

**Lucent Technologies**  
Bell Labs Innovations



# **INTUITY™ Messaging Solutions**

Release 4

MAP/40 Maintenance

585-310-171  
Comcode 108097379  
Issue 3  
October 1997

## Notice

Every effort was made to ensure that the information in this book was complete and accurate at the time of printing. However, information is subject to change.

## Your Responsibility for Your System's Security

Toll fraud is the unauthorized use of your telecommunications system by an unauthorized party, for example, persons other than your company's employees, agents, subcontractors, or persons working on your company's behalf. Note that there may be a risk of toll fraud associated with your telecommunications system and, if toll fraud occurs, it can result in substantial additional charges for your telecommunications services.

You and your system manager are responsible for the security of your system, such as programming and configuring your equipment to prevent unauthorized use. The system manager is also responsible for reading all installation, instruction, and system administration documents provided with this product in order to fully understand the features that can introduce risk of toll fraud and the steps that can be taken to reduce that risk. Lucent Technologies does not warrant that this product is immune from or will prevent unauthorized use of common-carrier telecommunication services or facilities accessed through or connected to it. Lucent Technologies will not be responsible for any charges that result from such unauthorized use.

## Lucent Corporate Security

Whether or not immediate support is required, all toll fraud incidents involving Lucent products or services should be reported to Lucent Corporate Security at 1 800 821-8235. In addition to recording the incident, Lucent Corporate Security is available for consultation on security issues, investigation support, referral to law enforcement agencies, and educational programs.

## Lucent Technologies Fraud Intervention

If you *suspect that you are being victimized* by toll fraud and you need technical support or assistance, call the Lucent Technologies National Customer Care Center Toll Fraud Intervention Hotline at 1 800 643-2353.

## Federal Communications Commission Statement

**Part 15: Class A Statement.** This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio-frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense.

**Part 68: Network Registration Number.** This equipment is registered with the FCC in accordance with Part 68 of the FCC Rules. It is identified by an FCC registration number.

**Part 68: Answer-Supervision Signaling.** Allowing this equipment to be operated in a manner that does not provide proper answer-supervision signaling is in violation of Part 68 Rules. This equipment returns answer-supervision signals to the public switched network when:

- Answered by the called station
- Answered by the attendant
- Routed to a recorded announcement that can be administered by the CPE user

This equipment returns answer-supervision signals on all DID calls forwarded back to the public switched telephone network. Permissible exceptions are:

- A call is unanswered
- A busy tone is received
- A reorder tone is received

## Canadian Department of Communications (DOC)

### Interference Information

This digital apparatus does not exceed the Class A limits for radio noise emissions set out in the radio interference regulations of the Canadian Department of Communications.

Le Présent Appareil Numérique n'émet pas de bruits radioélectriques dépassant les limites applicables aux appareils numériques de la class A prescrites dans le reglement sur le brouillage radioélectrique édicté par le ministère des Communications du Canada.

### Trademarks

See the section titled "About This Book."

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### Warranty

Lucent Technologies provides a limited warranty on this product. Refer to the "Limited Use Software License Agreement" card provided with your package.

### European Union Declaration of Conformity

Lucent Technologies Business Communications Systems declares that the equipment specified in this document conforms to the referenced European Union (EU) Directives and Harmonized Standards listed below:

EMC Directive	89/336/EEC
Low-Voltage Directive	73/23/EEC



The "CE" mark affixed to the equipment means that it conforms to the above directives.

### Comments

To comment on this document, return the comment card at the front of the document.

### Acknowledgment

This document was prepared by Product Documentation, Lucent Technologies, Columbus, OH.

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## About This Book

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### Purpose

This book, *Lucent™ INTUITY™ Messaging Solutions Release 4 MAP/40 Maintenance, Issue 3, 585-310-171* contains information for troubleshooting and diagnosing problems associated with the MAP/40 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 MAP/40 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

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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

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Basic troubleshooting information is available in Chapter 1, "[Troubleshooting](#)."

### For Diagnostic Information

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Instructions for conducting diagnostics are available in Chapter 2, "[Diagnostics](#)."

### For Common System Procedures

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Instructions for conducting common system procedures are available in Chapter 3, "[Common System Procedures](#)."

### For Hardware Information

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Instructions for replacing or installing hardware components of the MAP/40 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

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Instructions for replacing or installing software components of the MAP/40 are available in Chapter 9, "[Installing Base System Software](#)," Chapter 10, "[Installing Lucent Intuity System Software](#)," Chapter 11, "[Installing the Optional Feature Software](#)," and Chapter 12, "[Installing an RFU](#)."

## Conventions Used in This Book

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This section describes the conventions used in this book.

### Terminology

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- 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 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 INTUITY system. The word “user” is the preferred term in the text; however, “subscriber” appears on most of the screens.

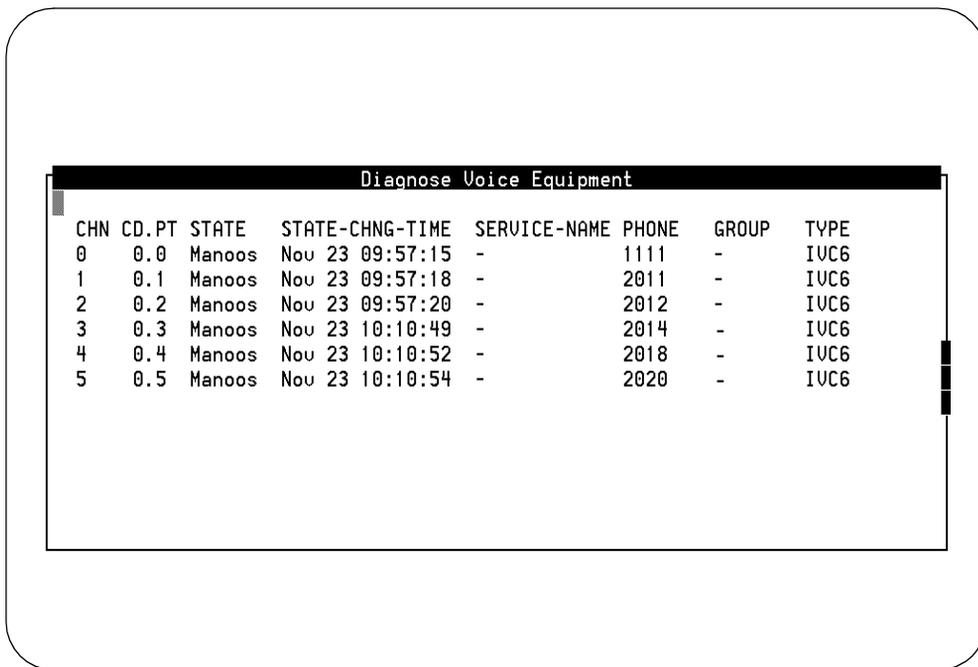


Figure 1. Example of an Lucent INTUITY Window

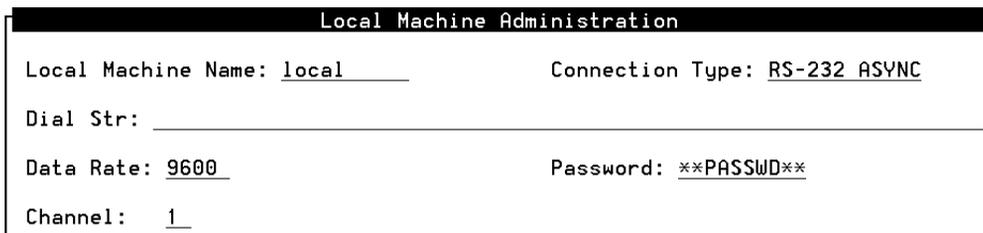


Figure 2. Example of an Lucent INTUITY Window

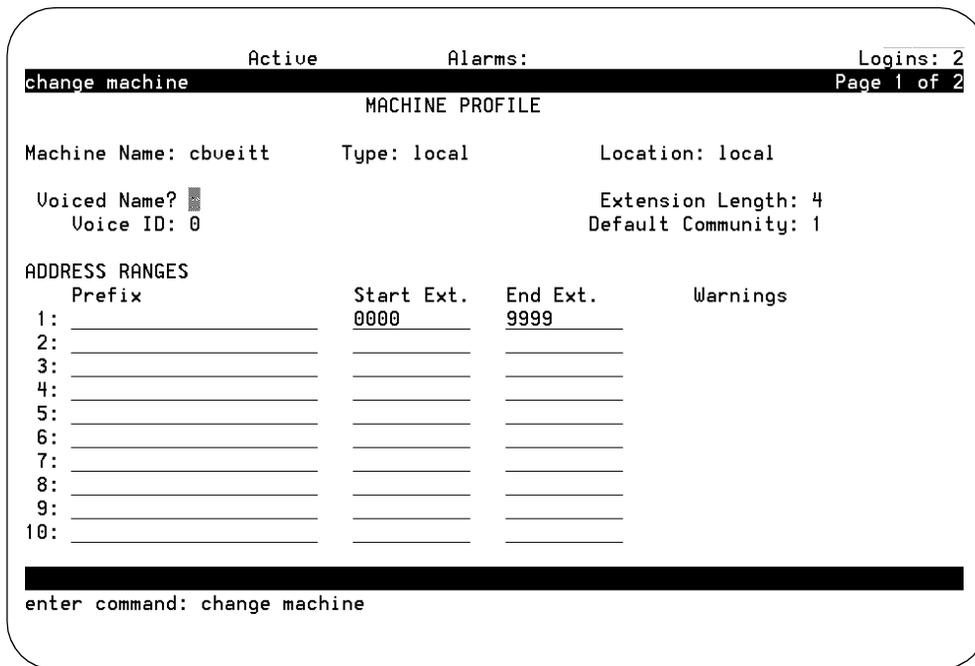


Figure 3. Example of an Lucent INTUITY Screen



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 round 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

```
> Customer/Services Administration
```

```
> Alarm Management
```

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

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- 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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- VT100 is a trademark of Digital Equipment Corporation.
- Windows is a trademark of Microsoft Corporation.

## **Related Resources**

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

### **Documentation**

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#### **NOTE:**

The *INTUITY Messaging Solutions Release 4 Documentation Guide*, 585-310-016, 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/40 System Installation*, 585-310-169, 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**

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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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# Troubleshooting

# 1

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## Overview

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

## Purpose

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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.

## Modem does not Answer

Table 1-1. Modem does not Answer

Possible Cause	Check/See	Probable Fix
There is no power to the modem.	Check the power source.	Apply power to the modem.
The modem is not connected.	The modem should be connected with a D25F cord through a 25 to 9 pin adapter to COM2.	Connect the 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 modem. This cord should not be plugged into the Phone portion.	Plug the normal D4 cord into the Dial portion of the modem.
There is no continuity.	<p>Check the Alarm Management window by doing the following:</p> <ol style="list-style-type: none"> <li>Starting at the Lucent™ INTUITY™ Main menu window, select</li> </ol> <pre> &gt; Customer/Serv. Admin   &gt; Alarm Management           </pre>	<p>Fill in the Alarm Screen.</p> <ol style="list-style-type: none"> <li>Enter the product ID in the <code>Product ID</code> field.            If the product ID is not known, enter <b>220000000</b></li> <li>Enter a valid telephone number in the <code>Alarm Destination</code> field.</li> <li>Press <b>F8</b> (<code>Chg-Keys</code>).</li> <li>Press <b>F1</b> (<code>Test_Alm</code>).</li> <li>If the product ID was not known in Step 1 call INADS for the correct number.</li> </ol>

## The Tape Backup Alarm is Activated Daily at 3:00 A.M.

Table 1-2. The Tape Backup Alarm is Activated Daily at 3:00 A.M.

Possible Cause	Check/See	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 <a href="#">"Formatting Cartridge Tapes"</a> , in <a href="#">Chapter 3</a> , <a href="#">"Common System Procedures"</a> 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 <a href="#">"Replacing the SCSI Cartridge Tape Drive"</a> , in <a href="#">Chapter 7</a> , <a href="#">"Replacing Other Components"</a> for the procedure.

## The DCIU Link is not Functioning

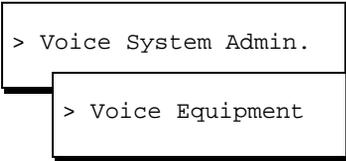
Table 1-3. The DCIU Link is not Functioning

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

## The Voice Ports are Answering in Standalone Mode

---

Table 1-4. The Voice Ports are Answering in Standalone Mode

Possible Cause	Check/See	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: <ol style="list-style-type: none"><li>Starting at the Lucent INTUITY Main menu window, select <pre>&gt; Voice System Admin.   &gt; Voice Equipment</pre></li><li>Press <b>F8</b> (Chg-Keys).</li><li>Press <b>F2</b> (Renumber).</li></ol>

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*Continued on next page*

**Table 1-4. The Voice Ports are Answering in Standalone Mode — Continued**

Possible Cause	Check/See	Probable Fix
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: <ol style="list-style-type: none"> <li>Starting at the Lucent INTUITY Main menu window, select                         <div style="border: 1px solid black; padding: 5px; margin: 5px 0;">                             &gt; Voice System Admin.                         </div> <div style="border: 1px solid black; padding: 5px; margin: 5px 0;">                             &gt; Voice Equipment                         </div> </li> <li>Enter the correct numbers.</li> </ol>
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

**Table 1-5. DCS AUDIX does not Work**

Possible Cause	Check/See	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

---

Table 1-6. Cannot Assign Voice Ports

Possible Cause	Check/See	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 Outcall

---

Table 1-7. System will not Outcall

Possible Cause	Check/See	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 will not Boot

Table 1-8. System will not Boot

Possible Cause	Check/See	Probable Fix
There is a diskette in the "A" drive.	Check the "A" drive.	Remove the diskette.
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 P5 120 MHz CPU circuit card.	Check the number of SIMMs on the P5 120 MHz CPU circuit card.	Correct the SIMM configuration. See <a href="#">"Memory Configuration"</a> , in <a href="#">Appendix A, "System Configuration"</a> for the correct configuration.
<p>If the system displays the following message, the problem could be the diskette cable orientation.</p> <p>BIOS Not Installed</p>	<p>Check the diskette cable orientation on the P5 120 MHz CPU circuit card.</p> <p>The tracer on the cable should be on the right as you look at the P5 120 MHz CPU circuit card.</p>	<p>To fix the problem, do the following:</p> <ol style="list-style-type: none"> <li>1. Access the circuit card cage. See <a href="#">"Removing the Circuit Card Cage Access Panel"</a> in <a href="#">Chapter 4, "Getting Inside the Computer"</a>, for the procedure.</li> <li>2. Fix the diskette cable orientation.</li> <li>3. Close the circuit card cage. See <a href="#">"Replacing the Retaining Bracket, Access Panel, and Dress Cover"</a> in <a href="#">Chapter 4, "Getting Inside the Computer"</a>, for the procedure.</li> <li>4. Restore power to the system. See <a href="#">"Restoring Power to the MAP/40"</a> in <a href="#">Chapter 4, "Getting Inside the Computer"</a>, for the procedure.</li> </ol>

## Optional Features not Working

Table 1-9. Optional Features not Working

Possible Cause	Check/See	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: <ol style="list-style-type: none"><li>1. Starting at the Lucent INTUITY Main menu window.</li><li>2. Accessing Customer/Services Administration.</li><li>3. Accessing Feature Options.</li></ol>	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 Memory Test Fails

Table 1-10. System Memory Test Fails

Possible Cause	Check/See	Probable Fix
There is a SIMM missing from the P5 120 MHz CPU circuit card.	Check the number of SIMMs on the P5 120 MHz CPU.	Correct the SIMM configuration. See <a href="#">“Memory Configuration”</a> , in <a href="#">Appendix A, “System Configuration”</a> for the correct configuration.
There is a a defective SIMM on the P5 120 MHz CPU circuit card.	Check the condition of the SIMMs on the P5 120 MHz CPU. See <a href="#">“Identifying a Defective SIMM”</a> , in <a href="#">Chapter 7, “Replacing Other Components”</a> for the procedure.	Replace the defective SIMM. See <a href="#">“Replacing Defective Memory Modules”</a> , in <a href="#">Chapter 7, “Replacing Other Components”</a> for the procedure.

## The Keyboard is not Operating

Table 1-11. The Keyboard is not Operating

Possible Cause	Check/See	Probable Fix
The keyboard is not plugged in.	Check the keyboard connection.	Shut down the system and plug in the keyboard.
The keyboard is “frozen.”	Check the keyboard connection.	Reboot the system.

## Monitor is not Operating

Table 1-12. Monitor is not Operating

Possible Cause	Check/See	Probable Fix
The video controller circuit card which has been installed is not compatible with the P5 120 MHz CPU circuit card.	Check the video controller circuit card. The following circuit cards are supported by the Lucent INTUITY system: <ul style="list-style-type: none"> <li>■ STB Horizon</li> <li>■ WDXLR831124</li> <li>■ WDXLR83160</li> </ul>	Replace the video controller circuit card with a supported circuit card. See <a href="#">“Video Controller Circuit Cards”</a> , in <a href="#">Chapter 5, “Replacing or Installing Circuit Cards”</a> for the procedure.
The monitor has not been turned on.	Check the monitor switch.	Turn on the monitor.
The monitor brightness has been turned down.	Check the monitor brightness knob.	Turn up the brightness.

## Tip/Ring Circuit Card is not Recognized by the Lucent INTUITY System

Table 1-13. Tip/Ring Circuit Card is not Recognized by the Lucent INTUITY System

Possible Cause	Check/See	Probable Fix
The Tip/Ring card has incorrect switch settings.	Check the switch settings on the Tip/Ring cards. See <a href="#">“Tip/Ring Circuit Cards”</a> , in Chapter 5, <a href="#">“Replacing or Installing Circuit Cards”</a> 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.	<p>Renumber the Tip/Ring circuit cards by doing the following:</p> <p>This will start and stop the voice system.</p> <ol style="list-style-type: none"> <li>Starting at the Lucent INTUITY Main menu window, select</li> </ol> <div style="border: 1px solid black; padding: 5px; margin: 10px 0;"> <pre>&gt; Voice System Admin.</pre> <div style="border: 1px solid black; padding: 5px; margin: 5px 0;"> <pre>&gt; Voice Equipment</pre> </div> </div> <ol style="list-style-type: none"> <li>Press <b>F8</b> (Chg-Keys).</li> <li>Select Renumber.</li> <li>Press <b>F2</b> (Renumber).</li> </ol>

## The Printer is not Operating

Table 1-14. The Printer is not Operating

Possible Cause	Check/See	Probable Fix
The printer is not turned on.	Check the power indicator light.	Turn the printer on.
The printer cable is not connected correctly.	Check the printer connection.	Reconnect the printer.
The Lucent INTUITY system has not been configured correctly.	Check the system configuration.	Reconfigure the system. See Chapter 4, "Connecting Peripherals and Powering Up" in <i>Lucent INTUITY Messaging Solutions Release 4 System Installation</i> .
The printer has not been configured correctly	Check the printer configuration.	Reconfigure the printer. See Chapter 4, "Connecting Peripherals and Powering Up" in <i>Lucent INTUITY Messaging Solutions Release 4 System Installation</i> .
The printer is out of paper.	Check the paper supply.	Add paper.
The printer is jammed.	Check the printer operating panel.	Remove the paper jam.

## Hard Disk Drive Access Troubleshooting

In the event of a SCSI Bus cable or hard disk drive failure the system will stall during the boot procedure. When the system stalls it will display one of several messages.

### The System Displays No Boot Device Available Message with Ident-Strings

If the system displays the following message along with one or more SCSI device ident-strings see the troubleshooting procedures in [Table 1-15](#).

```
SCSI target 0 LUN 0 not found
Target-LUN x-0.....
....
Target-LUN y-0....
```

```
No boot device available
Strike F1 to retry boot, F2 for setup utility
```

**Table 1-15. The System Displays No Boot Device Available Message with Ident-Strings**

Possible Cause	Check/See	Probable Fix
Insufficient power voltages.	Check the power supply output voltage.	<ol style="list-style-type: none"> <li>1. If the power voltage is not 5V, replace the power supply.</li> <li>2. Reboot the system.</li> </ol>
The power cable is not properly attached to Hard Disk Drive 0.	Check the Hard Disk Drive 0 power cable connection.	<ol style="list-style-type: none"> <li>1. Correct the power cable connection to Hard Disk Drive 0.</li> <li>2. Reboot the system.</li> </ol>
The SCSI Bus cable is not properly attached to Hard Disk Drive 0.	Check the Hard Disk Drive 0 SCSI Bus cable connection.	<ol style="list-style-type: none"> <li>1. Correct the SCSI Bus cable connection to Hard Disk Drive 0.</li> <li>2. Reboot the system.</li> </ol>
The SCSI Bus cable is defective.	Check the SCSI Bus cable.	<ol style="list-style-type: none"> <li>1. Replace the SCSI Bus cable.</li> <li>2. Reboot the system.</li> </ol>

*Continued on next page*

**Table 1-15. The System Displays No Boot Device Available Message with Ident-Strings**  
 — *Continued*

Possible Cause	Check/See	Probable Fix
A pin on the Hard Disk Drive 0 SCSI Bus cable connector is bent or broken.	Check the pins on Hard Disk Drive 0 by doing the following: <ol style="list-style-type: none"> <li>1. Remove the SCSI Bus cable.</li> <li>2. Check the pins on the hard disk drive.</li> </ol>	<ol style="list-style-type: none"> <li>1. If a pin is bent, straighten the pin. If a pin is broken, replace the hard disk drive.</li> <li>2. Reboot the system.</li> </ol>
A pin on the P5 CPU circuit card SCSI Bus cable connector is bent or broken.	Check the pins on the P5 120 MHz circuit card by doing the following: <ol style="list-style-type: none"> <li>1. Remove the SCSI Bus cable.</li> <li>2. Check the pins on the circuit card.</li> </ol>	<ol style="list-style-type: none"> <li>1. If a pin is bent, straighten the pin. If a pin is broken, replace the circuit card.</li> <li>2. Reboot the system.</li> </ol>

*Continued on next page*

**Table 1-15. The System Displays No Boot Device Available Message with Ident-Strings**  
 — *Continued*

Possible Cause	Check/See	Probable Fix
<p>Hard Disk Drive 0 has been corrupted and the system can not access the boot image.</p>	<p>Check the status of Hard Disk Drive 0.</p>	<ol style="list-style-type: none"> <li>1. If the system has a remote maintenance circuit card diagnose the hard disk drive and replace if necessary.</li> <li>2. If the system is mirrored, boot off of the backup hard disk drive.</li> <li>3. If the system did not boot perform the following steps:                             <ol style="list-style-type: none"> <li>a. Perform a surface analysis on both Hard Disk Drive 0 and its backup hard disk drive.</li> <li>b. If the surface analysis indicates either hard disk drive must be replaced, replace the disk.</li> </ol> </li> <li>4. If the system is not mirrored complete the following steps:                             <ol style="list-style-type: none"> <li>a. Perform a surface analysis.</li> <li>b. If the surface analysis indicates the hard disk drive must be replaced, replace the disk.</li> <li>c. If the surface analysis does not indicate that the disk should be replaced, reload the system.</li> </ol> </li> </ol>

## **The System Displays SCSI Target 0 LUN 0 not Found Message with Several Additional Messages**

---

If the system displays the following series of messages see the troubleshooting procedures in [Table 1-16](#).

