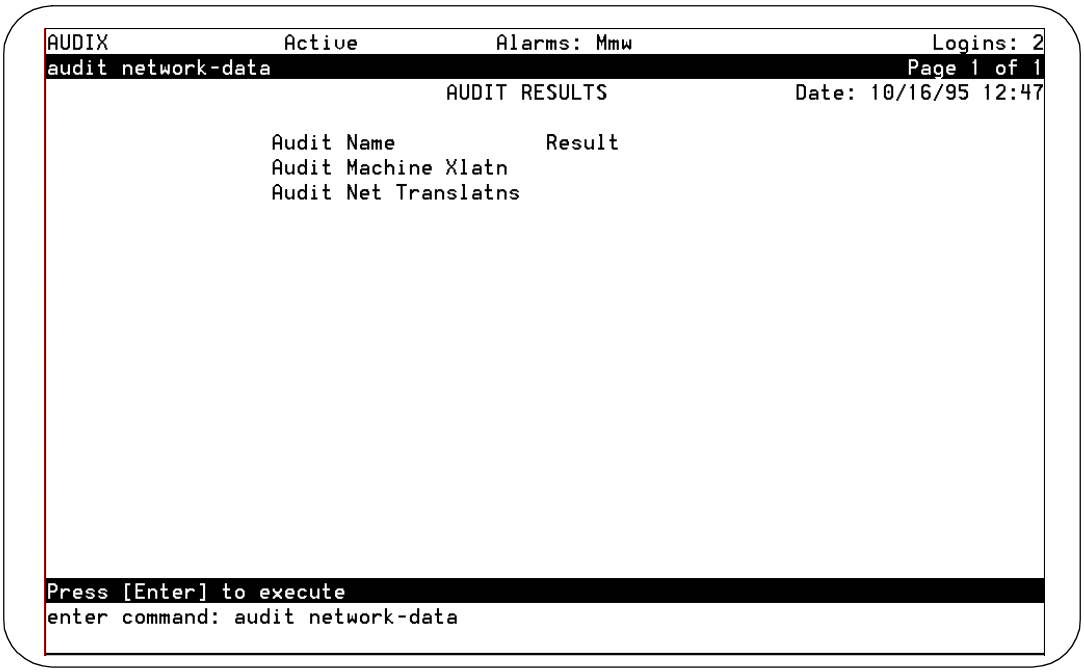


Figure 2-6. Audit Network-Data Screen

3. Press ENTER (F3) to execute the audit or press CANCEL (F1) to exit the screen without executing the audit.
4. The audit name and Result code R, which indicate that the audit is running, are displayed on the screen. You can wait for the audit to finish or take one of the following steps.
   a. While the audit is running, press CANCEL (F1) to abort the audit and exit the form.
   b. While the audit is running, press ENTER (F3) to put the audit in the background mode and return to the command line. Enter **status audit** to reconnect to the screen.

If the network data audit fails, refer to "Auditing Mailboxes" on page 2-5 to correct the problem.

Field Descriptions

A description of each display field is provided below.

- Date — This field displays the date and time that the audit was requested.
- Audit Name — This field displays the name of the audit being run.
- Result — This field displays a 1-character code that indicates the last result of the named audit, and up to 20 characters of text of additional audit-result information. Table 2-2 lists the result codes and their meanings.

Auditing Personal Directories

The Audit Personal Directories screen initiates a demand audit on users' personal directories and displays the results of the audit.

To audit personal directories, do the following:

1. Starting at the Lucent INTUITY Main Menu (Figure 2-1), select

.

```
> AUDIX Administration
```

   The system displays the AUDIX Administration screen (Figure 2-2).

2. Enter either **audit personal-directories** or **au p** after the `enter command` prompt and press ENTER.

   The system displays Audit Personal-Directories screen (Figure 2-7)

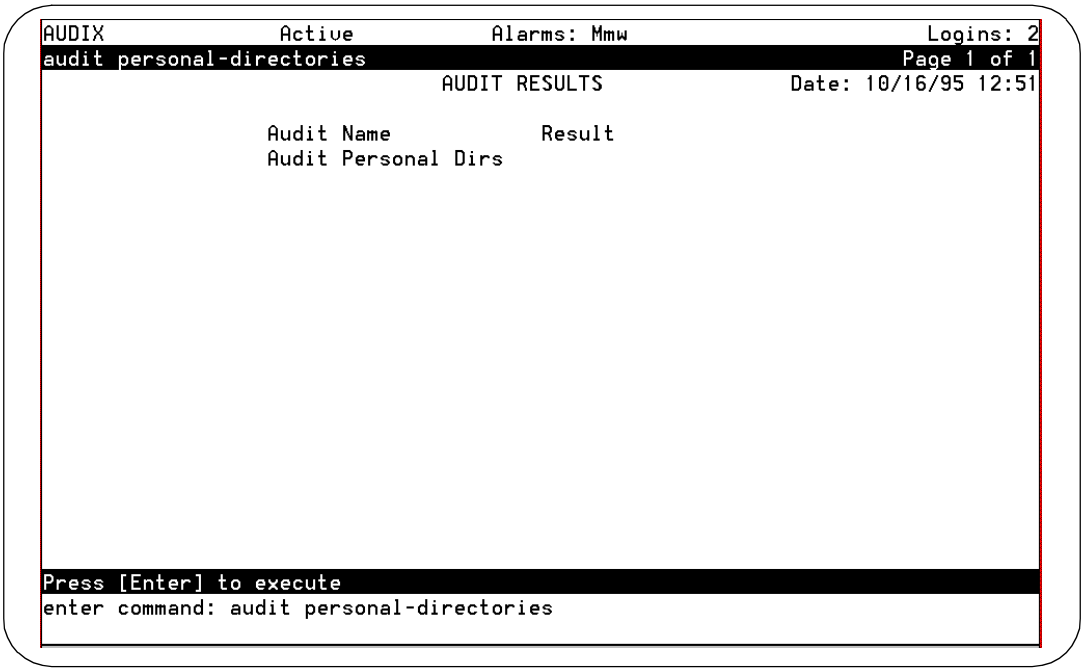


Figure 2-7. Audit Personal-Directories Screen

3. Press ENTER (F3) to execute the audit or press CANCEL (F1) to exit the screen without executing the audit.
4. The audit name and Result code R, which indicate that the audit is running, are displayed on the screen. You can wait for the audit to finish or take one of the following steps.
    a. While the audit is running, press CANCEL (F1) to abort the audit and exit the form.
    b. While the audit is running, press ENTER (F3) to put the audit in the background mode and return to the command line. Enter **status audit** to reconnect to the screen.

If the personal directories audit fails, refer to "Auditing Mailboxes" on page 2-5 to correct the problem.

Field Descriptions

A description of each display field is provided below.

- Date — This field displays the date and time that the audit was requested.
- Audit Name — This field displays the name of the audit being run.

- Result — This field displays a 1-character code that indicates the last result of the named audit, and up to 20 characters of text of additional audit-result information. Table 2-2 lists the result codes and their meanings.

Auditing Subscriber Data

The Audit Subscriber Data screen initiates a demand audit on each user's profile and displays the results of the audit.

To audit subscriber data, do the following:

1. Starting at the Lucent INTUITY Main Menu (Figure 2-1), select

.

```
> AUDIX Administration
```

The system displays the AUDIX Administration screen (Figure 2-2).

2. Enter either **audit subscriber-data** or **au su** after the `enter command` prompt and press ENTER.

The system displays Audit Subscriber-Data screen (Figure 2-8)

```
AUDIX              Active          Alarms: Mmw                    Logins: 2
audit subscriber-data                                             Page 1 of 1
                                AUDIT RESULTS              Date: 10/16/95 13:00

                 Audit Name            Result
                 Audit Subscribers
                 Audit Delivery Data

Press [Enter] to execute
enter command: audit subscriber-data
```

Figure 2-8. Audit Subscriber-Data Screen

3. Press ENTER (F3) to execute the audit or press CANCEL (F1) to exit the screen without executing the audit.
4. The audit name and Result code R, which indicate that the audit is running, are displayed on the screen. You can wait for the audit to finish or take one of the following steps.
    a. While the audit is running, press CANCEL (F1) to abort the audit and exit the form.
    b. While the audit is running, press ENTER (F3) to put the audit in the background mode and return to the command line. Enter **status audit** to reconnect to the screen.

If the subscriber data audit fails, refer to "Auditing Mailboxes" on page 2-5 to correct the problem.

Field Descriptions

A description of each display field is provided below.

- Date — This field displays the date and time that the audit was requested.
- Audit Name — This field displays the name of the audit being run.
- Result — This field displays a 1-character code that indicates the last result of the named audit, and up to 20 characters of text of additional audit-result information. Table 2-2 lists the result codes and their meanings.

Networking

The networking database consists of two parts: the networking administration database and the remote user update status database. The networking administration database contains data relevant to the following areas.

- Connectivity to other Lucent INTUITY systems and AMIS machines
- Local machine connectivity
- Channel configuration information

The remote user update status database contains the information used by the Lucent INTUITY system to request and send remote updates of user information.

Networking Database Audit

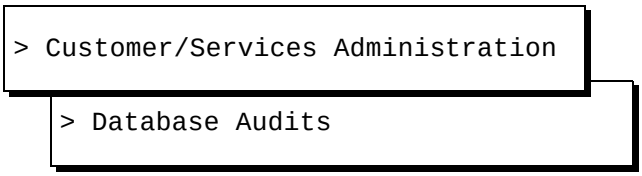
The networking database audit consists of a series of internal checks which verify, for example, that files are not corrupted and that values within the files are within the proper ranges.

The networking database audit is performed automatically nightly, before the nightly unattended backup. This audit occurs whenever the voice system is restarted or the UNIX system is rebooted. You may want to perform this audit on demand when directed to do so by alarm repair actions.

Networking Database Audit Procedure

To perform this audit on demand, do the following:

1. Starting at the Lucent INTUITY Main Menu (Figure 2-1), select



   The system displays the Database Audit menu (Figure 2-9).

Figure 2-9. Database Audit Menu

2. Make sure the cursor is on `Networking Audit`.
3. Press CHG-KEYS (F8).
4. Press RUNAUDIT (F1).

   The system displays the Confirm Audit window (Figure 2-10).

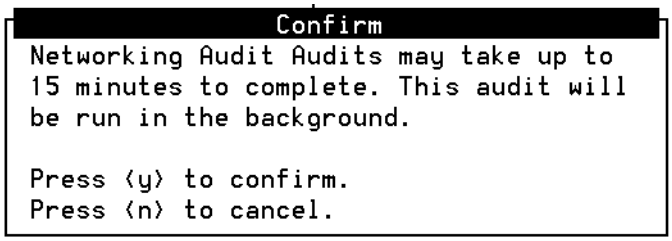


Figure 2-10. Confirm Audit Window

5. Press **y** to confirm that you want to run the audit.

   Press **n** to cancel the request.

   The audit takes approximately 5 minutes.

6. Press CHG-KEYS (F8).
7. Press VIEW_RES (F4).

   The audit's output is printed on the screen for viewing. Below is an explanation of messages the output may contain.

Networking Database Audit Results

If the audit is successful the system displays the following message:

```
Networking Database Audit completed successfully.
```

If the audit fails, the system displays the following message:

```
Networking Database Audit failed.
```

If a failure message appears, use the "Accessing the Alarm Log" procedure to look for related alarms such as NW SOFTWARE-1004. Follow the repair actions for any active alarms as appropriate. See Chapter 1, "Getting Started" in *"Lucent INTUITY Messaging Solutions Release 4.0 Alarms and Log Messages"* for the procedure.

Platform User Database Audit

Because the Lucent INTUITY system switch integration software acts as the interface between the applications and the switch, the Lucent INTUITY system switch integration database must periodically be synchronized with the applications' databases. The Station Manager Subscriber Database audit performs this synchronization.

The Lucent INTUITY system switch integration database monitors the applications with which each user is registered. When the audit is executed, the station manager matches its user's extension and MWL status with each user application database. When successful matches are made, the audit

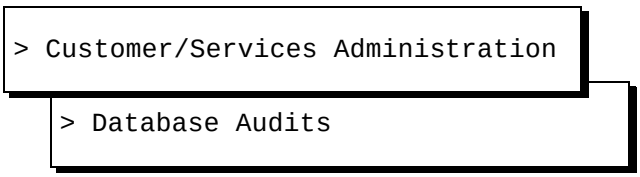
progresses to the next user. If a match is not found, a message is printed in the audit report (see below).

This audit is performed automatically at night 10 minutes after midnight. You may want to perform this audit on demand when alarms (SOFTWARE VP-12) indicate that users cannot be found, users report message-waiting light problems, or the system was shutdown improperly causing databases to become unsynchronized.

Platform User Database Audit Procedure

To perform this audit on demand, do the following:

1. Starting at the Lucent INTUITY Main Menu (Figure 2-1), select



   The system displays the Database Audit menu (Figure 2-9).

2. Make sure the cursor is on `Platform User Database Audit`.
3. Press CHG-KEYS (F8).
4. Press RUNAUDIT (F1).

   The system displays the Confirm Audit screen (Figure 2-10).

5. Press **y** to confirm that you want to run the audit.

   Press **n** to cancel the request.

   The audit takes approximately 60 minutes, depending on the system's load and may degrade service.

6. Press CHG-KEYS (F8).
7. Press VIEW_RES (F4).

   The audit's output is printed on the screen for viewing. Below is an explanation of messages the output may contain.

Platform User Database Audit Results

The following platform user database audit results could be displayed by the system:

- If the audit is successful, the system displays the following message:

  ```
  Station Manager Subscriber Audit is successfully
  done.
  ```

- If the audit terminates before completion, the system displays the following message:

  ```
  Station Manager Subscriber Audit is terminated
  because of <reason>.
  ```

  The audit could have prematurely terminated because of problems in the application with which it was synchronizing. For example, if a database could not be opened or the package is down the audit will prematurely terminate. Use the "Viewing the Alarm Log" procedure to look for related alarms. Follow the repair actions for any active alarms as appropriate. See Chapter 1, "Getting Started" in *"Lucent INTUITY Messaging Solutions Release 4.0 Alarms and Log Messages"* for the procedure.

- If a user exists in the Lucent INTUITY system switch integration database but does not exist in any of the registered applications, the system displays the following message:

  ```
  Station Manager Subscriber Database Audit found an
  extra subscriber user's extension requesting
  Station Manager to delete it from database
  ```

  The user is automatically deleted from the Lucent INTUITY system switch integration database.

- If a user exists in one of the application databases and not in the Lucent INTUITY system switch integration database, the system displays the following message:

  ```
  Station Manager Subscriber Database Audit found a
  missing subscriber user's extension requesting
  Station Manager to add it to database
  ```

  The user is automatically added to the Lucent INTUITY system switch integration database.

- If the MWL status of you in the Lucent INTUITY system switch integration database does not match the MWL status of you in the application databases, the system displays the following message:

  ```
  Station Manager Subscriber Database Audit found a
  mismatched subscriber user's extension requesting
  Station Manager to update its database
  ```

  The user MWL status is automatically updated in the Lucent INTUITY system switch integration database.

INTUITY AUDIX Digital Networking

INTUITY AUDIX Digital Networking diagnostics allow you to check all aspects of the networking feature including hardware connections, remote and local machine administration, and basic functions of INTUITY AUDIX Digital Networking. The INTUITY AUDIX Digital Networking diagnostics include the following tests.

- Remote connection tests
- Channel internal loop-around test
- Modem loop-around test
- Networking board reset
- Busyout digital networking channels
- Release digital networking channels

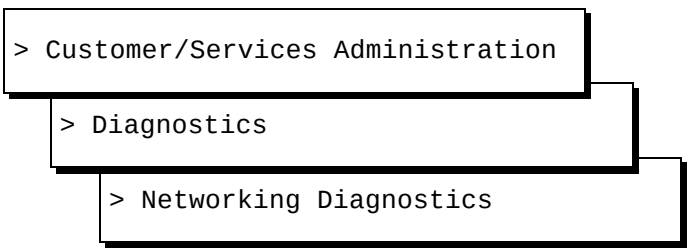
Remote Connection Test

The remote connection test checks the transmission path from the local machine to the remote machine. You can perform a remote connection test for each remote machine with which voice messages are exchanged. The test assumes that all components of the network, from the ACCX card to the remote machine administration, are operating and complete. If the remote connection test fails, proceed to the heading "Network Connections Test" on page 2-24. The following requirements are necessary to perform a remote connection test.

- The remote machine name is needed
- The channel can be DCP or RS-232
- The channel must be equipped

To perform a remote connection test, do the following:

1. Starting at the Lucent INTUITY Main Menu (Figure 2-1), select



The system displays the Networking Diagnostics window (Figure 2-11).

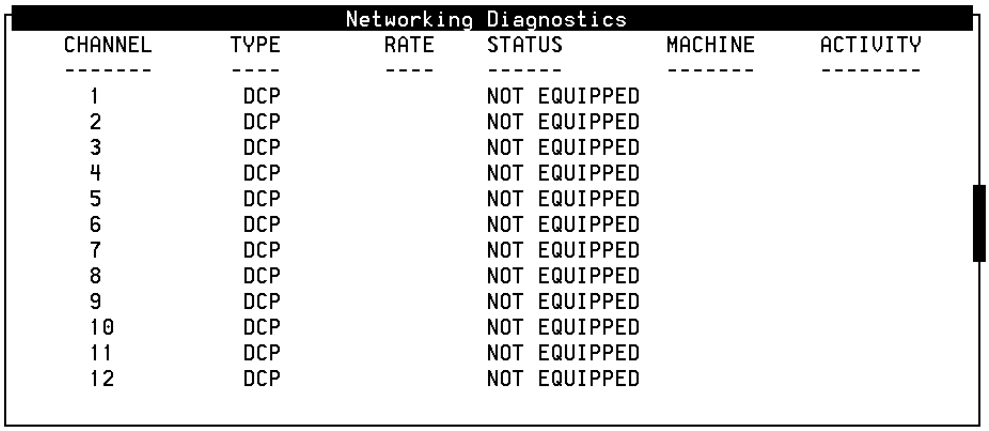


Figure 2-11. Networking Diagnostics Window

2. Press CHG-KEYS (F8).
3. Press DIAGNOSE (F4).

   The system displays the Networking Diagnostics menu (Figure 2-12).

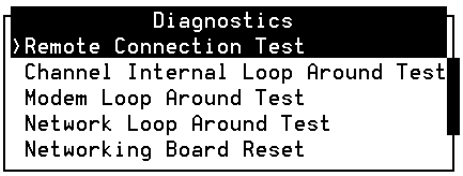


Figure 2-12. Networking Diagnostics Menu

4. Select `Remote Connection Test`.

   The system displays the Remote Connection Test window (Figure 2-13).

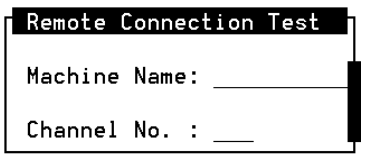


Figure 2-13. Remote Connection Test Window

5. Enter the name of the remote machine to be tested.

   If the remote machine name is not known, press CHOICES (F2) to access a menu of remote machines. Select from the menu by moving the selection bar over a machine name and pressing ENTER.

6. If a dedicated RS-232 connection is being tested, enter the number of the dedicated channel.

   After entering the channel number, the message `working...` appears in the upper right-hand corner of the screen. The system begins the test on and attempts to connect with the remote machine.

   When the process completes, the system displays the Test Results window (Figure 2-14).

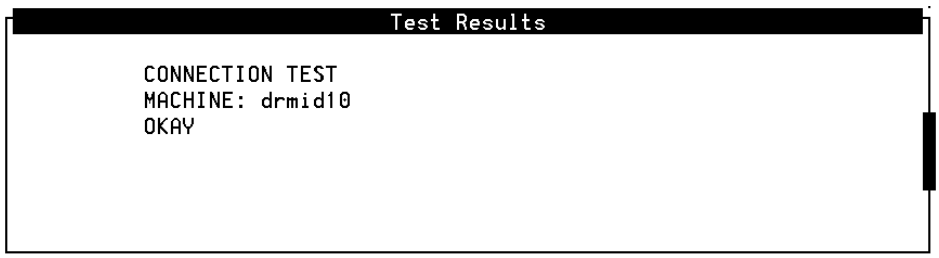


Figure 2-14. Test Results Screen for a Remote Connection Test

7. If the screen contains a message stating that the test completed successfully, proceed to the next step.

   If the screen contains a message stating that the test failed, press CANCEL (F6) to exit the screen and return to the Networking Diagnostics window. See "Network Connections Test" below for the procedure to determine the reason for the remote connection test failure.

8. Press CANCEL (F6) to exit the screen and return to the Networking Diagnostics window (Figure 2-11).

9. Repeat Steps 2 through 8 for each remote machine to be tested.

The network's abilities to exchange voice messages can also be tested. *INTUITY AUDIX Digital Networking Administration,* 585-310-533, contains instructions for exchanging voice messages with test remote users on each remote machine in the digital network after completing a remote connection test.

Network Connections Test

Use the instructions in this section to test each component of the digital network. Perform these tests when a remote connection test fails or when voice messages cannot be exchanged with remote users. The following list shows the network connection tests.

- Channel internal loop-around test
- Modem loop-around test (if applicable)
- Network loop-around test

One other test may be performed to test or reset the network, the networking board reset. Do not perform this procedure unless instructed by the remote service center.

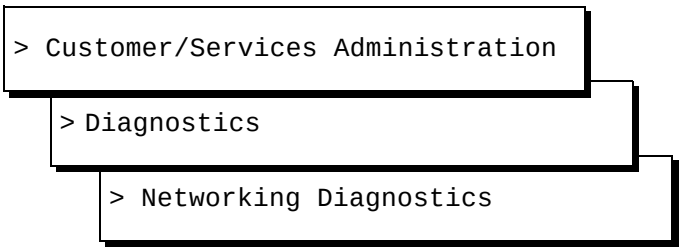
Channel Internal Loop-Around Test

The channel internal loop-around test checks the operation of an individual channel on the ACCX board. Perform this test first to make sure the board is operating correctly. If the board does not operate properly, the other acceptance tests will fail. The following requirements are necessary to perform a channel internal loop-around test.

- The channel can be DCP or RS-232.
- The channel must be equipped.

To perform a channel internal loop-around test, do the following:

1. Starting at the Lucent INTUITY Main Menu (Figure 2-1), select



   The system displays the Networking Diagnostics window (Figure 2-11).

2. Press CHG-KEYS (F8).
3. Press DIAGNOSE (F4).

   The system displays the Networking Diagnostics menu (Figure 2-12).

4. Select `Channel Internal Loop-Around Test`.

   The system displays the Channel Internal Loop-Around Test window (Figure 2-15).

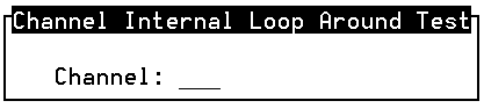


Figure 2-15. Channel Internal Loop-Around Test Window

5. Enter the channel number to be tested.

   The system displays the message `working...` in the upper right-hand corner of the screen. The system begins the test on the ACCX board channel.

   When the process is complete, the system displays the Test Results window (Figure 2-16).

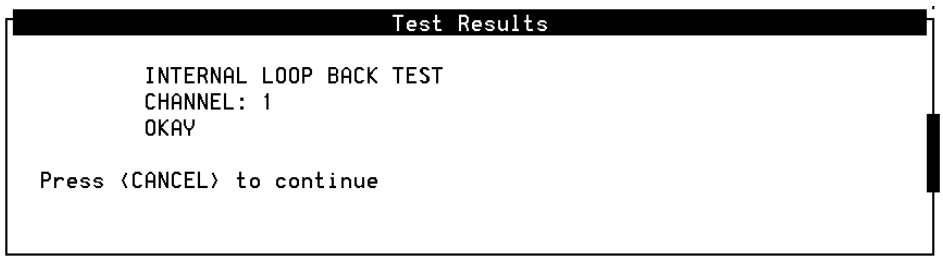


Figure 2-16. Test Results Window for a Channel Internal Loop-Around Test

6. If the screen contains a message stating the test completed successfully, proceed to the next step.

   If the screen shows that the test failed, access the Alarm Log enter **NW** as the application, and look for alarms related to the networking board. See Chapter 1, "Getting Started" in *"Lucent INTUITY Messaging Solutions Release 4.0 Alarms and Log Messages"* for the procedure.

7. Press CANCEL (F6) until the system displays the Networking Diagnostics window (Figure 2-11).

8. Repeat steps 2 through 7 for each equipped channel on the ACCX board.

Modem Loop-Around Test

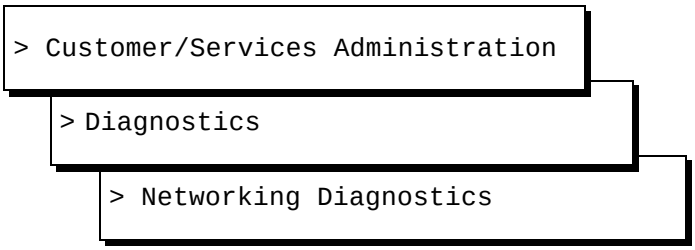
NOTE:
This test does not function with all modems. If the test fails, contact the remote service center and verify that the test works for the modem.

The modem loop-around test checks the connectivity between the ACCX board and the modem through a channel configured as RS-232. The test sends a signal from the ACCX board to the modem and back. Perform this test to make sure the board and the modem are communicating and that the modem is configured correctly. The following requirements are necessary to perform a modem loop-around test.

- The channel state must be in a busyout. Check the status of the channel on the Networking Diagnostics screen. If the channel is not in a busyout state, refer to "Busyout and Release Networking Channels" in this chapter.
- The channel must be RS-232 with a modem.
- The channel must be equipped.

To perform a modem loop-around test, do the following:

1. Starting at the Lucent INTUITY Main Menu (Figure 2-1), select



   The system displays the Networking Diagnostics window (Figure 2-11).

2. Press CHG-KEYS (F8).
3. Press DIAGNOSE (F4).

   The system displays the Networking Diagnostics menu (Figure 2-12).

4. Select `Modem Loop-Around Test`.

   The system displays the Modem Loop-Around Test window (Figure 2-17).

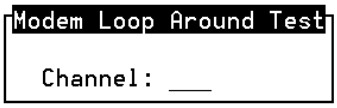


Figure 2-17. Modem Loop-Around Test Window

5. Enter the channel number to be tested. The channel must be RS-232 and have a modem connected.

   The system displays the message `working...` in the upper right-hand corner of the screen. The system begins the test on the channel with the modem connected. When the process completes, the system displays the Test Results screen (Figure 2-16).

6. If the screen contains a message stating the test completed successfully, proceed to the next step.

   If the screen shows that the test failed, refer to Chapters 3 and 4 of *INTUITY AUDIX Digital Networking Administration,* 585-310-533, for information on modem settings and cabling. In addition, access the Alarm Log enter **NW** as the application, and look for alarms related to networking modems. See Chapter 1, "Getting Started" in *"Lucent INTUITY Messaging Solutions Release 4.0 Alarms and Log Messages"* for the procedure.

7. Press CANCEL (F6) to exit the screen and return to the Networking Diagnostics screen (Figure 2-11).

8. Repeat steps 2 through 7 for each equipped channel that is RS-232 and has a modem connected.

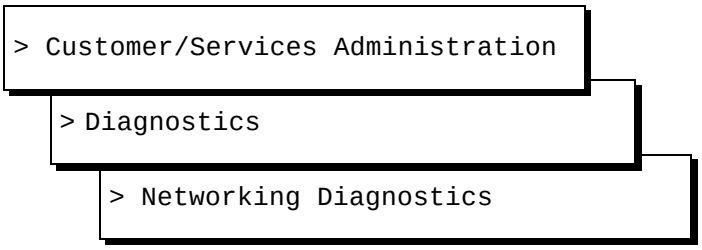
Network Loop-Around Test

The network loop-around test checks the data transmission path that connects the local Lucent INTUITY machine with the service office (SO) and the public network. When a channel is in loop-around mode, the channel cannot exchange information with remote machines. This test can only be performed on DCP channels. The test should be coordinated with the local SO. The test operates in the following manner.

- To perform the test, specify the channel number and data rate and start the channel in network loop-around mode.
- Notify the SO to send information to the channel to be tested.
- The SO sends a message which loops through the INTUITY AUDIX Digital Network and returns to the SO.
- The SO checks the message to verify that the same information sent was returned by Lucent INTUITY.

To perform a network loop-around test, do the following:

1. Starting at the Lucent INTUITY Main Menu (Figure 2-1), select



   The system displays the Networking Diagnostics window (Figure 2-11)

2. Press CHG-KEYS (F8).
3. Press DIAGNOSE (F4).

   The system displays the Networking Diagnostics menu (Figure 2-12).

4. Select `Network Loop-Around Test`.

   The system displays the Network Loop-Around Test menu (Figure 2-18).

Figure 2-18. Network Loop-Around Test Menu

5. Select `Start Test`.

   The system displays the Start Network Loop-Around Test window (Figure 2-19).

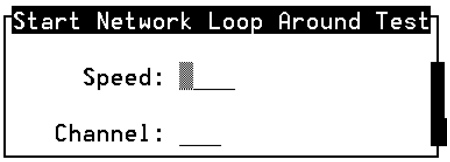


Figure 2-19. Start Network Loop-Around Test Window

6. Enter **High** or **Low** in the Speed field.
   - High speed refers to channels configured 64 Kbps DCP.
   - Low speed refers to channels configured as 56 Kbps DCP.
7. Enter the channel number that to be tested.

   Make sure the channel number corresponds to the channel data rate entered in the previous step.
8. Press SAVE (F3) .

   The system displays the message `working...` in the upper right-hand corner of the screen.

   The system places the channel in loop-around mode and displays a Test Results window (Figure 2-20).

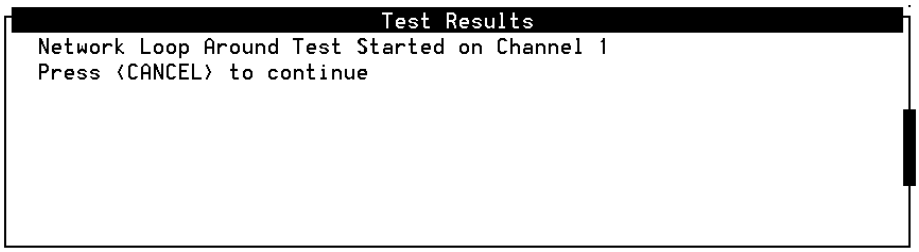


Figure 2-20. Start Test Results Window for a Network Loop-Around Test

9. Press CANCEL (F6) to exit the screen and return to the Networking Diagnostics menu (Figure 2-12).
10. Contact the local telephone Service Office and instruct them to place a call to the telephone number assigned to the channel placed in the loop-around mode. If the test is successful, any data sent by the SO will pass through the Lucent INTUITY channel and return to the SO.
11. Stop the test and remove the channel from the loop-around mode by completing Steps a through .
    a. Select `Network Loop-Around Test`.

       The system displays the Network Loop-Around Test window (Figure 2-18).

    b. Select `Stop Test`.

       The system displays the Stop Network Loop-Around Test window (Figure 2-21).

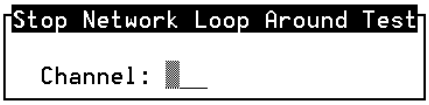


Figure 2-21. Stop Network Loop-Around Test Window

c. Enter the appropriate channel number, to stop testing the channel, in the `Channel` field. This is the same channel number entered in step 8.

   After entering the channel, the system displays the message `working...` in the upper right-hand corner of the screen.

   The system removes the channel from loop-around mode and displays the Test Results window (Figure 2-22).

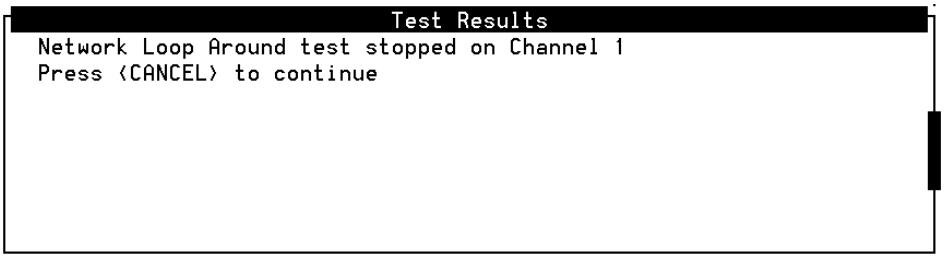


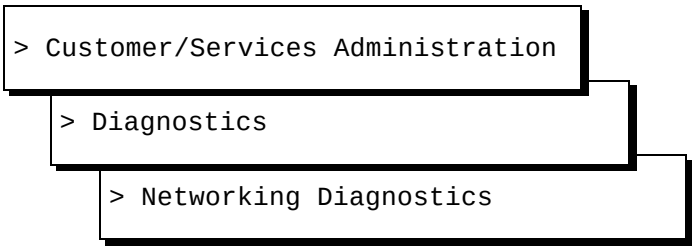
Figure 2-22. Stop Test Results Window for a Network Loop-Around Test

12. Press CANCEL (F6) to exit the screen and return to the Networking Diagnostics menu (Figure 2-12).
13. Repeat Steps 2 through 12 for each channel to be tested.

Networking Board Reset

This section provides instructions for resetting the ACCX card. The card may need to be reset after other networking diagnostic tests have been performed. In addition, the card may need to be reset as part of an alarm repair procedure. Use the following procedure to reset the networking card.

1. Starting at the Lucent INTUITY Main Menu (Figure 2-1), select



   The system displays the Networking Diagnostics window (Figure 2-11)

2. Press CHG-KEYS (F8).
3. Press DIAGNOSE (F4).

   The system displays the Networking Diagnostics menu (Figure 2-12).

4. Select `Networking Board Reset`.

   The system displays the Networking Board Reset window (Figure 2-18).

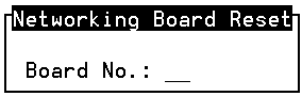


Figure 2-23. Networking Board Reset Window

5. Enter the number of the ACCX card to be reset.

   The Lucent INTUITY system resets the networking card. The process takes several minutes. When the process completes, the system displays the Test Results window (Figure 2-24).

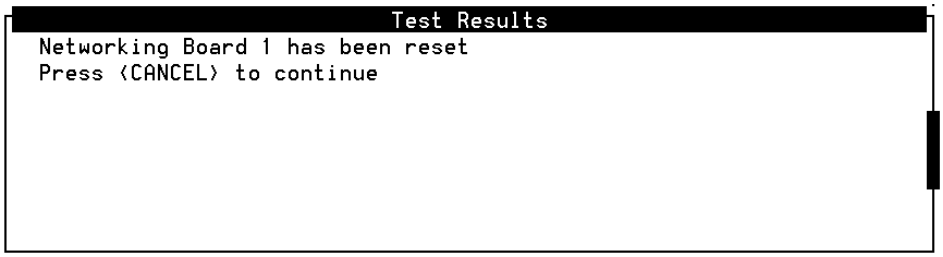


Figure 2-24. Networking Board Reset Results Screen

6. Press CANCEL (F6) to exit the screen and return to the Networking Diagnostics menu (Figure 2-12).
7. Repeat steps 2 through 6 for each ACCX card to be reset.

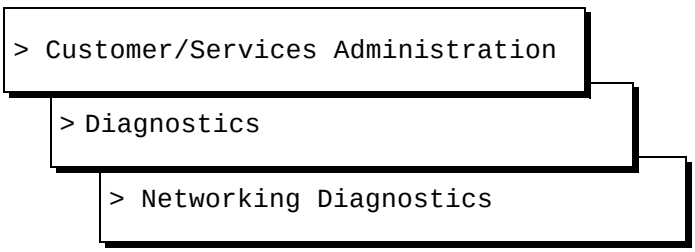
Busyout and Release Networking Channels

CAUTION:
Do not perform the procedure in this section unless instructed by another procedure or the remote service center.

Busying out a channel refers to the process of taking a channel out of service so that no data is sent to the channel. *Releasing* a channel refers to the process of making the channel active again and changing the state from *busyout* to *idle*.

Busyout Networking Channels

1. Starting at the Lucent INTUITY Main Menu (Figure 2-1), select



The system displays the Networking Diagnostics window (Figure 2-11).

2. Press CHG-KEYS (F8).

3. Press BUSYOUT (F2).

   The system displays the Busyout Networking Channel window (Figure 2-25).

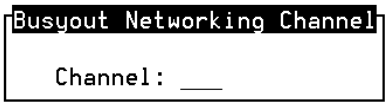


Figure 2-25. Busyout Networking Channel Window

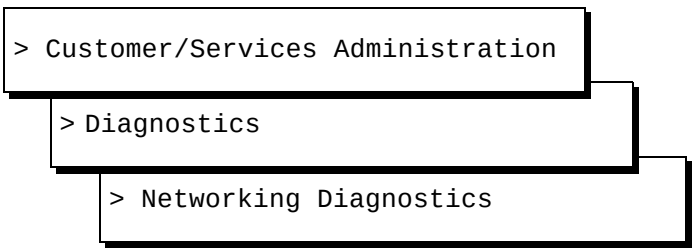
4. Enter the number of the channel to busyout.

   The system displays the message `working...` in the upper right-hand corner of the screen. When the process completes, the Status field on the Networking Diagnostics window (Figure 2-11) updates and shows `busyout` for the channel entered.

5. Repeat steps 2 through 4 for each channel to busyout.

Release Networking Channels

1. Starting at the Lucent INTUITY Main Menu (Figure 2-1), select



   The system displays the Networking Diagnostics window (Figure 2-11).

2. Press CHG-KEYS (F8).
3. Press RELEASE (F3).

   The system displays the Release Networking Channel window (Figure 2-26).

Figure 2-26. Release Networking Channel Window

4. Enter the number of the channel to be released.

   The system displays the message `working...` in the upper right-hand corner of the screen. When the process completes, the Status field on the Networking Diagnostics window (Figure 2-11) updates and shows `idle` for the channel entered.

5. Repeat steps 2 through 4 for each channel to be released.

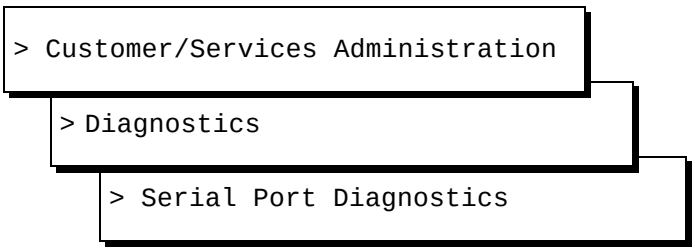
Multi-Port Serial Card Diagnostics

The multi-port serial card is equipped with diagnostic utilities that allow you to monitor lead status, view port parameter settings, and test board functionality.

Accessing Multi-Port Serial Card Diagnostics

To access the multi-port serial card diagnostics, do the following:

1. Starting at the Lucent INTUITY Main Menu (Figure 2-1), select



The system displays the Megaport and Megaplex Configuration and Diagnostics screen (Figure 2-27).

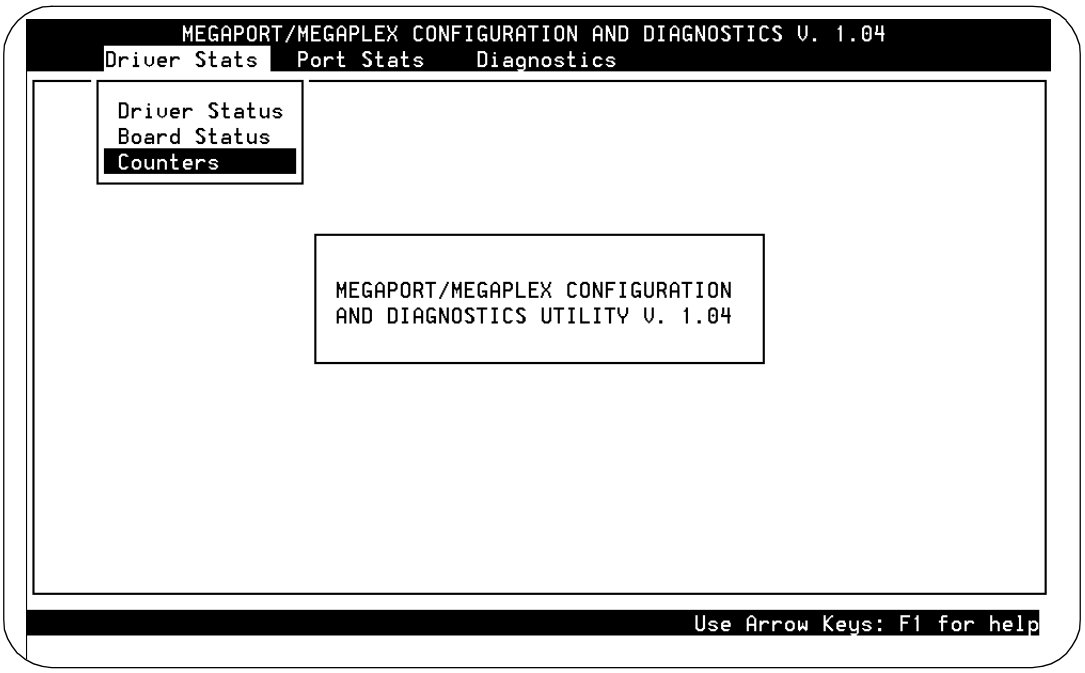


Figure 2-27. Megaport and Megaplex Configuration and Diagnostics Screen

The Megaport and Megaplex Configuration and Diagnostics screen contains a menu bar with the options Driver Stats, Port Stats, and Diagnostics.

Use the right and left arrow keys on the keyboard to move between the menu bar options.

Use the up and down arrow keys to move between menu options.

Press ENTER to select a menu option.

Press F1 for help.

Press ESC to exit.

Displaying Serial Port Driver Stats

The serial port driver stats include:

- Drive Status
- Board Status

Driver Status

The Driver Status option displays the device driver's current configuration including the driver version, number of boards configured, number of boards found, and memory mapping.

To display the drive status, do the following:

1. Start at the Megaport and Megaplex Configuration and Diagnostics screen (Figure 2-27).
2. Place the cursor on `Driver Stats`.
3. Place the cursor on `Driver Status`.
4. Press ENTER.

   The system displays the Driver Status window (Figure 2-28).

```
                    Driver Status
Equinox Megaport STREAMS Device Driver, Version 2.24a
Currently configured for 1 board(s) (logical).
Number of boards found: 1
Board address          BUFFER              REGISTER
Board # 1           0x000D0000           0x000D2000
```

Figure 2-28. Driver Status Window

Board Status

To display the board status, do the following:

1. Start at the Megaport and Megaplex Configuration and Diagnostics screen (Figure 2-27).
2. Place the cursor on `Driver Stats`.
3. Place the cursor on `Board Status`.
4. Press ENTER.

   The system displays the Board Status menu (Figure 2-29).

Figure 2-29. Board Status Menu

Displaying Port Stats

Three options are available on the Port Stats menu:

- Port Status
- Termio
- Register Dump

These options allow the system to show certain port characteristics.

Port Status

The Port Status selection is a real-time representation of the RS-232 leads. It includes:

- Transmit rate
- Receive rate
- Total characters received

- Total characters transmitted
- Buffered data counts

The Port Status display is useful in troubleshooting wiring problems, chattering lines or devices (modems) and in monitoring load activity over a single line. Activity measurements can be taken by noting the Transmitted and Received counts and comparing them with other serial ports.

To display the port status, do the following:

1. Start at the Megaport and Megaplex Configuration and Diagnostics screen (Figure 2-27).
2. Place the cursor on `Port Stats`.
3. Place the cursor on `Port Status`.
4. Press ENTER.

   The system displays the Prompt window (Figure 2-30).

```
device: /dev/ttysaa
```

Figure 2-30. Prompt Window

5. Enter the name of the device to be verified.

   The system displays the Port Status window (Figure 2-31).

```
                    /dev/ttysaa
    OUTPUT                      INPUT
TD            OFF           RD          OFF
DTR           OFF           DCD         OFF

XON/XOFF      XON'ed
Status        CLOSED
CPS              0          CPS            0
Transmitted            0    Received             0
Buffered         0          Buffered       0
```

Figure 2-31. Port Status Window

Termio

The Termio option displays the general terminal interface data associated with the serial card. It is similar to the “stty” command in that it prints all enabled termio flags.

To display the termio, do the following;

1. Start at the Megaport and Megaplex Configuration and Diagnostics screen (Figure 2-27).
2. Place the cursor on `Port Stats`.
3. Place the cursor on `Termio`.
4. Press ENTER.

   The system displays the Prompt window (Figure 2-30).
5. Enter the name of the device to be verified.

Register Dump

The Register Dump option displays a real-time window of the on-board registers. The data is in raw form and useful to only Equinox technical personnel. It is used to obtain information about the hardware status and various software flags.

To display the Register Dump, do the following;

1. Start at the Megaport and Megaplex Configuration and Diagnostics screen (Figure 2-27).
2. Place the cursor on `Port Stats`.
3. Place the cursor on `Register Dump`.
4. Press ENTER.

   The system displays the Prompt window (Figure 2-30).
5. Enter the name of the device to be verified.

   The system displays the Register Dump window (Figure 2-32).

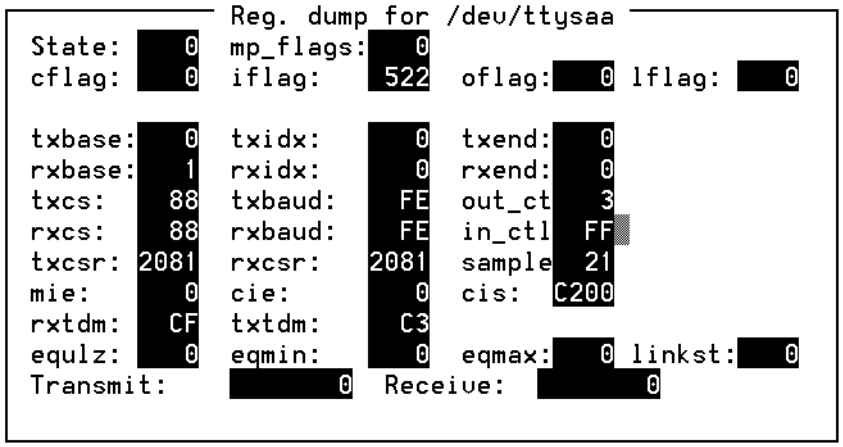


Figure 2-32. Register Dump Window

Diagnostics

There are two options on the Diagnostics menu:

- Loopback
- Send

They are intended for the experienced user. The Loopback test is designed to diagnose the board's primary components and their functionalities. There are two types of loopback tests: internal and external. The Send test simply writes a continuous stream of data to the specified port which is helpful in resolving wiring issues.

Serial Port External Loopback Test

Although the option for the serial port external loopback test appears on the screen, this option is not available. You should use the internal loopback test option.

Serial Port Internal Loopback Test

The internal loopback test is the same as the external loopback test except that it does not require that the transmit and receive pins be wired together. Because it does not test the full cabling of the port, the internal loopback test is not as thorough as the external loopback test.

To perform the serial port internal loopback test, do the following:

1. Start at the Megaport and Megaplex Configuration and Diagnostics screen (Figure 2-27).
2. Place the cursor on `Diagnostics`.
3. Place the cursor on `Loopback`.
4. Press ENTER.

   The system displays the Loopback menu (Figure 2-33).

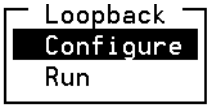


Figure 2-33. Loopback Menu

5. Place the cursor on `Configure`.
6. Press ENTER.

   The system displays the Configure menu (Figure 2-34).

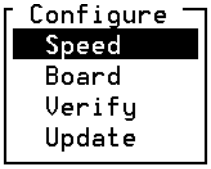


Figure 2-34. Configure Menu

7. Place the cursor on `Board.`
8. Press ENTER.

   The system displays the Board menu (Figure 2-29).
9. Press ENTER to select the first group of ports.
10. Press ESC.

    The system displays the Loopback menu (Figure 2-33).
11. Place the cursor on `Run`.
12. Press ENTER.

    The system displays the Run menu (Figure 2-35).

Figure 2-35. Run Menu

13. Place the cursor on `8 Ports`.
14. Press ENTER.

    The system displays the Loop Type menu (Figure 2-35).

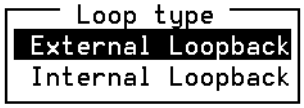


Figure 2-36. Loop Type Menu

15. Place the cursor on `Internal Loopback`.
16. Press ENTER.

    The system displays the Internal Loopback window (Figure 2-37).

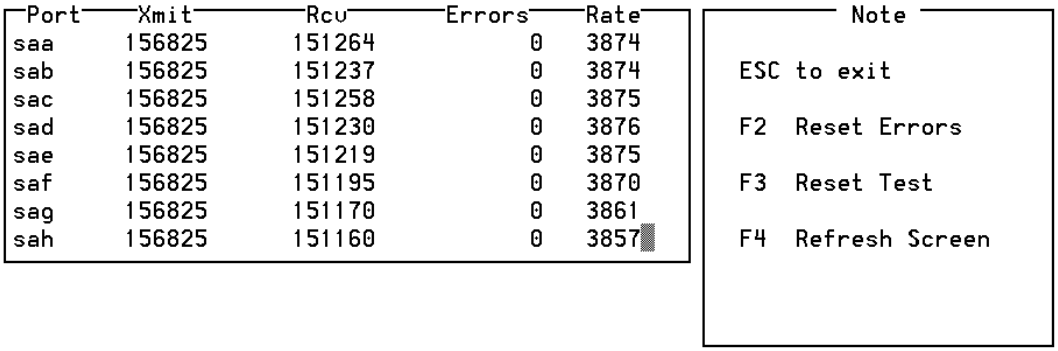
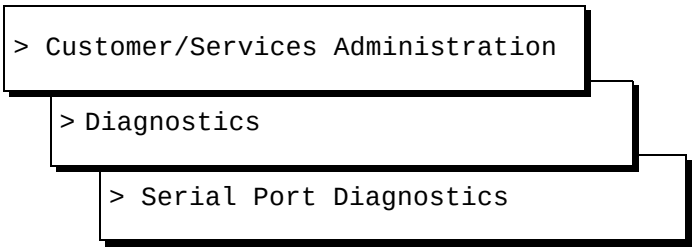


Figure 2-37. Internal Loopback Window

Serial Port Send Test

The Send test simply writes a continuous stream of printable alphanumeric characters to the specified port. This is helpful when a new device is being added to the system and a continuous stream of data is required to resolve wiring issues. To perform the serial port send test, do the following.

1. Starting at the Lucent INTUITY Main Menu (Figure 2-1), select



2. Place the cursor on `Diagnostics`.
3. Place the cursor on `Send`.
4. Press ENTER.

   The system displays the Prompt window (Figure 2-30).
5. Press ENTER.

   The system displays the Speed menu (Figure 2-38).

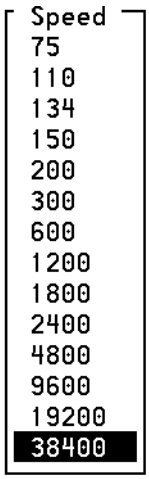


Figure 2-38. Speed Menu

6. Place the cursor on the appropriate speed.

7. Press ENTER.

   The system displays the Characters Transmitted window (Figure 2-30).

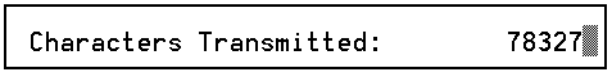


Figure 2-39. Characters Transmitted Window

Switch Integration

Switch integration is the mechanism by which the Lucent INTUITY system and the switch share information. The method of integration is determined by the switch.

NOTE:
At this time, switch integration diagnostic utilities are available only for Lucent data communications interface unit (DCIU) integrations. Therefore, the procedures in the section only apply to those customers with DCIU integrations.

For all Lucent DCIU switch integrations with the Lucent INTUITY system, a general-purpose synchronous controller AT-enhanced (GPSC-AT/E) card is required. The Lucent INTUITY system communicates with the switch over the DCIU link between the switch and the GPSC-AT/E card in the Lucent INTUITY system.

There are several diagnostic utilities associated with switch integration

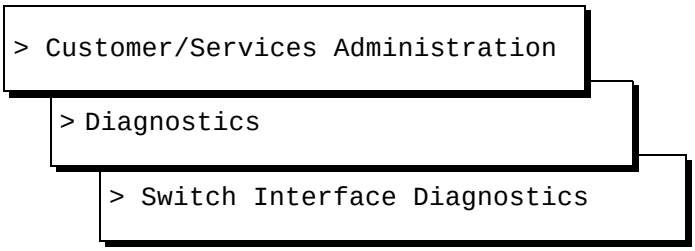
- View switch link status
- Diagnose switch integration card
- Reset switch integration hardware and software
- Busy-out switch integration link
- Release switch integration link

View Switch Link Status

View in the switch link status provides information on the switch link which can be useful when troubleshooting.

To view the status of the switch link, do the following:

1. Starting at the Lucent INTUITY Main Menu (Figure 2-1), select



The system displays the Diagnose Switch Link window (Figure 2-40).

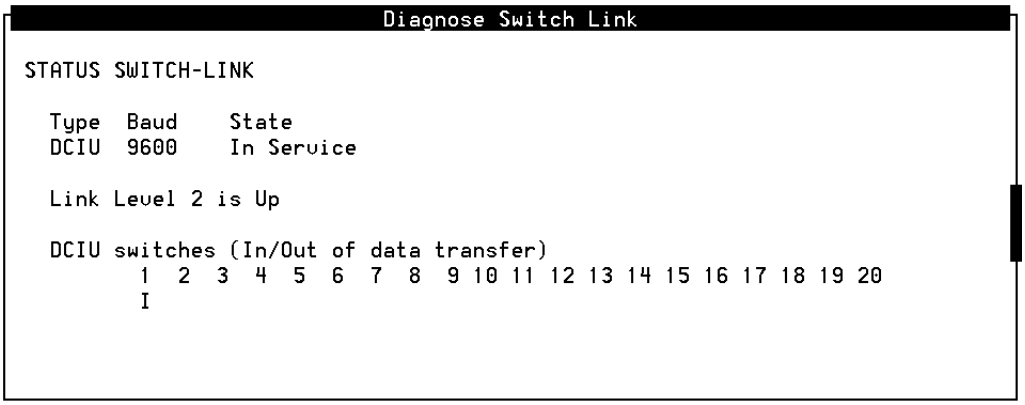


Figure 2-40. Diagnose Switch Link Window

Interpreting Switch Link Status

Table 2-3 explains each field on the STATUS SWITCH-LINK portion of the Diagnose Switch Link screen. When troubleshooting, first make sure that the link is In service (State field) and Up (Link Level 2 field). If the link is Down, there is likely a physical connection problem (cabling) or a translation problem on the switch. Access the alarm log for more information. See Chapter 1, "Getting Started", in *"Lucent INTUITY Messaging Solutions Release 4.0 Alarms and Log Messages"* for the procedure.

Table 2-3. Switch Link Status Fields

Status Field	DCIU Value	Definition
Type	DCIU	This is the mode of switch integration for the Lucent INTUITY system.
Baud	9600	This is the speed at which the Lucent INTUITY system and the switch communicate.
State	In Service or BUSIED	This is the status of the link. In Service means that the link is up and running and functioning normally. BUSIED means that the link has been manually busied out.
Link Level 2 is	Up or Down	The field tells you whether the link is Up (actively processing data for calls) or Down (not processing data for calls).
DCIU Switches (In/Out Of Data Transfer)	I, O, or blank	The numbers 1 through 20 represent switches in a DCS network. An "I" indicates that the switch is "in data transfer" and operational. An "O" indicates that the switch is "out of data transfer" and not operational. If the space under the switch number is blank, that particular switch is not being translated for use with the Lucent INTUITY system.

Diagnose Switch Integration Card

The switch interface card (GP-Synch) is equipped with diagnostic utilities that test board functionality. This diagnostic checks the board's timer and parity. It also does several local loopback tests.

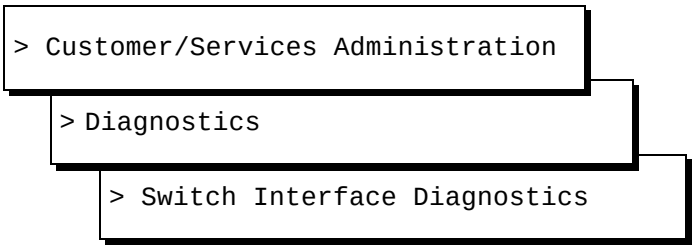
If the system detects a switch link problem, it may invoke this diagnostic automatically.

It may be necessary to diagnose the switch link in order to troubleshoot problems on the Lucent INTUITY system. Do not diagnose the switch link unless instructed to do so by this document or by the remote service center personnel.

CAUTION:
Diagnosing the switch integration card disables all lines associated with the switch link, including all INTUITY AUDIX Voice Messaging lines. Users calling AUDIX will hear a fast busy signal. Callers sent to AUDIX coverage will hear ringing with no answer.

To diagnose the switch integration card, do the following:

1. Starting at the Lucent INTUITY Main Menu (Figure 2-1), select



   The system displays the Diagnose Switch Link window (Figure 2-40).

2. Press CHG-KEYS (F8).
3. Press DIAGNOSE (F4).

   The system displays the Test Type menu (Figure 2-41).

Figure 2-41. Test Type Menu

4. Select `board`.

   The diagnostic test takes about one minute. The word `working` appears in the upper right-hand corner of the screen.

Interpreting Switch Interface Card Diagnostic Results

The results for the GP-Synch or the DCIU circuit card appear in command output window.

GP-Synch Circuit Card Results

If the diagnosis of the GP-Synch circuit card is successful, the following two messages appear in the Command Output window (Figure 2-42).

```
DIAGNOSTIC:GPSC-0: Diagnostics Started
DIAGNOSTIC:GPSC-0: All Tests Passed
```

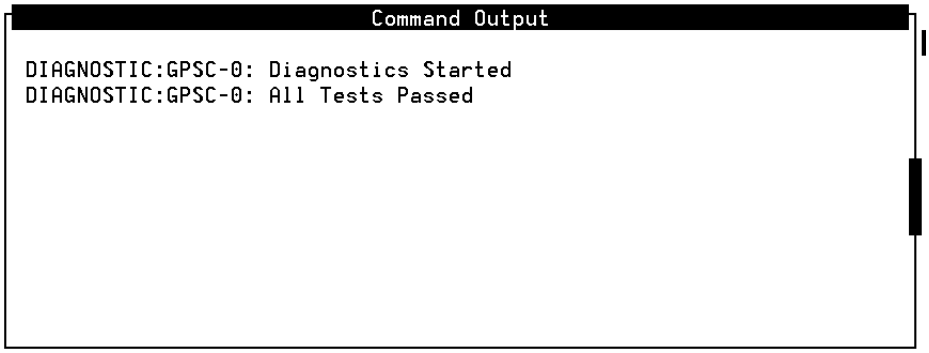


Figure 2-42. Command Output Window

If the diagnosis of the GP-Synch circuit card fails, any one of a number of messages may appear. The following are a few examples.

```
DIAGNOSTIC:GPSC-0: Diagnostics Started
DIAGNOSTIC:GPSC-0: Some Tests Failed
DIAGNOSTIC:GPSC-0: Phase 1, Number Passed:0, Number
                    Failed:1
FAILURE:GPSC-0: Specific failure message appears here
```

Regardless of reason, if the diagnostics fails, replace the GP-Synch circuit card using Chapter 5, "Replacing or Installing Circuit Cards".

DCIU Circuit Card Results

If the diagnosis of the DCIU circuit card is successful, the following series of messages appear in the Command Output window (Figure 2-42).

```
EiconCard Self-Test Utility
ectest 3.03 Rev. 08
Copyright (c) Eicon Technology Corporation 1995.  All
Rights Reserved.

               -------------------------
                   Card #1: EC C20

ectest: Warning #FA304
The application software running on EiconCard #1 was
stopped.


                   CARD CONFIGURATION:

I/O Port Address           :   240
Interrupt Request Level    :   12
Memory size                :   1024K
```

```
                    CARD DIAGNOSTIC
In progress...
EiconCard EC C20, Diagnostic: Passed
                ------------------------
                    DIAGNOSTIC SUMMARY:
Card #1: Success.
                ------------------------
```

NOTE:
Not all of the information displayed by the diagnostics appears in the first Command Output window. You must scroll down the window using the function keys.

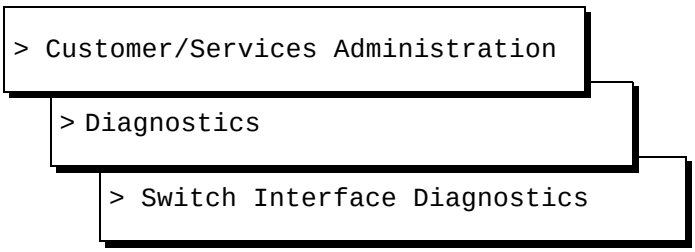
If the diagnostics fail, replace the DCIU circuit card using Chapter 5, "Replacing or Installing Circuit Cards".

Reset Switch Integration Hardware and Software

This diagnostic command resets and initializes the switch interface card (GPSC-AT/E) and its associated software (DCIU software). Occasionally, the DCIU link "hangs." Resetting the switch integration hardware and software often remedies the problem without a lot of down time.

To reset the switch integration card and its software, do the following:

1. Starting at the Lucent INTUITY Main Menu (Figure 2-1), select



   The system displays the Diagnose Switch Link window (Figure 2-40).

2. Press CHG-KEYS (F8).
3. Press DIAGNOSE (F4).

   The system displays the Test Type menu (Figure 2-41).

4. Select `reset` from the Test Type menu.

   The reset takes approximately one minute. When it is finished the system displays the following message:

   `Reset completed.`

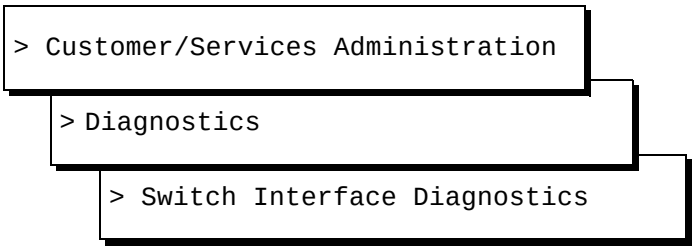
Busy-Out Switch Integration Link

Busying out the switch link disables all lines associated with the switch link, including all INTUITY AUDIX Voice Messaging lines. Users calling AUDIX will hear a fast busy signal. Callers sent to AUDIX coverage will hear ring/no answer. It may be necessary to busy-out the switch link in order to troubleshoot or replace the switch card or its cables. Do not busy-out the switch link unless instructed to do so by this document or your remote service center personnel.

CAUTION:
In order to prevent alarms being generated by the switch, also busy out the switch link at the switch any time you busy out the switch from the Lucent INTUITY system. See the appropriate switch documents for the procedures.

To busy-out the switch link, do the following:

1. Starting at the Lucent INTUITY Main Menu (Figure 2-1), select



   The system displays the Diagnose Switch Link window (Figure 2-40).

2. Press CHG-KEYS (F8).
3. Press BUSY-OUT (F2).

   The system displays the Confirm window (Figure 2-43).

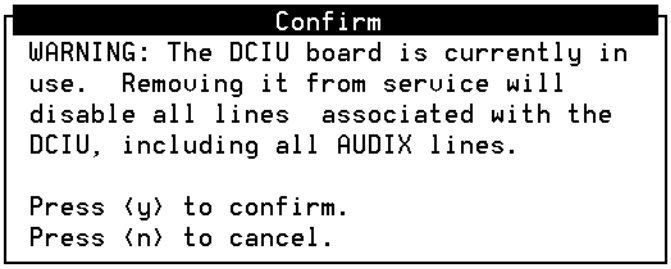


Figure 2-43. Confirm Window

CAUTION:
The DCIU board is currently in use. Removing it from service will disable all lines associated with DCIU, including all AUDIX lines. Users calling AUDIX will hear a fast busy signal. Callers sent to AUDIX coverage will hear ring/no answer.

4. Press **y**

   If you want to cancel the request press **n**

   The system displays a Busyout Command Output window (Figure 2-44).

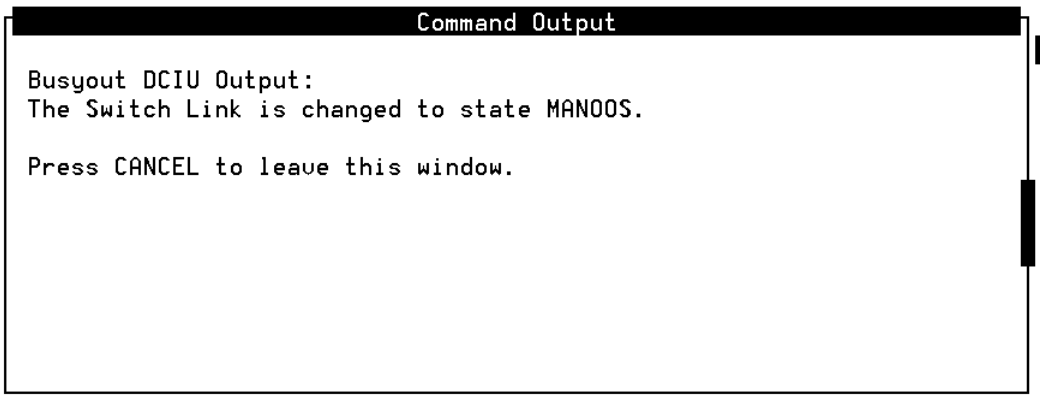


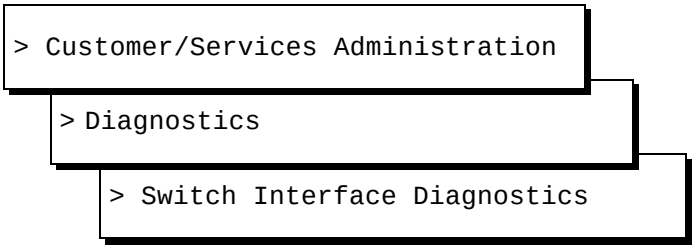
Figure 2-44. Busyout Command Output Window

Release Switch Integration Link

Releasing the switch link puts the link back in service so that it can accept and process data.

To release the switch link, do the following:

1. Starting at the Lucent INTUITY Main Menu (Figure 2-1), select



   The system displays the Diagnose Switch Link window (Figure 2-40).

2. Press CHG-KEYS (F8).
3. Press RELEASE (F3).

   The system displays Release Command Output window (Figure 2-45).

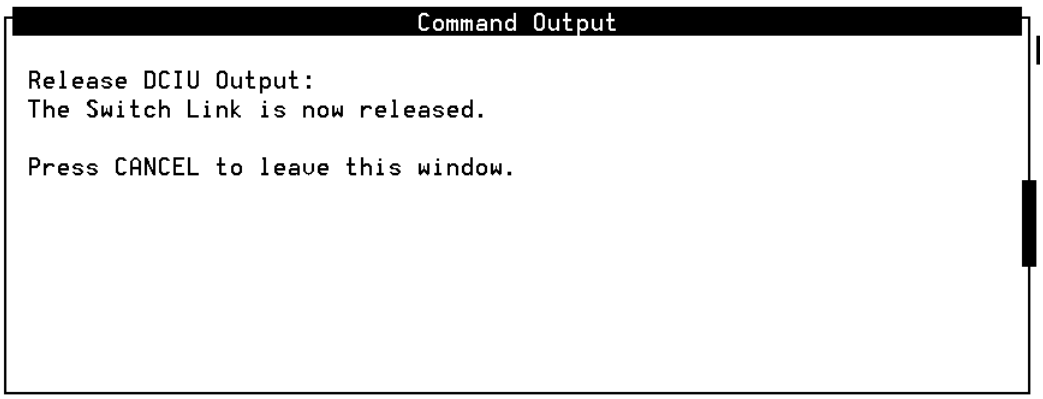


Figure 2-45. Release Command Output Window

TCP/IP Diagnostics

Use the TCP/IP diagnostics screens when users are experiencing problems with Lucent INTUITY Message Manager. These screens can help diagnose TCP/IP problems and can determine if the Lucent INTUITY system is communicating properly with other machines.

You can use the TCP/IP diagnostics screens to do the following:

- Test the Lucent INTUITY system's TCP/IP software.
- Test the connection between the Lucent INTUITY system and a user's PC.
- View the statistics for the LAN card.

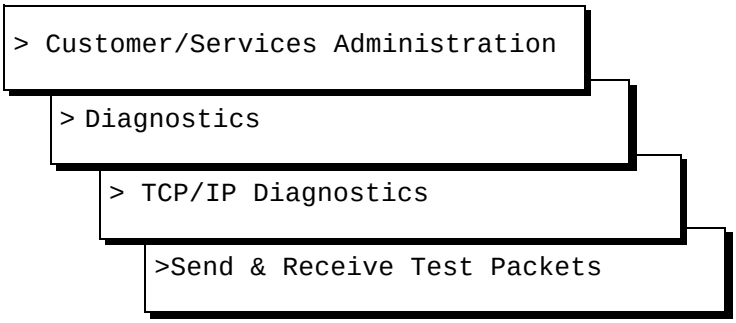
For the two tests, test data (packets) are sent back and forth from the Lucent INTUITY system to a networked machine. If no problems exist, the data will be returned exactly as it was sent.

These tests are described in the following sections.

Testing the Lucent INTUITY System's TCP/IP Software

If users are experiencing difficulties with Lucent INTUITY Message Manager, you may first want to ensure that the problem is not with the Lucent INTUITY system's UNIX TCP/IP software. For this procedure, run the diagnostic on the Lucent INTUITY system itself. This test will *not* involve the LAN card or the network.

1. Starting at the Lucent INTUITY Main Menu (Figure 2-1), select



The system displays the Send & Receive Test Packets From window (Figure 2-46).

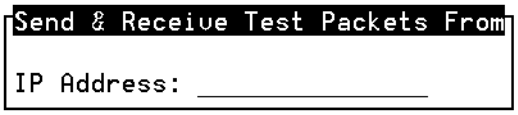


Figure 2-46. Send and Receive Test Packets Window

2. Enter the Internet Protocol (IP) address of the Lucent INTUITY system (*not* a PC address).

   For this information, see the TCP/IP Administration screen.

3. Press SAVE (F3).

   The system displays the message `working...` in the upper right-hand corner of the screen. While the cursor flashes, the system is performing the test.

   When finished, the system displays the Test Packets Results window (Figure 2-47). This screen shows the results of sending 10 test packets from the Lucent INTUITY system to itself.

```
                          Test Packets Results
72 bytes from xxx.xx.xx.xx: icmp_seq=0. time=0. ms
72 bytes from xxx.xx.xx.xx: icmp_seq=1. time=0. ms
72 bytes from xxx.xx.xx.xx: icmp_seq=2. time=0. ms
72 bytes from xxx.xx.xx.xx: icmp_seq=3. time=0. ms
72 bytes from xxx.xx.xx.xx: icmp_seq=4. time=0. ms
72 bytes from xxx.xx.xx.xx: icmp_seq=5. time=0. ms
72 bytes from xxx.xx.xx.xx: icmp_seq=6. time=0. ms
72 bytes from xxx.xx.xx.xx: icmp_seq=7. time=0. ms
72 bytes from xxx.xx.xx.xx: icmp_seq=8. time=0. ms
72 bytes from xxx.xx.xx.xx: icmp_seq=9. time=0. ms

---- xxx.xx.xx.xx PING Statistics----
10 packets transmitted, 10 packets received, 0% packet loss
round-trip (ms)  min/avg/max = 0/0/0

Note: High packet loss, long round-trip time, or packets received out
of order (icmp_seq) may indicate a network problem.

Press <HELP> for more information, <CANCEL> to continue.
```

Figure 2-47. Sample Test Packets Results Window

4. Examine the packet loss field in the PING Statistics displayed on the Test Packets Results screen. The value for this field will be either 0% or 100%, as described below:

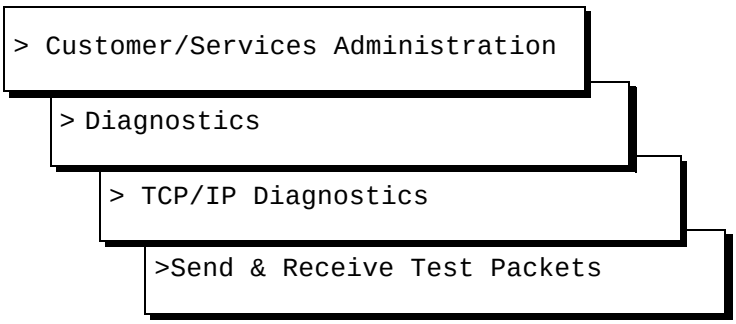
   - If 0% packet loss is reported, the test is successful. This result indicates that the problem is *not* with the Lucent INTUITY system's TCP/IP software; however, the problem may be with the LAN card or the network. To further isolate the problem, test the connection between the Lucent INTUITY system and the troubled user's PC. See "Testing the Connection Between the Lucent INTUITY System and a User's PC" below for the procedure.
   - If 100% packet loss is reported, the test failed. Check with your LAN administrator to ensure that you used the correct IP address for the system. This result may indicate a problem with the Lucent INTUITY system's UNIX TCP/IP software. Reboot the system, and repeat this test. If the test still fails, contact your remote services center. See "Shutting Down and Rebooting the Lucent INTUITY System", in Chapter 3, "Common System Procedures", for the rebooting procedure.

Testing the Connection Between the Lucent INTUITY System and a User's PC

Once it has been determined that the Lucent INTUITY system's TCP/IP software is functioning correctly (see the previous section), it needs to be determined that the Lucent INTUITY system can properly communicate with the troubled user's PC.

To test the LAN card and the network, do the following:

1. Starting at the Lucent INTUITY Main Menu (Figure 2-1), select



   The system displays the Send & Receive Test Packets From screen (Figure 2-46).

2. Enter the Internet Protocol (IP) address for the PC to which you want to have test packets sent and received.

3. Press SAVE (F3).

   The system displays `working` and a flashing cursor at the upper right-hand corner of the screen. While the cursor flashes, the system is performing the test.

   The system displays the Sample Test Packets Results window (Figure 2-47) when the test is finished.

Interpreting the Sample Test Packets Results Window

4. Examine the PING Statistics displayed on the Test Packets Results screen. These statistics are described below:

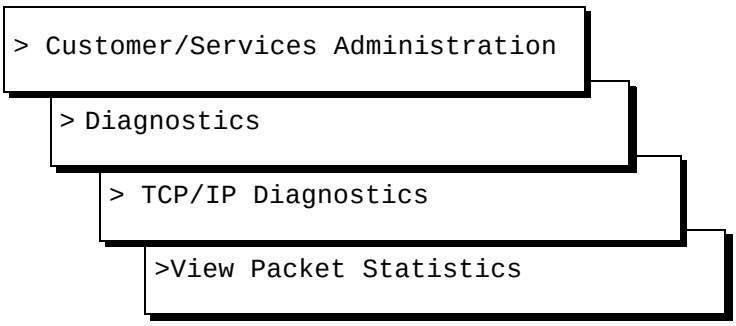
   - *icmp_seq*: The sequence identifier of the packet. The packets are numbered from 0 to 9, in the order that they were sent, and are displayed on the screen in the order that they were returned. If one or two packets are returned out-of-sequence, the condition is acceptable to the Lucent INTUITY system. However, if more than two packets are out-of-sequence (for example, 0, 2, 5, 3, 1...), inform the LAN or system administrator. Out-of-sequence packets may indicate network congestion or misrouting.
   - *time*: The round trip transmission time, in milliseconds (ms), of the packet. Round trip delays greater than 10,000 ms may indicate a network problem.
   - *packet loss*: The percentage of packets that were not returned during the test. The number of lost packets will vary from network to network. Percentage of loss depends upon the number of users, the number of machines, and the distance between machines.
     - — Consider the test successful if the Lucent INTUITY system reports a packet loss percentage between 0 and 49%. Do, however, inform the LAN or system administrator if the loss is above 10%. Slow response time may be the result of such a loss.
     - — Consider the test a failure if the Lucent INTUITY system reports a packet loss percentage between 50% and 99%. In this range, Lucent INTUITY Message Manager performance will be extremely slow or will completely fail.

       A 100% packet loss indicates that the Lucent INTUITY system has not established communication to the test machine address. The test will not report if packets are being sent to an incorrect or non-existent machine. Verify that you used the correct IP address for the PC. To further isolate the problem, repeat the test for a PC *not* experiencing problems with Lucent INTUITY Message Manager. If this test succeeds, the problem is with the first test PC. If this test fails, the problem is likely with the Lucent INTUITY system's LAN card or the network connection to the Lucent INTUITY system.

View Packet Statistics — LAN Card

The Packet Statistics screen displays data concerning traffic on the LAN card used for Lucent INTUITY Message Manger. Use this screen to identify problems occurring with the LAN card and the network.

1. Starting at the Lucent INTUITY Main Menu (Figure 2-1), select



The system displays the Packet Statistics window (Figure 2-48).

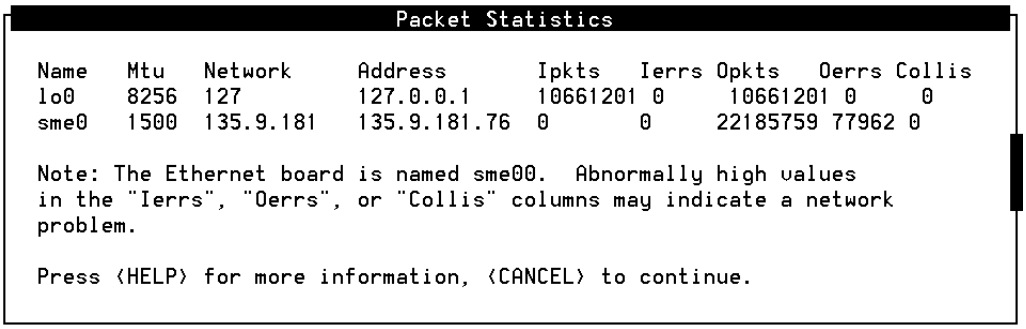


Figure 2-48. Packet Statistics Window

Interpreting the Packet Statistics Window

Table 2-4 explains each field on the Packet Statistics window. Once the system is turned on, packets (data) are sent over the network as interactions occur.

To see the statistics for the LAN card, examine the data for the line beginning with *sme00*. When the data on this screen indicates problems with the network, contact your LAN administrator.

Table 2-4. Fields on Packet Statistics Screen

Field	Description
Name	The name of the interface. The LAN card is *sme00*. An asterisk (*) in the field indicates that the interface is not enabled.
Mtu	The maximum transmission unit in bytes. This field indicates the longest packet that can be transmitted without needing to be split.
Network	The network to which the interface provides access. For the LAN card (sme00), the value for this field is always *none*.
Address	The IP address assigned to this interface. For the LAN card (sme00), the value for this field is always *none*.
Ipkts	The number of packets received over the network since the Lucent INTUITY system was turned on.
Ierrs	The number of damaged packets received. A value for this field greater than 10% of the packets received (Ipkts) indicates that the network is too busy and performance is slow.
Opkts	The number of packets sent over the network since the Lucent INTUITY system was turned on.
Oerrs	The number of packets damaged while being sent. A value for this field greater than 10% of the packets sent (Opkts) indicates that the network is too busy and performance is slow.
Collis	The number of collisions occurring on the network. A collision occurs when two machines on the network attempt to transmit a packet at the same time. Packets will be sent again; however, too many collisions can slow down the network. A value for this field greater than 10% of the packets sent (Opkts) indicates that the network is too busy and performance is slow.