The system displays the following message:

```
Checking for SCSI target 0 LUN 0
```

After several minutes the system displays the following messages:

```
SCSI target 0 LUN 0 not found  
Target-LUN x-0.....  
.....  
Target-LUN y-0....
```

```
No boot device available  
Strike F1 to retry boot, F2 for setup utility
```

**Table 1-16. The System Displays SCSI Target 0 LUN 0 not Found Message with Several Additional Messages**

Possible Cause	Check/See	Probable Fix
<p>Hard Disk Drive 0 has been corrupted and the system can not access the boot image.</p>	<p>Check the status of Hard Disk Drive 0.</p>	<ol style="list-style-type: none"> <li>1. If the system has a remote maintenance circuit card diagnose the hard disk drive and replace if necessary.</li> <li>2. If the system is mirrored, boot off of the backup hard disk drive.</li> <li>3. If the system did not boot perform the following steps:                             <ol style="list-style-type: none"> <li>a. Perform a surface analysis on both Hard Disk Drive 0 and its backup hard disk drive.</li> <li>b. If the surface analysis indicates either hard disk drive must be replaced, replace the disk.</li> </ol> </li> <li>4. If the system is not mirrored complete the following steps:                             <ol style="list-style-type: none"> <li>a. Perform a surface analysis.</li> <li>b. If the surface analysis indicates the hard disk drive must be replaced, replace the disk.</li> <li>c. If the surface analysis does not indicate that the disk should be replaced, reload the system.</li> </ol> </li> </ol>

## The System Displays SCSI Target 0 LUN 0 not Found Message and Stalls

---

If the system displays the following message and stalls see the troubleshooting procedures in [Table 1-17](#).

```
SCSI target 0 LUN 0 not found
```

At this point the system stalls.

### NOTE:

If you press **CONTROL** **ALT** **DELETE** the system displays the following message:

```
No boot device available
```

```
Strike F1 to retry boot, F2 for setup utility
```

**Table 1-17. The System Displays SCSI Target 0 LUN 0 not Found Message and Stalls**

---

Possible Cause	Check/See	Probable Fix
Hard Disk Drive 0 is defective.	Check the status of Hard Disk Drive 0.	1. Replace Hard Disk Drive 0.

---

## No Ident-Strings are Displayed during Boot Procedure

If the system does not display ident-strings during the boot procedure see the troubleshooting procedures in [Table 1-18](#).



**NOTE:**

Once the system has tried to access the SCSI devices it will try to access Hard Disk Drive 0. If the system displays the UNIX logo, Hard Disk Drive 0 has been successfully accessed.

**Table 1-18. No Ident-Strings are Displayed during Boot Procedure**

Possible Cause	Check/See	Probable Fix
The SCSI Bus cable is not connected properly to the P5 120 MHz CPU circuit card.	Check the SCSI cable connection to the circuit card.	<ol style="list-style-type: none"> <li>1. Correct the SCSI cable connection to the circuit card.</li> <li>2. Reboot the system.</li> </ol>
A pin on the SCSI Bus cable connection to the P5 120 MHz CPU circuit card is broken or bent.	Check the pins on the P5 120 MHz circuit card by doing the following: <ol style="list-style-type: none"> <li>1. Remove the SCSI Bus cable.</li> <li>2. Check the pins on the circuit card.</li> </ol>	<ol style="list-style-type: none"> <li>1. If a pin is bent, straighten the pin. If a pin is broken, replace the circuit card.</li> <li>2. Reboot the system.</li> </ol>

## The System Displays Failure to Load MIP, SIP, or vfs\_mount Message

---

If the system displays one of the following messages see the troubleshooting procedures in [Table 1-19](#).



**NOTE:**

Once the system has tried to access the SCSI devices it will try to access Hard Disk Drive 0. If the system displays the UNIX logo, Hard Disk Drive 0 has been successfully accessed.

Can not load MIP

Can not load SIP

vfs\_mount failed



**NOTE:**

A system panic may occur at this point.

**Table 1-19. The System Displays Failure to Load MIP, SIP, or vfs\_mount Message**

---

Possible Cause	Check/See	Probable Fix
The stand file system is corrupted.	Check the stand file status.	<ol style="list-style-type: none"><li>1. If the system is mirrored, boot off of the backup hard disk drive.</li><li>2. If the system is not mirrored, or if the problem persists, restore or reload the system.</li></ol>

---

## A Working System Displays WARNING Disk Drive HA0 TC0 LUX - Check Condition Message

If the system displays the following message see the troubleshooting procedures in [Table 1-20](#).

WARNING: Disk Drive HA0 TC0 LUX - Check Condition

where x is a small integer

**Table 1-20. A Working System Displays WARNING Disk Drive HA0 TC0 LUX - Check Condition Message**

Possible Cause	Check/See	Probable Fix
Hard Disk Drive 0 is defective.	Check the status of Hard Disk Drive 0.	1. Replace Hard Disk Drive 0.

## The System is Up but not Fully Operational or is Unpredictable

If the system is up but it is not fully operational or it is unpredictable see the troubleshooting procedures in [Table 1-21](#).

**Table 1-21. The System is Up but not Fully Operational or is Unpredictable**

Possible Cause	Check/See	Probable Fix
The input voltage is not correct.	Check the voltage on the line entering the power supply.	<ol style="list-style-type: none"> <li>1. Shut down the system.</li> <li>2. Inform the customer of the problem in their wiring.</li> </ol>
The power supply output voltage is not correct.	Check the voltage on the power supply output cables.	<ol style="list-style-type: none"> <li>1. Replace the power supply.</li> </ol>
The file system is partially corrupted.	Check the system file system.	<ol style="list-style-type: none"> <li>1. If the system is mirrored, boot off of the backup hard disk drive.</li> <li>2. If the system is not mirrored, or if the problem persists, restore or reload the system.</li> </ol>

## System with Remote Maintenance Circuit Card Displays SCSI Disk Failure Message after POST

If, after completing the POST and memory test, the system stalls and displays messages indicating a remote maintenance circuit card and SCSI hard disk drive failure see the troubleshooting procedures in [Table 1-22](#).

**Table 1-22. System with Remote Maintenance Circuit Card  
Displays SCSI Disk Failure Message after POST**

Possible Cause	Check/See	Probable Fix
The remote maintenance circuit card address is set to C000-CFFF.	Check the remote maintenance circuit card address.	<ol style="list-style-type: none"><li>1. Place the BEE selector switch in the off position.</li><li>2. Shut down the system.</li><li>3. Reboot the system.</li><li>4. Set the remote maintenance circuit card address to DC000-DCFFF.</li><li>5. Place the BEE selector switch in the on position.</li><li>6. Stop the voice system.</li><li>7. Start the voice system.</li></ol>

## **Troubleshooting Defective Blocks on Hard Disk Drives**

---

It is not always necessary to replace a hard disk drive with defective blocks. If the defective blocks do not affect the overall system performance it is not necessary to replace the hard disk drive. Monitor the system performance prior to replacing a hard disk drive.



# Diagnostics

# 2

---

## Overview

This chapter describes:

- Conducting audits
- Diagnosing analog networking
- Diagnosing digital networking
- Diagnosing Multi-port serial circuit cards
- Diagnosing switch integration
- Diagnosing TCP/IP
- Diagnosing Tip/Ring circuit cards
- Diagnosing 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

---

You can conduct audits on:

- Voice messaging databases
- Networking databases

### Auditing Voice Messaging 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 subscriber is removed from INTUITY AUDIX® Voice Messaging, other databases may contain messages addressed to that subscriber. In addition, mailing lists that include the deleted subscriber'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.

### Voice Messaging Database Audit Types

[Table 2-1](#) lists the types of voice messaging database audits.

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

Audit	Function	Frequency
Mailboxes	Checks and deletes old messages and log-in announcements	Daily
	Clears broadcast-deleted messages from subscriber mailboxes	Daily
	Verifies that Lucent INTUITY MWL status matches with the switch's MWL status for each subscriber	Daily
	Checks for valid mailbox structure	Weekly
	Makes space-accounting corrections on a per-subscriber and system basis	Weekly
	Checks for valid message subscriber IDs	Weekly

*Continued on next page*

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

Audit	Function	Frequency
Mailing Lists	Counts subscriber lists and entries on a system and per-subscriber basis to ensure that they are not exceeding internal limits	Weekly
	Removes deleted subscribers from lists	Weekly
	Removes deleted remote subscribers from local mailing lists	Daily
	Audits delivery manager queues and makes undeliverable entries for deleted subscribers	Daily
Names	Matches each voice name with a valid local or remote subscriber	Weekly
	Logs messages in the administrator's log for the first 20 local subscribers not having voiced names	Weekly
Network Data	Deletes information on remote nodes that have been eliminated from the network	Weekly
	Compares internal network files to synchronize information on nodes and subscribers, for example, which node each subscriber belongs to	Weekly
Personal Directories	Removes deleted subscribers (local and remote) from local subscribers' personal directories	Weekly

*Continued on next page*

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

Audit	Function	Frequency
Subscriber Data	Checks delivery lists associated with current outgoing messages	Weekly
	Validates fields in class-of-service templates, subscriber profiles, and automated attendant profiles	Weekly
	Counts subscribers to ensure that the number is not exceeding internal limits	Weekly
	Checks the system guest password against individual subscriber passwords, and makes appropriate entries in the administration log	Weekly
	Checks subscriber profiles against class-of-service templates and changes subscribers to class-of-service	Weekly
	Deletes remote unverified subscribers who have not been on delivery lists in the last 24 hours	Daily
	Deletes remote subscribers with no valid nodes	Daily
	Deletes unadministered remote subscribers 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 subscriber profiles	Weekly

## Voice Messaging Database Audits General Procedure

All of the voice messaging database audit types use the same general procedure.

### Procedure

To audit a voice messaging database, do the following:

1. Start at the Lucent INTUITY Main menu ([Figure 2-1](#)).

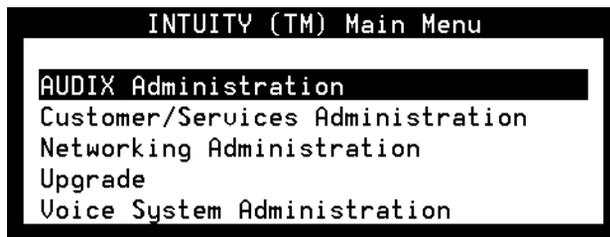


Figure 2-1. Lucent INTUITY Main Menu

2. Select

```
> AUDIX Administration
```

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

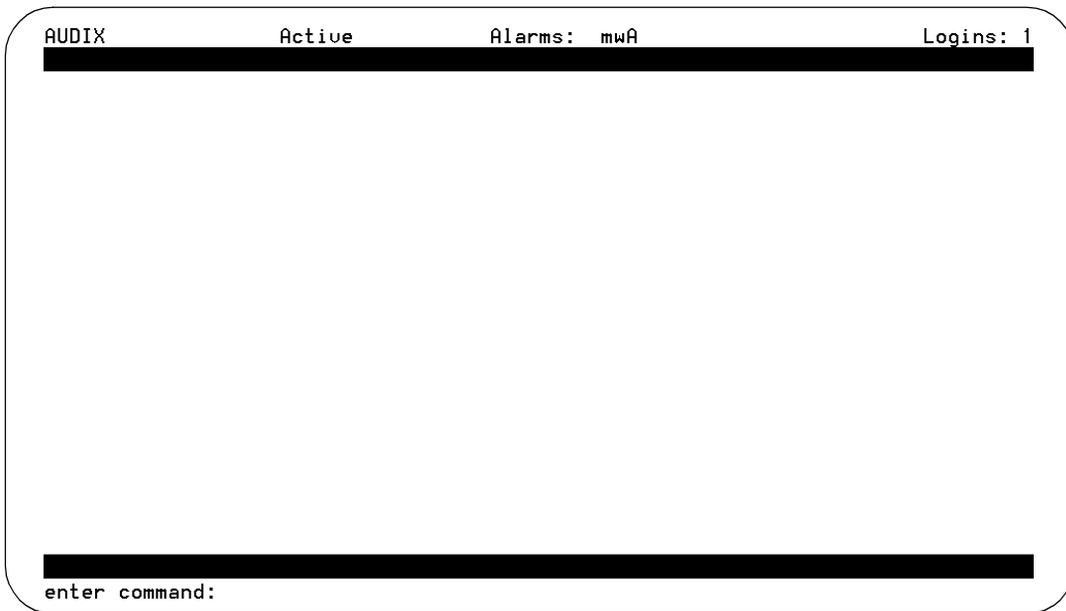


Figure 2-2. AUDIX Administration Screen

3. Enter the appropriate command from [Table 2-2](#) after the `enter` command prompt.

**Table 2-2. Voice Messaging Database Audit Commands**

To Audit	Enter
Mailboxes	<b>audit mailboxes</b> or <b>au mailb</b>
Mailing lists	<b>audit mailing-lists</b> or <b>au maili</b>
Names	<b>audit names</b> or <b>au na</b>
Network data	<b>audit network-data</b> or <b>au ne</b>   <b>NOTE:</b> This audit is available only if the system has Digital or AMIS Analog Networking. For more information on networking, see <i>AMIS Analog Networking</i> , 585-300-512, or <i>INTUITY AUDIX Digital Networking Administration</i> , 585-310-533.
Personal directories	<b>audit personal-directories</b> or <b>au p</b>
Subscriber data	<b>audit subscriber-data</b> or <b>au su</b>

The system displays an Audit screen ([Figure 2-3](#)).

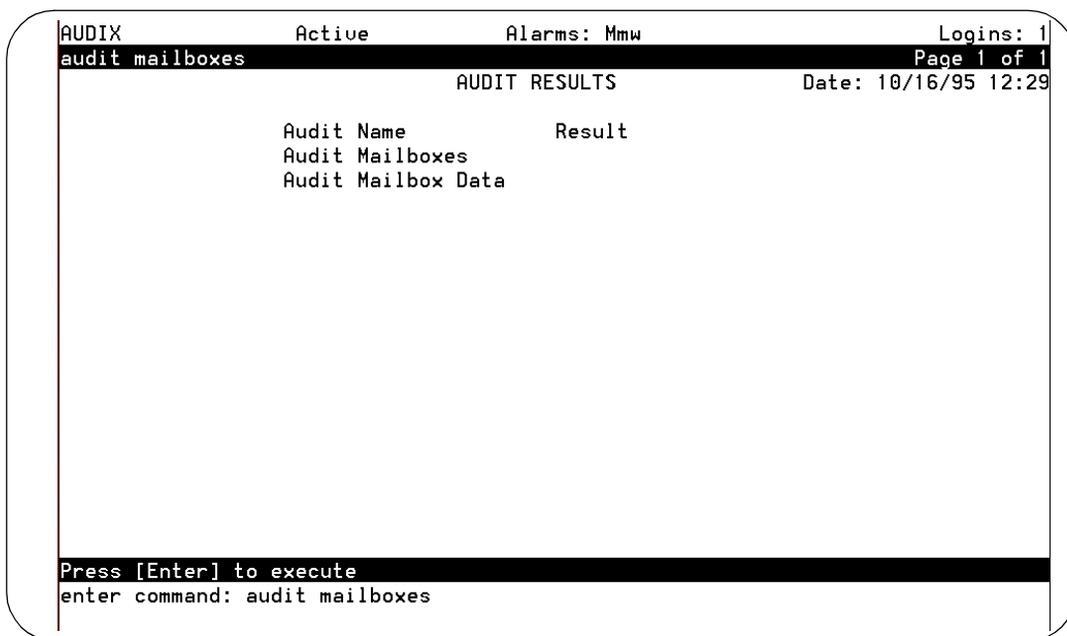


Figure 2-3. Audit Screen

4. Press **F3** (Enter).
5. The system displays the audit name and Result code R, which indicate that the audit is running.
6. Wait for the audit to finish or take one of the following steps:
  - Press **F1** (Cancel) to abort the audit and exit the form.
  - OR
  - Press **F3** (Enter) to put the audit in the background mode and return to the command line. Enter **status audit** to reconnect to the screen.

### 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 2-3](#) lists the result codes and their meanings.

**Table 2-3. 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.

### If the Audit Fails

If the 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 Alarms and Log Messages* 585-310-566, 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”](#).

### Auditing Networking Databases

The networking database consists of two parts: the networking administration database and the remote subscriber 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 subscriber update status database contains the information used by the Lucent INTUITY system to request and send remote updates of subscriber 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.

To perform this audit on demand, do the following:

1. Starting at the Lucent INTUITY Main menu ([Figure 2-1](#)), select

```
> Customer/Services Administration
> Database Audits
```

The system displays the Database Audit menu ([Figure 2-4](#)).

```
Database Audits
> Networking Audit
Platform User Database Audit
```

**Figure 2-4. Database Audit Menu**

2. Make sure the cursor is on *Networking Audit*.
3. Press **F8** (Chg-Keys).
4. Press **F1** (Run Audit).

The system displays the Confirm Audit window ([Figure 2-5](#)).

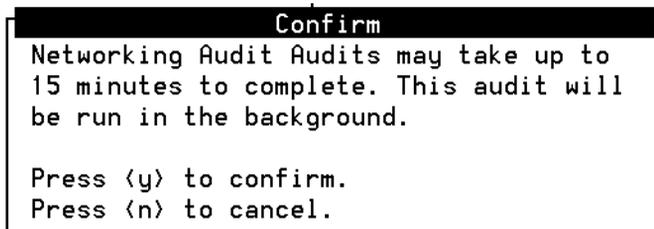


Figure 2-5. Confirm Audit Window

5. Press **y**.



**NOTE:**

The audit takes approximately 5 minutes.

6. Press **F8** (Chg-Keys).
7. Press **F4** (View\_Res).

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, look for related alarms such as NW SOFTWARE-1004. Follow the repair actions for any active alarms as appropriate. See "Accessing the Alarm Log" in Chapter 1, "Getting Started," in *Lucent INTUITY Messaging Solutions Release 4 Alarms and Log Messages* 585-310-566, 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.

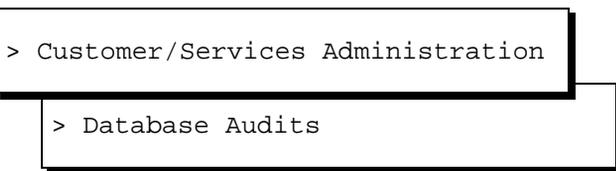
The Lucent INTUITY system switch integration database monitors the applications with which each user is registered. When the audit is executed, the station manager matches its user's extension and MWL status with each user application database. When successful matches are made, the audit progresses to 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 12:10 am. You may want to perform this audit on demand when alarms (SOFTWARE VP-12) indicate that subscribers 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 2-4](#)).

2. Make sure the cursor is on Platform User Database Audit.
3. Press **F8** (Chg-Keys).
4. Press **F1** (Run Audit).

The system displays the Confirm Audit screen ([Figure 2-5](#)).

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

#### **⇒** NOTE:

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

6. Press **F8** (Chg-Keys).
7. Press **F4** (View\_Res).

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>.
```

### If the Audit Fails

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. Follow

the repair actions for any active alarms as appropriate. See "Accessing the Alarm Log" in Chapter 1, "Getting Started," in *Lucent INTUITY Messaging Solutions Release 4 Alarms and Log Messages* 585-310-566, 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 in the Lucent INTUITY system switch integration database does not match the MWL status 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.

## Conducting Diagnostics

---

You can diagnose:

- AMIS Analog Networking
- INTUITY AUDIX Digital Networking
- Multi-port serial circuit cards
- Switch integration
- TCP/IP
- Voice circuit cards
- Voice ports

### AMIS Analog Networking Diagnostics

---

AMIS analog networking diagnostics allow you to perform a trace of the system. The trace display information that describes the interaction between two voice messaging systems during an AMIS call.

#### Performing an AMIS Analog Networking Trace

To perform an AMIS analog networking trace, 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 **trace**

The system displays the AMIS Trace Activation screen ([Figure 2-6](#)).

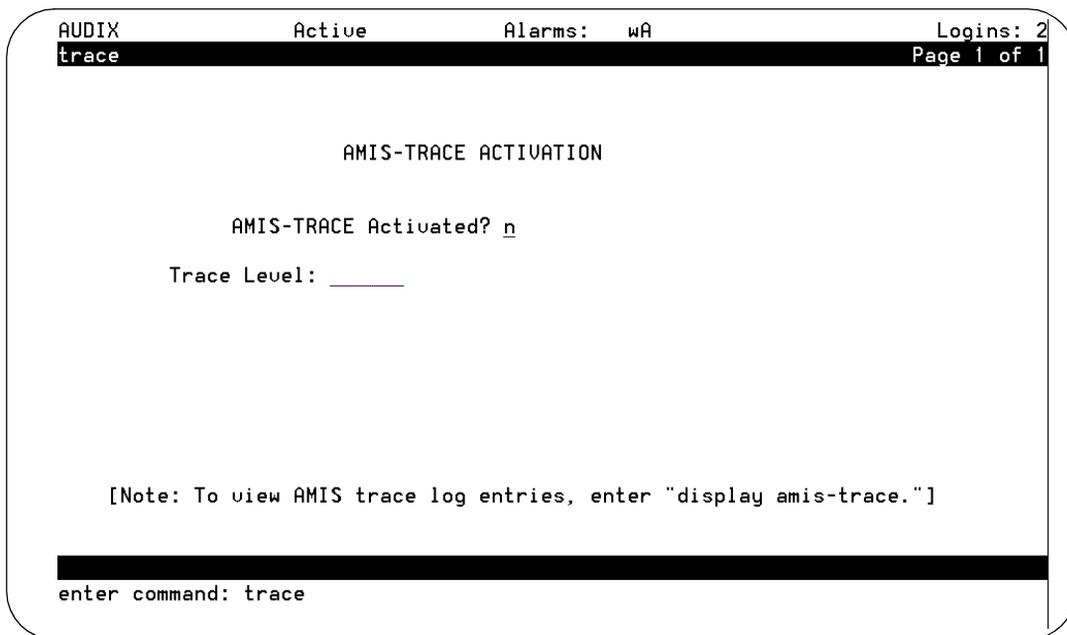


Figure 2-6. AMIS Trace Activation Screen

3. In the AMIS-TRACE Activated? field, enter **y**
4. In the Trace Level: field, enter one of the following choices
  - **full** - to trace errors, protocol, and touch tone information
  - **normal** - to trace errors and protocol
  - **error** - to trace errors
5. Press **F3** (Enter).

### Viewing the AMIS Analog Networking Trace Log

To view the AMIS analog networking trace log, 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 **display amis-trace**

The system displays the AMIS Trace Log screen ([Figure 2-7](#)).

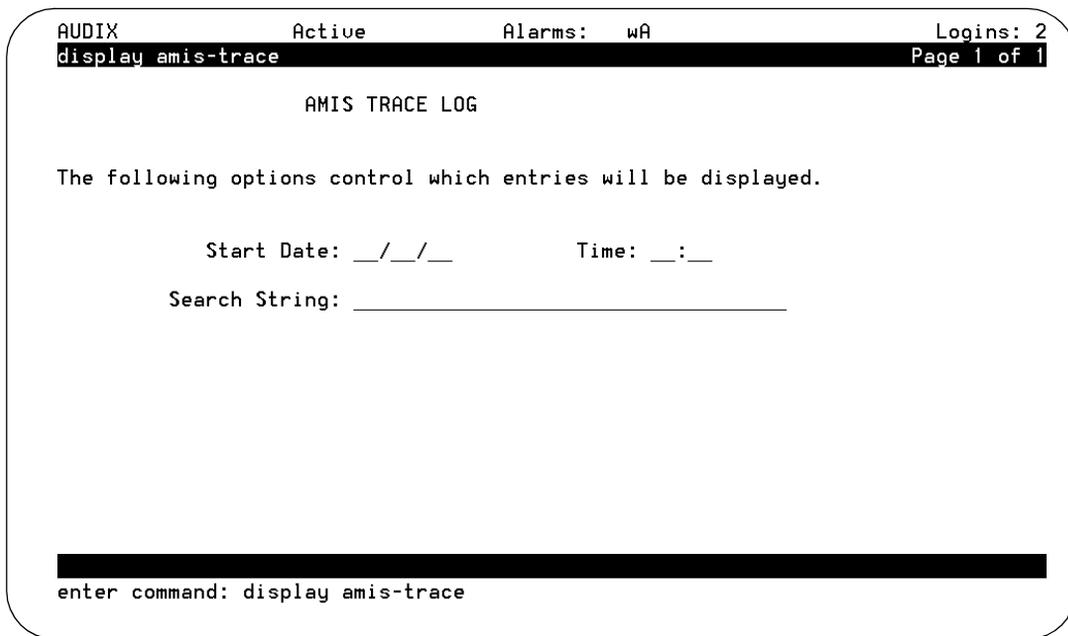


Figure 2-7. AMIS Trace Log Screen

3. In the `Start Date:` field, enter the appropriate date.
4. In the `Time:` field, enter the appropriate time.
5. In the `Search String:` field, enter any key words.
6. Press **F3** (Enter).

The system displays the AMIS Trace Log screen ([Figure 2-8](#)).

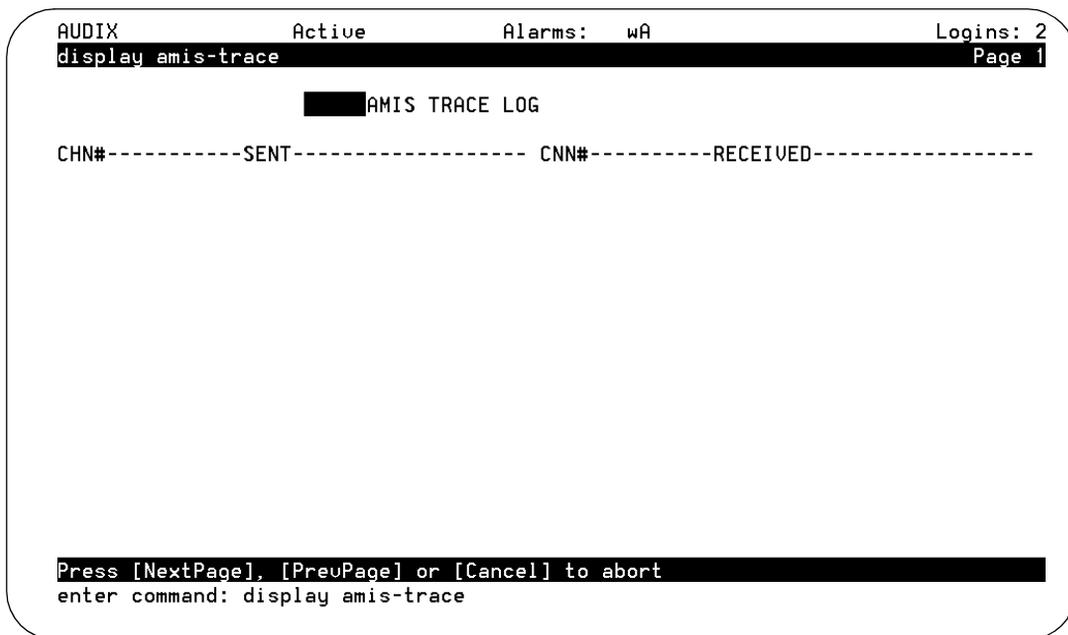


Figure 2-8. AMIS Trace Log Screen

## INTUITY AUDIX Digital Networking Diagnostics

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
- Channel internal loop-around
- Modem loop-around
- 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, see "[Network Connections Test](#)" below.

## Requirements

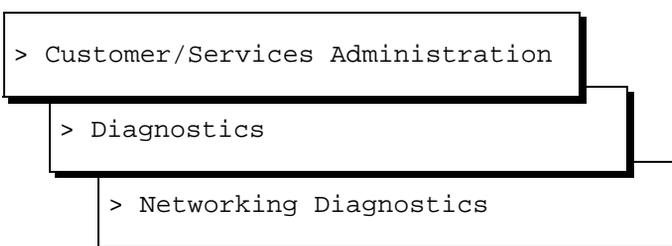
The following requirements are necessary to perform a remote connection test:

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

## Procedure

To perform a remote connection test, do the following:

1. Starting at the Lucent INTUITY Main menu ([Figure 2-1](#)), select



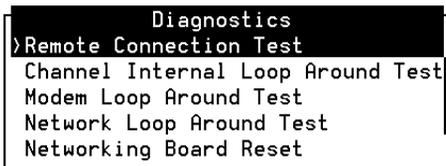
The system displays the Networking Diagnostics window ([Figure 2-9](#)).

Networking Diagnostics					
CHANNEL	TYPE	RATE	STATUS	MACHINE	ACTIVITY
1	DCP		NOT EQUIPPED		
2	DCP		NOT EQUIPPED		
3	DCP		NOT EQUIPPED		
4	DCP		NOT EQUIPPED		
5	DCP		NOT EQUIPPED		
6	DCP		NOT EQUIPPED		
7	DCP		NOT EQUIPPED		
8	DCP		NOT EQUIPPED		
9	DCP		NOT EQUIPPED		
10	DCP		NOT EQUIPPED		
11	DCP		NOT EQUIPPED		
12	DCP		NOT EQUIPPED		

Figure 2-9. Networking Diagnostics Window

2. Press **F8** (Chg-Keys).
3. Press **F4** (Diagnose).

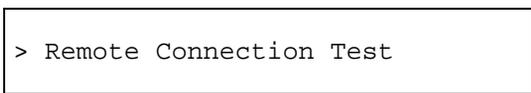
The system displays the Networking Diagnostics menu ([Figure 2-10](#)).



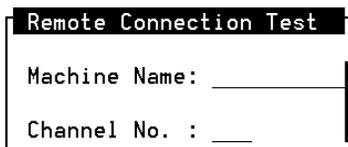
---

Figure 2-10. Networking Diagnostics Menu

4. Select



The system displays the Remote Connection Test window ([Figure 2-11](#)).



---

Figure 2-11. Remote Connection Test Window

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

If you do not know the remote machine name, press **F2** (Choices) 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 you are testing a dedicated RS-232 connection, enter the number of the dedicated channel.

The system displays the message `working...` and attempts to connect with the remote machine.

When the process completes, the system displays the Test Results window ([Figure 2-12](#)).

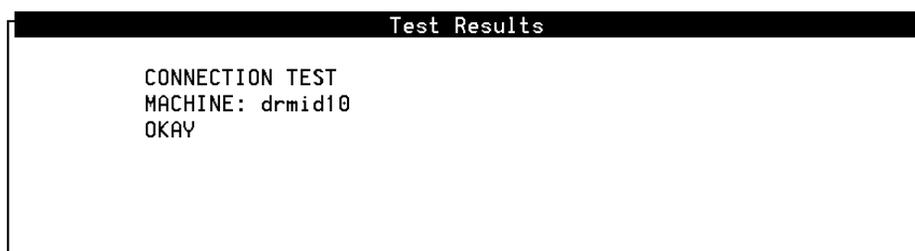


Figure 2-12. Test Results Screen for a Remote Connection Test

7. If the screen contains a message stating that the test completed successfully, continue with [Step 8](#).

If the screen contains a message stating that the test failed, press **F6** (Cancel) to exit the screen and return to the Networking Diagnostics menu ([Figure 2-10](#)). See "[Network Connections Test](#)" below for the procedure to determine the reason for the remote connection test failure.

8. Press **F6** (Cancel) to exit the screen and return to the Networking Diagnostics window ([Figure 2-9](#)).
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 subscribers 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 the following tests when a remote connection test fails or when voice messages cannot be exchanged with remote subscribers.

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

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.

**Requirements.** 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.

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

1. Starting at the Lucent INTUITY Main menu ([Figure 2-1](#)), select

```
> Customer/Services Administration
```

```
> Diagnostics
```

```
> Networking Diagnostics
```

The system displays the Networking Diagnostics window ([Figure 2-9](#)).

2. Press **F8** (Chg-Keys).
3. Press **F4** (Diagnose).

The system displays the Networking Diagnostics menu ([Figure 2-10](#)).

4. Select

```
> Channel Internal Loop-Around Test
```

The system displays the Channel Internal Loop-Around Test window (Figure 2-13).



Figure 2-13. Channel Internal Loop-Around Test Window

5. Enter the channel number to be tested.

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

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

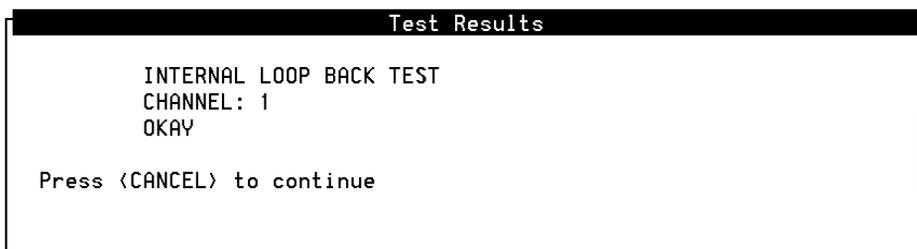


Figure 2-14. Test Results Window for a Channel Internal Loop-Around Test

6. If the screen contains a message stating the test completed successfully, continue with [Step 7](#).

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 Alarms and Log Messages 585-310-566*, for the procedure.

7. Press **F6** (Cancel) until the system displays the Networking Diagnostics window ([Figure 2-9](#)).
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. Before conducting the test, 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.

**Requirements.** 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, see "[Busyout and Release Networking Channels](#)" in this chapter.
- The channel must be RS-232 with a modem.
- The channel must be equipped.

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

1. Starting at the Lucent INTUITY Main menu ([Figure 2-1](#)), select

```
> Customer/Services Administration
```

```
> Diagnostics
```

```
> Networking Diagnostics
```

The system displays the Networking Diagnostics window ([Figure 2-9](#)).

2. Press **F8** (Chg-Keys).
3. Press **F4** (Diagnose).

The system displays the Networking Diagnostics menu ([Figure 2-10](#)).

4. Select

```
> Modem Loop-Around Test
```

The system displays the Modem Loop-Around Test window ([Figure 2-15](#)).



**Figure 2-15. 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 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 2-14](#)).

6. If the screen contains a message stating the test completed successfully, proceed to [Step 7](#) below.

If the screen shows that the test failed, see 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 Alarms and Log Messages* 585-310-566, for the procedure.

7. Press **F6** (Cancel) to exit the screen and return to the Networking Diagnostics screen ([Figure 2-9](#)).
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.

**Requirements.** This test can only be performed on DCP channels. The test should be coordinated with the local SO.

**Operation.** 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.

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

1. Starting at the Lucent INTUITY Main menu ([Figure 2-1](#)), select

```
> Customer/Services Administration
```

```
> Diagnostics
```

```
> Networking Diagnostics
```

The system displays the Networking Diagnostics window ([Figure 2-9](#))

2. Press **F8** (Chg-Keys).
3. Press **F4** (Diagnose).

The system displays the Networking Diagnostics menu ([Figure 2-10](#)).

4. Select

```
> Network Loop-Around Test
```

```
> Start Test
```

The system displays the Start Network Loop-Around Test window ([Figure 2-16](#)).

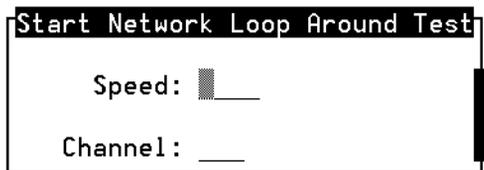


Figure 2-16. Start Network Loop-Around Test Window

5. Enter **High** or **Low** in the `Speed:` field.

- High speed refers to channels configured as 64 Kbps DCP.
- Low speed refers to channels configured as 56 Kbps DCP.

6. Enter the channel number to be tested.

Make sure the channel number corresponds to the channel data rate entered in the previous step.

7. Press `F3` (Save).

The system displays the message `working...` in the upper right corner of the screen, places the channel in loop-around mode, and displays a Test Results window (Figure 2-17).

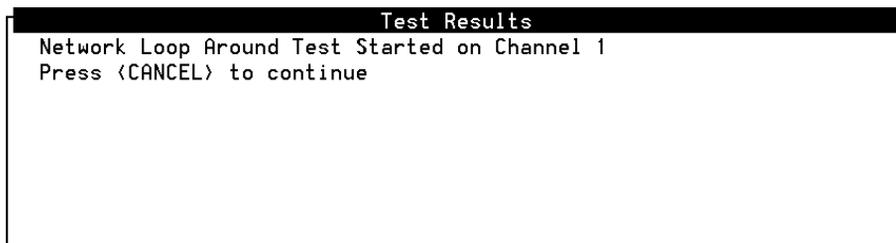


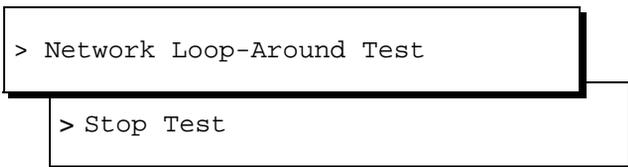
Figure 2-17. Start Test Results Window for a Network Loop-Around Test

8. Press `F6` (Cancel) to exit the screen and return to the Networking Diagnostics menu (Figure 2-10).

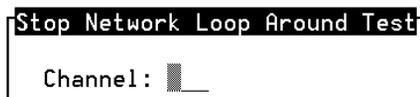
9. Contact the local telephone SO and instruct them to place a call to the telephone number assigned to the channel placed in the loop-around mode. If the test is successful, any data sent by the SO will pass through the Lucent INTUITY channel and return to the SO.

10. Stop the test and remove the channel from the loop-around mode by completing the following Steps a through c:

a. Select



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

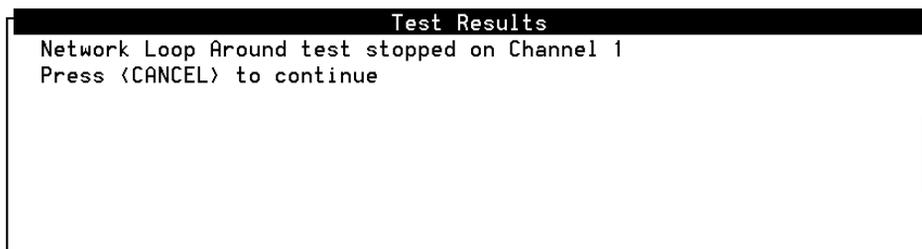


---

**Figure 2-18. Stop Network Loop-Around Test Window**

b. To stop testing the channel, enter the appropriated channel number in the Channel: field. This is the same channel number entered in [Step 6](#) above.

The system displays the message `working...` in the upper right corner of the screen, removes the channel from loop-around mode, and displays the Test Results window ([Figure 2-19](#)).



---

**Figure 2-19. Stop Test Results Window for a Network Loop-Around Test**

11. Press **F6** (Cancel) to exit the screen and return to the Networking Diagnostics menu ([Figure 2-10](#)).
12. Repeat Steps [2](#) through [11](#) for each channel to be tested.

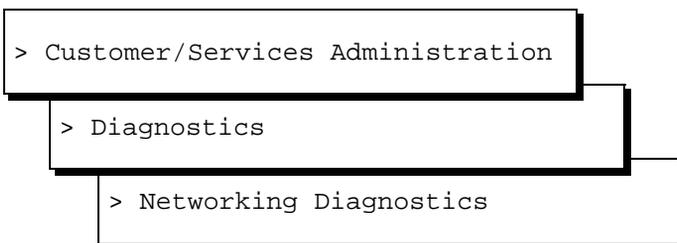
## Networking Board Reset

This section provides instructions for resetting the ACCX card.

**Requirements.** 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.

**Procedure.** To reset the networking card, do the following:

1. Starting at the Lucent INTUITY Main menu ([Figure 2-1](#)), select



The system displays the Networking Diagnostics window ([Figure 2-9](#)).

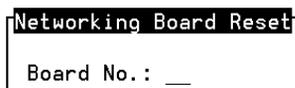
2. Press **F8** (Chg-Keys).
3. Press **F4** (Diagnose).

The system displays the Networking Diagnostics menu ([Figure 2-10](#)).

4. Select



The system displays the Networking Board Reset window ([Figure 2-20](#)).



**Figure 2-20. 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 2-21](#)).



Figure 2-21. Networking Board Reset Results Screen

6. Press **F6** (Cancel) to exit the screen and return to the Networking Diagnostics menu ([Figure 2-10](#)).
7. Repeat Steps [2](#) through [6](#) for each ACCX card to be reset.

## Busyout and Release Networking Channels

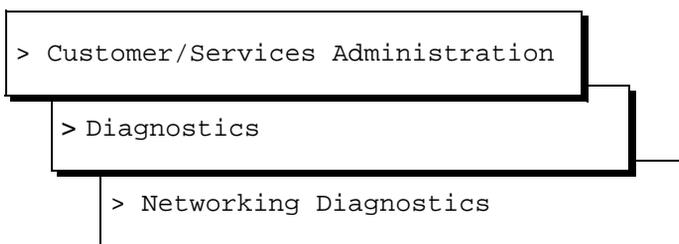
### CAUTION:

*Do not perform this procedure unless instructed to do so.*

*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 2-9](#)).

2. Press **F8** (Chg-Keys).

3. Press **F2** (Busyout).

The system displays the Busyout Networking Channel window ([Figure 2-22](#)).



---

**Figure 2-22. Busyout Networking Channel Window**

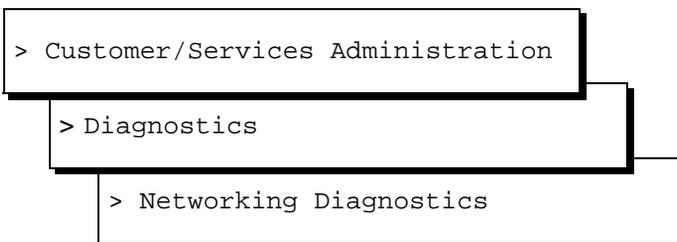
4. Enter the number of the channel to busyout.

The system displays the message `working...` in the upper right corner of the screen. When the process completes, the Status field on the Networking Diagnostics window ([Figure 2-9](#)) 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 2-9](#)).

2. Press **F8** (Chg-Keys).
3. Press **F2** (Release).

The system displays the Release Networking Channel window ([Figure 2-23](#)).



---

Figure 2-23. Release Networking Channel Window

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

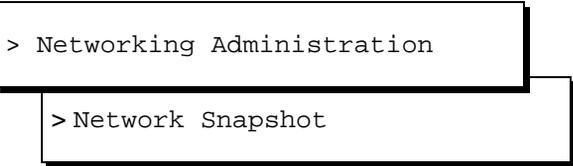
The system displays the message `working...` in the upper right corner of the screen. When the process completes, the Status field on the Networking Diagnostics window ([Figure 2-9](#)) updates and shows `idle` for the channel entered.

5. Repeat Steps [2](#) through [4](#) for each channel to be released.

## Performing a Network Snapshot

---

To perform a network snapshot, start at the Lucent INTUITY Main menu ([Figure 2-1](#)), and select



```
> Networking Administration
  > Network Snapshot
```

The system displays the Network Snapshot window ([Figure 2-24](#)).

Network Snapshot						
LOG START DATE: 03/25			LOG END DATE: 05/02			
-----						
MACHINE	OUTGOING CONNECTIONS			INCOMING CONNECTIONS		
	LAST CONN.	STATUS	RETRY	LAST CONN.	STATUS	
drmid10						
a123456789						
drbig12						
lztiny1	04/30	03:20	success	04/28	11:12	success
lzccs21	04/24	10:45	success	04/24	10:42	success
lzintuit						
lzbiz2						
test1						
scott_ss						
lzccs30	04/12	01:10	success	04/04	04:33	success
lzmid2	04/30	03:35	success	04/28	20:27	success
lzmid3						

Figure 2-24. Network Snapshot Window

## 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

```
> Customer/Services Administration
> Diagnostics
> Serial Port Diagnostics
```

The system displays the Megaport and Megaplex Configuration and Diagnostics screen ([Figure 2-25](#)). This screen contains a menu bar with the options Driver Stats, Port Stats, and Diagnostics.

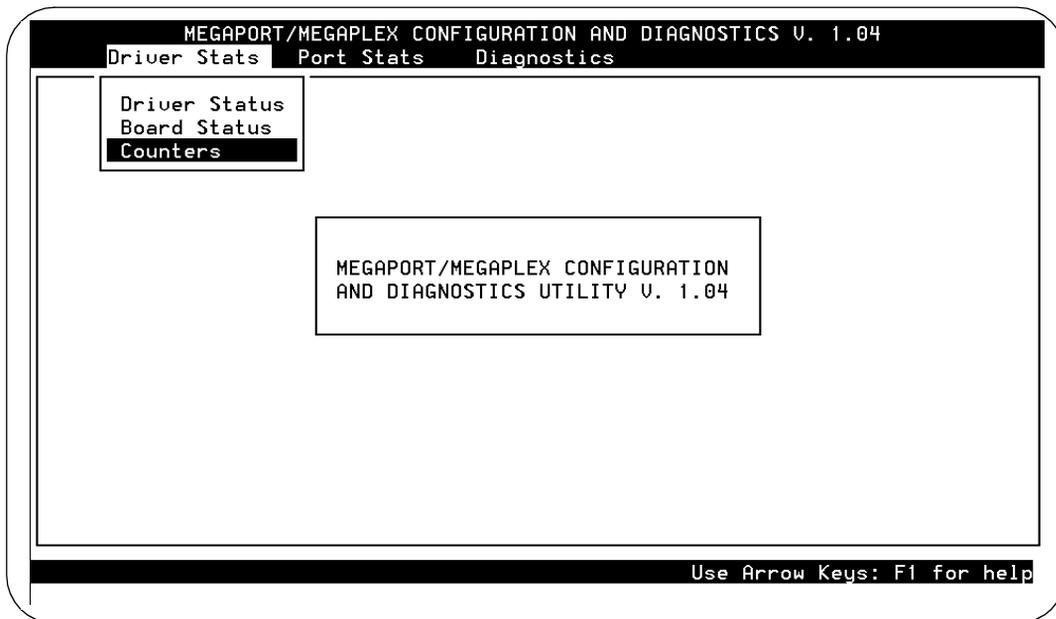


Figure 2-25. Megaport and Megaplex Configuration and Diagnostics Screen

- 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. Starting at the Megaport and Megaplex Configuration and Diagnostics screen ([Figure 2-25](#)), select

```
>Driver Stats  
>Driver Status
```

2. Press **ENTER**.

The system displays the Driver Status window ([Figure 2-26](#)).

---

```
----- 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 2-26. Driver Status Window**

### Board Status

To display the board status, do the following:

1. Starting at the Megaport and Megaplex Configuration and Diagnostics screen ([Figure 2-25](#)), select

```
>Driver Stats  
>Board Status
```

2. Press **ENTER**.

The system displays the Board Status menu ([Figure 2-27](#)).