Voice Card Diagnostics

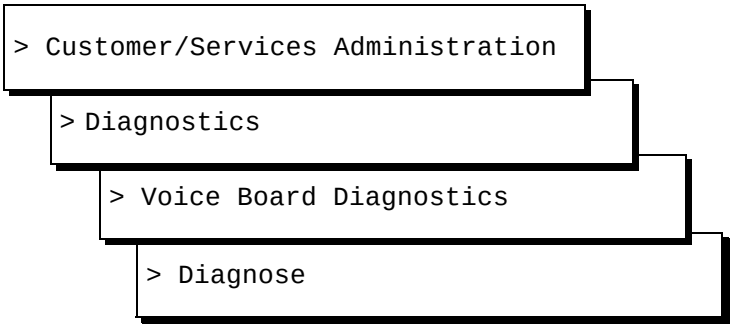
The integrated voice code excited linear prediction (CELP) 6-channel (IVC6) card is the Lucent INTUITY system's voice card. It is the means by which voice is transmitted between the Lucent INTUITY system and the switch over analog lines.

To determine which IVC6 card and/or channel is having a problem, look at the alarm log. See Chapter 1, "Getting Started," in *"Lucent INTUITY Alarms and Log Messages,"* for more information on the alarm log.

Diagnose Voice Card

To diagnose one or more voice cards, do the following:

1. Starting at the Lucent INTUITY Main Menu (Figure 2-1), select



The system displays the Diagnose Equipment window (Figure 2-49).

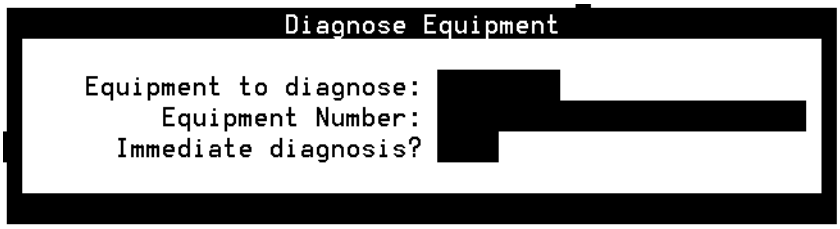


Figure 2-49. Diagnose Equipment Window

Each voice card has a number (0 through 11) which is determined by the card's address set by dip switches. A card's number is shown on the first line of its display.

2. Enter **card** in the `Equipment to diagnose:` field**.**

3. Enter the number of the card(s) you want to diagnose in the `Equipment Number:` field. You can enter card numbers in several forms.
   - A single card number (for example: 1)
   - A range of card numbers (for example: 0-4)
   - A list of single card numbers (for example: 6,9,10)
   - A list of single cards and ranges (for example: 1,4-7,9)

   CAUTION:
   Do not diagnose all of the voice cards at once. This may leave no channels available on the system to accept incoming calls.

4. Enter **n** in the `Immediate Diagnosis?` field so that the card will be diagnosed when it is free of calls.

   CAUTION:
   *Diagnosing voice cards immediately by entering **y** in the Immediate Diagnosis? field will disconnect calls in progress. Do not enter **y** unless call traffic is extremely low. Diagnosing voice cards only when they are free of calls may take longer, but no calls will be disconnected.*

5. Press SAVE (F3).

   Depending on the number of cards selected, diagnosis can take several minutes. When the diagnosis is complete the system displays the following message:

   ```
   Request to diagnose Tip/Ring card <number> is
   completed.

   Press Enter to continue.
   ```

6. Press ENTER.

Interpreting Voice Card Diagnostic Results

The voice card diagnostics progress through three main steps.

- Each channel (and as a result the entire card) is taken out of service by changing its state to MANOOS (manually out of service).
- Each channel is checked for loop current. Loop current is present on a channel when a live phone line is physically connected between the IVC6 port and a properly administered switch port.
- Each channel (and as a result the entire card) is put back into service by changing their states to INSERV (in-service).

If a card and all of its channels pass diagnostics, each channel is returned to its previous state (prior to the diagnostic), and the following message is shown in the Diagnose Equipment Results screen.

`Diag TR` *`number`*`, Passed.`

The following messages are normal outputs of the diagnostic process and do not affect the operation of the card.

- `Diag TR number, Not attempting dial tone training (/vs/switch/analog/noDTtrain exists)`

  For some switches, dial tone training is turned off because if the Lucent INTUITY system tries to get dial tone from many switch ports at one time, failures can occur on the switch side.

- `Found Loop current on channel` *`number`*

  This message indicates that there is a working telephone line attached to the voice port.

- `Request to diagnose Tip/Ring` *`number`* `completed.`

  This message indicates that all requested tests have been completed.

The following list shows messages printed in the Diagnose Equipment Results screen that could signal problems.

- `No loop current on channel` *`number`*

  OR

  `Channel number changed to state FOOS`

  The Lucent INTUITY system does not detect a working telephone line connected to the voice port. If this occurs, take the following steps.

  a. Verify that the phone line is securely connected to the voice card and the switch.

  b. Verify that the analog line is set up properly on the switch. Refer to the switch integration document included with your Lucent INTUITY system documentation set for more information.

  c. Verify that the switch port has a dial tone, by removing the analog line, plugging in an analog telephone, and listening with the handset for dial tone. If there is dial tone, the voice card is likely the problem. If there is no dial tone, the problem is on the switch side. Verify switch wiring and administration.

- `Diag TR` *`number`*`: No dial tone frequencies set.`

  The Lucent INTUITY system did not detect dial tone, but it did detect loop current (phone line is attached). This could be a result of excessive load on the switch circuit pack.

  a. Verify that Lucent INTUITY system analog lines are distributed over several switch circuit packs.

b. Verify that the switch administration for the ports is valid.

- `Channel number changed to state BROKEN`

  OR

  `Card number changed to state BROKEN`

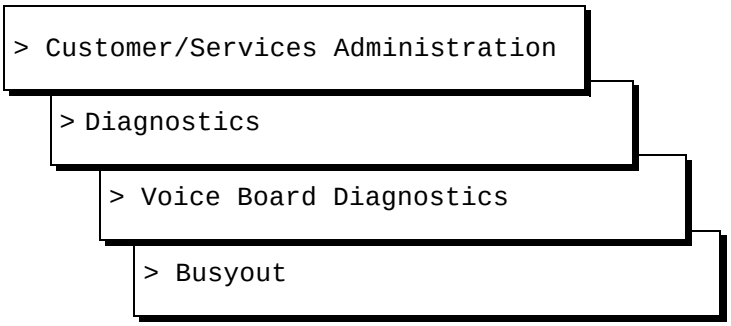
  The channel or card is not working. Replace the card using Chapter 5, "Replacing or Installing Circuit Cards".

Busyout Voice Card

Busying out a voice card takes all channels on that card out of service (MANOOS or manually out of service state) so that calls are not forwarded to those channels You may also busy out one or more individual channels.

To busy out voice cards or channels, do the following:

1. Starting at the Lucent INTUITY Main Menu (Figure 2-1), select



The system displays the Busyout of Voice Equipment window (Figure 2-50).

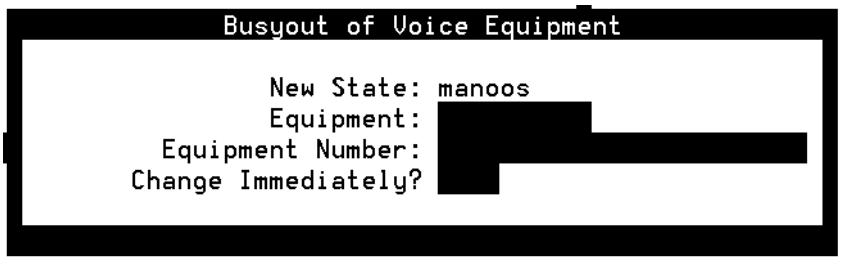


Figure 2-50. Busyout of Voice Equipment Window

The New State field displays `manoos`. This is the state to which the cards or channels selected will be changed. This field cannot be changed.

2. Enter **card** or **channel** in the `Equipment:` field.
3. Enter the number of the card(s) or channel(s) you want to busyout in the `Equipment Number:` field.

   Card numbers range from 0 through 10, channel numbers range from 0 through 63. You can enter card and channel numbers in several forms.

   - A single card number (for example: 1)
   - A range of card numbers (for example: 0-4)
   - A list of single card numbers (for example: 6,9,10)
   - A list of single cards and ranges (for example: 1,4-7,9)

   CAUTION:
   Do not busyout all of the voice cards at once. This may leave no channels available on the system to accept incoming calls.

4. Enter **n** in the `Change Immediately?` field so that the card or channel will busy out when it is free of calls.

   CAUTION:
   *Busying out voice cards or channels immediately by entering **y** in the Change Immediately? field will disconnect calls in progress. Do not enter **y** unless call traffic is extremely low. If **n** is entered, the voice cards or channels will busy out when they are free of calls. Busying out voice cards and channels only when they are free of calls may take longer, but no calls will be disconnected.*

5. Press SAVE (F3).

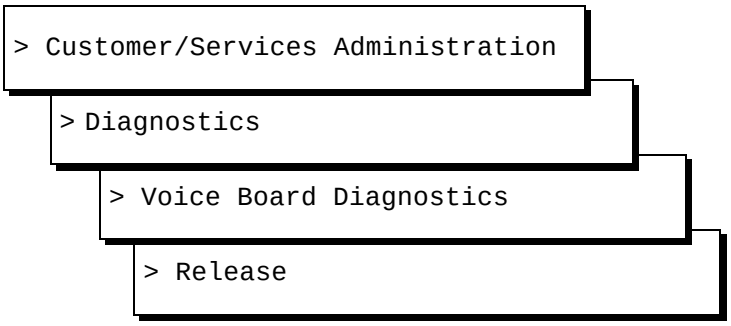
   When the state change is complete a Command Output screen appears (Figure 2-42).

Release Voice Card

Releasing a voice card puts all channels on that card in service (INSERV) so that they can accept and process calls. You can also release one or more individual channels.

To release voice cards or channels, do the following:

1. Starting at the Lucent INTUITY Main Menu (Figure 2-1), select



   The system displays the Release of Voice Equipment window (Figure 2-51).

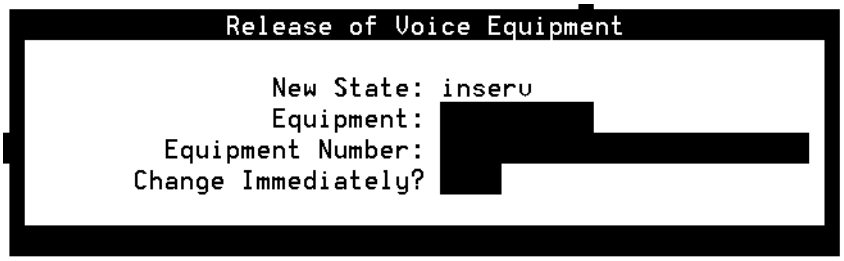


Figure 2-51. Release of Voice Equipment Window

   The New State field displays inserv (in service). This is the state that the cards or channels selected will be changed to. This field can not be changed.

2. Enter **card** or **channel** in the `Equipment` field, depending on what is to be released.

3. Enter the number of the card(s) or channel(s) you want to release in the `Equipment Number:` field.

   Card numbers range from 0 through 10, channel numbers range from 0 through 63. The card and channel numbers can be entered in several forms.

   - A single card number (for example: 1)
   - A range of card numbers (for example: 0-4)

- A list of single card numbers (for example: 6,9,10)
- A list of single cards and ranges (for example: 1,4-7,9)

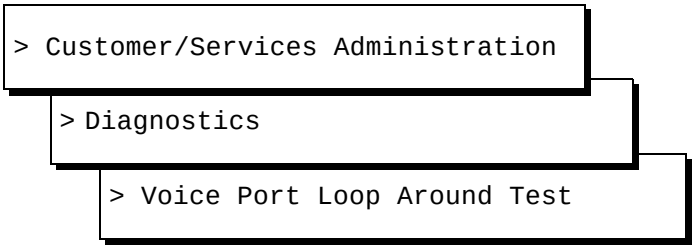
4. Enter **y** in the `Change Immediately?` field so that the card or channel will be released immediately.
5. Press SAVE (F3).

   When the state change is complete the system displays a Command Output window (Figure 2-42).

Voice Port Diagnostics

To diagnose a voice port without removing the voice card from service, do the following:

1. Starting at the Intuity Main Menu (Figure 2-1), select



   The system displays the Voice Port Loop Around Test window (Figure 2-52).

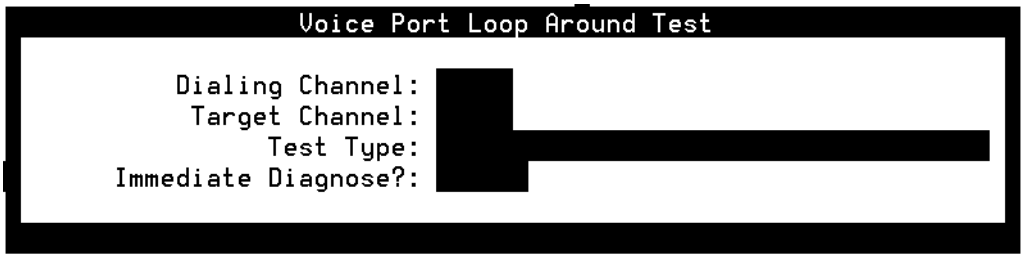


Figure 2-52. Voice Port Loop Around Test Window

2. Enter a channel number in the `Dialing Channel` field.

   The dialing channel is the channel which sends the signal used to diagnose the target channel.

   You can enter **AUTO** in this field to allow the system to choose the dialing channel.

3. Enter the number of the channel you want to diagnose in the `Target Channel` field.

4. Enter a test type in the `Test Type` field.

   The following tests can be run on the voice port:

   - `all`
   - `code`
   - `fax receive`

- fax transmit
- gain control
- loop current/dial tone detection
- manipulation of hook state
- play
- ring detection
- speed control
- touch tone receive
- touch tone transmit

NOTE:
The gain control, loop current/dial tone detection, manipulation of hook state, ring detection, speed control, touch tone receive, and touch tone transmit test types will be run during a voice port loop around test regardless of the entry in the Test Type field.

5. Enter **no** in the Immediate Diagnose? field.

   If you enter **yes** in this field the diagnosis will be performed immediately regardless of the current state of the dialing channel.

   NOTE:
   Immediate diagnosis cannot be done when **AUTO** is entered in the Dialing Channel field.

6. Press SAVE (F3).

   The system completes the diagnostics and displays the Voice Port Loop Around Test Results screen (Figure 2-53).

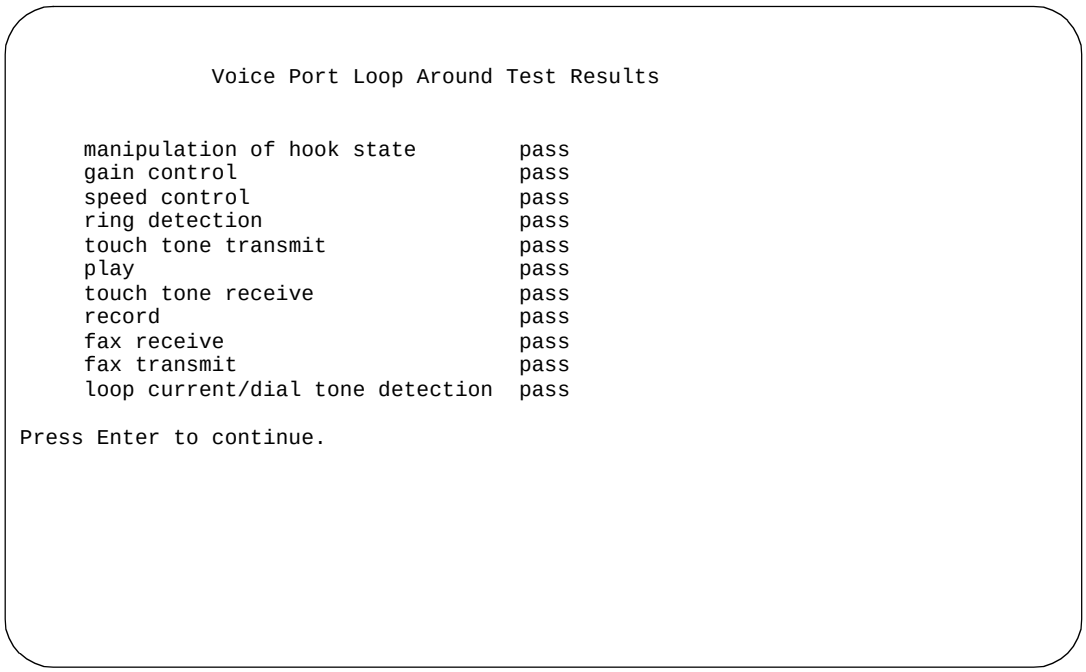


Figure 2-53. Voice Port Loop Around Test Results Screen

7. Press ENTER.

   The system displays the Voice Port Loop Around Test window (Figure 2-52).

Common System Procedures

3

Overview

This chapter describes

- Cartridge tape and floppy disk drive operating procedures
- Backup and restore procedures
- Voice system administration procedures

Purpose

The purpose of this chapter is to provide the procedures necessary to perform the most common procedures associated with the Lucent INTUITY system.

Accessing the Product ID

The product ID is a 10-digit number used to identify each Lucent INTUITY system. You must have the product ID when contacting your remote maintenance service center.

To access the product ID, do the following:

1. Start at the Lucent INTUITY Main Menu (Figure 3-1).

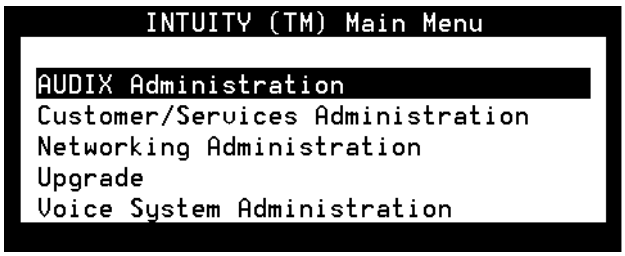
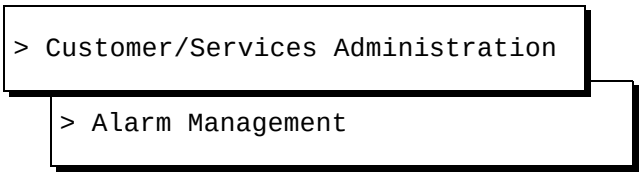


Figure 3-1. Lucent INTUITY Main Menu

2. Select



The system displays the Alarm Management window (Figure 3-2)

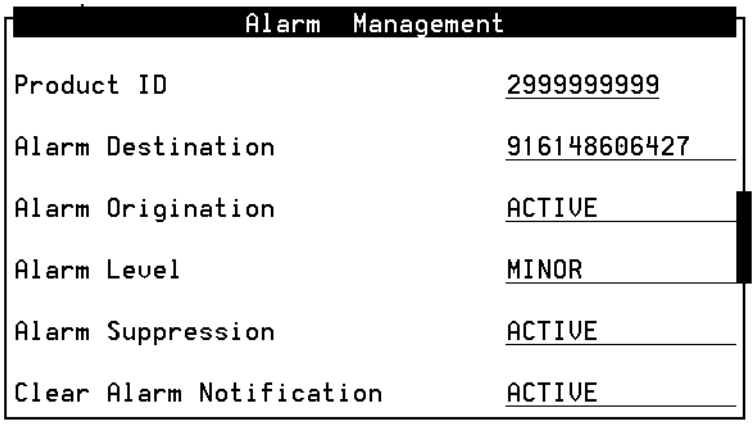


Figure 3-2. Alarm Management Window

3. Record the product ID for use with the remote maintenance center.

About Cartridge Drives and Tapes

Cartridge tapes provide for the storage of information used by the Lucent INTUITY system. The MAP/100 reads information from and writes information to cartridge tapes through the tape drive. The tape drive is located in Bay 9.

Types of Cartridge Tape Drives

The MAP/100 uses two types of tape drives:

- 2-Gbyte
- 525-Mbyte

NOTE:
All tapes created in a 2-Gbyte tape drive can be read by a 525-Mbyte tape drive. The only tapes, created in a 525-Mbyte tape drive, which can be read by a 2-Gbyte tape drive, are Lucent INTUITY system backup tapes.

When to Change Cartridge Tapes

The manufacturers of the cartridge tapes recommend that you replace a tape after approximately 30 full-capacity write or read operations. For example, if two tapes are being alternated for the unattended nightly backup, replace both tapes every 2 months.

Inserting and Removing Cartridge Tapes

2-Gbyte Drive

Inserting the Cartridge Tape

1. Locate the tape drive on the front of the MAP/100 (Figure 3-3).

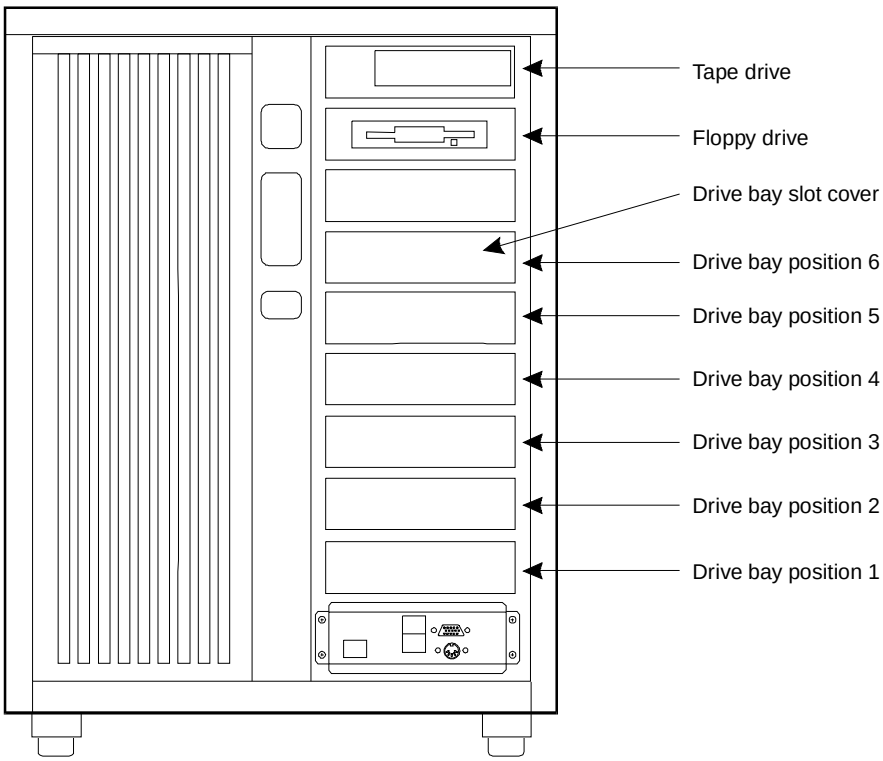


Figure 3-3. Front View of the MAP/100

2. Check the read/write dial to make sure that the tape is not write-protected. The small dial on the front of the tape should be in the horizontal position.
3. Complete Steps a through c to insert the tape in the drive.
    a. Press the button on the upper right corner of the drive to open the drive door.
    b. Insert the tape (Figure 3-4).
    c. Close the door to push in the tape.

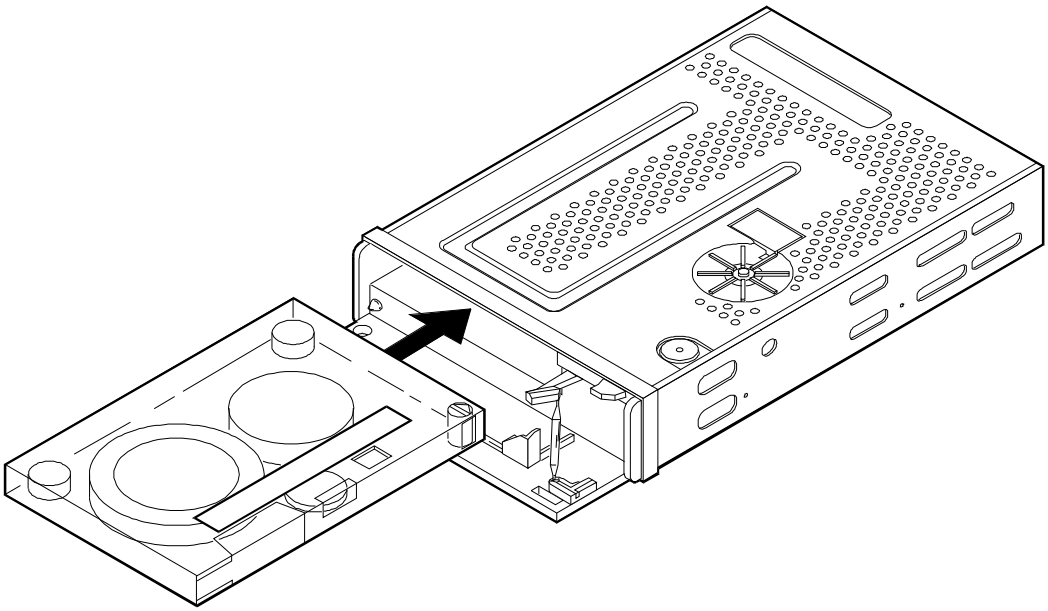


Figure 3-4. Tape Insertion with a 2-Gbyte Tape Drive

NOTE:
The light on the 2-Gbyte drive will blink when the drive is in use. If the light is lit and not blinking, the tape drive is idle.

Removing the Cartridge Tape

1. Press the button on the upper right corner of the drive to reveal part of the tape.
2. Pull out the tape.

CAUTION:
You can only remove the tape when the drive is idle, that is, when the light is not blinking.

525-Mbyte Drive

Inserting the Cartridge Tape

1. Locate the tape drive on the front of the MAP/100 (Figure 3-3).
2. Check the read/write dial to make sure that the tape is not write-protected. The small black dial on the front of the tape should be in the horizontal position.
3. Insert the tape firmly and the door locks automatically (Figure 3-5).

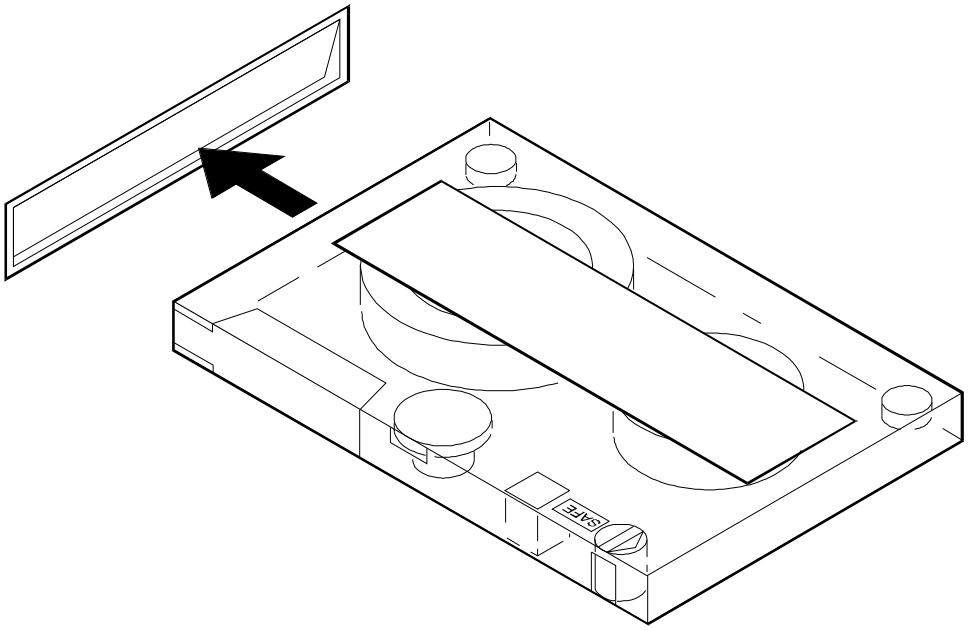


Figure 3-5. Tape Insertion with a 525-Mbyte Tape Drive

NOTE:
The light on the 525-Mbyte tape drive is on when the drive is in use. If the light is not on, the tape drive is idle.

Removing the Cartridge Tape

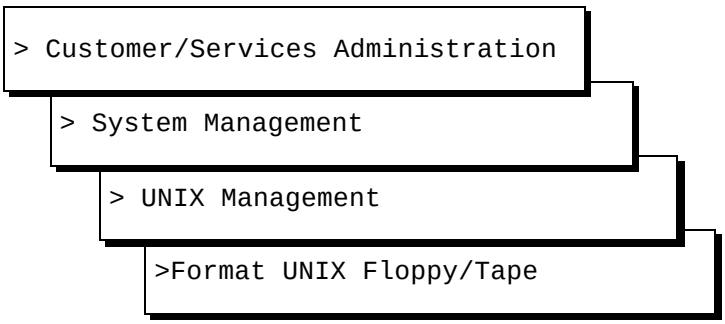
1. Place your middle and index fingers on the side of the tape currently in the drive, press firmly inward, then release.
2. The tape should pop out.

CAUTION:
You can only remove the tape when the drive is idle, that is, when the light is not on.

Formatting Cartridge Tapes

Formatting prepares a cartridge tape to receive data. To format a cartridge tape, do the following:

1. Starting at the Lucent INTUITY Main Menu (Figure 3-1), select



   The system displays the Format UNIX Floppy/Tape menu (Figure 3-6).

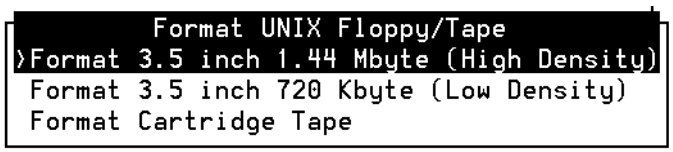


Figure 3-6. Format UNIX Floppy/Tape Menu

2. Select `Format Cartridge Tape`.
3. Verify that the tape is not write-protected and insert the tape into the tape drive. See “Inserting and Removing Cartridge Tapes” on page 4. for more information.
4. Press **y**.

   The system displays a screen stating that the tape has been formatted.
5. Remove the tape from the tape drive.
6. Press ENTER to continue.

About Floppy Disk Drives and Floppy Disks

Floppy disks can provide for the storage of information used by the Lucent INTUITY system. If information must be transferred from an Lucent INTUITY system without a LAN card, floppy disks must be used.

Types of Floppy Disks

The Lucent INTUITY system is not shipped with disks. If you need disks, obtain unformatted 3.5-inch disks. The disks can be either:

- High density (1.44-Mbyte)
- Low density (720-Kbyte)

Inserting and Removing Floppy Disks

Inserting the Floppy Disk

1. Locate the floppy disk drive on the front of the MAP/100 (Figure 3-3).
2. Check the read/write switch to make sure that the floppy disk is not write-protected. The small dial on the front of the tape should be in the horizontal position.
3. Insert the floppy disk in the drive.

NOTE:
The light on the floppy disk drive is on when the drive is in use. If the light is not on, the floppy disk drive is idle.

Removing the Floppy Disk

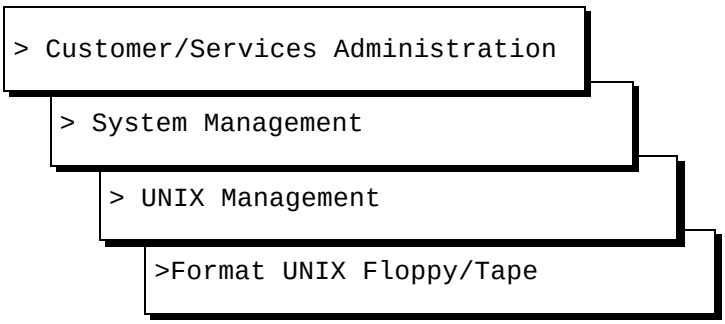
1. Press the button on the lower right corner of the floppy disk drive to reveal part of the floppy disk.
2. Pull out the floppy disk.

CAUTION:
You can only remove the floppy disk when the drive is idle, that is, when the light is not on.

Formatting Floppy Disks

Formatting prepares a floppy disk to receive data. To format a floppy disk, do the following:

1. Starting at the Lucent INTUITY Main Menu (Figure 3-1), select



   The system displays the Format UNIX Floppy/Tape menu (Figure 3-6).

2. Select `Format 3.5 inch 1.44 Mbyte (High Density)` or `Format 3.5 inch 720 Kbyte (Low Density)` depending on the type of floppy disk being used.
3. Verify that the floppy disk is not write-protected and insert the tape into the tape drive. See “Inserting the Floppy Disk” on page 9. for more information.
4. Press **y**.

   The system displays a screen stating that the floppy disk has been formatted.

5. Remove the floppy disk from the floppy disk drive.
6. Press ENTER to continue.

Backing Up (Unattended)

The unattended backup contains all of the information necessary to bring the system back to an operational state after a service affecting event. However, the unattended backup alone cannot completely restore the system to its previous state. The unattended backup can only bring the system back to an operational state. Employ the disaster recovery procedures outlined in Chapter 9, "Installing Base System Software" to restore a system to the previous state.

Unattended backups do not require supervision and occur automatically. However, for the backup to be successful you must ensure that a cartridge tape is in the tape drive.

Unattended backups occur nightly at 3:00 a.m. and may take up to four hours. Unattended backups do not degrade service.

After verifying that the unattended backup was successful, remove the tape. Label it (with date and backup data type, for example, System Data), and store it. A second tape should then be inserted into the tape drive. See “Verifying the Unattended Backup” on page 15. for backup verification procedures.

How to Manage Tapes

CAUTION:
Do not leave the same tape in the tape drive day after day. Once the unattended backup begins, the previous day’s data is overwritten and unretrievable. Should today’s unattended backup fail, neither today’s nor yesterday’s data will be available.

In order to better manage the backed up data it is recommended that two tapes be used.

These two tapes can be alternated daily or additional tapes may be used to implement a longer cycle (for example, seven tapes labeled with the days of the week).

What Data Is Backed Up

An unattended backup saves

- Detailed system data on shared memory, speech filesystem pointers, etc.
- Alarm management information
- A list of enabled features
- A list of installed software

- INTUITY AUDIX Digital Networking connectivity and communication information
- INTUITY AUDIX Voice Messaging message headers, mailing lists, subscriber profiles (including automated attendant administration), and message-waiting indicator status
- Switch integration parameters
- Serial port assignments
- Hard disk configuration

Table 3-1 lists the network information stored during an unattended backup..

Table 3-1. Network Information Stored During an Unattended Backup

Directory	Description
/netw/db/vexnet.dbd	Connectivity to other INTUITY, AUDIX R1, and AMIS Analog Networking machines in the network, local machine connectivity, and channel configurations
/netw/db/db_anet.dbd	Information regarding how to request and send remote updates of subscriber information
/netw/db/delta **/netw/db/delta.txt**	Subscriber administration change records (binary and ascii)
/netw/db/deltactl **/netw/db/deltactl.txt**	Control record for the delta table (binary and ascii)
/netw/db/kmach	Index file for the node data
/netw/db/kport	Index file for the port table
/netw/db/kdelta	Index file for the delta table
/netw/db/krmail	Index file for the rmail table
/netw/db/kupdstat	Index file for the updstat table
/netw/db/kvnq	Index file for the vnq table
/netw/db/mach **/netw/db/node.txt**	Data of machines in the network (binary and ascii)
/netw/db/nodeid **/netw/db/nodeid.txt**	Data used to allocate new node id's (binary and ascii)

Continued on next page

Table 3-1. Network Information Stored During an Unattended Backup

Directory	Description
/netw/db/port **/netw/db/port.txt**	Networking channel configuration on local machine (binary and ascii)
/netw/db/rmail **/netw/db/rmail.txt**	Table that keeps track of outgoing voice mail messages that have not been accessed (binary and ascii)
/netw/db/rmailctl **/netw/db/rmailctl.txt**	Control record for the rmail table (binary and ascii)
/netw/db/updstat **/netw/db/updstat.txt**	Table containing update status of every remote machine (binary and ascii)
/netw/db/vnq **/netw/db/vnq.txt**	Temporary table used to identify which remote subscribers require voiced name updates (binary and ascii)

Continued on next page

Table 3-2 lists the voice mail information stored during and unattended backup.

Table 3-2. Voice Mail Information Stored During an Unattended Backup

Directory	Description
/vm/audix/md/mdata	Message headers, mailing lists, subscriber profiles, and message-waiting indicator status
/vm/audix/md/mdata/ocserv	Outgoing call queue status files
/vm/audix/md/config/hlrfile	High-level resource control file
/vm/audix/sd/mail/dr	Message delivery queue
/vm/audix/sd/mail/mb	Mailbox record (incoming and outgoing mailbox data)
/vm/audix/sd/mail/node	Mailbox node status file (for networking)
/vm/audix/sd/mail/xmq	Remote transmission queue

Continued on next page

Table 3-2. Voice Mail Information Stored During an Unattended Backup

Directory	Description
/vm/audix/sd/mesg/mh	Message headers (stores information per message such as original extension number, etc.)
/vm/audix/sd/mesg/vf	Voice file reference count (number of references per voice file)
/vm/audix/sd/sdata/attend	Automated attendant data
/vm/audix/sd/sdata/cls	Class-of-service data
/vm/audix/sd/sdata/netport	
/vm/audix/sd/sdata/netprof	
/vm/audix/sd/sdata/pdir	Personal directory data
/vm/audix/sd/sdata/rmatrix	Sending restriction matrix data
/vm/audix/sd/sdata/sdl	Mailing and delivery list file
/vm/audix/sd/sdata/sup	Subscriber profile file
/vm/audix/sd/sdata/syp	System-wide data

Continued on next page

Table 3-3 lists the voice platform information stored during an unattended backup.

Table 3-3. .Voice Platform Information Stored During an Unattended Backup

Directory	Description
/vs/data	Platform data files containing information such as performance parameters, text screens, and speech filesystem mount points
/vs/shmem	All files related to shared memory operations
/vs/switch	All files and directories related to switch integration

Verifying the Unattended Backup

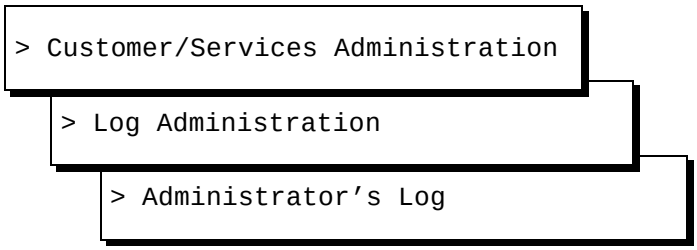
The system administrator should check the administrator's log daily to ensure that a successful unattended backup occurred. There are two ways to check the log:

- Using the Log Administration menu
- Using the AUDIX Administration screen

Successful Backup Verification Using the Log Administration Menu

To verify a successful unattended backup from the Log Administration menu do the following:

1. Starting at the Lucent INTUITY Main Menu (Figure 3-1) select



The system displays the Administrator's Log Display Selection window (Figure 3-7).

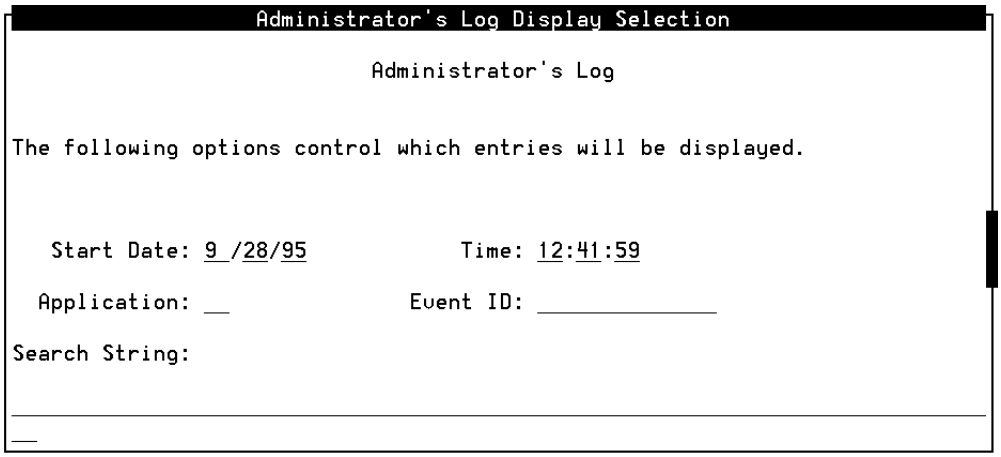


Figure 3-7. Administrator's Log Display Selection Window

2. Place the cursor in the `Event ID` field.
3. Enter **BKRST001**
4. Press SAVE (F3).

   The system displays the Administrator's Log window (Figure 3-8).

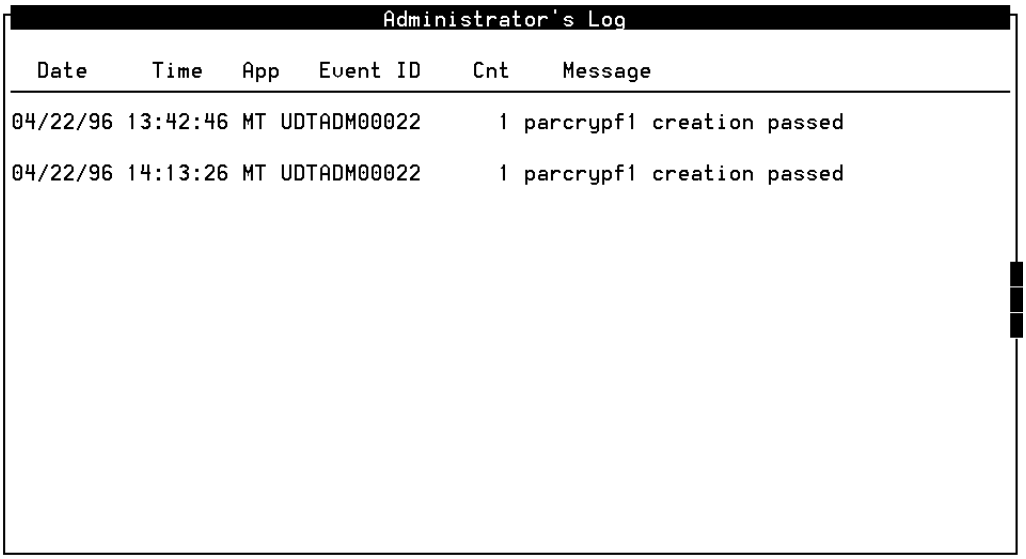


Figure 3-8. Administrator's Log Window

5. Verify that there is an entry with today's date and the following text:

```
Backup process has been completed successfully.
```

If an entry with today's date does not exist the unattended backup was not successful.

Successful Backup Verification using the AUDIX Administration Screen

To verify a successful unattended backup from the AUDIX Administration screen do the following:

1. Starting at the Lucent INTUITY Main Menu (Figure 3-1) select

```
> AUDIX Administration
```

The system displays the AUDIX Administration screen (Figure 3-9).

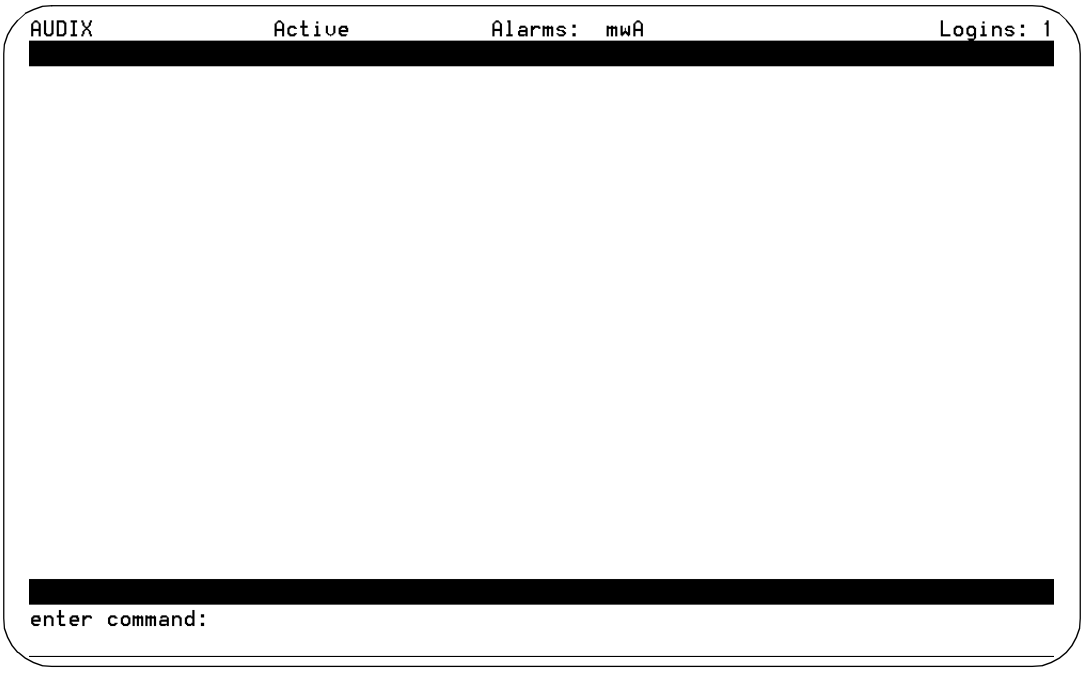


Figure 3-9. AUDIX Administration Screen

2. Enter **display administrator's-log** at the `enter command:` prompt.

The system displays the AUDIX Administrator's Log Display Selection screen (Figure 3-10).

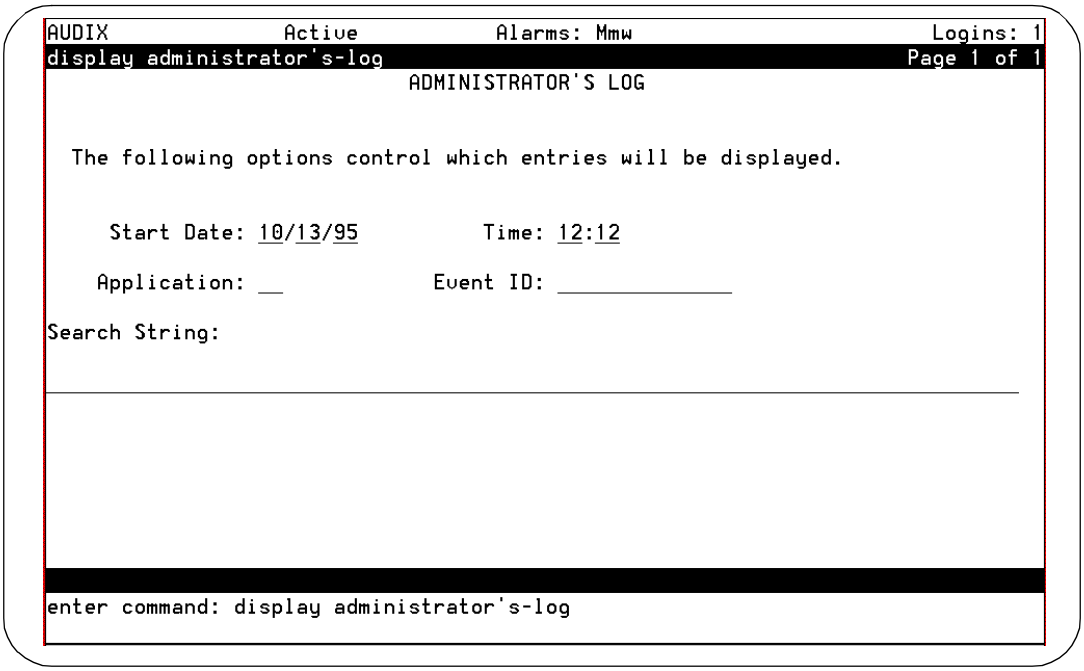


Figure 3-10. AUDIX Administrator's Log Display Selection Screen

3. Move the cursor to the `Event ID` field.
4. Enter **BKDONE001**
5. Press SAVE (F3).

   The system displays the AUDIX Administrator's Log screen (Figure 3-11).

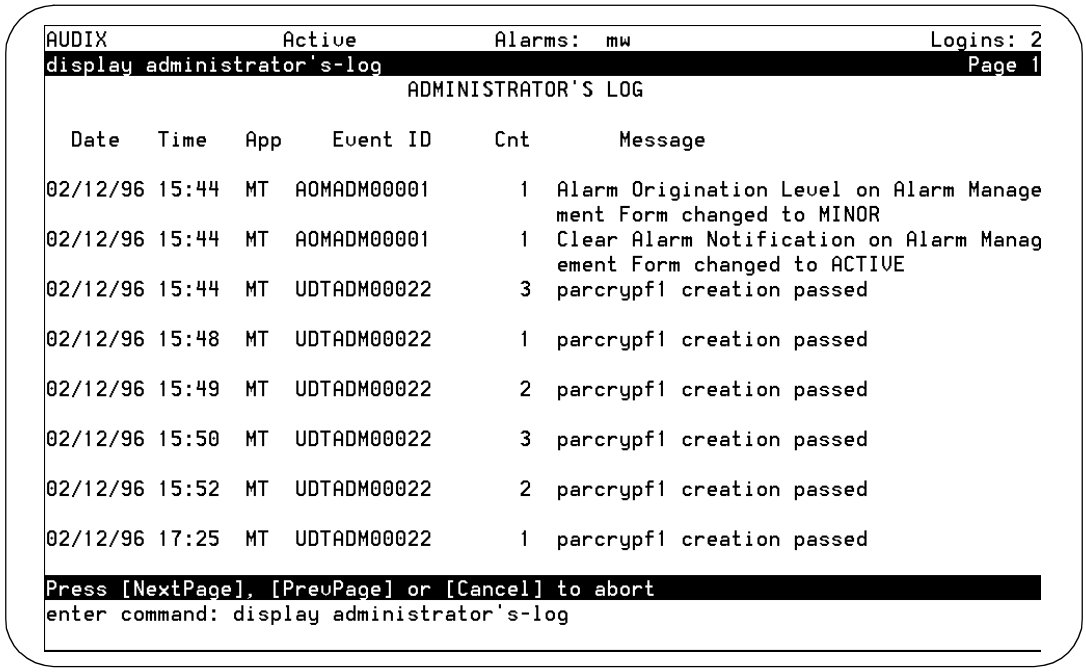


Figure 3-11. AUDIX Administrator's Log Screen

Backing Up (Attended)

Unattended backups do not save everything, therefore you may want to copy other types of information for security and recovery purposes. The attended backup does not cause a degradation in service. However, for best results perform these backups at a time when the Lucent INTUITY system experiences low usage.

Data Types

You can manually backup any combination of the following data types at any time.

System Data

System data is automatically backed up nightly through the unattended backup commands. See “Backing Up (Unattended)” on page 11. for a list of the items included in system data. In addition to the unattended backup, you should also back up the system data manually whenever you make extensive changes to the subscriber profiles.

Announcements

Announcements are the prompts and phrases that guide the user through INTUITY AUDIX Voice Messaging. This data type does not require a backup unless the system has customized announcements that have just been changed. If customized announcements are not being used, a backup of announcements already exists on the original factory tape.

INTUITY AUDIX Greetings and Messages

INTUITY AUDIX voice messaging greetings include each subscriber’s primary voice greeting, multiple personal greetings, automated attendant menus and messages, and bulletin board messages. INTUITY AUDIX voice messaging are all of the call answer and voice mail messages that subscribers send and receive every day.

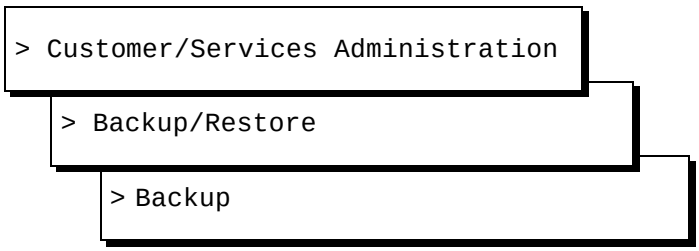
INTUITY AUDIX Names

The INTUITY AUDIX names data type contains voiced subscriber names. After additional subscriber names have been recorded, you should conduct an attended backup of this filesystem.

Attended Backup

To perform an attended backup, do the following:

1. Starting at the Lucent INTUITY Main Menu (Figure 3-1) select



The system displays the Backup window (Figure 3-12).

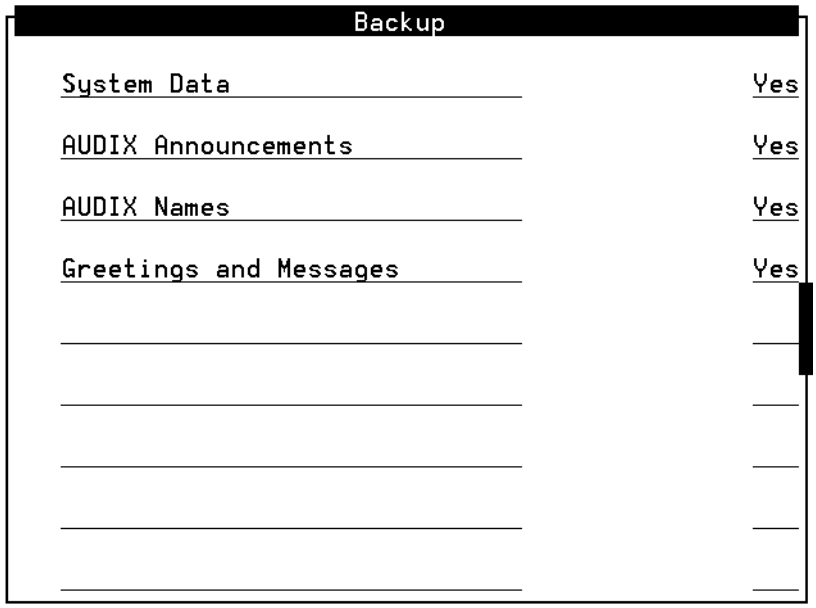


Figure 3-12. Backup Window

2. Enter **y** in the fields to be backed up.

NOTE:
The fields displayed on the Backup window are based on the system's configuration. Therefore, the window you see may look different than the one shown here.

3. Enter **n** in all of the other fields.
4. Press SAVE (F3).

   The system displays the following message.

   ```
   backup started
   calculating approximate number of tape(s) required
   please wait
   ```

   ```
   the backup will need approximately:
   x yyy MB cartridge tape(s)
   ```

5. Make sure that there are enough cartridge tapes to accommodate the backup.

   The system displays the following message:

   ```
   Verify whole backup tape(s) will double the amount of
   backup time.
   Do you really want to verify tape(s)?
   (Strike y or n)
   ```

6. The Lucent INTUITY system verifies a backup tape by reading back the entire set of data it has just written on the tape.

   NOTE:
   Verifying the back-up tape increases the total time for backup from 1-1/2 hours to 3 hours. Verification is not necessary to ensure a good back-up tape.

   To verify the back-up tape press **y**. If you do not want to verify the backup tape press **n**.

   The system displays the following message:

   ```
   please insert a tape into the tape drive to back up
   tape 1
   press <Enter> when tape is inserted
   press <Esc> key to terminate the backup
   ```

7. Insert the first cartridge tape in the tape drive. See “Inserting and Removing Cartridge Tapes” on page 4. for this procedure.
8. Press ENTER when the tape drive is idle.

   The system displays a series of messages indicating what is being stored on the backup tape.

   NOTE:
   The light on the 2-Gbyte drive will blink when the drive is in use. If the light is not blinking, the tape drive is idle. The light on the 525-Mbyte tape drive is on when the drive is in use. If the light is not on, the tape drive is idle.

9. If another tape is necessary

   a. Remove the current tape. See “Inserting and Removing Cartridge Tapes” on page 4. for this procedure.

   b. Label the tape with the current date and back-up data type(s).

   c. Insert the next tape. See “Inserting and Removing Cartridge Tapes” on page 4. for this procedure.

   If another tape is not necessary, continue with Step 10.

   When the backup is complete and the system displays the following message.

   ```
   backup process has been completed successfully
   press any key to continue
   ```

10. Press ENTER.

11. Press CANCEL three times to return to the Lucent INTUITY Main Menu (Figure 3-1).

Restoring Backups

The information stored on cartridge tapes during the unattended and attended backup procedures is used to restor the system to an operational state.

When to Do a Restore

If a system problem or failure occurs, backups can be invaluable in returning the system to an operational state. You will likely only restore backups when directed to do so by an alarm repair action.

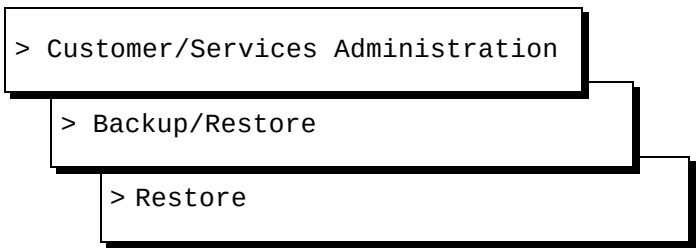
When to Reinstall Software

Depending on the severity of the situation, Lucent INTUITY software may have to be reinstalled before restoring any backups. See Chapter 10, "Installing Lucent INTUITY System Software" for these procedures.

How to Do a Restore

NOTE:
It takes approximately 2 hours to restore one tape.
This procedure works for both attended and unattended backups.

1. Stop the voice system. See “Stopping the Voice System” on page 28. for more information.
2. Starting at the Lucent INTUITY Main Menu (Figure 3-1) select



The system displays the following message.

```
please insert a tape into the tape drive to restore
press <Enter> when tape is inserted
press <Esc> key to terminate the restore
```

3. Insert the cartridge tape that contains the data to be restored into the tape drive. See “Inserting and Removing Cartridge Tapes” on page 4. for more information.

4. Press ENTER to continue.

   The system displays the header information for the tape. That information includes:

   - Tape label
   - Date
   - List of packages (with release and version) installed on the machine when the tape was made
   - Data types

   The following is an example of tape header information:

   ```
   PRODUCT_ID=2299999999

   DATE=09/11/93 09:51

   PKG=VM:0:R1.1

   PKG=mtce:1.0:1.0-4

   PKG=netw:0:1.0-4.3

   PKG=vs:1.0:1.0-4

   TYPE=System Data:

   Press <Enter> to select data type.
   Press <Esc> to terminate the restore.
   ```

5. Check the data types listed under `TYPE=System Data` to verify that this tape contains the appropriate data.

   If it does not

   a. Press ESC.

   b. Return to Step 3.

   c. Try another tape.

   If it does, continue with Step 6.

6. Press ENTER to continue.

   The system displays the Restore window.

7. Enter **y** in the fields that display the data types you want to restore.

   NOTE:
   The fields displayed on the Restore window are based on the data stored on the tape.

8. Enter **n** in all of the other fields.

9. Press SAVE (F3) to restore the data types selected.

10. Insert subsequent tapes if prompted.

11. Press ENTER when the restore is complete and the system displays the following message:

    ```
    restore process has been completed successfully
    press any key to continue
    ```

    If the restore fails, the system displays the following message:

    `Restore Failed.`

    Do the following.

    a. Rewind the tape by removing it from the tape drive and then reinserting it.

    b. Return to Step 4 and attempt the restore again.

    c. If the restore fails a second time, access the alarm log. See Chapter 1, "Getting Started" in *Lucent INTUITY Alarms and Log Messages* and follow associated repair actions for any active alarms in the log.

12. Reboot the system. See "Shutting Down and Rebooting the Lucent INTUITY System" on page 30. for this procedure.

Administering Voice Messaging

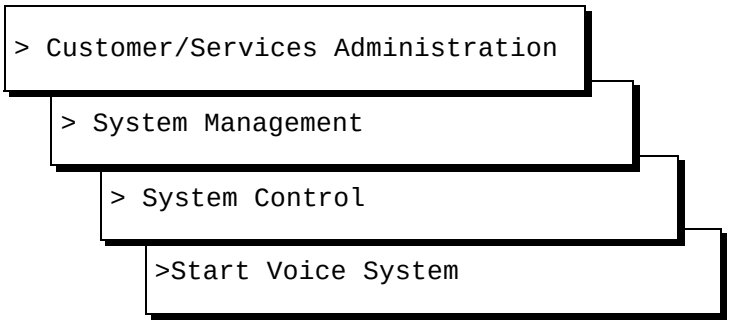
The voice system is the Lucent INTUITY system's base voice processing software.

Starting the voice system brings the software into a state where it can accept and process calls. Stopping the voice system brings the software into a lower level state in which it cannot accept calls.

Starting the Voice System

To start the voice system, do the following:

1. Starting at the Lucent INTUITY Main Menu (Figure 3-1) select



   The system displays the following message:

```
The Voice System is starting.
The Voice System is initializing cards.

Startup of the Voice System is complete.


Hit acknowledge key to continue.
```

2. Press ACK (F1).

   The system displays the System Control menu (Figure 3-13).

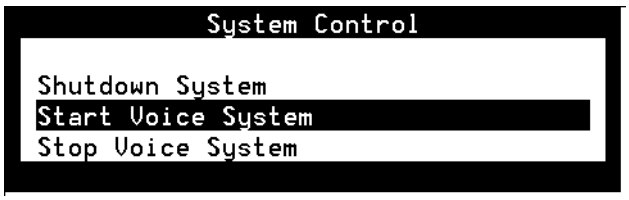


Figure 3-13. System Control Menu

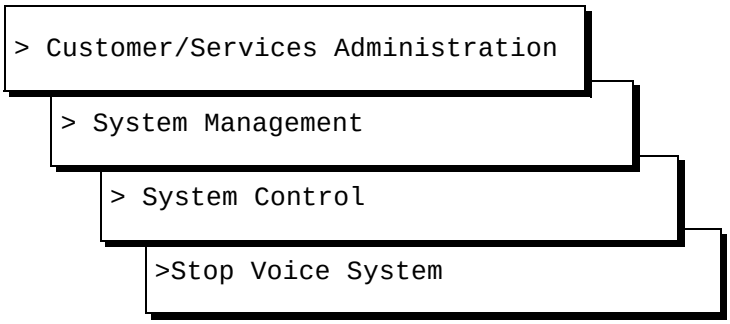
3. You have completed this procedure.

Stopping the Voice System

CAUTION:
Only stop the voice system when it is absolutely necessary. All calls in progress will be disconnected. Users calling AUDIX will hear a fast busy signal. Callers sent to AUDIX coverage will hear ringing with no answer.

To stop the voice system, do the following:

1. Starting at the Lucent INTUITY Main Menu (Figure 3-1) select



The system displays the Wait Time window (Figure 3-14).

Figure 3-14. Wait Time Window

2. Enter a number between 60 and 600 to designate how long the system will wait for calls in progress to finish before stopping the voice system.
3. Press SAVE (F3).

   The system displays the following message:

   ```
   The Voice System is now stopping.

   Initiating request to clear all calls in the next 60
   seconds.

   Orderly idling of the system succeeded.

   After the Voice System has completely stopped, use the
   "Start Voice System"choice from the System Control menu
   to restart the Voice System.

   The Voice System has stopped.

   Press Enter to Continue.
   ```

   NOTE:
   When the voice system is stopped, the user cannot access INTUITY AUDIX administration screens. `AUDIX Administration` still appears as an option on the Lucent INTUITY Main menu, but the user cannot select this option. To view INTUITY AUDIX administration screens, the user must restart the voice system. See "Starting the Voice System" on page 27. for the procedure.

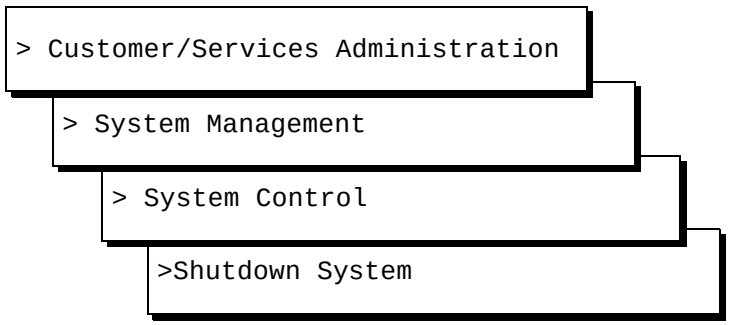
4. Press ENTER.

Shutting Down and Rebooting the Lucent INTUITY System

You must shut down the Lucent INTUITY system before you perform a reboot. This section describes both procedures.

Shutting Down the System

1. Stop the voice system. See "Stopping the Voice System" on page 28. for the procedure.
2. Starting at the Lucent INTUITY Main Menu (Figure 3-1) select



   The system displays the Wait Time window (Figure 3-14).
3. Enter a number between 0 and 60 to designate how long the system will wait for users to log off.
4. Press SAVE (F3).

   The system displays the following message:

   ```
   Shutdown started.
   ```

   When the system is completely shut down, the system will display the following message.

   ```
   The system is down.
   Press Ctrl-Alt-Del to reboot your computer.
   ```
5. Continue with the next procedure "Rebooting the System."

Rebooting the System

Rebooting the system can be done in two ways.

- A *warm reboot* (performed while the computer is on)
- A *cold reboot* (turning the computer off, then back on again).

Performing a Warm Reboot

1. Make sure that there is no diskette in the floppy drive.
2. Press Ctrl-Alt-Del .

   The system performs a power-on self test (POST). The screen lists various hardware components and the status of the tests performed on those components.

   When the reboot is complete, the system displays the following prompt:

   ```
   Startup of the Voice System is complete.
   Console Login:
   ```

3. If FAIL appears in the status column for any component do the following:
   a. Record the component's name.
   b. Access the alarm log to begin troubleshooting. See Chapter 1, "Getting Started," in "*Lucent INTUITY Alarms and Log Messages*" for this procedure.

Performing a Cold Reboot

1. Make sure that there is no diskette in the floppy drive.
2. To perform a cold reboot turn the MAP/100 off by pressing the power button on the rear of the unit (Figure 3-15).

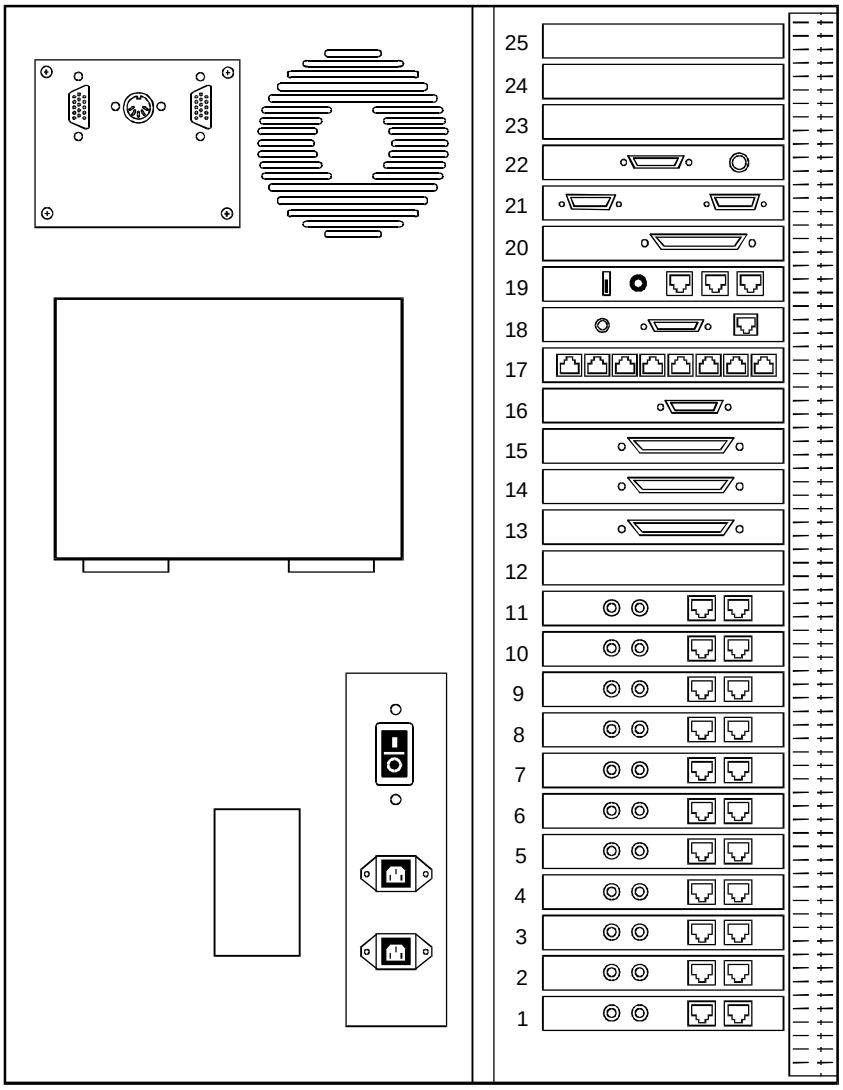


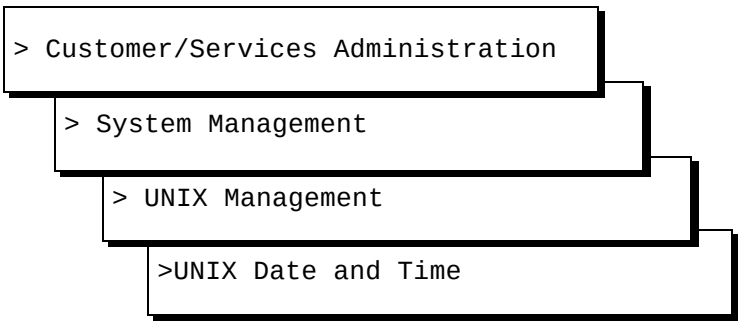
Figure 3-15. Rear View of the MAP/100

3. Wait 30 seconds to allow the drives to come to a complete stop.
4. Turn the power on by pressing the power button on the rear of the MAP/100 (Figure 3-15).

Verifying the Date and Time

Checking the UNIX Date and Time Window

1. Starting at the Lucent INTUITY Main Menu (Figure 3-1) select



The system displays the UNIX Date and Time window (Figure 3-16).

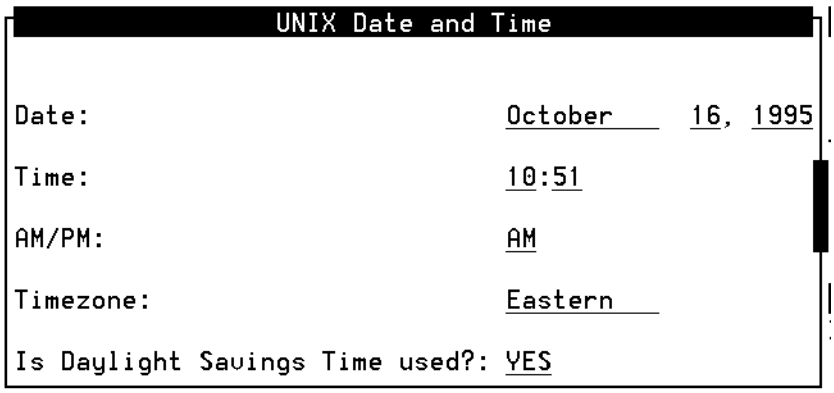


Figure 3-16. UNIX Date and Time Window

2. Check each of the fields under `UNIX Date and Time`.

   If all of the fields are correct, press CANCEL (F6).

   If a field contains incorrect information, continue with the next procedure, "Changing the UNIX Date and Time Window."

Changing the UNIX Date and Time Window

The user can change any of the displayed fields. To change one field in the Date and Time window, the user must either change or acknowledge the information in each field.

Changing the Date Field

The date field contains the month, day, and year.

Changing the Month

1. Place the cursor on the `Month` field in the UNIX Date and Time window.
2. If the month shown is not correct, complete Steps a through c:
   a. Press CHOICES (F2) to display the months of the year (Figure 3-17).

Figure 3-17. UNIX Month Choices Menu

   b. Use ▲ or ▼ to move the cursor and highlight the correct month.
   c. Press ENTER to place the name of the correct month into the month field.

NOTE:
The user can also select the current month by entering the corresponding alphabetic abbreviation from this list: **Ja**, **F**, **Mar**, **Ap**, **May**, **Jun**, **Jul**, **Au**, **S**, **O**, **N**, **D**.

Continue with the next procedure "Changing the Day."

If the month shown is correct, press ENTER for no change and continue with the next procedure "Changing the Day."

Changing the Day

If the day of the month shown is not correct, enter the correct day as a number from 1 to 31 and continue with the next procedure “Changing the Year.”

If the day of the month shown is correct, press ENTER for no change and continue with the next procedure “Changing the Year.”

Changing the Year

If the year shown is not correct, enter the correct year as a number from 1996 to 2038 and continue with the next procedure “Changing the Time.”

If the year shown is correct, press ENTER for no change and continue with the next procedure “Changing the Time Field.”

Changing the Time Field

If the time shown is not correct, enter the correct time in the form of *hours:minutes* and continue with the next procedure “Changing the AM/PM Field.”

NOTE:
Use a 12-hour a.m./p.m. standard. Do not use the 24-hour military standard.

If the time shown is correct, press ENTER for no change and continue with the next procedure “Changing the AM/PM Field.”

Changing the AM/PM Field

If AM/PM is not correct as shown, type **a** for a.m. or **p** for p.m. and continue with the next procedure “Changing the Timezone Field.”

If AM/PM is correct as shown, press ENTER for no change and continue with the next procedure “Changing the Time Zone Field.”

Changing the Time Zone Field

If the time zone shown is not correct, complete Steps 1 through 3 and continue with the next procedure “Changing the Is Daylight Savings Time used Field.”

1. Press CHOICES (F2) to display the list of time zones (Figure 3-18).

Figure 3-18. UNIX Time Zone Choices Menu

2. Use ▲ or ▼ to move the cursor and highlight the correct time zone.
3. Press ENTER to place the name of the correct time zone into the `Timezone` field.

If the time zone shown is correct, press ENTER for no change and continue with the next procedure "Changing the Is Daylight Savings Time used Field."

Changing the Is Daylight Savings Time used Field

1. Type **y** for yes or **n** for no depending upon whether or not daylight savings time is used at any time during the year.
2. Press SAVE (F3) to save the changes and continue with the next procedure "Acknowledging the Changes to the Date and Time Window."

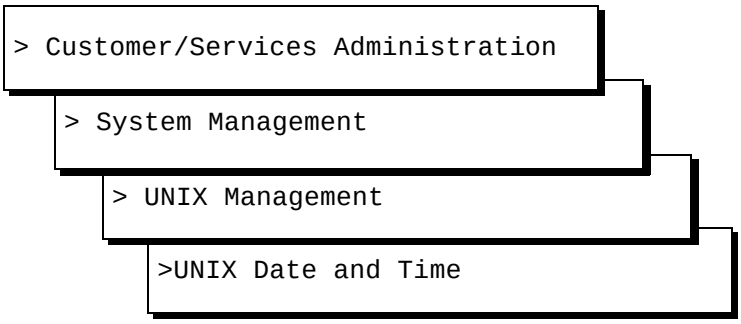
Acknowledging the Changes to the Date and Time Window

After the changes have been made to the Date and Time window the user must ensure that the system recognizes the new information. To acknowledge the new information, do the following:

1. Reboot the Lucent INTUITY system. See "Shutting Down and Rebooting the Lucent INTUITY System" on page 30. for the procedure.

   At this time the date and time changes will take affect.

2. Starting at the Lucent INTUITY Main Menu (Figure 3-1) select



   The system displays the UNIX Date and Time window (Figure 3-16).

3. Check each of the fields under `UNIX Date and Time` to ensure that the changes have been recorded.

Getting Inside the Computer

4

Overview

This chapter describes

- Proper electrostatic discharge protection procedures
- Power removal and restoration procedures
- Computer chassis access procedures

Purpose

The purpose of this chapter is to provide the correct procedures for accessing the internal components of the MAP/100.

Protecting against Damage from Electrostatic Discharge

CAUTION:

*Read this section before unpacking the MAP/100. You **must** observe proper grounding techniques to prevent the discharge of static electricity from your body into ESD-sensitive components.*

Circuit cards and packaging materials that contain ESD-sensitive components are usually marked with a yellow-and-black warning symbol (Figure 4-1).

Figure 4-1. ESD Warning Symbol

To avoid damaging ESD-sensitive components, follow these rules:

- Handle ESD-sensitive circuit cards only after attaching a wrist strap to the bare wrist. Attach the other end of the wrist strap to a ground that terminates at the system ground, such as any unpainted metallic chassis surface.
- Handle a circuit card by the faceplate or side edges only (Figure 4-2 and Figure 4-3).

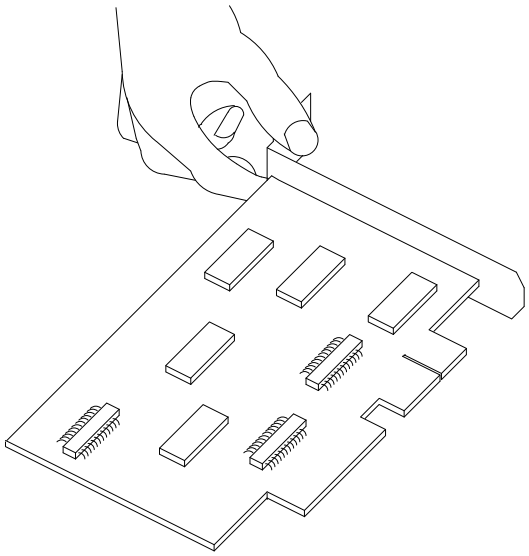


Figure 4-2. How to Hold a Small Circuit Card

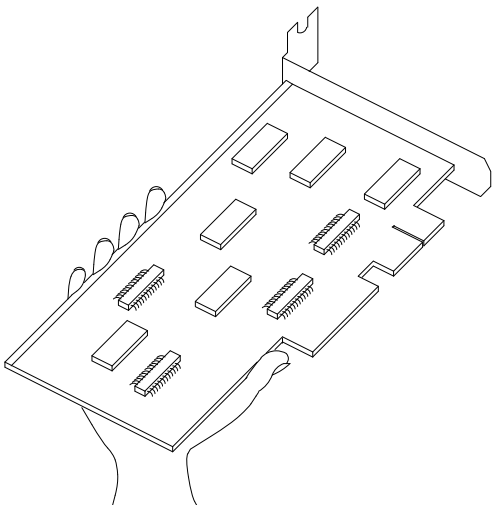


Figure 4-3. How to Hold a Large Circuit Card

CAUTION:
Ensure that your palm is not in contact with the non-component side of the board.

- Keep circuit cards away from plastics and other synthetic materials such as polyester clothing.
- Do not hand circuit cards to another person unless that person is grounded at the same potential level.
- Hold devices such as a hard disk, floppy drive, or streaming tape in the same manner as a large circuit card. The ESD-sensitive area of these components is located on the bottom surface (Figure 4-4).

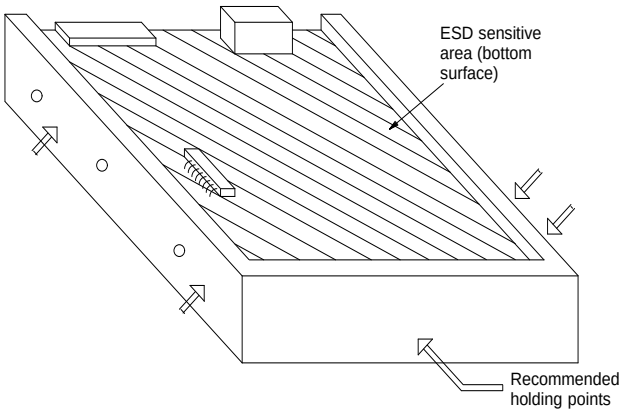


Figure 4-4. ESD-Sensitive Area of an Electronic Component

Removing Power from the MAP/100

The MAP/100 requires a dedicated power line. The power cord connects to the rear of the MAP/100 at the point labeled AC power input receptacle (Figure 4-5). Before you begin any work in the MAP/100 you must disconnect the incoming power.