Figure 2-27. 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

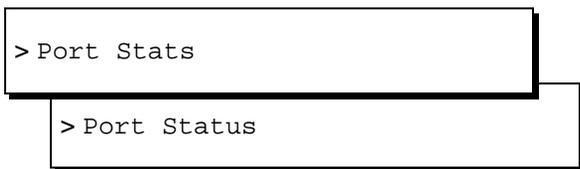
The Port Status selection is a real-time representation of the RS-232 leads. It includes:

- 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.

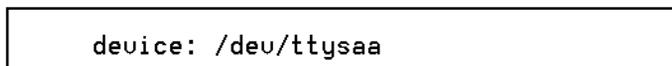
To display the port status, do the following:

1. Starting at the Megaport and Megaplex Configuration and Diagnostics screen ([Figure 2-25](#)), select



2. Press **ENTER**.

The system displays the Prompt window ([Figure 2-28](#)).



**Figure 2-28. Prompt Window**

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

The system displays the Port Status window ([Figure 2-29](#)).

---

OUTPUT		INPUT	
TD	OFF	RD	OFF
DTR	OFF	DCD	OFF
XON/XOFF Status	XON'ed CLOSED		
CPS Transmitted	0	CPS Received	0
Buffered	0	Buffered	0

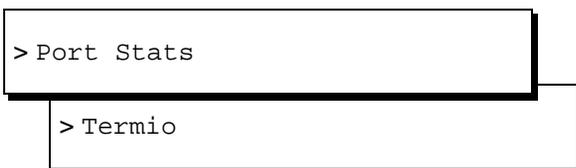
**Figure 2-29. Port Status Window**

## 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. Starting at the Megaport and Megaplex Configuration and Diagnostics screen ([Figure 2-25](#)), select



```
> Port Stats
> Termio
```

2. Press **(ENTER)**.

The system displays the Prompt window ([Figure 2-28](#)).

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

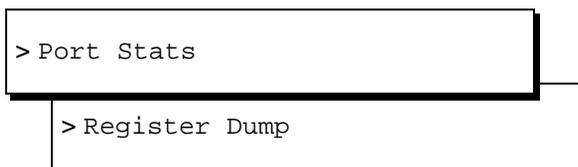
The system displays the Termio window.

## 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. Starting at the Megaport and Megaplex Configuration and Diagnostics screen ([Figure 2-25](#)), select



```
> Port Stats
> Register Dump
```

2. Press **(ENTER)**.

The system displays the Prompt window ([Figure 2-28](#)).

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

The system displays the Register Dump window ([Figure 2-30](#)).

```

Reg. dump for /dev/ttyxaa
State: 0 mp_flags: 0
cflag: 0 iflag: 522 oflag: 0 lflag: 0

txbase: 0 txidx: 0 txend: 0
rxbase: 1 rxidx: 0 rxend: 0
txcsr: 88 txbaud: FE out_ct: 3
rxcsr: 88 rxbaud: FE in_ctl: FF
txcsr: 2081 rxcsr: 2081 sample: 21
mie: 0 cie: 0 cis: C200
rxdm: CF txtm: C3
equlz: 0 eqmin: 0 eqmax: 0 linkst: 0
Transmit: 0 Receive: 0
  
```

Figure 2-30. Register Dump Window

## Conducting Diagnostics

There are two options on the Diagnostics portion of the Megaport and Megaplex Configuration and Diagnostics screen ([Figure 2-25](#)):

- Loopback
- Send

These tests 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

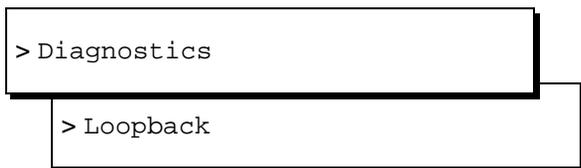
Although the option for the serial port external loopback test appears on the screen, this option is not available. Use the internal loopback test option instead.

### 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.

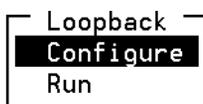
To perform the serial port internal loopback test, do the following:

1. Starting at the Megaport and Megaplex Configuration and Diagnostics screen ([Figure 2-25](#)), select



2. Press **(ENTER)**.

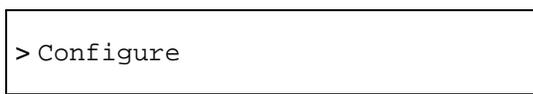
The system displays the Loopback menu ([Figure 2-31](#)).



---

**Figure 2-31. Loopback Menu**

3. Select



4. Press **(ENTER)**.

The system displays the Configure menu ([Figure 2-32](#)).



---

**Figure 2-32. Configure Menu**

5. Select



```
> Board
```

6. Press **ENTER**.

The system displays the Board menu ([Figure 2-27](#)).

7. Press **ENTER** to select the first group of ports.

8. Press **ESC**.

The system displays the Loopback menu ([Figure 2-31](#)).

9. Select



```
> Run
```

10. Press **ENTER**.

The system displays the Run menu ([Figure 2-33](#)).

---



```
Run
24 Ports
12 Ports
8 Ports
Single
```

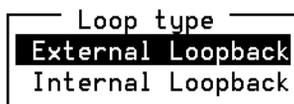
---

**Figure 2-33. Run Menu**

11. Place the cursor on 8 Ports.

12. Press **ENTER**.

The system displays the Loop Type menu ([Figure 2-34](#)).



**Figure 2-34. Loop Type Menu**

13. Place the cursor on Internal Loopback.
14. Press **(ENTER)**.

The system displays the Internal Loopback window ([Figure 2-35](#)).

Port	Xmit	Rcv	Errors	Rate	Note
saa	156825	151264	0	3874	ESC to exit  F2 Reset Errors  F3 Reset Test  F4 Refresh Screen
sab	156825	151237	0	3874	
sac	156825	151258	0	3875	
sad	156825	151230	0	3876	
sae	156825	151219	0	3875	
saf	156825	151195	0	3870	
sag	156825	151170	0	3861	
sah	156825	151160	0	3857	

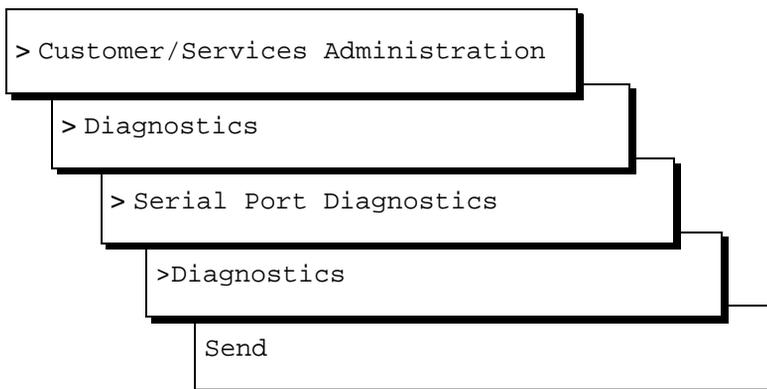
**Figure 2-35. Internal Loopback Window**

### Serial Port Send Test

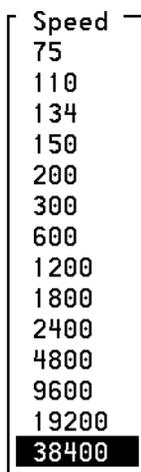
The Send test simply writes a continuous stream of printable alphanumeric characters to the specified port. This is helpful when a new device is being added to the system and a continuous stream of data is required to resolve wiring issues.

To perform the serial port send test, do the following:

1. Starting at the Lucent INTUITY Main menu ([Figure 2-1](#)), select



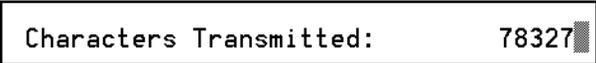
2. Press **(ENTER)**.  
The system displays the Prompt window ([Figure 2-28](#)).
3. Press **(ENTER)**.  
The system displays the Speed menu ([Figure 2-36](#)).



---

**Figure 2-36. Speed Menu**

4. Select the appropriate speed.
5. Press **(ENTER)**.  
The system displays the Characters Transmitted window ([Figure 2-37](#)).



Characters Transmitted: 78327

Figure 2-37. Characters Transmitted Window

## Switch Integration Diagnostics

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.

The following switch integration diagnostic utilities are available:

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

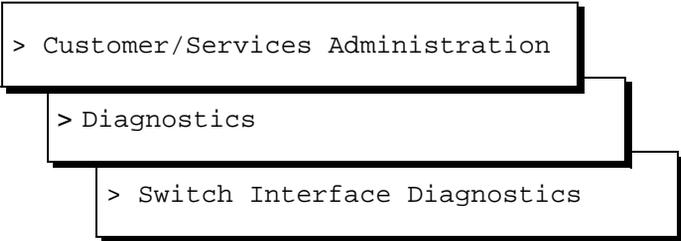
## View Switch Link Status

View in the switch link status provides information on the switch link.

### Procedure

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

1. Starting at the Lucent INTUITY Main menu ([Figure 2-1](#)), select



```
> Customer/Services Administration
> Diagnostics
> Switch Interface Diagnostics
```

The system displays the Diagnose Switch Link window ([Figure 2-38](#)).

```

Diagnose Switch Link

STATUS SWITCH-LINK

Type  Baud   State
DCIU  9600   In Service

Link Level 2 is Up

DCIU switches (In/Out of data transfer)
  1  2  3  4  5  6  7  8  9 10 11 12 13 14 15 16 17 18 19 20
  I
    
```

Figure 2-38. Diagnose Switch Link Window

**Results**

[Table 2-4](#) 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 Alarms and Log Messages 585-310-566*, for the procedure.

Table 2-4. 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.

*Continued on next page*

Table 2-4. Switch Link Status Fields — *Continued*

Status Field	DCIU Value	Definition
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.

## DCIU Circuit Card Diagnostics

The DCIU circuit card is equipped with diagnostic utilities that test circuit card functionality. This diagnostic checks the circuit card's timer and parity. It also does several local loopback tests.

If the system detects a switch link problem, it can 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.

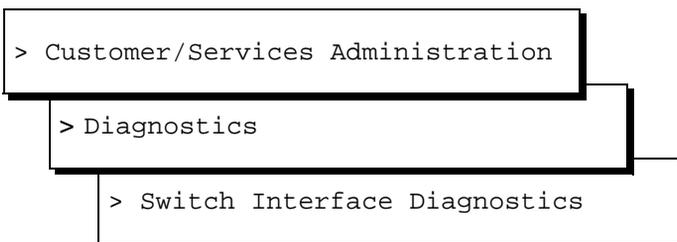
### CAUTION:

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

## Diagnostics Procedure

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 2-38](#)).

2. Press **F8** (Chg-Keys).
3. Press **F4** (Diagnose).

The system displays the Test Type menu ([Figure 2-39](#)).



Figure 2-39. Test Type Menu

4. Select



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

## Diagnostic Results

If the diagnosis of the DCIU circuit card is successful, the system displays the following series of messages.

```
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. See [“DCIU Circuit Card”](#) in [Chapter 5, “Replacing or Installing Circuit Cards”](#).

## Reset Procedure

This diagnostic command resets and initializes the DCIU circuit card 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

```
> Customer/Services Administration
```

```
> Diagnostics
```

```
> Switch Interface Diagnostics
```

The system displays the Diagnose Switch Link window ([Figure 2-38](#)).

2. Press **F8** (Chg-Keys).
3. Press **F4** (Diagnose).

The system displays the Test Type menu ([Figure 2-39](#)).

4. Select

```
> Board
```

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

```
Reset completed.
```

## Digital Station Interface Circuit Card Diagnostics

To diagnose a digital station interface circuit card, do the following:

1. Starting at the Lucent INTUITY Main menu ([Figure 2-1](#)), select

```
> Switch Interface Administration
```

```
> Call Data Interface Administration
```

```
> Switch Link Administration
```

```
>VB-PC Interface
```

```
Link Status
```

The system displays the Link Status window ([Figure 2-40](#)).

UB-PC Link Status		
UBPC Port Number	Usage	Link Status
1	Main Port	LINK_UP
2	Integration	LINK_UP
3	Integration	LINK_UP
4	Integration	LINK_UP
5	Integration	LINK_UP
6	Integration	LINK_UP
7	Integration	LINK_UP
8	Integration	LINK_UP

Figure 2-40. Link Status Window

### Switch Integration Link Busy-Out Procedure

Busying out the switch link disables all lines associated with the switch link, including all INTUITY AUDIX Voice Messaging lines. Subscribers 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.

**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:

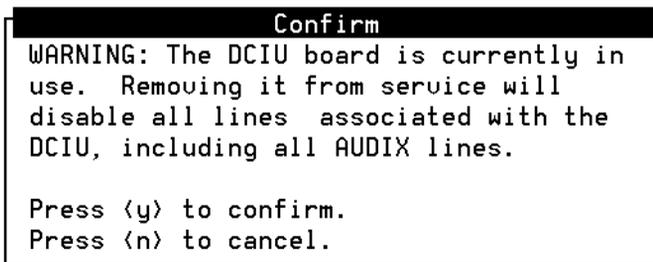
1. Starting at the Lucent INTUITY Main menu ([Figure 2-1](#)), select

```
> Customer/Services Administration
> Diagnostics
> Switch Interface Diagnostics
```

The system displays the Diagnose Switch Link window ([Figure 2-38](#)).

2. Press **F8** (Chg-Keys).
3. Press **F2** (Busyout).

The system displays the Confirm window ([Figure 2-41](#)).



---

Figure 2-41. Confirm Window

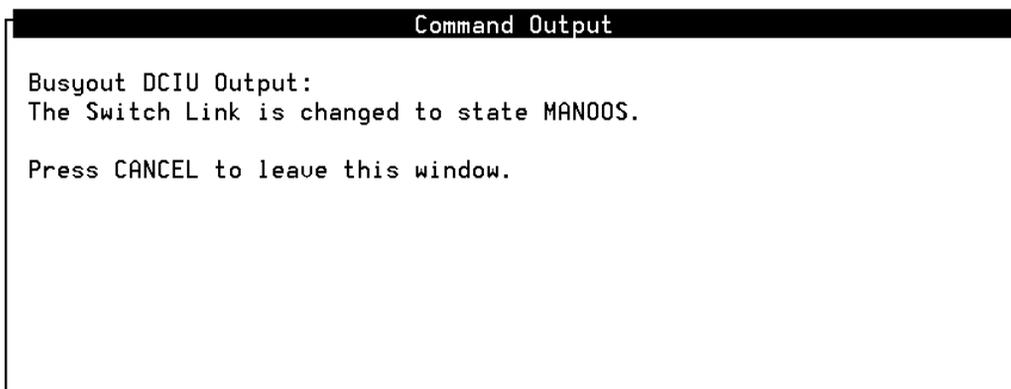


**CAUTION:**

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

4. Press **y**

The system displays a Busyout Command Output window ([Figure 2-42](#)).



---

Figure 2-42. Busyout Command Output Window

## Switch Integration Link Release Procedure

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

```
> Customer/Services Administration
```

```
> Diagnostics
```

```
> Switch Interface Diagnostics
```

The system displays the Diagnose Switch Link window ([Figure 2-38](#)).

2. Press **F8** (Chg-Keys).
3. Press **F3** (Release).

The system displays Release Command Output window ([Figure 2-43](#)).



Figure 2-43. Release Command Output Window

## TCP/IP Diagnostics

Use the TCP/IP diagnostics screens when subscribers 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 subscriber'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 is returned exactly as it was sent.

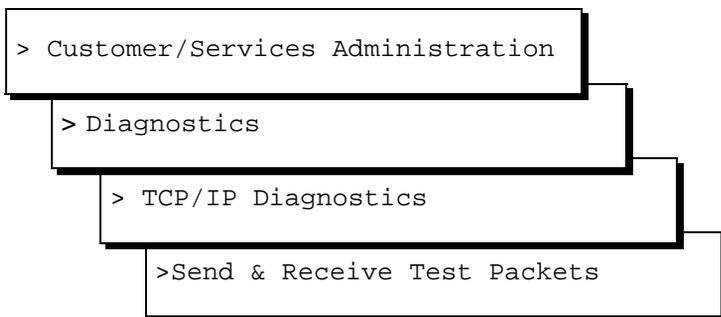
## Testing the TCP/IP Software

If subscribers are experiencing difficulties with Lucent INTUITY Message Manager, first 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 does *not* involve the LAN card or the network.

### Procedure

To test the TCP/IP software, do the following:

1. Starting at the Lucent INTUITY Main menu ([Figure 2-1](#)), select



The system displays the Send & Receive Test Packets From window ([Figure 2-44](#)).

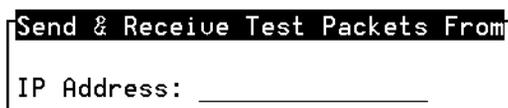


Figure 2-44. Send and Receive Test Packets Window

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 **F3** (Save).

The system displays the message `working...` in the upper right 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 2-45](#)). 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 2-45. Sample Test Packets Results Window

## Results

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 subscriber's PC. See "[Testing the Connection Between the Lucent Intuity System and a Subscriber'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 "[Rebooting the System](#)" in [Chapter 3, "Common System Procedures"](#)," for the procedure.

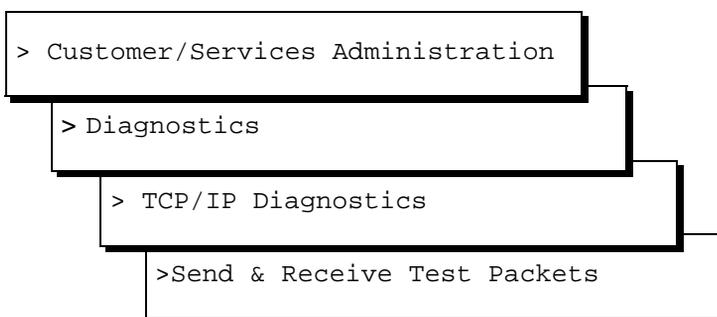
## Testing the Connection Between the Lucent INTUITY System and a Subscriber's PC

Once it has been determined that the Lucent INTUITY system's TCP/IP software is functioning correctly (see "[Testing the TCP/IP Software](#)" above), it needs to be determined that the Lucent INTUITY system can properly communicate with the troubled subscriber's PC.

### Procedure

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 window ([Figure 2-44](#)).

2. Enter the Internet Protocol (IP) address for the PC to which you want to have test packets sent and received.
3. Press **F3** (Save).

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

The system displays the Sample Test Packets Results window ([Figure 2-45](#)) when the test is finished.

## Results

The results for the LAN test 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.

## Viewing LAN Circuit Card Packet Statistics

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.

### Procedure

To view the packet statistics, do the following:

- Starting at the Lucent INTUITY Main menu ([Figure 2-1](#)), select

```

> Customer/Services Administration
> Diagnostics
> TCP/IP Diagnostics
>View Packet Statistics
    
```

The system displays the Packet Statistics window ([Figure 2-46](#)).

Packet Statistics								
Name	Mtu	Network	Address	Ipkts	Ierrs	Opkts	Oerrs	Collis
lo0	8256	127	127.0.0.1	10661201	0	10661201	0	0
sme0	1500	135.9.181	135.9.181.76	0	0	22185759	77962	0

Note: The Ethernet board is named sme00. Abnormally high values in the "Ierrs", "Oerrs", or "Collis" columns may indicate a network problem.

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

Figure 2-46. Packet Statistics Window

### Interpreting the Packet Statistics Window

[Table 2-5](#) 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 2-5. 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.

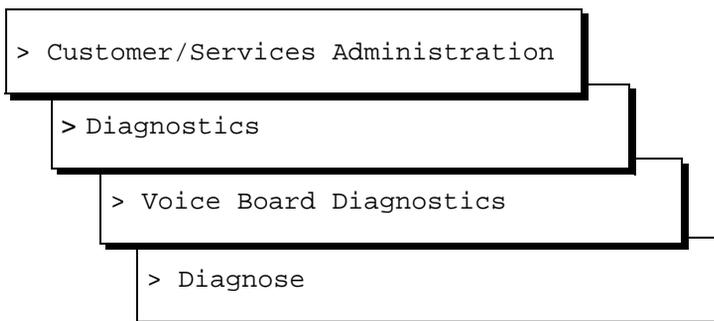
### Tip/Ring Circuit Card Diagnostics

To determine which Tip/Ring circuit card is having a problem, look at the alarm log. See Chapter 1, "Getting Started," in *Lucent INTUITY Alarms and Log Messages* 585-310-566, for more information on the alarm log.

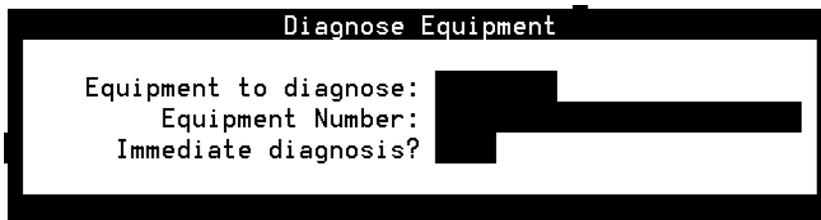
## Procedure

To diagnose one or more Tip/Ring circuit cards, do the following:

1. Starting at the Lucent INTUITY Main menu ([Figure 2-1](#)), select



The system displays the Diagnose Equipment window ([Figure 2-47](#)).



---

**Figure 2-47. Diagnose Equipment Window**

Each voice card has a number (0 through 2) 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.



**CAUTION:**

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

You can enter card numbers in several forms:

- A single card number (for example: 1)
- A range of card numbers (for example: 0-2)

- A list of single card numbers (for example: 0,1,2)
  - A list of single cards and ranges (for example: 0-2)
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 **F3** (Save).

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**.

## 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 telephone 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, do the following:

1. Verify that the telephone line is securely connected to the voice card and the switch.
2. Verify that the analog line is set up properly on the switch. See the switch integration document included with your Lucent INTUITY system documentation set for more information.
3. 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. If this occurs, do the following:

1. Verify that Lucent INTUITY system analog lines are distributed over several switch circuit packs.
2. Verify that the switch administration for the ports is valid.

- Channel number changed to state BROKEN

OR

Card number changed to state BROKEN

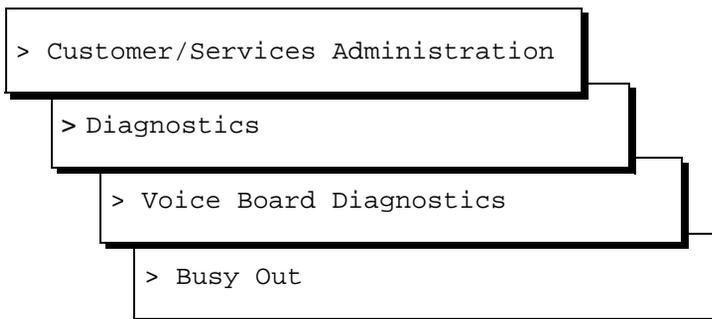
The channel or card is not working. Replace the Tip/Ring circuit card. See "[Tip/Ring Circuit Cards](#)" in [Chapter 5, "Replacing or Installing Circuit Cards"](#).

## Busying out a Tip/Ring Circuit Card

Busying out a Tip/Ring circuit 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 a Tip/Ring circuit card, 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 2-48](#)).

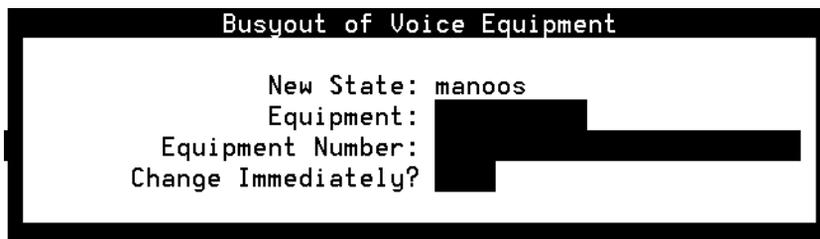


Figure 2-48. Busyout of Voice Equipment Window

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.

**CAUTION:**

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

Card numbers range from 0 through 2, channel numbers range from 0 through 17. You can enter card and channel numbers in several forms.

- A single card number (for example: 1)
  - A range of card numbers (for example: 0-2)
  - A list of single card numbers (for example: 0,1,2)
  - A list of single cards and ranges (for example: 0-2)
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 **F3** (Save).

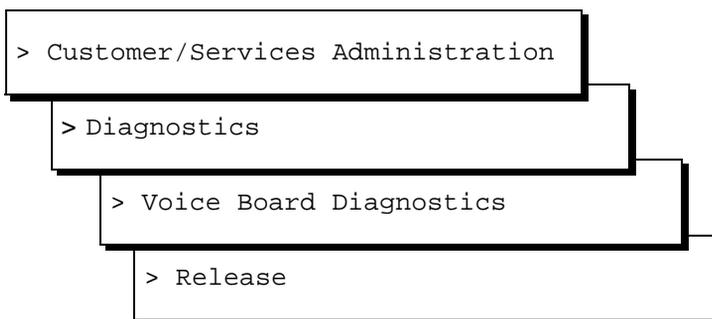
When the state change is complete, the system displays a Command Output screen.

## Releasing a Tip/Ring Circuit Card

Releasing a Tip/Ring circuit 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 a Tip/Ring circuit card 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 2-49](#)).

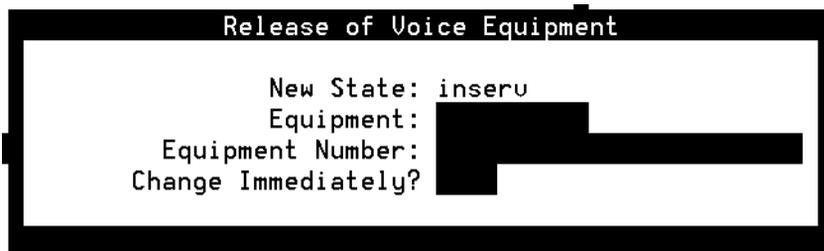


Figure 2-49. Release of Voice Equipment Window

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.
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: 0-2)
  - A list of single card numbers (for example: 0,1,2)
  - A list of single cards and ranges (for example: 0-2)
4. Enter **y** in the `Change Immediately?` field so that the card or channel will be released immediately.
  5. Press **F3** (Save).

## Voice Port Diagnostics

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

1. Starting at the Lucent INTUITY Main menu ([Figure 2-1](#)), select

```
> Customer/Services Administration
```

```
> Diagnostics
```

```
> Voice Port Loop Around Test
```

The system displays the Voice Port Loop Around Test window ([Figure 2-50](#)).

```
Voice Port Loop Around Test

Dialing Channel: [REDACTED]
Target Channel:  [REDACTED]
Test Type:       [REDACTED]
Immediate Diagnose?: [REDACTED]
```

Figure 2-50. 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.

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.

6. Press **F3** (Save).

The system completes the diagnostics and displays the Voice Port Loop Around Test Results screen ([Figure 2-51](#)).

Voice Port Loop Around Test Results

```

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

Press Enter to continue.

**Figure 2-51. Voice Port Loop Around Test Results Screen**

7. Press **ENTER**.

The system displays the Voice Port Loop Around Test window ([Figure 2-50](#)).

# Common System Procedures

# 3

---

## Overview

This chapter describes:

- Cartridge tape and diskette 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.

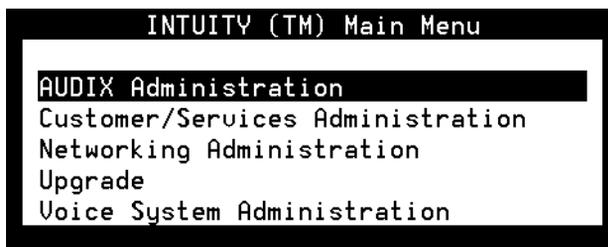
## Accessing the Product ID

---

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:

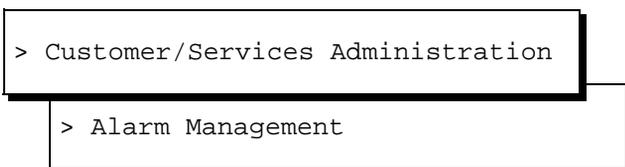
1. Start at the Lucent INTUITY Main menu ([Figure 3-1](#)).



---

Figure 3-1. Lucent INTUITY Main Menu

2. Select



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

---

Alarm Management	
Product ID	<u>2999999999</u>
Alarm Destination	<u>916148606427</u>
Alarm Origination	<u>ACTIVE</u>
Alarm Level	<u>MINOR</u>
Alarm Suppression	<u>ACTIVE</u>
Clear Alarm Notification	<u>ACTIVE</u>

---

Figure 3-2. Alarm Management Window

- 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/40 reads information from and writes information to cartridge tapes through the tape drive. The tape drive is located in Position 2.

### Types of Cartridge Tape Drives

---

The MAP/40 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/40 ([Figure 3-3](#)).

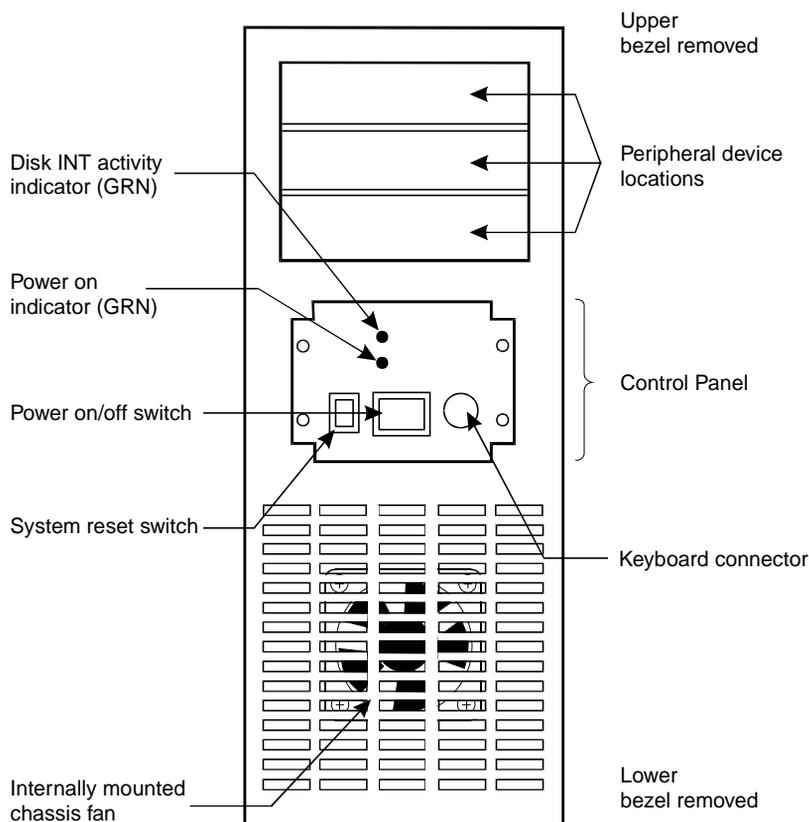


Figure 3-3. Front View of the MAP/40

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.

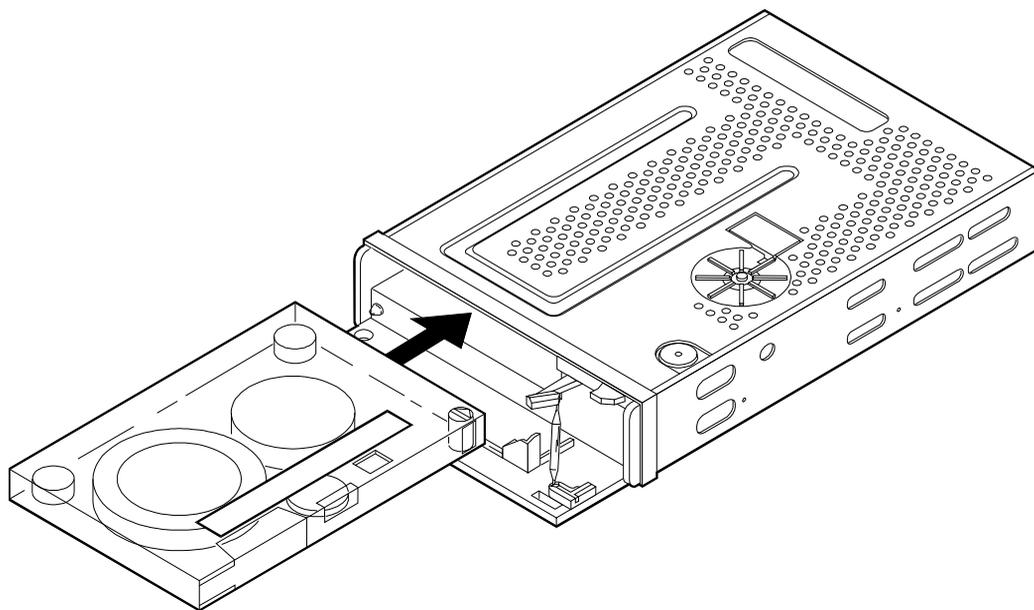


Figure 3-4. Tape Insertion with a 2-Gbyte Tape Drive



**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/40 ([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](#)).

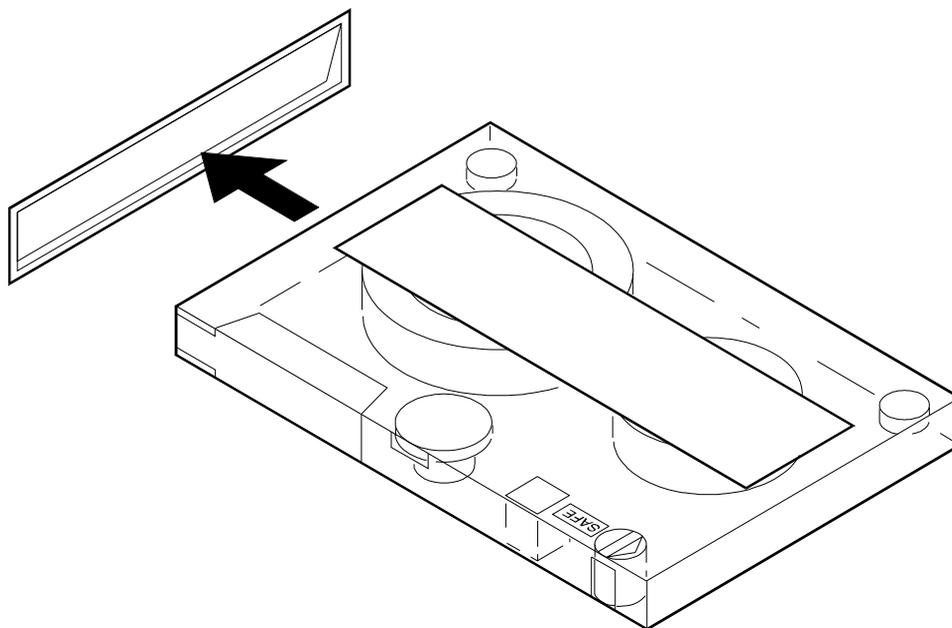


Figure 3-5. Tape Insertion with a 525-Mbyte Tape Drive

**⇒ 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:**

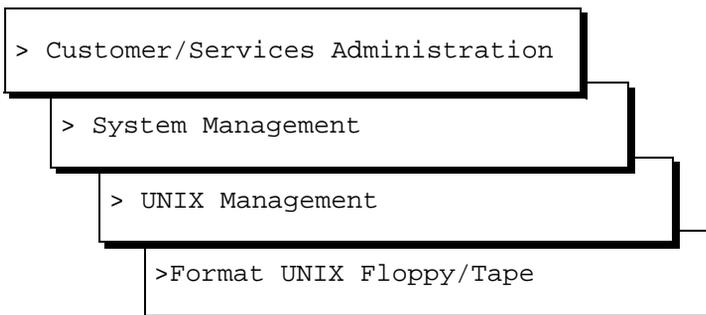
*You can only remove the tape when the drive is idle, that is, when the light is not on.*

## 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](#)" 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 Diskette Drives and Diskettes

---

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

### Types of Diskettes

---

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 Diskettes

---

#### Inserting the Diskette

1. Locate the diskette drive on the front of the MAP/40 ([Figure 3-3](#)).
2. Check the read/write switch to make sure that the diskette is not write-protected. The small dial on the front of the tape should be in the horizontal position.
3. Insert the diskette in the drive.



**NOTE:**

The light on the diskette drive is on when the drive is in use. If the light is not on, the diskette drive is idle.

#### Removing the Diskette

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



**CAUTION:**

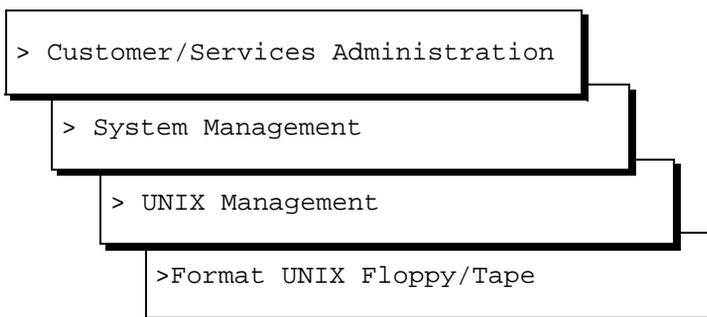
*You can only remove the diskette when the drive is idle, that is, when the light is not on.*

## Formatting Diskettes

---

Formatting prepares a diskette to receive data. To format a diskette, 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 diskette being used.
3. Verify that the diskette is not write-protected and insert the tape into the tape drive. See "[Inserting the Diskette](#)" for more information.
4. Press **y**  
The system displays a screen stating that the diskette has been formatted.
5. Remove the diskette from the diskette 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](#)" 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
<b>/netw/db/vexnet.dbd</b>	Connectivity to other Lucent INTUITY, AUDIX R1, and AMIS Analog Networking machines in the network, local machine connectivity, and channel configurations
<b>/netw/db/db_anet.dbd</b>	Information regarding how to request and send remote updates of subscriber information
<b>/netw/db/delta</b> <b>/netw/db/delta.txt</b>	Subscriber administration change records (binary and ascii)
<b>/netw/db/deltactl</b> <b>/netw/db/deltactl.txt</b>	Control record for the delta table (binary and ascii)
<b>/netw/db/kmach</b>	Index file for the node data
<b>/netw/db/kport</b>	Index file for the port table
<b>/netw/db/kdelta</b>	Index file for the delta table
<b>/netw/db/krmail</b>	Index file for the rmail table
<b>/netw/db/kupdstat</b>	Index file for the updstat table
<b>/netw/db/kvnq</b>	Index file for the vnq table
<b>/netw/db/mach</b> <b>/netw/db/node.txt</b>	Data of machines in the network (binary and ascii)
<b>/netw/db/nodeid</b> <b>/netw/db/nodeid.txt</b>	Data used to allocate new node id's (binary and ascii)
<b>/netw/db/port</b> <b>/netw/db/port.txt</b>	Networking channel configuration on local machine (binary and ascii)

*Continued on next page*

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

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

[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
<b>/vm/audix/md/mdata</b>	Message headers, mailing lists, subscriber profiles, and message-waiting indicator status
<b>/vm/audix/md/mdata/ocserv</b>	Outgoing call queue status files
<b>/vm/audix/md/config/hlrfil</b>	High-level resource control file
<b>/vm/audix/sd/mail/dr</b>	Message delivery queue
<b>/vm/audix/sd/mail/mb</b>	Mailbox record (incoming and outgoing mailbox data)
<b>/vm/audix/sd/mail/node</b>	Mailbox node status file (for networking)
<b>/vm/audix/sd/mail/xmq</b>	Remote transmission queue
<b>/vm/audix/sd/mesg/mh</b>	Message headers (stores information per message such as original extension number, etc.)
<b>/vm/audix/sd/mesg/vf</b>	Voice file reference count (number of references per voice file)

*Continued on next page*

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

Directory	Description
<b>/vm/audix/sd/sdata/attend</b>	Automated attendant data
<b>/vm/audix/sd/sdata/cls</b>	Class-of-service data
<b>/vm/audix/sd/sdata/netport</b>	
<b>/vm/audix/sd/sdata/netprof</b>	
<b>/vm/audix/sd/sdata/pdir</b>	Personal directory data
<b>/vm/audix/sd/sdata/rmatrix</b>	Sending restriction matrix data
<b>/vm/audix/sd/sdata/sdl</b>	Mailing and delivery list file
<b>/vm/audix/sd/sdata/sup</b>	Subscriber profile file
<b>/vm/audix/sd/sdata/syp</b>	System-wide data

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

### Verifying the Unattended Backup

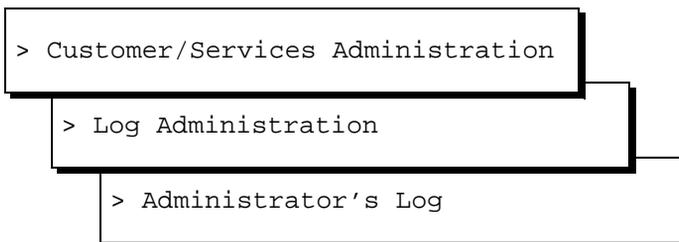
The system administrator should check the administrator's log daily to ensure that a successful unattended backup occurred. There are two ways to check the log:

- 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](#)).

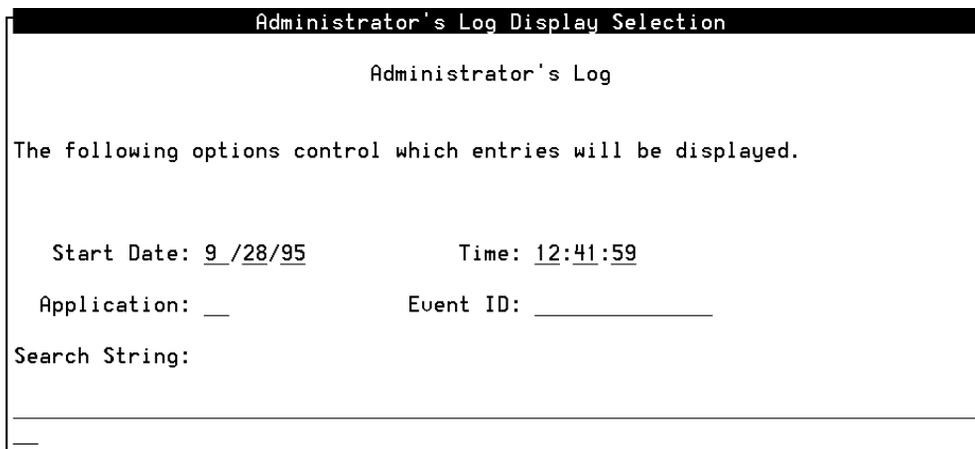
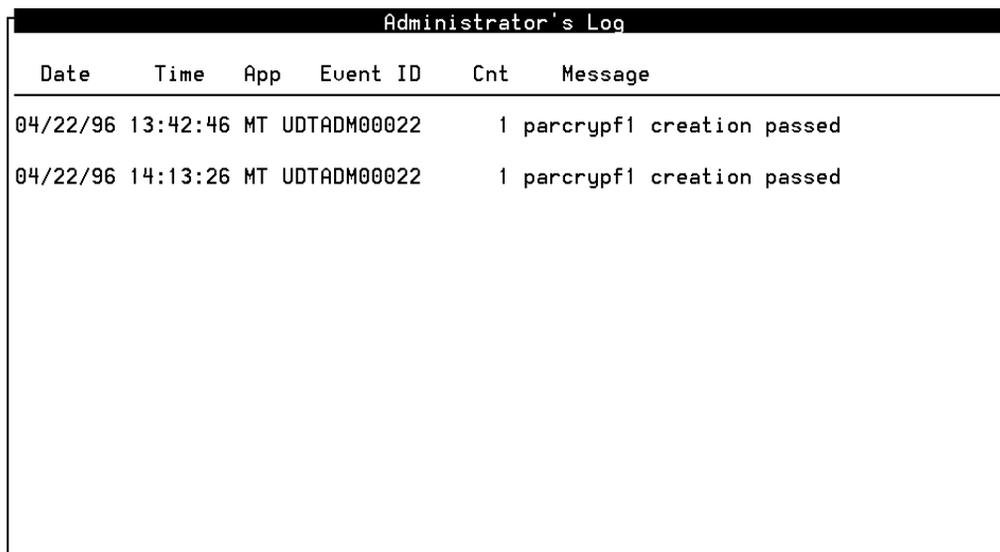


Figure 3-7. Administrator's Log Display Selection Window

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

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



Administrator's Log					
Date	Time	App	Event ID	Cnt	Message
04/22/96	13:42:46	MT	UDTADM00022	1	parcrypf1 creation passed
04/22/96	14:13:26	MT	UDTADM00022	1	parcrypf1 creation passed

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](#)).

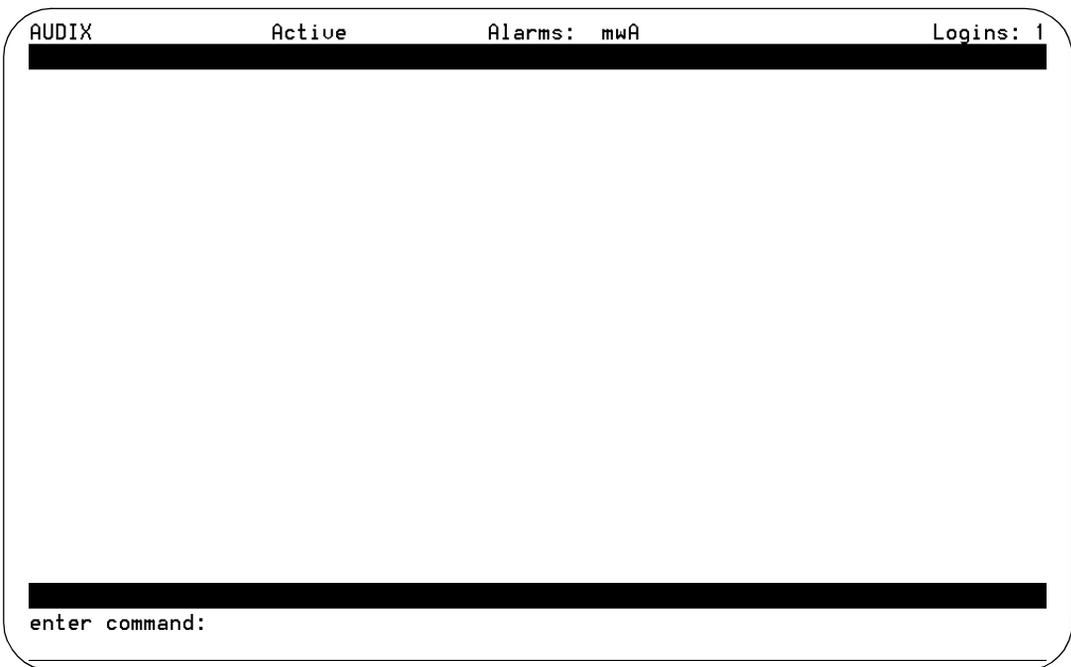


Figure 3-9. AUDIX Administration Screen

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](#)).