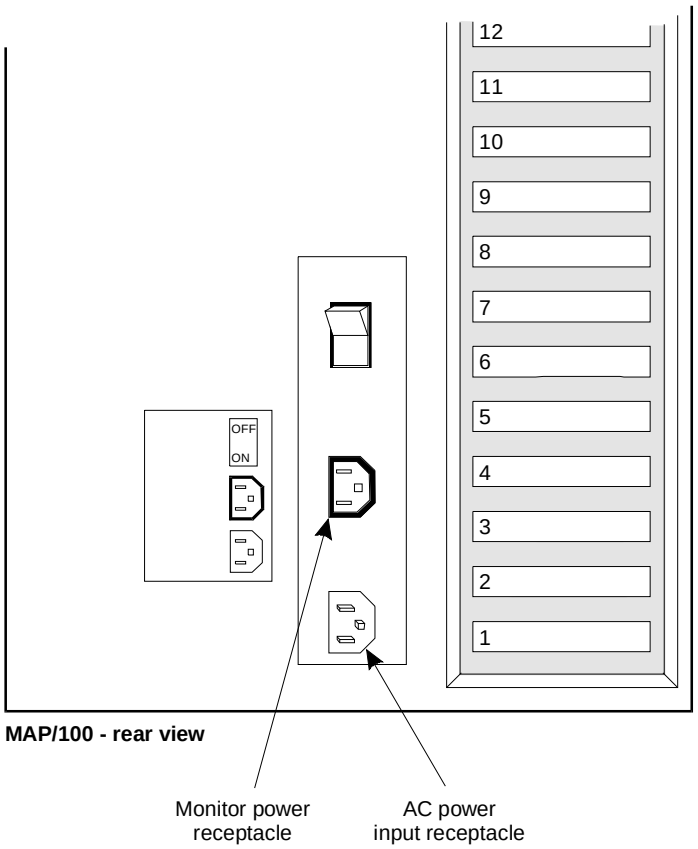


Figure 4-5. MAP/100 Power Connections

To remove power from the MAP/100, do the following:

1. Shut down the voice system. See Appendix 3, ''Shutting Down and Rebooting the Lucent INTUITY System'', in Chapter 3, ''Common System Procedures''.
2. Turn off the monitor's power switch.

   The green or amber lamp on the front bottom of the monitor should be off.

3. Turn off the power switch on the lower front of the MAP/100 peripheral bay (Figure 4-6).

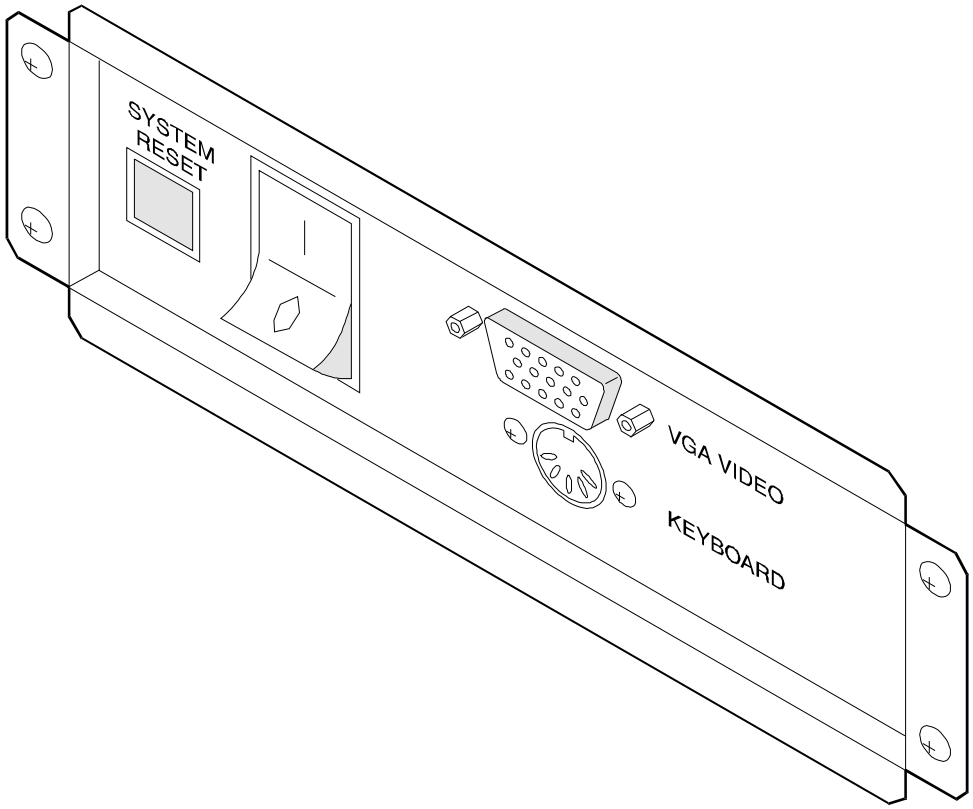


Figure 4-6. MAP/100 Power Switch

4. Turn off the circuit breaker on the back of the MAP/100 (Figure 4-5).
5. Unplug the MAP/100 from the power outlet.
6. Remove the MAP/100 power cord from the AC power input receptacle on the rear of the MAP/100 (Figure 4-5).
7. Observe the correct lock-out/tag-out precautions for isolating power as outlined in the Lucent lock-out/tag-out procedure.

Opening and Removing the Front Doors

The doors on the MAP/100 must be opened to view the peripheral bay or the circuit card cage fans. The doors can be removed to allow for easier access to either of these areas.

Opening and Removing the Right Door

You can view the peripheral bay by opening the right door.

1. Place your finger in the indentation on the bottom right corner of the door.
2. Pull the door towards you.
3. With the door fully opened, remove it by pushing up to slide it off its hinges.
4. Set the door aside.

Opening and Removing the Left Door

You can view the card cage fans by opening the left door.

NOTE:
The left door contains the circuit card cage filters. This door should remain attached and closed to allow for proper air filtration.

1. Place your finger in the indentation on the bottom left corner of the door.
2. Pull the door towards you.
3. With the door fully opened, remove it by pushing up to slide it off its hinges.
4. Set the door aside.

Removing the Dress Covers

There are three dress covers on the MAP/100, one top dress cover and two side dress covers. The dress covers provide protection for the internal components of the MAP/100. You must remove these dress covers to access these components.

⚠ WARNING:
Shut power off before removing the dress cover or access panel of the MAP/100. See "Removing Power from the MAP/100" above for the procedure.

Removing the Top Dress Cover

To remove the top dress cover, do the following:

1. Place your fingertips in one corner of the top dress cover, in the space between the top cover and the side cover.
2. Gently pry off the dress cover by pulling up at each corner.

Removing the Side Dress Covers

To remove the top dress cover, do the following:

1. Place your fingertips at the top of the side dress cover.
2. Gently pry off the dress cover by pulling out at each corner.

Accessing the Peripheral Bay

The peripheral bay houses the hard disk drives, the floppy disk drive, and the SCSI tape drive. See Appendix A, ''System Configuration'' for the placement of these components within the peripheral bay.

To access the peripheral bay, do the following:

1. Remove the dress covers. See ''Removing the Dress Covers'' above for the procedure.
2. Remove the right door. See ''Opening and Removing the Right Door'' above for the procedure.
3. Loosen the four 1/4-turn fasteners around the perimeter of the peripheral bay (Figure 4-7).
4. Loosen the seven 1/4-turn fasteners around the perimeter of the peripheral bay access door (Figure 4-7).

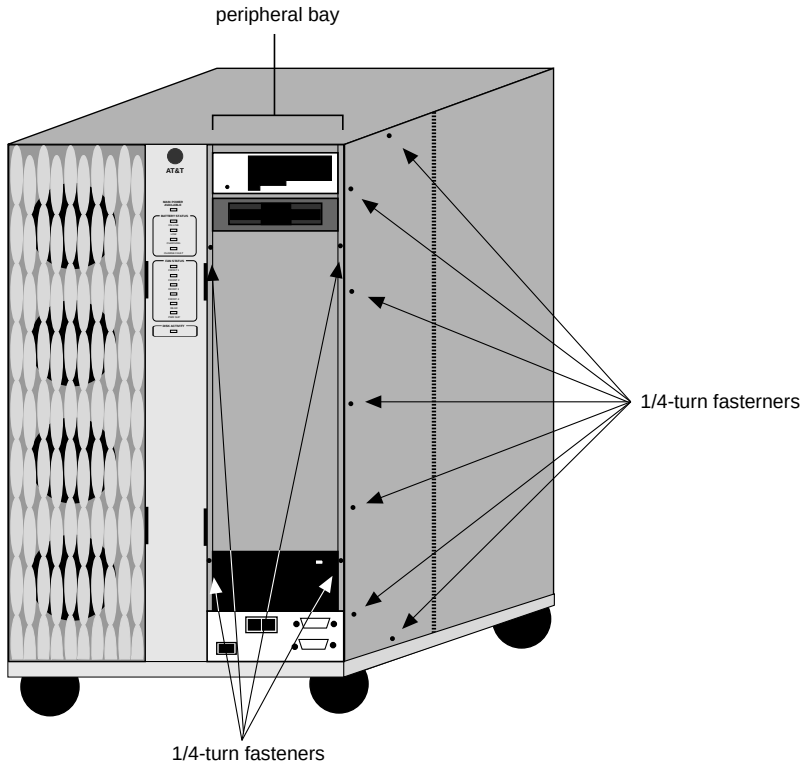


Figure 4-7. 1/4-Turn Fasteners Around the Peripheral Bay and Peripheral Bay Access Door

5. Open the door (Figure 4-8).
6. Remove the 17 screws around the perimeter of the cover on top of the peripheral bay (Figure 4-8).
7. Remove the cover (Figure 4-8).
8. Grasp the peripheral bay steel framework and carefully pull the peripheral bay out (Figure 4-8).
9. Make sure that no cables are caught within the MAP/100.

   NOTE:
   Observe the cables through the peripheral bay access door.

10. Pull the assembly forward to the mechanical stop.

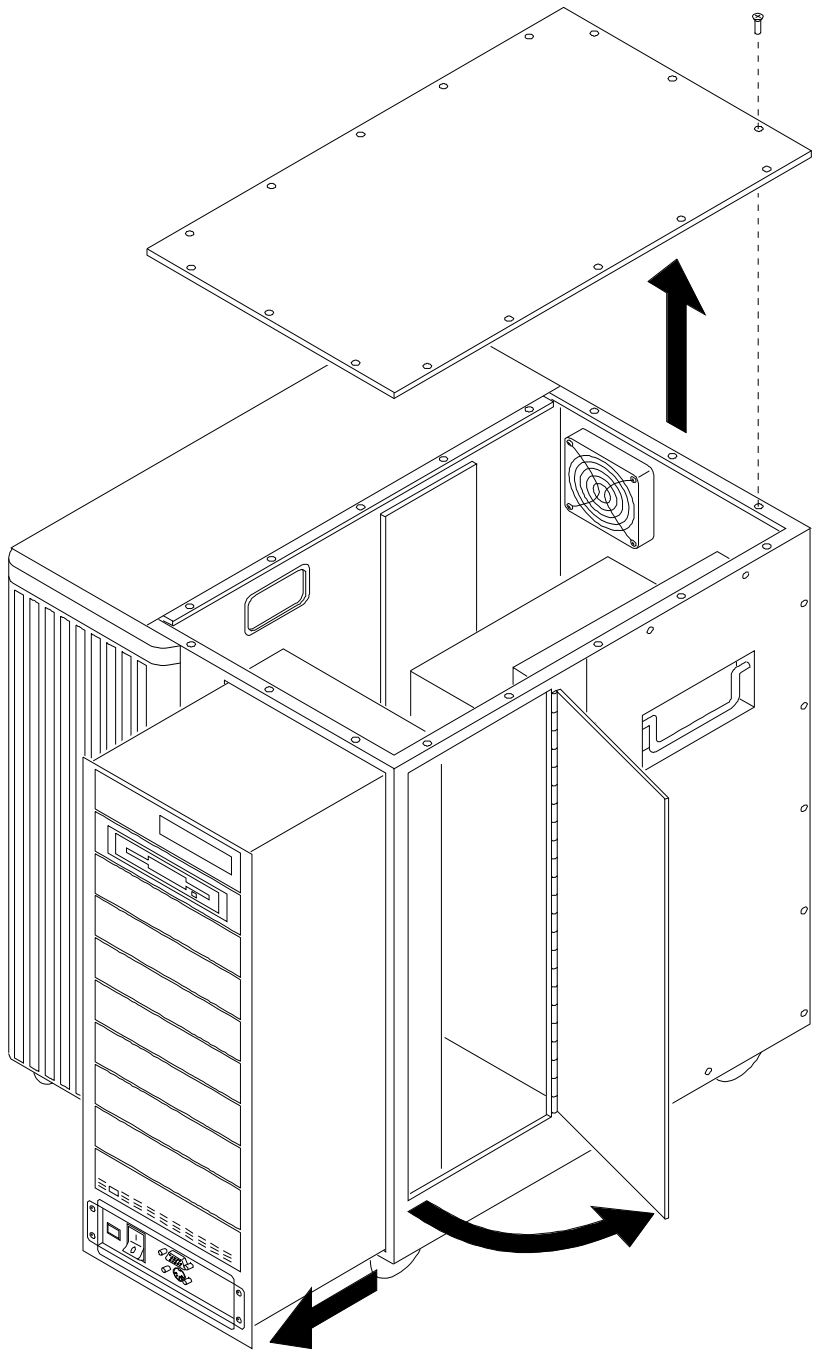


Figure 4-8. Accessing the Peripheral Bay

Accessing the Circuit Card Cage

The circuit card cage houses the circuit cards used by the Lucent INTUITY system. See Appendix A, ‘‘System Configuration’’ for the placement of the circuit cards within the circuit card cage.

To access the circuit card cage, do the following:

1. Remove the dress covers. See ‘‘Removing the Dress Covers’’ above for the procedure.
2. Loosen the eight 1/4-turn fasteners around the card cage access door (Figure 4-9).
3. Open the door.

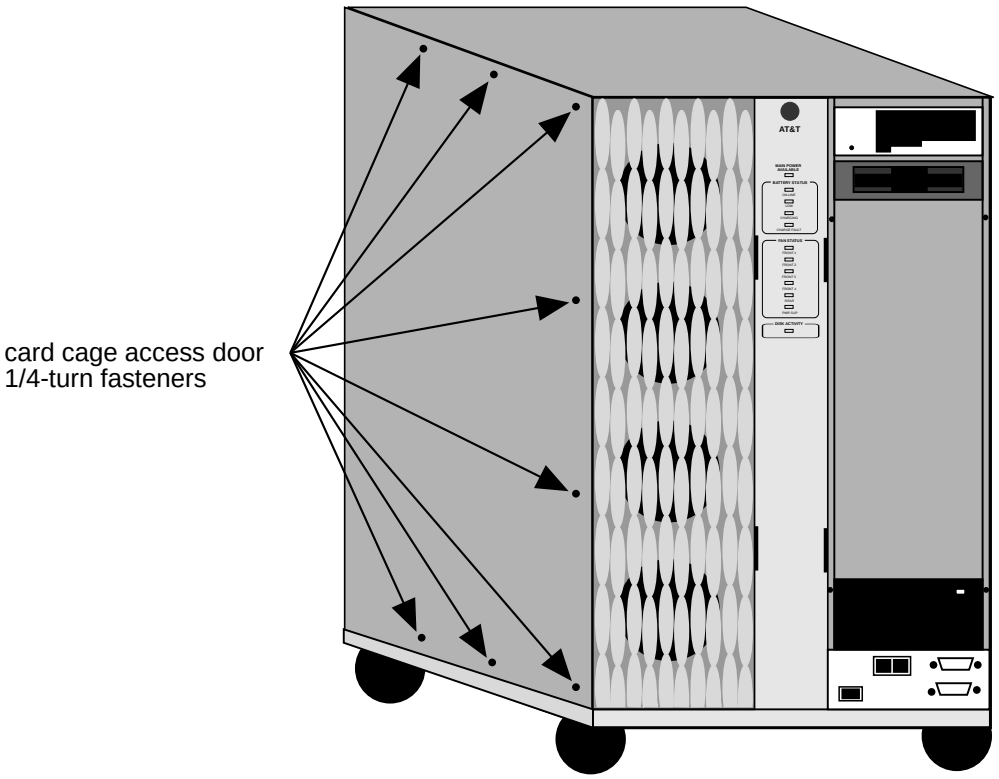


Figure 4-9. Fasteners Around the Card Cage Access Door

Closing the Circuit Card Cage

To close the circuit card cage, do the following:

1. Close the circuit card cage access door.
2. Tighten the eight 1/4-turn fasteners around the card cage access door (Figure 4-9).
3. Replace the dress covers. See ‘‘Replacing the Dress Covers’’ below for the procedure.

Closing the Peripheral Bay

To access the peripheral bay, do the following:

1. Push the peripheral bay assembly back in to the MAP/100.
2. Make sure that no cables are caught as the assembly is pushed into the MAP/100.

   NOTE:
   Observe the cables through the peripheral bay access door.

3. Replace the top cover.
4. Replace the 17 screws around the perimeter of the cover on top of the peripheral bay.
5. Close the peripheral bay access door.
6. Tighten the seven 1/4-turn fasteners around the perimeter of the peripheral bay access door (Figure 4-7).
7. Tighten the four 1/4-turn fasteners around the perimeter of the peripheral bay (Figure 4-7).
8. Replace the dress covers. See ‘‘Replacing the Dress Covers’’ below for the procedure.
9. Replace the right door. See ‘‘Replacing the Front Doors’’ below for the procedure.

Replacing the Dress Covers

Replacing the Side Dress Cover

To replace the side dress cover, do the following:

1. Align the holes on the back of the cover with the pegs on the MAP/100.
2. Push the cover on by pressing in at each of the corners.

Replacing the Top Dress Cover

To replace the top dress cover, do the following:

1. Align the holes on the bottom of the cover with the pegs on the MAP/100.
2. Push the cover on by pressing down at each of the corners.

Replacing the Front Doors

To replace the front doors, do the following:

1. With the door in the fully open position, align the hinge pins on the door with the hinges on the chassis.
2. Slide the hinge pins downward into the hinges.
3. Close the door.

NOTE:
The left door contains the circuit card cage filters. This door should remain attached and closed to allow for proper air filtration.

Restoring Power to the MAP/100

To restore power to the MAP/100, do the following:

1. Place the MAP/100 power cord in the AC input receptacle on the rear of the unit (Figure 4-5).
2. Plug the MAP/100 power cord into the designated power outlet.
3. Turn on the circuit breaker on the back of the MAP/100 (Figure 4-5).
4. Turn on the power switch on the lower front of the MAP/100 peripheral bay (Figure 4-5).

   The green lamp, labeled “Main Power Available,” on the front of the unit should be lit (Figure 4-10).

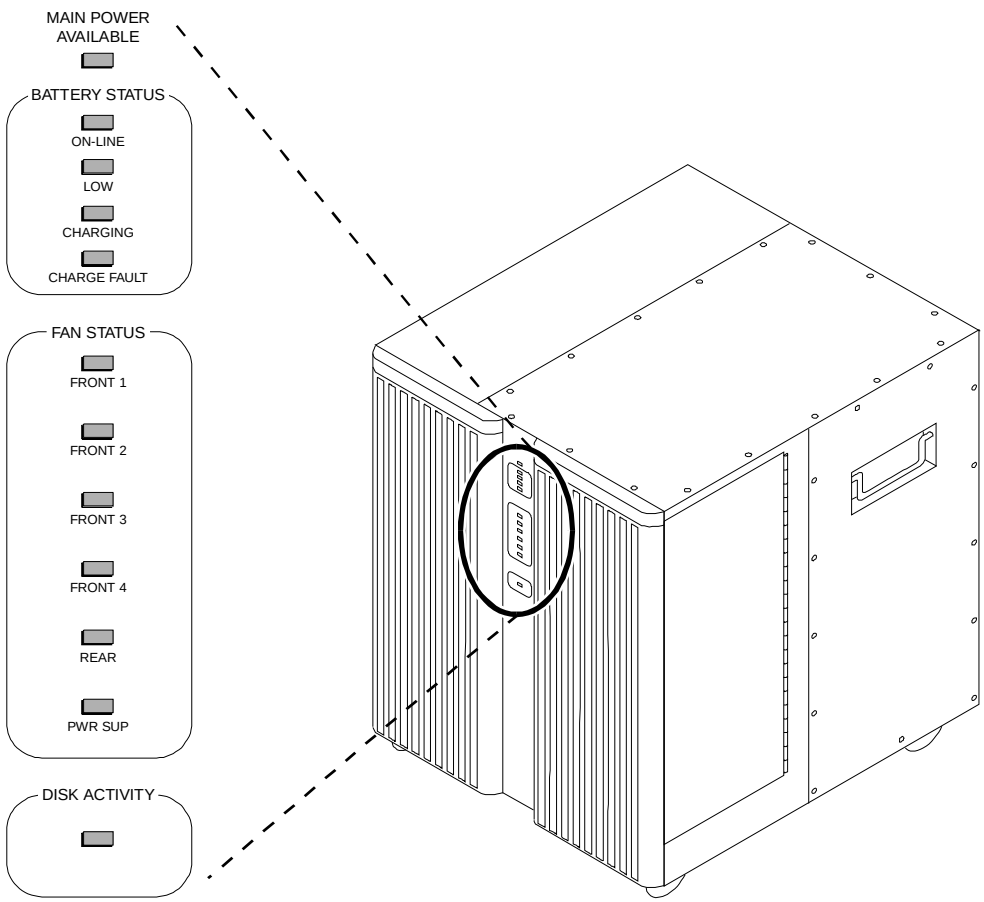


Figure 4-10. MAP/100 Monitoring Panel

5. Turn on the monitor's power switch.

   The green or amber lamp on the front bottom of the monitor should be lit.

Replacing or Installing Circuit Cards

5

Overview

This chapter describes

- Configuring circuit cards in the MAP/40 or 40s
- Types of circuit cards
- General steps for circuit card installation
- Specific procedures for installation of standard and optional MAP/40 or 40s circuit cards
- Settings for resource options

Purpose

The purpose of this chapter is to ensure that

- Circuit cards are installed correctly
- Resource options are set correctly

General Procedures

The general procedures include:

- Removing a circuit card
- Installing a circuit card

Removing a Circuit Card

WARNING:
Observe proper electrostatic discharge precautions when you handle computer components. Wear an antistatic wrist strap that touches your bare skin and connect the strap cable to an earth ground. See "Protecting against Damage from Electrostatic Discharge," in Chapter 4, "Getting Inside the Computer" for detailed electrostatic discharge precautions.

To remove a circuit card, do the following.

1. Verify that the replacement equipment is on site and appears to be in usable condition, with no obvious shipping damage.

   NOTE:
   If the circuit card being replaced is defective, note all symptoms of failure and include this information with the circuit card when it is returned.

2. If the system is in service, perform the following steps.
   a. Stop the voice system. See "Stopping the Voice System," in Chapter 3, "Common System Procedures" for voice system administration.
   b. Shut down the voice system. See "Shutting Down the System," in Chapter 3, "Common System Procedures" for voice system administration.
3. Remove power from the MAP/100. See Chapter 4, "Removing Power from the MAP/100" in Chapter 4, "Getting Inside the Computer", for power removal procedures.
4. Remove the dress cover, circuit card access panel, and circuit card retaining bracket. See Chapter 4, "Getting Inside the Computer", for component removal procedures.
5. Locate the card to be replaced within the card cage. Disconnect any attached cables. Note the connectivity of each cable.
6. If there are ribbon cables attached to other cards which would impede the removal of the card, disconnect them and place them to the side. Note the connectivity of each cable.
7. Remove the retaining screw from the circuit card faceplate and save it.

8. Remove the circuit card from the backplane slot by gently pulling on each corner of the card.

   NOTE:
   The backplane connector slots are labeled 1 through 12. Make sure to install the replacement card in the same backplane slot. See Appendix A, "System Configuration" for circuit card slot assignments.

9. Remove the circuit card from the MAP/40 or 40s chassis.

   CAUTION:
   Hold the circuit card carefully by the edges and place it on a grounded mat. See "Protecting against Damage from Electrostatic Discharge," in Chapter 4, "Getting Inside the Computer", for detailed electrostatic discharge precautions.

Installing a Circuit Card

WARNING:
Observe proper electrostatic discharge precautions when you handle computer components. Wear an antistatic wrist strap that touches your bare skin and connect the strap cable to an earth ground. See "Protecting against Damage from Electrostatic Discharge," in g1

WARNING:
for detailed electrostatic discharge precautions.

To install a circuit card, do the following.

1. Remove the new circuit card from its ESD protective wrapping.

   NOTE:
   Keep the package and all ESD protective wrapping. If you must return a card for repair, re-use of the replacement unit packaging is necessary to meet the manufacturer's warranty.

2. Verify the circuit card switch and jumper settings. Ensure address switches and jumpers are set to match the old card.

   NOTE:
   See the specific instructions, listed later in this chapter, for each type of circuit card being installed then continue with Step 3.

3. Holding the circuit card by its upper corners, slide the card into the backplane connector slot position from which you removed the damaged card. If necessary, refer to Appendix A, "System Configuration" to determine the correct slot in which to place the card.
4. Apply even pressure to both corners of the circuit card until it is locked into the backplane.
5. Secure the circuit card faceplate into position by replacing the retaining screw.
6. Replace all cables on the new card. Make sure these cables are attached to their proper terminations.
7. Replace all cables removed from other cards. Make sure these cables are attached to their proper terminations.
8. Replace the circuit card retaining bracket, circuit card access panel, and MAP/40 or 40s dress panel. See Chapter 4, "Getting Inside the Computer" for component replacement procedures.
9. Apply power to the unit. See “Restoring Power to the MAP/100,” in Chapter 4, "Getting Inside the Computer" for instructions on restoring power.
10. Reboot the voice system. See “Shutting Down and Rebooting the Lucent INTUITY System” in Chapter 3, "Common System Procedures" for the procedure.
11. Verify the installation of the circuit card by doing the following:

NOTE:
This procedure will only verify the installation of Tip/Ring and ACCX circuit cards.

a. Start at the Lucent INTUITY Main Menu (Figure 5-1).

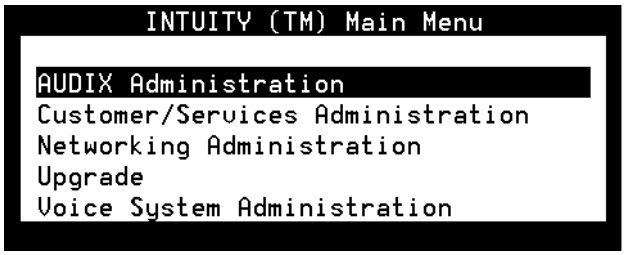


Figure 5-1. Lucent INTUITY Main Menu

b. Select

```
> Customer/Services Administration
    > System Verification
        > View Installed Hardware
```

The system displays the View Installed Hardware window (Figure 5-2).

```
                    View Installed Hardware
Installed Hardware of mtce

2047 megabyte Hard Drive Installed at SCSI id 0
47 megabytes of memory installed.

Installed Hardware of netw

 Networking Board        Equipped        Version Number
        1                   no                N/A
        2                   no                N/A
        3                   no                N/A
```

Figure 5-2. View Installed Hardware Window

c. Verify that the system has identified the new circuit card.

Settings for Optional Circuit Cards

The following sections list the specific jumper and switch settings for optional circuit cards.

WARNING:
Observe proper electrostatic discharge precautions when you handle computer components. Wear an antistatic wrist strap that touches your bare skin and connect the strap cable to an earth ground. See "Protecting against Damage from Electrostatic Discharge," in Chapter 4, "Getting Inside the Computer"" for detailed electrostatic discharge precautions.

This section provides the following information on the optional feature circuit cards:

- Switch and jumper settings
- Other installation requirements that are specific to the particular circuit card you are installing

In general, circuit cards are not preset at the factory. You must set the switches and jumpers (resource options) *before* you install the cards. When you set the switches according to the instructions in this book, remember that OFF is equivalent to open and ON is equivalent to closed.

Multi-Port Serial Circuit Card

The Multi-port serial card for the MAP/40 or 40s (Figure 5-3) has eight serial ports. Each port is a 6-wire, RJ-11 modular jack.

Modular adapters convert the modular jacks to RS-232 connectors. You need one adapter for each device to be connected. All eight serial ports can be used for modem, terminal, or other DTE or DCE components, provided they are not being used for switch integration.

You can install only one multi-port serial card in the MAP/40 or 40s.

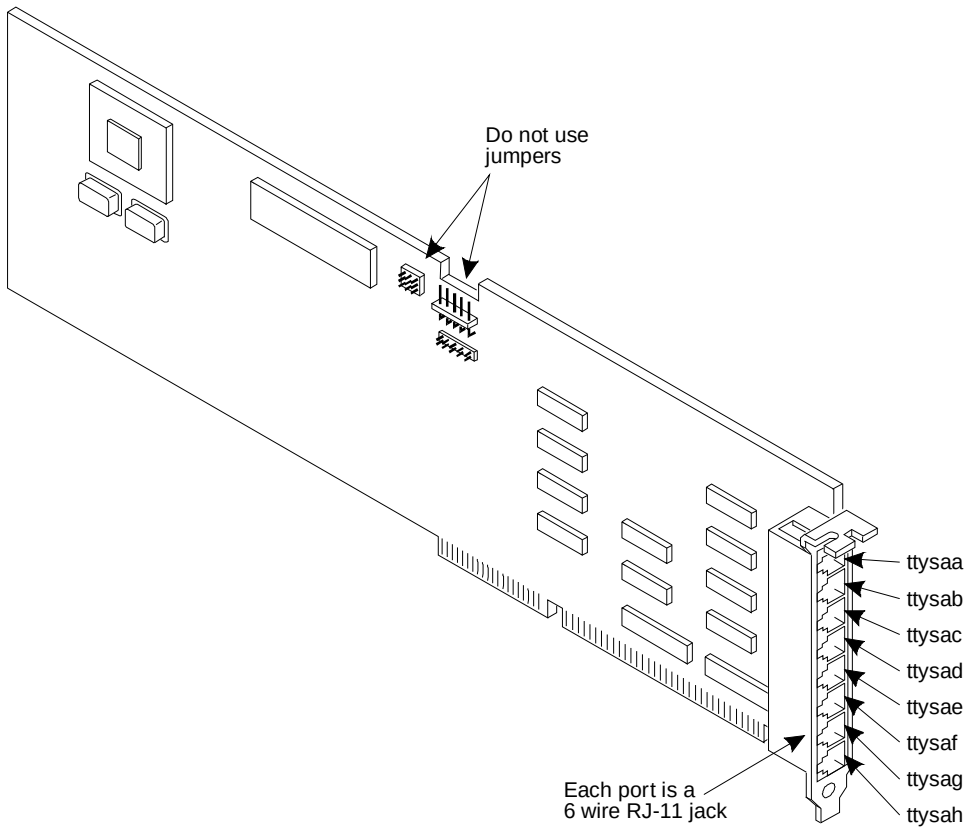


Figure 5-3. Multi-Port Serial Circuit Card

Setting the Resource Options

The Multi-port serial circuit card requires no hardware configuration. Verify that no jumpers are set on this card.

Placing the Multi-port Serial Circuit Card in the MAP/40 or 40s

See “General Procedures” above for Multi-port serial circuit card installation procedure.

ACCX (AYC22) Circuit Card

The Lucent INTUITY system supports up to eight networking channels on the MAP/40 or 40s via digital and analog remote connections using DCP and RS-232 links respectively from the ACCX circuit card (Figure 5-4). An ACCX circuit card terminates four data channels in one of the following combinations:

- Two DCP lines, each providing two I-channels for data. Depending on the version of the switch you are connecting to, you may only be able to use one of the two I-channels of each DCP circuit as shown in the following list:
  - — System 75 R1V3, DEFINITY G1 R1V4, and DEFINITY G3i, G3s, or G3vs Version 1 only support one I-channel.
  - — DEFINITY G3i, G3s, and G3vs Version 2 can use both I-channels. The option must be purchased, installed, and administered on the switch before system administration is performed
- Four RS-232 ports
- One DCP line (two I-channels) and two RS-232 ports

You can install a maximum of two ACCX cards in the MAP/40 or 40s.

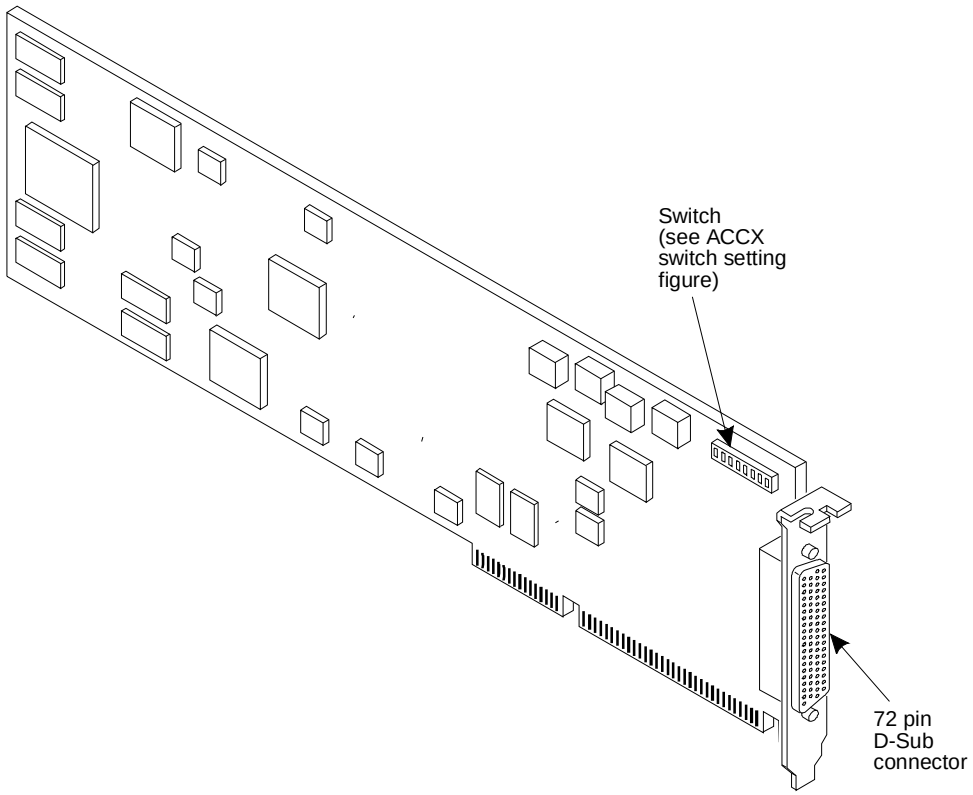


Figure 5-4. ACCX Networking Circuit Card

Setting the Resource Options

Each ACCX card includes eight dip switches. These switches represent SA4 through SA11 on the ISA Bus and are used to set the address of the card (Figure 5-5).

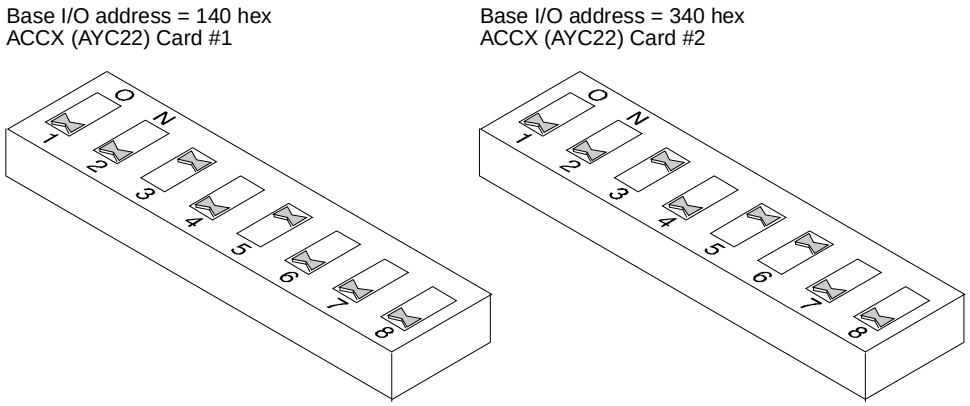


Figure 5-5. Switch Settings for the MAP/40 or 40s ACCX Card

Placing the ACCX Circuit Card in the MAP/40 or 40s

See "General Procedures" above for the ACCX circuit card installation procedure.

GP-Synch Circuit Card

The GP-Synch circuit card (Figure 5-6) connects to AT&T switches through an X.25 link. Your system may interface with the link through this card or through the DCIU circuit card. See “DCIU Circuit Card” for more information on this circuit card.

You can install only one GP-Synch or DCIU circuit card in the MAP/40 or 40s.

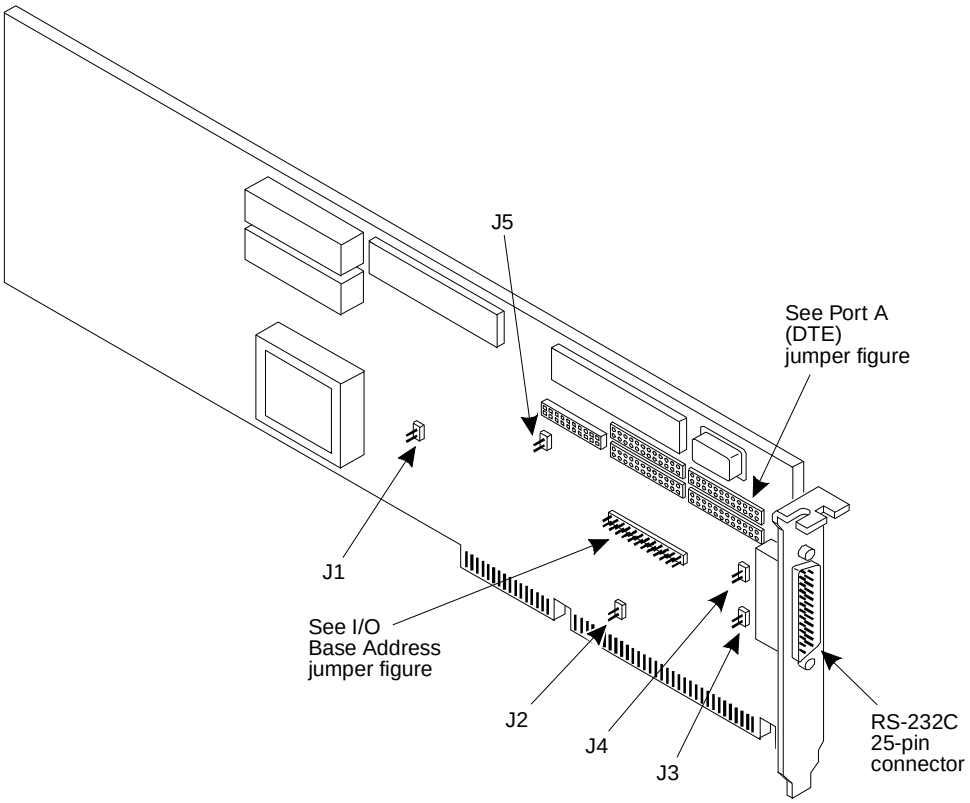


Figure 5-6. GP-Synch Circuit Card

Setting the Resource Options

The GP-Synch card contains jumpers that you must set before you install the circuit card (Figure 5-7).

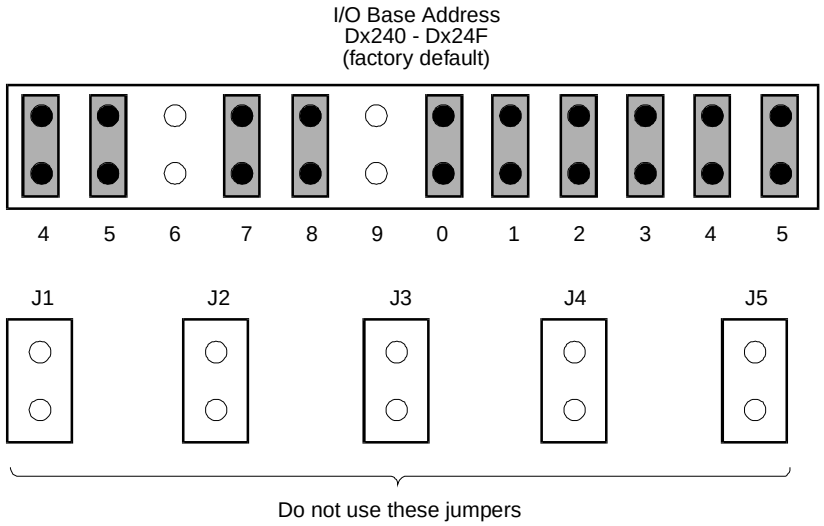


Figure 5-7. Jumper Settings on the GP-Synch Circuit Card

Port A jumpers on the GP-Synch card require a strap to set the jumpers (Figure 5-8).

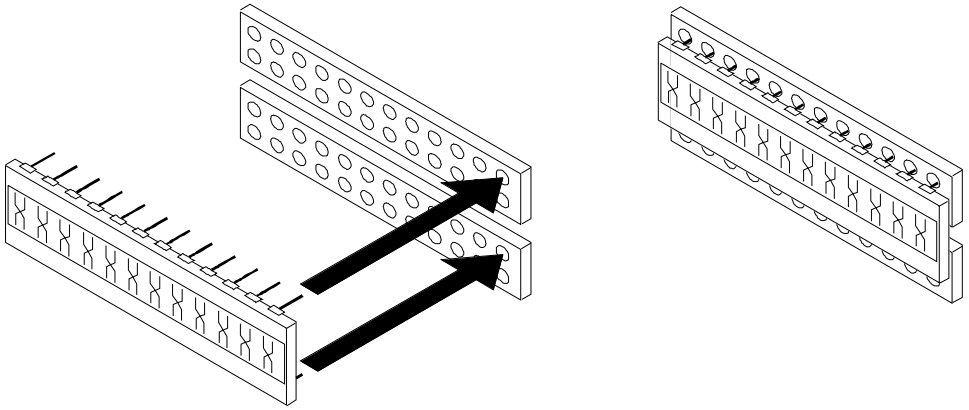


Figure 5-8. Port A (DTE) Jumper Connections

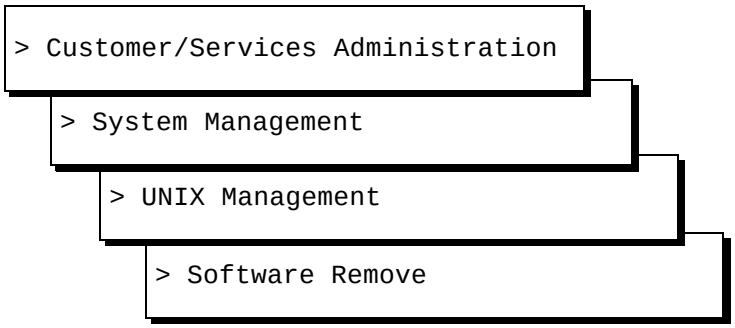
Replacing a GP-Synch Circuit Card with another GP-Synch Circuit Card in the MAP/100

See "General Procedures" above for the GP-Synch circuit card removal and installation procedures.

Replacing a DCIU Circuit Card with a GP-Synch Circuit Card in the MAP/100

See "Removing a Circuit Card" and the following procedures for DCIU circuit card replacement.

1. Busy out the DCIU link from the Lucent INTUITY system. See “Busy-Out Switch Integration Link,” in Chapter 2, "Diagnostics" for the procedure.
2. Stop the voice system. See “Stopping the Voice System,” in Chapter 3, "Common System Procedures" for the procedure.
3. Insert the “Lucent INTUITY Platform DCIU Set” tape into the tape drive. See “Inserting and Removing Cartridge Tapes” in Chapter 3, "Common System Procedures", for the procedure.
4. Remove the DCIU circuit card software by completing Steps a through h.
   a. Starting at the Lucent INTUITY Main menu (Figure 5-1), select



The system displays the Software Remove screen (Figure 5-9).

```
The following packages are available:
  1  I16rfu+c      Remote Field Update C for IP16
                   (486) 1.0-16
  2  IVR           Intuity Intro Voice Response Set
                   (486) 1.0.16.1
  3  VM            AUDIX(R) Module marker file
                   (AUDIX) NA
  4  VM+3          AUDIX(R) Software Patches
                   (AUDIX) 2.0-16
  5  VM-britsh     British System Announcements
                   (AUDIX) 2.0-14
  6  VM-dfltdb     AUDIX(R) Default db
                   (AUDIX) 2.0-14
  7  VM-french     French-c System Announcements
                   (AUDIX) 2.0-14
  8  VM-sat        AUDIX(R) English Announcements
                   (AUDIX) 2.0-14
  9  VM-spansh     Lat-Span System Announcements
                   (AUDIX) 2.0-14
 10  VM-sw         AUDIX(R) Software
                   (AUDIX) 2.0-16

... 53 more menu choices to follow;
<RETURN> for more choices, <CTRL-D> to stop display:
```

Figure 5-9. Software Remove Screen

b. Press ENTER until the following software package name appears:

```
eicon   EiconCard Services Driver and Management
        Utilities
```

c. Write down the number which appears to the left of the software package name.

d. Press CONTROL D

The system displays the following message:

```
Select package(s) you wish to process (or 'all' to
process all packages). (default: all) [?,??,q]
```

e. Enter the number which you wrote down in Step c.

The system displays the following message:

```
The following package is currently installed:
eicon   EiconCard Services Driver and Management
        Utilities

Do you want to remove this package [y,n,?,q]
```

f. Enter **y**

The system displays the following message:

```
EiconCard Services Driver Removal
```

```
Remove EiconCard Services Driver?
Are you sure? (y/n):
```

g. Enter **y**

The system displays the following message:

```
Updating system configuration...
Do you wish to relink the kernel now (y/n):
```

h. Enter **y**

The system displays the UNIX Management window (Figure 5-10).

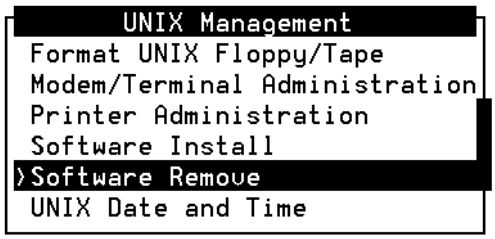
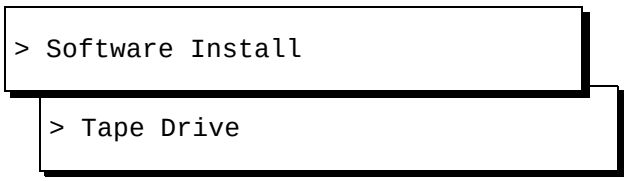


Figure 5-10. UNIX Management Window

5. Select



The system displays the following message:

```
Insert a cartridge into Tape Drive 1.
Type [go] when ready
    or [q] to quit: (default: go)
```

6. Press ENTER.

The system displays the following message:

```
Installation in progress. Do not remove the cartridge.
```

```
The following sets are available:
    1    DCIUset      Intuity Platform DCIU Set
                      (AUDIX) 4.x-xx

Select package(s) you wish to process (or 'all' to
process all packages). (default: all) [?,??,q]
```

7. Press ENTER.

   The system displays the following message:

```
INTUITY Platform DCIU Set (V2)
(i486)
Using (/) as the package base directory.
Select your Intuity DCIU card type:
        1) DCIU (Eicon) card [this card has a green LED
          on the faceplate]
        2) GPSynch
    Enter 1 or 2 [1]
```

8. Enter **2**

   The system displays the following message:

```
There are currently 1 GPSC-AT board(s) in the system:

A total of 1 port(s) will be configured for
X.25 Release 2.1

Select your host switch type:
    1) 75, G1, G3r, G3i
    2) 85, G2

Enter 1 or 2: [1] :
```

   NOTE:
   If you did not properly remove the DCIU circuit card software the system displays:

```
Before installing the GPSynch software you must
first remove the DCIU card software package(s).
Run pkgrm to remove package(s): eicon
and then retry pkgadd.
```

   Return to Step 3.

9. Enter 1 or 2 to indicate the appropriate switch type.

   After four software packages are loaded, which takes some time, the system displays the following message:

```
If you are installing a new GP-Synch or DCIU (Eicon)
card you may now shutdown the system.  Make sure to
remove power from the system before removing or
installing any circuit cards.
```

```
After the new circuit card is installed and the system
is powered on, you may see some error messages of the
form:

    ERROR: no such device 'dev-name' in mdevice

which you may safely ignore. The UNIX system kernel
will automatically be rebuilt to work with the card and
then the system will auto-reboot with the new kernel.

Processing of <INTUITY Platform DCIU Set> is completed.

The following sets are available:
    1    DCIUset      Intuity Platform DCIU Set
                      (AUDIX) 4.x-xx

Select package(s) you wish to process (or 'all' to
process all packages). (default: all) [?,??,q]
```

10. Enter **q**
11. Shut down the Lucent INTUITY system. See "Shutting Down and Rebooting the Lucent INTUITY System," in Chapter 3, "Common System Procedures" for the procedure.
12. Remove the DCIU circuit card. Complete Steps 3 through 9 of "Removing a Circuit Card" above.
13. Install the GP-Synch circuit card. See "Installing a Circuit Card" above for the procedure.
14. Reboot the Lucent INTUITY system. See "Shutting Down and Rebooting the Lucent INTUITY System," in Chapter 3, "Common System Procedures" for the procedure.

    NOTE:
    When the system is rebooted, you may see error messages concerning the GP-Synch circuit card. *Ignore these messages*. A new operating system kernel is built and the system automatically reboots with the new kernel.

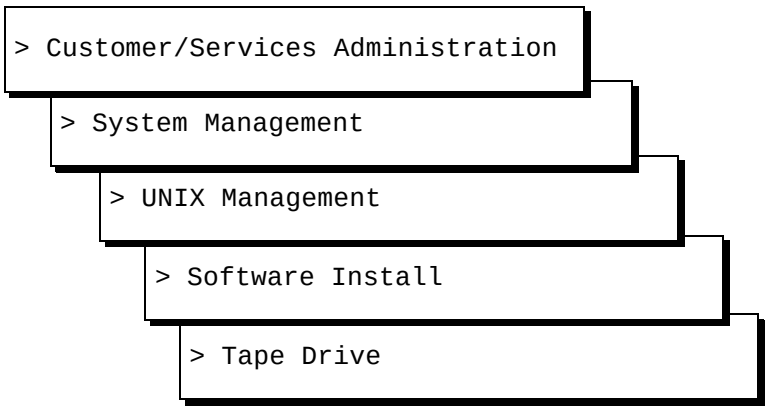
15. Release the DCIU link. See "Release Switch Integration Link," in Chapter 2, "Diagnostics" for the procedure.

    NOTE:
    If problems occur in bringing up the DCIU link, ask the switch administrator to busyout and release the link from the switch console.

Installing a GP-Synch Circuit Card in the MAP/100

Use the following procedure to install a GP-Synch circuit card in a system which previously did not have either a GP-Synch circuit card or a DCIU circuit card installed.

1. Stop the voice system. See “Stopping the Voice System,” in Chapter 3, "Common System Procedures" for the procedure.
2. Insert the “Lucent INTUITY Platform DCIU Set” tape into the tape drive. See “Inserting and Removing Cartridge Tapes” in Chapter 3, "Common System Procedures", for the procedure.
3. Starting at the Lucent INTUITY Main menu (Figure 5-1), select



   The system displays the following message:

```
Insert a cartridge into Tape Drive 1.
Type [go] when ready
    or [q] to quit: (default: go)
```

4. Press ENTER.

   The system displays the following message:

```
Installation in progress. Do not remove the cartridge.

The following sets are available:
    1    DCIUset      Intuity Platform DCIU Set
                      (AUDIX) 4.x-xx

Select package(s) you wish to process (or ‘all’ to
process all packages). (default: all) [?,??,q]
```

5. Press ENTER.

   The system displays the following message:

```
INTUITY Platform DCIU Set (V2)
(i486)
Using (/) as the package base directory.
Select your Intuity DCIU card type:
        1) DCIU (Eicon) card [card has a green LED on
            the faceplate]
        2) GPSynch
    Enter 1 or 2 [1]
```

6. Enter **2**

   The system displays the following message:

```
Select your host switch type:
    1) 75, G1, G3r, G3i
    2) 85, G2

Enter 1 or 2: [1] :
```

7. Enter 1 or 2 to indicate the appropriate switch type.

   After four software packages are loaded, which takes some time, the system displays the following message:

```
Processing of <INTUITY Platform DCIU Set> is completed.

The following sets are available:
    1    DCIUset      Intuity Platform DCIU Set
                      (AUDIX) 4.x-xx

Select package(s) you wish to process (or 'all' to
process all packages). (default: all) [?,??,q]
```

8. Enter **q**
9. Shut down the Lucent INTUITY system. See "Shutting Down and Rebooting the Lucent INTUITY System," in Chapter 3, "Common System Procedures" for the procedure.
10. Install the GP-Synch circuit card. See "Installing a Circuit Card" above for the procedure.
11. Reboot the Lucent INTUITY system. See "Shutting Down and Rebooting the Lucent INTUITY System," in Chapter 3, "Common System Procedures" for the procedure.

DCIU Circuit Card

The DCIU circuit card (Figure 5-11) connects to AT&T switches through an X.25 link. Your system may interface with the link through this card or through the GP-Synch circuit card. See "GP-Synch Circuit Card" for more information on this circuit card.

You can install only one GP-Synch or DCIU circuit card in the MAP/40 or 40s.

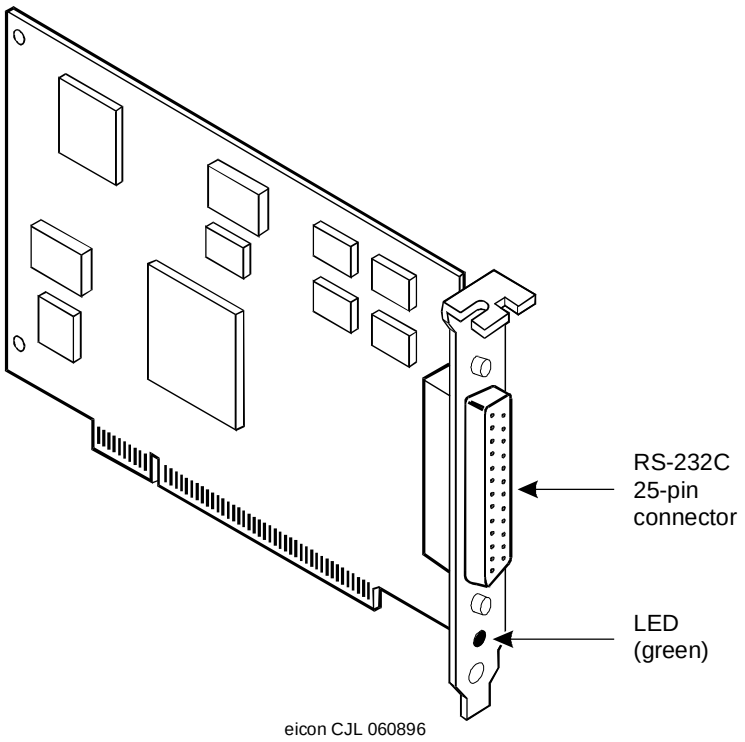


Figure 5-11. DCIU Circuit Card

Setting the Resource Options

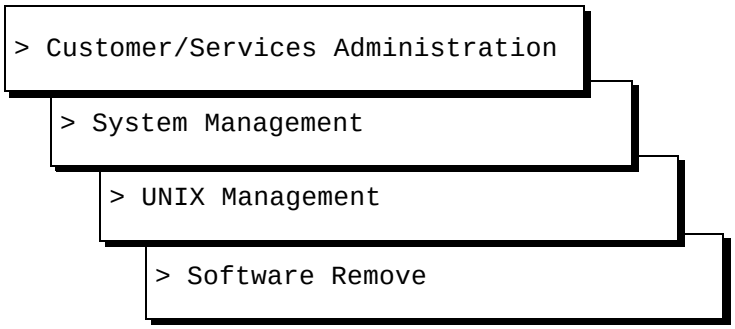
The DCIU circuit card contains no jumpers or switches that you must set before you install the circuit card.

Replacing a GP-Synch Circuit Card with a DCIU Circuit Card in the MAP100

Use the following procedures for GP-Synch circuit card replacement.

1. Busy out the DCIU link from the Lucent INTUITY system. See “Busy-Out Switch Integration Link,” in Chapter 2, "Diagnostics" for the procedure.
2. Stop the voice system. See “Stopping the Voice System,” in Chapter 3, "Common System Procedures" for the procedure.
3. Insert the “Lucent INTUITY Platform DCIU Set” tape into the tape drive. See “Inserting and Removing Cartridge Tapes” in Chapter 3, "Common System Procedures", for the procedure.
4. Remove the GP-Synch circuit card software by completing Steps a through r.

a. Starting at the Lucent INTUITY Main menu (Figure 5-1), select



The system displays the Software Remove screen (Figure 5-9).

b. Press ENTER until the following software package name appears:

```
x25str  AT&T X.25 Network Interface Product
        (i386) Release 2.1.1
```

c. Write down the number which appears to the left of the software package name.

d. Press CONTROL D

The system displays the following message:

```
Select package(s) you wish to process (or 'all' to
process all packages). (default: all) [?,??,q]
```

e. Enter the number which you wrote down in Step c.

The system displays the following message:

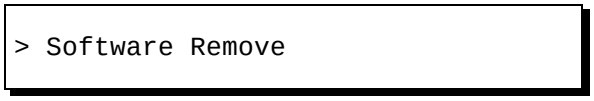
```
The following package is currently installed:
x25str  AT&T X.25 Network Interface Product
        (i386) Release 2.1.1

Do you want to remove this package [y,n,?,q]
```

f. Enter **y**

The system displays the UNIX Management window (Figure 5-10).

g. Select



The system displays the Software Remove screen (Figure 5-9).

h. Press ENTER until the following software package name appears:

NOTE:
You will still see the listing for the X.25 package until the system has been rebooted.

```
rsegpsc GPSC-AT Remote STREAMS Environment
        (i386) Release 2.0.5
```

i. Write down the number which appears to the left of the software package name.

j. Press CONTROL D

The system displays the following message:

```
Select package(s) you wish to process (or 'all' to
process all packages). (default: all) [?,??,q]
```

k. Enter the number which you wrote down in Step i.

The system displays the following message:

```
The following package is currently installed:
rsegpsc GPSC-AT Remote STREAMS Environment
        (i386) Release 2.0.5

Do you want to remove this package [y,n,?,q]
```

l. Enter **y**

The system displays the UNIX Management window (Figure 5-10).

m. Select

```
> Software Remove
```

The system displays the Software Remove screen (Figure 5-9).

n. Press ENTER until the following software package name appears:

NOTE:
You will still see the listing for the X.25 and the rsegpc packages until the system has been rebooted.

```
rse     Remote STREAMS Environment
        (i386) Release 2.0.5
```

o. Write down the number which appears to the left of the software package name.

p. Press CONTROL D

The system displays the following message:

```
Select package(s) you wish to process (or 'all' to
process all packages). (default: all) [?,??,q]
```

q. Enter the number which you wrote down in Step i.

The system displays the following message:

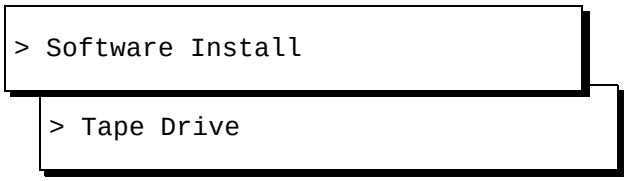
```
The following package is currently installed:
rse     Remote STREAMS Environment
        (i386) Release 2.0.5

Do you want to remove this package [y,n,?,q]
```

r. Enter **y**

The system displays a series of messages followed by the UNIX Management window (Figure 5-10).

5. Select



The system displays the following message:

```
Insert a cartridge into Tape Drive 1.
Type [go] when ready
    or [q] to quit: (default: go)
```

NOTE:
If you did not properly remove the GPSC circuit card software the system displays:

```
Before installing the DCIU software you must first
remove the GPSynch card software package(s).
Run pkgrm to remove package(s): x25str rsegpsc rse
and then retry pkgadd.
```

Return to Step 3.

6. Press ENTER.

The system displays the following message:

```
Installation in progress. Do not remove the cartridge.

The following sets are available:
    1    DCIUset      Intuity Platform DCIU Set
                      (AUDIX) 4.x-xx

Select package(s) you wish to process (or 'all' to
process all packages). (default: all) [?,??,q]
```

7. Press ENTER.

   The system displays the following message:

```
INTUITY Platform DCIU Set (V2)
(i486)
Using (/) as the package base directory.
Select your Intuity DCIU card type:
        1) DCIU (Eicon) card [card has a green LED on
            the faceplate]
        2) GPSynch
    Enter 1 or 2 [1]
```

8. Enter **1**

   The system displays the following message:

```
Select your host switch type:
    1) 75, G1, G3r, G3i
    2) 85, G2

Enter 1 or 2: [1] :
```

9. Enter 1 or 2 to indicate the appropriate switch type.

   After two software packages are loaded, which takes some time, the system displays the following message:

```
If you are installing a new GP-Synch or DCIU (Eicon)
card you may now shutdown the system.  Make sure to
remove power from the system before removing or
installing any circuit cards.

After the new circuit card is installed and the system
is powered on, you may see some error messages of the
form:

    ERROR: no such device 'dev-name' in mdevice

which you may safely ignore. The UNIX system kernel
will automatically be rebuilt to work with the card and
then the system will auto-reboot with the new kernel.

Processing of <INTUITY Platform DCIU Set> is completed.
```

```
The following sets are available:
    1    DCIUset      Intuity Platform DCIU Set
                      (AUDIX) 4.x-xx

Select package(s) you wish to process (or 'all' to
process all packages). (default: all) [?,??,q]
```

10. Enter **q**
11. Shut down the Lucent INTUITY system. See "Shutting Down and Rebooting the Lucent INTUITY System," in Chapter 3, "Common System Procedures" for the procedure.
12. Remove the GP-Synch circuit card. Complete Steps 3 through 9 of "Removing a Circuit Card" above.
13. Install the DCIU circuit card. See "Installing a Circuit Card" above for the procedure.
14. Reboot the Lucent INTUITY system. See "Shutting Down and Rebooting the Lucent INTUITY System," in Chapter 3, "Common System Procedures" for the procedure.

    NOTE:
    When the system is rebooted, you may see error messages concerning the GP-Synch circuit card. *Ignore these messages*. A new operating system kernel is built and the system automatically reboots with the new kernel.

15. Release the DCIU link. See "Release Switch Integration Link," in Chapter 2, "Diagnostics" for the procedure.

    NOTE:
    If problems occur in bringing up the DCIU link, ask the switch administrator to busyout and release the link from the switch console.

Replacing a DCIU Circuit Card with another DCIU Circuit Card in the MAP/100

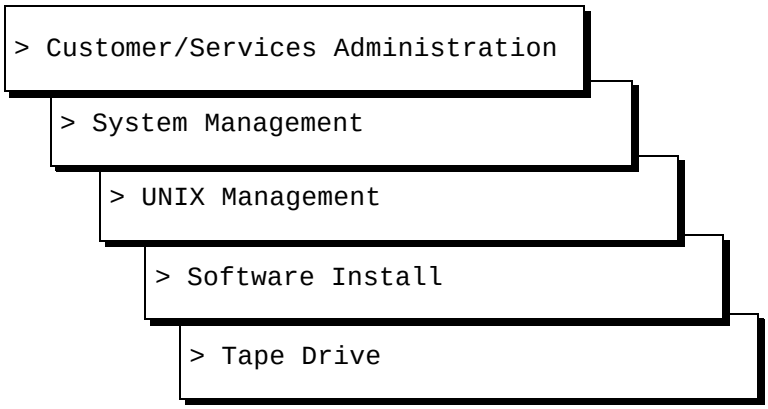
See "General Procedures" above for the DCIU circuit card removal and installation procedures.

Installing a DCIU Circuit Card in the MAP/100

Use the following procedure to install a DCIU circuit card in a system which previously did not have either a DCIU circuit card or a GP-Synch circuit card installed.

1. Stop the voice system. See "Stopping the Voice System," in Chapter 3, "Common System Procedures" for the procedure.

2. Insert the “Lucent INTUITY Platform DCIU Set” tape into the tape drive. See “Inserting and Removing Cartridge Tapes” in Chapter 3, "Common System Procedures", for the procedure.
3. Starting at the Lucent INTUITY Main menu (Figure 5-1), select



The system displays the following message:

```
Insert a cartridge into Tape Drive 1.
Type [go] when ready
    or [q] to quit: (default: go)
```

4. Press ENTER.

The system displays the following message:

```
Installation in progress. Do not remove the cartridge.

The following sets are available:
    1    DCIUset      Intuity Platform DCIU Set
                      (AUDIX) 4.x-xx

Select package(s) you wish to process (or ‘all’ to
process all packages). (default: all) [?,??,q]
```

5. Press ENTER.

The system displays the following message:

```
INTUITY Platform DCIU Set (V2)
(i486)
Using (/) as the package base directory.
Select your Intuity DCIU card type:
        1) DCIU (Eicon) card [card has a green LED on
            the faceplate]
        2) GPSynch
    Enter 1 or 2 [1]
```

6. Enter **1**

   The system displays the following message:

   ```
   Select your host switch type:
       1) 75, G1, G3r, G3i
       2) 85, G2

   Enter 1 or 2: [1] :
   ```

7. Enter 1 or 2 to indicate the appropriate switch type.

   After two software packages are loaded, which takes some time, the system displays the following message:

   ```
   Processing of <INTUITY Platform DCIU Set> is completed.

   The following sets are available:
       1    DCIUset      Intuity Platform DCIU Set
                         (AUDIX) 4.x-xx

   Select package(s) you wish to process (or 'all' to
   process all packages). (default: all) [?,??,q]
   ```

8. Enter **q**
9. Shut down the Lucent INTUITY system. See "Shutting Down and Rebooting the Lucent INTUITY System," in Chapter 3, "Common System Procedures" for the procedure.
10. Install the DCIU circuit card. See "Installing a Circuit Card" above for the procedure.
11. Reboot the Lucent INTUITY system. See "Shutting Down and Rebooting the Lucent INTUITY System," in Chapter 3, "Common System Procedures" for the procedure.

Ethernet LAN Circuit Card

The Ethernet LAN circuit card (Figure 5-12) allows you to connect the Lucent INTUITY system to your local area network. Only one LAN circuit card can be installed in the platform.

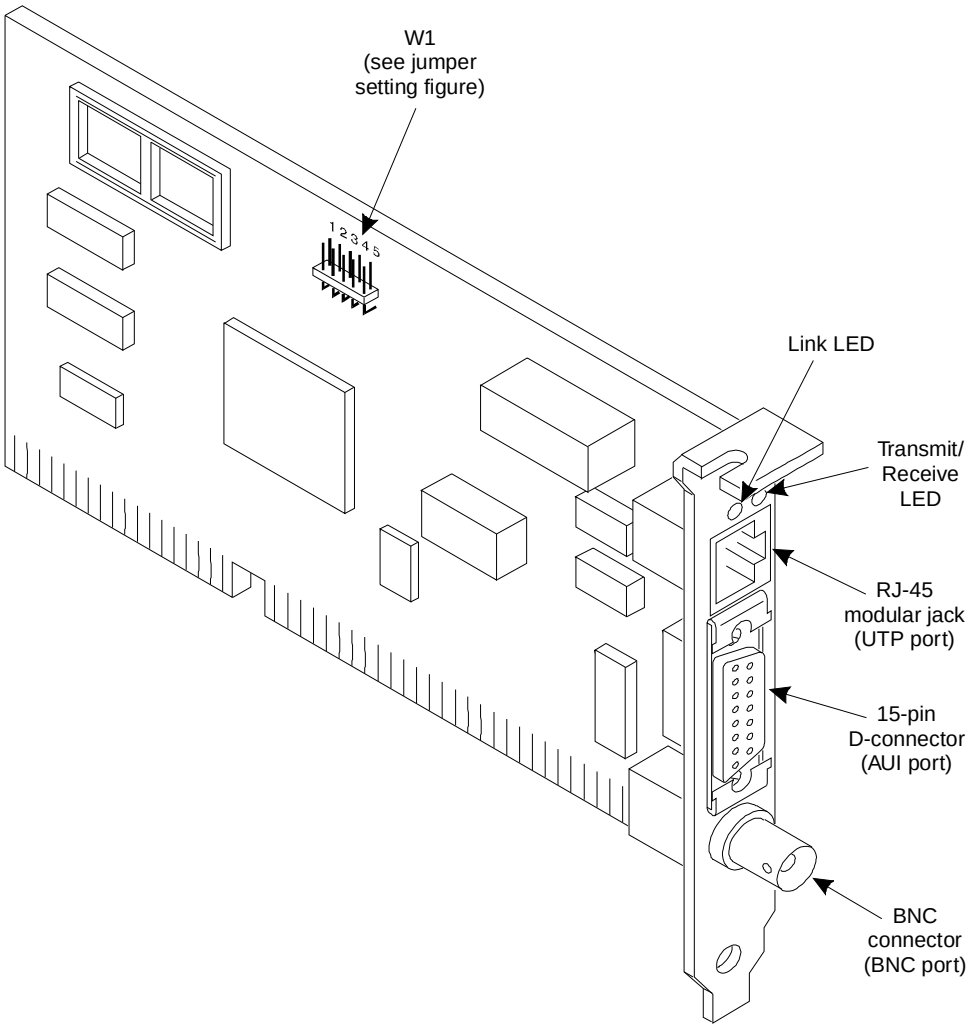


Figure 5-12. Ethernet LAN Circuit Card

Setting the Resource Options

The Ethernet LAN circuit card has one jumper, W1, to set the I/O base address, IRQ channel, RAM base address, and ROM base address.

The default software configuration is as follows:

- IRQ - 10
- I/O base address - 280
- RAM base address - D8000

The default setting for the jumper on W1 is “1,” (Figure 5-13). This position configures the card to be software programmable beginning at the default settings.

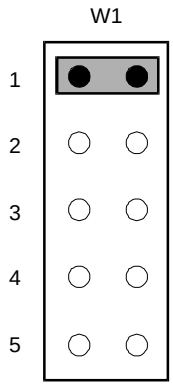


Figure 5-13. Ethernet LAN Circuit Card Software Programmable Jumper Setting

There are no switches to set on the Ethernet LAN circuit card.

Placing the Ethernet LAN Circuit Card in the MAP/40 or 40s

See "General Procedures" above for the Ethernet LAN circuit card installation procedure.

CAUTION:
Do NOT cable the LAN circuit card until after the system has ben powered up and TCP/IP administration has been completed. This will ensure that the customer’s LAN is not disrupted. See Chapter 8, “Initial Administration and Testing for TCP/IP Networking and Message Manager“ in “Lucent INTUITY Messaging Solutions Release 4.0 MAP/40 and MAP/40s System Installation” for more information on cabling and TCP/IP administration.

Installation of the Ethernet LAN circuit card must include the following sequence of operation.

1. Install the Ethernet LAN circuit card in the MAP/40 or 40s.
2. Restore power to the system. See “Restoring Power to the MAP/100,” in Chapter 4, "Getting Inside the Computer" for the procedure.
3. Administer the TCP/IP. See Chapter 8, “Initial Administration and Testing for TCP/IP Networking and Message Manager“ in *“Lucent INTUITY Messaging Solutions Release 4.0 MAP/40 and MAP/40s System Installation”* for more information on TCP/IP administration.

4. Shut down the system. See "Shutting Down and Rebooting the Lucent INTUITY System" in Chapter 3, "Common System Procedures" for the procedure.
5. Cable the Ethernet LAN circuit card. See the *EtherCard Elite Ultra Adapters Users Guide* packaged with the Ethernet LAN circuit card for cabling procedures.
6. Reboot the system. See "Shutting Down and Rebooting the Lucent INTUITY System" in Chapter 3, "Common System Procedures" for the procedure.

Settings for Standard Circuit Cards

WARNING:
Observe proper electrostatic discharge precautions when you handle computer components. Wear an antistatic wrist strap that touches your bare skin and connect the strap cable to an earth ground. See “Protecting against Damage from Electrostatic Discharge,” in Chapter 4, "Getting Inside the Computer" for detailed electrostatic discharge precautions.

This section provides the following information on the standard circuit cards that are included with every MAP/40 or 40s:

- Switch and jumper settings
- Other installation requirements that are specific to the particular circuit card you are installing

Tip/Ring Circuit Card

The Tip/Ring circuit cards provide the channels which are used by the AT&T Intuit system. There are three channel on each Tip/Ring circuit card. The MAP/40 accommodates seven Tip/Ring circuit cards. You will install the IVC6 (AYC10) type of Tip/Ring circuit card (Figure 5-14). The MAP/40s can only support three Tip/Ring circuit cards.

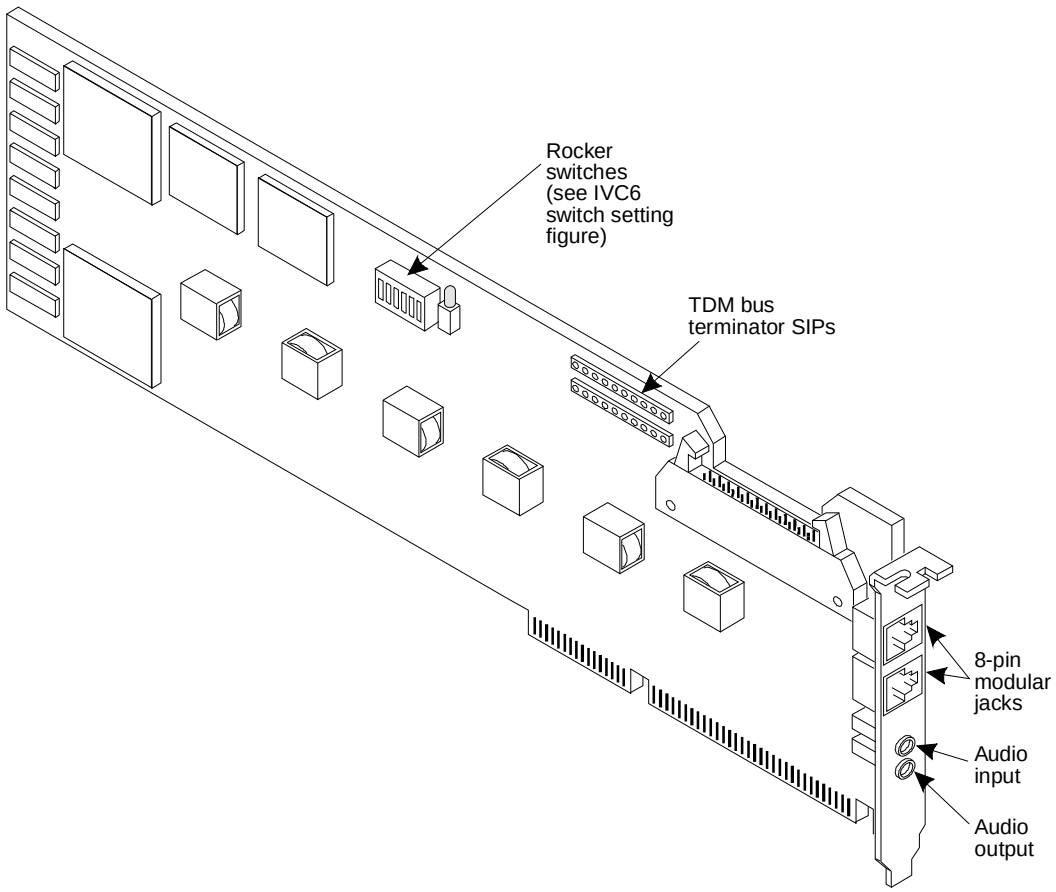


Figure 5-14. IVC6 (AYC10) Tip/Ring Circuit Card

Setting the Resource Options

Each of the possible seven Tip/Ring circuit cards in the MAP/40, and each of the possible three Tip/Ring circuit cards in the MAP/40s, has a unique address. The addresses are set on the card switch bank (Figure 5-15). There are no jumpers to set on the IVC6 (AYC10) Tip/Ring circuit card.

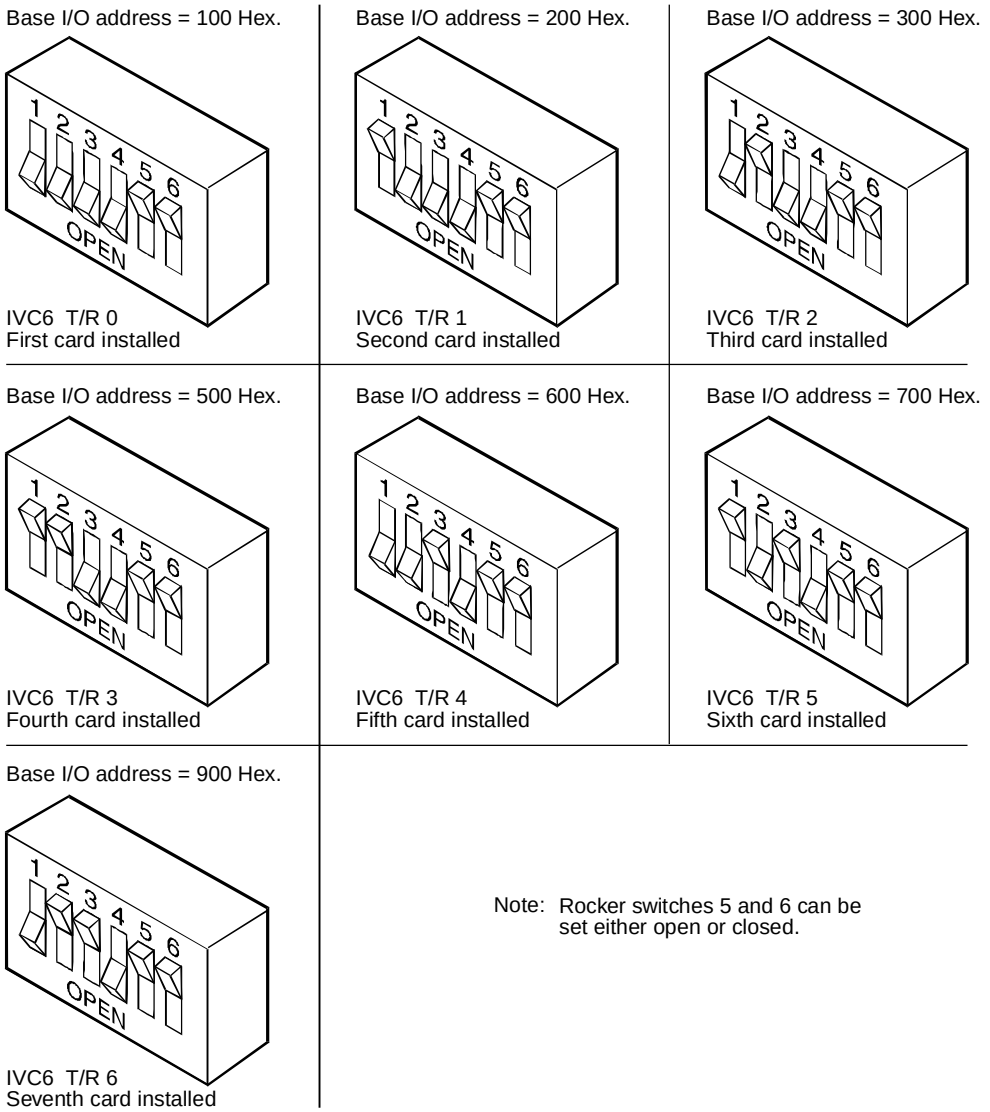


Figure 5-15. IVC6 (AYC10) Tip/Ring Switch Settings

Placing the Tip/Ring Circuit Card in the MAP/40 or 40s

See "General Procedures" above for the Tip/Ring circuit card installation procedure.