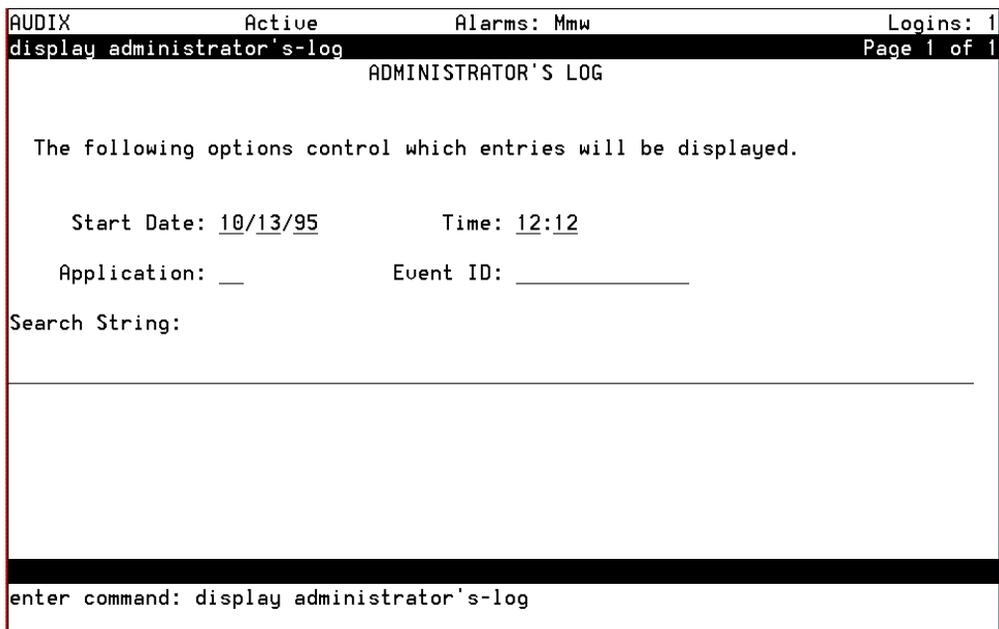


Figure 3-10. AUDIX Administrator's Log Display Selection Screen

3. Move the cursor to the Event ID: field.
4. Enter **BKRST001**
5. Press **F3** (Save).

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

AUDIX		Active	Alarms: mw		Logins: 2
display administrator's-log					Page 1
ADMINISTRATOR'S LOG					
Date	Time	App	Event ID	Cnt	Message
02/12/96	15:44	MT	AOMADM00001	1	Alarm Origination Level on Alarm Management Form changed to MINOR
02/12/96	15:44	MT	AOMADM00001	1	Clear Alarm Notification on Alarm Management Form changed to ACTIVE
02/12/96	15:44	MT	UDTADM00022	3	parcrypf1 creation passed
02/12/96	15:48	MT	UDTADM00022	1	parcrypf1 creation passed
02/12/96	15:49	MT	UDTADM00022	2	parcrypf1 creation passed
02/12/96	15:50	MT	UDTADM00022	3	parcrypf1 creation passed
02/12/96	15:52	MT	UDTADM00022	2	parcrypf1 creation passed
02/12/96	17:25	MT	UDTADM00022	1	parcrypf1 creation passed
Press [NextPage], [PrevPage] or [Cancel] to abort					
enter command: display administrator's-log					

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 \(Unattended\)](#)" 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

```
> Customer/Services Administration
  > Backup/Restore
    > Backup
```

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

---

Backup	
<u>S</u> ystem Data	<u>Y</u> es
<u>A</u> UDIX Announcements	<u>Y</u> es
<u>A</u> UDIX Names	<u>Y</u> es
<u>G</u> reetings and Messages	<u>Y</u> es
<u>G</u> uest Messages	<u>Y</u> es
<u>L</u> odging System Files	<u>Y</u> es
_____	_____
_____	_____
_____	_____

---

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 **F3** (Save).

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](#)" for this procedure.
8. Press  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](#)" 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](#)" 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 restore 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](#)" for more information.
2. Starting at the Lucent INTUITY Main menu ([Figure 3-1](#)) select

```
> Customer/Services Administration
```

```
> Backup/Restore
```

```
> Restore
```

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](#)" for more information.
4. Press  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 .
- b. Return to Step 3.
- c. Try another tape.

If it does, continue with Step 6.

6. Press  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 **F3** (Save) 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](#)" for this procedure.

## Administering Voice Messaging

---

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

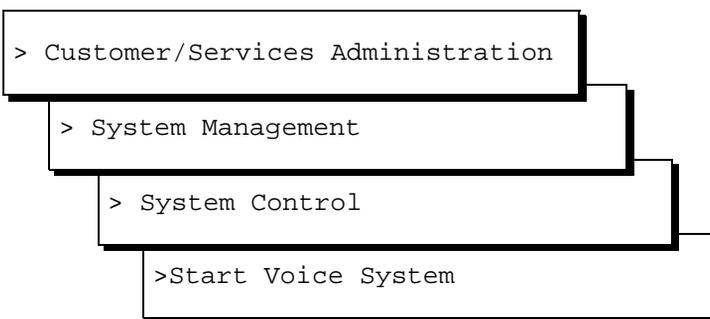
Starting the voice system brings the software into a state where it can accept and process calls. Stopping the voice system brings the software into a lower level state in which it cannot accept calls.

### Starting the Voice System

---

To start the voice system, do the following:

1. Starting at the Lucent INTUITY Main menu ([Figure 3-1](#)) select



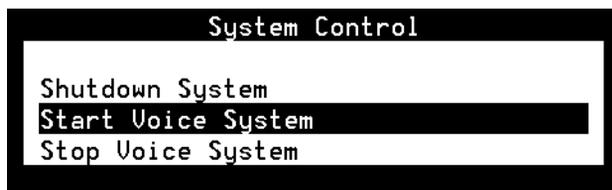
The system displays the following message:

```
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 **F1** (Acknowledge).

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



---

Figure 3-13. System Control Menu

## Stopping the Voice System

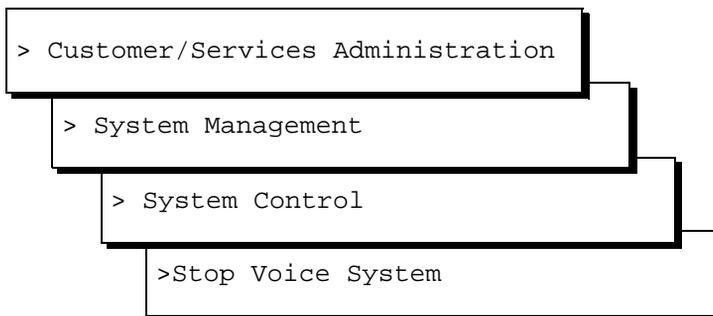
---

### 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 **F3** (Save).

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](#)" for the procedure.

4. Press **ENTER**.

## Shutting Down and Rebooting the Lucent INTUITY System

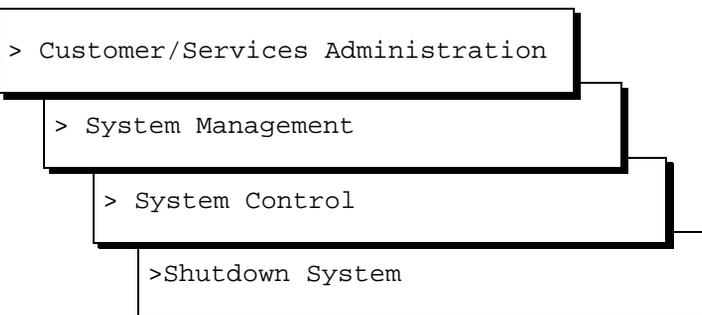
---

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](#)" 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 **F3** (Save).

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 "*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/40 off by pressing the power button on the front of the unit ([Figure 3-3](#)).
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 front of the MAP/40 ([Figure 3-3](#)).

## Verifying the Date and Time

---

This section details:

- Checking the UNIX Date and Time window
- Changing the UNIX Date and Time window

### Checking the UNIX Date and Time Window

---

1. Starting at the Lucent INTUITY Main menu ([Figure 3-1](#)) select

```
> Customer/Services Administration
> System Management
> UNIX Management
>UNIX Date and Time
```

The system displays the UNIX Date and Time window ([Figure 3-15](#)).

```
UNIX Date and Time
Date:           October 16, 1995
Time:           10:51
AM/PM:          AM
Timezone:       Eastern
Is Daylight Savings Time used?: YES
```

---

Figure 3-15. UNIX Date and Time Window

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

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

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 **F2** (Choices) to display the months of the year ([Figure 3-16](#)).



---

Figure 3-16. UNIX Month Choices Menu

- b. Use  or  to move the cursor and highlight the correct month.
- c. Press  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.**

3. Continue with the next procedure "Changing the Day."

If the month shown is correct, press  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  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  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  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  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 **F2** (Choices) to display the list of time zones ([Figure 3-17](#)).

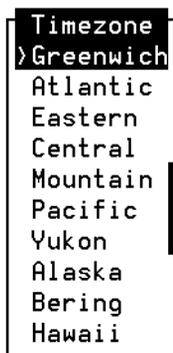


Figure 3-17. UNIX Time Zone Choices Menu

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 **F3** (Save) to save the changes and continue with the next procedure, "Acknowledging the Changes to the Date and Time Window."

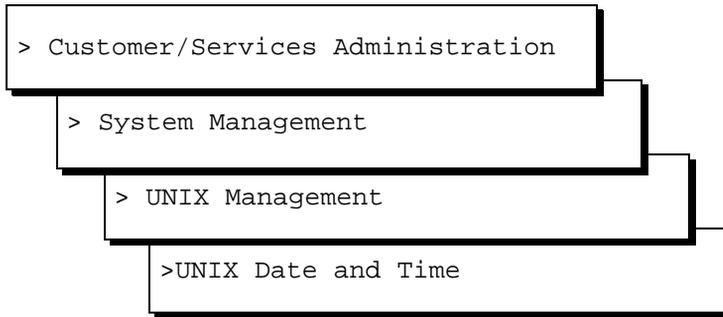
## Acknowledging the Changes to the Date and Time Window

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](#)" for the procedure.

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

2. Starting at the Lucent INTUITY Main menu ([Figure 3-1](#)) select



The system displays the UNIX Date and Time window ([Figure 3-15](#)).

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/40.

## Protecting against Damage from Electrostatic Discharge

---

### CAUTION:

*Read this section before unpacking the MAP/40. 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](#)).

---



---

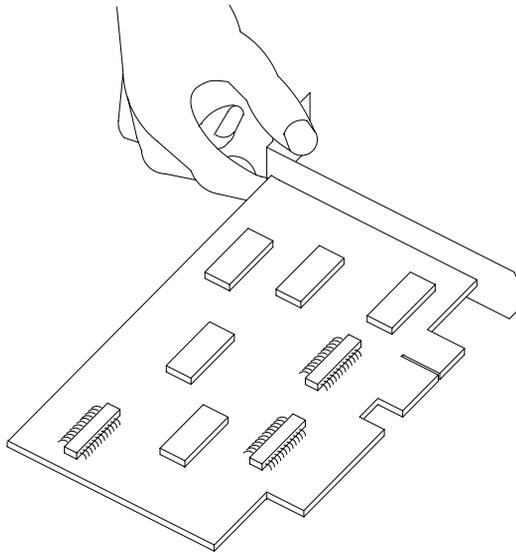
Figure 4-1. ESD Warning Symbol

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](#)).

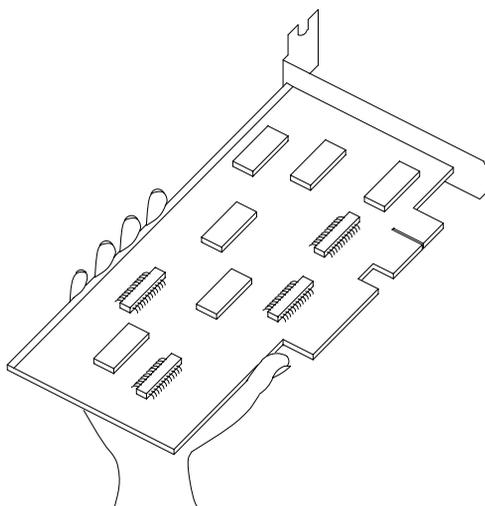
### CAUTION:

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



---

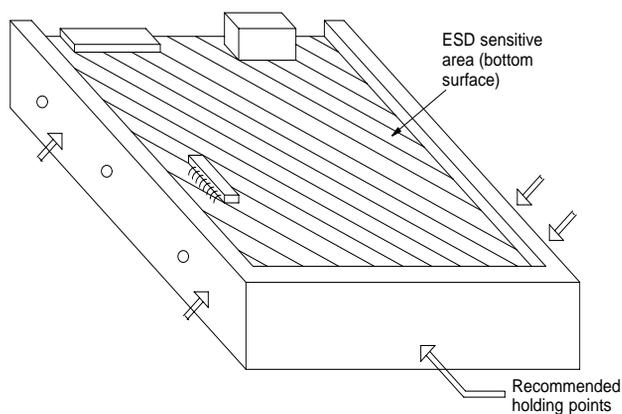
Figure 4-2. How to Hold a Small Circuit Card



---

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

- 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/40

The MAP/40 requires a dedicated circuit with a dedicated circuit breaker. The power cord connects to the rear of the MAP/40 at the point labeled AC input receptacle (Figure 4-5). Before you begin any work in the MAP/40 you must disconnect the incoming power. Follow the procedure below to remove power from the MAP/40.

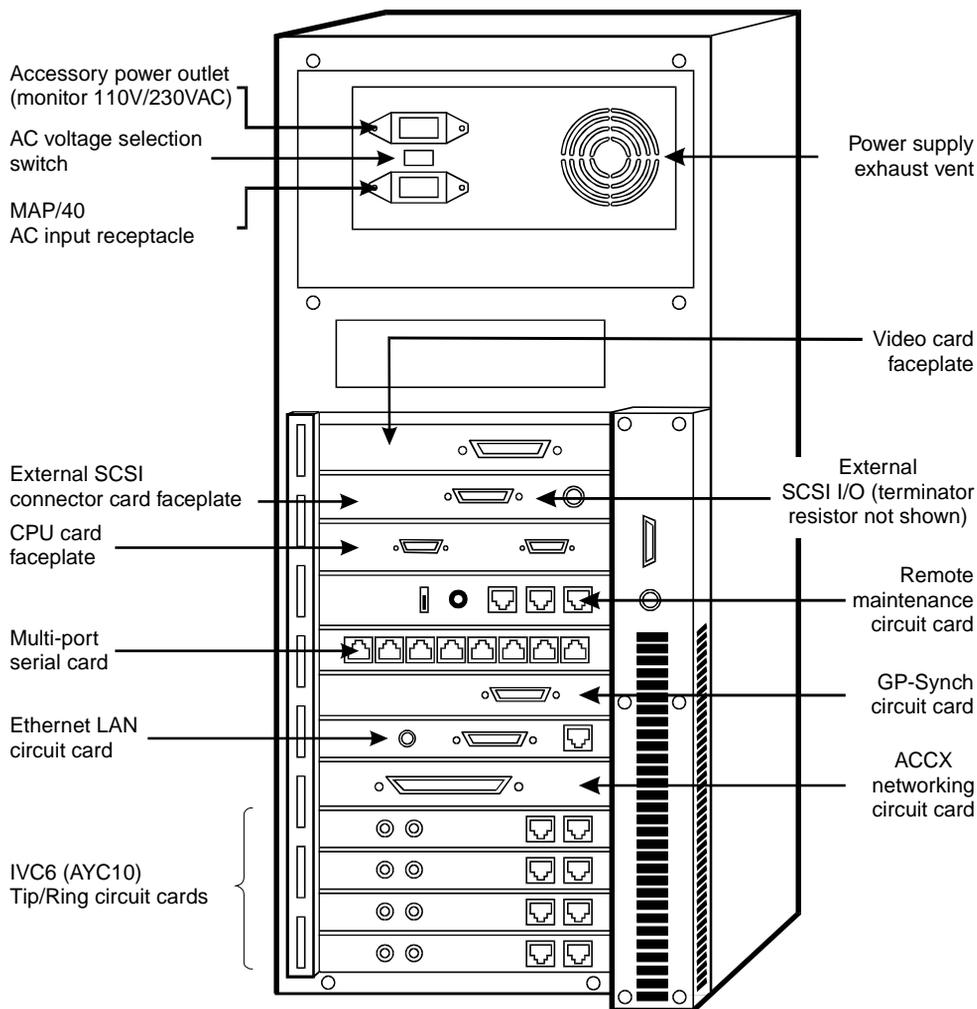


Figure 4-5. Back View of the MAP/40

1. Shut down the Lucent™ INTUITY™ system. See "[Shutting Down the 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 front of the MAP/40.  
The green lamp, labeled POWER ON, on the front of the unit should be off.
4. Unplug the MAP/40 from the power outlet.
5. Remove the MAP/40 power cord from the AC input receptacle on the rear of the MAP/40 ([Figure 4-5](#)).
6. Observe the correct lock-out/tag-out precautions for isolating power as outlined in the Lucent lock-out/tag-out procedure.

## Removing the Dress Cover

---

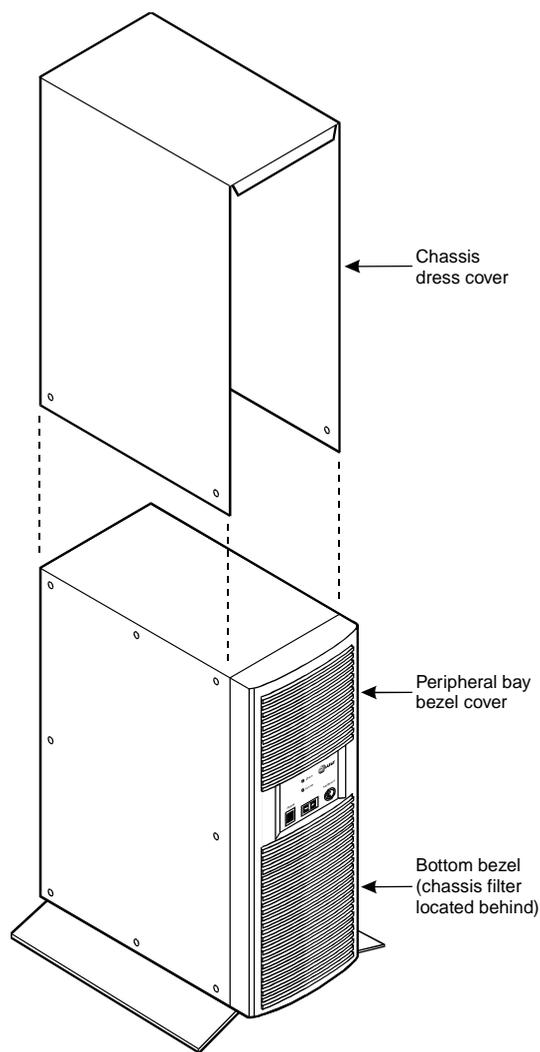
The dress cover provides protection for the internal components of the MAP/40. You must remove the dress cover to access these components.



### **WARNING:**

*Shut power off before removing the dress cover or access panel of the MAP/40. See "[Removing Power from the MAP/40](#)" above for the procedure.*

1. Ensure that the MAP/40 tower configuration is in an upright position on the support base.
2. Locate the two screws on both the bottom left and right corners of the dress cover ([Figure 4-6](#)).



m40cover C:JL 040496

Figure 4-6. Removing the Dress Cover

3. Remove the screws.
4. Remove the front bezel by pulling it forward.
5. Slide the dress cover forward and then up to remove it from the MAP/40.



**CAUTION:**

*As more of the dress cover is removed, it may begin to collapse inward from the pressure. Move your hands downward on the dress panel to reduce the pressure as you lift it.*

## Removing the Circuit Card Cage Access Panel

---

The circuit card cage access panel provides additional protection for the internal components of the MAP/40. The circuit card cage access panel must be removed to gain access to these internal components. The circuit card cage area is more accessible if the MAP/40 is on its side when work is done inside the computer.

To remove the circuit card cage access panel, do the following:

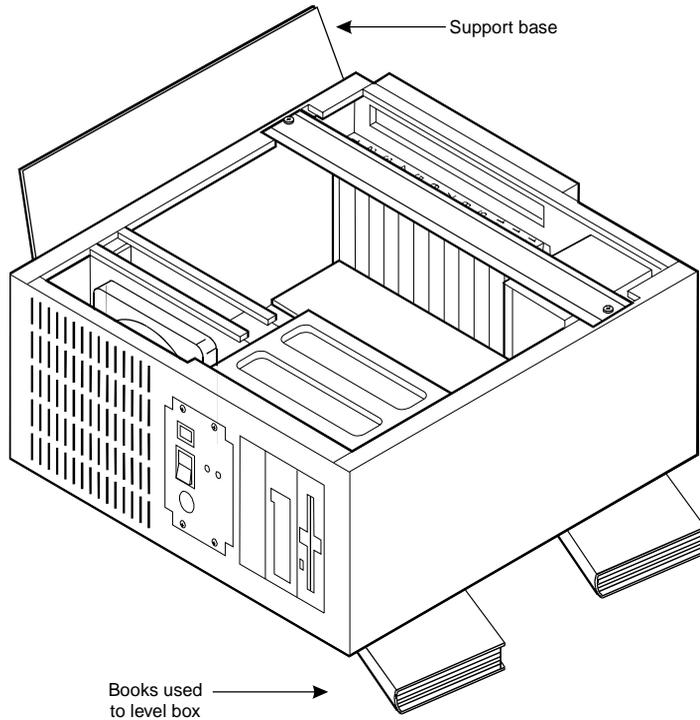
1. Place the MAP/40 on one side. The circuit card cage area is more accessible if the MAP/40 (tower configuration) is on its side. Use one of the following methods to place the MAP/40 on its side:
  - a. If you have cables attached to the MAP/40 and want to leave the computer on the floor:
    - Place two books the size of large telephone books or a similar form of support on the floor.
    - Turn the MAP/40 on its side, resting the side of the computer opposite from the support base on the two books ([Figure 4-7](#)).
  - b. If you do not have cables attached to the MAP/40 or currently have it sitting on a table, place the MAP/40 (tower configuration) on its side with the support base over the edge of the table ([Figure 4-8](#)).
2. Use the Phillips screwdriver to loosen the 1/4-in. flathead screws by *two turns only*.



**NOTE:**

You only need provide adequate clearance. It is not necessary to remove the screws.

3. Apply gentle downward pressure to the access cover with the palms of your hands.
4. Push into the chassis with your palms and slide the access cover back toward the chassis area.
5. Lift and remove the access cover once you have cleared the screw heads.



m40work C.JL 032996

Figure 4-7. Working Within the Card Cage - Floor Position

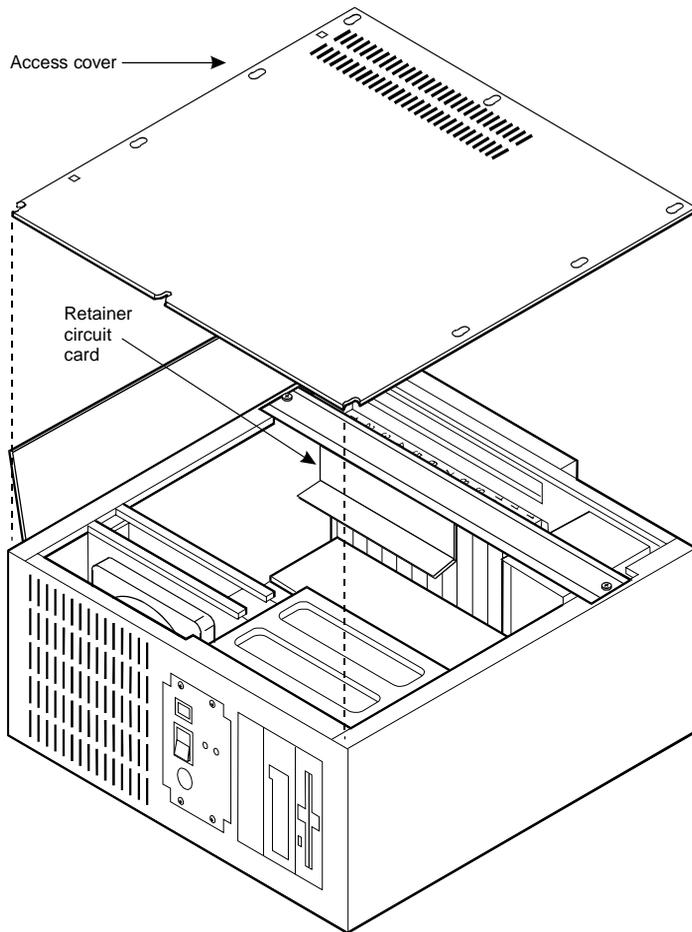


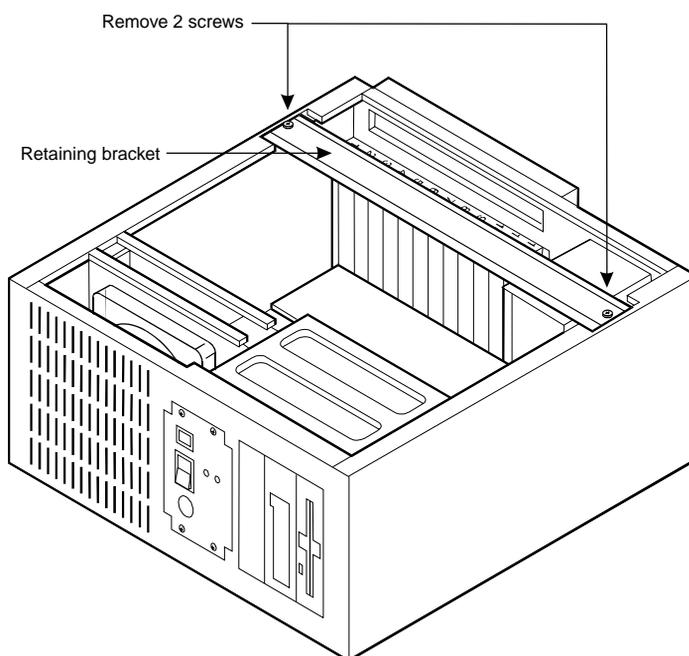
Figure 4-8. Removing the Access Panel

## Removing the Circuit Card Cage Retaining Bracket

---

The MAP/40 is equipped with a card cage area with a retainer to reduce vibrations that could damage the circuit cards. This bracket must be removed in order to remove or install circuit cards. Follow the procedure below to remove the retaining bracket.

1. Use a Phillips #2 screwdriver to loosen and remove the two screws in the retaining bracket ([Figure 4-9](#)).



---

**Figure 4-9. Removing Screws in the Retaining Bracket.**

2. Lift the retaining bracket and remove it from the MAP/40.

## Replacing the Retaining Bracket, Access Panel, and Dress Cover

---

To replace the components, do the following:

1. Place the MAP/40 on one side.
2. Remount the circuit card cage retaining bracket across the circuit cards using two screws ([Figure 4-9](#)). Leave the two screws only partially tightened to provide adequate clearance for the access panel.
3. Place the access panel on top of the MAP/40.  
Align the access panel so that it slides over the eight screws on the MAP/40 ([Figure 4-8](#)).
4. Apply pressure gently on the access panel.
5. Push in and slide the access panel into place.
6. Tighten the eight access panel screws and the two retaining bracket screws.
7. Place the MAP/40 in the upright position.
8. Slide the dress cover over the unit.
9. Replace and tighten the four dress cover retaining screws.

## Restoring Power to the MAP/40

---

The MAP/40 requires a dedicated power line. The power cord connects to the rear of the MAP/40 at the point labeled input receptacle ([Figure 4-5](#)).

To restore power to the MAP/40, do the following:

1. Place the MAP/40 power cord in the AC input receptacle on the rear of the unit ([Figure 4-5](#)).
2. Plug the MAP/40 power cord into the designated power outlet.
3. Turn on the power switch on the front of the MAP/40.  
The green lamp, labeled POWER ON, on the front of the unit should be lit.
4. 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
- Types of circuit cards
- General steps for circuit card installation
- Specific procedures for installation of standard and optional MAP/40 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/40. See [“Chapter 4, “Removing Power from the MAP/40,”](#) 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 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 [Chapter 4, "Getting Inside the Computer"](#), 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.

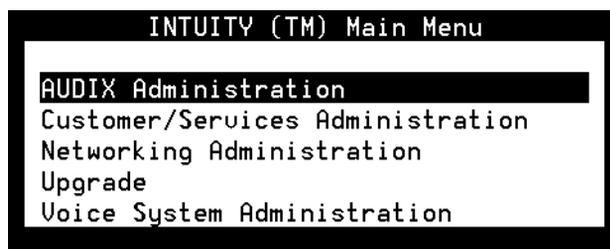
4. Apply even pressure to both corners of the circuit card until it is locked into the backplane.
5. Secure the circuit card faceplate into position by replacing the retaining screw.
6. Replace all cables on the new card. Make sure these cables are attached to their proper terminations.
7. Replace all 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 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/40](#)," in [Chapter 4, "Getting Inside the Computer"](#), for instructions on restoring power.
10. Reboot the voice system. See "[Rebooting the 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 ([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.

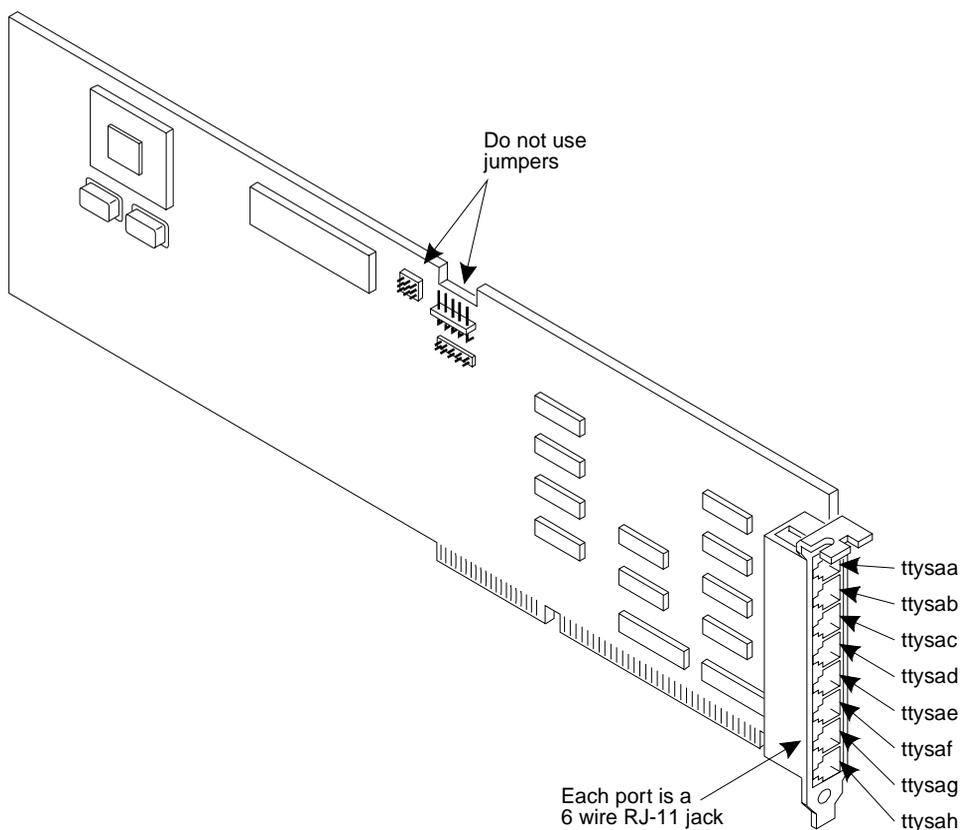


Figure 5-3. Multi-Port Serial Circuit Card

### 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

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 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.

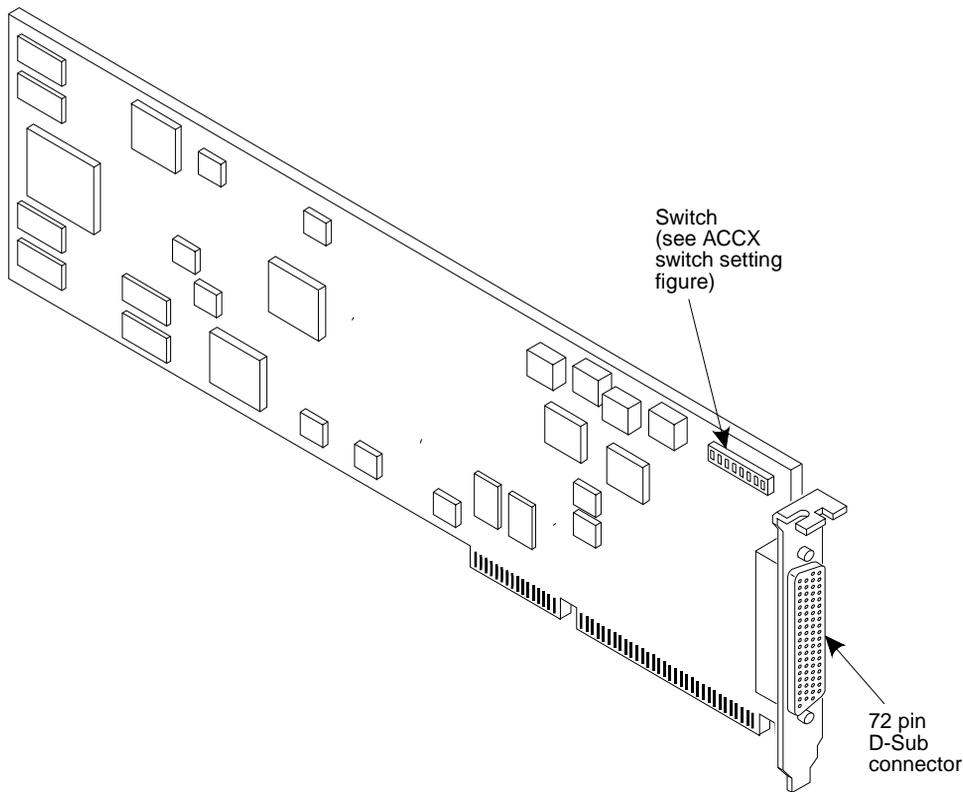


Figure 5-4. ACCX Networking Circuit Card

### 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](#)).

Base I/O address = 140 hex  
ACCX (AYC22) Card #1

Base I/O address = 340 hex  
ACCX (AYC22) Card #2

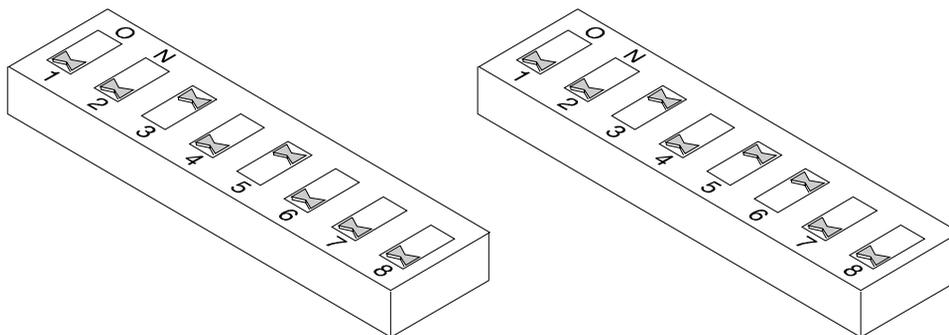


Figure 5-5. Switch Settings for the MAP/40 ACCX Card

## Placing the ACCX Circuit Card in the MAP/40

See "[General Procedures](#)" above for the ACCX circuit card installation procedure.

## Switch Interface Circuit Cards

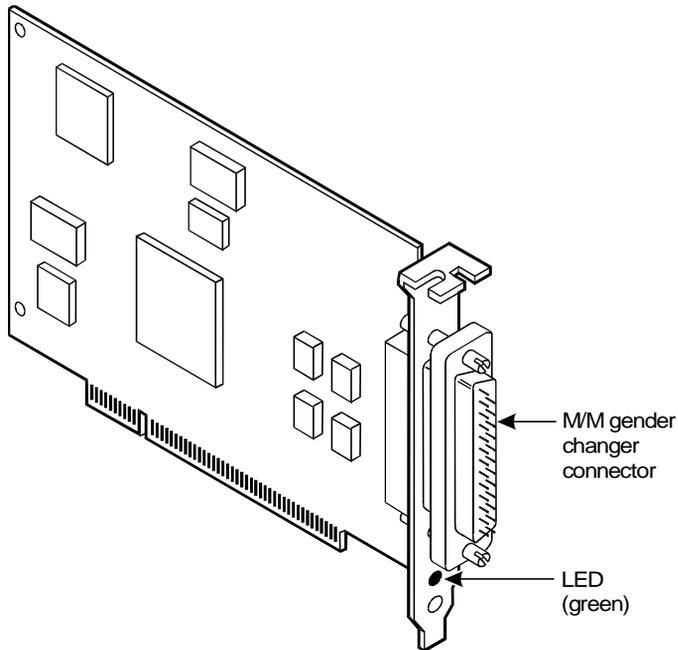
The Lucent INTUITY system interfaces with a switch using either the:

- DCIU circuit card
- Digital Station Interface circuit card

### DCIU Circuit Card

The DCIU circuit card ([Figure 5-6](#)) connects to Lucent switches through an X.25 link. Your system interfaces with the link through this card.

You can install only one DCIU circuit card in the MAP/40.



dciu KLC 080696

Figure 5-6. 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.

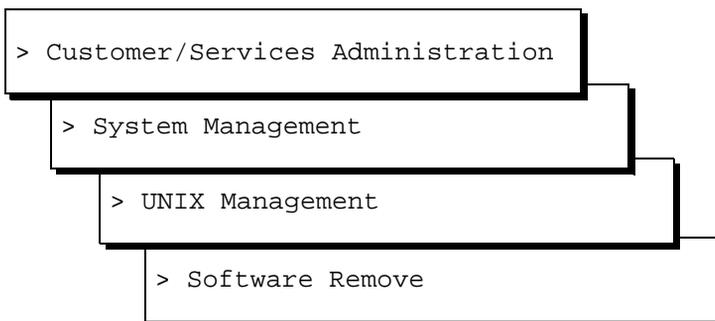
### Replacing a GP-Synch Circuit Card with a DCIU Circuit Card

To replace a GP-Synch circuit card, do the following:

1. Busy out the DCIU link from the Lucent INTUITY system. See "[Switch Integration Link Busy-Out Procedure](#)," 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 5-7](#)).

```

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 UM           AUDIX(R) Module marker file
                  (AUDIX) NA
 9 UM-dfltdb    AUDIX(R) Default db
                  (AUDIX) 4.0-7
10 UM-files     AUDIX(R) Files
                  (AUDIX) 4.0-7

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

Figure 5-7. Software Remove Screen

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.

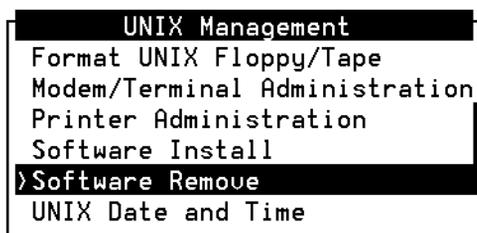
The system displays the following message:

```
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 5-8](#)).



---

Figure 5-8. UNIX Management Window

- g. Select



The system displays the Software Remove screen ([Figure 5-7](#)).

- 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 5-8](#)).

- m. Select



```
> Software Remove
```

The system displays the Software Remove screen ([Figure 5-7](#)).

- n. Press **ENTER** until the following software package name appears:

**⇒ NOTE:**

You will still see the listing for the X.25 and the rsegpsc 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 5-8](#)).

5. Select

```
> Software Install
> 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)
```

**⇒ 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 Lucent 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 <Lucent 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 the 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 "[Rebooting the 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 "[Switch Integration Link Release Procedure](#)," 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

See "[General Procedures](#)" above for the DCIU circuit card removal and installation procedures.

## Adding a DCIU Circuit Card

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