P575/CPU Circuit Card

The P575/CPU is packaged on a single PC/AT-compatible circuit card (Figure 5-16) that plugs into the backplane. There is one P575/CPU circuit card installed in the MAP/40 or 40s.

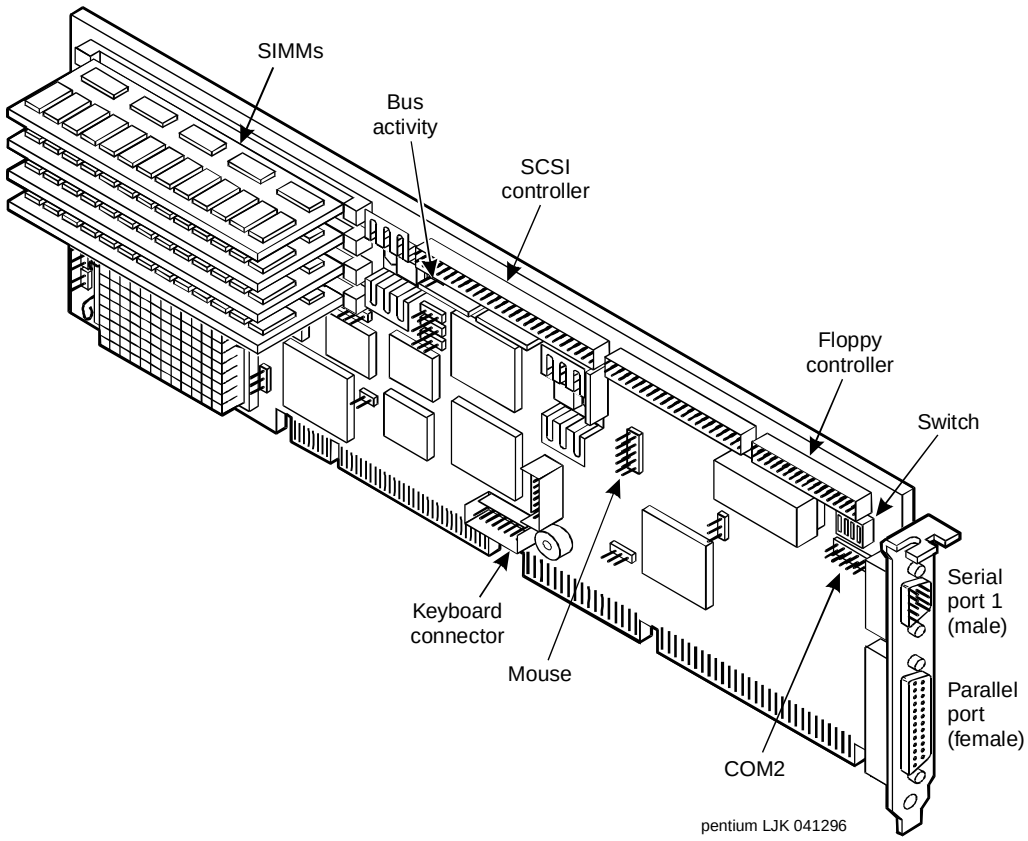


Figure 5-16. P575/CPU Circuit Card and Jumper Locations

Setting the Resource Options

The resource options for the P575/CPU circuit card are set by jumpers and switches.

Jumper Settings

The P575/CPU card has jumpers that you must verify before you install the circuit card. Figure 5-18 shows the jumper locations. Figure 5-18 shows the jumper settings.

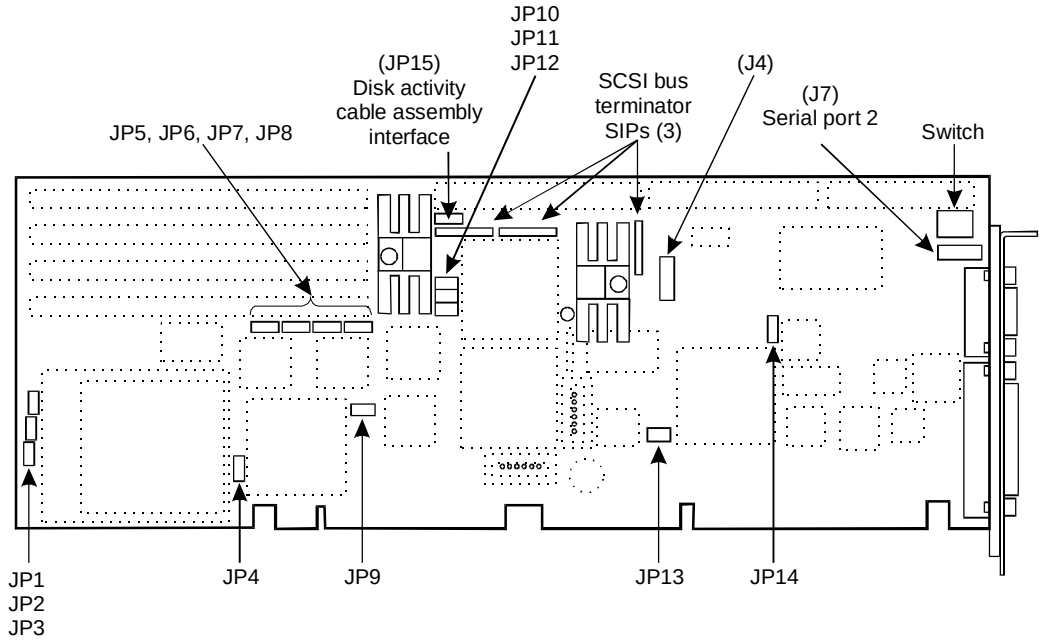


Figure 5-17. Jumper Settings for the P575/CPU Circuit Card

Figure 5-18 shows the jumper settings.

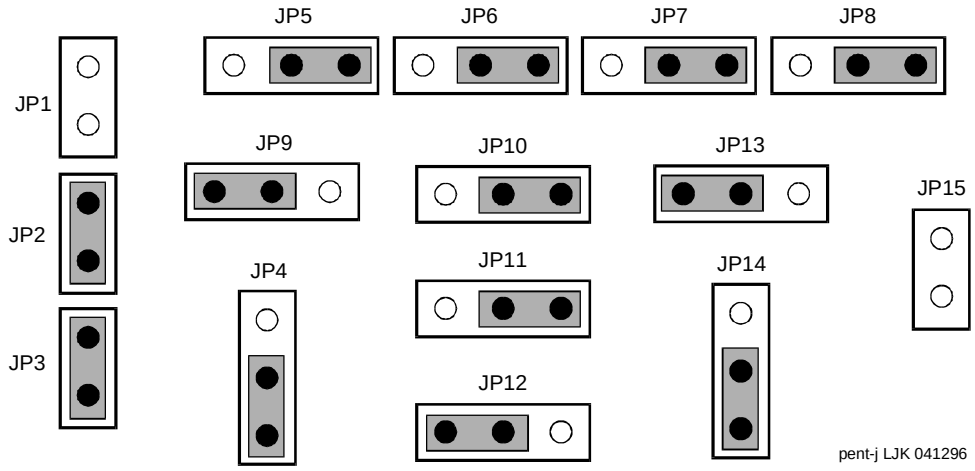


Figure 5-18. Jumper Settings for the P575/CPU Circuit Card

Switch Settings

The P575/CPU card has switches that you must set before you install the circuit card (Figure 5-19).

NOTE:
The switch (Figure 5-19) has been rotated 180 degrees.

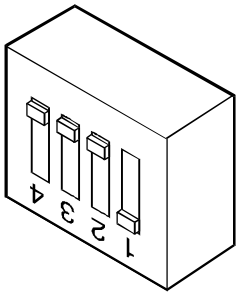


Figure 5-19. Switch Settings for the P575/CPU Circuit Card

Placing the P575/CPU Circuit Card in the MAP/40 or 40s

See "General Procedures" and the following procedures for P575/CPU circuit card installation.

1. Remove the remote maintenance circuit card, if installed, from Slot 9. See “Removing a Circuit Card” for the procedure.
2. Remove the external SCSI connector circuit card from Slot 11. See “Removing a Circuit Card” for the procedure.
3. Remove the video controller card from Slot 12. See “Removing a Circuit Card” for the procedure.
4. Complete Steps 1 and 2 of “General Procedures.”
5. Attach the keyboard cable to the keyboard pins on the P575/CPU circuit card (Figure 5-20).

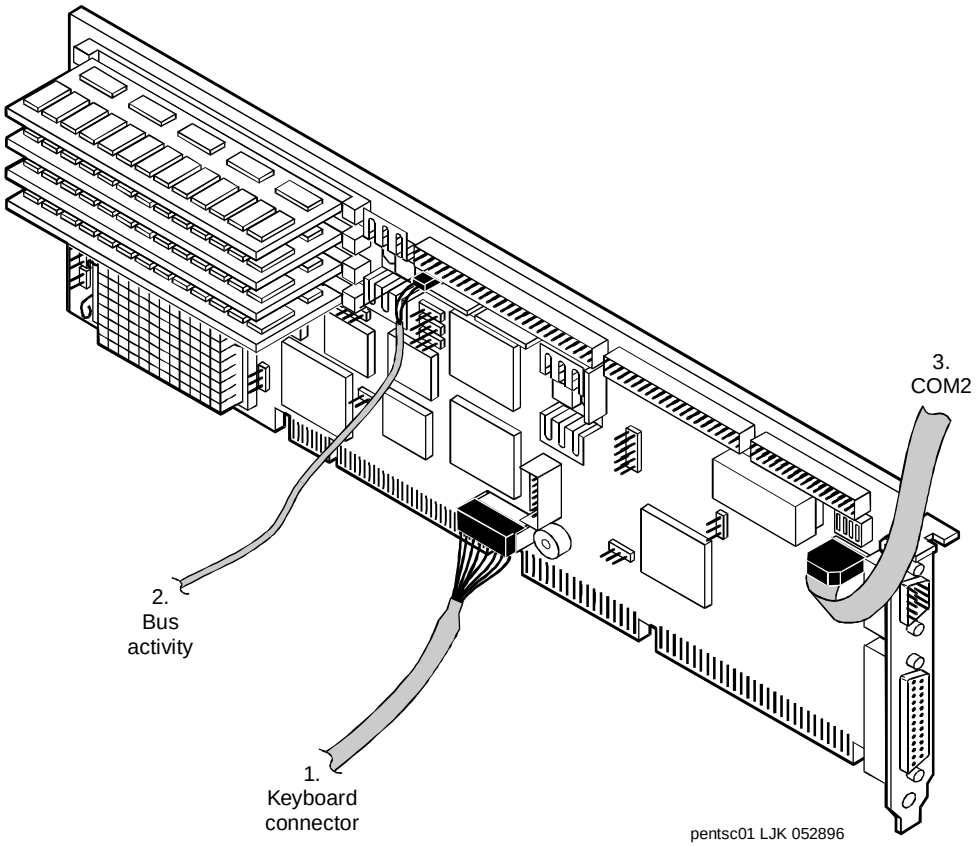


Figure 5-20. Attaching Cables to the P575/CPU Circuit Card - Part 1

6. Complete Step 3 of “General Procedure.”
7. Attach the disk activity cable to the P575/CPU circuit card with the red lead toward the back of the MAP/40 or 40s (Figure 5-20).
8. Install the rear COM2 cable to the P575/CPU circuit card (Figure 5-20).
9. Dress this cable to the side (Figure 5-20).
10. Attach the SCSI cable to the SCSI controller pins on the P575/CPU circuit card (Figure 5-21).

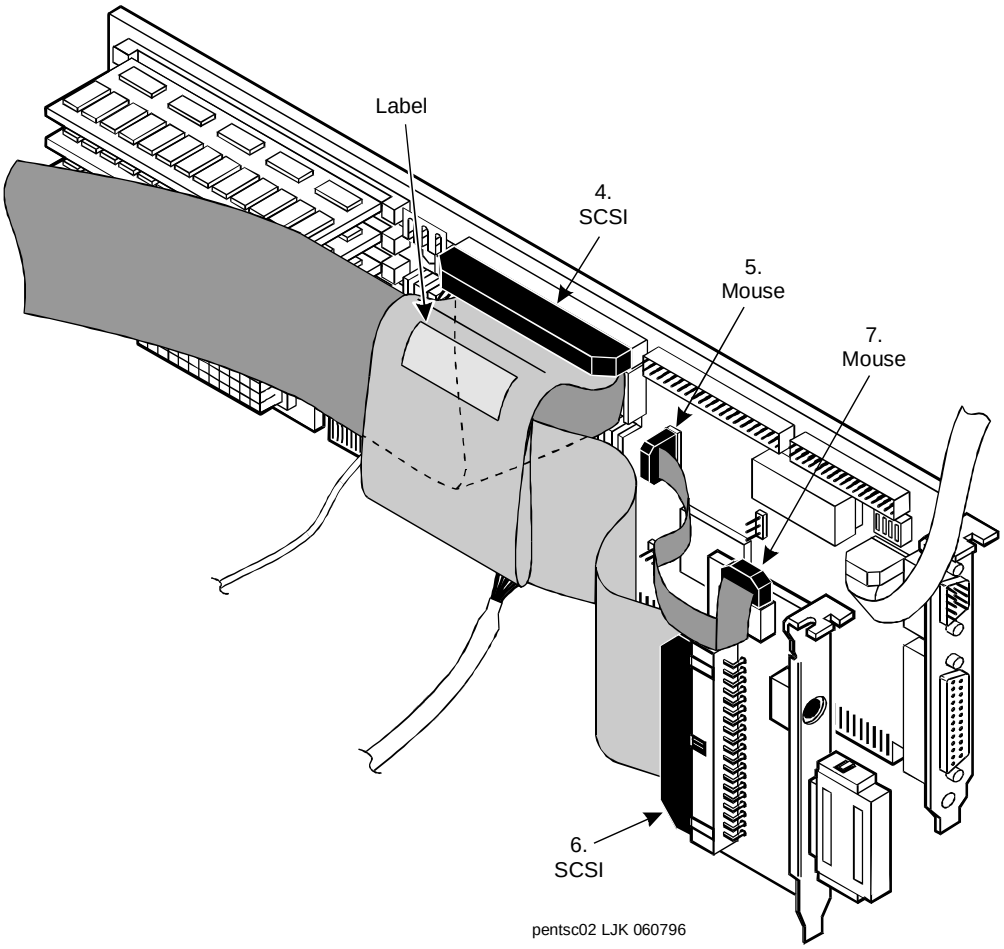


Figure 5-21. Attaching Cables to the P575/CPU Circuit Card - Part 2

NOTE:
The SCSI cable has a label which contains the following message (Figure 5-21):

H600-449 6() ISS. ()
MAP/40 SCSI CA
(SCSI/( ) -P5/40)

NOTE:
The SCSI cable will be routed over top of the disk activity cable (Figure 5-21).

11. Attach the mouse cable to the P575/CPU circuit card (Figure 5-21).

12. Attach the SCSI cable to the external SCSI connector circuit card (Figure 5-21).
13. Install the external SCSI connector circuit card. See “External SCSI Connector Card” for the procedure.
14. Attach the SCSI cable to the hard disk drive or drives.
15. Attach the SCSI cable to the cartridge tape drive.
16. Attach the floppy disk cable to the floppy cable pins on the P575/CPU circuit card (Figure 5-22).

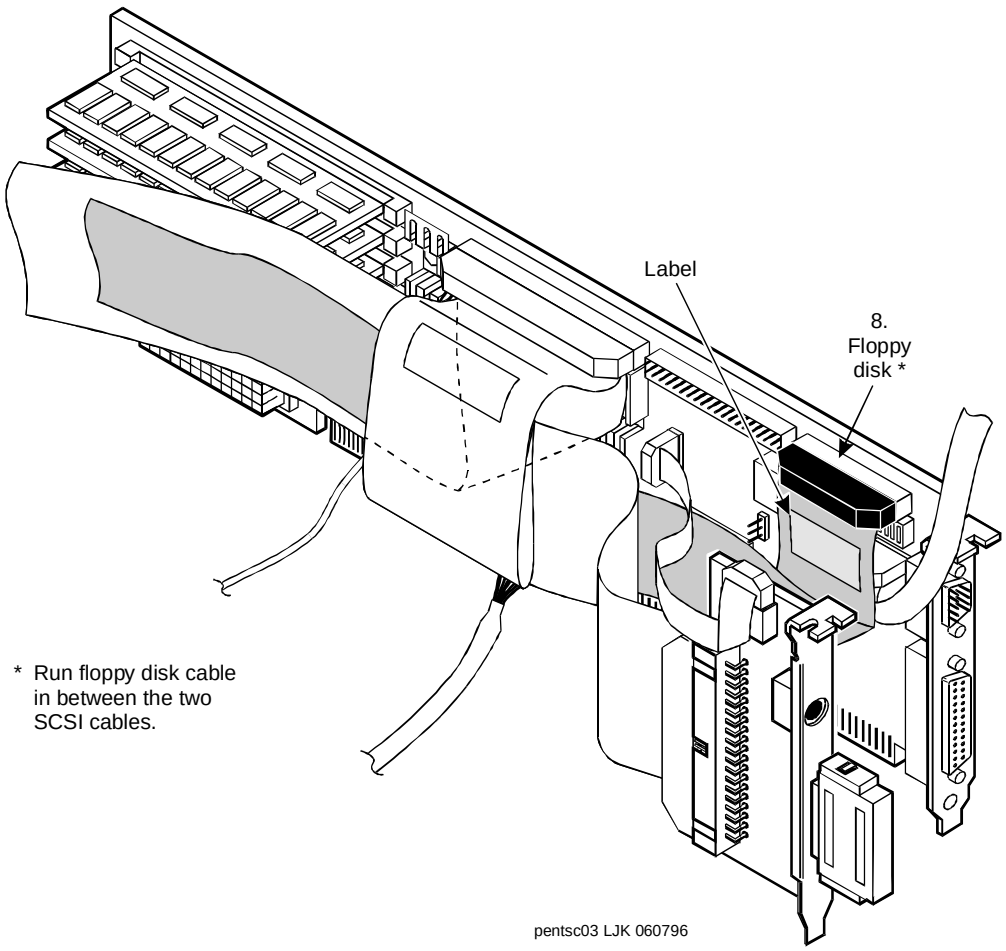


Figure 5-22. Attaching Cables to the P575/CPU Circuit Card - Part 3

NOTE:
The floppy cable has a label which contains the following message (Figure 5-22):

H600-449 6() ISS. ()
MAP/40 Floppy CA
(Floppy/( ) -P5/40)

17. Dress this cable through the SCSI cable and beneath the external SCSI connector circuit card (Figure 5-22).
18. Install the video controller circuit card. See “Video Controller Circuit Cards” for the procedure.
19. Install the remote maintenance circuit card, if equipped. See “Remote Maintenance Circuit Card” for the procedure.
20. Complete Steps 4 through 11 of “General Procedure.”

Verifying the Parameter Settings

P575/CPU circuit card parameter settings are pre-loaded into each card. To verify these settings, do the following.

Host Adapter Parameter Settings

To verify the host adapter parameter settings, do the following:

CAUTION:
Do not change the settings if there is a mismatch. Contact your remote maintenance center for assistance.

1. Reboot the system. See “Shutting Down and Rebooting the Lucent INTUITY System” in Chapter 3, "Common System Procedures" for the procedure.
2. After the power on self test (POST) but before the system boots press CONTROL + A when prompted.

   The system displays the Host Adapter Configuration screen (Figure 5-23).

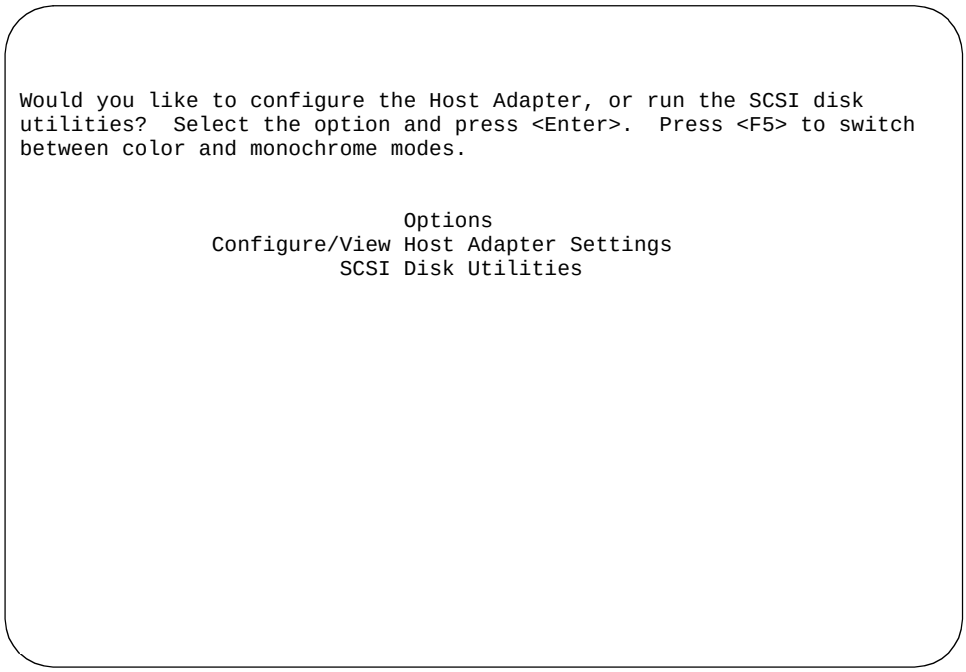


Figure 5-23. Host Adapter Configuration Screen

3. Place the cursor on `Configure/View Host Adapter Settings`. Use the up ▲ and down ▼ arrows to move the cursor.
4. Press ENTER.
5. Compare the settings shown on the screen with the correct parameters listed in Table 5-1.

Table 5-1. SCSI Bus Interface Definitions

Option	Setting
`Host Adapter SCSI ID`	`7`
`SCSI Parity Checking`	`Enabled`
`Host Adapter SCSI Termination`	`Disabled`

6. Place the cursor on `SCSI Device Configuration`. Use the up ▲ and down ▼ arrows to move the cursor.
7. Press ENTER.

Compare the settings shown on the screen with the correct parameters listed in Table 5-2.

NOTE:
These settings must be applied to all SCSI IDs (0 - 7) shown.

Table 5-2. SCSI Device Configuration

Option	Setting
Initiate Sync Negotiation	Yes
Maximum Sync Transfer Rate	5.0
Enable Disconnection	Yes
Send Start Unit Command	No
Include In BIOS Scan	Yes

8. Press ESC.

   The system displays the SCSI bus interface definitions screen.

9. Place the cursor on Advanced Configuration Options. Use the up ▲ and down ▼ arrows to move the cursor.

10. Press ENTER.

    Compare the settings shown on the screen with the correct parameters listed in Table 5-3.

Table 5-3. Advanced Configuration Options

Option	Setting
Reset SCSI Bus	Enabled
Host Adapter BIOS	Enabled
Support Removable Disks	Disabled
Extended BIOS Translations	Disabled
BIOS Support > 2 Drives	Disabled

11. Press ESC.

    The system displays the SCSI bus interface definitions screen.

12. Press ESC.

    The system displays the following message:

```
Exit Utilities
    Yes
    No
```

13. Place the cursor on Yes. Use the up ▲ and down ▼ arrows to move the cursor.
14. Press ENTER.

    The system displays the following message:

    ```
    Please press any key to reboot.
    ```

15. Press ENTER.

    The system reboots and responds with the UNIX prompt (#).

You have completed verifying the host adapter settings.

CMOS Parameter Settings

To verify the CMOS parameter settings, do the following:

CAUTION:
Do not change the settings if there is a mismatch. Contact your local technical support representative for assistance.

1. Perform a hard reboot of the system. See "Shutting Down and Rebooting the Lucent INTUITY System" in Chapter 3, "Common System Procedures" for the procedure.

   NOTE:
   You must perform a hard reboot to access the CMOS parameter settings.

2. During the POST, press S.

   The system displays the following message:

   ```
   Please standby for SETUP Utility...
   ```

   After the system has installed the BIOS it displays the CMOS basic options set-up menu.

3. Compare the P575/CPU circuit card settings in the setup menu with the default parameters listed in Table 5-4.

   NOTE:
   The following settings may differ from the default parameters due to other equipped feature circuit cards in your system:

Table 5-4. CMOS Basic Option Settings for the P575/CPU Circuit Card

Option	Setting
Time and Date	
Set the time and date to the current time and date.	
Time/Date Boot Errors	ON
Floppy Disks	
On-board floppy controller	ON
Select Drive A: Type	3.5 Inch, 1.44 MB
Select Drive B: Type	Not Installed
Floppy Configuration Errors	ON
Fixed Disks	
On-board IDE Interface	OFF
Set Hard Disk 1 Type	SCSI Drive Installed
Set Hard Disk 2 Type	Not Installed (If there is only one disk installed)
Video Adapter	
Select Video Adapter Type	VGA/EGA
Video Configuration Errors	ON
Keyboard	
Keyboard Configuration Errors	ON
Set Keyboard Typematic Rate	NO
Shadow RAM	
Address: C000:0 Status	SHADOW
Address: C800:0 Status	SHADOW
Address: DC00:0 Status	ROM
Address: E000:0 Status	SHADOW
Address: F000:0 Status	SHADOW
Boot Options	
Boot Drive Sequence	Drive A: then C:
Keyboard Numlock at Boot	OFF

Continued on next page

Table 5-4. CMOS Basic Option Settings for the P575/CPU Circuit Card — *Continued*

Option	Setting
Password Options	
`Password Protect Options`	`None`
Password Edit	
Skip these options.	

4. To change the parameter settings, do the following Steps a through d.
   a. Place the cursor on the appropriate heading. Use the up ▲ and down ▼ arrows to move the cursor.
   b. Press ENTER.
   c. Change the parameters. Use the up ▲ and down ▼ arrows to move the cursor.
   d. Press ENTER.
5. Place the cursor on `Advanced Options`.
6. Press ENTER.

   The system displays the CMOS advanced options set-up menu.
7. Compare the P575/CPU circuit card settings in the setup menu with the default parameters listed in Table 5-5.

   NOTE:
   The following settings may differ from the default parameters due to other equipped feature circuit cards in your system:

Table 5-5. CMOS Advanced Option Settings for the P575/CPU Circuit Card

Option	Setting
Serial Ports	
16550 Compatible UART 1:	DISABLED
16550 Compatible UART 2:	02F8, IRQ3
Parallel Ports	
Select Parallel Port Address:	0378
Select Parallel Port IRQ:	IRQ7
Select Parallel Port Mode:	ISA Compatible
PS/2 Mouse	
On-board PS/2 Mouse Port	OFF
Cache	
Internal 16K Code/Data Cache:	Enabled
Level 2 Write Back Cache:	Enabled
Level 2 Cache Test:	Disabled
PCI Configuration	
Is C800 Available?	YES
Is CC00 Available?	YES
Is D000 Available?	NO
Is D400 Available?	NO
Is D800 Available?	NO
Is DC00 Available?	NO
Is IRQ5 Available?	NO
Is IRQ9 Available?	NO
Is IRQ10 Available?	NO
Is IRQ11 Available?	NO
Is IRQ12 Available?	NO
Is IRQ14 Available?	YES
Is IRQ15 Available?	NO
Integrated Adeptec PCI SCSI:	Enabled
PCI Bus Device 00:00:	OK

Continued on next page

Table 5-5. CMOS Advanced Option Settings for the P575/CPU Circuit Card —

Option	Setting
PCI Bus Device 00:01:	OK
PCI Bus Device 00:02:	OK
PCI INT/IRQ Binding	
INTA IRQ Availability	AUTOMATIC
INTB IRQ Availability	AUTOMATIC
INTC IRQ Availability	AUTOMATIC
INTD IRQ Availability	AUTOMATIC
Memory Options	
Base Memory Size:	640K
Memory Gap Block Size:	Disabled
Memory Gap Address Range	N/A
System Performance	
ISA Bus Speed	8.33 MHz
Guaranteed Access Time:	Disabled
DRAM Performance Mode:	Enhanced
PCI Performance Mode:	Standard
DMA Performance Mode:	Standard
ISA Performance Mode:	Standard
8-Bit I/O Recovery Time:	6 SYSCLK
16-Bit I/O Recovery Time:	6 SYSCLK
Miscellaneous	
Watchdog Timer Delay:	1.2 sec
ISA/PCI Option ROM Scan Order	PCI ROM Scan First
Console Redirection	
COM1 Baud Rate:	NOT USED
COM2 Baud Rate:	NOT USED
COM3 Baud Rate:	NOT USED
COM4 Baud Rate:	NOT USED

8. To change the parameter settings, do the following Steps a through d.
    a. Place the cursor on the appropriate heading. Use the up ▲ and down ▼ arrows to move the cursor.
    b. Press ENTER.
    c. Change the parameters. Use the up ▲ and down ▼ arrows to move the cursor.
    d. Press ENTER.
9. Place the cursor on `Basic Options`.
10. Press ENTER.

    The system displays the CMOS basic options set-up menu.
11. Place the cursor on `Flash It!`.
12. Press ENTER.

    The system displays the following message.

    ```
    Make Settings Permanent
            Yes
            No
    ```
13. Place the cursor on `Yes`.
14. Press ENTER.

    The system displays the following message.

    ```
    Reset in progress.
    ```

    After approximately three minutes, the system reboots and displays the UNIX prompt (#).

You have completed verifying the CMOS parameter settings.

External SCSI Connector Circuit Card

The external SCSI connector card provides an the ability to interface with external SCSI devices (Figure 5-24). There is only one external SCSI connector circuit card installed on the system.

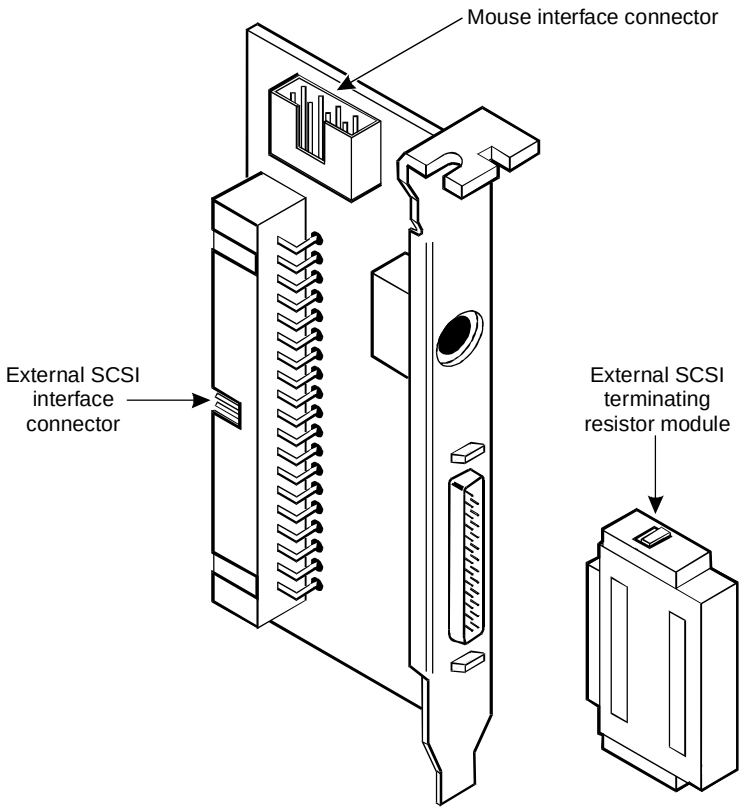


Figure 5-24. External SCSI Connector Circuit Card and Terminating Resistor Module

Setting the Resource Options

There are no switches or jumpers to set.

Placing the External SCSI Connector Circuit Card in the MAP/40 or 40s

See "General Procedures" above for the external SCSI connector card installation procedure. Once the external SCSI connector circuit card has been installed, the terminating resistor can be attached. The terminating resistor must remain on the external SCSI connector circuit card whenever the MAP/40 or 40s is in operation.

Video Controller Circuit Cards

There are three video controller cards supported by the Lucent INTUITY system.

- STB Horizon (Figure 5-25)
- WDXLR831124 (Figure 5-26)
- WDXLR83160 (Figure 5-27)

NOTE:
The WDXLR833124 is not supported by the Lucent INTUITY system because it will not work with the P575 CPU circuit card.

The video controller cards allow the MAP/40 or 40s to interface with a monitor. There is one video controller card installed on the system.

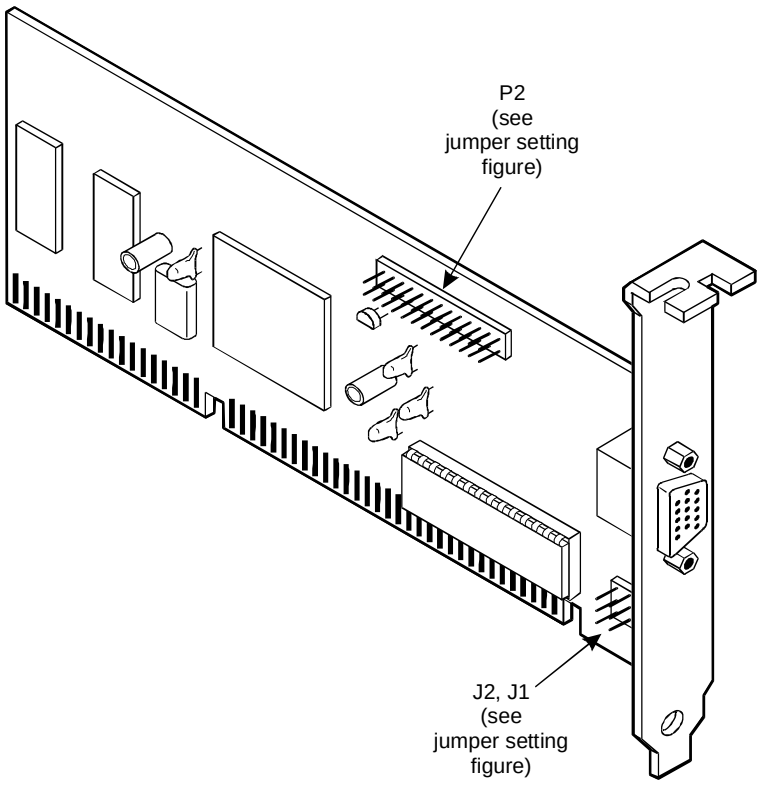


Figure 5-25. STB Horizon Video Controller Circuit Card

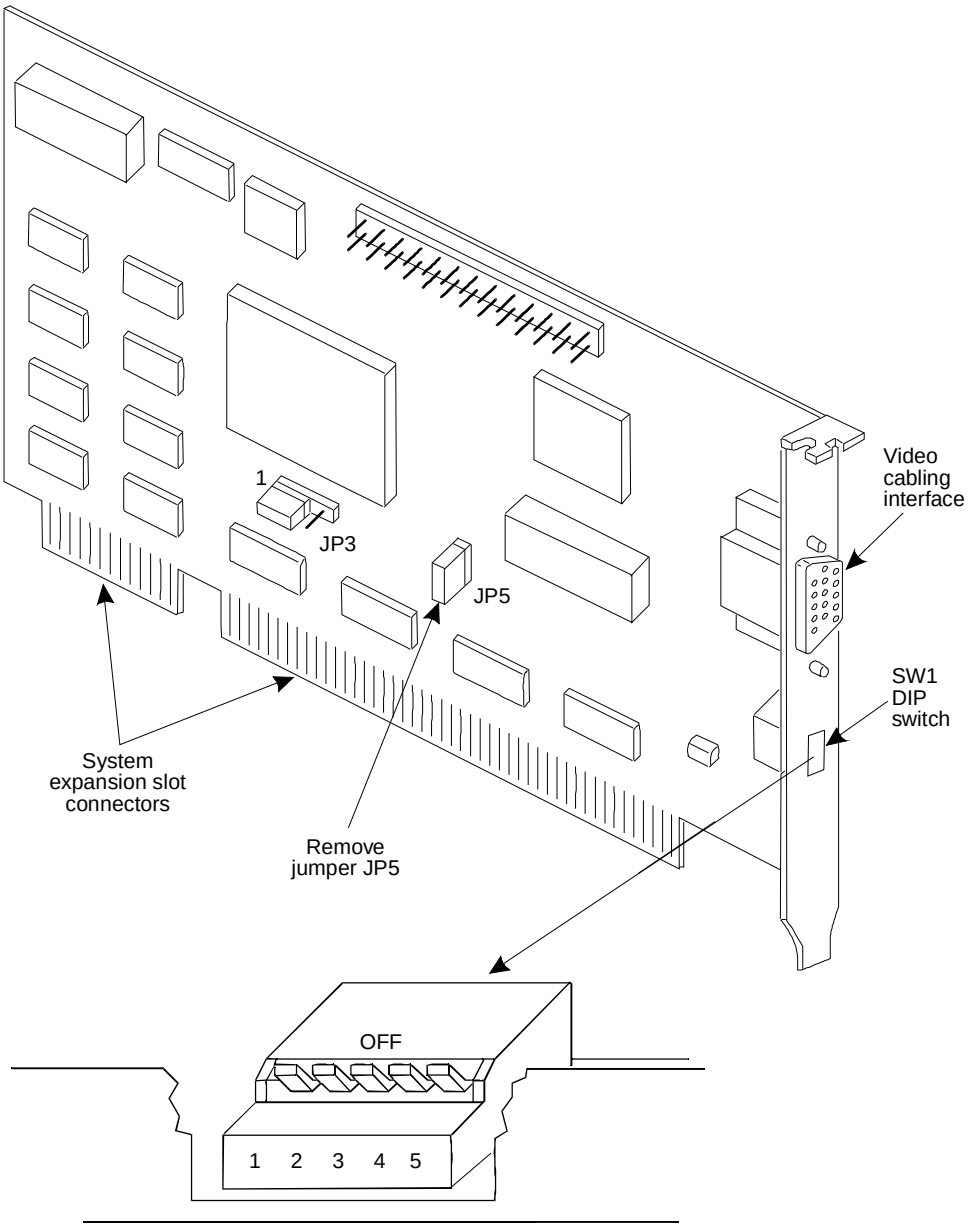


Figure 5-26. WDXLR831124 Video Controller Circuit Card and Switch Settings

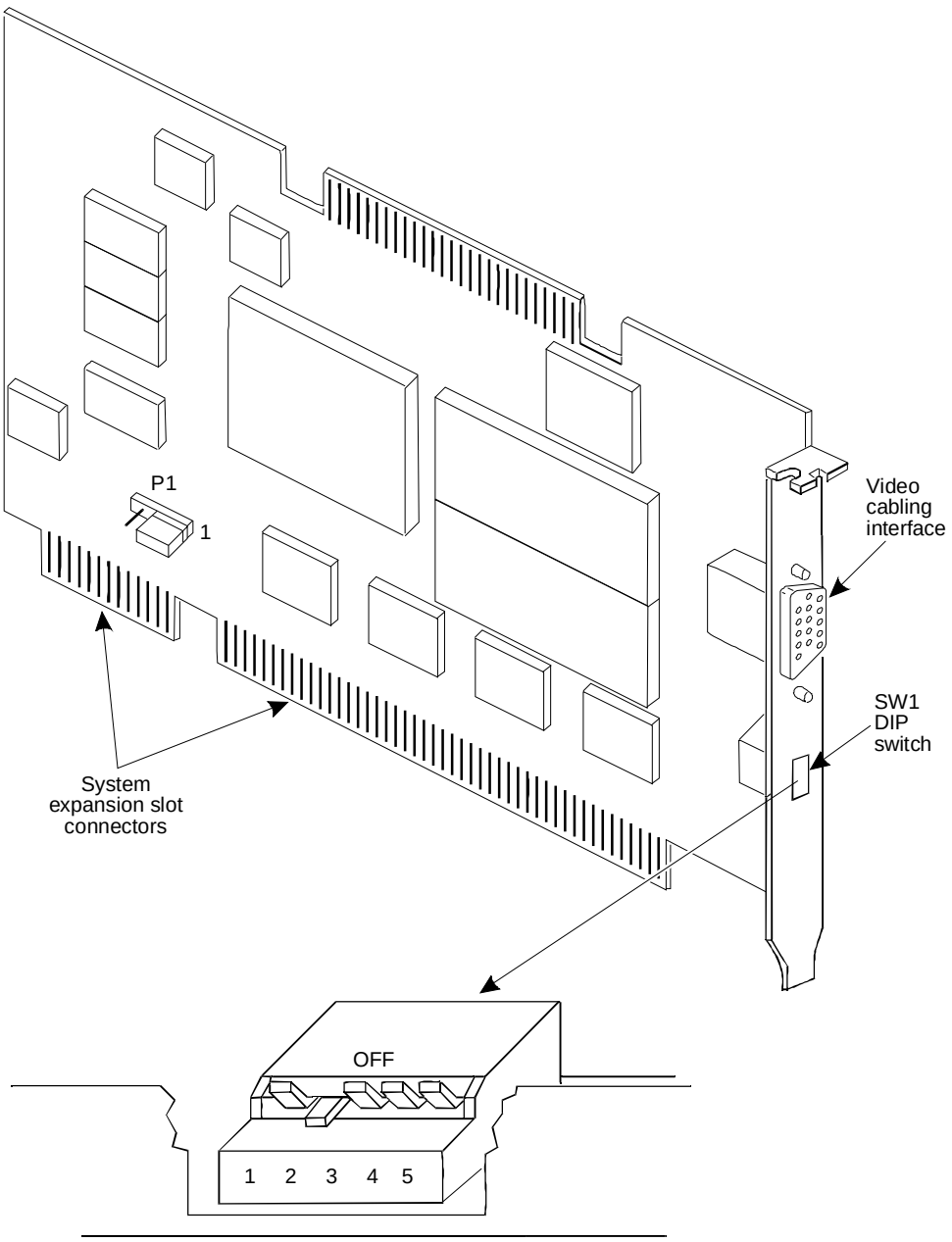


Figure 5-27. WDXLR83160 Video Controller Circuit Card and Switch Settings

Setting the Resource Options

Jumpers on the STB Horizon video controller card are set by the manufacturer. However, you must confirm the setting before you install the card (Figure 5-28). There are no switches on the STB Horizon video controller card.

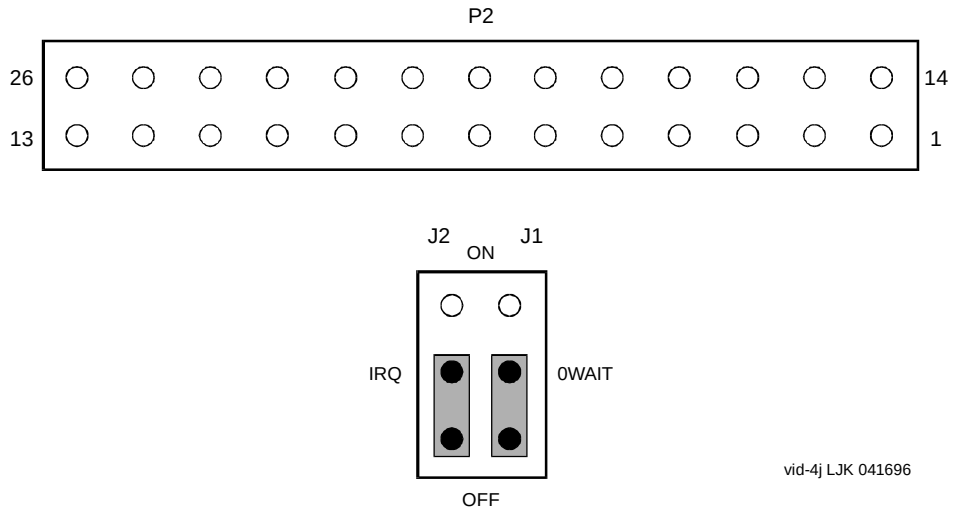


Figure 5-28. STB HorizonVideo Controller Circuit Card Jumper Settings

There are no jumpers on the WDXLR831124 video controller card. There are switches which must be set before the circuit card can be installed in the MAP/40 or 40s (Figure 5-26).

There are no jumpers on the WDXLR83160 video controller card. There are switches which must be set before the circuit card can be installed in the MAP/40 or 40s (Figure 5-27).

Placing the Video Controller Circuit Card in the MAP/40 or 40s

See "General Procedures" above for the Video Controller circuit card installation procedure.

Remote Maintenance Circuit Card

The remote maintenance circuit card provides remote diagnostics of basic MAP/40 or 40s components (Figure 5-29). There is one remote maintenance circuit card installed on the system.

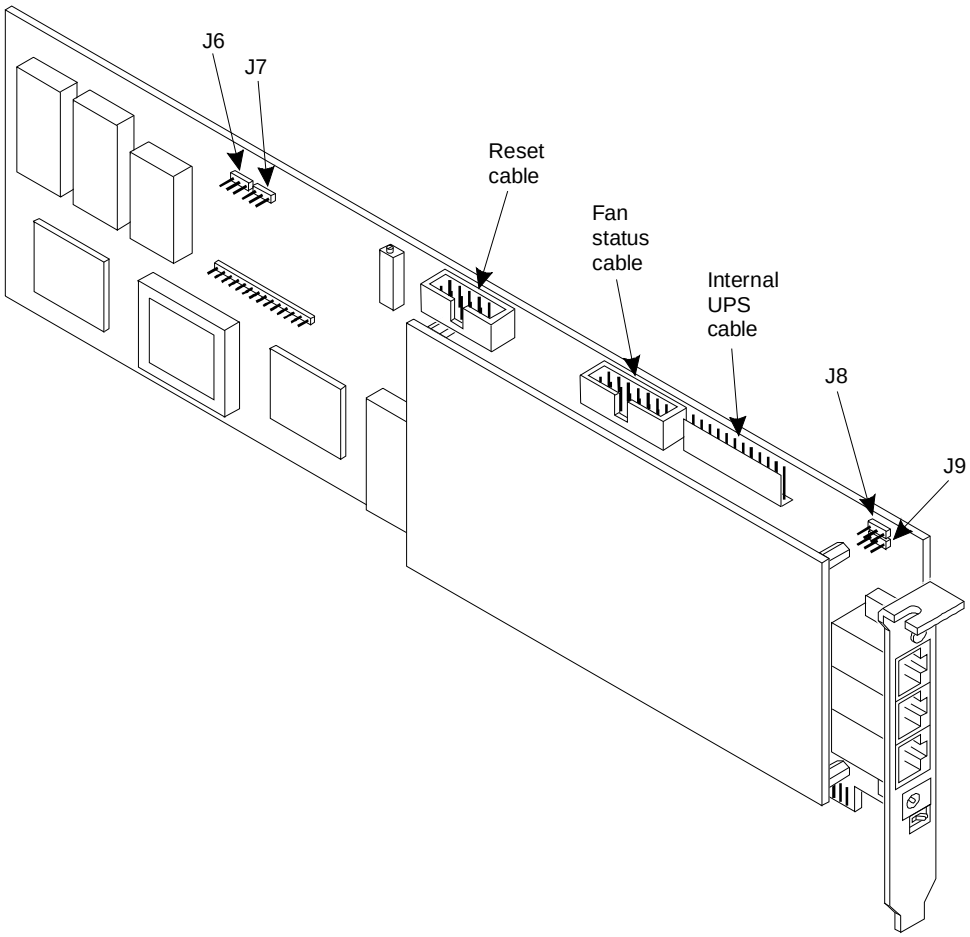


Figure 5-29. Remote Maintenance Circuit Card

Setting the Resource Options

Figure 5-30 shows the faceplate of the Remote Maintenance circuit card and an enlarged view of the BIOS Extension EPROM (BEE) enable switch. Ensure that this switch is set to the ON (default) position as shown.

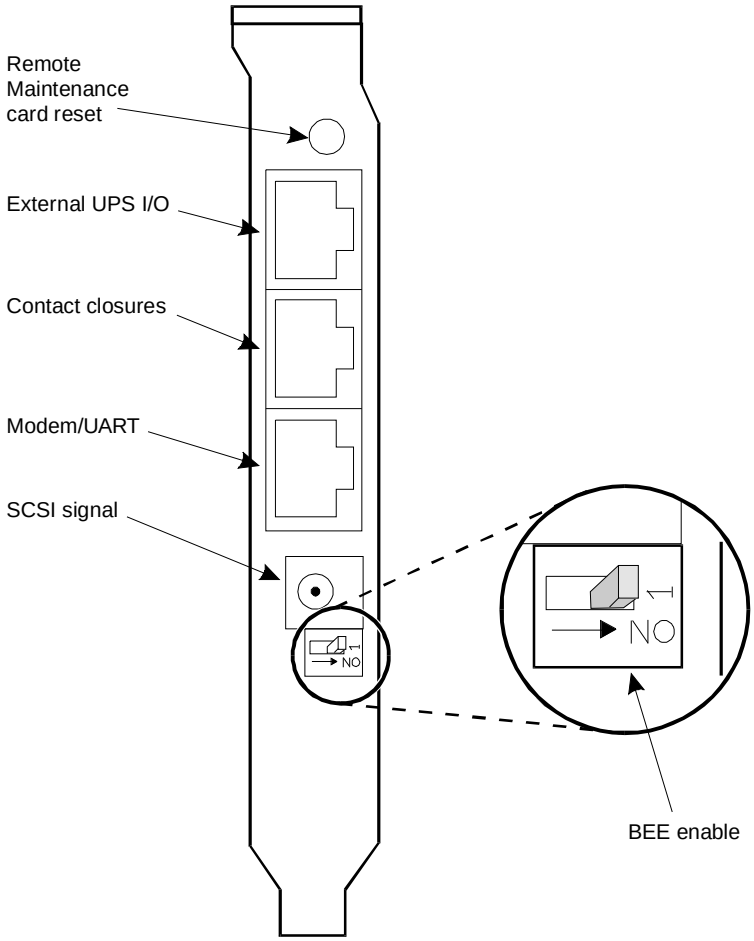


Figure 5-30. Faceplate of the Remote Maintenance Circuit Card Showing the BEE Enable Switch

There are four jumper locations on the Remote Maintenance circuit card (J6, J7, J8, and J9). Verify that a jumper is installed on pins 1 and 2 of each one as shown in Figure 5-31.

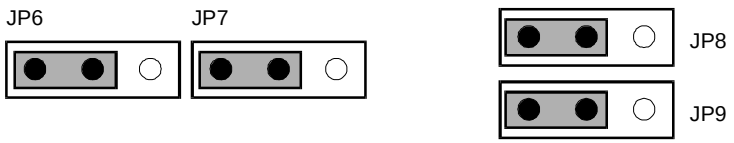


Figure 5-31. Jumper Settings for the Remote Maintenance Circuit Card

Replacing a Defective Remote Maintenance Circuit Card in the MAP/40 or 40s

See "General Procedures" and the following procedures for remote maintenance circuit card installation.

1. Complete Steps 1 through 5 of “General Procedure.”

   NOTE:
   Make sure the BEE enable switch on the remote maintenance circuit card is in the ON position (Figure 5-30).

2. Discard the Landmark DOS diskette labelled “Kickstart 3 Utilities V1.0.” This disk was shipped with the remote maintenance circuit card.
3. Connect the modem line to the remote maintenance circuit card and the switch.
4. Connect the EMI suppression cable to the remote maintenance circuit card and the switch.
5. Complete Steps 8 through 10 of “General Procedure.”
6. Call the TSC and inform them that you have replaced the remote maintenance circuit card.

   The TSC will log in through the remote maintenance circuit card and

   - Set the passwords
   - Verify the product ID
   - Verify the alarm destination
   - Configure all parameters as specified by the Services Organization

Replacing a Modem with a Remote Maintenance Circuit Card in the MAP/40 or 40s

See "General Procedures" and the following procedures for remote maintenance circuit card installation.

1. If the system is in service, perform the following steps.

   a. Stop the voice system. See “Stopping the Voice System,” in Chapter 3, "Common System Procedures" for voice system administration.

   b. Shut down the voice system. See “Shutting Down and Rebooting the Lucent INTUITY System,” in Chapter 3, "Common System Procedures", for voice system administration.

2. Remove power from the MAP/100. See “Removing Power from the MAP/100” in Chapter 4, "Getting Inside the Computer", for power removal procedures.

3. Remove the dress cover, circuit card access panel, and circuit card retaining bracket. See Chapter 4, "Getting Inside the Computer" for component removal procedures.
4. Locate the Slot 19. The remote maintenance circuit card is to be placed in this slot.
5. Complete Steps 1 through 5 of “General Procedures.”

   NOTE:
   Make sure the BEE enable switch on the remote maintenance circuit card is in the OFF position (Figure 5-30).

6. Connect the modem line to the remote maintenance circuit card and the switch.
7. Connect the EMI suppression cable to the remote maintenance circuit card and the switch.
8. Complete Steps 8 through 10 of “General Procedures.”
9. Discard the Landmark DOS diskette labelled “Kickstart 3 Utilities V1.0.” This disk was shipped with the remote maintenance circuit card.
10. Complete Steps 8 through 10 of “General Procedures.”

    CAUTION:
    Step 11 must be completed during the reboot of the system.

11. Disable COM2 by changing the `Serial Ports 16550 Compatible UART 2` to `DISABLED`.

    This setting is located in the CMOS advanced option settings for the P575/CPU circuit card. See “P575/CPU Circuit Card” for the procedure to change the CMOS settings.

12. Reboot the Lucent INTUITY system. See “Rebooting the System,” in Chapter 3, "Common System Procedures", for the procedure.
13. Login as tsc.
14. At the UNIX prompt, enter **/mtce/tools/rmb.script**

    The system displays the following message:

    ```
    Please enter the customer’s name.
    ```

15. Enter the customer’s name.

    The system displays the following message:

    ```
    Please switch the BIOS Address Enable Switch to ON on
    the RMB faceplate.

    Press Enter when finished.
    ```

16. Place the BEE enable switch on the remote maintenance circuit card in the ON position (Figure 5-30).
17. Press ENTER.
18. Reboot the Lucent INTUITY system. See “Rebooting the System,” in Chapter 3, "Common System Procedures", for the procedure.
19. Call the TSC and inform them that you have installed the remote maintenance circuit card.

    The TSC will log in through the remote maintenance circuit card and

    - Set the passwords
    - Verify the product ID
    - Verify the alarm destination

Replacing a Remote Maintenance Circuit Card with a Modem in the MAP/40 or 40s

See "Removing a Circuit Card" and the following procedures for remote maintenance circuit card removal.

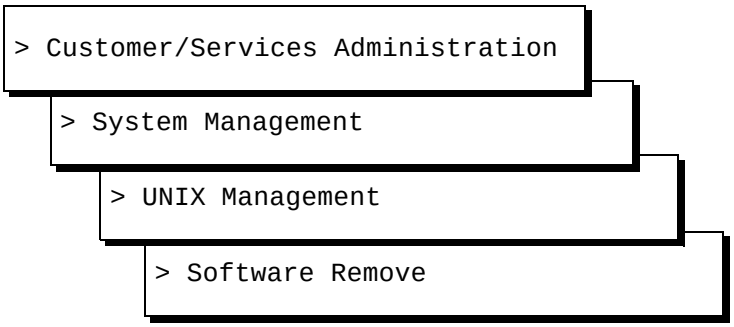
1. Call the TSC and inform them that you are removing a remote maintenance circuit card and restoring the COM2 Port.

   The TSC will do the following Steps a and b:

   a. Log in through the remote maintenance circuit card and rested the TSC password.

   b. Log off.

2. Starting at the Lucent INTUITY Main Menu (Figure 5-1), select



The system displays the Software Remove screen (Figure 5-32).

```
The following packages are available:
  1  APPLset       AUDIX(R) Application Set
                   (AUDIX) 4.0-7
  2  AUDIXset      INTUITY Platform AUDIX Set
                   (i486) unofcl:02/12/96
  3  AUDIXtune     INTUITY Platform AUDIX Tuning
                   (i486) unofcl:02/12/96
  4  INTUNIX       UnixWare 1.1.2 Enhancement Set
                   (486) 1.0
  5  INTUNIX1      UnixWare 1.1.2 Platform Enhancements Extension
                   (486) 1.0
  6  IVC6DI        INTUITY IVC6 Device Interface for softFAX
                   (x86sur4_wicd1) unofcl:02/12/96
  7  TSM           INTUITY Transaction State Machine Package
                   (i486) unofcl:02/12/96
  8  VM            AUDIX(R) Module marker file
                   (AUDIX) NA
  9  VM-dfltdb     AUDIX(R) Default db
                   (AUDIX) 4.0-7
 10  VM-files      AUDIX(R) Files
                   (AUDIX) 4.0-7

... 58 more menu choices to follow;
<RETURN> for more choices, <CTRL-D> to stop display:
```

Figure 5-32. Software Remove Screen

3. Locate and record the numbers for the remote maintenance circuit card software packages.
4. Press CONTROL D.

   The system displays the following message:

   ```
   Select package(s) you wish to process (or 'all' to
   process all packages). (default: all) [?, ??, q]
   ```

5. Enter the first number you recorded in Step 3.

   The system displays the following message:

   ```
   The following set is currently installed:
   <package title>     <package information>

   Do you want to remove this set [y, n, q]
   ```

6. Enter **y**
7. Repeat Steps 5 and 6 for all remote maintenance circuit card packages.
8. Stop the voice system. See "Stopping the Voice System," in Chapter 3, "Common System Procedures", for the procedure.
9. Shut down the Lucent INTUITY system. See "Shutting Down the System," in Chapter 3, "Common System Procedures", for the procedure.

10. Remove the remote maintenance circuit card from the MAP/40 or 40s. See “Removing a Circuit Card” for the procedure.
11. Make sure the COM2 port is correctly connected to the P575/CPU.
12. Replace the circuit card retaining bracket, circuit card access panel, and dress cover. See Chapter 4, "Getting Inside the Computer" for these procedures.
13. Apply power to the MAP/100. See “Restoring Power to the MAP/100,” in Chapter 4, "Getting Inside the Computer" for this procedure.
14. Reboot the AT&T INTUITY system. See “Rebooting the System,” in Chapter 3, "Common System Procedures" for the procedure.
15. Enable COM2 by changing the `Serial Ports 16550 Compatible UART 2` to `02F8, IRQ3`.

    This setting is located in the CMOS advanced option settings for the P575/CPU circuit card. See “P575/CPU Circuit Card” for the procedure to change the CMOS settings.
16. Reboot the Lucent INTUITY system. See “Rebooting the System,” in Chapter 3, "Common System Procedures" for the procedure.
17. Install the modem. See Chapter 5, “Administration and Test for Lucent INTUITY Peripherals,” in *Lucent INTUITY Messaging Solutions Release 4.0 MAP/40 and MAP/40s System Installation* for the procedure.
18. Contact the TSC and inform them that the remote maintenance circuit card has been removed, the COM2 port has been enabled, and the modem has been installed.
19. The TSC will complete the procedure.

    NOTE:
    At this point the modem should have 3 LEDs lit.

20. Have the TSC login through the modem and change the tsc password back to the original.

Replacing the Hard Disk Drive

6

Overview

This chapter describes

- Identifying a failed hard disk drive
- Software procedures for preparing the system for a new hard disk drive
- Hardware procedures for replacing a hard disk drive
- Software procedures for initializing a hard disk drive

Purpose

The purpose of this chapter is to ensure that hard disk drives are installed in the proper manner.

Identifying a Failed Hard Disk Drive

Before a hard disk drive can be replaced you must identify which drive has failed. This section details how to identify a failed hard disk drive in Lucent INTUITY systems with two hard disk drives (both mirrored and unmirrored).

NOTE:
If your system is configured with only one hard disk drive, see "Software and Hardware Procedures for Replacing Hard Disk Drive 0 (Nonmirrored System)" for the procedure.

Hard Disk Drive Contents in Six Hard Disk Drive Systems

In order to determine which hard disk drive has failed it is necessary to know what type of information is stored on each drive. Table 6-1 show the information contained on each hard disk drive in a nonmirrored system.

Table 6-1. Nonmirrored Hard Disk Drive Contents

Disk Identity	Information Contained on Disk
Hard Disk Drive 0 SCSI ID 0 Bay 1, first installed	UNIX operating system, all Lucent INTUITY software, system data, and speech/voice storage
Hard Disk Drive 4 SCSI ID 4 Bay 2, fifth installed	Speech/voice storage
Hard Disk Drive 6 audfs disk SCSI ID 6 Bay 3, second installed	User data
Hard Disk Drive 5 SCSI ID 5 Bay 4, sixth installed	Speech/voice storage
Hard Disk Drive 1 SCSI ID 1 Bay 5, third installed	Speech/voice storage
Hard Disk Drive 2 SCSI ID 2 Bay 6, fourth installed	Speech/voice storage

Table 6-2 show the information contained on each hard disk drive in a mirrored system.

NOTE:
A mirrored MAP/100 system requires a minimum of 4 hard disk drives, because Hard Disk Drive 0 and Hard Disk Drive 6 must both be mirrored.

Table 6-2. Mirrored Hard Disk Drive Contents

Disk Identity	Information Contained on Disk
Hard Disk Drive 0 SCSI ID 0 Bay 1	UNIX operating system, all Lucent INTUITY software, system data, and speech/voice storage
Hard Disk Drive 1 SCSI ID 1 Bay 5	Identical copy of Hard Disk Drive 0 information
Hard Disk Drive 6 audfs disk SCSI ID 6 Bay 3	User data
Hard Disk Drive 2 SCSI ID 2 Bay 6	Identical copy of Hard Disk Drive 6 (audfs disk) information
Hard Disk Drive 4 SCSI ID 4 Bay 2	Speech/voice storage
Hard Disk Drive 5 SCSI ID 5 Bay 4	Identical copy of Hard Disk Drive 4 information

Identifying a Hard Disk Drive 0 Failure in a Nonmirrored System

Because Hard Disk Drive 0 contains the only copy of the operating software in a nonmirrored system, a failure of this drive will result in a complete failure of the system. If this occurs you will not be able to reboot the system. See "Software and Hardware Procedures for Replacing Hard Disk Drive 0 (Nonmirrored System)" for the replacement procedure.

Identifying a Hard Disk Drive 6 (audfs) Failure in a Nonmirrored System

Hard Disk Drive 6 contains user data. If this hard disk drive fails

- Users will have difficulty accessing the Lucent INTUITY system
- Subscribers will not be able to access there messages and may not be able to log in to the system

- The Lucent INTUITY system might not accept calls
- SM errors will appear in the maintenance log
- Hardware error message will appear on the screen during reboot

To verify that Hard Disk Drive 6 has failed, do the following:

1. Start at the Lucent INTUITY Main Menu (Figure 6-1).

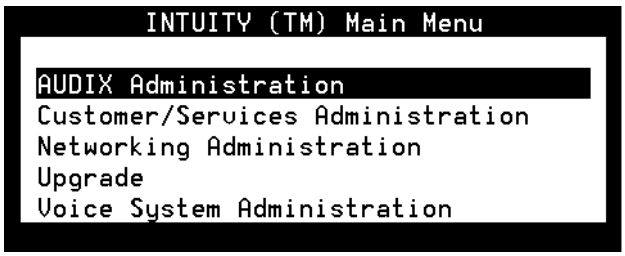
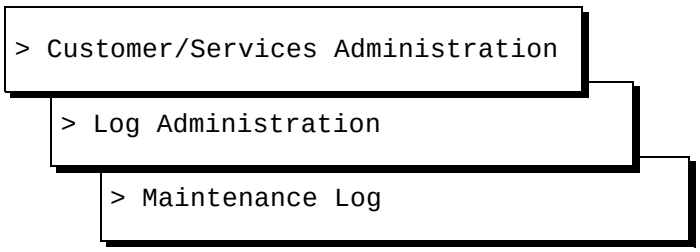


Figure 6-1. Lucent INTUITY Main Menu

2. Select



The system displays the Maintenance Log Display Selection window (Figure 6-2).

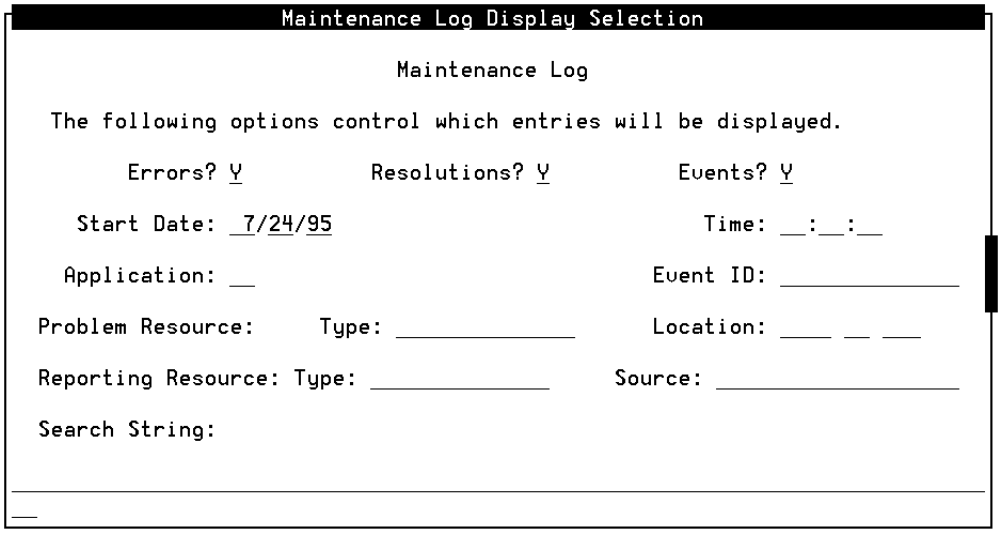
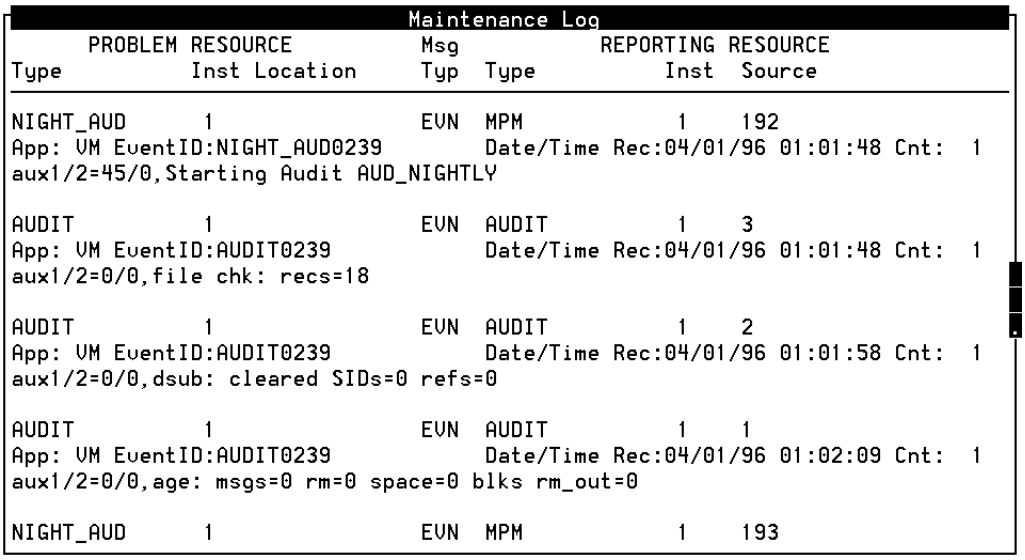


Figure 6-2. Maintenance Log Display Selection Window

3. Enter **MT** in the `Application` field and **FSY001** in the `Event ID` field.
4. Press SAVE (F3).

   The system displays the appropriate Maintenance Log window (Figure 6-3).



```
                                Maintenance Log
      PROBLEM RESOURCE          Msg           REPORTING RESOURCE
Type          Inst Location     Typ  Type          Inst  Source
-------------------------------------------------------------------------------
NIGHT_AUD     1                 EVN  MPM           1     192
App: VM EventID:NIGHT_AUD0239         Date/Time Rec:04/01/96 01:01:48 Cnt:  1
aux1/2=45/0,Starting Audit AUD_NIGHTLY

AUDIT         1                 EVN  AUDIT         1     3
App: VM EventID:AUDIT0239             Date/Time Rec:04/01/96 01:01:48 Cnt:  1
aux1/2=0/0,file chk: recs=18

AUDIT         1                 EVN  AUDIT         1     2
App: VM EventID:AUDIT0239             Date/Time Rec:04/01/96 01:01:58 Cnt:  1
aux1/2=0/0,dsub: cleared SIDs=0 refs=0

AUDIT         1                 EVN  AUDIT         1     1
App: VM EventID:AUDIT0239             Date/Time Rec:04/01/96 01:02:09 Cnt:  1
aux1/2=0/0,age: msgs=0 rm=0 space=0 blks rm_out=0

NIGHT_AUD     1                 EVN  MPM           1     193
```

Figure 6-3. Maintenance Log Window

5. Verify that there is an entry for a hard disk drive failure.

   The hard disk drive will be identified by the name and jumper id.

   The disk name is shown in the message text after the word `name:`. The jumper id is embedded in the string of numbers and letters that follow the word `id:`. The jumper id is the single digit number that follows the letter "t". For example, if the text reads id*:* c0t6d0s0, the jumper id is 6.

   NOTE:
   Note that the jumper ID is the same as the SCSI ID.

See "Software and Hardware Procedures for Replacing Hard Disk Drives 1 through 5" for the replacement procedure.

NOTE:
A hard disk drive failure can also be identified by entering **MT** in the `Application Code` and **DISK** in the `Resource Type` of the alarm log. However, to identify the failed disk you must access the maintenance log. See Chapter 1, "Getting Started," in *Lucent INTUITY Messaging Solutions Release 4.0 Alarms and Log Messages* for the procedure to access the alarm log.

Identifying Other Hard Disk Drive Failures in a Nonmirrored System

Hard Disk Drives 1 through 5 contain voice storage. If one of these hard disk drives fails user information will be lost. Users will not be able to access there messages and may not be able to log in to the system.

To verify that one of these hard disk drives has failed, see "Identifying a Hard Disk Drive 6 (audfs) Failure in a Nonmirrored System" above for the procedure.

Identifying a Hard Disk Drive Failure in a Mirrored System

In a mirrored system every hard disk drive is paired with another hard disk drive which contains the same information. As a result, if either hard disk drive fails the other drive will continue to operate the system. There will be no noticeable difference in service. A hard disk drive failure will be identified by checking the maintenance log. See "Identifying a Hard Disk Drive 6 (audfs) Failure in a Nonmirrored System" above for the procedure.

If Hard Disk Drive 0 has failed, see "Software and Hardware Procedures for Replacing Hard Disk Drive 0 (Mirrored System)" for the replacement procedure.

If Hard Disk Drive 1 has failed, see "Software and Hardware Procedures for Replacing Hard Disk Drives 1 through 5" for the replacement procedure.

Software and Hardware Procedures for Replacing Hard Disk Drive 0

The following procedure explains how to replace a hard disk drive on an existing Lucent INTUITY system.

The following sections list the procedures for replacing Hard Disk Drive 0 in both mirrored and nonmirrored systems.

Software and Hardware Procedures for Replacing Hard Disk Drive 0 (Nonmirrored System)

Because Disk 0 contains the base system software, you must reinstall the entire Lucent INTUITY system if this disk fails on a nonmirrored system.

Hardware Procedures for Replacing the Hard Disk Drive

The following procedures detail removing and installing a hard disk drive in the MAP/100. Figure 6-4 shows the positions of the hard disk drives.

WARNING:

Observe proper electrostatic discharge precautions when you handle computer components. Wear an antistatic wrist strap that touches your bare skin and connect the strap cable to an earth ground. See "Protecting against Damage from Electrostatic Discharge" in Chapter 4, "Getting Inside the Computer" for the procedure.

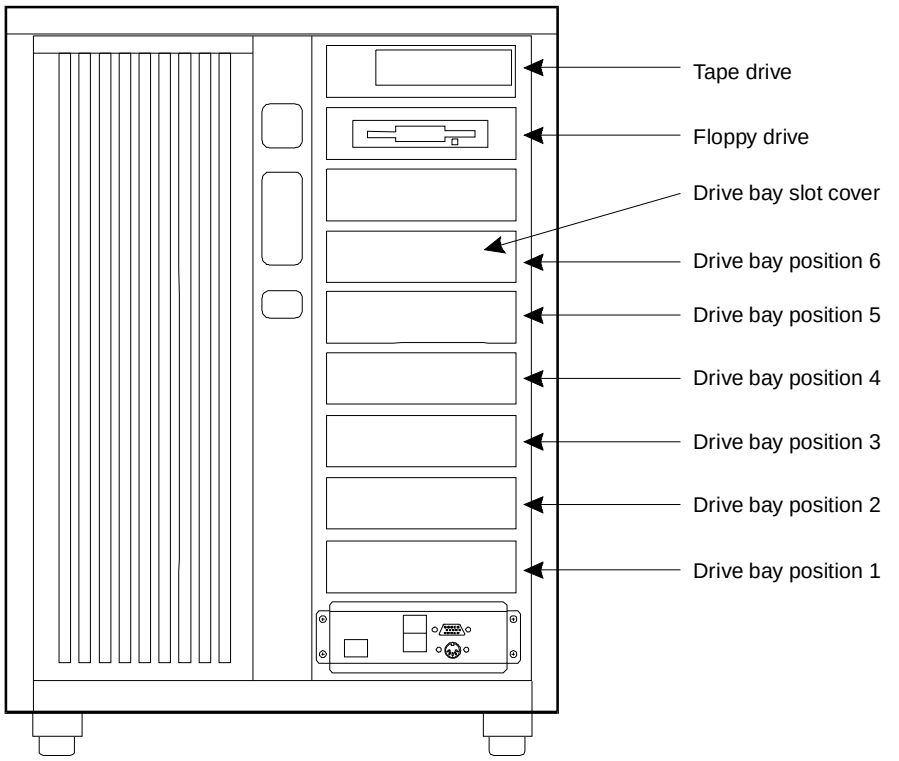


Figure 6-4. Front View of the MAP/100

Removing a Hard Disk Drive

1. Verify that the replacement equipment is on site and appears to be in usable condition, with no obvious shipping damage.
2. If the system is in service, perform the following Steps a and b.
    a. Stop the voice system. See "Stopping the Voice System" in Chapter 3, "Common System Procedures" for the procedure.
    b. Shut down the voice system. See "Shutting Down and Rebooting the Lucent INTUITY System" in Chapter 3, "Common System Procedures" for the procedure.
3. Remove power from the MAP/100. See "Removing Power from the MAP/100" in Chapter 4, "Getting Inside the Computer" for the procedure.
4. Access the peripheral bay. See "Accessing the Peripheral Bay" in Chapter 4, "Getting Inside the Computer" for the procedure.
5. Locate and remove the power cord and bus cable assembly connections for the hard disk drive.

6. Locate the two screws on each side of the peripheral bay chassis that secure the hard disk drive. Holding the rear of the drive, loosen and remove the mounting screws.
7. Slide the hard disk drive forward within the peripheral bay and remove the unit through the front opening of the MAP/100 chassis.
8. Place the defective hard disk drive upside down, with the circuit board facing up, on an ESD-protected surface.
9. Loosen and remove two screws on each side of the drive to release it from the mounting brackets.

   These screws are shown as Item 8 in Figure 6-5.

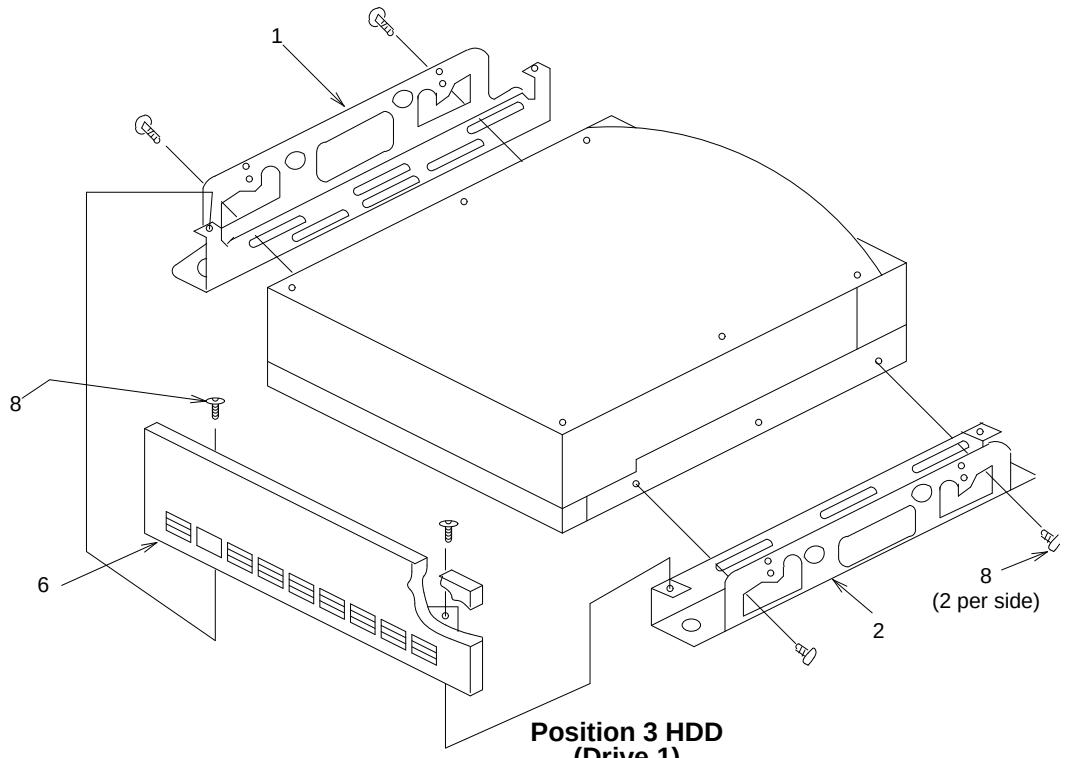


Figure 6-5. Hard Disk Drive Mounting Kit

10. Return the hard disk drive to the remote maintenance center. Include the following information with the hard disk drive:

- The name and phone number of the technician
- The symptoms associated with the disk failure
- The TSCSS ticket number

Readying a New Hard Disk Drive for Installation

1. Remove the universal installation kit from the top of the hard disk drive carton.
2. Open the carton.

   Cut the top seam and side seams so that the carton can be used again if the hard disk needs to be returned to the factory.

   NOTE:
   You must return any piece of equipment in the original shipping carton and packing materials to ensure warranty.

3. Remove the hard disk drive from the antistatic bag. Keep the bag with the shipping carton.
4. Place the hard disk drive upside down, with the circuit board facing up, on an ESD-protected surface.
5. Verify that all jumpers are correctly positioned.

   There are two types of hard disk drives supported by the Lucent INTUITY system. The Type A hard disk drive has the jumpers located in the rear of the drive. Figure 6-6 shows the location of the jumpers on the Type A hard disk drive. Figure 6-7 through Figure 6-12 show the jumper settings.

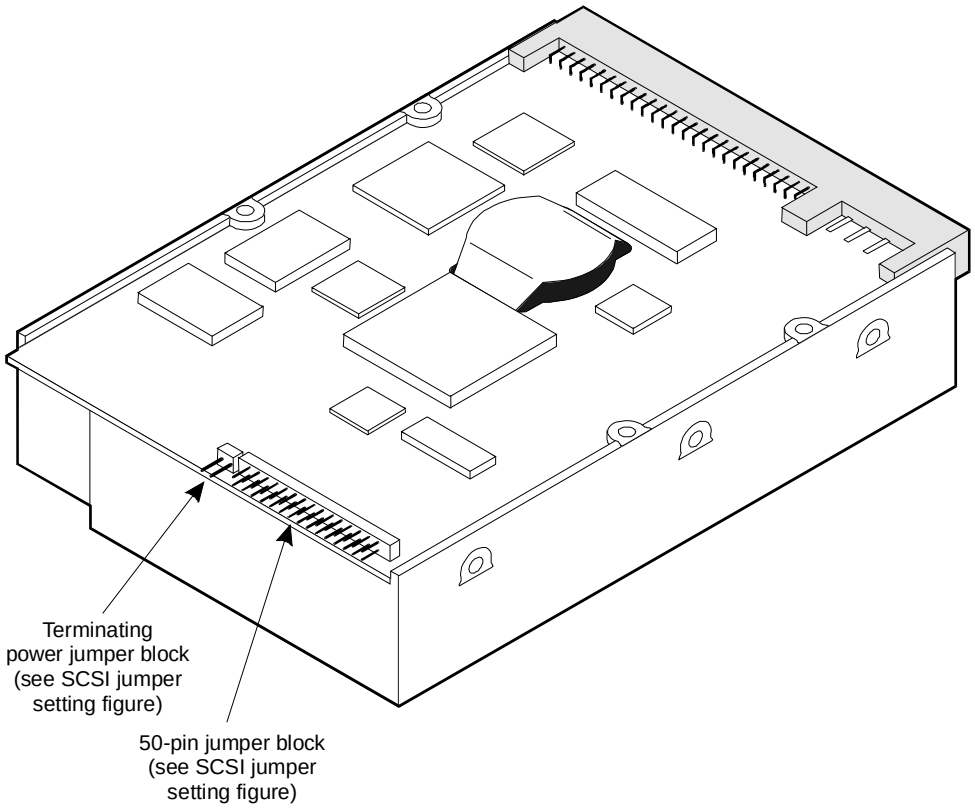


Figure 6-6. Jumper Locations on the Type A Hard Disk Drive

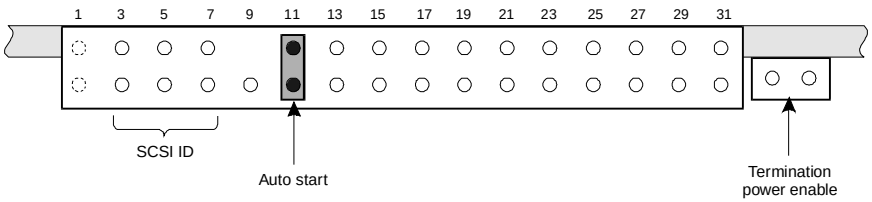


Figure 6-7. Jumper Settings for the First Type A Hard Disk Drive Installed; Bay 1, SCSI ID = 0

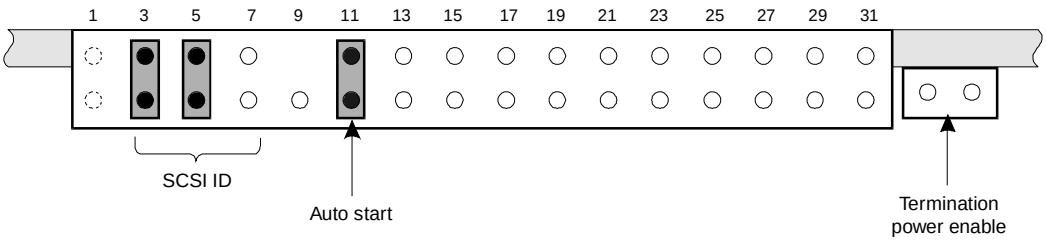


Figure 6-8. Jumper Settings for the Second Type A Hard Disk Drive Installed; Bay 3, SCSI ID = 6

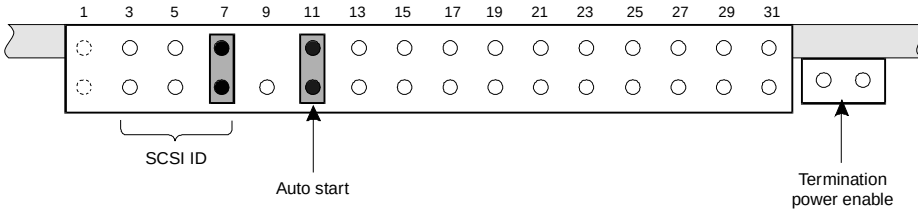


Figure 6-9. Jumper Settings for the Third Type A Hard Disk Drive Installed; Bay 5, SCSI ID = 1

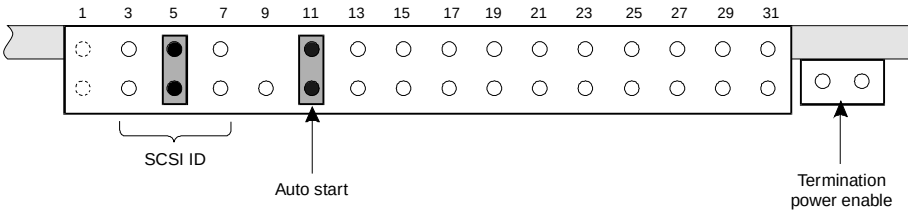


Figure 6-10. Jumper Settings for the Fourth Type A Hard Disk Drive Installed; Bay 6, SCSI ID = 2

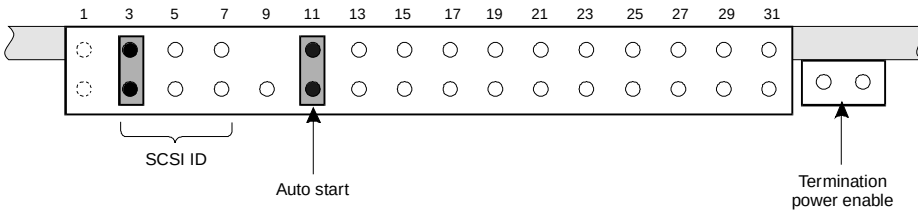


Figure 6-11. Jumper Settings for the Fifth Type A Hard Disk Drive Installed; Bay 2, SCSI ID = 4

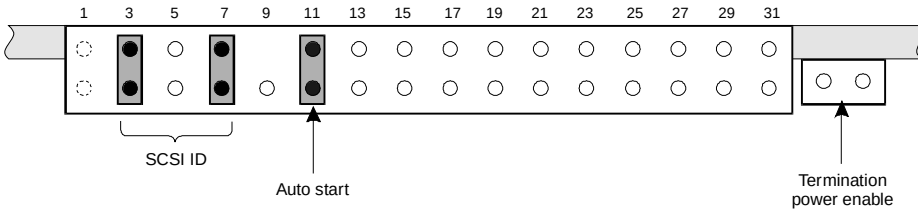


Figure 6-12. Jumper Settings for the Sixth Type A Hard Disk Drive Installed; Bay 4, SCSI ID = 5

The Type B hard disk drive has the jumpers located in the center of the unit (Figure 6-13). Figure 6-14 through Figure 6-19 show the jumper settings for the Type B hard disk drive.

CAUTION:

The Type B hard disk drive is shipped with a third jumper placed on the thirteenth and fourteenth pins. This jumper must be removed prior to installing the hard disk drive.

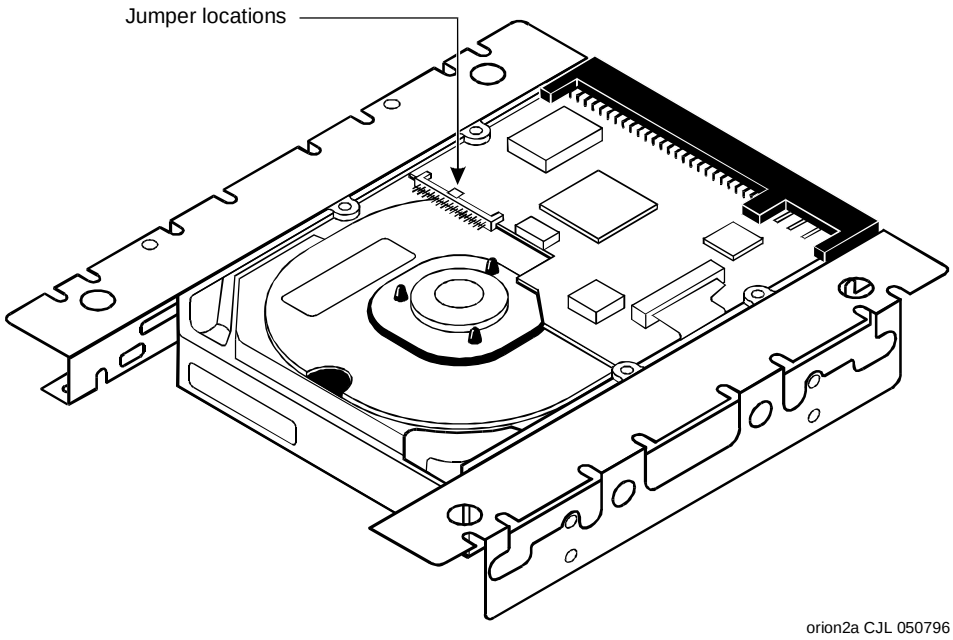


Figure 6-13. Jumper Locations on the Type B Hard Disk Drive

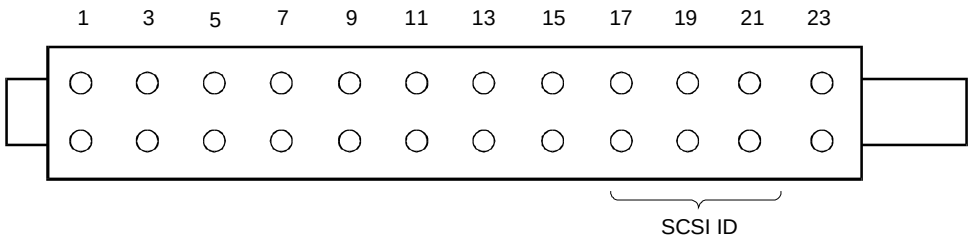


Figure 6-14. Jumper Settings for the First Type B Hard Disk Drive Installed; Bay 1, SCSI ID = 0

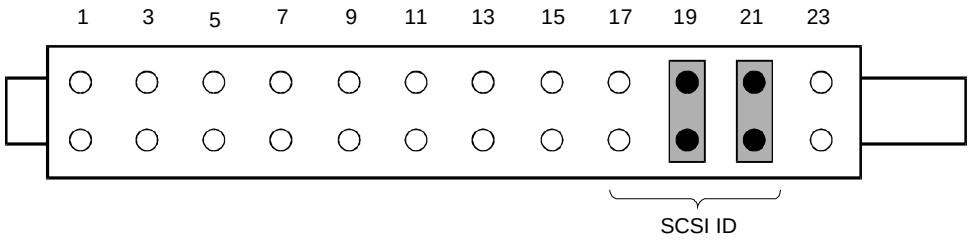


Figure 6-15. Jumper Settings for the Second Type B Hard Disk Drive Installed; Bay 3, SCSI ID = 6

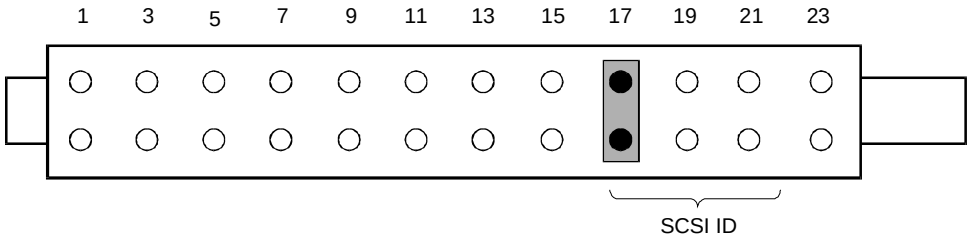


Figure 6-16. Jumper Settings for the Third Type B Hard Disk Drive Installed; Bay 5, SCSI ID = 1

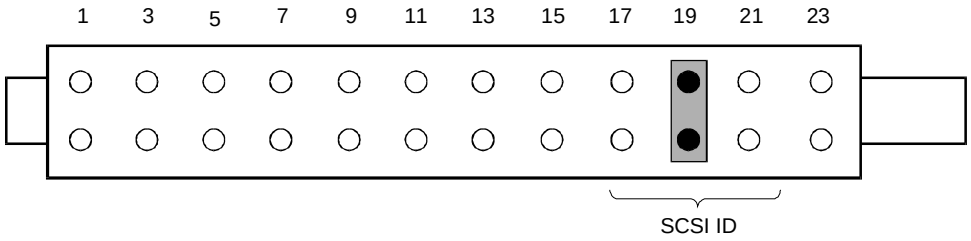


Figure 6-17. Jumper Settings for the Fourth Type B Hard Disk Drive Installed; Bay 6, SCSI ID = 2

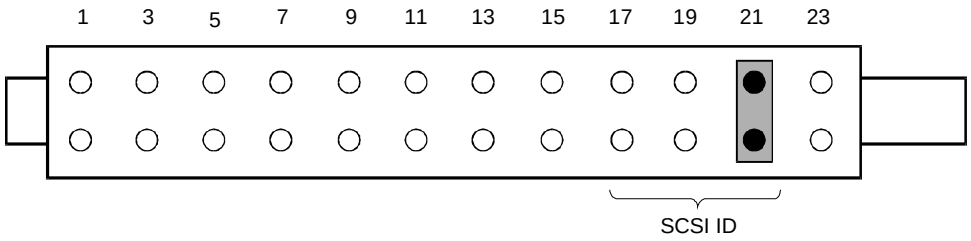


Figure 6-18. Jumper Settings for the Fifth Type B Hard Disk Drive Installed; Bay 2, SCSI ID = 4

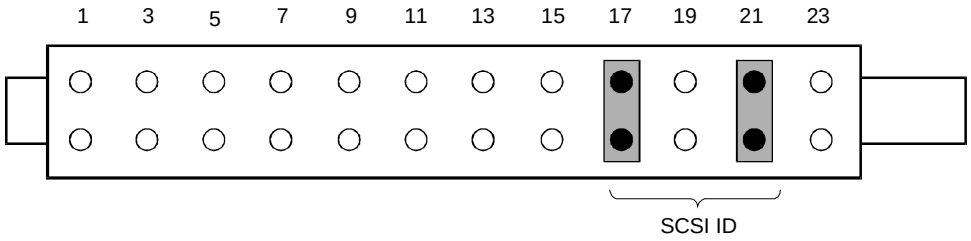


Figure 6-19. Jumper Settings for the Sixth Type B Hard Disk Drive Installed; Bay 4, SCSI ID = 5

6. Set the disk aside and open the Universal Installation Kit which contains the installation hardware.

   The kit contains two bags. The first bag contains the:

   - LED lenses
   - LED with the connector cable assembly
   - Faceplate

   The second bag contains the

   - Mounting rails
   - Spacer bar
   - Bag of screws needed for assembly and mounting

7. Discard the following items:

   - LED lenses
   - LED connector cable assembly
   - Spacer bar

NOTE:
If the hard disk drive you are replacing is in Position 4 also discard the faceplate.

8. Place the mounting rails parallel to each other with the smaller of the two flanges of the rails on the inside (Figure 6-5).
9. Position the hard disk drive with the circuitry down between the rails; the connector end of the drive unit should be flush with the ends of the mounting rails.
10. Align the mounting holes of the drive and the mounting rails.
11. Insert #6-32 x 3/16 in. screws (two screws per side) in the lowest row of slots in the mounting rails and tighten.
12. If the hard disk drive you are replacing is in Position 3, mount the plastic faceplate and secure it to extended bracket ends using two #6-32 x 3/16 in. screws.

Mounting a Hard Disk Drive in the MAP/100

1. Locate the appropriate set of slots on either side of the MAP/100 just behind the front of the peripheral bay.

   You will use the screws provided with the Universal Mounting Kit to secure the drive to the MAP/100 peripheral bay.

   NOTE:
   Use only the bottom position to secure the disk drive/mounting brackets inside the MAP/100. Do not use the threaded holes.

2. Place the drive in the MAP/100 with the aluminum case facing up. Slide the hard disk drive through the front entry area.
3. Hold the drive unit from inside the peripheral bay area and align the bracket with the holes.
4. Insert the mounting screws on each side of the hard disk drive.

   Lock the screws in place, but do not tighten.
5. Adjust the bracket depth so the faceplate is aligned with back edge of the bezel.
6. Tighten the screws.

Connecting Cables to the Hard Disk Drive

1. Attach the SCSI cable by aligning it with the pins on the cable receptacle and pushing it on. All connectors are “keyed” to prevent incorrect installation.
2. Attach the power cable to the hard disk drive in the same manner.

3. Dress all cables together neatly and affix the hard disk drive to the peripheral bay assembly by adjusting the plastic cable retainer that is part of the assembly. This cable retainer can be seen by looking through the right side door.

   All disk cables are held in place by this retainer as shipped from the factory. Pull on the tab at the top of the retainer to release it. Press on the retainer to secure it.

4. Replace the circuit card retaining bracket, circuit card access panel, and MAP/100 dress cover. See “Replacing the Retaining Bracket, Access Panel, and Dress Cover” in Chapter 4, "Getting Inside the Computer" for component replacement procedures.

5. Apply power to the unit. See "Restoring Power to the MAP/100" in Chapter 4, "Getting Inside the Computer" for instructions on restoring power.

6. Continue with the next step “Reinstalling the Lucent INTUITY System Software.”

Reinstalling the Lucent INTUITY System Software

To reinstall the Lucent INTUITY system software, do the following:

1. Reinstall the base system software. See "Installing UnixWare" and "Installing AUDIX Software" in Chapter 9, "Installing Base System Software" for the procedure.

2. Reinstall the Lucent INTUITY system software. See Chapter 10, "Installing Lucent INTUITY System Software" for the procedure.

3. Reinstall the multi-user software, if used. See Chapter 11, "Installing the UNIX Multi-User Software" for the procedure.

4. If you are installing a system equipped with an internal remote maintenance circuit card, install the corresponding software. See "Remote Maintenance Circuit Card" in Chapter 5, "Replacing or Installing Circuit Cards" for the procedure.

Restoring the Attended and Unattended Backups

1. Reboot the Lucent INTUITY system. See "Rebooting the System", in Chapter 3, "Common System Procedures" for the procedure.

2. Stop the voice system. See "Stopping the Voice System" in Chapter 3, "Common System Procedures" for the procedure.

3. Restore the unattended backup tape. See "Restoring Backups" in Chapter 3, "Common System Procedures" for the procedure.

   NOTE:
   Only restore the *unattended* backup at this time.

If you do not have an unattended backup tape available complete Steps a through h.

a. Log in as init.

   The system displays the following message:

   ```
   Enter system password:
   ```

b. Enter the init password.

   The system displays the following message:

   ```
   TERM=[AT386]?
   ```

   Press [ENTER].

   The system displays the Feature Forms Update window.

c. Use the down arrow [▼] to place the cursor on the `hours of speech` line.

d. Enter the same number as is shown in the `current` field of the `hours of speech` line.

   For the example screen you would enter 90.

e. Press [SAVE] (F3).

   The system displays the Confirm window.

f. Press **y**

   The system displays the Feature Forms File Successfully Updated window (Figure 6-20).

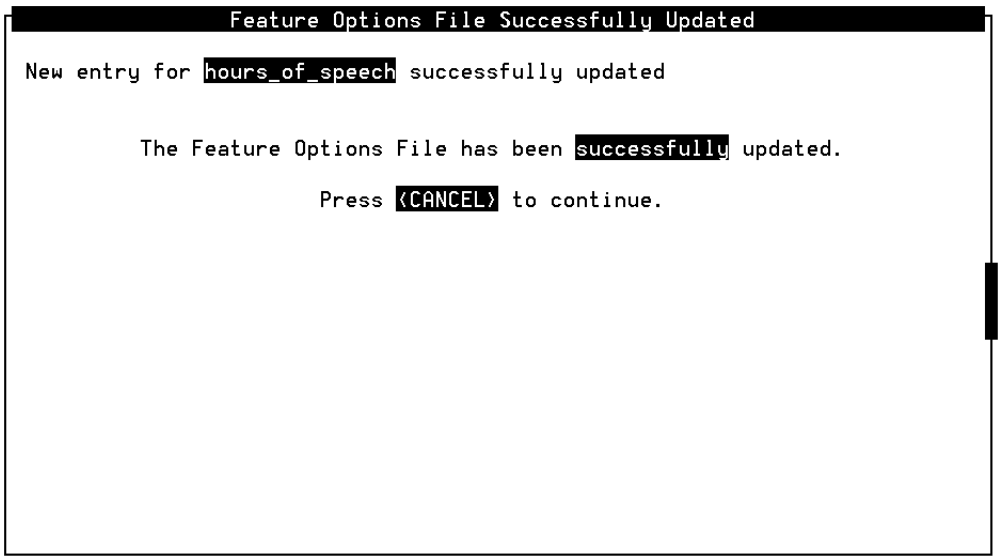


Figure 6-20. Feature Forms File Successfully Updated Window

g. Press CANCEL (F6) twice to return to the `Console Login` prompt.

h. Continue with Step 5.

4. Press CANCEL (F6) three times to return to the `Console Login` prompt.
5. Login as tsc.
6. Insert the attended backup tape. See "Inserting and Removing Cartridge Tapes" in Chapter 3, "Common System Procedures" for the procedure.
7. Enter **/mtce/bin/ldvoice1 2>1 | tee /tmp/ldvoice1.out**

   This command will restore the names and announcements. In addition, this command will restore any greetings and messages which were stored in the /voice1 file system on Hard Disk Drive 0 at the time of the full attended backup.
8. Enter **/vs/bin/util/rcvrv1**

   This command will rename the file **/snap/installit.vs** to **/snap/recovered.inf.** This takes the system out of the disaster recovery state.
9. Enter **exit**

   The system displays the console login prompt.
10. Login to the system as craft.
11. Start the voice system. See "Starting the Voice System" in Chapter 3, "Common System Procedures" for the procedure.

You have completed the procedure for replacing Hard Disk Drive 0 in a nonmirrored system.

WARNING:

After installing a 2-Gbyte hard disk drive into a system as Disk 0, ***DO NOT ATTEMPT TO INSTALL AN OLDER VERSION OF UNIXWare****. The version of the operating system tape that should be used contains the phrase "Independent Image." If the operating system tape does not contain this phrase, notify the remote maintenance center immediately.*

Software and Hardware Procedures for Replacing Hard Disk Drive 0 (Mirrored System)

The system is still up and running even if Hard Disk Drive 0 fails on a mirrored system. The following procedure explains how to replace Hard Disk Drive 0 on a mirrored system.

CAUTION:

This initial synchronization of data on a mirrored system can degrade service, depending on system load. Therefore, perform this procedure only during off-peak hours.

Performing an Attended Backup

See "Backing Up (Attended)" in Chapter 3, "Common System Procedures" for the attended back-up procedure. Continue with the next procedure "Activating Alarm Suppression."

Activating Alarm Suppression

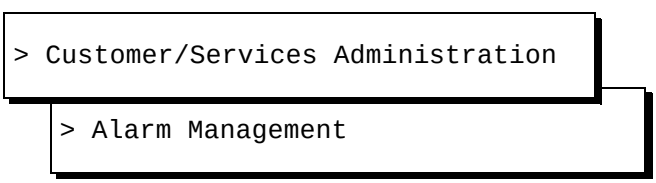
NOTE:

If your system has alarm origination perform this procedure before continuing with the next procedure "Hardware Procedures for Replacing a Hard Disk Drive." If your system does not have alarm origination only perform an attended back-up.

To activate alarm suppression, do the following:

1. Starting at the Lucent INTUITY Main Menu (Figure 6-1), select

   .



The system displays the Alarm Management window (Figure 6-21).

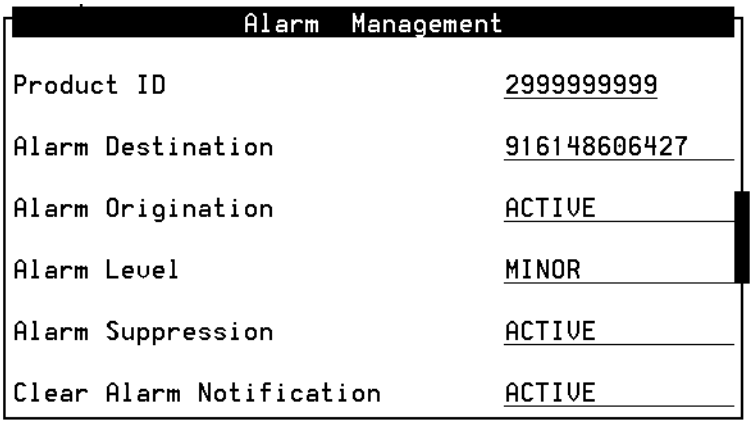


Figure 6-21. Alarm Management Window

2. Move the cursor to the `Alarm Suppression` field and type **active**.
3. Press SAVE (F3).

   The system displays the Information window (Figure 6-22).

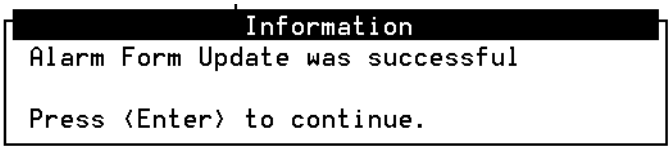


Figure 6-22. Information Window

4. Press ENTER.

   The system displays the Alarm Management window (Figure 6-21).
5. Continue with the next procedure "Hardware Procedures for Replacing the Hard Disk Drive."

Hardware Procedures for Replacing the Hard Disk Drive

To replace the hard disk drive, do the following:

1. Remove both Hard Disk Drive 0 and Hard Disk Drive 1 from the system. See "Hardware Procedures for Replacing the Hard Disk Drive" in "Software and Hardware Procedures for Replacing Hard Disk Drive 0 (Nonmirrored System)" for the procedure.
2. Set Hard Disk Drive 0, which was removed from Bay 1, aside.
3. Change the jumpers for Hard Disk Drive 1 to the correct positions for Hard Disk Drive 0 (Figure 6-7 or Figure 6-14).
4. Replace the changed Hard Disk Drive 1 in Bay 1. See "Mounting a Hard Disk Drive in the MAP/100" in "Software and Hardware Procedures for Replacing Hard Disk Drive 0 (Nonmirrored System)" for the procedure.

   NOTE:
   This hard disk drive is now Hard Disk Drive 0.

5. Set the jumpers on the new hard disk drive to the correct positions for Hard Disk Drive 1 (Figure 6-9 or Figure 6-16).
6. Place the new hard disk drive in Bay 5. See "Mounting a Hard Disk Drive in the MAP/100" in "Software and Hardware Procedures for Replacing Hard Disk Drive 0 (Nonmirrored System)" for the procedure.

   NOTE:
   This drive is now Hard Disk Drive 1.

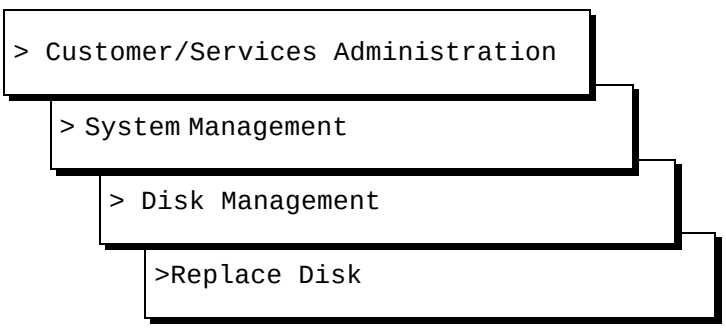
7. Complete the procedure in "Connecting Cables to the Hard Disk Drive" in “Software and Hardware Procedures for Replacing Hard Disk Drive 0 (Nonmirrored System)”.
8. Reboot the Lucent INTUITY system. See "Rebooting the System" in Chapter 3, "Common System Procedures" for the procedure.
9. Continue with the next procedure “Initializing the New Hard Disk Drive.”

Initializing the New Hard Disk Drive

To initialize the hard disk drive, do the following:

1. Starting at the Lucent INTUITY Main Menu (Figure 6-1), select

   .



The system displays the Replace Disk window (Figure 6-23).

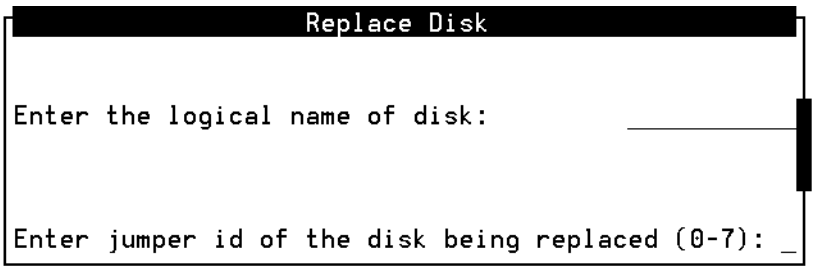


Figure 6-23. Replace Disk Window

2. Enter the Disk Name at the following prompt:

   ```
   Enter the logical name of the disk:
   ```

   The disk name is the name you copied from the Maintenance Log window.

3. Enter the jumper id at the following prompt:

   ```
   Enter jumper id of the disk being added (0-1):
   ```

   The disk jumper id is the id you copied from the Maintenance Log window.

4. Press SAVE (F3).

   - If the disk name and jumper id you entered match those of the failed disk drive, the system displays the following message:

     ```
     This operation will require approximately 10
     minutes per gig to complete.
     ```

     Continue with Step 5.

   - If you entered a disk name and/or jumper id that does not exist on the system, the system displays the following message.

     ```
     Error: disk at selected jumper id not found.
     Make sure disk is physically installed properly.
     Hit Enter to continue.
     ```

     ```
     The disk name you enter must be the same as the old
     (failed) disk's name.  The jumper id must match
     the jumper settings on the disk with the above
     specified name.  Therefore, you entered either the
     disk name and/or jumper id incorrectly on the
     Replace Disk screen, or you incorrectly set the
     ```

```
jumpers  on the disk.
Press [ENTER], return to the appropriate step in
this procedure, and correct the mismatch.
```

Verify the hard disk drive installation was done correctly.

- If you entered a disk name and jumper id for a disk other than the one being replaced, the system displays the following message.

  ```
  The selected disk appears to be ok.  Make sure
  correct disk name and jumper id were entered on
  the disk replace screen.
  Hit Enter to continue
  ```

  ```
  The disk name you enter must be the same as the old
  (failed) disk's name.  The jumper id must match
  the jumper settings on the disk with the above
  specified name.  Therefore, you incorrectly
  entered the disk name and/or jumper id on the
  Replace Disk screen.
  Press [ENTER], return to the appropriate step in
  this procedure, and correct the mismatch.
  ```

  Verify the disk name and jumper id that you copied in Step 9 above.

- If you entered the correct disk name and jumper id but the disk that was installed is not brand new, the system displays the following message.

  ```
  The disk being installed at the selected jumper id
  has been installed previously.  It is recommended
  that only new disks from the factory be installed
  on this system.  Any existing data on this disk
  will be lost if you continue.
  Do you wish to continue hit [y/n], and then hit
  Enter.
  ```

  Complete Steps a through c.

  a. Press y.

     The system displays the following message:

     ```
     Option to auto clean disk not supported
     in this version.
     You must run the shell command fdisk
     /dev/rdsk/c0t1d0s0 and delete any active
     partitions.
     Hit Enter to continue.
     ```

  b. Press [ENTER].

  c. Clean the hard disk drive. See "Cleaning a Hard Disk Drive" below for the procedure.

  d. Return to Step 1.

5. Press ENTER when the system displays the following message:

```
Disk replace was successful
Hit Enter to continue.
```

Hardware Procedures for Restoring the SCSI IDs for the Hard Disk Drives

In “Hardware Procedures for Replacing the Hard Disk Drive” you were instructed to change the jumper settings and positions for the hard disk drives. In this procedure you will switch the jumper settings and hard disk drives again so that the original Hard Disk Drive 1 has been restored to its correct position and the new hard disk drive becomes Hard Disk Drive 0.

To restore the SCSI IDs for the hard disk drives, do the following:

1. Remove both hard disk drives from the system. See "Hardware Procedures for Replacing the Hard Disk Drive" in "Software and Hardware Procedures for Replacing Hard Disk Drive 0 (Nonmirrored System)" for the procedure.
2. Change the jumpers for the drive removed from Bay 1 to the correct positions for Hard Disk Drive 1 (Figure 6-9 or Figure 6-16).
3. Change the jumpers for the drive removed from Bay 5 to the correct positions for Hard Disk Drive 0 (Figure 6-7 or Figure 6-14).
4. Place Hard Disk Drive 0 in Bay 1. See "Mounting a Hard Disk Drive in the MAP/100" in "Software and Hardware Procedures for Replacing Hard Disk Drive 0 (Nonmirrored System)" for the procedure.
5. Place Hard Disk Drive 1 in Bay 5. See "Mounting a Hard Disk Drive in the MAP/100" in "Software and Hardware Procedures for Replacing Hard Disk Drive 0 (Nonmirrored System)" for the procedure.
6. Complete the procedure in "Connecting Cables to the Hard Disk Drive" in "Software and Hardware Procedures for Replacing Hard Disk Drive 0 (Nonmirrored System)" for the procedure.
7. Reboot the Lucent INTUITY system. See "Rebooting the System" in Chapter 3, "Common System Procedures" for the procedure.
8. Continue with the next procedure “Inactivating Alarm Suppression.”

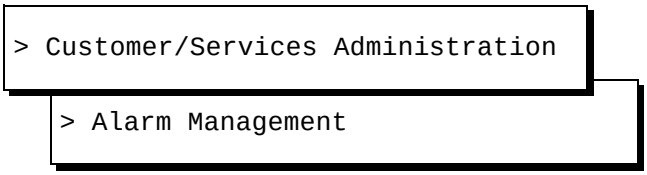
Inactivating Alarm Suppression

NOTE:
This procedure only applies to systems with alarm origination. If your system does not have alarm origination, you have completed the procedure for replacing Hard Disk Drive 0 in a mirrored system.

To inactivate alarm suppression, do the following:

1. Starting at the Lucent INTUITY Main Menu (Figure 6-1), select

.



The system displays the Alarm Management window (Figure 6-21).

2. Move the cursor to the `Alarm Suppression` field and type **inactive**
3. Press SAVE (F3).

   The system displays the Information window (Figure 6-22).

4. Press ENTER.

You have completed the procedure for replacing Hard Disk Drive 0 in a mirrored system.

Software and Hardware Procedures for Replacing Hard Disk Drives 1 through 5

The following procedure explains how to replace a hard disk drive on an existing Lucent INTUITY system.

This procedure applies to all hard disk drives *except Hard Disk Drive 0*. If it is not possible to log in to the Lucent INTUITY system, it is possible that Hard Disk Drive 0 has failed. Refer to one of the "Hardware and Software Procedures for Replacing Hard Disk Drive 0" procedures (nonmirrored or mirrored, depending on the current configuration) for instructions.

NOTE:
These procedures apply to both mirrored and nonmirrored systems. The only difference between the two systems when replacing hard disk drives other than Hard Disk Drive 0 is the method by which data is restored to the new disk. This difference is clearly noted in this procedure.

Performing an attended back-up

See "Backing Up (Attended)" in Chapter 3, "Common System Procedures" for the attended back-up procedure. Continue with the next procedure "Activating Alarm Suppression."

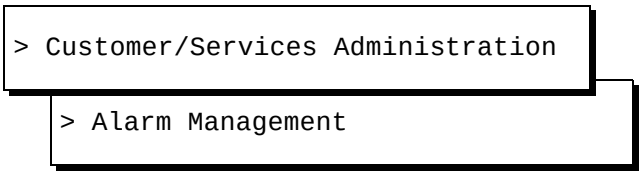
Activating Alarm Suppression

NOTE:
If your system has alarm origination perform this procedure before continuing with the next procedure "Hardware Procedures for Replacing a Hard Disk Drive." If your system does not have alarm origination only perform an attended back-up.

To activate alarm suppression, do the following:

1. Starting at the Lucent INTUITY Main Menu (Figure 6-1), select

.



The system displays the Alarm Management window (Figure 6-21).

2. Move the cursor to the `Alarm Suppression` field and type **active**
3. Press SAVE (F3).

   The system displays the Information window (Figure 6-22).
4. Press ENTER .

   The system displays the Alarm Management window (Figure 6-21).
5. Continue with the next step “Hardware Procedures for Replacing the Hard Disk Drive.”

Hardware Procedures for Replacing the Hard Disk Drive

See "Hardware Procedures for Replacing the Hard Disk Drive" in "Software and Hardware Procedures for Replacing Hard Disk Drive 0 (Nonmirrored System)" for the procedure. Continue with the next step “Initializing the New Hard Disk Drive.”

Initializing the New Hard Disk Drive

See "Initializing the New Hard Disk Drive" in "Software and Hardware Procedures for Replacing Hard Disk Drive 0 (Mirrored System)" for the procedure. Continue with the next step “Inactivating Alarm Suppression.”

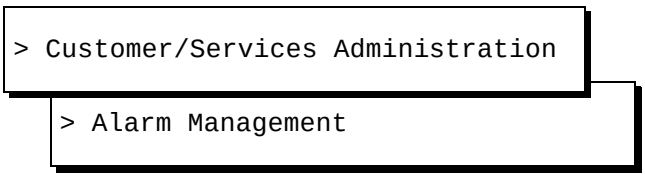
Inactivating Alarm Suppression

NOTE:
This procedure only applies to systems with alarm origination. If your system does not have alarm origination, you have completed the procedure for replacing Hard Disk Drive 1.

To inactivate the alarm origination, do the following:

1. Starting at the Lucent INTUITY Main Menu (Figure 6-1), select

   .



   The system displays the Alarm Management window (Figure 6-21).
2. Move the cursor to the `Alarm Suppression` field and type **inactive**.
3. Press SAVE (F3).

The system displays the Information window (Figure 6-22).

4. Press ENTER.
5. For nonmirrored systems restore all backups (attended and unattended), beginning with the oldest first. The last backup restored should be the previous night's automatic unattended backup. See "Restoring Backups" in Chapter 3, "Common System Procedures" for the procedure.
6. For mirrored systems the Lucent INTUITY system automatically replenishes the data on the new disk once the disk is successfully replaced. No further action is necessary

You have completed the procedure for replacing a hard disk drive.

Software and Hardware Procedures for Replacing Hard Disk Drive 6 (audfs)

The following procedure explains how to Hard Disk Drive 6 on an existing Lucent INTUITY system. The procedures listed below apply to nonmirrored systems. For mirrored systems see "Software and Hardware Procedures for Replacing Hard Disk Drives 1 through 5", above.

Performing an attended back-up

See "Backing Up (Attended)" in Chapter 3, "Common System Procedures" for the attended back-up procedure. Continue with the next procedure “Activating Alarm Suppression.”

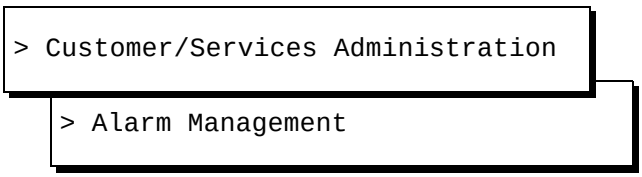
Activating Alarm Suppression

NOTE:
If your system has alarm origination perform this procedure before continuing with the next procedure “Hardware Procedures for Replacing a Hard Disk Drive.” If your system does not have alarm origination only perform an attended back-up.

To activate alarm suppression, do the following:

1. Starting at the Lucent INTUITY Main Menu (Figure 6-1), select

.



   The system displays the Alarm Management window (Figure 6-21).

2. Move the cursor to the `Alarm Suppression` field and type **active**
3. Press SAVE (F3).

   The system displays the Information window (Figure 6-22).

4. Press ENTER .

   The system displays the Alarm Management window (Figure 6-21).

5. Continue with the next step “Hardware Procedures for Replacing the Hard Disk Drive.”

Hardware Procedures for Replacing the Hard Disk Drive

See "Hardware Procedures for Replacing the Hard Disk Drive" in "Software and Hardware Procedures for Replacing Hard Disk Drive 0 (Nonmirrored System)" for the procedure. Continue with the next step "Initializing the New Hard Disk Drive."

Initializing the New Hard Disk Drive

See "Initializing the New Hard Disk Drive" in "Software and Hardware Procedures for Replacing Hard Disk Drive 0 (Mirrored System)" for the procedure. Continue with the next step "Inactivating Alarm Suppression"

Installing the Default Voice Mail Database

The default voice mail database must be reinstalled prior to restoring the Lucent INTUITY system from the backup tapes.

To reinstall the default voice mail database, do the following:

1. Login to the system as root.

   NOTE:
   If a message appears requesting the terminal type (TERM=AT386) press ENTER to accept this default.

2. Insert the AUDIX Platform Set cartridge tape into the tape drive. See "Inserting and Removing Cartridge Tapes", in Chapter 3, "Common System Procedures", for the procedure.

3. Enter **pkgadd -d ctape1 vm-dfltdb**

   The system displays the following message:

   ```
   Insert a cartridge into Tape Drive 1.
   Type [go] when ready
       or [q] to quit: (default: go)
   ```

4. Press ENTER.

   The system displays the following message:

   ```
   Installation of VM default database was successful.

   Insert a diskette into Floppy Drive 1.
   Type [go] when ready
       or [q] to quit: (default: go)
   ```

5. Remove the AUDIX Platform Set cartridge tape from the tape drive. See "Inserting and Removing Cartridge Tapes", in Chapter 3, "Common System Procedures", for the procedure.

6. Enter **q**

Restoring the Lucent INTUITY System from the Backup Tapes

To restore the Lucent INTUITY system from the backup tape, do the following:

1. Restore all backups (attended and unattended), beginning with the oldest first. The last backup restored should be the previous night's automatic unattended backup. See "Restoring Backups" in Chapter 3, "Common System Procedures" for the procedure.

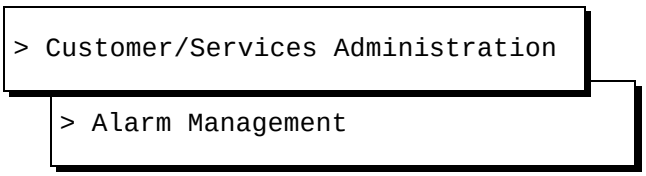
Inactivating Alarm Suppression

NOTE:
This procedure only applies to systems with alarm origination. If your system does not have alarm origination, you have completed the procedure for replacing Hard Disk Drive 1.

To inactivate the alarm origination, do the following:

1. Starting at the Lucent INTUITY Main Menu (Figure 6-1), select

   .

   The system displays the Alarm Management window (Figure 6-21).
2. Move the cursor to the `Alarm Suppression` field and type **inactive**.
3. Press SAVE (F3).

   The system displays the Information window (Figure 6-22).
4. Press ENTER.

You have completed the procedure for replacing Hard Disk Drive 6.

Software and Hardware Procedures for Installing an Lucent INTUITY System with All New Hard Disk Drives

To install the Lucent INTUITY system in a MAP/100 with all new hard disk drives, do the following:

1. Install the hard disk drives. See “Hardware Procedures for Replacing the Hard Disk Drive,” in “Software and Hardware Procedures for Replacing Hard Disk Drive 0 (Nonmirrored System)” for the procedure.
2. Complete Steps 1 through 41 in “Installing UnixWare” in Chapter 9, "Installing Base System Software".
3. Clean Hard Disk Drives 1 through 6. See “Cleaning a Hard Disk Drive,” below for the procedure.
4. Reboot the Lucent INTUITY system. See “Shutting Down and Rebooting the Lucent INTUITY System,” in Chapter 3, "Common System Procedures" for the procedure.
5. Complete Steps 42 through 46 in “Installing Unixware,” in Chapter 9, "Installing Base System Software"
6. Install the AUDIX software. See “Installing AUDIX Software,” in Chapter 9, "Installing Base System Software" for the procedure.
7. Initialize Hard Disk Drives 1 through 6. Complete Steps 8 through 13 in “Adding a Hard Disk Drive” below for the procedure.
8. From the UNIX prompt, enter **voledit rename disk06 audfsdisk**

   This will rename Hard Disk Drive 6 the audfs disk.
9. Reinstall the Lucent INTUITY system software. See Chapter 10, "Installing Lucent INTUITY System Software" for the procedure.
10. Reinstall the multi-user software, if used. See Chapter 11, "Installing the UNIX Multi-User Software" for the procedure.
11. If you are installing a system equipped with an internal remote maintenance circuit card, install the corresponding software. See “Remote Maintenance Circuit Card,” in Chapter 5, "Replacing or Installing Circuit Cards" for the procedure.
12. Reboot the Lucent INTUITY system. See “Shutting Down and Rebooting the Lucent INTUITY System,” in Chapter 3, "Common System Procedures" for the procedure.
13. Stop the voice system. See “Stopping the Voice System,” in Chapter 3, "Common System Procedures" for the procedure.
14. Restore the attended and unattended backup tapes, beginning with the oldest first. See “Restoring Backups,” in Chapter 3, "Common System Procedures" for the procedure.

15. You have completed the procedure for instalingl the Lucent INTUITY system in a MAP/100 with two all hard disk drives.

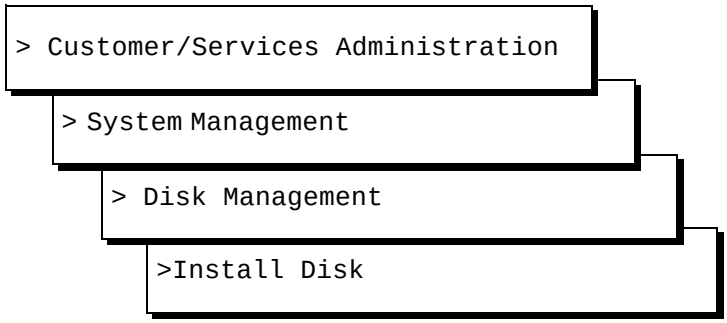
Adding a Hard Disk Drive

This section details the procedures for adding another hard disk drive to an Lucent INTUITY system. If you are replacing an existing drive see "Software and Hardware Procedures for Replacing Hard Disk Drive 0," or "Software and Hardware Procedures for Replacing Hard Disk Drives 1 through 5" or Software and Hardware Procedures for Replacing Hard Disk Drive 6 (audfs) for the procedure.

To add a hard disk drive, do the following:

NOTE:
This procedure only applies to adding a second hard disk drive to a system which originally had only one hard disk drive.

1. Verify that the new hard disk drive is on site and appears to be in usable condition, with no obvious shipping damage.
2. Prepare the new hard disk drive for installation. See "Readying a New Hard Disk Drive for Installation," in Software and Hardware Procedures for Replacing Hard Disk Drive 0 (Nonmirrored System) for the procedure.
3. If the system is in service, perform the following Steps a and b.
    a. Stop the voice system. See "Stopping the Voice System," in Chapter 3, "Common System Procedures" for the procedure.
    b. Shut down the voice system. See "Shutting Down and Rebooting the Lucent INTUITY System," in Chapter 3, "Common System Procedures" for the procedure.
4. Remove power from the MAP/100. See "Removing Power from the MAP/100" in Chapter 4, "Getting Inside the Computer" for the procedure.
5. Access the peripheral bay. See "Accessing the Peripheral Bay," in Chapter 4, "Getting Inside the Computer" for the procedure.
6. Install the new hard disk drive. See "Mounting a Hard Disk Drive in the MAP/100," and "Connecting Cables to the Hard Disk Drive," in "Software and Hardware Procedures for Replacing Hard Disk Drive 0 (Nonmirrored System) for the procedure.
7. Reboot the Lucent INTUITY system. See "Shutting Down and Rebooting the Lucent INTUITY System," in Chapter 3, "Common System Procedures" for the procedure.
8. Starting at the Lucent INTUITY Main Menu (Figure 6-1), select



The system displays the Install Disk window (Figure 6-24).

Figure 6-24. Install Disk Window

9. Enter the SCSI ID number of the disk you are installing. See "Hard Disk Drive Contents in Six Hard Disk Drive Systems," above for the SCSI ID.
10. Press SAVE (F3).

    The system displays the following message:

    ```
    clean
    Install Disk Operation In Progress..

    This operation will require approximately 10 minutes
    per gig to complete.

    The disk install was successful
    Press Enter to continue.
    ```

    If you entered a hard disk drive that was installed is not brand new, the system displays the following message.

    ```
    The disk being installed at the selected jumper id has
    been installed previously.  It is recommended that only
    new disks from the factory be installed on this system.
    ```

```
Any existing data on this disk will be lost if you
continue.
Do you wish to continue hit [y/n], and then hit Enter.
```

Complete Steps a through c.

a. Press y.

   The system displays the following message:

```
Option to auto clean disk not supported in this
version.
You must run the shell command fdisk
/dev/rdsk/c0t1d0s0 and delete any active
partitions.
Hit Enter to continue.
```

b. Press ENTER.

c. Contact the remote maintenance center. Ask them to remotely log in to the system and clean the disk. Provide them with the jumper id. When the disk has been cleaned, return to Step 8.

11. Press ENTER.

    The system displays the Disk Management menu (Figure 6-25).

Figure 6-25. Disk Managment Menu

12. Reboot the Lucent INTUITY system. See "Rebooting the System" in Chapter 3, "Common System Procedures" for the procedure.
13. If the system is to be mirrored, contact the remote maintenance center and ask them to turn on mirroring.

    If the system is not to be mirrored, contact the remote maintenance center and ask them to add voice hours to the system.

You have completed the procedure for adding a hard disk drive.

Cleaning a Hard Disk Drive

A hard disk drive which contains data cannot be installed in an Lucent INTUITY system. The hard disk drive must be cleaned before use.

To clean a hard disk drive, do the following:

1. Log in to the system as root.
2. Enter fdisk **/dev/rdsk/c0t1d0s0**

⚠ CAUTION:
The phrase c0t1d0s0 is the name of the disk to be cleaned. The phrase c0t1d0s0 is correct for Hard Disk Drive 1. Hard Disk Drive 0 is named c0t0d0s0.

The system displays the Disk Cleaning Screen (Figure 6-26)

```
       Total disk size is 2048 cylinders (2048.0MB)


| Partition | Status | Type | Start | End | Length | % | Approx MB |
|---|---|---|---|---|---|---|---|
| 1 | Active | UNIX System | 0 | 2047 | 2048 | 100 | 2048.0 |

       SELECT ONE OF THE FOLLOWING

       0. Overwrite system master boot code
       1. Create a partition
       2. Change Active (Boot from) partition
       3. Delete a partition
       4. Update (Update disk configuration and exit)
       5. Exit (Exit without updating disk configuration)

       Enter selection:
```

Figure 6-26. Disk Cleaning Screen

3. Enter **3**

   The system displays the following message:

   ```
   Enter the number of the partition you want to delete
    (or enter x to exit)
   ```

4. Enter the number of the partition.

For the example given in Figure 6-26, you would enter **1**

The system displays the following message:

```
Do you want to delete partition X?  This will erase all
files and programs in this partition (type “y” or “n”).
```

5. Enter **y**

   The system displays the following message:

   ```
   Partition X has been deleted.
   ```

   The system displays the Disk Cleaning Screen (Figure 6-26)

6. Enter **4**

   The system displays the following message:

   ```
   If you have created or altered a partition, you must
   initialize the partition to reflect the new
   configuration.  For a UNIX System partition run the
   disksetup(1m) command.  For a DOS partiton, run the DOS
   format command.  Changes limited to the “Active” status
   field require no additional action.
   ```

You have completed the procedure for cleaning a hard disk drive.

Replacing Other Components

7

Overview

This chapter describes the procedures for replacing

- Electromagnetic interference reduction components
- Memory modules
- Fan filters
- Card cage fans
- Floppy disk drives
- Power supplies
- SCSI cartridge tape drives
- 25-slot backplane

Purpose

The purpose of this chapter is to ensure that the correct procedures are used to replace the internal components of the MAP/100. This chapter also provides information on the correct configuration and settings for the individual components.

Replacing Electromagnetic Interference Reduction Components

The MAP/100 contains electromagnetic interference (EMI) reduction components. These EMI components are necessary to comply with Federal Communications Commission (FCC) regulations.

CAUTION:
The EMI components are fragile and should be handled with care.

The EMI components include:

- Split ferrite core toroid
- Ring type ferrite core toroid

Replacing a Split Ferrite Core Toroid

The split ferrite core toroid is placed on the MAP/100 power cable (). If the MAP/100 monitor is plugged into the MAP/100 chassis, a split ferrite core toroid is also placed on the monitor power cord.

NOTE:
If the MAP/100 monitor is plugged directly into a wall outlet, do not place a split ferrite core toroid on the power cord.

Removing a Split Ferrite Core Toroid

CAUTION:
Do not remove a split ferrite core toroid from the MAP/100 power cable unless you are replacing it with another split ferrite core toroid. The MAP/100 must have a split ferrite core toroid installed to operate within FCC guidelines.

To remove a split ferrite core toroid, do the following:

1. Remove power from the MAP/100. See "Removing Power from the MAP/100" in Chapter 4, "Getting Inside the Computer" for the procedure.
2. Open the split ferrite core toroid by gently pulling the fastener away from the body of the split ferrite core toroid (Figure 7-1).

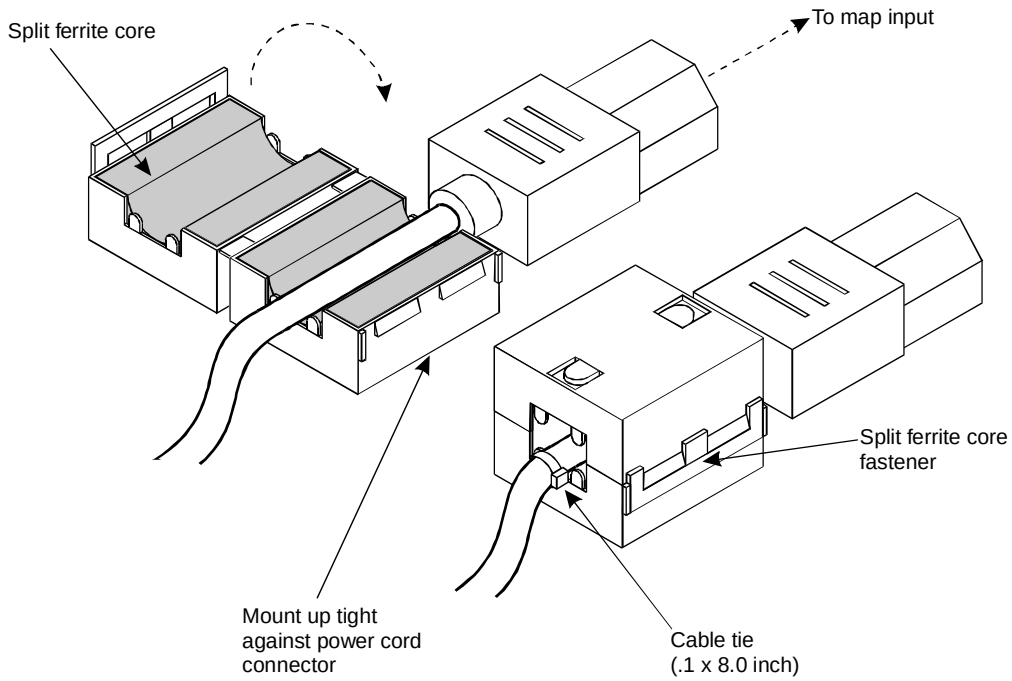


Figure 7-1. Split Ferrite Core Toroid

3. Remove the split ferrite core toroid from the cable.
4. Continue with the next procedure, “Installing a Split Ferrite Core Toroid.”

Installing a Split Ferrite Core Toroid

To install a split ferrite core toroid, do the following:

1. Remove power from the MAP/100. See "Removing Power from the MAP/100" in Chapter 4, "Getting Inside the Computer" for the procedure.
2. Open the split ferrite core toroid by gently pulling the fastener away from the body of the split ferrite core toroid (Figure 7-1).
3. Place the power cord in the groove inside the split ferrite core toroid (Figure 7-1).

   If the split ferrite core toroid is being installed on a MAP/100 power cable, place it against the female connector which is connected to the back of the MAP/100.

   If the split ferrite core toroid is being installed on a monitor power cable, place it against the male connector which is connected to the back of the MAP/100.
4. Gently snap the split ferrite core toroid shut around the cable (Figure 7-1).

5. Attach a cable tie directly behind the split ferrite core toroid to secure it.
6. Cut off the excess cable tie.
7. Restore power to the MAP/100. See "Restoring Power to the MAP/100" in Chapter 4, "Getting Inside the Computer" for the procedure.

Replacing a Ring Type Ferrite Core Toroid

The ring type ferrite core toroid is placed on the MAP/100 cable tie down bracket (). The analog cables from the Tip/Ring circuit cards must be routed through the ring type ferrite core toroid.

Removing a Ring Type Ferrite Core Toroid

CAUTION:
Do not remove a ring type ferrite core toroid from the MAP/100 unless you are replacing it with another ring type ferrite core toroid. The cables from the Tip/Ring circuit cards must be routed through a ring type ferrite core toroid for the Lucent INTUITY system to operate within FCC guidelines.

To remove a ring type ferrite core toroid, do the following:

1. Stop the voice system. See "Stopping the Voice System" in Chapter 3, "Common System Procedures" for the procedure.
2. Carefully cut the cable ties which hold the ring type ferrite core toroid to the cable tie down bracket (Figure 7-2).

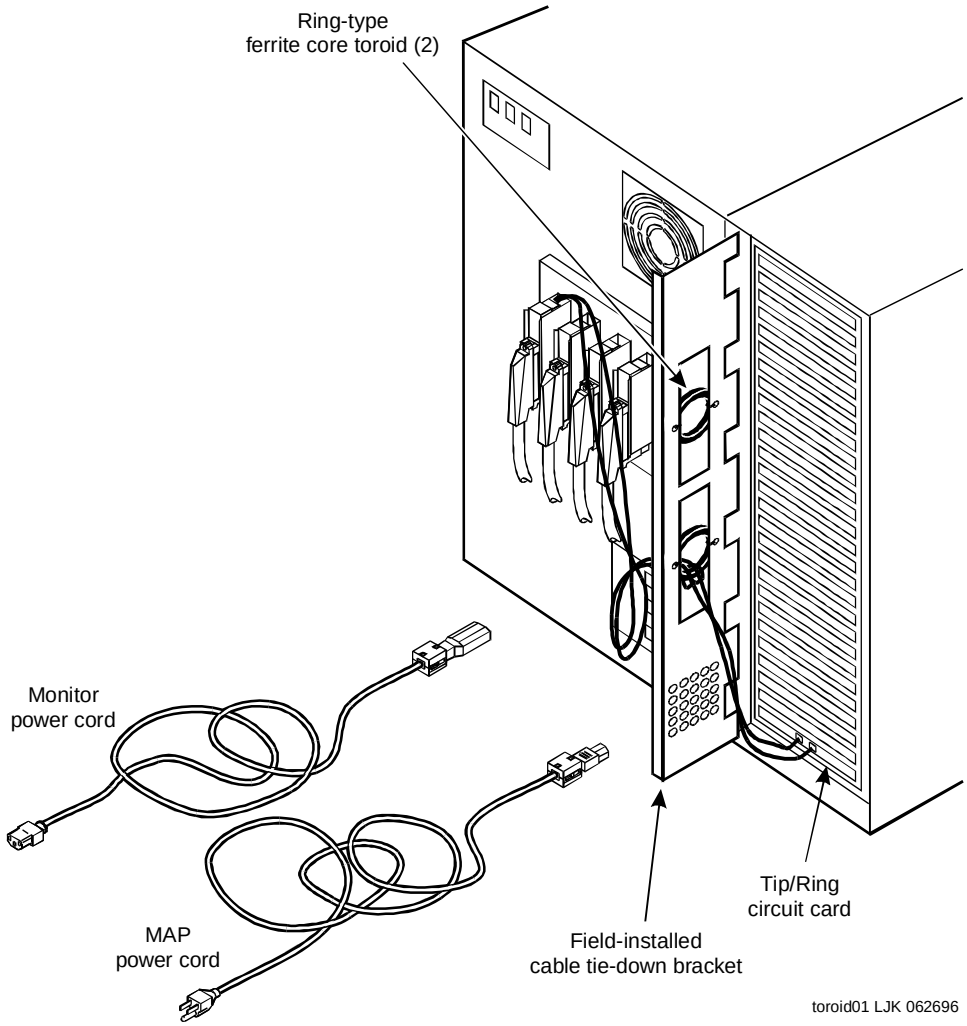


Figure 7-2. Ring Type Ferrite Core Toroid Installation

3. Carefully cut the cable ties which hold the Tip/Ring cables to the ring type ferrite core toroid (Figure 7-3).

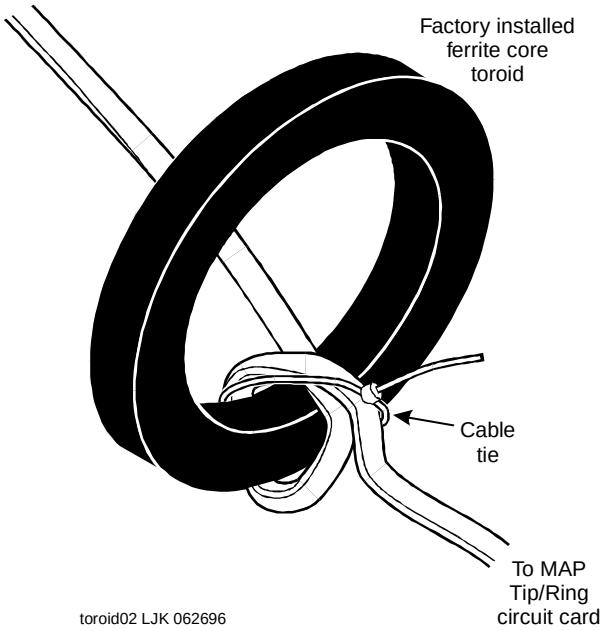


Figure 7-3. Ring Type Ferrite Core Toroid

4. Remove the cables from the Tip/Ring circuit cards.

   CAUTION:
   Make sure you note the connectivity of each cable.

5. Unwrap the Tip/Ring cables from the ring type ferrite core toroid.
6. Continue with the next step, “Installing a Ring Type Ferrite Core Toroid.”

Installing a Ring Type Ferrite Core Toroid

To install a ring type ferrite core toroid, do the following:

1. Stop the voice system. See "Stopping the Voice System" in Chapter 3, "Common System Procedures" for the procedure.
2. Attach a ring type ferrite core toroid to the cable tie down bracket, using two cable ties (Figure 7-2).
3. Dress a Tip/Ring cable through the ring type ferrite core toroid (Figure 7-3).
4. Loop it around and dress it through the ring type ferrite core toroid a second time (Figure 7-3).

5. Place the end of the Tip/Ring cable in the appropriate port on the Tip/Ring circuit card.

CAUTION:
Make sure that the length of cable between the ring type ferrite core toroid and the Tip/Ring circuit card is a short as possible. Any excess cable should be dressed neatly on the line side of the ring type ferrite core toroid.

6. Repeat Steps 3 through 5 for each Tip/Ring cable.
7. Secure all of the Tip/Ring cables to the ring type ferrite core toroid using a cable tie.
8. Start the voice system. See "Starting the Voice System" in Chapter 3, "Common System Procedures" for the procedure.

Replacing Defective Memory Modules

This section describes

- the memory available with the MAP/100
- how to determine if the memory modules are damaged
- how to replace the memory

WARNING:
Observe proper electrostatic discharge precautions when you handle computer components. Wear an antistatic wrist strap that touches your bare skin and connect the strap cable to an earth ground. See "Protecting against Damage from Electrostatic Discharge", in Chapter 4, "Getting Inside the Computer".

Memory and SIMM Description

The MAP/100 supports 96-Mbytes of memory packaged on two 32-Mbyte or four 16-Mbyte single in-line memory modules (SIMM). These modules are placed in sockets located in the bottom left corner of the CPU circuit card (Figure 7-4).

The CPU circuit card must be equipped with SIMMs in matched pairs and the SIMMs must be in the following configuration.

- Two identical 32-Mbyte SIMMs located in the SIMM1 and SIMM2 sockets plus two identical 16-Mbyte SIMMs located in the SIMM3, and SIMM4 sockets

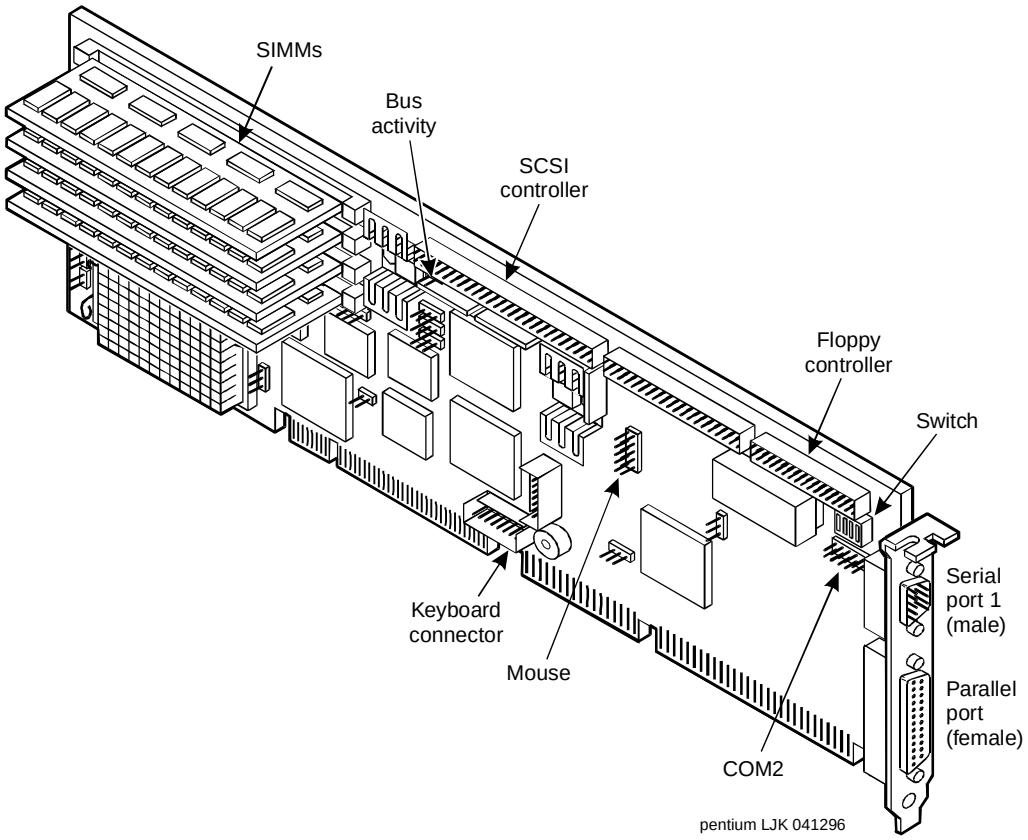


Figure 7-4. CPU Circuit Card SIMM Location

Identifying a Damaged SIMM

To determine which of the SIMMs is defective, you must test each pair. One pair of SIMMs must be removed and the system then rebooted using the remaining SIMMs to obtain a reading on the amount of memory available.

Checking for Proper SIMM Seating

1. Verify that the replacement equipment is on site and appears to be in usable condition, with no obvious shipping damage.
2. If the system is in service, perform the following steps.
    a. Stop the voice system. See "Stopping the Voice System", in Chapter 3, "Common System Procedures", for the procedure.
    b. Shut down the voice system. See "Shutting Down and Rebooting the Lucent INTUITY System", in Chapter 3, "Common System Procedures", for the procedure.

3. Remove power from the MAP/100. See "Removing Power from the MAP/100" in Chapter 4, "Getting Inside the Computer", for power removal procedures.
4. Remove the dress covers. See "Removing the Dress Covers", in Chapter 4, "Getting Inside the Computer", for the procedure.
5. Access the circuit card cage. See "Accessing the Circuit Card Cage", in Chapter 4, "Getting Inside the Computer", for the procedure.
6. Carefully remove the CPU circuit card. See "Removing a Circuit Card", in Chapter 5, "Replacing or Installing Circuit Cards", for more information on removing the CPU circuit card.
7. Verify that all SIMMs are properly seated in their slots. If all are properly seated, continue with the next procedure "Checking for Defective SIMMS."

   If one or more of the SIMMs are not properly installed or seated, do the following.

   a. Properly seat the SIMM.
   b. Replace the CPU circuit card. See "Installing a Circuit Card", in Chapter 5, "Replacing or Installing Circuit Cards", for the procedure.
   c. Reboot the system. See "Shutting Down and Rebooting the Lucent INTUITY System", in Chapter 3, "Common System Procedures", for the procedure.

      If the system shows an amount of memory equal to that installed on the card, the problem has been corrected.

      If the system shows an amount of memory less than that installed on the card, continue with the next procedure, "Checking for Defective SIMMS."

Checking for Defective SIMMS

1. Remove one pair of the SIMMs. See "Removing SIMMs", below for more information on removing the SIMMs.

   If the CPU circuit card is equipped with only one pair of SIMMS the pair must be replaced. See "Installing SIMMs", below for more information on installing the new pair of SIMMs.
2. Reinstall the CPU circuit card. See "Installing a Circuit Card", in Chapter 5, "Replacing or Installing Circuit Cards", for the procedure.
3. Restore power to the MAP/100. See "Restoring Power to the MAP/100", in Chapter 4, "Getting Inside the Computer", for more information on restoring the power.
4. Reboot the system. See "Shutting Down and Rebooting the Lucent INTUITY System", in Chapter 3, "Common System Procedures", for the procedure.

5. Verify the amount of memory as the system reboots.
6. If the amount of memory shown by the system is not equal to the amount of memory still installed on the card, one of the remaining SIMMS is defective. Complete Steps a through c. If the memory is not correct continue with Step 7.
    a. Remove power from the MAP/100. See "Removing Power from the MAP/100", in Chapter 4, "Getting Inside the Computer", for more information on removing the power.
    b. Replace the SIMMs which were removed in Step 1. See "Installing SIMMs", below for more information on replacing the SIMM.
    c. Return to Step 1 and continue, removing the second pair of SIMMs.
7. If the amount of memory shown by the system equals the amount of memory still installed on the card, one of the SIMMs you removed is defective. Replace the pair with a new pair of SIMMs. See "Installing SIMMs", below for more information.
8. Close the circuit card cage. See "Closing the Circuit Card Cage", in Chapter 4, "Getting Inside the Computer", for the procedure.
9. Replace the dress covers. See "Replacing the Dress Covers", in Chapter 4, "Getting Inside the Computer", for the procedure.
10. Apply power to the unit. See "Restoring Power to the MAP/100", in Chapter 4, "Getting Inside the Computer", for the procedure.

Removing SIMMs

1. Verify that the new/replacement SIMMs are on site and appear to be in usable condition.
2. Shut down the system. See "Shutting Down and Rebooting the Lucent INTUITY System", in Chapter 3, "Common System Procedures", for this procedure.
3. Remove the incoming power. See "Removing Power from the MAP/100", in Chapter 4, "Getting Inside the Computer", for this procedure.
4. Remove the dress covers. See "Removing the Dress Covers", in Chapter 4, "Getting Inside the Computer", for the procedure.
5. Access the circuit card cage. See "Accessing the Circuit Card Cage", in Chapter 4, "Getting Inside the Computer", for the procedure.
6. Remove the CPU circuit card. See “Removing Circuit Cards,” in Chapter 5, "Replacing or Installing Circuit Cards", for more information on removing the CPU circuit card.
7. Lay the CPU circuit card on a flat, clean, ESD-protected surface.
8. Release the metal snap locks gently at the edge of the SIMM connectors.

9. Rotate the SIMM back and downward to approximately a 60-degree angle.
10. Remove the SIMM.

Installing SIMMs

1. Shut down the system. See "Shutting Down and Rebooting the Lucent INTUITY System", in Chapter 3, "Common System Procedures", for this procedure.
2. Remove the incoming power. See "Removing Power from the MAP/100", in Chapter 4, "Getting Inside the Computer", for this procedure.
3. Remove the dress covers. See "Removing the Dress Covers", in Chapter 4, "Getting Inside the Computer", for the procedure.
4. Access the circuit card cage. See "Accessing the Circuit Card Cage", in Chapter 4, "Getting Inside the Computer", for the procedure.
5. Remove the CPU circuit card. See "Removing a Circuit Card", in Chapter 5, "Replacing or Installing Circuit Cards", for this procedure.
6. Install the SIMM by positioning the new SIMM at approximately a 60-degree angle with respect to the CPU circuit card.

   All SIMMs are keyed to prevent them from being inserted incorrectly.

   NOTE:
   Install a new SIMM in the slot adjacent to the last SIMM installed. Do not leave any empty sockets between SIMMS.

7. Push down at that angle until the SIMM is reset into the SIMM carrier.
8. Snap the SIMM into place by rotating it to an upright position.

   The metal snap lock on the ends of the connector for the SIMM will be forced open and then lock when in the upright position.
9. Ensure the connector guide pins are seated into the clearance holes provided at each end of the SIMM.

   When properly seated, the guides should be fully extended into the circuit card clearance holes.
10. Reinstall the CPU circuit card. See "Installing a Circuit Card", in Chapter 5, "Replacing or Installing Circuit Cards", for this procedure.
11. Reboot the system. See "Shutting Down and Rebooting the Lucent INTUITY System", in Chapter 3, "Common System Procedures", for this procedure.
12. Verify the amount of memory as the system reboots.
13. Close the circuit card cage. See "Closing the Circuit Card Cage", in Chapter 4, "Getting Inside the Computer", for the procedure.

14. Replace the dress covers. See "Replacing the Dress Covers", in Chapter 4, "Getting Inside the Computer", for the procedure.
15. Apply power to the MAP/100. See "Restoring Power to the MAP/100", in Chapter 4, "Getting Inside the Computer", for this procedure.

Replacing the Fan Filter

The MAP/100 is equipped with two fan filters located behind the front doors. The fan filters are designed to remove dust and debris from the air before the air circulates inside the chassis. The fan filter should be checked on a regular basis to determine the condition and cleaned if necessary.

Removing Fan Filters

The filters can be removed by opening the front doors and detaching the filter material from the velcro fasteners.

Cleaning the Fan Filter

Cleaning the fan filter should be a part of routine maintenance. Clean the fan filter with mild soap and water. Allow it to air dry before you replace it.

CAUTION:
Do not use heat to dry the filter and do not place a wet or damp filter into the MAP/100.

Installing Fan Filters

To install a filter, position it behind the doors and press on the velcro fasteners.

Replacing a Fan

The MAP/100 contains six fans that provide forced-air cooling for the unit. There are four circuit card cage fans, one peripheral bay fan and one power supply fan. The circuit card cage fans and the peripheral bay fan are serviceable. The power supply fan is *not* serviceable and repairs should *never* be attempted.

Replacing a Circuit Card Cage Fan

The circuit card cage fans are located in a bracket behind the left front door. The circuit card cage fans are attached to an assembly. All four circuit card cage fans must be removed from the system to replace one.

Removing a Circuit Card Cage Fan

To remove a circuit card cage fan, do the following:

1. Locate the defective fan.

   The MAP/100 monitoring panel includes indicator lamps which are lit when the associated fan in operation (Figure 7-5). The indicator lamp for the defective lamp will not be lit.

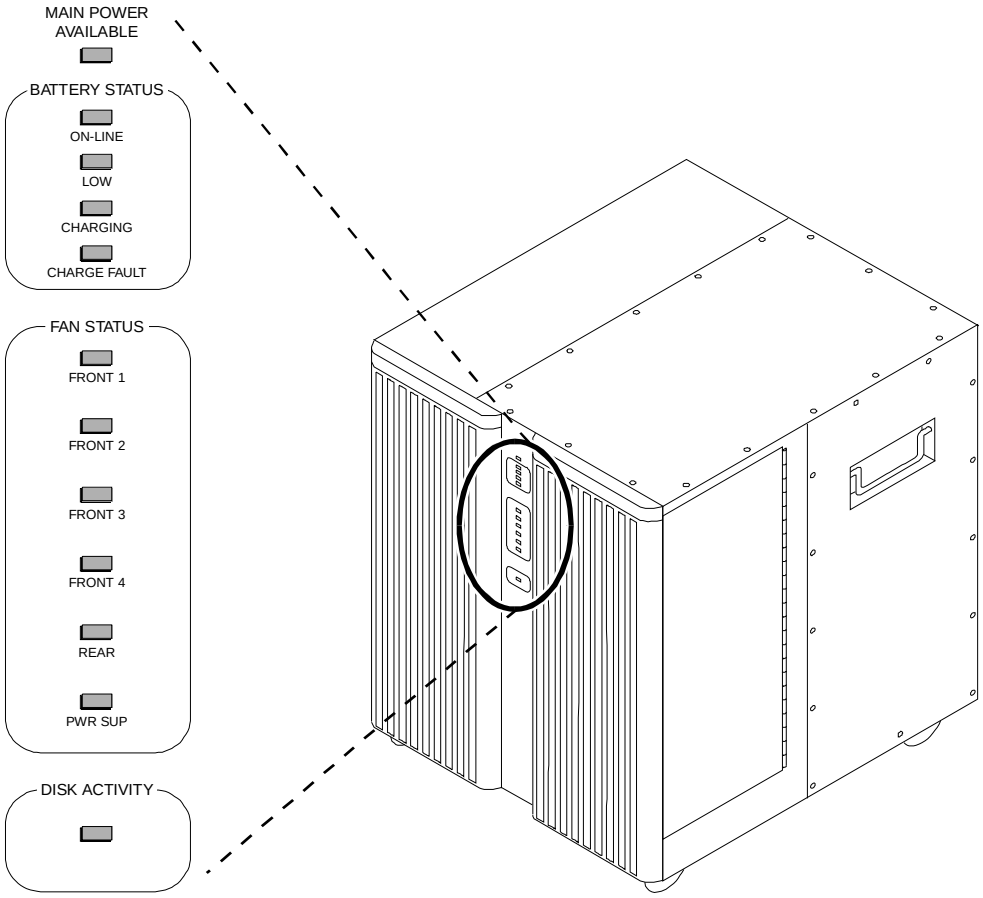


Figure 7-5. MAP/100 Monitoring Panel

2. If the system is in service, perform the following steps.
    a. Stop the voice system. See "Stopping the Voice System", in Chapter 3, "Common System Procedures", for the procedure.
    b. Shut down the voice system. See "Shutting Down and Rebooting the Lucent INTUITY System", in Chapter 3, "Common System Procedures", for the procedure.
3. Remove power from the MAP/100. See "Removing Power from the MAP/100", in Chapter 4, "Getting Inside the Computer", for the procedure.
4. Remove the dress covers. See "Removing the Dress Covers", in Chapter 4, "Getting Inside the Computer", for the procedure.
5. Access the circuit card cage. See "Accessing the Circuit Card Cage", in Chapter 4, "Getting Inside the Computer", for the procedure.

6. Locate and disconnect the fan assembly connector.

   This connector is located adjacent to the fan bracket in the upper part of the unit.

7. Remove the two screws which hold the fan assembly in the MAP/100.
8. Remove the fan assembly from the MAP/100.
9. Disconnect the red and black wires which attach to the defective circuit card cage fan.
10. Remove the four screws and washers from the mounting holes.
11. Remove the circuit card cage fan from the fan assembly.

Installing a Circuit Card Cage Fan

To install a circuit card cage fan, do the following:

1. Place the circuit card cage fan on the fan assembly.

   NOTE:
   The circuit card cage fan unit must be installed so that air travels through the mounting plate hole towards the circuit card cage area. Locate the air-flow direction indicators to ensure that the fan is properly mounted.

2. Secure it with the four bolts.
3. Reconnect the red and black wires.

   Be sure to attach the wires in the same position as they are attached in the other fans.

4. Replace the fan assembly.
5. Replace the two screws which secure the fan assembly in the MAP/100.
6. Reconnect the fan assembly connector.
7. Tuck the connector inside the unit so that it is adjacent to the fan bracket assembly.
8. Close the circuit card cage. See "Closing the Circuit Card Cage", in Chapter 4, "Getting Inside the Computer", for the procedure.
9. Replace the dress covers. See "Replacing the Dress Covers", in Chapter 4, "Getting Inside the Computer", for the procedure.
10. Apply power to the MAP/100. See "Restoring Power to the MAP/100", in Chapter 4, "Getting Inside the Computer", for this procedure.

11. Verify that the fan is working by observing the MAP/100 monitoring panel (Figure 7-5).

CAUTION:
Do not leave the MAP/100 powered up for any length of time until the circuit card cage fans are fully operational.

Replacing the Peripheral Bay Fan

The peripheral bay fan is located in the rear of the MAP/100 behind the power supply (Figure 7-6).

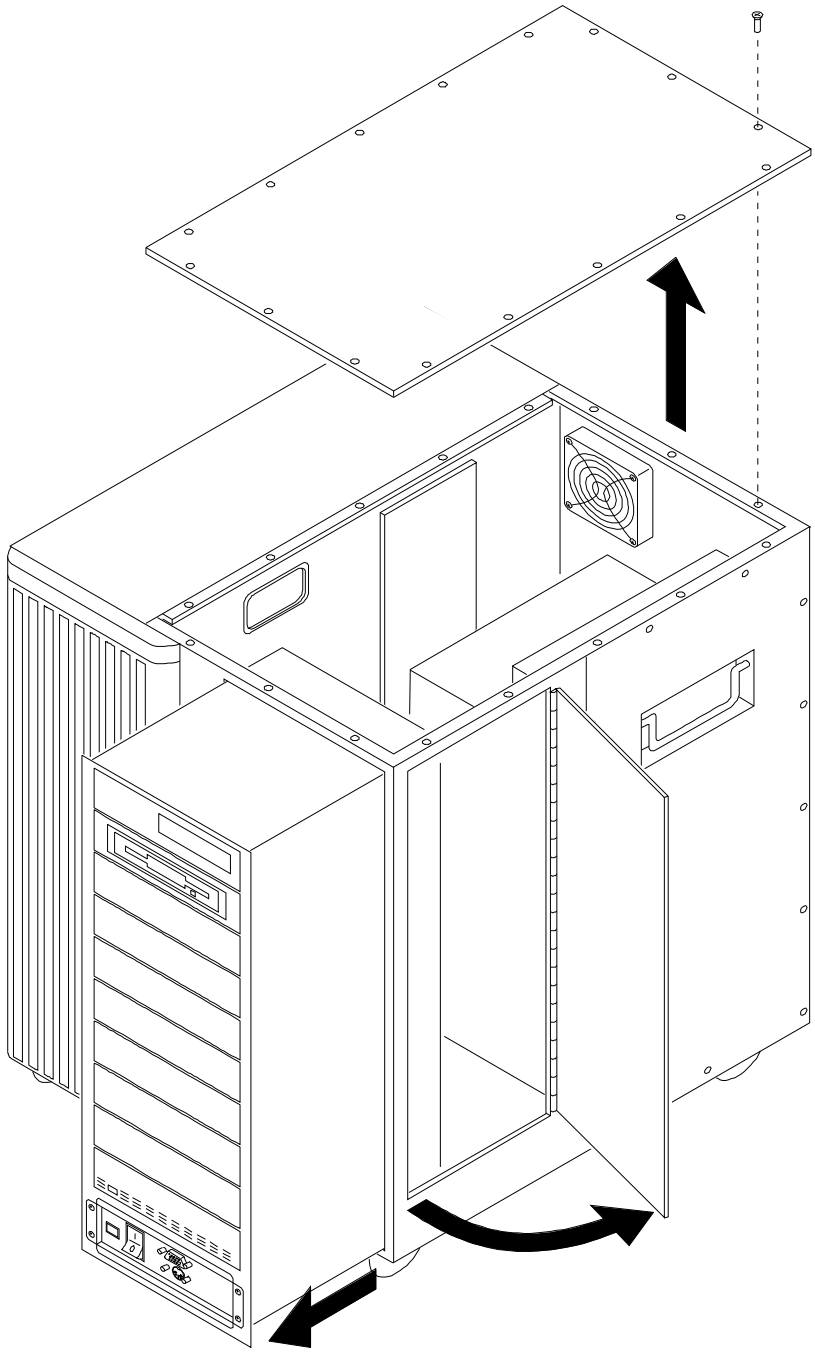


Figure 7-6. Peripheral Bay Fan Location

Removing the Peripheral Bay Fan

To remove the peripheral bay fan, do the following:

1. If the system is in service, perform the following steps.
   a. Stop the voice system. See "Stopping the Voice System", in Chapter 3, "Common System Procedures", for the procedure.
   b. Shut down the voice system. See "Shutting Down and Rebooting the Lucent INTUITY System", in Chapter 3, "Common System Procedures", for the procedure.
2. Remove power from the MAP/100. See "Removing Power from the MAP/100", in Chapter 4, "Getting Inside the Computer", for the procedure.
3. Remove the dress covers. See "Removing the Dress Covers", in Chapter 4, "Getting Inside the Computer", for the procedure.
4. Remove the 17 screws which hold the top access panel to the MAP/100.
5. Remove the top access panel (Figure 7-6).
6. Disconnect the red and black wires attached to the peripheral bay fan.
7. Remove the four screws, washers, and nuts from the mounting holes.
8. Remove the fan and grill from the rear wall of the unit.

Installing the Peripheral Bay Fan

To install the peripheral by fan, do the following:

1. Place the peripheral bay fan and the grill against the inside rear fan opening.

   NOTE:
   The grill must go to the inside of the chassis.

   NOTE:
   The peripheral bay fan must be installed so that air travels through the mounting plate hole towards the peripheral bay area. Locate the air-flow direction indicators to ensure that the fan is properly mounted.

2. Secure the peripheral bay fan with the four screws, washers, and nuts. Be sure to orient the fan so that the electrical connections to it are accessible once the fan is mounted.

   NOTE:
   The nuts should be on the inside of the unit when the fan is mounted.

3. Replace the red and black wires.

   The red wire attaches to the "+" terminal and the black wire attaches to the "-" terminal.

4. Replace the top cover.
5. Secure it with the 17 screws.
6. Replace the dress covers. See "Replacing the Dress Covers", in Chapter 4, "Getting Inside the Computer", for the procedure.
7. Apply power to the MAP/100. See "Restoring Power to the MAP/100", in Chapter 4, "Getting Inside the Computer", for this procedure.
8. Verify that the fan is working by observing the MAP/100 monitoring panel (Figure 7-5).

CAUTION:
Do not leave the MAP/100 powered up for any length of time until the peripheral bay fan is fully operational.

Replacing the Floppy Disk Drive

The 1.44 Mbyte, 3.5-inch floppy disk drive is assembled by the manufacturer with a mounting kit. The floppy disk drive is located in Bay 8 of the peripheral bay, as shown in Figure 7-7.

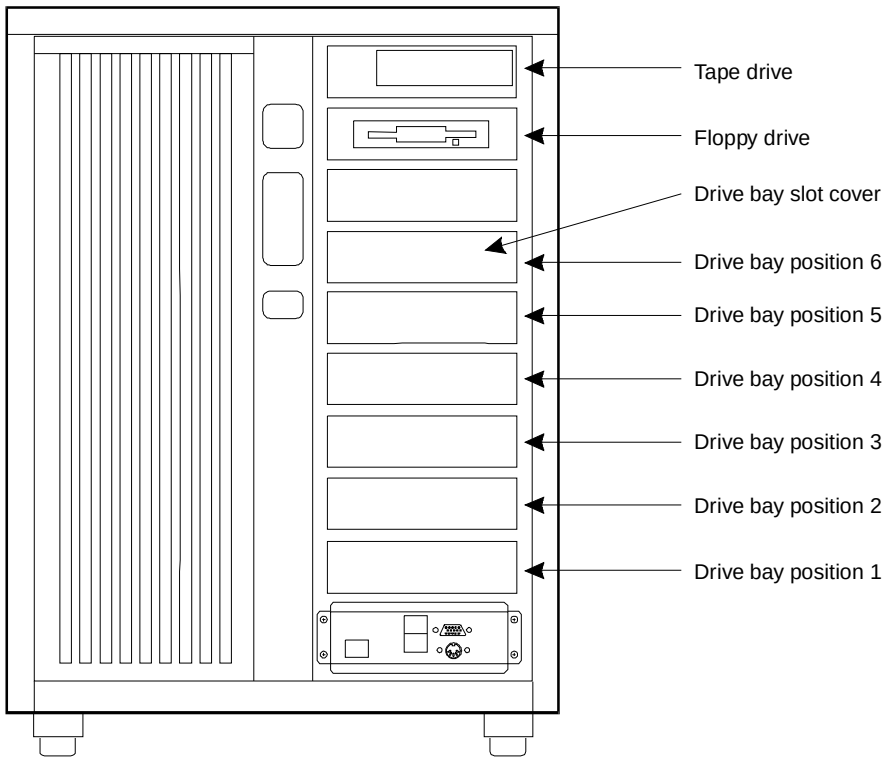


Figure 7-7. Front View of the MAP/100

WARNING:
Observe proper electrostatic discharge precautions when you handle computer components. Wear an antistatic wrist strap that touches your bare skin and connect the strap cable to an earth ground. See “"Protecting against Damage from Electrostatic Discharge", in Chapter 4, "Getting Inside the Computer".

Removing the Floppy Disk Drive

1. Verify that the replacement equipment is on site and appears to be in usable condition, with no obvious shipping damage.
2. If the system is in service, perform the following Steps a and b.
    a. Stop the voice system. See "Stopping the Voice System", in Chapter 3, "Common System Procedures", for voice system administration.
    b. Shut down the voice system. See "Shutting Down and Rebooting the Lucent INTUITY System", in Chapter 3, "Common System Procedures", for voice system administration.
3. Remove the incoming power. See "Removing Power from the MAP/100", in Chapter 4, "Getting Inside the Computer", for this procedure.
4. Access the peripheral bay. See "Accessing the Peripheral Bay", in Chapter 4, "Getting Inside the Computer", for the procedure.
5. Remove the power cord connector from the back of the floppy disk drive. Move it to the side.
6. Remove the bus cable assembly connection from the back of the floppy disk drive. Move it to the side.
7. Locate the four 3-millimeter screws on the peripheral bay chassis. Holding the rear of the floppy disk drive, remove these screws.

    CAUTION:
    Keep these four screws separate. These screws are metric. Using any of the other screws associated with the MAP/100 will damage the threads in the floppy disk drive mounting hardware.

8. Slide the floppy disk drive forward within the peripheral bay and remove it through the front opening of the MAP/100 chassis.

    CAUTION:
    Handle the floppy disk drive with care. The spindle motor, stepping motor, and printed circuit board are located on the bottom of the floppy disk drive. Do not place any force or strain on these components and do not touch the surface of the floppy disk drive printed circuit board.

9. Place the floppy disk drive assembly on an ESD-protected surface and carefully remove the PCBA 5-inch adapter card (Figure 7-8).

    CAUTION:
    Do not bend or twist the PCBA 5-inch adapter card connector pins.

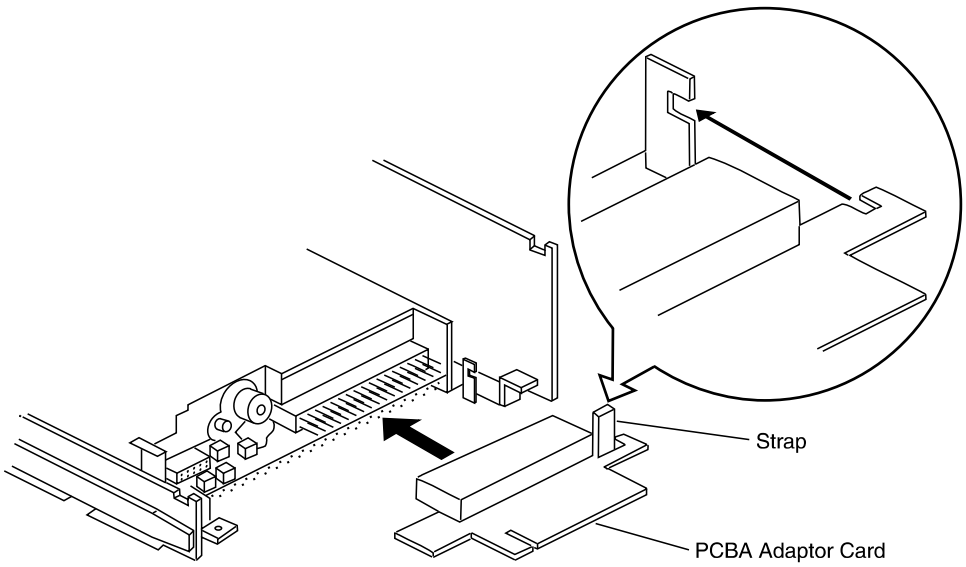


Figure 7-8. Floppy Disk Drive Unit PCBA 5-Inch Adapter Card

10. Remove the four 3-millimeter screws that secure the drive unit to the 5.25-inch floppy disk drive hardware mounting kit. These screws are shown as item 8 in Figure 7-9.

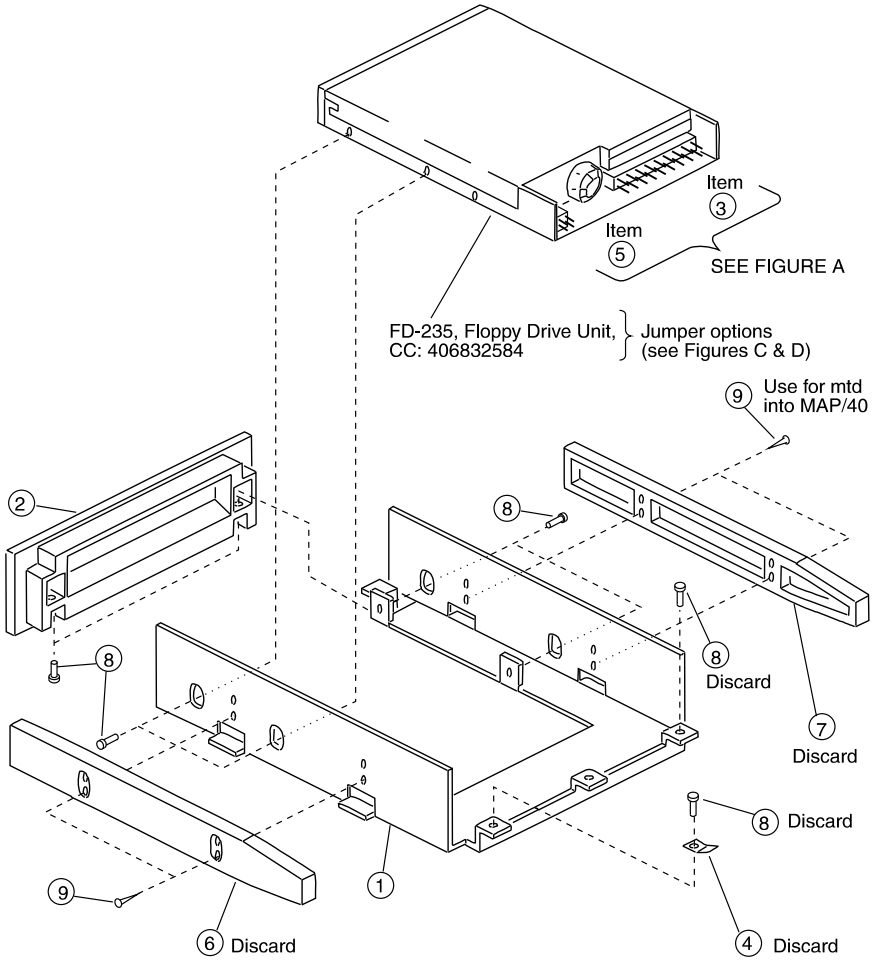


Figure 7-9. Floppy Disk Drive Assembly

11. Slide the drive unit back to clear the front bezel. The bezel is shown as item 2 in Figure 7-9.
12. Place the floppy disk drive upside down, with the printed circuit board facing up, on an ESD-protected surface.

Installing a Floppy Disk Drive

1. Remove the new floppy disk drive unit from its ESD-protective wrapping.

   NOTE:
   Keep the package and all ESD-protective wrapping to return the defective unit. Re-use of the original replacement unit packaging is necessary to meet the manufacturer's warranty.

2. The floppy disk drive for the MAP/100 is produced in six versions:
   - FD-235HF-201
   - FD-235HF-3201
   - FD-235HF-4429
   - FD-235F-5429
   - FD-235HF-6429
   - FD-235HF-6529

   Identify the floppy disk drive you are installing.

3. Verify that the jumpers are set as shown in Figure 7-10 and Figure 7-11.

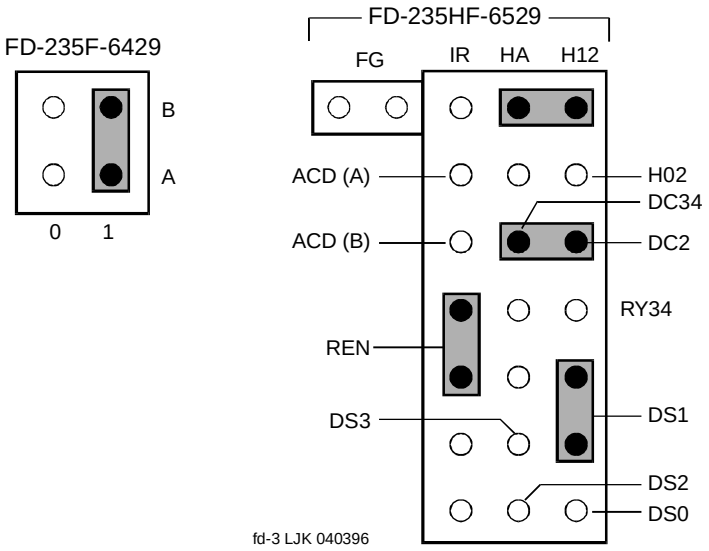


Figure 7-10. Floppy Disk Drive Jumper Connections (6429 and 6529)

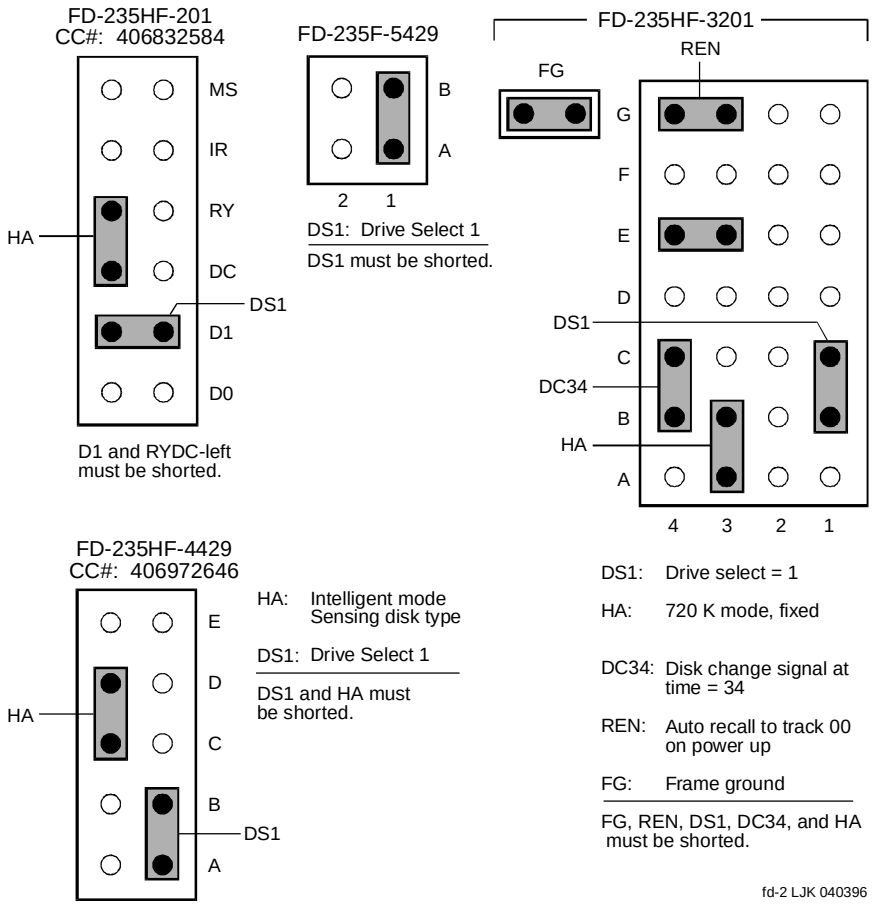


Figure 7-11. Floppy Disk Drive Jumper Connections (201, 3201, 4429, and 5429)

4. Hold the floppy disk drive by the metal sides and carefully attach it to the 5.25-inch mounting hardware and bezel.
5. Secure the floppy disk drive using the four 3-millimeter screws removed in Step 10 of "Removing The Floppy Disk Drive Unit".
6. Attach the PCBA adapter card, being careful to align the tabs shown in Figure 7-8.
7. Slide the new floppy disk drive unit into the MAP/100 peripheral bay. Ensure the front of the floppy disk drive is flush with the other units in the peripheral bay.
8. Secure the floppy disk drive to the peripheral bay with the four 3-millimeter screws removed in Step 7 of "Removing the Floppy Disk Drive."

9. Attach the floppy disk drive cable assembly to the PCBA adapter card. Ensure that the red bus cable No. 1 conductor tracer indicator is towards the *bottom* of the peripheral bay. Both the PCBA card and the floppy disk drive cable assembly are keyed to prevent improper connection.
10. Attach the mini power-cable assembly that is provided with the system power supply wiring.
11. Close the peripheral bay. See "Closing the Peripheral Bay", in Chapter 4, "Getting Inside the Computer", for these procedures.
12. Replace the dress covers. See "Replacing the Dress Covers", in Chapter 4, "Getting Inside the Computer", for the procedure.
13. Replace the right front door. See "Replacing the Front Doors", in Chapter 4, "Getting Inside the Computer", for the procedure.
14. Apply power to the MAP/100. See "Restoring Power to the MAP/100", in Chapter 4, "Getting Inside the Computer", for this procedure.

Replacing the Power Supply

There are two types of power supply available with the MAP/100.

- Power supply with a battery backup
- Power supply with an optional redundant power supply backup

The power supply with a battery backup provides 110/220-VAC and is located behind the peripheral bay. Both the power supply and the battery are housed within a removable module (Figure 7-12).

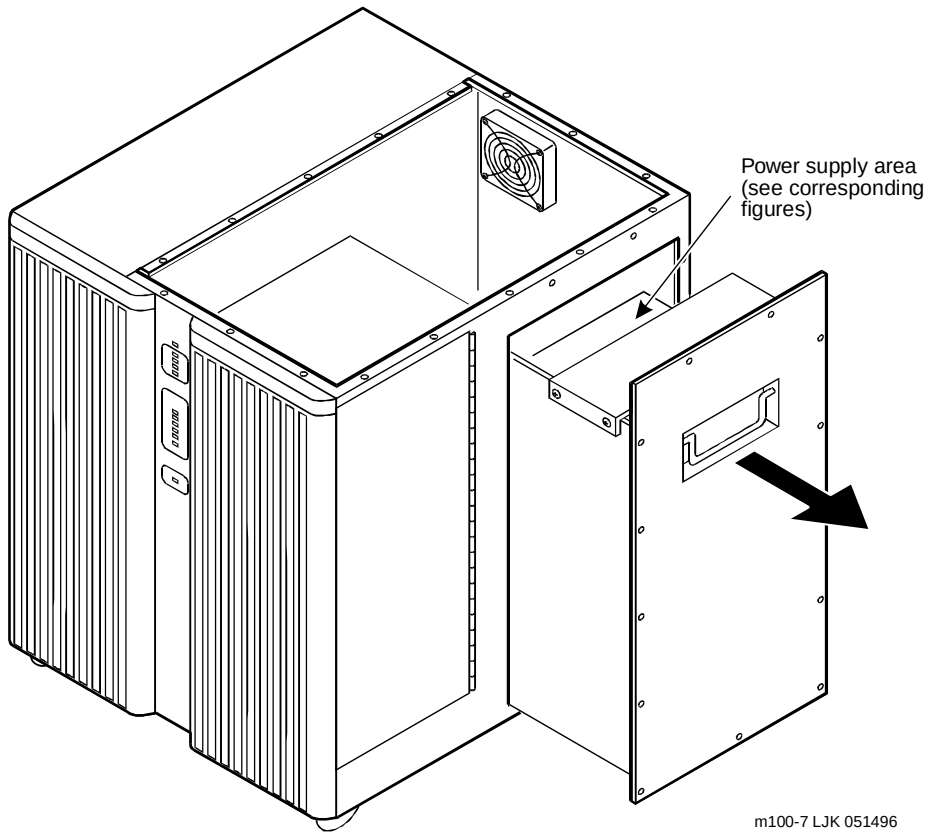


Figure 7-12. Battery Backup Type Power Supply

The power supply with the optional redundant power supply backup also provides 110/220-VAC and is located behind the peripheral bay (Figure 7-13). This redundant supply type power supply is not equipped with a battery backup system.

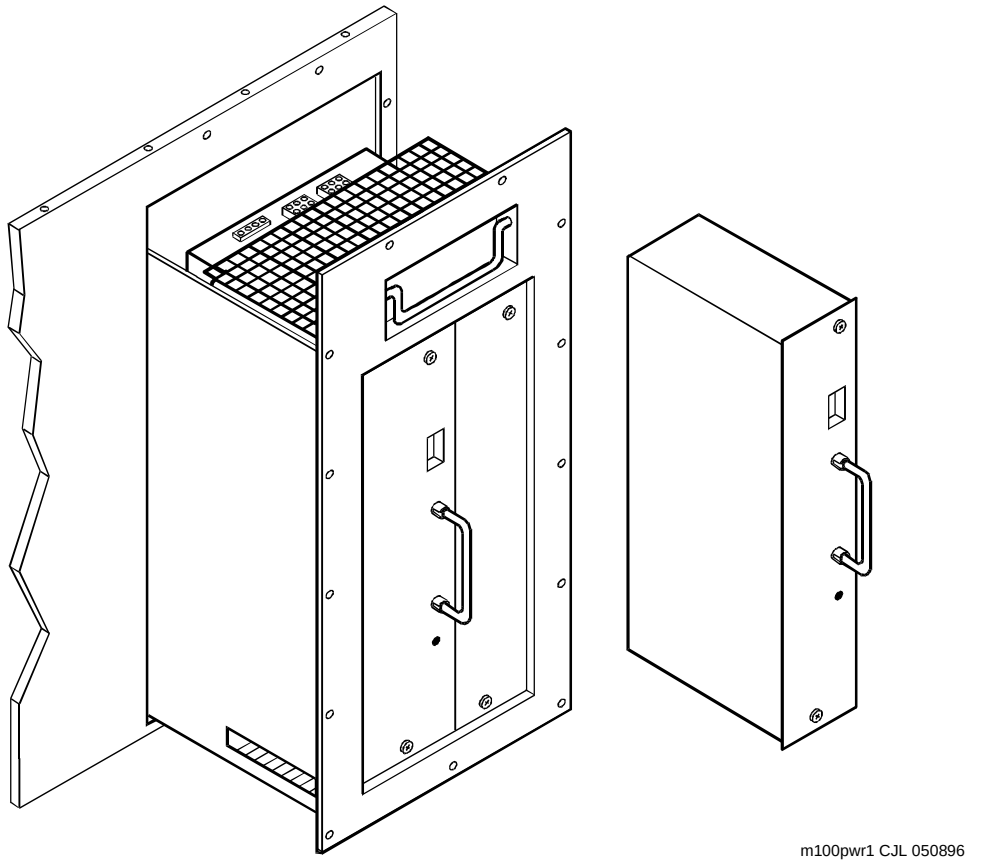


Figure 7-13. Redundant Supply Type Power Supply with Optional Redundant Power Supply

Replacing a Battery Backup Type Power Supply with Another Battery Backup Type Power Supply

The following section details the procedures for replacing a power supply and battery module with another power supply and battery module.

Removing the Battery Backup Type Power Supply

To remove the battery backup type power supply, do the following:

1. Verify that the replacement equipment is on site and appears to be in usable condition, with no obvious shipping damage.

2. If the system is in service, perform the following Steps a and b.
   a. Stop the voice system. See "Stopping the Voice System" in Chapter 3, "Common System Procedures", for voice system administration.
   b. Shut down the voice system. See "Shutting Down and Rebooting the Lucent INTUITY System", in Chapter 3, "Common System Procedures", for voice system administration.
3. Remove the incoming power. See "Removing Power from the MAP/100", in Chapter 4, "Getting Inside the Computer", for this procedure.
4. Remove the dress covers. See "Removing the Dress Covers", in Chapter 4, "Getting Inside the Computer", for these procedures.
5. Open and remove the right front door. See "Opening and Removing the Right Door", in Chapter 4, "Getting Inside the Computer", for the procedure.
6. Access the peripheral bay. See "Accessing the Peripheral Bay", in Chapter 4, "Getting Inside the Computer", for the procedure.
7. Loosen the 13 1/4-turn fasteners around the perimeter of the Power Supply A chassis (Figure 7-12).

   CAUTION:
   The power supply chassis weighs 50 pounds. There is a handle on the back of the receptacle panel so that two persons can lift and move it.

8. Grasp the power supply chassis external pull handle and pull the power supply chassis from the unit until it rests against the safety stop.

   NOTE:
   Make sure no cables are caught inside the MAP/100.

9. Remove the mating plugs from the panel-mounted receptacles. The receptacles are located on top of the power supply (Figure 7-14).

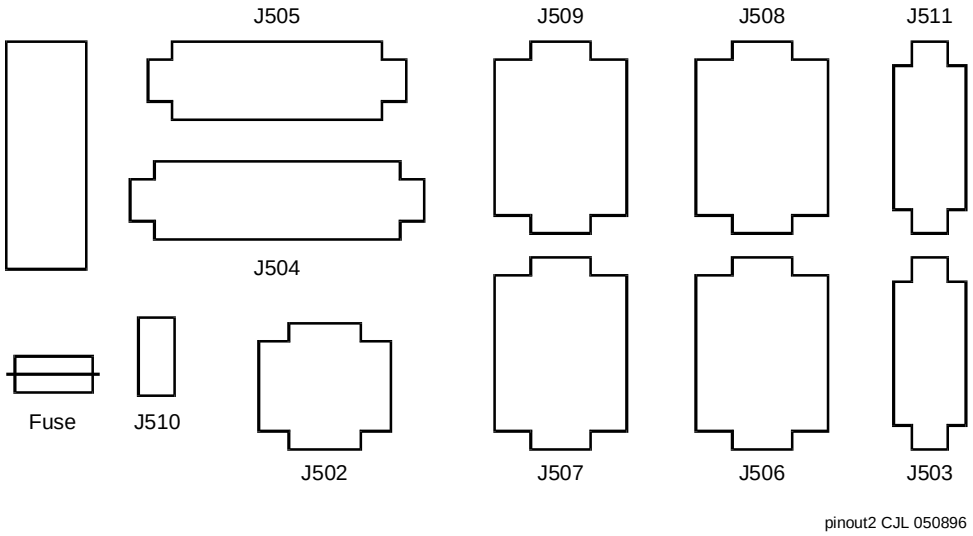


Figure 7-14. Battery Backup Type Power Supply Cable Receptacles

10. Push the power supply chassis slightly forward and lift it so that the slot on the MAP/100 and safety stops on the power supply chassis are aligned.
11. Remove the power supply chassis from the MAP/100.

CAUTION:
It is important that the defective power supply be returned to the remote maintenance center in the same condition as it was in in the Lucent INTUITY system. If the power supply is damaged during removal, packaging, or shipping adequate failure analysis can not be conducted.

Installing the Battery Backup Type Power Supply

To install the battery backup type power supply, do the following:

1. Tilt the power supply chassis down and away from you, so that the slot in the MAP/100 and safety stop are aligned.
2. Slide the power supply chassis into the MAP/100. Leave the power supply chassis extending from the MAP/100 (Figure 7-12).

NOTE:
Make sure no cables become caught.

3. Attach the mating plugs from the panel-mounted receptacles.

   All cables are marked, and a label on the power supply chassis is provided to facilitate attachment of the cables.

4. Slide the power supply chassis back into the MAP/100 so that the front of the chassis is flush with the side of the MAP/100.
5. Tighten the 13 1/4-turn fasteners on the power supply chassis.

CAUTION:
The maximum tightening torque for the 1/4-turn fasteners is 6 in-lbs (0.68 N-M). Applying excessive force will permanently damage these fasteners.

6. Close the peripheral bay. See "Closing the Peripheral Bay", in Chapter 4, "Getting Inside the Computer", for these procedures.
7. Replace the dress covers. See "Replacing the Dress Covers", in Chapter 4, "Getting Inside the Computer", for the procedure.
8. Replace the right front door. See "Replacing the Front Doors", in Chapter 4, "Getting Inside the Computer", for the procedure.
9. Apply power to the MAP/100. See "Restoring Power to the MAP/100", in Chapter 4, "Getting Inside the Computer", for this procedure.

Replacing a Redundant Supply Type Power Supply with Another Redundant Supply Type Power Supply

The following section details the procedures for replacing a redundant supply type power supply with another redundant supply type power supply.

Removing the Redundant Supply Type Power Supply

To remove the redundant supply type power supply, do the following:

1. Verify that the replacement equipment is on site and appears to be in usable condition, with no obvious shipping damage.
2. If the system is in service, perform the following Steps a and b.
   a. Stop the voice system. See "Stopping the Voice System", in Chapter 3, "Common System Procedures", for voice system administration.
   b. Shut down the voice system. See "Shutting Down and Rebooting the Lucent INTUITY System", in Chapter 3, "Common System Procedures", for voice system administration.
3. Remove the dress covers. See "Removing the Dress Covers", in Chapter 4, "Getting Inside the Computer", for these procedures.
4. Place the power switch on the redundant supply type power supply in the off position (Figure 7-13).

5. Remove the incoming power. See "Removing Power from the MAP/100", in Chapter 4, "Getting Inside the Computer", for this procedure.
6. Loosen the two 1/4-turn fasteners that hold the redundant supply type power supply to the chassis (Figure 7-13).
7. Grasp the redundant supply type power supply external pull handle and pull the redundant supply type power supply chassis from the unit.

   NOTE:
   It is not necessary to remove the power supply chassis from the MAP/100 to replace a redundant supply type power supply.

8. Place the redundant supply type power supply to the side.

   CAUTION:
   It is important that the defective power supply be returned to the remote maintenance center in the same condition as it was in in the Lucent INTUITY system. If the power supply is damaged during removal, packaging, or shipping adequate failure analysis can not be conducted.

Installing the Redundant Supply Type Power Supply

To install the redundant supply type power supply, do the following:

1. Align the redundant supply type power supply with the slot in the chassis. Make sure the female power receptacle on the power supply is at the bottom.
2. Slide the redundant supply type power supply into chassis.
3. Apply pressure to ensure that the redundant supply type power supply is seated properly.
4. Tighten the two 1/4-turn fasteners on the redundant supply type power supply.
5. Replace the dress covers. See "Replacing the Dress Covers", in Chapter 4, "Getting Inside the Computer", for the procedure.
6. Replace the right front door. See "Replacing the Front Doors", in Chapter 4, "Getting Inside the Computer", for the procedure.
7. Apply power to the MAP/100. See "Restoring Power to the MAP/100", in Chapter 4, "Getting Inside the Computer", for this procedure.
8. Place the power switch on the redundant supply type power supply in the on position (Figure 7-13).

Adding a Redundant Supply Type Power Supply

The following section details the procedure for adding a redundant supply type power supply to a system which was supplied with only one.

Removing the Filler Panel

To remove a filler panel, do the following:

1. Verify that the replacement equipment is on site and appears to be in usable condition, with no obvious shipping damage.
2. If the system is in service, perform the following Steps a and b.
    a. Stop the voice system. See "Stopping the Voice System", in Chapter 3, "Common System Procedures", for voice system administration.
    b. Shut down the voice system. See "Shutting Down and Rebooting the Lucent INTUITY System", in Chapter 3, "Common System Procedures", for voice system administration.
3. Remove the dress covers. See "Removing the Dress Covers", in Chapter 4, "Getting Inside the Computer", for these procedures.
4. Place the power switch on the redundant supply type power supply in the off position (Figure 7-13).
5. Remove the incoming power. See "Removing Power from the MAP/100", in Chapter 4, "Getting Inside the Computer", for this procedure.
6. Loosen the two 1/4-turn fasteners that hold the filler panel to the chassis (Figure 7-13).
7. Remove the filler panel.

Installing the Redundant Supply Type Power Supply

See "Installing the Redundant Supply Type Power Supply", above for the procedure.

Replacing the Battery

The following procedures detail removing and installing the battery module on the MAP/100. The battery module should be replaced approximately every two years.

WARNING:
Before replacing the MAP/100 Battery Module, carefully read through these instructions. They include cautionary notes about safe handling and proper disposal of the sealed lead-acid batteries.

CAUTION:
Protective clothing should be worn in case of accidental battery electrolyte leakage. See "Battery Safety", below for more details.

Removing the Battery Module

All AC powered MAP/100 units are equipped with four battery cells to provide the uninterruptable power supply during power failures. These batteries are housed in the power supply chassis. To replace the batteries, do the following:

1. Remove the power supply chassis. See "Replacing the Power Supply", above for the procedure.
2. Remove the screws which attach the battery module to the power supply chassis. These screws are marked “A” in Figure 7-15.
3. Disconnect the black lead that connects the power supply to the top lug of the top battery (Figure 7-15).
4. Disconnect the red lead that connects the power supply to the bottom lug of the bottom battery (Figure 7-15).
5. Remove the quick-connect contacts from all battery terminals of the new Battery module. Use these contacts to insulate the terminals of the old batteries.

   CAUTION:
   Refer to the "Battery Safety" section of these instructions for information regarding proper handling, storage, and disposal of used lead-acid batteries.

6. Remove the battery module from the power supply chassis.
7. Disconnect the three red jumpers that connect the batteries together (Figure 7-15).
8. Remove the two screws which hold the battery module sheet metal pieces together. These screws are marked “B” in Figure 7-15.
9. Separate the two pieces of sheet metal.

10. Remove the four batteries.
11. Discard the two pieces of sheet metal from the old batteries.

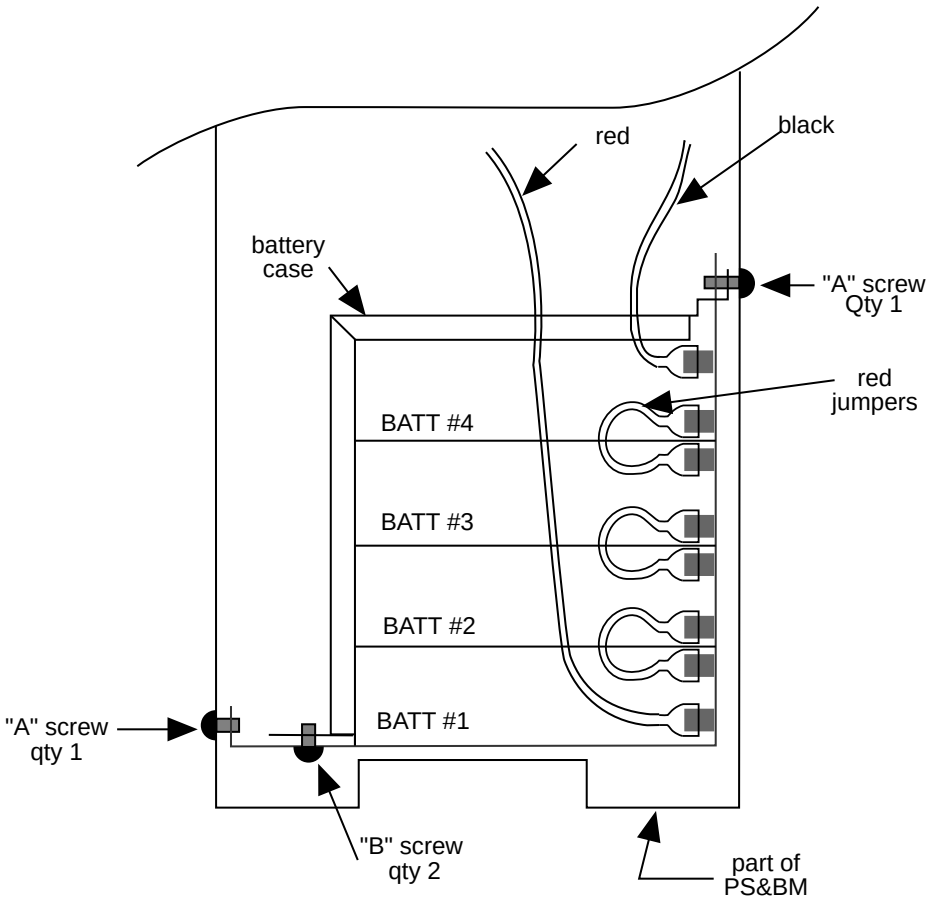


Figure 7-15. Battery Module

Installing the Battery Module

To install the battery module, do the following:

1. Orient the new battery module as shown in Figure 7-15.
2. Attach the two screws which were removed in Step 8 of “Removing the Battery Module.”
3. Connect the batteries with the three red jumpers (Figure 7-15).
4. Place the battery module into the power supply chassis.

5. Secure it with the three screws removed in Step 2 of “Removing the Battery Module.”
6. Connect the black lead from the power supply to the top lug of the top battery (Figure 7-15).
7. Connect the red lead from the power supply to the bottom lug of the bottom battery (Figure 7-15).
8. Remove the paper backing from the caution label, included in the battery kit. Affix this label above the power supply chassis outside handle.
9. Install the power supply module. See “Installing the Power Supply” above for the procedure.
10. Repackage the old batteries in the new battery module shipping container for disposal. Be sure to place the old batteries in the bag included with the shipping container.

Battery Safety

CAUTION:
Read and understand these safety instructions before handling the lead-acid batteries in the MAP/100 Battery Module.

Rechargeable lead-acid batteries contain a small amount of fluid electrolyte that could escape if the batteries were damaged or beyond their end of life. This fluid electrolyte is corrosive to most materials, and should not be allowed to contact clothing, skin, or other parts of the MAP/100 platform. Rubber gloves, eye protection (i.e. safety glasses or goggles), and clothing should be worn, and a protective place mat should be used for placement of the removed battery module.

If the electrolyte comes in contact with skin, hair, or eyes, immediately flush the affected area with water. If the electrolyte contacts clothing, immediately flush the affected area with water and remove or change clothing as soon as possible. If the electrolyte is ingested, do not induce vomiting. Instead, drink large quantities of water and seek medical attention immediately.

To minimize the possibility of injury or damage during handling, all battery terminals should be covered with an insulator. A fully insulated quick-connect contact, thick non-conductive tape, or a dab of silicon caulking will serve this function. When handling batteries take care not to allow bracelets, watch bands, and necklaces contact the battery terminals.

Always store batteries in a cool, dry, well ventilated place. Never allow batteries near flames, sparks, or high heat sources. If there is evidence of leaking electrolyte (liquid present, corrosion, strong acrid odor, etc.) cover the liquid with absorbent clay, kitty litter or sand. Neutralize the electrolyte with sodium bicarbonate (baking soda), soda ash, or lime.

WARNING:
FEDERAL, STATE AND LOCAL LAWS PROHIBIT THE IMPROPER DISPOSAL OF LEAD-ACID BATTERIES AND HAZARDOUS WASTE CLEAN-UP MATERIALS. THE ONLY PROPER DISPOSAL METHOD FOR SPENT (NON-LEAKING) LEAD-ACID BATTERIES IS RECYCLING THEM.

The responsibility for disposal of spent batteries lies with the user. The batteries must be transported to a licensed recycling facility for proper disposal. Check your local telephone directory for facilities nearby. If none are listed, call your local state or federal EPA office for alternate locations.

See the instructions located in the battery replacement kit for recycling options.

If battery casings have failed so that any quantity of electrolyte has escaped, package batteries for shipping in a plastic bag and box (the box that contained the replacement batteries). Do not the leaking electrolyte touch your skin or the customer's floor or other equipment! If necessary, follow safety procedures included with the replacement batteries. Seal the box now containing the old batteries with tape and mark it clearly:

> CONTAINS CORROSIVE MATERIALS; HOLD FOR PICKUP BY BURNHAM TRANSPORT COMPANY, A LICENSED TRANSPORTER OF SUCH MATERIALS.

See the instructions located in the battery replacement kit for disposal of leaking batteries.

Replacing the SCSI Cartridge Tape Drive

The SCSI cartridge tape drive is located in Bay 9 of the peripheral bay. The following procedures detail removal and installation of the SCSI cartridge tape drive for the MAP/100.

WARNING:
Observe proper electrostatic discharge precautions when you handle computer components. Wear an antistatic wrist strap that touches your bare skin and connect the strap cable to an earth ground. See "Protecting against Damage from Electrostatic Discharge", in Chapter 4, "Getting Inside the Computer".

Types of SCSI Cartridge Tape Drives

Two types of tape drives are currently used with the MAP/100:

- 525-Mbyte
- 2-Gbyte

Installation procedures are the same for either type of drive, but jumper settings are different. See Chapter 3, "Common System Procedures", for more information on the tape drives and their usage.

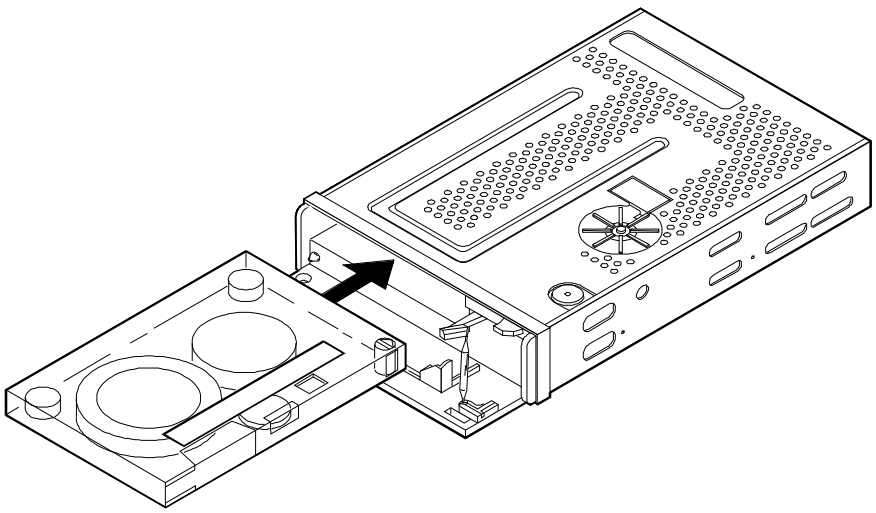


Figure 7-16. SCSI Tape Drive

Removing a SCSI Cartridge Tape Drive

1. Verify that the replacement equipment is on site and appears to be in usable condition with no obvious shipping damage.
2. If the system is in service, perform the following Steps a and b.
    a. Stop the voice system. See "Stopping the Voice System", in Chapter 3, "Common System Procedures", for voice system administration.
    b. Shut down the voice system. See "Shutting Down and Rebooting the Lucent INTUITY System", in Chapter 3, "Common System Procedures", for voice system administration.
3. Remove the incoming power. See "Removing Power from the MAP/100", in Chapter 4, "Getting Inside the Computer", for this procedure.
4. Remove the dress covers. See "Removing the Dress Covers", in Chapter 4, "Getting Inside the Computer", for these procedures.
5. Access the peripheral bay. See "Accessing the Peripheral Bay", in Chapter 4, "Getting Inside the Computer", for the procedure.
6. Locate the cartridge tape drive power lead and bus cable assembly connections. Remove the power cord connector and bus cable assembly connections. Move them carefully to the side.
7. Locate the four screws on peripheral bay chassis that secure the drive in Position 1 of the peripheral bay. Holding the rear of the drive, loosen and remove these mounting screws.
8. Slide the drive forward within the peripheral bay and remove through the front opening of the chassis.

CAUTION:
The drive fits tightly in the peripheral bay. Do not to scrape wiring or components on the underside of the drive against the Position 2 floppy disk drive plastic faceplate.

Verifying Jumper Settings

The manufacturer sets the jumpers on both tape drives. However, before installing the drive, verify that these settings are correct. See Figure 7-17 for jumper settings on the 540-Mbyte tape drive and Figure 7-18 for jumper settings on the 2-Gbyte tape drive.

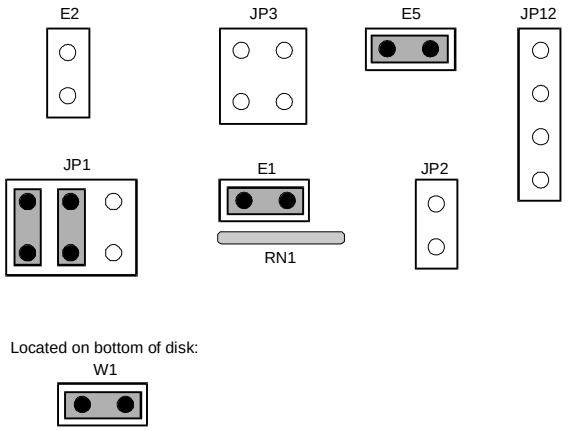


Figure 7-17. Jumper Settings for the 525-Mbyte SCSI Cartridge Tape Drive, SCSI ID = 3

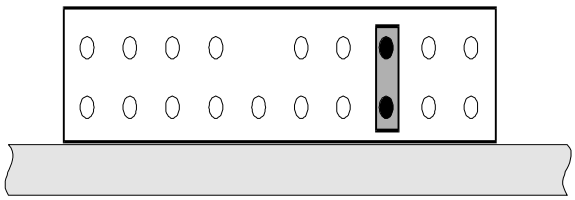


Figure 7-18. Jumper Settings for the 2-Gbyte SCSI Cartridge Tape Drive, SCSI ID = 3

Installing a SCSI Cartridge Tape Drive

1. Remove the new cartridge tape unit from its ESD-protective wrapping.

NOTE:
Keep the package and all ESD-protective wrapping to return the defective unit. Re-use of the original replacement unit packaging is necessary to meet the manufacturer's warranty.

2. Place the new drive in the chassis with the printed circuit board side down.
3. Mount the new drive into the peripheral bay by sliding the unit into the Position 1 opening. Position the unit so that the mounting bracket screw holes line up with the appropriate holes in the peripheral bay.
4. Secure the drive in the peripheral bay using the four screws removed in Step 7 of the procedure "Removing a SCSI Cartridge Tape Drive."

5. Attach the SCSI bus cable assembly. Ensure that the red bus cable tracer is connected to Pin 1 on the SCSI controller card.
6. Close the peripheral bay. See "Closing the Peripheral Bay", in Chapter 4, "Getting Inside the Computer", for these procedures.
7. Replace the dress covers. See "Replacing the Dress Covers", in Chapter 4, "Getting Inside the Computer", for the procedure.
8. Replace the right front door. See "Replacing the Front Doors", in Chapter 4, "Getting Inside the Computer", for the procedure.
9. Apply power to the MAP/100. See "Restoring Power to the MAP/100", in Chapter 4, "Getting Inside the Computer", for this procedure.

Replacing the 25-Slot Backplane

The following procedures detail removing and installing the 25-slot backplane, to which all of the circuit cards and peripheral device connections are made. The backplane (Figure 7-19) is located in the MAP/100 circuit card cage.

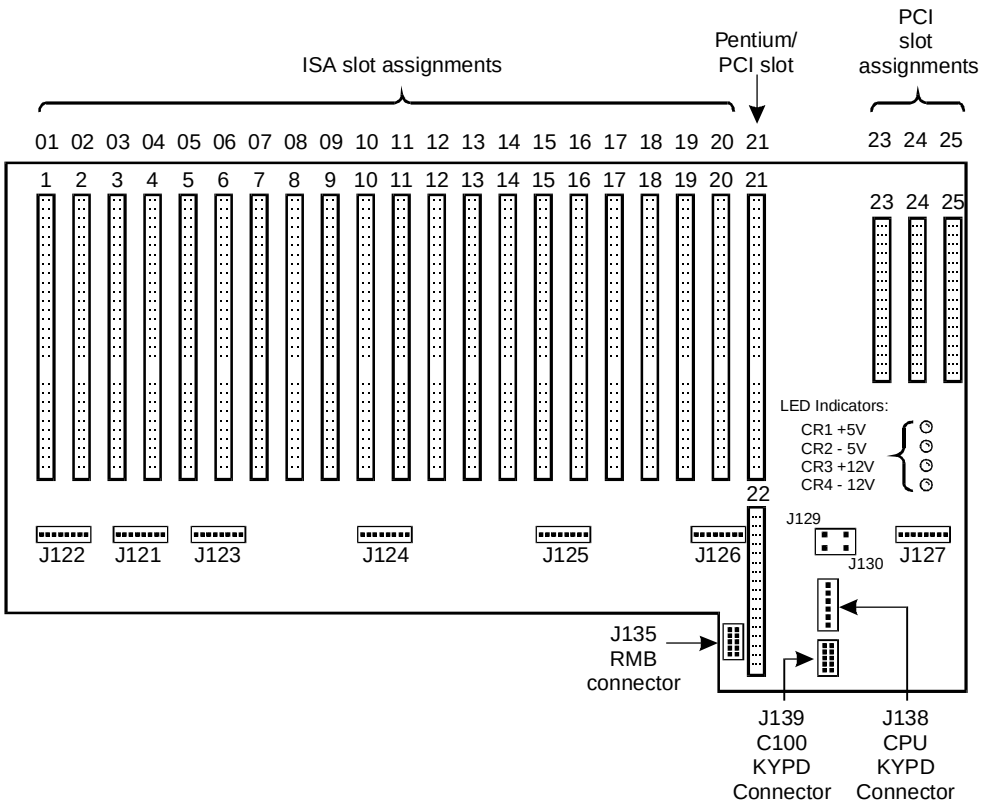


Figure 7-19. 25-Slot Backplane LED Indicators and Cabling

Removing the 25-Slot Backplane

WARNING:
Observe proper electrostatic discharge precautions when you handle computer components. Wear an antistatic wrist strap that touches your bare skin and connect the strap cable to an earth ground. See "Protecting against Damage from Electrostatic Discharge",in Chapter 4, "Getting Inside the Computer".

To remove the 25-slot backplane, do the following:

1. Verify that the replacement equipment is on site and appears to be in usable condition with no obvious shipping damage.
2. If the system is in service, perform the following Steps a and b.
    a. Stop the voice system. See "Stopping the Voice System", in Chapter 3, "Common System Procedures", for voice system administration.
    b. Shut down the voice system. See "Shutting Down and Rebooting the Lucent INTUITY System", in Chapter 3, "Common System Procedures", for voice system administration.
3. Remove the incoming power. See "Removing Power from the MAP/100", in Chapter 4, "Getting Inside the Computer", for this procedure.
4. Remove the dress covers. See "Removing the Dress Covers", in Chapter 4, "Getting Inside the Computer", for these procedures.
5. Access the circuit card cage. See "Accessing the Circuit Card Cage", in Chapter 4, "Getting Inside the Computer", for the procedure.
6. Disconnect the upper and lower serial cables, located behind the backplane near the power distribution board, from the rear backplane interface pin fields.
7. Disconnect the keyboard cable from the PCI portion of the backplane (pin field J138).
8. Disconnect the CPU reset cable from the PCI portion of the backplane, pin field J135.
9. Disconnect the SCSI activity cable from the backplane, pin field J129, red lead facing the faceplate.
10. Pull the following cables through the top of the rear panel access hole:
    - Serial
    - Floppy
    - SCSI
11. Disconnect the following cables located in the card cage area:
    - Fan Detection
    - Power Supply Voltage Sensing
    - CPU Reset
12. Disconnect the following cable assemblies from the CPU circuit card:
    - COM2 serial port to J7 CPU pin field
    - Keyboard to J1 CPU pin field
    - Disk Activity to JP15 CPU pin field, red lead away from the faceplate

- PS/2 Mouse I/O interface between the J4 CPU pin header and the external SCSI/PS/2 Mouse I/O interface board, JP1 CPU pin field
- Floppy to J6 CPU pin field
- SCSI controller to J2 CPU

13. Remove the circuit cards. See "Removing a Circuit Card", in Chapter 5, "Replacing or Installing Circuit Cards", for the procedure.
14. Remove the 16 backplane mounting screws.
15. Remove the backplane from the power distribution board connectors.

Installing the 25-Slot Backplane

WARNING:
Observe proper electrostatic discharge precautions when you handle computer components. Wear an antistatic wrist strap that touches your bare skin and connect the strap cable to an earth ground. See "Protecting against Damage from Electrostatic Discharge", in Chapter 4, "Getting Inside the Computer".

To install the 25-slot backplane, do the following:

1. Place the 25-slot backplane in the MAP/100.
2. Partially install two mounting screws in opposite ends of the backplane corners.
3. Press the backplane firmly into the power distribution board connectors.
4. Install the remaining 14 backplane mounting screws and tighten enough to secure the hardware.
5. Pull the peripheral bay forward to gain access into the interior cabling area. See "Accessing the Peripheral Bay", for the procedure.
6. Redress the fan detection cable assembly by refolding the cable down into the center back panel access hole.
7. Mount the two screws into the power distribution board.
8. Connect the upper and lower serial cables, located behind the backplane near the power distribution board, to the rear backplane interface pin fields.
9. Connect the keyboard cable to the PCI portion of the backplane (pin field J138).
10. Connect the CPU reset cable to the PCI portion of the backplane, pin field J135.
11. Connect the SCSI activity cable to the backplane, pin field J129, red lead facing the faceplate.

12. Pull the following cables through the top of the rear panel access hole:
    - Serial
    - Floppy
    - SCSI
13. Install the remote maintenance circuit card in slot 19. See "Installing a Circuit Card", in Chapter 5, "Replacing or Installing Circuit Cards", for the procedure.
14. Connect the following cables located in the card cage area:
    - Fan Detection
    - Power Supply Voltage Sensing
    - CPU Reset
15. Install the video circuit card in slot 20. See "Installing a Circuit Card", in Chapter 5, "Replacing or Installing Circuit Cards", for the procedure.
16. Install the external SCSI connector card in slot 22. See "Installing a Circuit Card", in Chapter 5, "Replacing or Installing Circuit Cards", for the procedure.
17. Install the CPU circuit card in slot-21. See "Installing a Circuit Card", in Chapter 5, "Replacing or Installing Circuit Cards", for the procedure.
18. Connect the following cable assemblies to the CPU circuit card, while observing pin 1:
    - COM2 serial port to J7 CPU pin field
    - Keyboard to J1 CPU pin field
    - Disk Activity to JP15 CPU pin field, red lead away from the faceplate
    - PS/2 Mouse I/O interface between the J4 CPU pin header and the external SCSI/PS/2 Mouse I/O interface board, JP1 CPU pin field
    - Floppy to J6 CPU pin field
    - SCSI controller to J2 CPU

    NOTE:
    The keyboard, serial, floppy, and SCSI cable assemblies, when properly routed and connected to the CPU circuit card, should appear neat and properly folded.
19. Install the remaining circuit cards. See "Installing a Circuit Card", in Chapter 5, "Replacing or Installing Circuit Cards", for the procedure.
20. Mount the top cover.
21. Apply power to the MAP/100. See "Restoring Power to the MAP/100", in Chapter 4, "Getting Inside the Computer", for this procedure.

22. Perform a soft reboot to ensure that the keyboard and CPU circuit card are properly connected. See "Shutting Down and Rebooting the Lucent INTUITY System", in Chapter 3, "Common System Procedures", for the procedure.

    If a problem occurs, verify that the video and CPU circuit cards are properly seated into the 25-slot backplane.

23. Verify that all cable connections are secure.

24. Remove power from the MAP/100. See "Removing Power from the MAP/100", in Chapter 4, "Getting Inside the Computer", for the procedure.

25. Close the peripheral bay. See "Closing the Peripheral Bay", in Chapter 4, "Getting Inside the Computer", for these procedures.

26. Close the circuit card cage. See "Closing the Circuit Card Cage", in Chapter 4, "Getting Inside the Computer", for these procedures.

27. Replace the dress covers. See "Replacing the Dress Covers", in Chapter 4, "Getting Inside the Computer", for the procedure.

28. Replace the right front door. See "Replacing the Front Doors", in Chapter 4, "Getting Inside the Computer", for the procedure.

29. Apply power to the MAP/100. See "Restoring Power to the MAP/100", in Chapter 4, "Getting Inside the Computer", for this procedure.

Installing the Tip/Ring Distribution Hardware

8

Overview

This chapter describes the two types of Tip/Ring distribution hardware and the installation procedures for both.

Purpose

The purpose of this chapter is to provide the correct installation and connection procedures for the Tip/Ring distribution hardware.

Function

As the number of lines served by the Lucent INTUITY system increases, the number of 6-pin modular cords also increases. These 6-pin modular cords connect the system with the customer-premises equipment or the on-premises terminal block provided by the central office.

Optional Tip/Ring (T/R) distribution hardware is available to help simplify the wiring scheme.

Capacity

The T/R distribution hardware allows you to connect to a maximum of 64 channels (eleven T/R circuit cards) through four 25-pair, high-density cables (RJ21X).

Types of Tip/Ring Distribution Hardware

There are two types of Tip/Ring distribution hardware:

- Distribution hardware with a 356B adapter
- Distribution panel without a 356B adapter

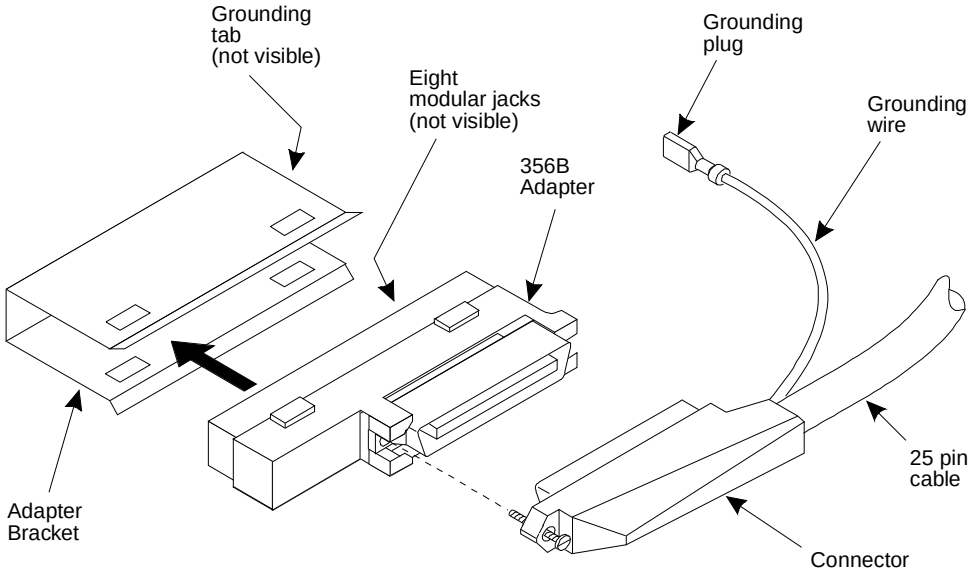
Tip/Ring Distribution Hardware with a 356B Adapter

The Tip/Ring distribution hardware with the 356B adapter (Figure 8-1) comes in a kit which consists of:

- A 356B adapter
- An adapter bracket
- A mounting plate
- A 25-pair, high-density cable for the first 24 channels

NOTE:
An additional 25-pair, high-density cable is required for the second 24 channels to be supported by the distribution panel. Therefore, if you are connecting 48 channels, you will need another cable that is not part of this kit.

NOTE:
Two kits will have to be purchased to accommodate all 64 channels.



- SIDE VIEW -

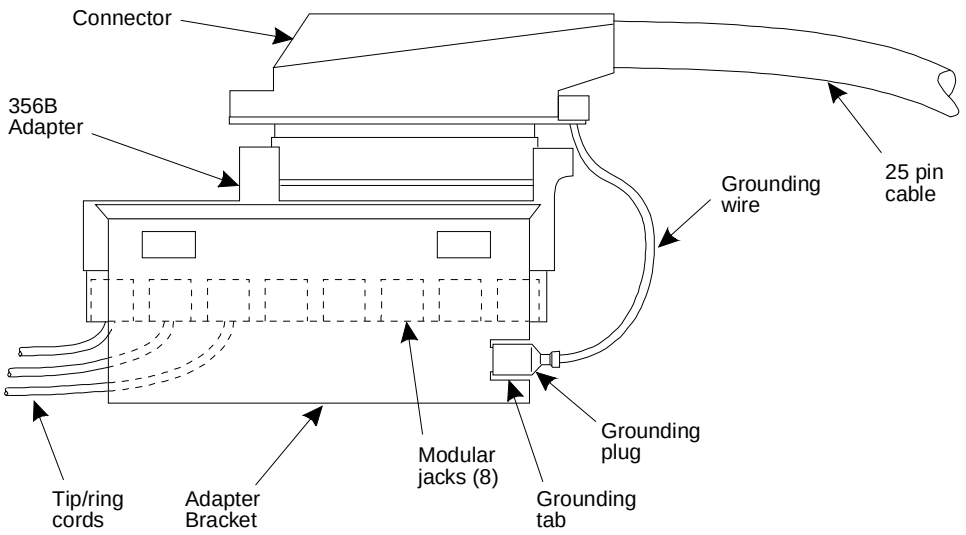


Figure 8-1. Assembly of the MAP/100 Tip/Ring Distribution Hardware

Tip/Ring Distribution Hardware without a 356B Adapter

The Tip/Ring distribution hardware without the 356B adapter (Figure 8-2) comes in a kit which consists of:

- A distribution panel with a circuit pack assembly mounted in its base
- A top cover plate
- A 25-pair, high-density cable for the first 24 channels

NOTE:
An additional 25-pair, high-density cable is required for the second 24 channels to be supported by the distribution panel. Therefore, if you are connecting 48 channels, you will need another cable that is not part of this kit.

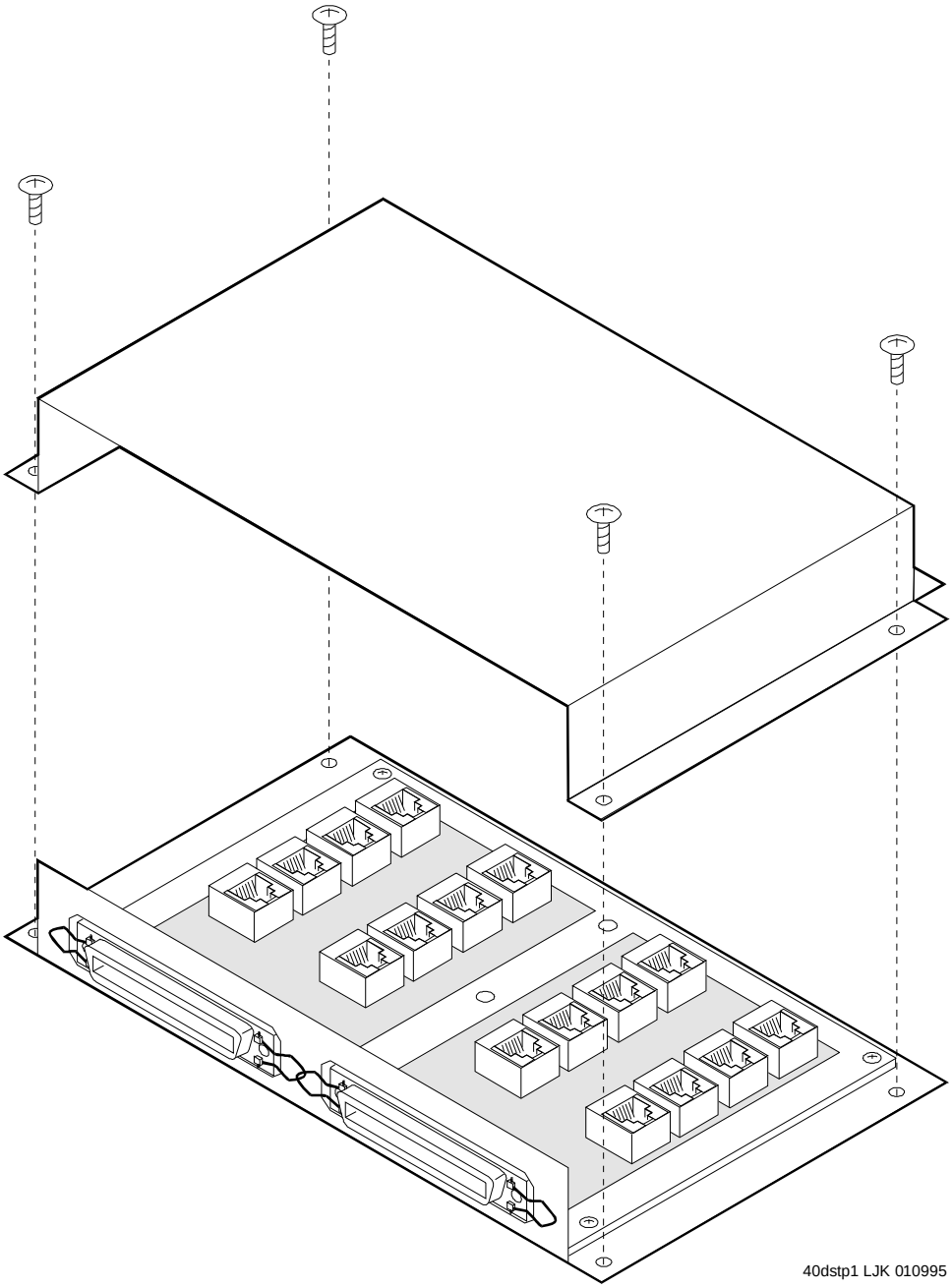


Figure 8-2. MAP/100 Tip/Ring Distribution Panel Assembly

If you want to support 64 channels a second kit must be purchased (Figure 8-3). The second kit contains:

- A 25-ft. 50-conductor interface cable
- A T/R distribution panel that is mounted onto a larger cover

NOTE:
If you are installing a second T/R distribution panel, you will use this larger cover and discard the original, smaller cover. See "Installing and Connecting the Tip/Ring Distribution Hardware without the 356B Adapter", below for the procedure.

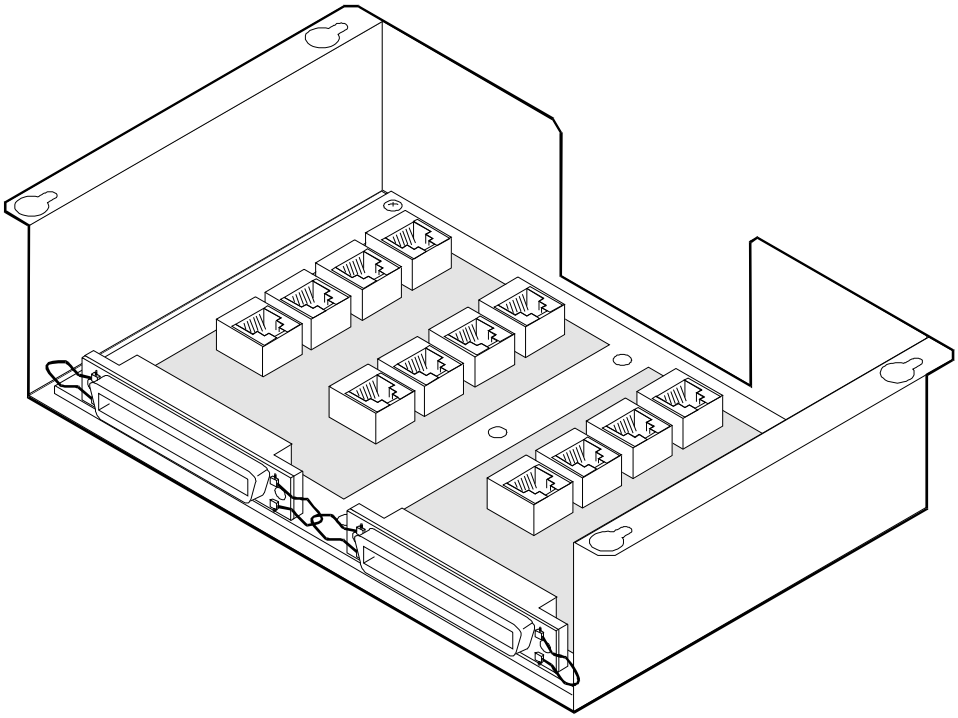


Figure 8-3. MAP/100 Tip/Ring Distribution Panel Assembly Mounted inside a Larger Cover

Installing and Connecting the Tip/Ring Distribution Hardware with the 356B Adapter

WARNING:
Observe proper electrostatic discharge precautions when you handle computer components. Wear an antistatic wrist strap that touches your bare skin and connect the strap cable to an earth ground. See "Protecting against Damage from Electrostatic Discharge", in Chapter 4, "Getting Inside the Computer".

Installing the Tip/Ring Distribution Hardware with the 356B Adapter

1. Verify that the distribution hardware is on site and appears to be in usable condition.
2. If the system is currently connected to the telephone network, notify the service provider that the system is about to be disconnected. The service provider will ask which extensions will be affected.
3. If the system is in service, perform Steps a and b.
    a. Stop the voice system. See "Administering Voice Messaging", in Chapter 3, "Common System Procedures", for this procedure.
    b. Shut down the system. See "Shutting Down and Rebooting the Lucent INTUITY System" in Chapter 3, "Common System Procedures", for this procedure.
4. Remove the incoming power. See "Removing Power from the MAP/100", in Chapter 4, "Getting Inside the Computer", for this procedure.
5. Verify that all of the necessary components are included. See "Tip/Ring Distribution Hardware with a 356B Adapter", above for the components.
6. Install the distribution mounting plate on the back of the MAP/100 (Figure 8-4).

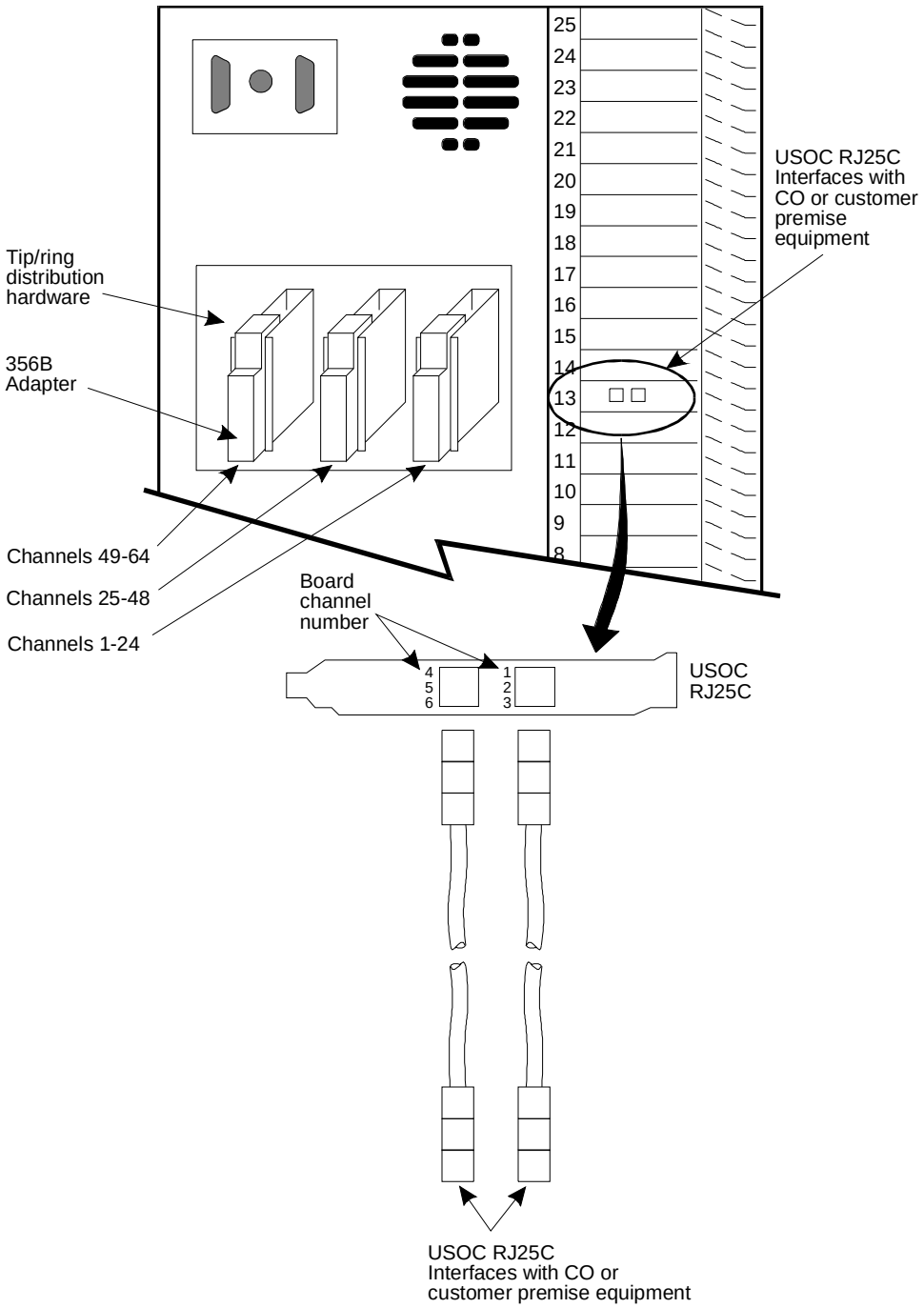


Figure 8-4. Tip/Ring Distribution Hardware after Assembly

7. Install the u-shaped adapter brackets with the screws provided. Attach the brackets to the mounting plate.

   The u-shape of the bracket should face out with the grounding lug towards the MAP/100 surface (Figure 8-4).

8. Plug the 3-foot, 6-pin modular cords from the T/R cards into the 356B adapters. Each adapter can accommodate eight modular cords (Figure 8-1).

9. Using the connector provided, attach the 25-pair, high-density cable to the 356B adapter.

10. Snap the 356B adapters into the adapter bracket. Ensure the modular cords are inside the adapter bracket.

    NOTE:
    The 356B adapters can be removed by spreading the bracket sides apart.

    CAUTION:
    The 25-pair, high-density *cables should come from the top of the adapter brackets.*

11. Connect the grounding wire and strap to the top of the adapter bracket.

Connecting the Tip/Ring Distribution Hardware with the 356B Adapter

The numbering scheme for pinouts and channels which shows how to connect the short modular cords provided with the T/R cards to the distribution hardware is shown in Chapter 5, "Replacing or Installing Circuit Cards".

1. Referring to those tables and using the channel numbers on the T/R cards and the number of the T/R circuit cards in the system, connect the T/R card modular jacks to the appropriate jacks on the 356B connectors.

Installing and Connecting the Tip/Ring Distribution Hardware without the 356B Adapter

WARNING:
Observe proper electrostatic discharge precautions when you handle computer components. Wear an antistatic wrist strap that touches your bare skin and connect the strap cable to an earth ground. See "Protecting against Damage from Electrostatic Discharge", in Chapter 4, "Getting Inside the Computer".

Installing the Tip/Ring Distribution Hardware without the 356B Adapter

1. Verify that the distribution hardware is on site and appears to be in usable condition.
2. If the system is currently connected to the telephone network, notify the service provider that the system is about to be disconnected. The service provider will ask which extensions will be affected.
3. If the system is in service, perform Steps a and b.
    a. Stop the voice system. See "Administering Voice Messaging", in Chapter 3, "Common System Procedures", for this procedure.
    b. Shut down the system. See "Shutting Down and Rebooting the Lucent INTUITY System" in Chapter 3, "Common System Procedures", for this procedure.
4. Remove the incoming power. See "Removing Power from the MAP/100", in Chapter 4, "Getting Inside the Computer", for this procedure.
5. Verify that all of the necessary components are included. See "Tip/Ring Distribution Hardware without a 356B Adapter", above for the components.
6. If you are installing a second T/R distribution panel, verify that the second distribution panel assembly kit is on site and appears to be in usable condition.
7. Remove the seven screws that secure the distribution panel cover. This cover is located in the center of the rear of the MAP/100 and extends approximately 1-1/2 in. out from the chassis (Figure 8-5).

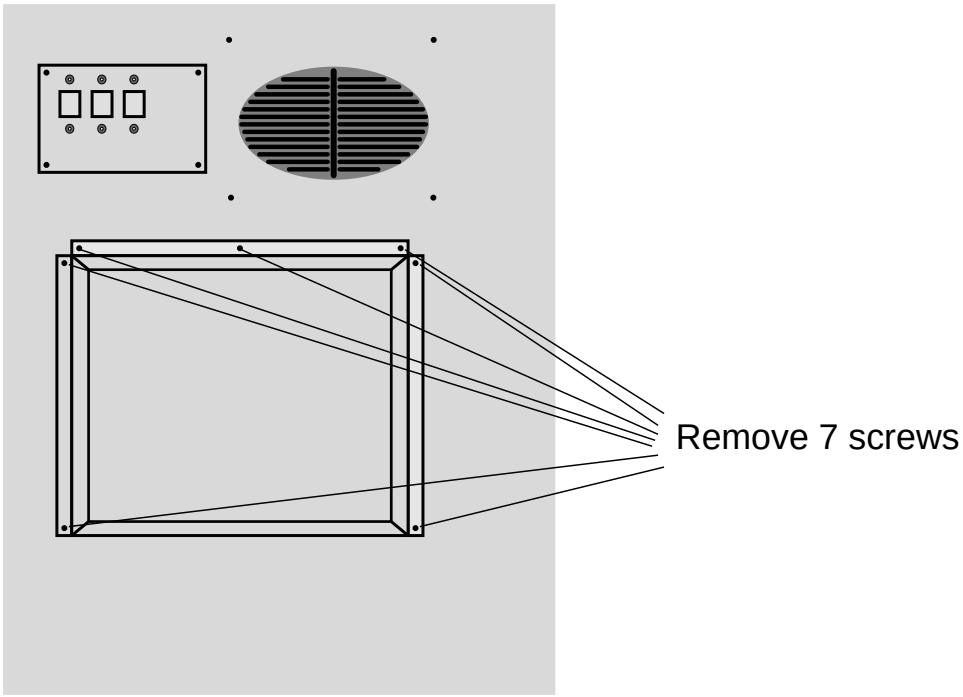


Figure 8-5. Where to Attach the Tip/Ring Distribution Panel

8. Put the distribution panel cover aside.
9. Position the distribution panel (or the first of the two distribution panels if you are installing two) so that the two 50-pin connectors point toward the floor and the modular jacks face away from the cabinet.
10. Align the mounting holes in the distribution panel with the threaded stand-offs on the cabinet.
11. Fasten the distribution panel to the cabinet using the five 6-32X.25-in. screws and lockwashers provided.
12. Table 8-1 shows the numbering scheme for connecting the short modular cords provided with the T/R boards to the panel. Use this information, the channel numbers on the T/R circuit cards, and the number of T/R circuit cards in the system to connect the T/R circuit card modular jacks to the appropriate jacks on the T/R distribution panel.

NOTE:
You can connect a maximum of eight T/R circuit cards to each distribution panel.

Table 8-1. Connecting the Modular Cords from the MAP/100 Tip/Ring Circuit Cards to the Tip/Ring Distribution Panels

T/R Card	Channel Numbers on the T/R Card	First Distribution Panel Jack Number	Second Distribution Panel Jack Number
1st	1,2,3	J1	—
	4,5,6	J2	—
2nd	1,2,3	J3	—
	4,5,6	J4	—
3rd	1,2,3	J5	—
	4,5,6	J6	—
4th	1,2,3	J7	—
	4,5,6	J8	—
5th	1,2,3	J9	—
	4,5,6	J10	—
6th	1,2,3	J11	—
	4,5,6	J12	—
7th	1,2,3	J13	—
	4,5,6	J14	—
8th	1,2,3	J15	—
	4,5,6	J16	—
9th	1,2,3	—	J1
	4,5,6	—	J2
10th	1,2,3	—	J3
	4,5,6	—	J4
11th	1,2,3	—	J5
	4,5,6	—	J6
12th	1,2,3	—	J7
	4,5,6	—	J8

13. After you insert the modular cord into the appropriate jack, remove any slack in the cable on the back of the unit by dressing it so that it is stored in the area above the distribution panel.

    Use cable ties, if necessary, to dress the cables neatly and tie them to the vertical cable-support bracket in the center of the unit.

14. Make telephone line connections to the MAP/100 with the 25-ft 50-conductor shielded cable(s) equipped with USOC RJ21X connections.
15. If you are installing only one T/R distribution panel, reinstall the panel cover to complete this procedure.

    If you are installing a second T/R distribution panel, repeat Steps 12 through 14 above for the second panel and then continue with Step 16.
16. Mount the second panel and cover onto the MAP/100 chassis. You need only two screws on each side of the panel to secure it instead of the seven you originally removed.

Completing the Installation

To complete the installation and put the system back in service, do the following:

1. Power up the MAP/100. See "Restoring Power to the MAP/100", in Chapter 4, "Getting Inside the Computer", for more information on restoring power to the unit.
2. Reboot the system. See "Shutting Down and Rebooting the Lucent INTUITY System", in Chapter 3, "Common System Procedures", for the procedure.
3. Run diagnostics to verify the hardware is functioning properly. See “Diagnosing the Tip/Ring Card or Channel,” in Chapter 2, "Diagnostics", for more information on running the diagnostics.
4. Notify the service provider that the system is back on-line, if necessary.

Installing Base System Software

9

Overview

This chapter describes how to install the Lucent INTUITY base system software on a new or previously used disk (disk 0 or disk 1). This includes the installation of four boot floppies and the Lucent INTUITY Release 4.0 UnixWare Image.

NOTE:
The installer must have the root password to complete this procedure.

Purpose

This chapter provides the information necessary to restore the operating system to a computer.

Installing Base System Software

The base system software consists of

- UnixWare
- AUDIX Software

Installing UnixWare

Installing the UnixWare operating system unmounts file systems. The maintenance module in the Lucent INTUITY software has been designed to detect unmounted file systems and attempt to recover them. If the MTCE module does not detect any unmounted file systems, all of the software will load.

If this software is being loaded onto a system that has clean hard disks that have not been previously loaded, the system will not detect file systems.

If this is a recovery installation, the system will detect previously loaded file systems.

To load software onto a new or used disk, do the following:

1. Insert the diskette labeled "INTUITY UNIX Boot Floppy 1 of 3" into the floppy disk drive.
2. If the system is off, turn it on using the power switch on the back of the MAP/100 (Figure 9-1).

   If the system is on, reboot the system. See "Shutting Down and Rebooting the Lucent INTUITY System", in Chapter 3, "Common System Procedures", for the procedure.

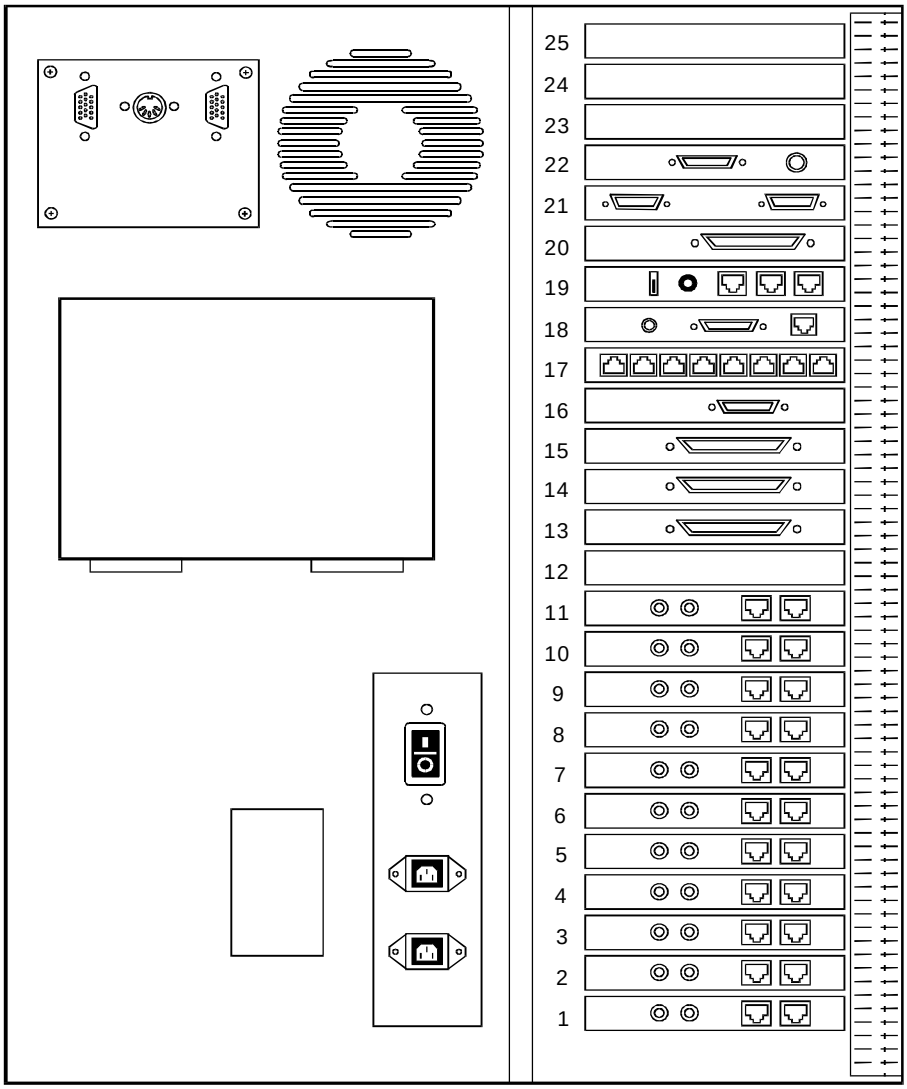


Figure 9-1. Back View of the MAP/100

The system displays the UnixWare introduction screen as it begins to load the base system software. When the system is done with the first boot floppy it displays the following message:

```
Remove the diskette labeled 'Boot Floppy 1 of 3'.

If you have a diskette labeled 'Host Bus Adapter
Drivers', insert that diskette now.
```

```
For more information on Host Bus Adapter diskettes, see
the UnixWare Installation Handbook.

Otherwise, if you do not have (or do not need to use) a
Host Bus Adapter diskette, insert the diskette labeled
'Boot Floppy 2 of 3' now.

Press 'ENTER' to continue.
```

3. Remove INTUITY UNIX Boot Floppy 1 of 3 from the floppy disk drive.
4. Insert the diskette labeled "HBA Floppy" into the floppy disk drive.
5. Press ENTER.

   The system displays the following message:

```
The Host Bus Adapter driver(s) on the Host Bus Adapter
diskette have been loaded and you can now remove the
diskette.

If you have another Host Bus Adapter diskette (for
different adapters) insert that disk now.

For more information on Host Bus Adapter diskettes, see
the UnixWare Installation Handbook.

Otherwise, if you do not have (or do not need to use)
another Host Bus Adapter diskette, insert the diskette
labeled 'Boot Floppy 2 of 3' now.
```

6. Remove the diskette labeled "HBA Floppy" from the floppy disk drive.
7. Insert the diskette labeled "INTUITY UNIX Boot Floppy 2 of 3" into the floppy disk drive.
8. Press ENTER.

   The system displays the Introduction screen (Figure 9-2).

```
Continuing Unixware installation ...

Welcome to the UnixWare installation process!

If you have never installed UnixWare before, it is
recommended that you press the 'F1' (or '?') key now to
learn more about the installation process and the hardware
requirements of UnixWare.

-Pressing the 'F1' (or '?') key at any time during
 installation will display more information or help.

-Pressing the 'Del' key at any time cancels the
installation.

Press the 'F1' (or '?') key for more information or
'ENTER' to continue.
```

Figure 9-2. Introduction Screen

CAUTION:
If you use the DELETE key to stop the UnixWare installation at any time during this process, you will have to restart the software installation process at Step 1.

NOTE:
If the system displays a message that the system must have at least 60 MBytes of space in the hard disk drive to install UNIX, the hard disk drive is experiencing problems. The cable may not be connected, or the hard disk drive may be damaged. Power down the system and check the hard disk drive cables. See "Removing Power from the MAP/100", in Chapter 4, "Getting Inside the Computer" for the procedure.

9. Press ENTER.

   If Disk 0 has been replaced with a new hard disk drive, the system displays the UnixWare Installation Files Deleted Warning screen (Figure 9-3).

   If the system does not display the UnixWare Installation Files Deleted Warning, go to Step 10.

```
WARNING: Files have been detected in the active
partition(s) of your hard disk(s).

In order to install the operating system, you must have an
active UNIX partition occupying 100% of your hard disk. No
other partitions may share the disk.

You have the option of removing the existing partitions at
this point and creating a new UNIX partition. You should
only remove the existing partitions if you don't want to
save any files on your disk.

If you elect to abort the installation, the existing
partitions will not be removed and installation will be
halted.

1. Destroy existing partitions and create a new UNIX
partition.

2. Abort the installation, leaving existing partitions
untouched.

Type '1' or '2' followed by 'ENTER':1
```

Figure 9-3. UnixWare Installation Files Deleted Warning Screen

10. Press ENTER.

    The system displays the Keyboard Setup screen (Figure 9-4).

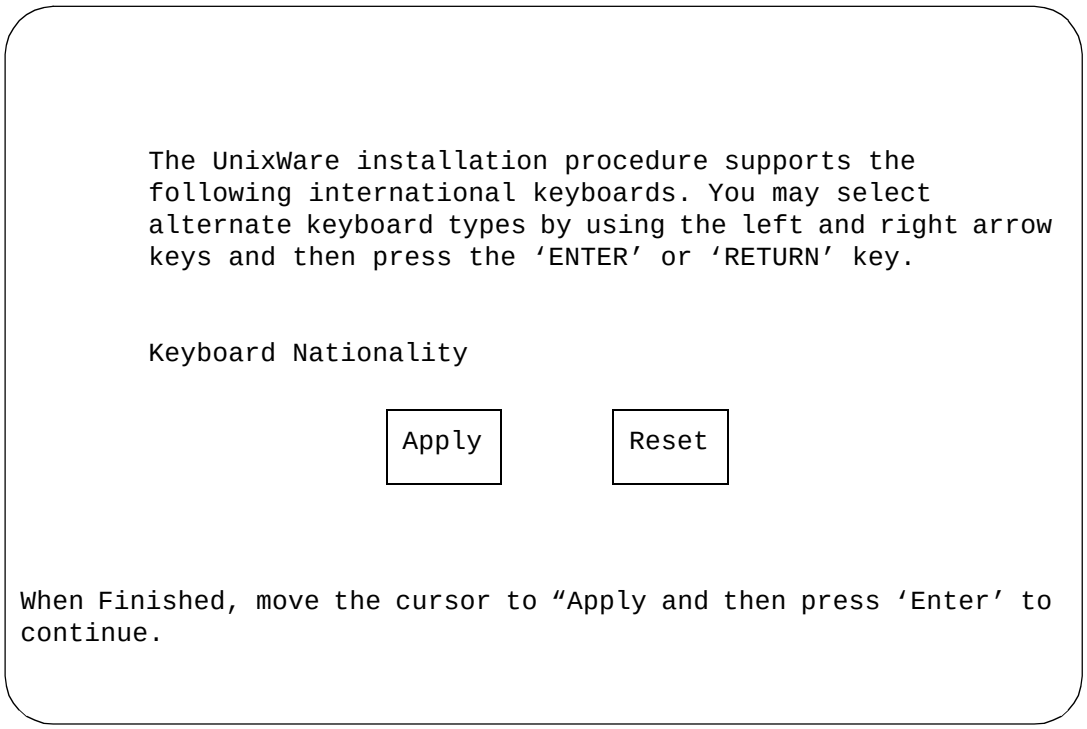


Figure 9-4. Keyboard Setup Screen

11. Use the left ◄ and right ► arrows on your keyboard to move through the field selections.
12. Select `U.S. ASCII`.
13. Press the down ▼ arrow to move to the `Apply` field and press ENTER.

    The system displays the Configure Date and Time screen (Figure 9-5).

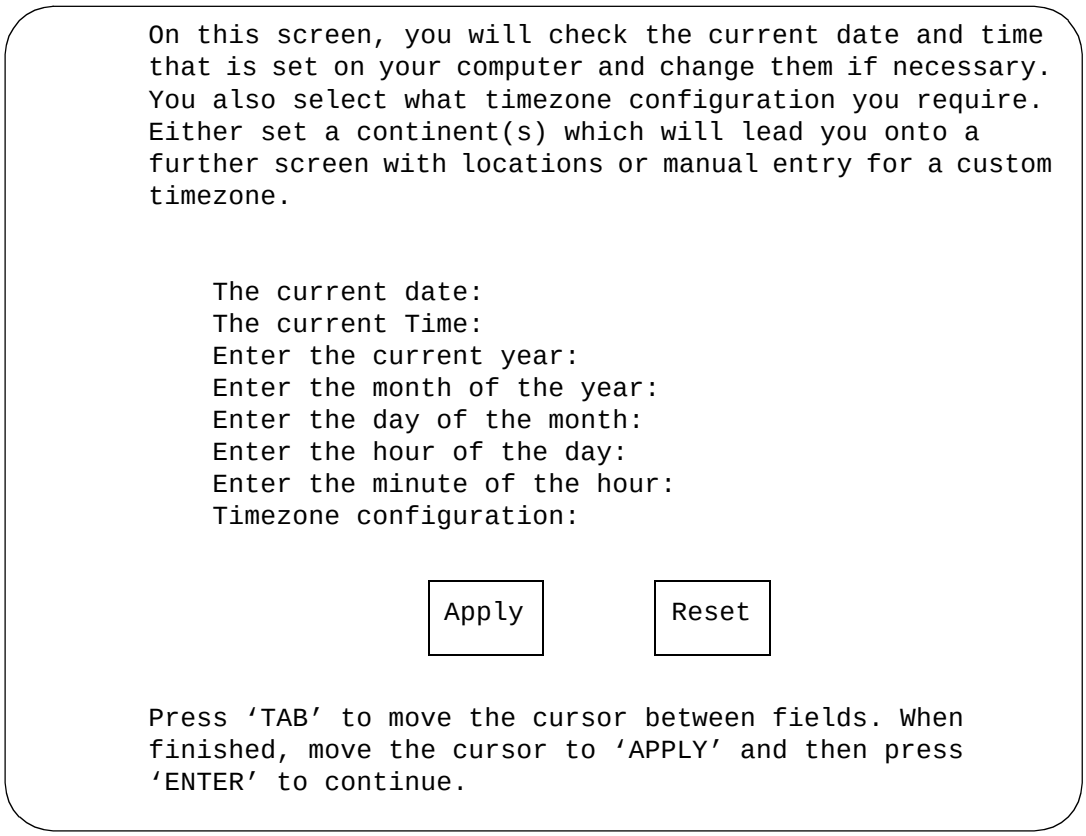


Figure 9-5. Configure Date and Time Screen

14. Use the left ◄ and right ► arrows on your keyboard to move through the field selections. Use the down ▼ arrow to move to the next field.
15. Select the appropriate data for each field.
16. Press the down ▼ arrow to move to the Apply field and press ENTER.

    The system displays the Continent Location Choice screen (Figure 9-6).

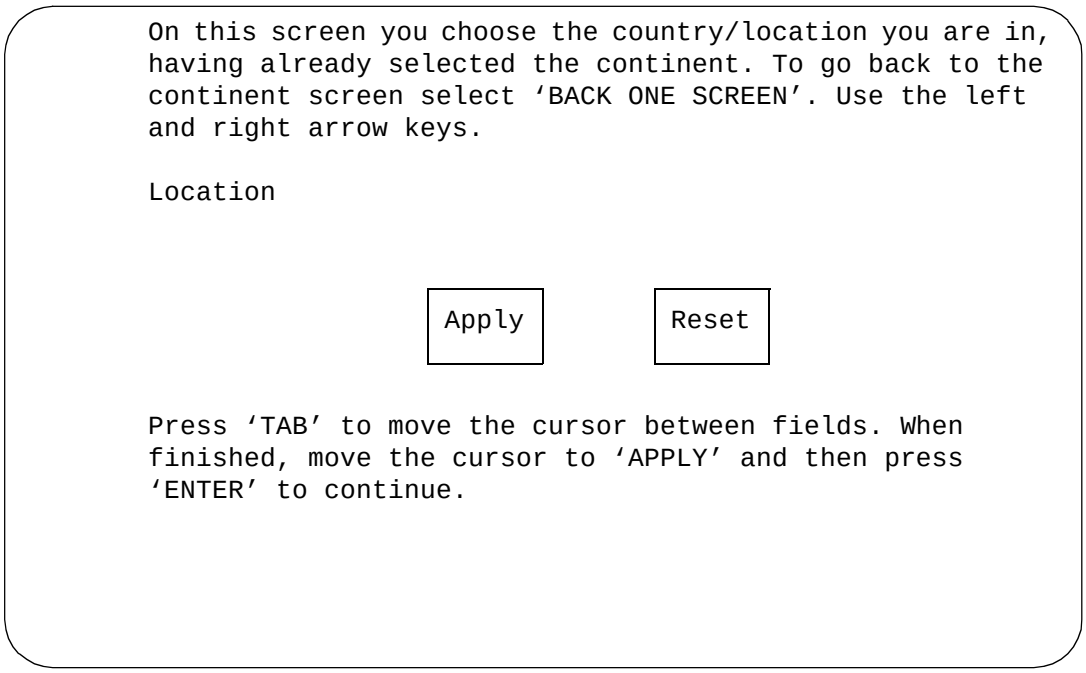


Figure 9-6. Continent Location Choice Screen

17. Use the left ◄ and right ► arrows on your keyboard to move through the field selections.
18. Select the appropriate data for each field.
19. Press the down ▼ arrow to move to the Apply field and press ENTER.

    The system displays the Primary Hard Disk Partitioning screen (Figure 9-7).

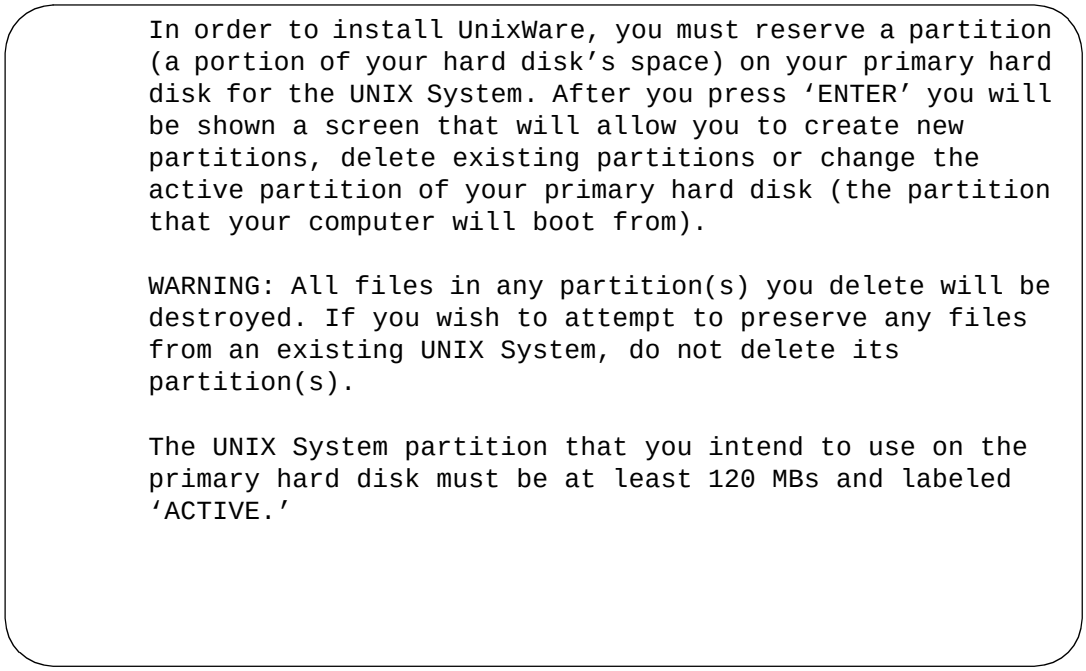


Figure 9-7. Primary Hard Disk Partitioning Screen

20. Press ENTER.

    The system displays the Hard Disk Partitioning - Disk 1 screen (Figure 9-8).

.

Total disk size is 2048 cylinders (2048.0MB)

Partition	Status	Type	Start	End	Length	%	Approx MB
1	Active	UNIX System	0	2047	2048	100	2048.0

1. Overwrite system master code
2. Delete a partition
3. Exit (Update disk configuration and exit)
4. Cancel (Exit without updating disk configuration)

Figure 9-8. Hard Disk Partitioning - Disk 1 Screen

21. Press "3" and press ENTER.

    The system displays the Secondary Hard Drive Partitioning Screen (Figure 9-9).

    NOTE:
    This screen will not appear if you do not have a second hard disk drive. Continue with Step 23.

```
You may use a partition of your secondary hard disk.  If
you choose to use a partition of your secondary hard disk
you will be shown a screen that will allow you to
partition your secondary hard disk.

WARNING: All files in any partition(s) you delete will be
destroyed.

If you choose to create a UNIX System partition on your
secondary hard disk, it must be at least 40 MBs.

Your Options are:

1.  Do not use a partition of the secondary hard disk for
    the UNIX System.
2.  Use a partition of the secondary hard disk for the
    UNIX System.

Press '1' or '2' followed by 'ENTER'.
```

Figure 9-9. Secondary Hard Disk Partitioning Screen

22. Select "1" and press ENTER.

    The system displays the Installation Type Selection screen (Figure 9-10).

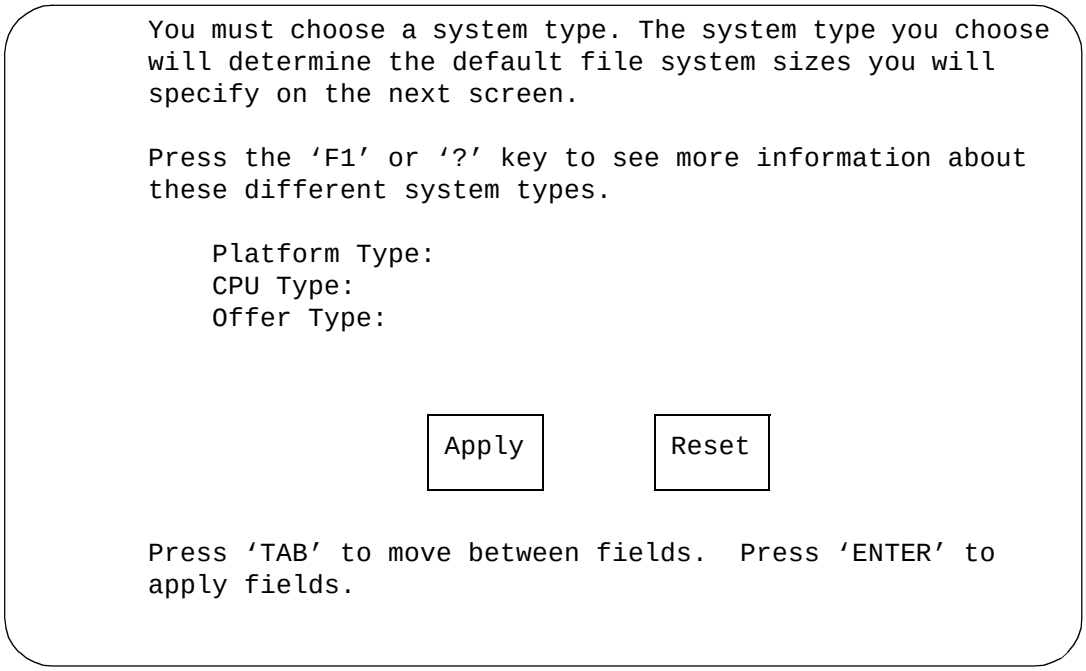


Figure 9-10. Installation Type Selection Screen

23. Use the left ◄ and right ► arrows on your keyboard to move through the field selections. Use the down ▼ arrow to move to the next field.
24. Select the appropriate data for each field.
25. Press the down ▼ arrow to move to the `Apply` field and press ENTER.

    The system displays the UnixWare Installation Set Slice Sizes screen (Figure 9-11).

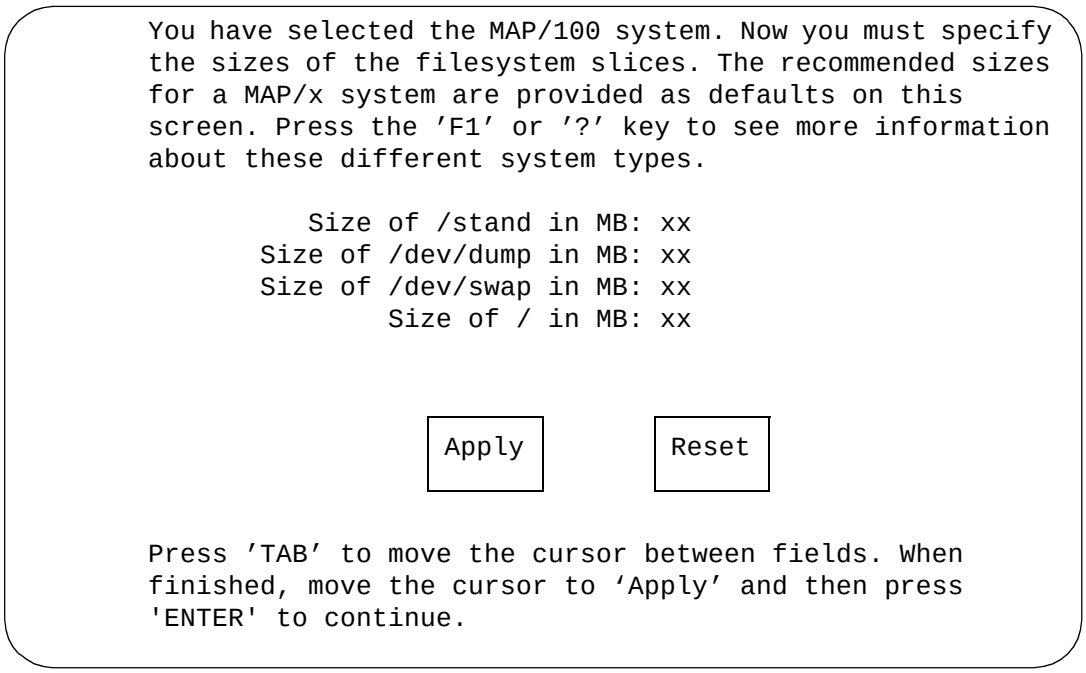


Figure 9-11. UnixWare Installation Set Slice Sizes Screen

26. Use the left ◄ and right ► arrows on your keyboard to move through the field selections. Use the down ▼ arrow to move to the next field.
27. Enter the appropriate number of megabytes of space needed for each slice as specified in Table 9-1.

Table 9-1. Space Requirements for the MAP/100

Slice	Space Requirements (MBytes)
/stand	10
/dev/dump	97
/dev/swap	193
/	200

28. Press the down ▼ arrow to move to the Apply field and press ENTER.

    The system displays the Hard Disk Surface Analysis screen (Figure 9-12).

```
Surface analysis is recommended but not required.   Here
you must choose to skip or perform surface analysis.

Press ’F1’ or ’?’ key to see more information about
these different system types.

You choices are:

1. Perform surface analysis
2. Skip surface analysis

Press ’1’ or ’2’ followed by ’ENTER’:1
```

Figure 9-12. Hard Disk Surface Analysis Screen

⚠ WARNING:
Surface analysis is required for all systems because it makes a configuration change to the disk. Failure to perform surface analysis may cause the Lucent INTUITY system to fail.

29. Press ENTER.

    This will accept the default of 1 and perform the surface analysis. The system displays the following message:

    ```
    Checking the hard disk for defects and creating file
    systems. This will take a few minutes. Please wait.
    ```

30. Remove the INTUITY UNIX Boot Floppy 2 of 3 from the floppy disk drive.
31. Insert the diskette labeled “INTUITY UNIX Boot Floppy 3 of 3” into the floppy disk drive.
32. Press ENTER.

    The system displays the following message:

    ```
    Copying Unix System files from the diskette onto you
    hard drive. This will take a few minutes. Please wait.
    ```

The system then displays the following message:

```
Making file systems on your hard disk.  This will take a
few minutes.  Please wait
```

The system displays the Remove Diskette Screen (Figure 9-13).

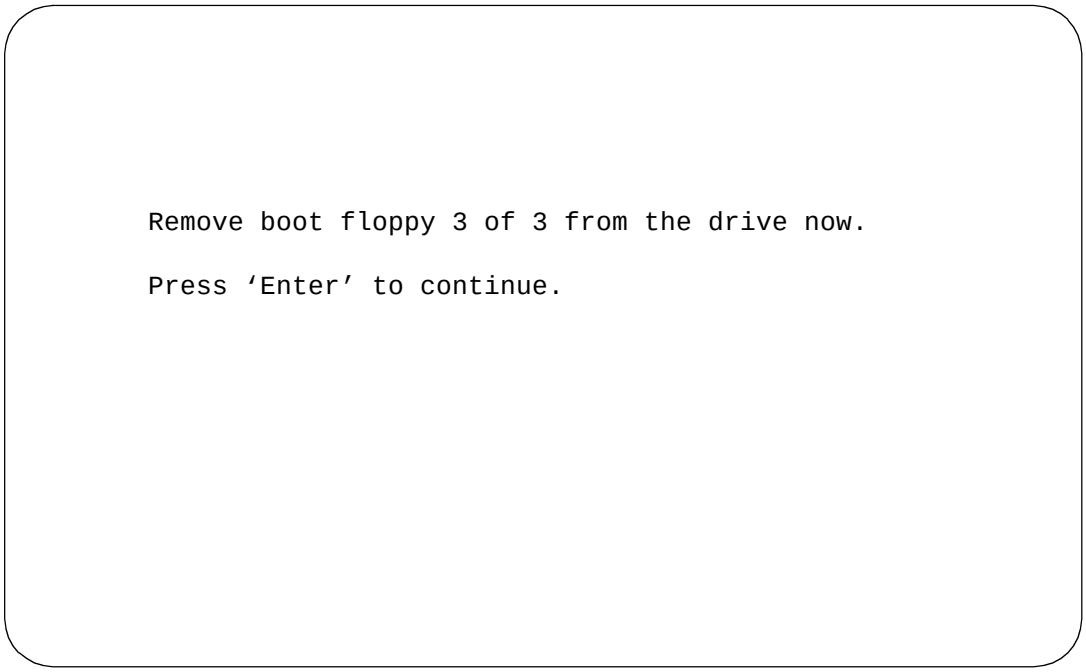


Figure 9-13. Remove Diskette Screen

```
Remove boot floppy 3 of 3 from the drive now.
```

Press 'Enter' to continue.

33. Remove the INTUITY UNIX Boot Floppy 3 of 3 from the floppy disk drive.
34. Press ENTER.

    The system displays the Application Server Media Type screen (Figure 9-14).

```
The Application Server software is available on diskette
or tape or network server.  You must select the source you
will use to install the software.

Your choices are:

1. Diskette Drive 1
2. Cartridge Tape Drive
3. Network Install Server
4. INTUITY Image/Snap Tape

Press a number between ‘1’ and ‘4’
followed by 'ENTER':
```

Figure 9-14. Application Server Media Type Screen

35. Insert the cartridge tape labeled “Lucent INTUITY Mach4 UnixWare Image” into the tape drive. See "Inserting and Removing Cartridge Tapes", in Chapter 3, "Common System Procedures", for the procedure.
36. Type **4**
37. Press ENTER.

    The system displays the Insert Lucent INTUITY Tape screen (Figure 9-15).

```
Please insert the INTUITY Image cartridge tape into the
tape drive and type '1' followed by 'ENTER'. Make sure the
tape is fully inserted into the tape drive.

Your choices are:

1. The tape has been inserted in the tape drive.

2. Go back to previous menu.

Press '1' or '2' followed by 'ENTER':
```

Figure 9-15. Insert Lucent INTUITY Tape Screen

38. Press ENTER.

    This will accept the default of 1 to indicate the tape has been inserted and is ready for access.

    The system displays the following message:

    ```
    Installation in progress.  This will take several
    minutes.  Please do not remove the tape.
    ```

    The system displays a series of informational messages.

    When all files are loaded, the system displays the following message:

    ```
    The system is ready.

    The system's name is INTUITY.

    Welcome to USL UNIX System V Release 4.2
    Console Login:
    ```

39. Remove the cartridge tape labeled "Lucent INTUITY Mach4 UnixWare Image" from the tape drive. See "Inserting and Removing Cartridge Tapes", in Chapter 3, "Common System Procedures", for the procedure.

40. Verify that the floppy disk drive is empty.

CAUTION:
If the floppy disk drive contains a diskette, the system reboot will fail. If this happens, remove the floppy from the floppy disk drive and press Ctrl-Alt-Del.

NOTE:
If you are installing the operating system onto a machine that is not equipped with a LAN circuit card, the system may display a message that states that an invalid check sum occurred. Ignore this message.

41. Log in to the system as **root**, and press ENTER at the password prompt.

NOTE:
If the current password has expired, enter **Intuity1** for the password. Use this password instead of pressing ENTER for the remainder of the procedure. As soon as the Lucent INTUITY system tape is reloaded, you will change this password.

The system displays with the UNIX prompt (#).

42. Enter **installit**

The system displays the following message:

```
Installit execution started: <date>

The system will attempt to match the boot disk to other
disks and recover now...

Press <ENTER> to continue or press <DEL> to terminate
installit
```

43. Press ENTER.

The system is rebooted and then displays the following message:

```
The UNIX Operating system kernel will be rebuilt now.

The system must now be rebooted.

Hit RETURN to continue.
```

44. Press ENTER.

The system is rebooted and then displays the following message:

```
The system must now be rebooted.

Hit RETURN to continue.
```

45. Press ENTER.

    The system is rebooted and then displays the following message:

    ```
    Console Login:
    ```

46. You have completed installing the base system software. Continue with the next section, "Installing AUDIX Software".

Installing AUDIX Software

You can perform this procedure with the root permission.

1. Login to the system as root.

   NOTE:
   If a message appears requesting the terminal type (TERM=AT386) press ENTER to accept this default.

2. Enter **pkgadd -d ctape1**

   The system displays the following message:

   ```
   Insert a cartridge into Tape Drive 1.
   Type [go] when ready
       or [q] to quit: (default: go)
   ```

3. Insert the AUDIX Platform Set cartridge tape into the tape drive. See "Inserting and Removing Cartridge Tapes", in Chapter 3, "Common System Procedures", for the procedure.

4. Press ENTER.

   NOTE:
   Ignore any messages which indicate that the base ORACLE package has not been loaded and gives installation procedures.

   The system displays the following message:

   ```
   Installation in progress. Do not remove the cartridge.

   The following sets are available:
       1    AUDIXset     INTUITY Platform Set
                         (;486) i.1.0

   Select package(s) you wish to process (or 'all' to
   process all packages). (default: all) [?,??,q]
   ```

5. Press ENTER.

   The system displays the following message:

   ```
   Processing:

   Set: INTUITY Platform AUDIX Set (AUDIXset) from
   <ctape1>.
   ```

```
INTUITY Platform AUDIX Set
(i486) i.1.0
Using </> as the package base directory.

Do you want to run default set installation? (default:
y)
```

NOTE:
See your installation worksheets or your project manager to confirm that the default set installation is the correct installation to run.

6. Press ENTER.

   The system displays prompts for the craft and tsc passwords.

7. Enter the passwords you want to use for these logins.

   The system displays the following message:

```
Insert a cartridge into Tape Drive 1.
Type [go] when ready
    or [q] to quit: (default: go)
```

8. Enter **q**
9. Enter **cd /**
10. Enter **shutdown -y -g0 -i6**

    The system displays the following message:

```
Shutdown started. Date

INIT: New run level: 6

The UNIX Operating kernel will be rebuilt now.
This will take some time. Please wait.
```

    The system responds with a series of memory check displays and copyright notices. These messages also note that the system is fine and coming up, the system is ready, and that the voice system is automatically being started.

    This reboot is finished when the system displays the following message:

```
Startup of the Voice System is complete
```

11. Press ENTER.

    The system displays the system login prompt.

12. You have completed the installation of AUDIX software. Continue with Chapter 10, "Installing Lucent INTUITY System Software" to load additional software packages.

Installing Lucent INTUITY System Software

10

Overview

This chapter details installation procedures for the following packages:

- Intunix update
- INTUITY AUDIX Voice Messaging System R4.0
- Lucent INTUITY Announcement sets

The following are the steps required to install Lucent INTUITY system software:

Table 10-1. Installation Checklist for Installing Lucent INTUITY System Software

✓	Task	Source
	Install INTUITY AUDIX Voice Messaging	Chapter 9
	Stop the voice system	Chapter 3
	Install announcement sets	This chapter
	Install switch integration software	Chapter 5
	Install Intunix software	This chapter
	Reboot the system	Chapter 3

NOTE:
The voice system should be stopped to load all the packages except for the INTUITY AUDIX Voice Messaging R4.0 software.

Purpose

This purpose of this chapter is to provide the information necessary to reload the Lucent INTUITY system to a computer which has experienced a disk failure. This chapter should be used in conjunction with Appendix D, "Disaster Recovery Checklists".

Installing the Intunix Update

The Intunix update adds or changes software for the UNIX operating system. Use the procedures below to install the Intunix update. All systems require an Intunix update.

NOTE:
Not all systems will have an Intunix update diskette on site. If you are unable to locate an Intunix update floppy diskette, contact the remote maintenance center.

To install the Intunix update, do the following:

1. Start at the Lucent INTUITY Main Menu (Figure 10-1).

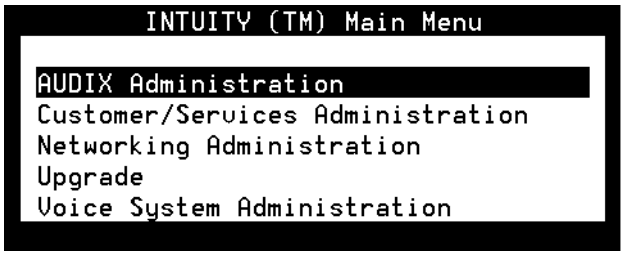
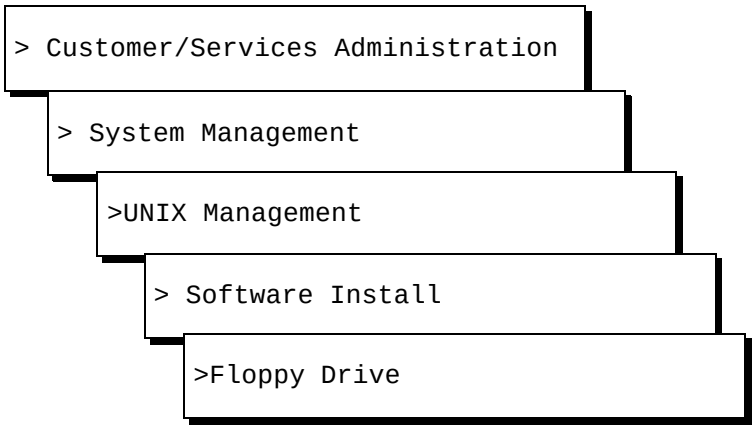


Figure 10-1. Lucent INTUITY Main Menu

2. Select



The system displays the following message:

```
Insert a diskette into Floppy Drive 1.
Type [go] when ready
    or [q] to quit: (default: go)
```

3. Insert the Lucent INTUITY Intunix update diskette with the label facing up into the floppy drive.
4. Press ENTER.

   The system displays the following message:

   ```
   Installation in progress. Do not remove the diskette.

   The following pkgs are available:
     1  Intunix  UNIX SVR4.2 Platform Enhancements
   Extension
            Version-N (486)

   Select package(s) you wish to process (or 'all' to
   process all packages). (default: all) [?,??,q]
   ```

   NOTE:
   N indicates the version of the Intunix update.

5. Press ENTER.

   The system responds with a series of processing messages. When the processing is completed, the system displays the following message:

   ```
   Installation of UNIX SVR4.2 Platform Enhancements
   Extension (Intunix) was successful.

   Insert a diskette into Floppy Drive 1.
   Type [go] when ready
       or [q] to quit: (default: go)
   ```

6. Remove the Intunix update floppy diskette from the floppy drive.
7. Enter **q**
8. Press CANCEL (F6) twice to return to the System Management menu (Figure 10-2).

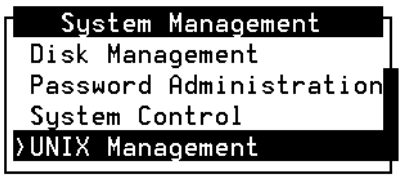


Figure 10-2. System Management Menu

WARNING:
Do not omit the following reboot. Failure to reboot the system may cause a software installation failure.

9. Select `System Control`.

   The system displays the System Control menu (Figure 10-3).

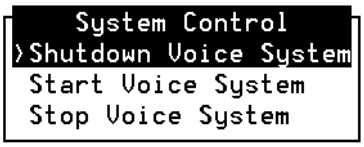


Figure 10-3. System Control Menu

10. Select `Shutdown Voice System`.

    The system displays the following message:

    ```
    Enter y to continue, n to quit
    ```

11. Enter **y**

    The system displays the following message:

    ```
    voice system is not running

    Shutdown started. Month date time year

    INIT: New run level: 0
    The system is coming down. Please wait


    The system is down.
    Press CTRL-ALT-DEL to reboot your computer.
    ```

12. Press Ctrl-Alt-Del.

    The system responds in two stages. The first displays copyright and address information, and rebuilds the UNIX kernel.

    NOTE:
    Do not strike ENTER or ESC during this process. The system proceeds to the next step automatically.

    The system then repeats the copyright and address information. This stage ends with the message:

    ```
    The system is ready.
    ```

After this message, the system presents a console login, followed by the message:

```
Automatically starting the voice system.
```

This message signals the start of the second stage. This stage includes auditing a database, initializing AUDIX, and running file checks. When this stage is complete, the system displays the following messages:

```
Startup of the Voice System is complete.

Saving output to trace process.
```

NOTE:
Saving the output to trace process takes approximately one minute.

13. Press ENTER to obtain a console login prompt.

NOTE:
It may be necessary to press ENTER more than once.

The system displays the following message:

```
The systems's name is INTUITY
Welcome to USL UNIX system V Release 4.2 Version
Console Login:
```

Installing the INTUITY AUDIX Voice Messaging System

The INTUITY AUDIX Voice Messaging System software includes:

- Disk mirroring
- Lucent INTUITY Message Manager (IMAPI)
- Lucent INTUITY FAX messaging
- AMIS analog networking
- Digital networking

NOTE:
It is necessary to contact the remote maintenance center to have these features activated.

Use the following procedure to load the INTUITY AUDIX Voice Messaging System software.

1. Log in to the system as root.

   NOTE:
   Press ENTER for the login password. This password and all passwords will change when the customer data is restored. If the following message appears requesting the terminal type:

   ```
   (TERM=AT386)?
   ```

   Press ENTER to accept this default.

   The system displays a UNIX (#) prompt.

2. Insert the cartridge tape labeled "INTUITY AUDIX Software 1 of 1" into the tape drive. See "Inserting and Removing Cartridge Tapes", in Chapter 3, "Common System Procedures", for the procedure.

3. Enter **pkgadd -d ctape1**

   The system displays the following message:

   ```
   Insert a cartridge into Tape Drive 1.
   Type [go] when ready
       or [q] to quit: (default: go)
   ```

4. Press ENTER.

   The system displays the following message:

   ```
   Installation in progress. Do not remove the cartridge.

   The following sets are available:
       1    APPLset      AUDIX (R) Application Set
                         (AUDIX) 4.x-xx
   ```

```
Select package(s) you wish to process (or 'all' to
process
     all packages). (default: all) [?,??,q]
```

5. Press ENTER.

   The system displays the following message:

```
Insert a cartridge into Tape Drive 1.
Type [go] when ready
    or [q] to quit: (default: go)
```

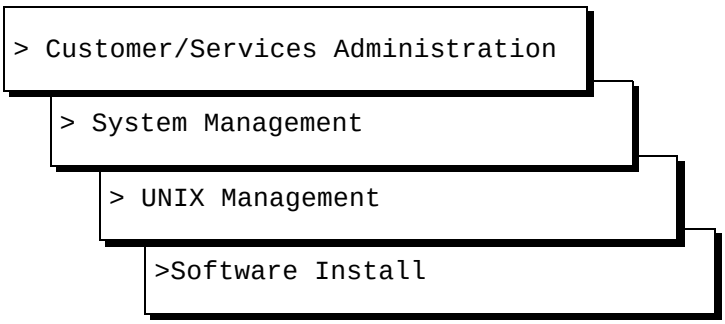
6. Enter **q**

Installing the Lucent INTUITY System Default Announcement Set and/or Optional Language Package Announcement Sets

Use the following procedure to install both the system default announcement set and any optional language (announcement set) packages.

CAUTION:
Do not install optional language announcement sets from earlier or later Lucent INTUITY releases. All optional language tapes used with the Lucent INTUITY system R4.0 should be labeled 4.0 and installed with INTUITY AUDIX R4.0.

1. Starting at the Lucent INTUITY Main Menu (Figure 10-1) select



The system displays the Software Install menu (Figure 10-4).

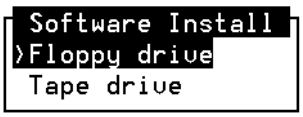


Figure 10-4. Software Install Menu

2. Insert the cartridge tape labeled “System Announcements” into the tape drive. See "Inserting and Removing Cartridge Tapes", in Chapter 3, "Common System Procedures", for the procedure.

3. Select `Tape drive`.

   The system displays the following message:

   ```
   Insert a cartridge into Tape Drive 1.
   Type [go] when ready,
       or [q] to quit: (default:go)
   ```

4. Press ENTER.

   The system displays the following message:

   ```
   Installation in progress. Do not remove the cartridge.

   The following sets are available:
       1   language x   Language Name System Announcements
                            (AUDIX) R3.x

   Select package(s) you wish to process (or 'all' to
   process all packages). (default: all) [?,??,q]
   ```

5. Press ENTER.

   The system displays following message:

   ```
   Processing:
   (Language Name) System Announcements
   (AUDIX) R3.x
   Using</> as the package base directory.
   Lucent Bell Laboratories
   Is this the default language set?
   (default: y) [y,n,?,q]
   ```

6. If you are installing the default language set, enter **y**

   NOTE:
   If you are installing an optional or secondary language set, enter **n**

   The system displays the following message:

   ```
   Installation of <optional language name> System
   Announcements (VM-<optional language abbreviation>) was
   successful.

   Insert a cartridge into Tape Drive 1.
   Type [go] when ready,
       or [q] to quit: (default:go)
   ```

7. Enter **q**.

8. Remove the cartridge tape labeled "System Announcements" from the tape drive. See "Inserting and Removing Cartridge Tapes", in Chapter 3, "Common System Procedures", for the procedure.

9. Press CANCEL (F6) until the system displays the Lucent INTUITY Main Menu (Figure 10-1).

Installing the UNIX Multi-User Software

11

Overview

This chapter provides installation procedures for the UNIX Multi-User software.

Purpose

This purpose of this chapter is to provide the information necessary to reload the UNIX Multi-User software to a computer which has experienced a disk failure.

Installing UNIX Multi-User Software

UNIX Multi-User software is used in systems that require more than two active logins at one time. This software is contained on two floppy disks.

1. Stop the voice system. See "Stopping the Voice System", in Chapter 3, "Common System Procedures", for this procedure.
2. Start at the Lucent INTUITY Main Menu (Figure 11-1).

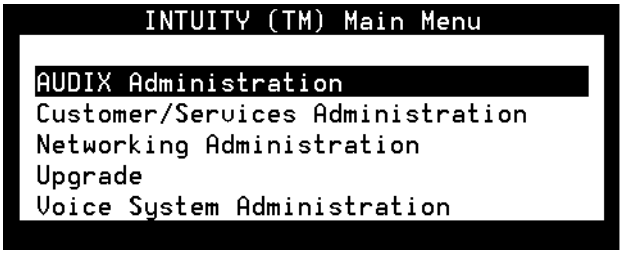
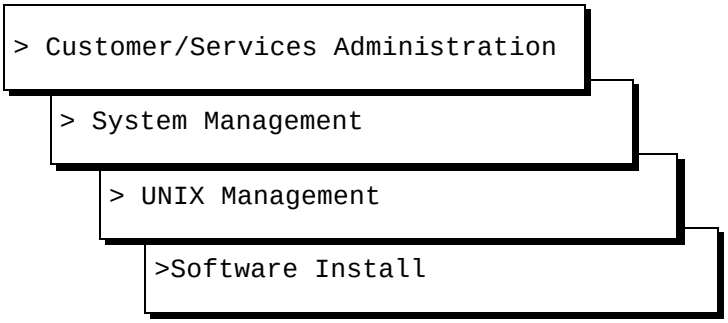


Figure 11-1. Lucent INTUITY Main Menu

3. Select



The system displays the Software Install menu (Figure 11-2).

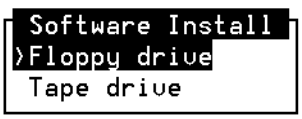


Figure 11-2. Software Install Menu

4. Select `Floppy drive`.

   The system displays the following message:

   ```
   Insert a diskette into Floppy Drive 1.
   Type [go] when ready,
       or [q] to quit: (default:go)
   ```

5. Insert the diskette labeled "UNIX Multi-User Package Installation Diskette 1 of 1" into the floppy drive.

6. Press ENTER.

   The system displays the following message:

   ```
   Installation in progress. Do not remote the diskette.

   The following sets are available:
       1    multiusr   Multi-user Set
                       (386) 1

   Select package(s) you wish to process (or 'all' to
   process all packages). (default: all) [?,??,q]
   ```

7. Press ENTER.

   The system displays the Package Selection screen for Multi-User Software (Figure 11-3).

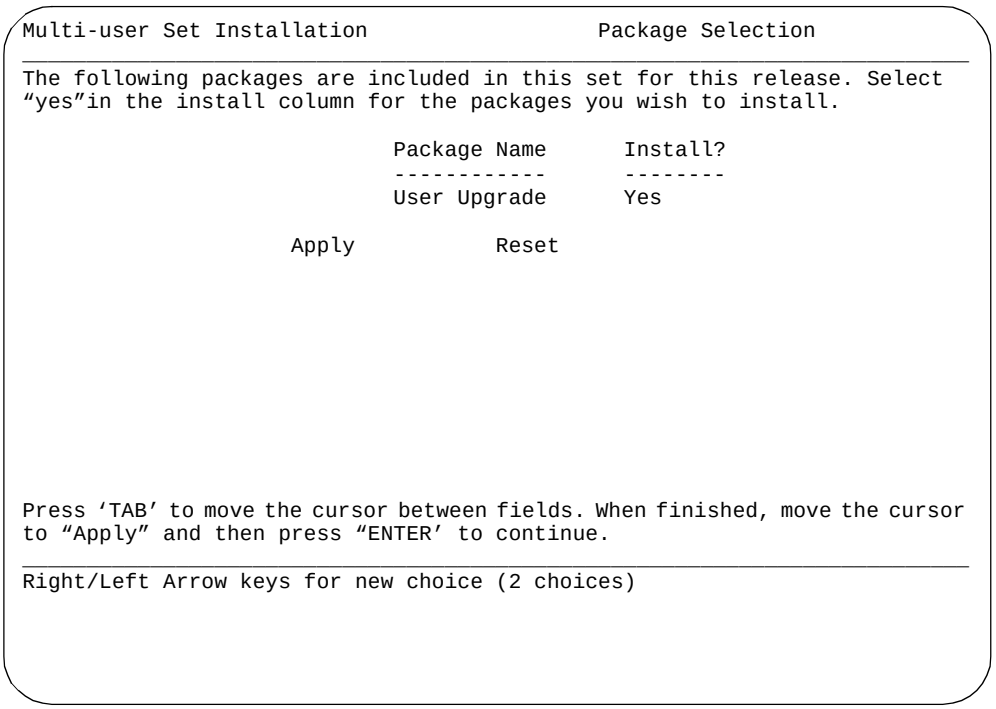


Figure 11-3. Package Selection Screen for Multi-User Software

8. Select **yes** for the User Upgrade.
9. Press ENTER with the cursor on Apply.

   The system displays:

```
READY TO PROCESS
      Set: Multi-user Set (multiusr)
  Package: User Upgrade (license)
           diskette 1 of 1
```

10. Remove the diskette labeled “UNIX Multi-User Package Installation Diskette 1 of 1” from the floppy drive.
11. Insert the diskette labeled “User Upgrade (license) diskette 1 of 1” into the drive.
12. Press ENTER to install the software.

    The system displays the following message:

```
Tunable Parameter “NPROC” is currently set to 750.
Is it OK to change it to 200? (y/n)
```

13. Enter **n**

    When the process is finished, the system displays the following message:

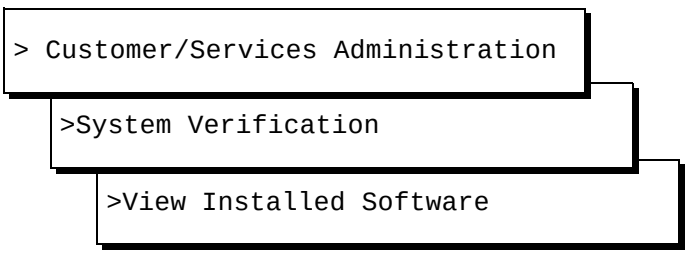
```
Installation of <Multi-user set> is completed.

     Insert a into Floppy Drive 1.
     Type [go] when ready,
         or [q] to quit: (default:go)
```

14. Enter **q**
15. Shut down and reboot the system. See "Shutting Down and Rebooting the Lucent INTUITY System", in Chapter 3, "Common System Procedures", for this procedure.
16. Verify the Multi-User software package installation by accessing the View Installed Software window.

    To access the View Installed Software window, do the following:

    a. Starting at the Lucent INTUITY Main Menu (Figure 11-1), select



The system displays the View Installed Software window (Figure 11-4).

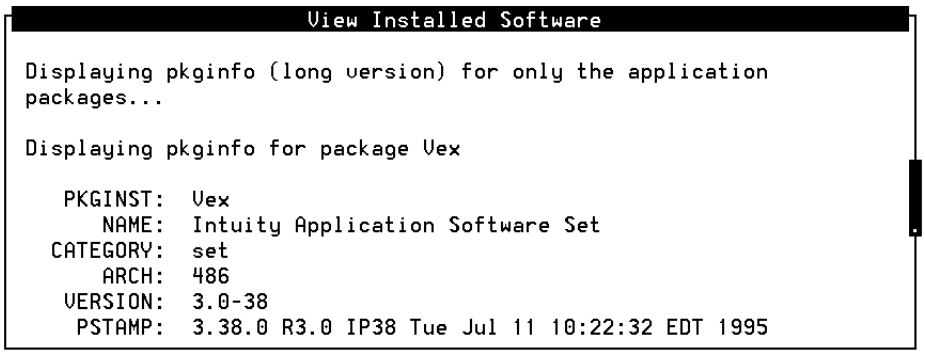


Figure 11-4. View Installed Software Window

b. Verify that the UNIX Multi-User software has been installed on the system.

Installing an RFU

12

Overview

This chapter describes the procedures for installing an Remote Field Update (RFU) on the customers site.

Purpose

The purpose of this chapter is to ensure that if the RFU needs to be loaded on site, it is done correctly.

Installing an RFU

Lucent has two procedures for loading a RFU:

1. On-site installation
2. Remote download

Remote downloads of an RFU are done by your remote maintenance center. If the remote maintenance center downloads an RFU, it will not be necessary to install the RFU on-site. RFUs contain updates to the basic system software.

NOTE:
If Lucent INTUITY system software (operating system and base software) is being installed, see Installing Base System Software, in Chapter 9, "Installing Base System Software".

CAUTION:
Always verify with the remote maintenance center that the RFU is the most recent RFU available before loading.

The following procedures are to be used for installing an RFU to an existing system that requires a new RFU. Do not use these procedures to load an RFU to an ALT (assembled, loaded, and tested) system which already has the RFU installed. Contact the remote maintenance center with questions about RFU identity and procedures.

Removing an Existing RFU

1. Stop the voice system. See "Stopping the Voice System", in Chapter 3, "Common System Procedures", for this procedure.
2. Start at the Lucent INTUITY Main Menu (Figure 12-1).

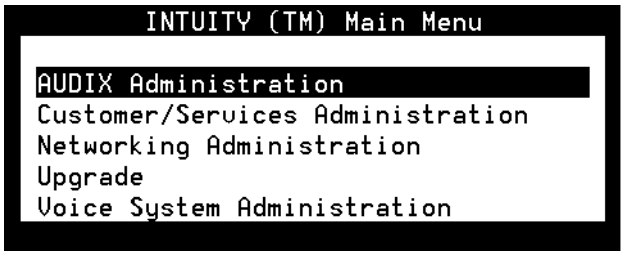
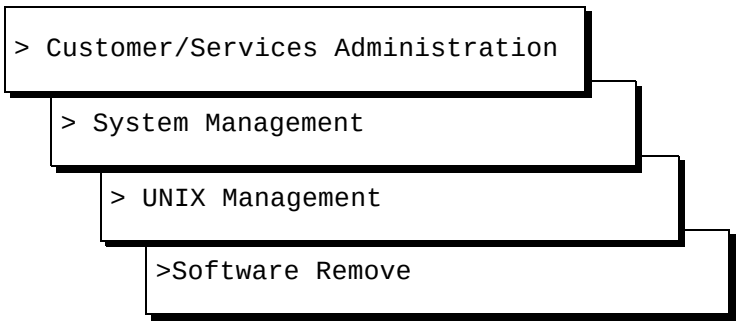


Figure 12-1. Lucent INTUITY Main Menu

3. Select



The system displays the Software Remove screen (Figure 12-2). which lists the software installed on the system.

```
The following packages are available:
  1  I16rfu+c      Remote Field Update C for IP16
                   (486) 1.0-16
  2  IVR           Intuity Intro Voice Response Set
                   (486) 1.0.16.1
  3  VM            AUDIX(R) Module marker file
                   (AUDIX) NA
  4  VM+3          AUDIX(R) Software Patches
                   (AUDIX) 2.0-16
  5  VM-britsh     British System Announcements
                   (AUDIX) 2.0-14
  6  VM-dfltdb     AUDIX(R) Default db
                   (AUDIX) 2.0-14
  7  VM-french     French-c System Announcements
                   (AUDIX) 2.0-14
  8  VM-sat        AUDIX(R) English Announcements
                   (AUDIX) 2.0-14
  9  VM-spansh     Lat-Span System Announcements
                   (AUDIX) 2.0-14
 10  VM-sw         AUDIX(R) Software
                   (AUDIX) 2.0-16

... 53 more menu choices to follow;
<RETURN> for more choices, <CTRL-D> to stop display:
```

Figure 12-2. Software Remove Screen

4. Locate the existing RFUs.

   Existing RFUs are marked "I*X*rfu+*n*," where *X* is a number such as 15 or 16 and *n* is the letter a, b, c, or d.

   For example, the system may display the RFUs I15rfu+a, I15rfu+b, I16rfu+a, I16rfu+b, or IP16rfu+a.

5. Note the number of the RFU given in the first column.

   NOTE:
   In Figure 12-2 that number is 1.

   If there is no RFU listed, enter **q** to quit and see "Installing an RFU" to install the new RFU.

6. Press CONTROL D.

   The system displays the following message:

   ```
   Select package(s) you wish to process (or 'all' to
   process all packages). (default: all) [?,??,q]
   ```

7. Enter the number of the RFU package.

   The system displays the name and version number for the package selected as shown below for the sample screen in Figure 12-2:

   ```
   Remote Field Update C for IP16 (486) 1.0-16
   ```

8. Enter **y**

   The system removes the existing RFU.

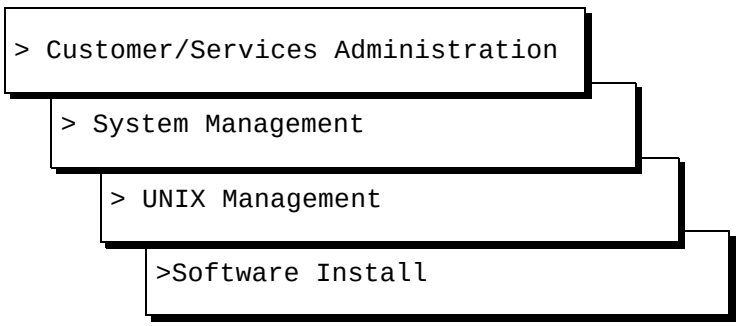
   NOTE:
   If the system displays any messages warning of dependencies, enter **y** again to continue with the software removal.

9. Press ENTER.
10. Continue with the next procedure, "Installing a New RFU."

Installing a New RFU

NOTE:
The letter x's that appear in the examples represent the IP load number for the software and the letter designation (a, b, c,...) for the RFU.

1. Starting at the Lucent INTUITY Main Menu (Figure 12-1) select



The system displays the Software Install menu (Figure 12-3).

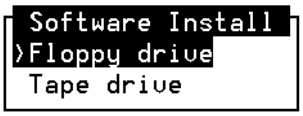


Figure 12-3. Software Install Menu

2. Insert the tape labeled "Lucent INTUITY RFU Software" into the tape drive. See "Inserting and Removing Cartridge Tapes", in Chapter 3, "Common System Procedures", for this procedure.
3. Select `Tape drive`.

   The system displays the following message:

   ```
   Insert a cartridge into Tape Drive 1.
   Type [go] when ready
       or [q] to quit: (default: go)
   ```

4. Press ENTER.

   The system displays the following message:

   ```
   Installation in progress. Do not remove the cartridge.

   The following pkgs are available:
          1      Ixxrfu+x   Remote Field Update X for IPxx
                            (486) 3.0-xx

   Select package(s) you wish to process (or 'all' to
   process all packages). (default: all) [?,??, q]
   ```

   CAUTION:
   RFUs apply to a particular software load. Lucent INTUITY software loads are labeled with the release number such as 2.0-x or 3.0-x, where x is a number such as 15 or 16. The RFU software cartridge tape will list x as IP15 or IP16.

   If the RFU does not match the software loaded onto the Lucent INTUITY system, do not load the RFU. Contact the remote maintenance center for assistance if there is a question about whether or not the RFU matches the system's software load.

5. Press ENTER

   The system displays:

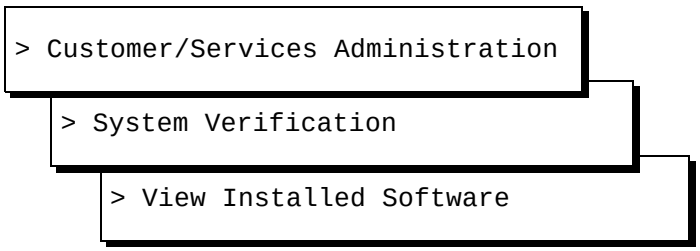
   ```
   Processing of <Remote Field Update X for IPxx> is
   completed.

   Insert a cartridge into Tape Drive 1.
   Type [go] when ready
       or [q] to quit: (default: go)
   ```

6. Enter **q**
7. Remove the tape labeled “Lucent INTUITY RFU Software Update” from the tape drive. See "Inserting and Removing Cartridge Tapes", in Chapter 3, "Common System Procedures", for this procedure.
8. Shut down and reboot the system. See "Inserting and Removing Cartridge Tapes", in Chapter 3, "Common System Procedures", for this procedure.

Verifying the RFU Installation

1. Starting at the Lucent INTUITY Main Menu and (Figure 12-1) select



   The system displays the View Installed Software window (Figure 12-4 and Figure 12-5).

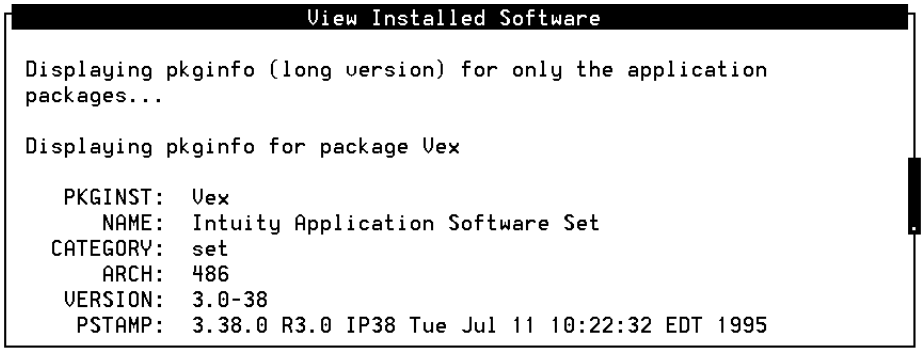


Figure 12-4. Sample View Installed Software Window (Detailed Version)

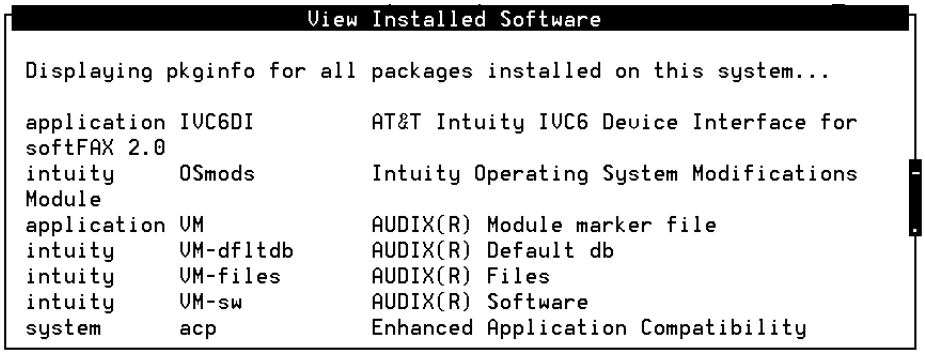


Figure 12-5. Sample View Installed Software Window (Abbreviated Version)

2. Locate the RFU title.

System Configuration

A

Component Assignments

Circuit cards are placed in the MAP/100 in locations called *slots*. Slots are numbered 1 through 25 from the bottom of the MAP/100 to the top of the card cage (Figure A-1).

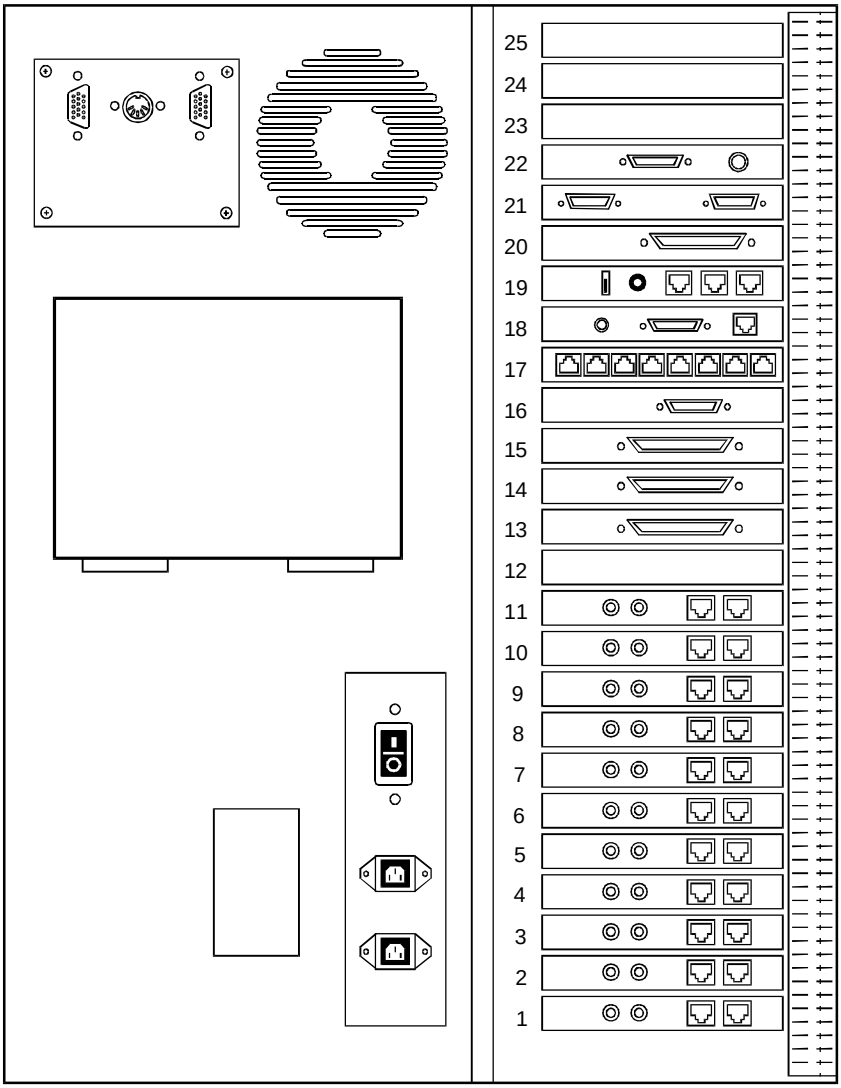


Figure A-1. Back View of the MAP/100

Operating hardware is placed in the MAP/100 in locations called *bays*. Bays are also numbered from the top to the bottom, 1 through 9 (Figure A-2).

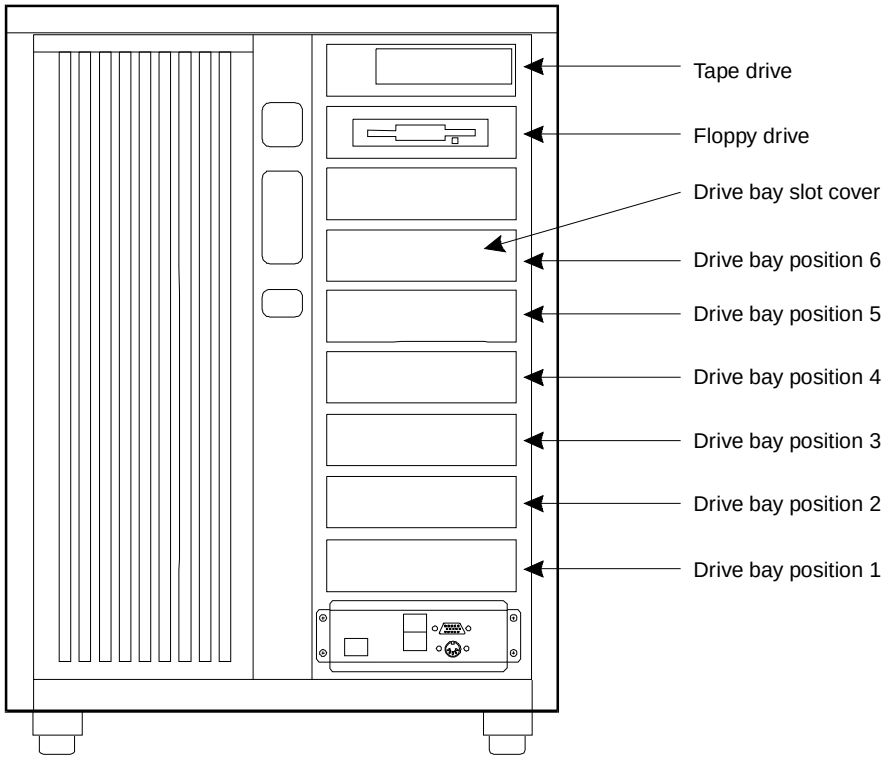


Figure A-2. Front View of the MAP/100

The following sections detail the fixed and variable assignments for circuit cards and other components installed in the MAP/100.

Bay Assignments

Table A-1 lists bay assignments which are fixed in the MAP/100 and are not variable in their arrangement:

Table A-1. MAP/100 Bay Assignments

Bay	Device	SCSI ID	Terminations
1	Hard Disk Drive 0	0	Disabled
2	Hard Disk Drive 4	4	Disabled
3	Audfs disk	6	Disabled
4	Hard Disk Drive 5	5	Disabled
5	Hard Disk Drive 1	1	Disabled
6	Hard Disk Drive 2	2	Disabled
7	Vacant	-	-
8	Floppy disk drive	-	-
9	SCSI tape drive	3	Installed

Slot Assignments

Table A-2 lists slot assignments which are fixed in the MAP/100 and are not variable in their arrangement. The slot assignments apply to both required and optional circuit cards.

Table A-2. MAP/100 Slot Assignments

Slot Number	Circuit Card	Required?
1,2	Tip/Ring	Yes
3-11	Tip/Ring	No
12	Vacant	-
13-15	ACCX	No
16	GP-Synch or DCIU Interface	No
17	multi-port serial	No
18	Ethernet LAN	No
19	Remote Maintenance	No

Continued on next page

Table A-2. MAP/100 Slot Assignments

Slot Number	Circuit Card	Required?
20	Video controller	Yes
21	P5120/CPU	Yes
22	External SCSI Connector/Termination	Yes
23-25	Vacant	-

Continued on next page

Assignment Rules

The following rules apply to the placement of optional boards in the MAP/100.

- A maximum of eleven Tip/Ring circuit cards is supported.
- A maximum of three ACCX circuit cards is supported.
- All other circuit cards are supported as one per system.
- Tip/Ring circuit cards are assigned slots sequentially, starting with slot 1.
- ACCX circuit cards are assigned slots sequentially, starting with slot 13.

Resource Allocation

Table A-3 lists the resource assignments for all devices in the MAP/100. It includes the circuit cards as well as devices which are included on the CPU circuit card.

Table A-3. Resource Allocation

Device	IRQ	I/O Address	RAM Address	Notes
VGA controller board	-	3B0-3DF	A0000-BFFFF C0000-C7FFF	128K Video RAM, required 32K Video BIOS, required
System BIOS	-	-	E0000-FFFF	Located on CPU, required
CPU watchdog register	-	370	-	Located on CPU, required, not used

Continued on next page

Table A-3. Resource Allocation — *Continued*

Device	IRQ	I/O Address	RAM Address	Notes
LPT1 port	7	378-37F	-	Located on CPU, required
COM1 port	4	3F8-3FF	-	Located on CPU, required
COM2 port	3	2F8-2FF	-	Located on CPU, disable for RMB
PCI SCSI	14	Plug & Play	C8000-CBFFF	Located on CPU, SCSI ID 7, required
2-Gbyte SCSI disk	-	-	-	2 required, 4 optional
2-Gbyte SCSI tape	-	-	-	1 required
Floppy disk	6	3F0-3F7	-	DMA 2, controller located on CPU, required
LAN circuit card	10	280-29F	D8000-DBFFF	optional
Multi-port circuit card	-	-	D0000-D3FFF	1 optional
Tip/Ring circuit card	2	x00-x1F	-	x=1-3,5-7, 9,A,B,D,E, 2 required 9 optional
ACCX circuit card	5	x40-x4F	-	x=1-3,5 3 optional
GP-Synch circuit card or DCIU interface circuit card	12	240-24F	D4000-D7FFF	1 optional
Remote maintenance circuit card	3	180-187	DC000-DCFFF	Disable COM2 port on the CPU

Component Ordering Numbers

B

Component Ordering Numbers

Table B-1. Component Ordering Numbers

Basic Component Description	Order Number
Adapter, 356B	105197297
Adapter, electrical, DCE female	407345776
Adapter, electrical, DCE male (wyse trm, prntrs)	407050111
Adapter, electrical, DTE female	407345768
Adapter, electrical, DTE male (modems)	407050095
Adapter, electrical, jack to jack	407005255
Adapter, electrical, external SCSI	407524073
Adapter, SPM port connector	105012645
Backplane, 20-ISA, 3-PCI, 1-CPU	407518539
Backplane, 25-slot	406548719
Battery, 12VDC, 6.5 AH	406666420
Bracket, Cable	406667519
Brackets, PC filter (20)	406798686
Cable assembly kit, hard disk drive	406664912

Continued on next page

Table B-1. Component Ordering Numbers — *Continued*

Basic Component Description	Order Number
Cable assembly, 486 keyboard adapter	601436082
Cable assembly, 486 reset	601436090
Cable assembly, ACCX	407027564
Cable assembly, ACCX	601436124
Cable assembly, ACCX/DCP	601447170
Cable assembly, ACCX/DCP	601447188
Cable assembly, CPU/keyboard interface	406664938
Cable assembly, disk power	406664946
Cable assembly, EMI suppression (RMB)	407265529
Cable assembly, floppy drive	406664920
Cable assembly, internal fan status	601436108
Cable assembly, port/line	601447014
Cable assembly, port/line	601447162
Cable assembly, remote maint. MAP/100 UPS Mtr	601436116
Cable assembly, SCSI peripheral control	601415235
Cable assembly, telephone cord, 3-ft	601448632
Cable assembly, VGA port jumper	406664979
Caster	406976126
Cord, 6-pin modular, 14-ft	102937604
Cord, AC power, Austrailia, 8-ft	407051630
Cord, AC power, Germany, 6-ft	407051648
Cord, AC power, India, 8-ft	407406735
Cord, AC power, United Kingdom, 6-ft	406999243
Cord, power, monitor (PC style)	407115591
Cord, power, monitor (wall outlet)	406666263
Cord, power	406900092
Cord, telephone, 25-ft	103623195
CP, 8-port asynchronous interface	407009046

Continued on next page

Table B-1. Component Ordering Numbers — *Continued*

Basic Component Description	Order Number
CP, ACCX interface	106930944
CP, CPU, 50-MHz, 0 Mbyte memory	407019306
CP, CPU, 50-MHz, 0 Mbyte memory	407300342
CP, CPU, P5120, 0 Mbyte memory	407515204
CP, ethernet LAN interface	407199538
CP, GP-Synch	406801647
CP, IVC6 analog interface	106406580
CP, IVC6-1A analog interface	107213944
CP, remote maintenance kit	406969238
CP, SCSI drive controller	406830356
CP, SCSI drive controller	407021856
CP, serial, hi-speed	407429398
CP, video controller	406365809
CP, video controller	406901884
CP, video controller	407095835
CP, video controller	407356955
CP, video controller	4075300013
Disk drive, SCSI, 1.75-Gbyte	407071950
Disk drive, SCSI, 2.0-Gbyte	407340942
Fan bracket assembly	406591321
Fan, 12VDC, TA450	406568899
Filter, left door	406568873
Filter, right door	406568832
Floppy disk drive, 1.44-Mbyte	406664573
Floppy disk drive, 1.44-Mbyte	406832584
Fuse, 65VDC, 30A, VFB	406666412
Hardware, SID, Nor Telcom (Meridian)	407024702
Hardware, SID, Nor Telcom (SL-1)	407024694

Continued on next page

Table B-1. Component Ordering Numbers — *Continued*

Basic Component Description	Order Number
Hardware, SID, Mitel	407024728
Hardware, SID, NEAX	407024710
Hardware, SID, Rolm	407024686
IC, 16-Mbyte SIMM	406997601
IC, 16-Mbyte SIMM	407244094
IC, 16-Mbyte SIMM	407420116
IC, 32-Mbyte SIMM	407420124
Interface unit, AYC22 cable	107221467
Interface unit, AYC22 cable	407020510
Keyboard	406649657
Keyboard	406743336
Keyboard (GIS gray)	407104066
Main power distribution board	406798231
Monitor, color, VGA	406518779
Monitor, color, VGA	406594952
Monitor, color, VGA (GIS gray)	407088335
Panel, left side	406568907
Panel, right side	406568915
Power module, AC (ATT4)	406568808
Power module, AC (ATT8), with filter	407121805
Power module, AC	407417377
Rack mount package	4065448669
Receptacle, 1/4-turn	403291354
Resistor SIP, TDM terminator	403789167
Retainer, push-on	403867005
Stud, 1/4-turn	900491069
Tape drive, SCSI streaming	407194729
Tape drive, SCSI streaming, 2-Gbyte	407334507

Continued on next page

Table B-1. Component Ordering Numbers — *Continued*

Basic Component Description	Order Number
Terminator, single-ended active, SCSI-2	407524719
Tester, RS-232 mini	407515139
Toroid, ring type	405853458
Toroid, split type	407616846

Continued on next page

How to Build a System Using This Book

C

Checklist for Building a System

The following checklist assumes that you are starting with a MAP/100 shell which has only the power supply and the 12-slot backplane.

If your system does not have a power supply or a 12-slot backplane included, see Chapter 7, "Replacing Other Components", for the installation procedures.

Task	Description	Comments	Refer to	Done
1	Acquire all of the components necessary to build your system.		Appendix B, “Component Ordering Numbers“	
2	Determine the slot and bay locations for the equipment.		Appendix A, "System Configuration"	
3	Install the hard disk drive(s).		Chapter 6, “Replacing the Hard Disk Drive“	
4	Install the tape drive.		Chapter 7, "Replacing Other Components"	
5	Install the floppy disk drive.		Chapter 7, "Replacing Other Components"	

Task	Description	Comments	Refer to	Done
6	Install the circuit cards.		Chapter 5, "Replacing or Installing Circuit Cards"	
7	Apply power to the unit.		Chapter 4, "Getting Inside the Computer"	
8	Install the base system software.		Chapter 9, "Installing Base System Software"	
9	Install the Lucent INTUITY system software.		Chapter 10, "Installing Lucent INTUITY System Software"	
10	Install the UNIX multi-user software.	This is an optional feature software.	Chapter 11, "Installing the UNIX Multi-User Software"	
11	Perform initial administration and test on the system.		*Lucent INTUITY Messaging Solutions Release 4.0 MAP/100 System Installation*	

Disaster Recovery Checklists

D

Disaster Recovery Checklists

The following checklists are included in this section:

- Checklist for Software Reloading on Nonmirrored Lucent INTUITY Systems with Existing Hard Disk Drives
- Checklist for Lucent INTUITY Systems with All New Hard Disk Drives
- Checklist for Nonmirrored Lucent INTUITY Systems With a New Hard Disk Drive 0 and Existing Other Hard Disk Drives
- Checklist for Nonmirrored Lucent INTUITY Systems With an Existing Hard Disk Drive 0 and Other New Hard Disk Drive
- Checklist for Mirrored Lucent INTUITY Systems with a New Hard Disk Drive 0 and Existing Other Hard Disk Drives
- Checklist for Mirrored Lucent INTUITY Systems with an Existing Hard Disk Drive 0 and Other New Hard Disk Drive
- Checklist for Replacing Hard Disk Drive 6 (audfs) on a Nonmirrored System

Checklist for Software Reloading on Nonmirrored Lucent INTUITY Systems with Existing Hard Disk Drives

The procedures in this checklist should be conducted when your Lucent INTUITY system experiences a software disaster. This checklist should not be used if hard disk drives are being replaced.

Table D-1. Checklist for Software Reloading for Nonmirrored Lucent INTUITY Systems with Existing Hard Disk Drives

✓	Task	Reference Documentation
	Locate the most recent full attended backup tape. You will also need to use the nightly unattended backup tape which should be located in the cartridge tape drive. **⚠ WARNING:** *The attended backup tape contains subscriber data. If you do not have the attended backup tape, the Lucent INTUITY system will loose all subscriber data and messages, and you will need to re-administer all subscribers. Contact your remote maintenance center and inform them of the condition.*	
	Shutdown the Lucent INTUITY system.	"Shutting Down and Rebooting the Lucent INTUITY System", in Chapter 3, "Common System Procedures"
	Leave all hard disks connected to the SCSI bus.	
	Install the base system software. **⚠ CAUTION:** *You **must** use an operating system tape labeled "independent image." Do not install operating system software without the "independent image" label unless directed to do so by your remote maintenance center.*	"Installing UnixWare" and "Installing AUDIX Software", in Chapter 9, "Installing Base System Software"
	Install the Lucent INTUITY System software.	Chapter 10, "Installing Lucent INTUITY System Software"
	Reboot the Lucent INTUITY system.	"Shutting Down and Rebooting the Lucent INTUITY System", in Chapter 3, "Common System Procedures"

Continued on next page

Table D-1. Checklist for Software Reloading for Nonmirrored Lucent INTUITY Systems with Existing Hard Disk Drives — *Continued*

✓	Task	Reference Documentation
	Stop the voice system.	"Stopping the Voice System", in Chapter 3, "Common System Procedures"
	Load switch integration software.	The appropriate switch documentation.
	Load optional software packages such as CAS or UNIX® Multi-User software.	Chapter 11, "Installing the UNIX Multi-User Software" or The appropriate feature option documentation.
	Load RFU software update if any. Contact the remote maintenance center for the identity of the current RFU.	Chapter 12, "Installing an RFU"
	If you are restoring a system equipped with an internal remote maintenance circuit card, install the corresponding software.	"Remote Maintenance Circuit Card", in Chapter 5, "Replacing or Installing Circuit Cards"
	Reboot the Lucent INTUITY system.	"Shutting Down and Rebooting the Lucent INTUITY System", in Chapter 3, "Common System Procedures"
	Restore the backup tape(s) (attended and unattended).	"Restoring Backups", in Chapter 3, "Common System Procedures"
	View the features option screen to verify that all of the customer features purchased are activated. Contact your remote maintenance center if there are any discrepancies.	

Continued on next page

Table D-1. Checklist for Software Reloading for Nonmirrored Lucent INTUITY Systems with Existing Hard Disk Drives — *Continued*

✓	Task	Reference Documentation
	Check the system date and time.	"Verifying the Date and Time", in Chapter 3, "Common System Procedures"
	Place test calls to the system to verify installation.	
	Perform alarm origination test or ask your remote maintenance center to dial in to ensure that they can connect.	"Software and Hardware Procedures for Replacing Hard Disk Drive 0" in Chapter 6, "Replacing the Hard Disk Drive"

Checklist for Lucent INTUITY Systems with All New Hard Disk Drives

The procedures in this checklist should be conducted when you are replacing all of the hard disk drives on your Lucent INTUITY system. There are no provisions in this checklist for recovering existing file system. As a result, this checklist should not be used if any hard disk drive has been previously used in your Lucent INTUITY system.

Table D-2. Checklist for Lucent INTUITY Systems with All New Hard Disk Drives

✓	Task	Reference Documentation
	Locate the most recent full attended backup tape. You will also need to use the nightly unattended backup tape which should be located in the cartridge tape drive. **WARNING:** *The attended backup tape contains subscriber data. If you do not have the attended backup tape, the Lucent INTUITY system will loose all subscriber data and messages, and you will need to re-administer all subscribers. Contact your remote maintenance center and inform them of the condition.*	
	Install the hard disk drives.	"Hardware Procedures for Replacing the Hard Disk Drive" in Chapter 6, "Replacing the Hard Disk Drive"
	Install the base system software. **NOTE:** Do not run **installit** at this time. **CAUTION:** *You **must** use an operating system tape labeled "independent image." Do not install operating system software without the "independent image" label unless directed to do so by your remote maintenance center.*	"Installing UnixWare" and "Installing AUDIX Software", in Chapter 9, "Installing Base System Software"
	Clean the Hard Disk Drives 1 through 6.	"Cleaning a Hard Disk Drive," in Chapter 6, "Replacing the Hard Disk Drive"

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Table D-2. Checklist for Lucent INTUITY Systems with All New Hard Disk Drives — *Continued*

✓	Task	Reference Documentation
	Run **installit**	"Installing UnixWare" and "Installing AUDIX Software," in Chapter 9, "Installing Base System Software"
	Install the Lucent INTUITY system software.	Chapter 10, "Installing Lucent INTUITY System Software"
	Complete the software procedures to add Hard Disk Drives 1 through 6.	"Adding a Hard Disk Drive," in "Chapter 6, "Replacing the Hard Disk Drive""
	Rename Hard Disk Drive 6 as **audfsdisk**	"Adding a Hard Disk Drive," in "Chapter 6, "Replacing the Hard Disk Drive""
	Stop the voice system.	"Stopping the Voice System" in Chapter 3, "Common System Procedures"
	Load switch integration software.	The appropriate switch documentation.
	Load optional software packages such as CAS or UNIX® Multi-User software.	Chapter 11, "Installing the UNIX Multi-User Software" or The appropriate feature option documentation.
	Load RFU software update if any. Contact the remote maintenance center for the identity of the current RFU.	Chapter 12, "Installing an RFU"
	If you are restoring a system equipped with a remote maintenance circuit card, install the corresponding software.	"Remote Maintenance Circuit Card", in Chapter 5, "Replacing or Installing Circuit Cards"

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Table D-2. Checklist for Lucent INTUITY Systems with All New Hard Disk Drives — *Continued*

✓	Task	Reference Documentation
	If you are installing a system equipped with a GP-Synch or DCIU circuit card, install the corresponding software.	"GP-Synch Circuit Card," or "DCIU Circuit Card," in Chapter 5, "Replacing or Installing Circuit Cards"
	Reboot the Lucent INTUITY system.	"Shutting Down and Rebooting the Lucent INTUITY System", in Chapter 3, "Common System Procedures"
	Stop the voice system.	"Stopping the Voice System" in Chapter 3, "Common System Procedures"
	Restore the system from the backup tape(s) (attended and unattended).	"Restoring Backups", in Chapter 3, "Common System Procedures"
	View the features option screen to verify that all of the customer features purchased are activated Contact your remote maintenance center if there are any discrepancies.	
	Check the system date and time.	"Verifying the Date and Time", in Chapter 3, "Common System Procedures"
	Place test calls to the system to verify installation.	
	Perform alarm origination test or ask your remote maintenance center to dial in to ensure that they can connect.	"Software and Hardware Procedures for Replacing Hard Disk Drive 0", in Chapter 6, "Replacing the Hard Disk Drive"

Checklist for Nonmirrored Lucent INTUITY Systems with a New Hard Disk Drive 0 and Existing Other Hard Disk Drives

The procedures in this checklist should be conducted on a nonmirrored Lucent INTUITY system in which Hard Disk Drive 0 has failed. This checklist should not be used if Hard Disk Drive 6 or any other hard disk drive has also failed.

Table D-3. Checklist for Nonmirrored Lucent INTUITY Systems with a New Hard Disk Drive 0 and Existing Other Hard Disk Drives

✓	Task	Reference Documentation
	Locate the most recent full attended backup tape. You will also need to use the nightly unattended backup tape which should be located in the cartridge tape drive. **⚠ WARNING:** *The attended backup tape contains subscriber data. If you do not have the attended backup tape, the Lucent INTUITY system will loose all subscriber data and messages, and you will need to re-administer all subscribers. Contact your remote maintenance center and inform them of the condition.*	
	Remove the hard disk drive.	"Removing a Hard Disk Drive", in Chapter 6, "Replacing the Hard Disk Drive"
	Set the jumpers for the new hard disk drive to the correct settings for Hard Disk Drive 0.	"Readying a New Hard Disk Drive for Installation", in Chapter 6, "Replacing the Hard Disk Drive"
	Install the hard disk drive.	"Mounting a Hard Disk Drive in the MAP/100", in Chapter 6, "Replacing the Hard Disk Drive"

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Table D-3. Checklist for Nonmirrored Lucent INTUITY Systems with a New Hard Disk Drive 0 and Existing Other Hard Disk Drives — *Continued*

✓	Task	Reference Documentation
	Install the base system software. **⚠ CAUTION:** *You **must** use an operating system tape labeled "independent image." Do not install operating system software without the "independent image" label unless directed to do so by your remote maintenance center.*	"Installing UnixWare" and "Installing AUDIX Software", in Chapter 9, "Installing Base System Software"
	Install the Lucent INTUITY System software.	Chapter 10, "Installing Lucent INTUITY System Software"
	Stop the voice system.	"Stopping the Voice System", in Chapter 3, "Common System Procedures"
	Load the switch integration software.	The appropriate switch documentation.
	Load optional software packages such as CAS or UNIX® Multi-User software.	Chapter 11, "Installing the UNIX Multi-User Software" or The appropriate feature option documentation.
	Load RFU software update if any. Contact the remote maintenance center for the identity of the current RFU.	Chapter 12, "Installing an RFU"
	If you are restoring a system equipped with a remote maintenance circuit card, install the corresponding software.	"Remote Maintenance Circuit Card", in Chapter 5, "Replacing or Installing Circuit Cards"
	If you are installing a system equipped with a GP-Synch or DCIU circuit card, install the corresponding software.	"GP-Synch Circuit Card," or "DCIU Circuit Card," in Chapter 5, "Replacing or Installing Circuit Cards"

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Table D-3. Checklist for Nonmirrored Lucent INTUITY Systems with a New Hard Disk Drive 0 and Existing Other Hard Disk Drives — *Continued*

✓	Task	Reference Documentation
	Reboot the Lucent INTUITY system.	"Shutting Down and Rebooting the Lucent INTUITY System", in Chapter 3, "Common System Procedures"
	Stop the voice system.	"Stopping the Voice System", in Chapter 3, "Common System Procedures"
	Restore the unattended backup tape. **NOTE:** Only restore the unattended backup at this time.	"Restoring Backups", in Chapter 3, "Common System Procedures"
	Login as tsc.	
	Restore the attended backup from the UNIX prompt.	"Restoring the Attended and Unattended Backups", in Chapter 6, "Replacing the Hard Disk Drive"
	Remove the system from the disaster recovery state.	"Restoring the Attended and Unattended Backups", in Chapter 6, "Replacing the Hard Disk Drive"
	Login as craft.	
	Start the voice system.	"Starting the Voice System", in Chapter 3, "Common System Procedures"
	View the features option screen to verify that all of the customer features purchased are activated Contact your remote maintenance center if there are any discrepancies	
	Check the system date and time	"Verifying the Date and Time", in Chapter 3, "Common System Procedures"

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Table D-3. Checklist for Nonmirrored Lucent INTUITY Systems with a New Hard Disk Drive 0 and Existing Other Hard Disk Drives — *Continued*

✓	Task	Reference Documentation
	Place test calls to the system to verify installation	
	Perform alarm origination test or ask your remote maintenance center to dial in to ensure that they can connect. **NOTE:** If your system is not equipped with alarm origination, skip this procedure.	
	Complete the initial administration and test of the Lucent INTUITY system.	*Lucent INTUITY Messaging Solutions Release 4 MAP/40 and MAP/40s System Installation*

Checklist for Nonmirrored Lucent INTUITY Systems with an Existing Hard Disk Drive 0 and Other New Hard Disk Drives

The procedures in this checklist should be conducted on a nonmirrored Lucent INTUITY system in which a hard disk drive other than Hard Disk Drive 0 has failed. This checklist should not be used if Hard Disk Drive 0 has also failed.

Table D-4. Checklist for Nonmirrored Lucent INTUITY Systems with an Existing Hard Disk Drive 0 and Other New Hard Disk Drives

✓	Task	Reference Documentation
	Locate the most recent full attended backup or nightly unattended backup tape which should be located in the cartridge tape drive. **NOTE:** Use the most recent backup tape available.	
	Activate alarm suppression. **NOTE:** If your system does not have alarm origination, skip this procedure.	"Activating Alarm Suppression", in Chapter 6, "Replacing the Hard Disk Drive"
	Install Hard Disk Drive 1 in Bay 3.	"Software and Hardware Procedures for Replacing Hard Disk Drives 1 through 5", in Chapter 6, "Replacing the Hard Disk Drive"
	Reboot the Lucent INTUITY system.	"Shutting Down and Rebooting the Lucent INTUITY System", in Chapter 3, "Common System Procedures"
	Initialize Hard Disk Drive 1.	"Initializing the New Hard Disk Drive", in Chapter 6, "Replacing the Hard Disk Drive"
	Inactivate alarm suppression. **NOTE:** If your system does not have alarm origination, skip this procedure.	"Inactivating Alarm Suppression", in Chapter 6, "Replacing the Hard Disk Drive"

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Table D-4. Checklist for Nonmirrored Lucent INTUITY Systems with an Existing Hard Disk Drive 0 and Other New Hard Disk Drives — *Continued*

✓	Task	Reference Documentation
	Stop the voice system.	"Stopping the Voice System" in Chapter 3, "Common System Procedures"
	Restore the backup tape.	"Restoring Backups", in Chapter 3, "Common System Procedures"
	Start the voice system.	"Starting the Voice System", in Chapter 3, "Common System Procedures"

Checklist for Mirrored Lucent INTUITY Systems with a New Hard Disk Drive 0 and Existing Other Hard Disk Drives

The procedures in this checklist should be conducted on a mirrored Lucent INTUITY system in which Hard Disk Drive 0 has failed. This checklist should not be used if Hard Disk Drive 1 has also failed.

Table D-5. Checklist for Mirrored Lucent INTUITY Systems with a New Hard Disk Drive 0 and Existing Other Hard Disk Drives

✓	Task	Reference Documentation
	Perform an attended backup.	"Backing Up (Attended)", in Chapter 3, "Common System Procedures"
	Shutdown the Lucent INTUITY system	"Shutting Down and Rebooting the Lucent INTUITY System", in Chapter 3, "Common System Procedures"
	Activate alarm suppression. **NOTE:** If your system does not have alarm origination, skip this procedure.	"Inactivating Alarm Suppression", in Chapter 6, "Replacing the Hard Disk Drive"
	Remove Hard Disk Drive 0 and Hard Disk Drive 1.	"Removing a Hard Disk Drive", in Chapter 6, "Replacing the Hard Disk Drive"
	Change the jumper settings on Hard Disk Drive 1 to the correct positions for Hard Disk Drive 0.	"Readying a New Hard Disk Drive for Installation", in Chapter 6, "Replacing the Hard Disk Drive"
	Set the jumpers for the new hard disk drive to the correct position for Hard Disk Drive 1.	"Readying a New Hard Disk Drive for Installation", in Chapter 6, "Replacing the Hard Disk Drive"
	Place the modified Hard Disk Drive 1 in Bay 1 and the new hard disk drive in Bay 5.	"Mounting a Hard Disk Drive in the MAP/100", in Chapter 6, "Replacing the Hard Disk Drive"

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Table D-5. Checklist for Mirrored Lucent INTUITY Systems with a New Hard Disk Drive 0 and Existing Other Hard Disk Drives — *Continued*

✓	Task	Reference Documentation
	Reboot the Lucent INTUITY system	"Shutting Down and Rebooting the Lucent INTUITY System", in Chapter 3, "Common System Procedures"
	Initialize the new hard disk drive to reflect the correct settings for Hard Disk Drive 0.	"Initializing the New Hard Disk Drive", in Chapter 6, "Replacing the Hard Disk Drive"
	Shutdown the Lucent INTUITY system.	"Shutting Down and Rebooting the Lucent INTUITY System", in Chapter 3, "Common System Procedures"
	Remove the hard disk drives.	"Removing a Hard Disk Drive", in Chapter 6, "Replacing the Hard Disk Drive"
	Change the jumper settings on the hard disk drive removed from Bay 1 to the correct positions for Hard Disk Drive 1. **NOTE:** This hard disk drive was originally Hard Disk Drive 1.	"Readying a New Hard Disk Drive for Installation", in Chapter 6, "Replacing the Hard Disk Drive"
	Change the jumpers for the new hard disk drive to the correct position for Hard Disk Drive 0.	"Readying a New Hard Disk Drive for Installation", in Chapter 6, "Replacing the Hard Disk Drive"

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Table D-5. Checklist for Mirrored Lucent INTUITY Systems with a New Hard Disk Drive 0 and Existing Other Hard Disk Drives — *Continued*

✓	Task	Reference Documentation
	Place Hard Disk Drive 0 in Bay 1 and Hard Disk Drive 1 in Bay 5.	"Mounting a Hard Disk Drive in the MAP/100", in Chapter 6, "Replacing the Hard Disk Drive"
	Reboot the Lucent INTUITY system.	"Shutting Down and Rebooting the Lucent INTUITY System", in Chapter 3, "Common System Procedures"
	Inactivate alarm suppression. **NOTE:** If your system does not have alarm origination, skip this procedure.	"Inactivating Alarm Suppression", in Chapter 6, "Replacing the Hard Disk Drive"

Checklist for Mirrored Lucent INTUITY Systems with an Existing Hard Disk Drive 0 and Other New Hard Disk Drives

The procedures in this checklist should be conducted on a mirrored Lucent INTUITY system in which a hard disk drive other than Hard Disk Drive 0 has failed. This checklist should not be used if Hard Disk Drive 0 has also failed.

Table 12-1. Checklist for Mirrored Lucent INTUITY Systems with an Existing Hard Disk Drive 0 and Other New Hard Disk Drives

✓	Task	Reference Documentation
	Perform an attended backup.	"Backing Up (Attended)" in Chapter 3, "Common System Procedures"
	Identify the failed hard disk drive.	"Identifying a Failed Hard Disk Drive" in Chapter 6, "Replacing the Hard Disk Drive"
	Activate alarm suppression. **NOTE:** If your system does not have alarm origination, skip this procedure.	"Activating Alarm Suppression" in Chapter 6, "Replacing the Hard Disk Drive"
	Shutdown the Lucent INTUITY system	"Shutting Down and Rebooting the Lucent INTUITY System" in Chapter 3, "Common System Procedures"
	Remove the failed hard disk drive.	"Removing a Hard Disk Drive" in Chapter 6, "Replacing the Hard Disk Drive"
	Set the jumpers on the new hard disk drive to reflect the correct hard disk drive number.	"Initializing the New Hard Disk Drive" in Chapter 6, "Replacing the Hard Disk Drive"
	Install the new hard disk drive.	"Mounting a Hard Disk Drive in the MAP/100" in Chapter 6, "Replacing the Hard Disk Drive"

Table 12-1. Checklist for Mirrored Lucent INTUITY Systems with an Existing Hard Disk Drive 0 and Other New Hard Disk Drives — *Continued*

✓	Task	Reference Documentation
	Reboot the Lucent INTUITY system	"Shutting Down and Rebooting the Lucent INTUITY System" in Chapter 3, "Common System Procedures"
	Initialize the new hard disk drive to reflect the correct settings.	Chapter 6, "Initializing the New Hard Disk Drive" in Chapter 6, "Replacing the Hard Disk Drive"
	Inactivate alarm suppression. **NOTE:** If your system does not have alarm origination, skip this procedure.	"Inactivating Alarm Suppression" in Chapter 6, "Replacing the Hard Disk Drive"

Checklist for Replacing Hard Disk Drive 6 (audfs) on a Nonmirrrored Lucent INTUITY System

The procedures in this checklist should be conducted on a nonmirrored Lucent INTUITY system in which a Hard Disk Drive 6 has failed.

Table D-6. Checklist for Hard Disk Drives 6 (audfs) on a Nonmirrored Lucent INTUITY System

✓	Task	Reference Documentation
	Perform an attended backup.	"Backing Up (Attended)", in Chapter 3, "Common System Procedures"
	Activate alarm suppression. **NOTE:** If your system does not have alarm origination, skip this procedure.	"Activating Alarm Suppression", in Chapter 6, "Replacing the Hard Disk Drive"
	Shutdown the Lucent INTUITY system	"Shutting Down and Rebooting the Lucent INTUITY System", in Chapter 3, "Common System Procedures"
	Remove the failed hard disk drive.	"Removing a Hard Disk Drive", in Chapter 6, "Replacing the Hard Disk Drive"
	Set the jumpers on the new hard disk drive to reflect the correct hard disk drive number.	"Initializing the New Hard Disk Drive", in Chapter 6, "Replacing the Hard Disk Drive"
	Install the new hard disk drive.	"Mounting a Hard Disk Drive in the MAP/100", in Chapter 6, "Replacing the Hard Disk Drive"
	Reboot the Lucent INTUITY system	"Shutting Down and Rebooting the Lucent INTUITY System", in Chapter 3, "Common System Procedures"

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Table D-6. Checklist for Hard Disk Drives 6 (audfs) on a Nonmirrored Lucent INTUITY System — *Continued*

✓	Task	Reference Documentation
	Initialize the new hard disk drive to reflect the correct settings.	"Initializing the New Hard Disk Drive", in Chapter 6, "Replacing the Hard Disk Drive"
	Install the default voice mail database.	"Installing the Default Voice Mail Database", in Chapter 6, "Replacing the Hard Disk Drive"
	Restore the Lucent Intuity system using the back-up tapes.	"Restoring the Lucent INTUITY System from the Backup Tapes", in Chapter 6, "Replacing the Hard Disk Drive"
	Inactivate alarm suppression. **NOTE:** If your system does not have alarm origination, skip this procedure.	"Inactivating Alarm Suppression", in Chapter 6, "Replacing the Hard Disk Drive"

Abbreviations

A

AAR
automatic alternate routing

AC
alternating current

ACA
automatic circuit assurance

ACD
automatic call distribution

ADAP
administration and data acquisition package

ADU
asynchronous data unit

ALT
assemble load and test

AMIS
Audio Messaging Interchange Specification

API
application programming interface

ARS
automatic route selection

ASCII
American Standard Code for Information Exchange

AUDIX
Audio Information Exchange

AWG
American wire gauge

B

BIOS
basic input/output system

bit
binary digit

bps
bits per second

BRI
basic rate interface

BSC
binary synchronous communications

BTU
British thermal unit

C

CAS
call accounting system

CCA
call classification analysis

CDH
call data handler process

CDR
call detail recording

CED
called tone

CELP
code excited linear prediction

CICS
customer information control system

CMS
call management system

CNG
calling tone

CO
central office

COIN
central office implemented network

COM1
serial communications port 1

COM2
serial communications port 2

COR
class of restriction

COS
class of service

CPU
central processing unit

CSI
called subscriber information

CTS
clear to send

D

DAC
dial access code

DBP
database processor

DC
direct current

DCE
data communications equipment

DCIU
data communications interface unit

DCP
digital communications protocol

DCS
distributed communications system

DID
direct inward dialing

DIP
data interface process

DMA
direct memory access

DNIS
dialed number identification service

DSP
digital signal processor

DSR
data set ready

DSU
data service unit

DTE
data terminal equipment

DTMF
dual tone multifrequency

DTR
data terminal ready

E

EIA
Electronic Industries Association

ESD
electrostatic discharge

ESS
electronic switching system

F

F key
function key

FIFO
first-in first-out

FNPA
foreign numbering plan area

FOOS
facility out of service

FRL
facilities restriction level

FX
foreign exchange

G

BCS
Business Communications Systems

GOS
grade of service

H

Hz
hertz

I

I/O
input/output

IDI
isolating data interface

IMAPI
Lucent INTUITY messaging application programming interface

INADS
initialization and administration system

IRQ
interrupt request

ISDN
integrated services digital network

IVC6
integrated voice CELP card (6 channels)

K

Kbps
kilobits per second

Kbyte
kilobyte (1024 bytes)

kHz
kilohertz

L

LAN
local area network

LCD
liquid crystal display

LED
light-emitting diode

LIFO
last-in first-out

LWC
leave word calling

M

MAP
multi-application platform

MANOOS
manually out of service

Mbyte
megabyte (one million bytes)

MHz
megahertz

MMISC
Multimedia Messaging Implementation and Sales Center

modem
modulator/demodulator

MPDM
modular processor data module

ms
millisecond

MT
maintenance (Lucent INTUITY software component)

MTBF
mean time between failures

MWI
message-waiting indicator

MWL
message-waiting lamp

N

NPA
numbering plan area

NW
INTUITY AUDIX Digital Networking

O

OA&M
operations, administration, and maintenance

OS
operating system

OSI
open systems interconnection

P

PBX
private branch exchange

PC
power converter or personal computer

PDM
processor data module

PEC
price element code

PI
processor interface

PIB
processor interface board

POST
power-on self test

R

RAM
random-access memory

REN
ringer equivalence number

ROM
read-only memory

RTS
request to send

RTU
right to use

RUK
reusable upgrade kit

S

SAT
system access terminal

SCA
switch communications adapter

SCSI
small computer systems interface

SID
switch integration device

SIMM
single in-line memory module

SMDR
station message detail recording

SMSI
simplified message service interface

SW
switch integration (Lucent INTUITY software component)

T

TAC
trunk access code

TCP/IP
Transmission Control Protocol/Internet Program

TDD
telecommunications device for the deaf

TDM
time division multiplex

T/R
tip/ring

TRIP
tip/ring input process

TSC
Technical Services Center

U

UCD
uniform call distribution

UCL
unrestricted call list

UPS
uninterruptable power supply

V

VM
INTUITY AUDIX Voice Messaging

VNI
virtual nodepoint identifier

VP
voice platform (Lucent INTUITY software component)

VROP
voice response output process

W

WAN
wide area network

WATS
wide area telephone service

WCR
world class routing

Glossary

5ESS Switch
A central office switch manufactured by AT&T that can be integrated with the Lucent INTUITY system.

A

accessed message
A message that was received and scanned (either the entire message or just the header).

ACD
See *automatic call distribution*.

activity menu
The list of options spoken to users when they first access a messaging system. Selecting an activity is the starting point for all user operations.

ADAP
See *administration and data acquisition package*.

address
INTUITY AUDIX user identification, containing the user's extension and machine, that indicates where the system needs to deliver a message. An address may include several users or mailing lists. Name or number addressing can be selected with the * A (Address) command.

adjunct
A separate system closely integrated with a switch, such as an Lucent INTUITY system or a call management system (CMS).

administration
The process of setting up a system (such as a switch or a messaging system) to function as desired. Options and defaults are normally set up (translated) by the system administrator or service personnel.

administration and data acquisition package (ADAP)
A software package that allows the system administrator to transfer system user, maintenance, or traffic data from an INTUITY AUDIX system to a personal computer (PC).

ADU
See *asynchronous data unit*.

alarm log
A list of alarms that represent all of the active or resolved problems on an Lucent INTUITY system. The alarm log is stored in a software file on disk and can be accessed either locally or remotely on a terminal connected to the system.

alarms
Hardware, software, or environmental problems that may affect system operation. Alarms are classified as *major*, *minor*, or *warning*.

alphanumeric
Consisting of alphabetic and numeric symbols or punctuation marks.

ALT
See *assemble, load, and test.*

American wire gauge (AWG)
A standard measuring gauge for nonferrous conductors.

AMIS
See *Audio Messaging Interchange Specification*.

AMIS prefix
A number added to the destination number to indicate that it is an AMIS analog networking number.

ampere (amp)
The unit of measurement of electric current. One volt of potential across one ohm causes a current flow of one amp.

analog networking
A method of transferring a message from one messaging system to another whereby the message is played back (voiced) during the transfer.

analog signal
In teleprocessing usage, a communications path that usually refers to a voice-grade telephone line.

announcement
A placeholder within the Lucent INTUITY system for playing fragments. Each event that may occur within AUDIX has one or more announcement numbers permanently assigned to it. Fragment numbers are then assigned to the announcement numbers.

announcement fragment
A numbered piece of spoken information that makes up a system message or prompt.

antistatic
A treatment for material to prevent the build-up of static electricity.

API
See *application programming interface.*

application
A computer software program.

application programming interface (API)
A set of formalized software calls and routines that an application program can reference to access underlying network services.

assemble, load, and test (ALT)
The AT&T factory process that preloads software, installs hardware, and tests the system prior to shipping.

asynchronous communication
A method of data transmission in which bits or characters are sent at irregular intervals and spaced by start and stop bits rather than time. See also *synchronous communication*.

asynchronous data unit (ADU)
An electronic communications device that can extend data transmission over asynchronous lines more than 50 feet in length. Recommended ADUs for use with the Lucent INTUITY system include Z3A1 or Z3A4.

asynchronous transmission
A form of serial communications where each transmitted character is bracketed with a start bit and one or two stop bits. The Lucent INTUITY system provides asynchronous EIA-232 capabilities for INTUITY AUDIX Digital Networking, if required.

attendant console
A special-purpose telephone with numerous lines and features usually located at the front desk of a business or other organization. The front desk attendant uses this telephone to answer and transfer calls.

Audio Messaging Interchange Specification (AMIS)
An analog networking protocol that allows users to exchange messages with any messaging system that also has AMIS Analog Networking capabilities. Messages can be exchanged with users on Lucent INTUITY systems as well as with users on remote messaging systems made by vendors other than Lucent.

Audio Information Exchange (AUDIX)
A complete messaging system accessed and operated by touch-tone telephones and integrated with a switch.

audit
A software program that resolves filesystem incompatibilities and updates restored filesystems to a workable level of service. Audits are done automatically on a periodic basis, or can be performed on demand.

AUDIX
See *Audio Information Exchange*.

autodelete
An INTUITY AUDIX feature that allows users to designate that faxes be automatically deleted from their mailboxes after they are printed.

automated attendant
A Lucent INTUITY system feature that allows users to set up a main extension number with a menu of options that routes callers to an appropriate department at the touch of a button.

automatic call distribution (ACD)
The System 85, Generic 2, or Generic 3 call-distribution group of analog ports that connects Lucent INTUITY users and users to the system. See also *call-distribution group*.

automatic message scan
An INTUITY AUDIX feature that allows users to scan all message headers and messages at the touch of two buttons. With Lucent INTUITY Fax Messaging, this feature allows all new faxes to be bundled and transmitted over a single fax call delivery call. Also called *autoscan*.

autoprint
An INTUITY AUDIX feature that allows users to designate that faxes be automatically sent to a specified print destination.

autoscan
See *automatic message scan*.

AWG
See *American wire gauge.*

B

background testing
Testing that runs continuously when the system is not busy doing other tasks.

backplane
A centrally located device within a computer to which individual circuit cards are plugged for communication across an internal bus.

backup
A duplicate copy of files and directories saved on a removable medium such as floppy diskette or tape. The back-up filesystem can be copied back (restored) if the active version is damaged (corrupted) or lost.

basic input/output system (BIOS)
A system that contains the buffers for sending information from a program to the actual hardware device for which the information is intended.

baud
A unit of measurement that describes the speed of transferred information.

baud rate
Transmission signaling speed.

basic call transfer
The switch-hook flash method used to send the INTUITY AUDIX transfer command over analog voice ports.

basic rate access
See *basic rate interface*.

basic rate interface (BRI)
International standard protocol for connecting a station terminal to an integrated systems digital network (ISDN) switch. ISDN BRI supports two 64-Kbps information-bearer channels (B1 and B2), and one 16-Kbps call status and control (D) channel (a 2B + D format). Also called b*asic rate access*.

binary digit (bit)
Two-number notation that uses the digits 0 and 1. Low-order bits are on the right (for example, 0001=1, 0010=2, and so forth). Four bits make a nybble; eight bits make a byte.

binary synchronous communications (BSC)
A character-oriented synchronous link protocol.

BIOS
See *basic input/output system*.

bit
See *binary digit*.

bits per second
The number of binary units of information (1s or 0s) that can be transmitted per second. *Mbps* refers to a million bits per second; *Kbps* refers to a thousand bits per second.

body
The part of a Lucent INTUITY voice mail that contains the actual spoken message. For a leave word calling (LWC) message, it is a standard system announcement.

boot
The operation to start a computer system by loading programs from disk to main memory (part of system initialization). Booting is typically accomplished by physically turning on or restarting the system. Also called *reboot*.

boot filesystem
The filesystem from which the system loads its initial programs.

bps
See *bits per second*.

BRI
See *basic rate interface*.

broadcast messaging
An INTUITY AUDIX feature that enables the system administrator and other designated users to send a message to all users automatically.

BSC
See *binary synchronous communications*.

buffer
A temporary storage area used to equalize or balance different operating speeds. A buffer can be used between a slow input device, such as a terminal keyboard, and the main computer, which operates at a very high speed.

bulletin board
An INTUITY AUDIX feature that allows a message to be played to callers who dial the bulletin board extension. Callers cannot leave a message since it is a listen-only service. Also called *information service*.

bundling
Combining several calls and handling them as a single call. See also *automatic message scan*.

bus
An electrical connection/cable allowing two or more wires, lines, or peripherals to be connected together.

busy-out/release
To remove a Lucent INTUITY device from service (make it appear busy or in use), and later restore it to service (release it). The Lucent INTUITY switch data link, voice ports, or networking ports may be busied out if they appear faulty or when maintenance tests are run.

byte
A unit of storage in the computer. On many systems, a byte is 8 bits (binary digits), the equivalent of one character of text.

C

call accounting system (CAS)
A software device that monitors and records information about a calling system.

call-answer
An INTUITY AUDIX feature that allows the system to answer a call and record a message when the user is unavailable. Callers can be redirected to the system through the call coverage or call forwarding switch features. INTUITY AUDIX users can record a personal greeting for these callers.

call-answer language choice
The capability of user mailboxes to accept messages in different languages. For the INTUITY AUDIX application, this capability exists when the multilingual feature is turned on.

callback number
In AMIS analog networking, the telephone number transmitted to the recipient machine to be used in returning messages that cannot be delivered.

call coverage
A switch feature that defines a preselected path for calls to follow if the first (or second) coverage points are not answered. The Lucent INTUITY system may be placed at the end of a coverage path to handle redirected calls through call coverage, send all calls, go to cover, etc.

call delivery
See *message delivery*.

call-distribution group
The set of analog port cards on the switch that connects switch users to the Lucent Intuity system by distributing new calls to idle ports. This group (or split) is called automatic call distribution (ACD) on System 85, Generic 2, and Generic 3 and uniform call distribution (UCD) on System 75, Generic 1, and Generic 3. See also *automatic call distribution* and *uniform call distribution*.

call management system (CMS)
An inbound call distribution and management reporting package.

called tone (CED tone)
The distinctive tone generated by a fax endpoint when it answers a call (a constant 2100-Hz tone).

called subscriber information (CSI)
The identifier for the answering fax endpoint. This identifier is sent in the T.30 protocol and is generally the telephone number of the fax endpoint.

calling tone (CNG tone)
The distinctive tone generated by a fax endpoint when placing a call (a constant 1100-Hz tone that is on for 1/2 second, off for 3 seconds).

call vectoring
A System 85 R2V4, Generic 2, and Generic 3 feature that uses a vector (switch program) to allow a switch administrator to customize the behavior of calls sent to an automatic call distribution (ACD) group.

card cage
An area within the Lucent INTUITY hardware platform that contains and secures all of the standard and optional circuit cards used in the system.

cartridge tape drive
A high-capacity data storage/retrieval device that can be used to transfer large amounts of information onto high-density magnetic cartridge tape based on a predetermined format. This tape is to be removed from the system and stored as a backup.

CAS
See *call accouting system*.

CED tone
See *called tone*.

CELP
See *code excited linear prediction*.

central office (CO)
An office or location in which large telecommunication equipment such as telephone switches and network access facilities are maintained. In a CO, private customer lines are terminated and connected to the public network through common carriers.

central processing unit (CPU)
The component of the computer that manipulates data and processes instructions coming from software.

channel
A telecommunications transmission path for voice and/or data.

channel capacity
A measure of the maximum bit rate through a channel.

CICS
See *customer information control system*.

class of service (COS)
The standard set of INTUITY AUDIX features given to users when they are first administered (set up with a voice mailbox).

clear to send (CTS)
Located on Pin 5 of the 25-conductor RS-232 interface, CTS is used in the transfer of data between the computer and a serial device.

client
A computer that sends, receives and uses data, but that also shares a larger resource whose function is to do most data storage and processing. For Lucent INTUITY Message Manager, the user's PC running Message Manager is the client. See also *server*.

CMS
See *call management system*.

CNG tone
See *calling tone*.

CO
See *central office*.

code excited linear prediction (CELP)
An analog-to-digital voice coding scheme.

collocated
A Lucent INTUITY system installed in the same physical location as the host switch. See also *local installation*.

collocated adjunct
Two or more adjuncts that are serving the same switch (that is, each has voice port connections to the switch) or that are serving different switches but can be networked through a direct RS-232 connection due to their proximity.

comcode
A numbering system for telecommunications equipment used by AT&T. Each comcode is a nine-digit number that represents a specific piece of hardware, software, or documentation.

command
An instruction or request given by the user to the software to perform a particular function. An entire command consists of the command name and options. Also, one- or two-key touch tones that control a mailbox activity or function.

community
A group of telephone users administered with special send and receive messaging capabilities. A community is typically comprised of people who need full access to each other by telephone on a frequent basis. See also *default community*.

compound message
A message that combines a voice message and a fax message into one unit, which INTUITY AUDIX then handles as a single message.

configuration
The particular combination of hardware and software components selected for a system, including external connections, internal options, and peripheral equipment.

controller circuit card
A circuit card used on a computer system that controls its basic functionality and makes the system operational. These cards are used to control magnetic peripherals, video monitors, and basic system communications.

COS
See *class of service*.

coverage path
The sequence of alternate destinations to which a call to a user on a Lucent INTUITY system is automatically sent when it is not answered by the user. This sequence is set up on the switch, normally with the Lucent INTUITY system as the last or only destination.

CPU
See *central processing unit*.

cross connect
Distribution-system equipment used to terminate and administer communication circuits.

cross connection
The connection of one wire to another, usually by anchoring each wire to a connecting block and then placing a third wire between them so that an electrical connection is made.

CSI
See *called subscriber information*.

CTS
See *clear to send*.

D

DAC
See *dial access code*.

database
A structured set of files, records, or tables. Also, a collection of filesystems and files in disk memory that store the voice and nonvoice (program data) necessary for Lucent INTUITY system operation.

data communications equipment (DCE)
Standard type of data interface normally used to connect to data terminal equipment (DTE) devices. DCE devices include the data service unit (DSU), the isolating data interface (IDI), and the modular processor data module (MPDM).

data communications interface unit (DCIU)
A switch device that allows nonvoice (data) communication between a Lucent INTUITY system and a Lucent switch. The DCIU is a high-speed synchronous data link that communicates with the common control switch processor over a direct memory access (DMA) channel that reads data directly from FP memory.

data link
A term used to describe the communications link used for data transmission from a source to a destination, for example, a telephone line for data transmission.

data service unit (DSU)
A device used to access digital data channels. DATAPHONE II 2500 DSUs are synchronous data communications equipment (DCE) devices used for extended-local Lucent Intuity system connections. The 2600 or 2700 series may also be used; these support diagnostic testing and the DATAPHONE II Service network system.

data set
Another term for a modem, although a data set usually includes the telephone. See also *modem*.

data terminal equipment (DTE)
Standard type of data interface normally used for the endpoints in a connection. Normally the Lucent INTUITY system, most terminals, and the switch data link are DTE devices.

data terminal ready (DTR)
A control signal sent from the data terminal equipment (DTE) to the data communications equipment (DCE) that indicates the DTE is on and ready to communicate.

DBP
See *data base processor*.

DCE
See *data communications equipment*.

DCIU
See *data communications interface unit*.

DCP
See *digital communications protocol*.

DCS
See *distributed communications system*.

debug
See *troubleshoot*.

dedicated line
A communications path that does not go through a switch. A dedicated (hard-wired) path can be formed with directly connected cables. MPDMs, DSUs, or other devices can also be used to extend the distance that signals can travel directly through the building wiring.

default
A value that is automatically supplied by the system if no other value is specified.

default community
A group of telephone users administered with restrictions to prevent them from sending messages to or receiving messages from other communities. If a system is administered to use communities, the default community is comprised of all the AUDIX users defined on that system.

default print number
The user-administered extension to which autoprinted faxes are redirected upon their receipt into the user's mailbox. This default print destination is also provided as a print option when the user is manually retrieving and printing faxes from the mailbox.

delivered message
A message that has been successfully transmitted to a recipient's incoming mailbox.

demand testing
Testing performed on request (usually by service personnel).

diagnostic testing
A program run for testing and determining faults in the system.

dial-ahead/dial-through
The act of interrupting or preceding INTUITY AUDIX system announcements by typing (buffering) touch-tone commands in the order the system would normally prompt for them.

dial string
A series of numbers used to initiate a call to a remote AMIS machine. A dial string tells the switch what type of call is coming (local or long distance) and gives the switch time to obtain an outgoing port, if applicable

dialed number identification service (*DNIS_SVC)
An available channel service assignment on the Lucent INTUITY system. Assigning this service to a channel permits the Lucent INTUITY system to interpret information from the switch and operate the appropriate application for the incoming telephone call.

DID
See *direct inward dialing*.

digital
Discrete data or signals such as 0 and 1, as opposed to analog continuous signals.

digital communications protocol (DCP)
A 64-Kbps digital data transmission code with a 160-Kbps bipolar bit stream divided into two information (I) channels and one signaling (S) channel.

digital networking
A method of transferring messages between messaging systems in a digital format. See also *Intuity AUDIX Digital Networking*.

digital signal processor
A specialized digital microprocessor that performs calculations on digitized signals that were originally analog and then sends the results on.

DIP switch
See *dual in-line package switch*.

direct inward dialing
The ability for an outside caller to call an internal extension without having to pass through an operator or attendant.

direct memory access (DMA)
A quick method of moving data from a storage device directly to RAM, which speeds processing.

directory
A Lucent INTUITY AUDIX feature that allows you to hear a user's name and extension after pressing * * N at the activity menu. 2. A group of related files accessed by a common name in software.

display terminal
A data terminal with a screen and keyboard used for displaying Lucent INTUITY screens and performing maintenance or administration activities.

distributed communications system (DCS)
A network of two or more switches that uses logical and physical data links to provide full or partial feature transparency. Voice links are made using tie trunks.

distribution list
See *mailing list*.

DMA
See *direct memory access*.

DNIS
See *dialed number identification service*.

domain
An area where data processing resources are under common control. The AUDIX system is one domain and an e-mail system is another domain.

DSP
See *digital signal processor*.

DSU
See *data service unit*.

DTE
See *data terminal equipment*.

DTMF
See *dual tone multifrequency*.

dual in-line package (DIP) switch
A small switch, usually attached to a printed circuit card, in which there are only two settings: on or off (or 0 or 1). DIP switches are used to configure the card in a semipermanent way.

dual language greetings
The capability of INTUITY AUDIX users to create personal greetings in two different languages—one in a primary language and one in a secondary language. This capability exists when the

multilingual feature is turned on and the prompts for user mailboxes can be in either of the two languages.

dual tone multifrequency (DTMF)
A way of signaling consisting of a pushbutton or touch-tone dial that sends out a sound consisting of two discrete tones that can be picked up and interpreted by telephone switches.

E

EIA interface
A set of standards developed by the Electrical Industries Association (EIA) that specifies various electrical and mechanical characteristics for interfaces between electronic devices such as computers, terminals, and modems. Also known as *RS-232*.

electrostatic discharge (ESD)
Discharge of a static charge on a surface or body through a conductive path to ground. ESD can be damaging to integrated circuits.

electronic mail
See *e-mail*.

e-mail
The transfer of a wide variety of message types across a computer network (LAN or WAN). E-mail messages may be text messages containing only ASCII or may be complex multimedia messages containing embedded voice messages, software files, and images.

enabled/disabled
The state of a hardware device that indicates whether it is available for use by the Lucent INTUITY system. Devices must be equipped before they can be enabled (made active). See also *equipped/unequipped*.

endpoint
See *fax endpoint*.

enhanced call transfer
An INTUITY AUDIX feature that allows compatible switches to transmit messages digitally over the BX.25 (data) link. This feature is used for quick call transfers and requires a fully integrated digital switch. Callers can only transfer to other extensions in the switch dial plan.

enhanced serial data interface
A software- and hardware-controlled method used to store data on magnetic peripherals.

equipped/unequipped
The state of a networking channel that indicates whether Lucent INTUITY software has recognized it. Devices must be equipped before they can be enabled (made active). See also *enabled/ disabled*.

error message
A message on the screen indicating that something is wrong and possibly suggesting how to correct it.

errors
Problems detected by the system during operation and recorded in the maintenance log. Errors can produce an alarm if they exceed a threshold.

escape from reply
The ability to quickly return to getting messages for a user who encounters a problem trying to respond to a message. To escape, the user presses #.

escape to attendant
An INTUITY AUDIX feature that allows users with the call answer feature to have a personal attendant or operator administered to pick up their unanswered calls. A system-wide extension could also be used to send callers to a live agent.

ESD
See *electrostatic discharge*.

event
An informational messages about the system's activities. For example, an event is logged when the system is rebooted. Events may or may not be related to errors and alarms.

F

facility out-of-service
State of operation during which the current channel is not receiving a dial tone and is not functioning.

facsimile
1. A digitized version of written, typed, or drawn material transmitted over telephone lines and printed out elsewhere. 2. Computer-generated text or graphics transmitted over computer networks. A computer-generated fax is typically printed to a fax machine but can remain stored electronically.

fax
See *facsimile*.

fax addressing prefix
Uniquely identifies a particular fax endpoint to the Lucent INTUITY system. Used by the system as a "template" to differentiate all call-delivery machines on the network from each other.

fax endpoint
Any device capable of receiving fax calls. Fax endpoints include fax machines, individual PC fax modems, fax ports on LAN fax servers, and ports on fax-enabled messaging systems.

fax print destination prefix
A dial string that the Lucent INTUITY system adds to the fax telephone number the user enters to print a fax. The system takes the full number (fax print destination prefix + fax telephone extension) and hunts through the machine translation numbers until it finds the specific fax endpoint.

field
An area on a screen, menu, or report where information can be typed or displayed.

FIFO
See *first-in/first-out*.

file
A collection of data treated as a basic unit of storage.

filename
Alphanumeric characters used to identify a particular file.

file redundancy
See *mirroring*.

file system
A collection of related files (programs or data) stored on disk that are required to initialize an Lucent INTUITY system.

first-in/first-out (FIFO)
A method of processing telephone calls or data in which the first call (or data) to be received is the first call (or data) to be processed.

F key
See *function key*.

FOOS
See *facility out-of-service*.

format
To set up a disk, floppy diskette, or tape with a predetermined arrangement of characters so that the system can read the information on it.

function
Individual steps or procedures within a mailbox activity.

function key (F key)
A key on a computer keyboard programmed to perform a defined function when pressed. The user interface for the Lucent INTUITY system defines keys F1 through F8.

G

Generic 1, 2, or 3
AT&T switch system software releases, designed for serving large communities of System 75 and System 85 users.

generic tape
A copy of the standard software and stand-alone tape utilities that is shipped with a new Lucent INTUITY system.

GOS
See *grade of service*.

grade of service (GOS)
A parameter that describes the delays in accessing a port on the Lucent INTUITY system. For example, if the GOS is P05, 95% of the callers hear the system answer and 5% hear ringing until a port becomes available to answer the call.

guaranteed fax
A feature of Lucent INTUITY FAX Messaging that temporarily stores faxes sent to a fax machine. In cases where the fax machine is busy or does not answer a call, the call is sent to an INTUITY AUDIX mailbox.

guest password
A feature that allows callers who are not INTUITY AUDIX users to leave messages on the system by dialing a user's extension and entering a system-wide guest password.

H

hard disk drive
A high-capacity data storage/retrieval device that is located inside a computer. A hard disk drive stores data on nonremovable high-density magnetic media based on a predetermined format for retrieval by the system at a later date.

hardware
The physical components of a computer system. The central processing unit, disks, tape, and floppy drives are all hardware.

header
Information that the system creates to identify a message. A message header includes the originator or recipient, type of message, creation time, and delivery time.

help
A command run by pressing HELP or CTRL ? on an Lucent INTUITY display terminal to show the options available at your current screen position. In the INTUITY AUDIX system, press * H on the telephone keypad to get a list of options. See also *on-line help*.

hertz (Hz)
A measurement of frequency in cycles per second. A hertz is 1 cycle per second.

host switch
The switch directly connected to the Lucent INTUITY system over the data link. Also, the physical link connecting an Lucent INTUITY system to a distributed communications system (DCS) network.

hunt group
A group of analog ports on a switch usually administered to search for available ports in a circular pattern.

Hz
See *hertz*.

I

I/O
Input/output.

IDI
See *isolating data interface*.

IMAPI
See *Lucent INTUITY messaging application programming interface*.

INADS
See *initialization and administration system*.

information service
See *bulletin board*.

initialization
The process of bringing a system to a predetermined operational state. The start-up procedure tests hardware; loads the boot filesystem programs; locates, mounts, and opens other required filesystems; and starts normal service.

initialization and administration system (INADS)
A computer-aided maintenance system used by remote technicians to track alarms.

initialize
To start up the system for the first time.

input
A signal fed into a circuit or channel.

integrated services digital network (ISDN)
A network that provides end-to-end digital connectivity to support a wide range of voice and data services.

integrated voice processing CELP (IVC6) card
A computer circuit card that supports both fax processing and voice processing capabilities. It provides two analog ports to support six analog channels. All telephone calls to and from the Lucent INTUITY system are processed through the IVC6 card.

interface
The device or software that forms the boundary between two devices or parts of a system, allowing them to work together. See also *user interface*.

internal e-mail
Software on a PC that provides messaging capability between users on the same AUDIX system, or to administered remote AUDIX systems and users. Users can create, send, and receive a message that contains multiple media types; specifically, voice, fax, text, or file attachments (software files, such as a word processing or spreadsheet file).

interrupt request (IRQ)
Within a PC, a signal sent from a device to the CPU to temporarily suspend normal processing and transfer control to an interrupt handling routine.

INTUITY AUDIX Digital Networking
A Lucent INTUITY feature that allows customers to link together up to 500 remote Lucent INTUITY machines for a total of up to 500,000 remote users. See also *digital networking*.

Lucent INTUITY Message Manager
A Windows-based software product that allows INTUITY AUDIX users to receive, store, and send their voice/FAX messages from a PC. The software also enables users to create and send multimedia messages that include voice, fax, file attachments, and text.

Lucent INTUITY messaging application programming interface (IMAPI)
A software function-call interface that allows INTUITY AUDIX to interact with Lucent INTUITY Message Manager.

I/O address
input/output address.

IRQ
See *interrupt request*.

ISDN
See *integrated services digital network*.

isolating data interface (IDI)
A synchronous, full duplex data device used for cable connections between an Lucent INTUITY GPSC-AT/E card and the switch data communications interface unit (DCIU).

IVC6
See *integrated voice processing CELP (IVC6) card.*

J

jumper
Pairs or sets of small prongs or pins on circuit cards and mother boards the placement of which determines the particular operation the computer selects. When two pins are covered, an electrical circuit is completed. When the jumper is uncovered, the connection is not made. The computer interprets these electrical connections as configuration information.

K

Kbps
Kilobits per second; one thousand bits per second.

Kbyte
Kilobytes per second; 1024 thousand bytes per second.

L

label
The name assigned to a disk device (either a removable tape cartridge or permanent drive) through software. Cartridge labels may have a generic name (such as 3:3) to show the software release, or a descriptive name if for back-up copies (such as back01). Disk drive labels usually indicate the disk position (such as disk00 or disk02).

LAN
See *local area network*.

last-in/first-out (LIFO)
A method of processing telephone calls or data in which the last call (or data) received is the first call (or data) to be processed.

LCD
See *liquid crystal display*.

leave word calling (LWC)
A switch feature that allows the calling party to leave a standard (nonvoice) message for the called party using a feature button or dial access code.

LED
See *light emitting diode*.

LIFO
See *last-in/first-out*.

light emitting diode (LED)
A light on the hardware platform that shows the status of operations.

liquid crystal display (LCD)
The 10-character alphanumeric display that shows the status of the system, including alarms.

load
The process of reading software from external storage (such as disk) and placing a copy in system memory.

local area network (LAN)
A network of PCs that communicate with each other and that normally share the resources of one or more servers. Operation of Lucent INTUITY Message Manager requires that the INTUITY AUDIX system and the users' PCs be on a LAN.

local AUDIX machine
The Lucent INTUITY system where a user's INTUITY AUDIX mailbox is located. All users on this home machine are called *local users*.

local installation
A switch, adjunct, or peripheral installed physically near the host switch or system. See also *collocated*.

local network
An INTUITY AUDIX Digital Network in which all Lucent INTUITY systems are connected to the same switch.

login
A unique code a user must enter to gain approved access to the Lucent INTUITY system. See also *password*.

login announcement
A feature enabling the system administrator and other designated users to create a mail message that is automatically played to all INTUITY AUDIX users every time they log in to the system.

Lotus Notes
Information management software for work groups that allows individuals to share and manipulate information over a local or wide area network

LWC
See *leave word calling*.

M

magnetic peripherals
Data storage devices that use magnetic media to store information. Such devices include hard disk drives, floppy disk drives, and cartridge tape drives.

mailbox
A portion of disk memory allotted to each Lucent INTUITY system user for creating and storing outgoing and incoming messages.

mailing list
A group of user addresses assigned a list ID# and public or private status. A mailing list may be used to simplify the sending of messages to several users.

maintenance
The process of identifying system errors and correcting them, or taking steps to prevent problems from occurring.

major alarm
An alarm detected by Lucent INTUITY software that affects at least one fourth of the Lucent INTUITY ports in service. Often a major alarm indicates that service is affected.

MANOOS
See *manually out-of-service*.

manually out-of-service
State of operation during which a unit has been intentionally taken out of service.

MAP
See *multi-application platform*.

mean time between failures
The average time a manufacturer estimates will elapse before a failure occurs in a component or system.

media type
The form a message takes. The media types supported by the Lucent INTUITY system are voice, text, file attachments, and fax.

megabyte
A unit of memory equal to 1,048,576 bytes (1024 x 1024). It is often rounded to 1 million.

memory
A device that stores logic states such that data can be accessed and retrieved. Memory may be temporary (such as system RAM) or permanent (such as disk).

menu
A list of options displayed on a computer terminal screen or spoken by a voice processing system. Users choose the option that reflects what action they want the system to take.

menu tree
The way in which nested automated attendants are set up.

message categories
Groups of messages in INTUITY AUDIX users' mailboxes. Categories include *new*, *unopened*, and *old* for the incoming mailbox and *delivered*, *accessed*, *undelivered*, *undeliverable* (not deliverable), and *file cabinet* for the outgoing mailbox.

message component
A media type included in a multimedia message. These types include voice, text, file attachments, and fax messages.

message delivery
An optional Lucent INTUITY feature that permits users to send messages to any touch-tone telephone, as long as the telephone number is in the range of allowable numbers. This feature is an extension of the AMIS analog networking feature and is automatically available when the AMIS feature is activated.

Message Manager
See *Lucent INTUITY Message Manager*.

message-waiting indicator (MWI)
An indicator that alerts Lucent INTUITY users that they have received new mail messages. An MWI can be an LED or neon lamp, or an audio tone (stutter dial tone).

message waiting lamp (MWL)
See *message-waiting indicator*.

migration
An installation that moves data to the Lucent INTUITY system from another type of AT&T messaging system, for example, from AUDIX R1, DEFINITY AUDIX, or AUDIX Voice Power.

minor alarm
An alarm detected by maintenance software that affects less than one fourth of the Lucent INTUITY ports in service, but has exceeded error thresholds or may impact service.

mirroring
A Lucent INTUITY system feature that allows data from crucial filesystems to be continuously copied to back-up (mirror) filesystems while the system is running. If the system has some problem where an original filesystem cannot be used, the backup filesystem is placed in service automatically.

mode code
A string of touch-tones from a MERLIN LEGEND switch. A mode code may send the INTUITY AUDIX system information such as call type, calling party, called party, and on/off signals for message waiting indicators.

modem
A device that converts data from a form that is compatible with data processing equipment (digital) to a form compatible with transmission facilities (analog), and vice-vera.

modular
A term that describes equipment made of plug-in units that can be added together to make the system larger, improve its capabilities, or expand its size.

modular processor data module (MPDM)
A data device that converts RS-232C or RS-449 protocol signals to digital communications protocol (DCP) used by System 75/85, Generic1, and Generic 3 switches. MPDMs may connect the Lucent INTUITY system to a switch DCIU or SCI link or connect terminals to a switch port card.

MPDM
See *modular processor data module*.

MTBF
See *mean time between failures*.

multi-application platform (MAP)
The computer hardware platform used by the Lucent INTUITY system.

multilingual feature
A feature that allows announcement sets to be active simultaneously in more than one language on the system. Mailboxes can be administered so that users can hear prompts in the language of their choice.

MWI
See *message-waiting indicator*.

MWL
See *message waiting lamp*.

N

networking
See *Lucent INTUITY AUDIX Digital Networking*.

networking prefix
A set of digits that identifies a Lucent INTUITY machine.

night attendant
The automated attendant created on a MERLIN LEGEND switch that automatically becomes active during off-hours. The night attendant substitutes for one or more daytime attendants.

not deliverable message
A message that could not be delivered after a specified number of attempts. This usually means that the user's mailbox is full.

O

off-hook
See *switch hook*.

on-hook
See *switch hook*.

on-line help
A Lucent INTUITY system feature that provides information about user interface windows, screens, and menus by pressing a predetermined key. See also *help*.

open systems interconnection (OSI)
An internationally accepted framework of standards for communication between systems made by different vendors.

operating system (OS)
The set of software programs that runs the hardware and interprets software commands.

option
A choice selected from a menu, or an argument used in a command line to specify program output by modifying the execution of a command. When you do not specify any options, the command executes according to its default options.

OS
See *operating system*.

OSI
See *open systems interconnection*.

outcalling
A Lucent INTUITY system feature that allows the system to dial users' numbers to inform them they have new messages.

outgoing mailbox
A storage area on the Lucent INTUITY system where users can keep copies of messages for future reference or action.

P

parallel transmission
The transmission of several bits of data at the same time over different wires. Parallel transmission of data is usually faster than serial transmission.

password
1. A word or character string recognized automatically by the Lucent INTUITY system that allows a user access to his/her mailbox or a system administrator access to the system data base. 2. An alphanumeric string assigned to local and remote networked machines to identify the machines or the network. See also *login.*

password aging
An INTUITY AUDIX feature that allows administrators to set a length of time after which a user's AUDIX password or the administrator's system password expires. The user or administrator must then change the password.

PBX
See *private branch exchange*.

PC
See *power converter*.

PDM (processor data module)
See *modular processor data module (MPDM)*.

PEC
See *price element code*.

peripheral device
Equipment such as a printer or terminal that is external to the Lucent INTUITY cabinet but necessary for full operation and maintenance of the system. Also called a *peripheral*.

personal directory
An INTUITY AUDIX feature that allows each user to create a private list of customized names.

personal fax extension
See *secondary extension*.

pinouts
The signal description per pin number for a particular connector.

PMS
See *property management system*.

port
A connection or link between two devices that allows information to travel to a desired location. For example, a switch port connects to a Lucent INTUITY voice port to allow a caller to leave a message.

POST
See *power-on self test*.

power on self test (POST)
A set of diagnostics stored in ROM that tests components such as disk drives, keyboard, and memory each time the system is booted. If problems are identified, a message is sent to the screen.

priority call answer
An INTUITY AUDIX feature that allows users to designate a call answer message as a priority message. To make a message a priority message, the caller presses 2 after recording.

priority messaging
An INTUITY AUDIX feature that allows some users to send messages that are specially marked and preferentially presented to recipients. See also *priority outcalling*.

priority outcalling
An INTUITY AUDIX feature that works with the priority messaging feature by allowing the message recipient to elect to be notified by outcalling only when a priority message has been received. See also *priority messaging*.

private branch exchange (PBX)
An analog, digital, or electronic telephone switching system where data and voice transmissions are not confined to fixed communications paths, but are routed among available ports or channels. See also *switch*.

private mailing list
A list of addresses that only the Lucent INTUITY system user who owns it can access.

private messaging
A feature of INTUITY AUDIX that allows a user to send a message that cannot be forwarded by the recipient.

processor data module (PDM)
See *modular processor data module (MPDM)*.

processor interface (PI)
A System 75, Generic 1, Generic 3i, Generic 3s, and Generic 3vs switch data link. Also called *processor interface board (PIB)*.

programmed function key
See *function key*.

protocol
A set of conventions or rules governing the format and timing of message exchanges (signals) to control data movement and the detection and possible correction of errors.

public mailing list
A list of addresses that any INTUITY AUDIX user can use if that user knows the owner's list ID number and extension number. Only the owner can modify a public mailing list.

pulse-to-tone converter
A device connected to the switch that converts signals from a rotary pulses to touch tones. This device allows callers to use rotary telephones to access options in a Lucent INTUITY user's mailbox or in an automated attendant.

R

RAM
See *random access memory*.

random access memory (RAM)
The primary memory in a computer that can be overwritten with new information.

read-only memory (ROM)
A memory device programmed at the factory, the contents of which cannot be altered.

reboot
See *boot*.

remote access
Sending and receiving data to and from a computer or controlling a computer with terminals or PCs connected through communications (that is, telephone) links.

remote installation
A system, site, or piece of peripheral equipment that is installed in a different location from the host switch or system.

remote maintenance
The ability of AT&T personnel to interact with a remote computer through a telephone line or LAN connection to perform diagnostics and some system repairs. See also *remote service center*.

remote network
A network in which the systems are integrated with more than one switch.

remote service center
An AT&T or AT&T-certified organization that provides remote support to Lucent INTUITY customers. Depending upon the terms of the maintenance contract, your remote service center may be notified of all major and minor alarms and have the ability to remotely log in to your system and remedy problems. See also *remote maintenance.*

remote terminal
A terminal connected to a computer over a telephone line.

remote users
INTUITY AUDIX users whose mailboxes reside on a remote INTUITY AUDIX Digital Networking machine.

REN
See *ringer equivalence number*.

reply loop escape
An INTUITY AUDIX feature that allows a user the option of continuing to respond to a message after trying to reply to a nonuser message.

reply to sender
An INTUITY AUDIX feature that allows users to immediately place a call to the originator of an incoming message if that person is in the switch's dial plan.

request to send (RTS)
One of the control signals on an EIA-232 connector that places the modem in the originate mode so that it can begin to send.

restart
A Lucent INTUITY feature that allows INTUITY AUDIX users who have reached the system through the call answer feature to access their own mailboxes by entering the * R (Restart) command. This feature is especially useful for long-distance calls or for users who want to access the Lucent INTUITY system when all the ports are busy. 2. The reinitialization of certain software, for example, *restarting* the messaging system.

restore
The process of recovering lost or damaged files by retrieving them from available back-up tapes, floppy diskette, or another disk device.

retention time
The amount of time messages are saved on disk before being automatically deleted from a user's mailbox.

reusable upgrade kit (RUK)
A package shipped to the customer's site prior to an upgrade that contains materials the technician needs to complete the installation. This package includes an A/B switch box, a keyboard, a 25-foot coaxial cable, two T adapters, and terminations to a LAN circuit card. It remains the property of AT&T once the installation is finished.

right-to-use (RTU) fee
A charge to the customer to access certain functions or capacities that are otherwise restricted, for example, additional voice or networking ports or hours of speech storage. AT&T personnel can update RTU parameters either at the customer's site or remotely via a modem.

ringer equivalence number (REN)
A number required in the United States for registering your telephone equipment with a service provider.

ROM
See *read-only memory*.

RS-232
See *EIA interface.*

RTS
See *request to send*.

S

SCA
See *switch communications adapter*.

scan
To automatically play mail messages, headers, or both.

scheduled delivery time
A time and/or date that an INTUITY AUDIX user can assign to a message that tells the system when to deliver it. If a delivery time is omitted, the system sends the message immediately.

screen
That portion of the Lucent INTUITY user interface through which most administrative tasks are performed. Lucent INTUITY screens request user input in the form of a command from the `enter command:` prompt.

SCSI
See *small computer system interface*.

secondary extension
A second, fax-dedicated extension that directs incoming faxes directly into a user's mailbox without ringing the telephone. The secondary extension shares the same mailbox as the voice extension, but acts like a fax machine. Also called *personal fax extension*.

serial transmission
The transmission of one bit at a time over a single wire.

server
A computer that processes and stores data that is used by other smaller computers. For Lucent INTUITY Message Manager, INTUITY AUDIX is the server. See also *client*.

shielded cables
Cables that are protected from interference with metallic braid or foil.

SID
See *switch integration device*.

SIMM
See *single in-line memory module*.

simplified message service interface (SMSI)
Type of data link connection to an integrated 1A ESS or 5ESS switch in the Lucent INTUITY system.

single in-line memory module (SIMM)
A method of containing random access memory (RAM) chips on narrow strips that attach directly to sockets on the CPU circuit card. Multiple SIMMs are sometimes installed on a single CPU circuit card.

small computer systems interface (SCSI)
An interface standard defining the physical, logical, and electrical connections to computer system peripherals such as tape and disk drives.

SMSI
See *simplified message service interface*.

subscriber
A Lucent INTUITY user who has been assigned the ability to access the INTUITY AUDIX Voice Messaging system.

surge
A sudden rise and fall of voltage in an electrical circuit.

surge protector
A device that plugs into the telephone system and the commercial AC power outlet to protect the telephone system from damaging high-voltage surges.

SW
See *switch integration*.

switch
An automatic telephone exchange that allows the transmission of calls to and from the public telephone network. See also *private branch exchange (PBX)*.

switched access
A connection made from one endpoint to another through switch port cards. This allows the endpoint (such as a terminal) to be used for several applications.

switch hook
The device at the top of most telephones which is depressed when the handset is resting in the cradle (that is, when the telephone is *on hook*). This device is raised when the handset is picked up (that is, when the telephone is *off hook*).

switch-hook flash
A signaling technique in which the signal is originated by momentarily depressing the switch hook.

switch integration
Sharing of information between a messaging system and a switch to provide a seamless interface to callers and system users. A fully integrated INTUITY AUDIX system, for example, answers each incoming telephone call with information taken directly from the switch. Such information includes the number being called and the circumstances under which the call was sent to it, for example, covered from a busy or unanswered extension.

switch integration device (SID)
A combination of hardware and software that passes information from the switch to the Lucent INTUITY system thus allowing it to share information with non-AT&T switches. The operation of a SID is unique to the particular switch with which it interfaces.

switch network
Two or more interconnected switching systems.

synchronized mailbox
A mailbox that is paired with a corresponding mailbox in another domain and linked via software that keeps track of changes to either mailbox. When the contents of one mailbox change, the software replicates that change in the other mailbox.

synchronizer
The name given to the trusted server by the e-mail vendor, Lotus Notes.

synchronous communication
A method of data transmission in which bits or characters are sent at regular time intervals, rather than being spaced by start and stop bits. See also *asynchronous communication*.

synchronous transmission
A type of data transmission where the data characters and bits are exchanged at a fixed rate with the transmitter and receiver synchronized. This allows greater efficiency and supports more powerful protocols.

system configuration
See *configuration*.

T

T.30
The standard for Group III fax machines that covers the protocol used to manage a fax session and negotiate the capabilities supported by each fax endpoint.

tape cartridge
One or more spare removable cartridges required to back up system information.

tape drive
The physical unit that holds, reads, and writes to magnetic tape.

TCP/IP
See *transmission control protocol/internet program*.

TDD
See *telecommunications device for the deaf*.

TDM
See *time division multiplexing*.

telecommunications device for the deaf (TDD)
A device with a keyboard and display unit that connects to or substitutes for a telephone. The TDD allows a deaf or hearing-impaired person to communicate over the telephone lines with other people who have TDDs. It also allows a deaf person to communicate with the INTUITY AUDIX system.

terminal
See *display terminal*.

terminal type
A number indicating the type of terminal from which a user is logging in to the Lucent INTUITY system. Terminal type is the last required entry before gaining access to the Lucent INTUITY display screens.

terminating resistor
A grounding resistor placed at the end of a bus, line, or cable to prevent signals from being reflected or echoed.

time division multiplexing (TDM)
A method of serving multiple channels simultaneously over a common transmission path by assigning the transmission path sequentially to the channels, with each assignment being for a discrete time interval.

tip/ring
A term used to denote the analog telecommunications interface.

tone generator
A device acoustically coupled to a rotary telephone used to produce touch-tone sounds.

traffic
The flow of attempts, calls, and messages across a telecommunications network.

translations
Software assignments that tell a system what to expect on a certain voice port or the data link, or how to handle incoming data. Translations customize the Lucent INTUITY system and switch features for users.

transmission control protocol/internet protocol (TCP/IP)
A suite of protocols that allow disparate hosts to connect over a network. Transmission control protocol (TCP) organizes data on both ends of a connection and ensures that the data that arrives matches that which was sent. Internet protocol (IP) ensures that a message passes through all the necessary routers to the proper destination.

T/R
See *tip/ring*.

troubleshooting
The process of locating and correcting errors in computer programs (also called *debugging)* or systems.

trusted server
A server that uses IMAPI to access an INTUITY AUDIX mailbox on behalf of a user and is empowered to do everything to a user message that INTUITY AUDIX can do.

U

UCD
See *uniform call distribution*.

Undelete
An INTUITY AUDIX feature that allows users to restore the last message deleted by pressing * U.

undelivered message
A message that has not yet been sent to an INTUITY AUDIX user's incoming mailbox. The message resides in the sender's outgoing mailbox and may be modified or redirected by the sender.

Unequipped
See *equipped/unequipped*.

unfinished message
A message that was recorded but not approved or addressed, usually as the result of an interrupted INTUITY AUDIX session. Also called *working message*.

uniform call distribution (UCD)
The type of call-distribution group (or hunt group) of analog port cards on some switches that connects users to the INTUITY AUDIX system. System 75, Generic 1, Generic 3, and some central office switches use UCD groups. See also *call-distribution group*.

uninterruptable power supply (UPS)
An auxiliary power unit that provides continuous power in cases where commercial power is lost.

UNIX operating system
A multi-user, multi-tasking computer operating system.

upgrade
An installation that moves a Lucent INTUITY system to a newer release.

untouched message
An INTUITY AUDIX feature that allows a user to keep a message in its current category by using the * * H (Hold) command. If the message is in the new category, message-waiting indication remains active (for example, the message-waiting lamp remains lit).

UPS
See *uninterruptable power supply*.

U. S. 123
An alternate announcement set in U. S. English whose prompts use numbers, not letters, to identify telephone keypad presses. For example, a prompt might say, "Press star three," instead of, "Press star D."

user interface
The devices by which users access their mailboxes, manage mailing lists, administer personal greetings, and use other messaging capabilities. Types of user interfaces include a touch-tone telephone keypad and a PC equipped with Lucent INTUITY Message Manager.

user population
A combination of different types of users on which Lucent INTUITY configuration guidelines are based.

V

vector
A customized program in the switch for processing incoming calls.

voice link
The Lucent INTUITY analog connection(s) to a call-distribution group (or hunt group) of analog ports on the switch.

voice mail
See *voice message*.

voice mailbox
See *mailbox*.

voice message
Digitized information stored by the Lucent INTUITY system on disk memory. Also called *voice mail*.

voice port
The IVC6 port that provides the interface between the Lucent INTUITY system and the analog ports on the switch.

voice terminal
A telephone used for spoken communications with the Lucent INTUITY system. A touch-tone telephone with a message-waiting indicator is recommended for INTUITY AUDIX users.

voicing
1. Speaking a message into the Lucent INTUITY system during recording. 2. Having the system play back a message or prompt to a user.

volt
The unit of electromotive force required to produce a current of 1 ampere through a resistance of 1 ohm.

W

WAN
See *wide area network*.

watt
The unit of electrical power required to maintain a current of 1 amp under the pressure of 1 volt.

wide area network (WAN)
A data network typically extending a local area network (LAN) over telephone lines to link with LANS in other buildings and/or geographic locations.

window
That portion of the Lucent INTUITY user interface through which you can view system information or status.

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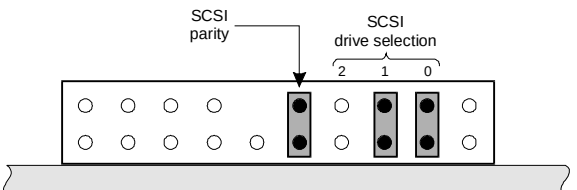

Figure A-35. Jumper Settings for the 2-Gbyte SCSI Cartridge Tape Drive, SCSI ID = 3