```
> Customer/Services Administration
> System Management
> UNIX Management
> Software Install
> 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      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:

```
Lucent Intuity Platform DCIU Set (V2)  
(i486)
```

```
Using (/) as the package base directory.
```

```
Select your Lucent 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 <Lucent 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 the 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 "[Rebooting the System](#)," in [Chapter 3, "Common System Procedures"](#) for the procedure.

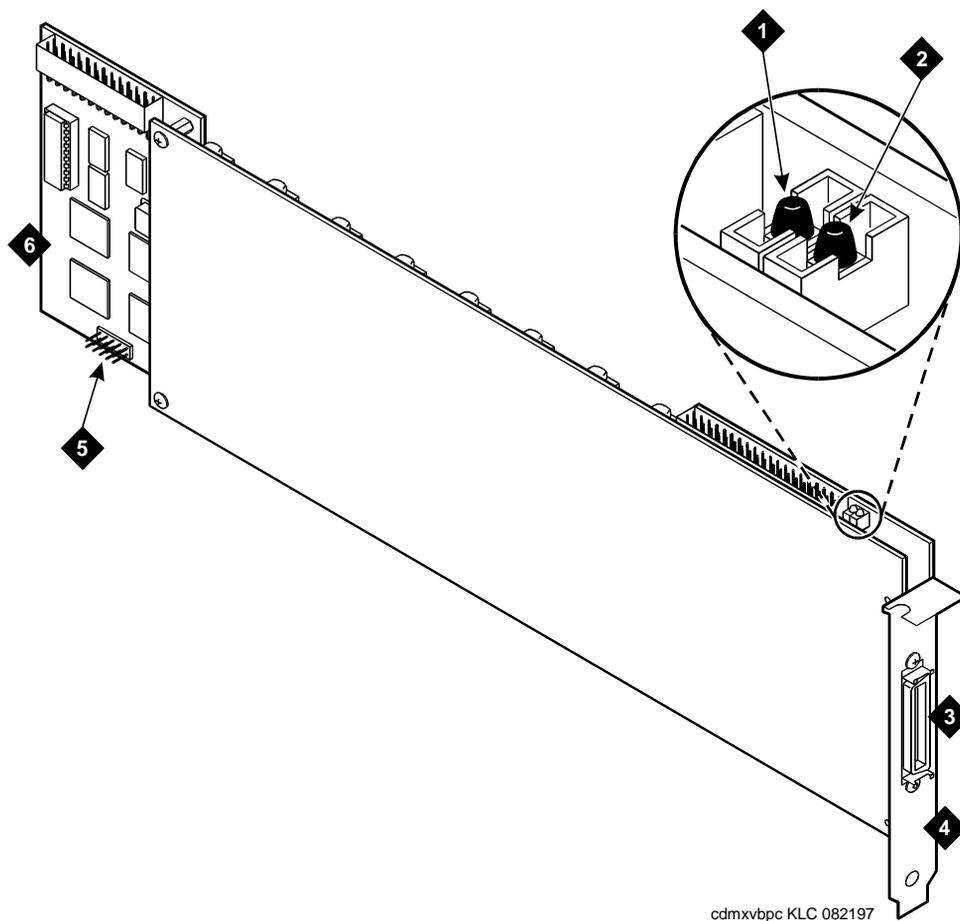
## Digital Station Interface Circuit Card

The digital station interface circuit card ([Figure 5-9](#)) connects to Lucent switches. Your system may interface with the switch through this circuit card.

### NOTE:

In order to use this circuit card the Digital Station Interface Switch Integration set must be installed on the Lucent INTUITY system. See "[Installing the Digital Station Interface Switch Integration Set](#)" in [Chapter 9, "Installing Base System Software"](#), for the procedure.

You can install only one digital station interface circuit card in the MAP/40.



- |                     |                           |
|---------------------|---------------------------|
| 1. Green LED        | 4. Serial number location |
| 2. Red LED          | 5. Jumpers                |
| 3. Cable connection | 6. Serial number location |

Figure 5-9. Digital Station Interface Circuit Card

The digital station interface circuit card on set of jumpers which must be verified before you install the circuit card. There should be no jumpers placed on the jumper field.

### Ethernet LAN Circuit Card

The Ethernet LAN circuit card (Figure 5-10) allows you to connect the Lucent INTUITY system to your local area network. Only one LAN circuit card can be installed in the platform.

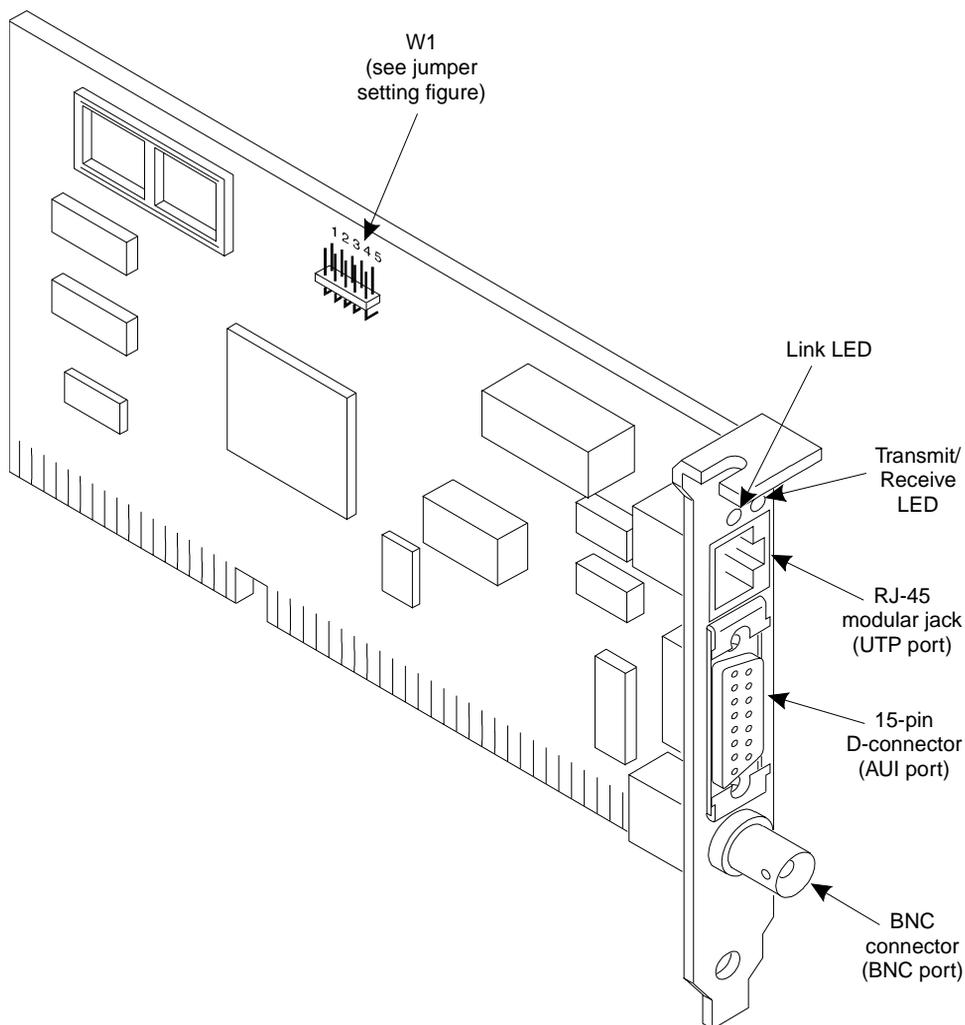


Figure 5-10. Ethernet LAN Circuit Card

### 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 5-11). This position configures the card to be software programmable beginning at the default settings.

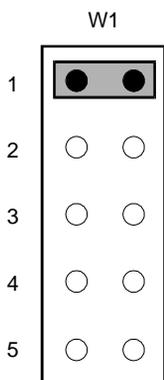


Figure 5-11. Ethernet LAN Circuit Card Software Programmable Jumper Setting

There are no switches to set on the Ethernet LAN circuit card.

### Placing the Ethernet LAN Circuit Card in the MAP/40

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 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.
2. Restore power to the system. See "[Restoring Power to the MAP/40](#)," 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 System Installation" for more information on TCP/IP administration.

4. Shut down the system. See [“Shutting Down the 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 [“Rebooting the System,”](#) in [Chapter 3, “Common System Procedures”](#) for the procedure.

## Speech and Signal Processor (AYC43) Circuit Card

The SSP circuit card ([Figure 5-12](#)) contains switches and jumpers that you must set before you install the circuit card in the MAP/40.

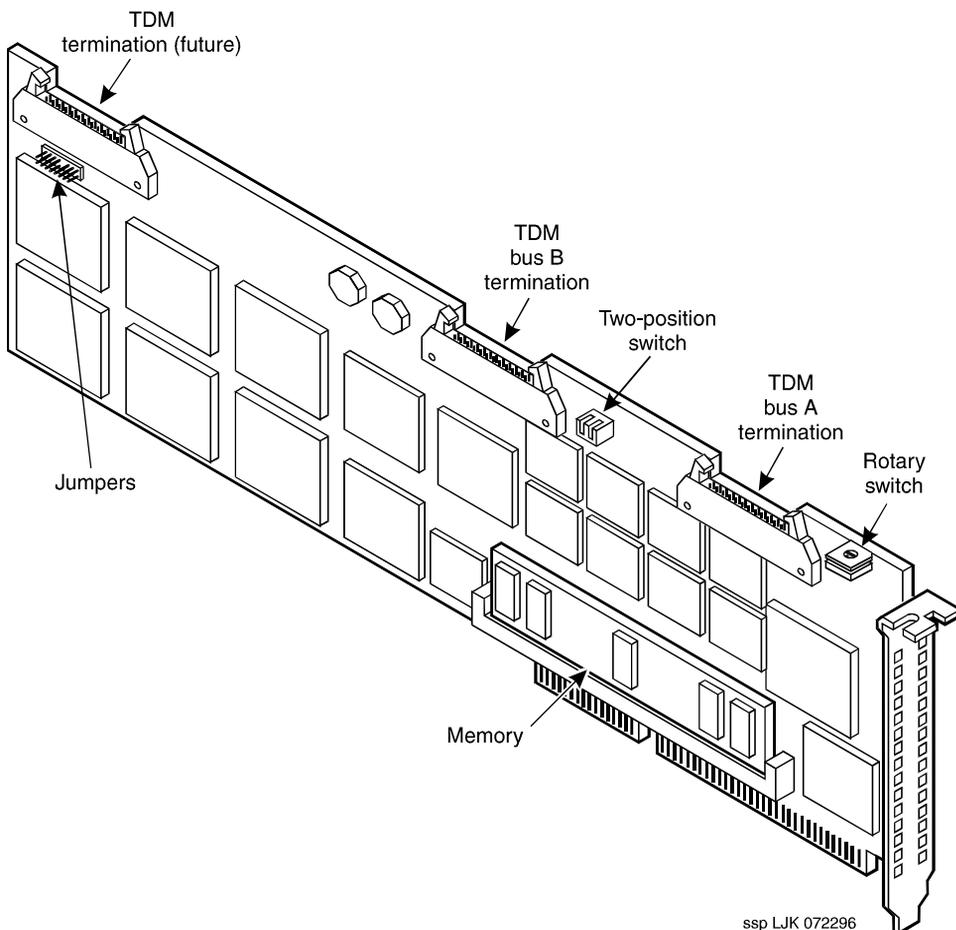


Figure 5-12. Speech and Signal Processor Circuit Card

## Jumper Settings

[Figure 5-12](#) shows the location of the SSP circuit card jumpers. There should be no jumpers installed on the SSP circuit card.

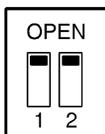
## Switch Settings

There are two types of switches on the SSP circuit card:

- Two-position switches
- Rotary switch

### Two-Position Switch Settings

[Figure 5-13](#) shows the location of the SSP circuit card two-position switches. If the SSP circuit card is not located at the end of the TDM bus, both switches should be set to open. The switches should be set to closed if the SSP circuit card is located at the end of the bus.



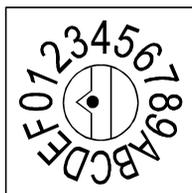
ssp-sw LJK 072296

---

Figure 5-13. SSP Circuit Card Two-Position Switches

### Rotary Switch Settings

[Figure 5-14](#) shows the rotary switch. It is set at zero for the first SSP circuit card installed in the MAP/40.



---

Figure 5-14. SSP Circuit Card Rotary Switch

## Memory

The SSP circuit card is equipped with 16 Mbytes of memory contained on a dual in-line memory module (DIMM). The DIMM is located in the lower portion of the SSP circuit card ([Figure 5-12](#)).



### CAUTION:

*The DIMM is not field serviceable.*

## Replacing a Defective SSP Circuit Card

To replace a defective SSP circuit card, complete the procedures listed in "[General Procedures](#)."

## Adding an SSP Circuit Card

To add an SSP circuit card to a Lucent INTUITY system, do the following:

1. Make sure you have a TDM bus cable.

The TDM bus cable connects all of the Tip/Ring circuit cards as well as the SSP circuit card.

2. Remove the Tip/Ring circuit card from Slot 1. See "[Removing a Circuit Card](#)," above for the procedure.
3. Verify that the TDM bus terminator SIPs have been installed on the Tip/Ring circuit card. See "[Replacing a Terminator SIP](#)" in [Chapter 7](#), "[Replacing Other Components](#)".
4. Replace the Tip/Ring circuit card in Slot 1. See "[Installing a Circuit Card](#)," above for the procedure.
5. Remove the remaining Tip/Ring circuit cards. See "[Removing a Circuit Card](#)," above for the procedure.
6. Remove the TDM bus terminator SIPs from the Tip/Ring circuit cards. See "[Replacing a Terminator SIP](#)" in [Chapter 7](#), "[Replacing Other Components](#)".
7. Replace the remaining Tip/Ring circuit cards. See "[Installing a Circuit Card](#)," above for the procedure.
8. Verify the two-position selector switches, on the SSP circuit card, are set as shown in [Figure 5-13](#).
9. Install the SSP circuit card. See "[Installing a Circuit Card](#)," above for the procedure.
10. Install the TDM bus cable.

Attach the TDM bus cable to the SSP circuit card or AYC30 Tip/Ring circuit cards using the TDM Bus A termination ([Figure 5-12](#) and [Figure 5-15](#)). Attach the TDM bus cable to AYC10 Tip/Ring circuit cards using the only TDM bus termination point ([Figure 5-16](#)).

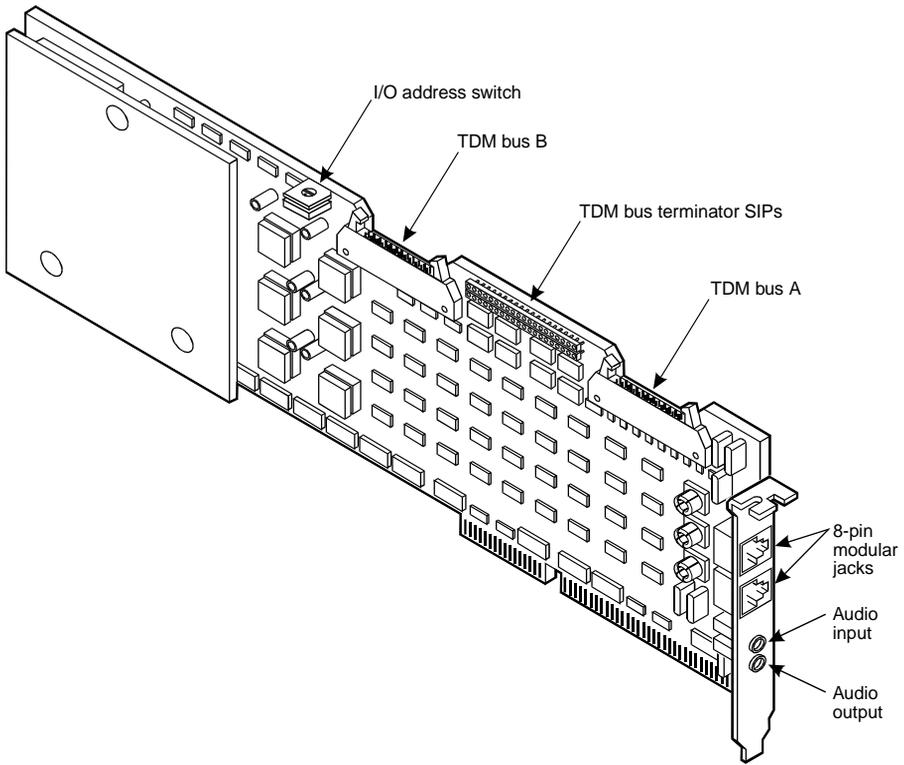


Figure 5-15. AYC30 Tip/Ring Circuit Card

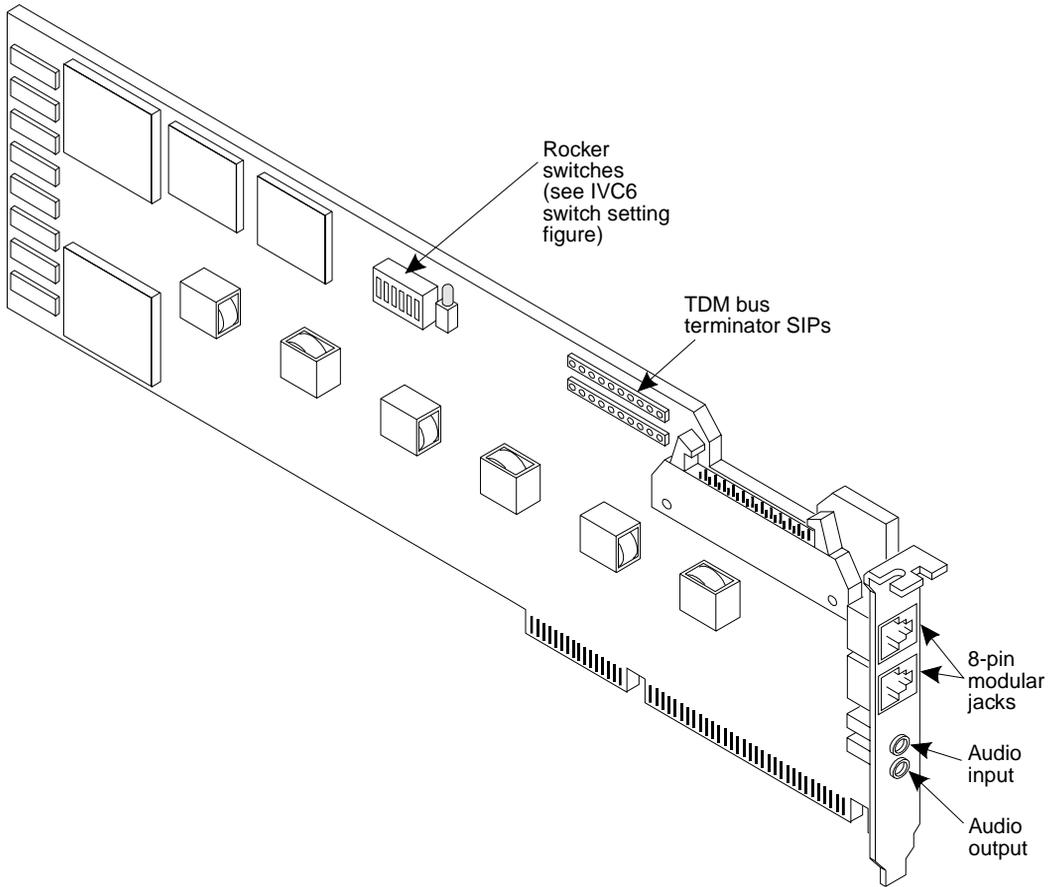


Figure 5-16. AYC10 Tip/Ring Circuit Card

## 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:

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

## Tip/Ring Circuit Cards

---

The Tip/Ring circuit cards provide the channels which are used by the Lucent Intuity system. There are three channel on each Tip/Ring circuit card. The MAP/40 accommodates seven Tip/Ring circuit cards. You will install either of the following Tip/Ring circuit cards:

- AYC10 ([Figure 5-16](#))
- AYC30 ([Figure 5-15](#))

### AYC10 Tip/Ring Circuit Card

Each of the possible seven AYC10 Tip/Ring circuit cards in the MAP/40 has a unique address. The addresses are set on the card switch bank ([Figure 5-17](#)). There are no jumpers to set on the AYC10 Tip/Ring circuit card.

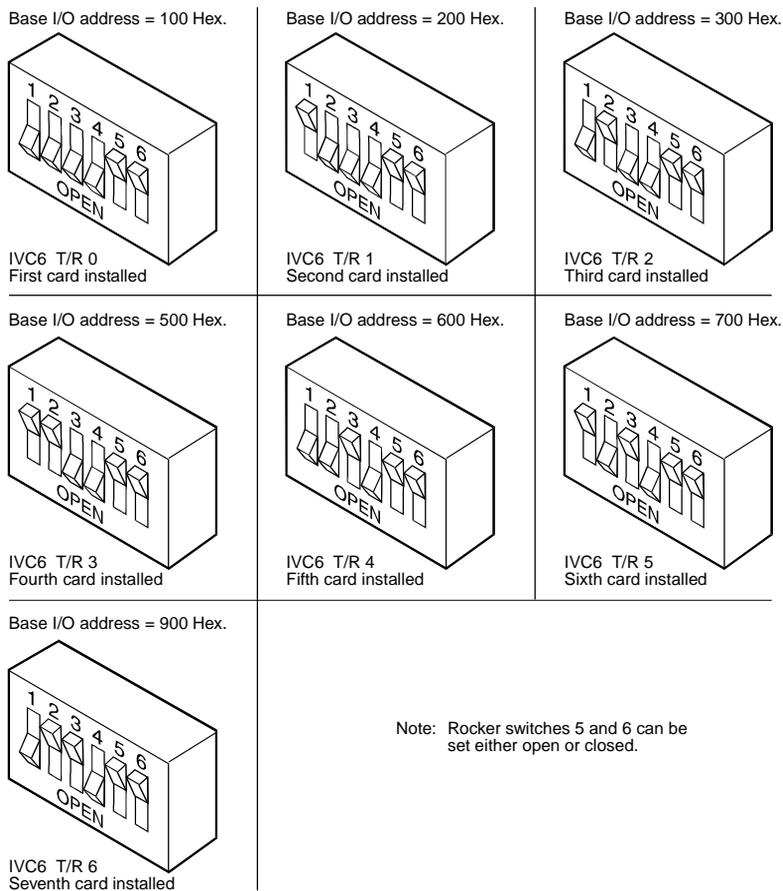


Figure 5-17. AYC10 Tip/Ring Switch Settings

## AYC30 Tip/Ring Circuit Card

Each of the possible seven AYC30 Tip/Ring circuit cards in the MAP/40 has a unique address. The addresses are set on the card switch bank ([Figure 5-18](#)). There are no jumpers to set on the AYC30 Tip/Ring circuit card.

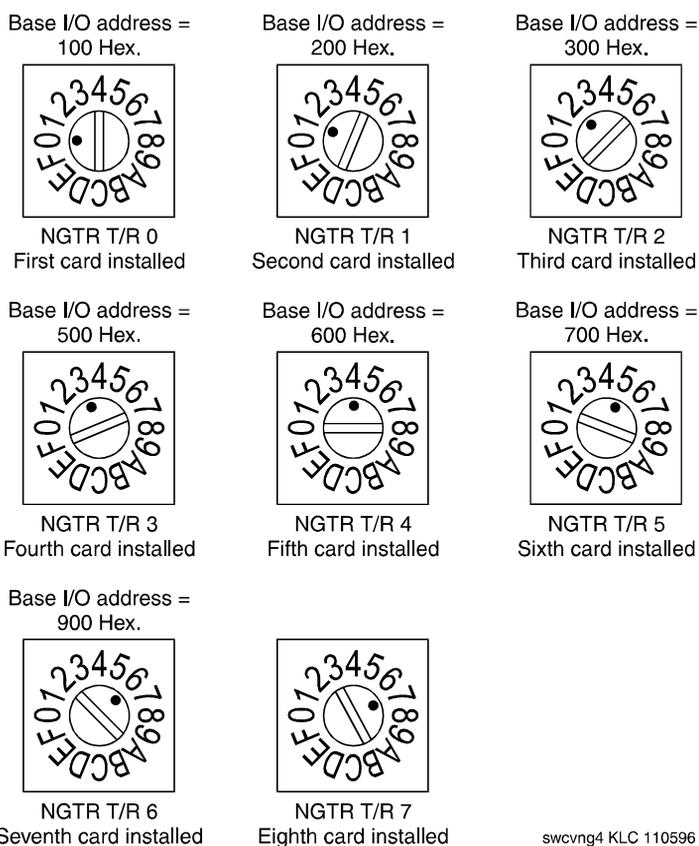


Figure 5-18. AYC30 Tip/Ring Circuit Card Switch Settings

## Placing the Tip/Ring Circuit Card in the MAP/40

See "[General Procedures](#)" above for the Tip/Ring circuit card installation procedure.

## P5 75 MHz CPU Circuit Card

The P5 75 MHz CPU is packaged on a single PC/AT-compatible circuit card ([Figure 5-19](#)) that plugs into the backplane. There is one P5 75 MHz CPU circuit card installed in the MAP/40.

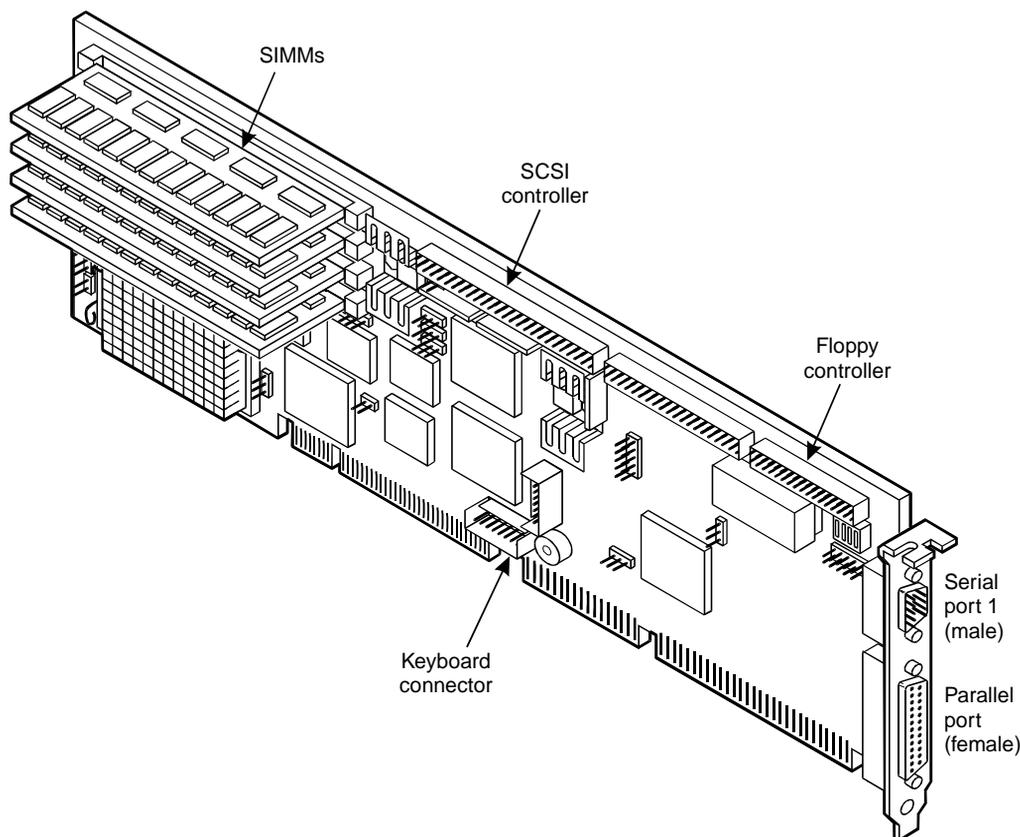


Figure 5-19. P5 75 MHz CPU Circuit Card and Jumper Locations

### Setting the Resource Options

The resource options for the P5 75 MHz CPU circuit card are set by jumpers and switches.

#### Jumper Settings

The P5 75 MHz CPU card has jumpers that you must verify before you install the circuit card. [Figure 5-21](#) shows the jumper locations. [Figure 5-21](#) shows the jumper settings.

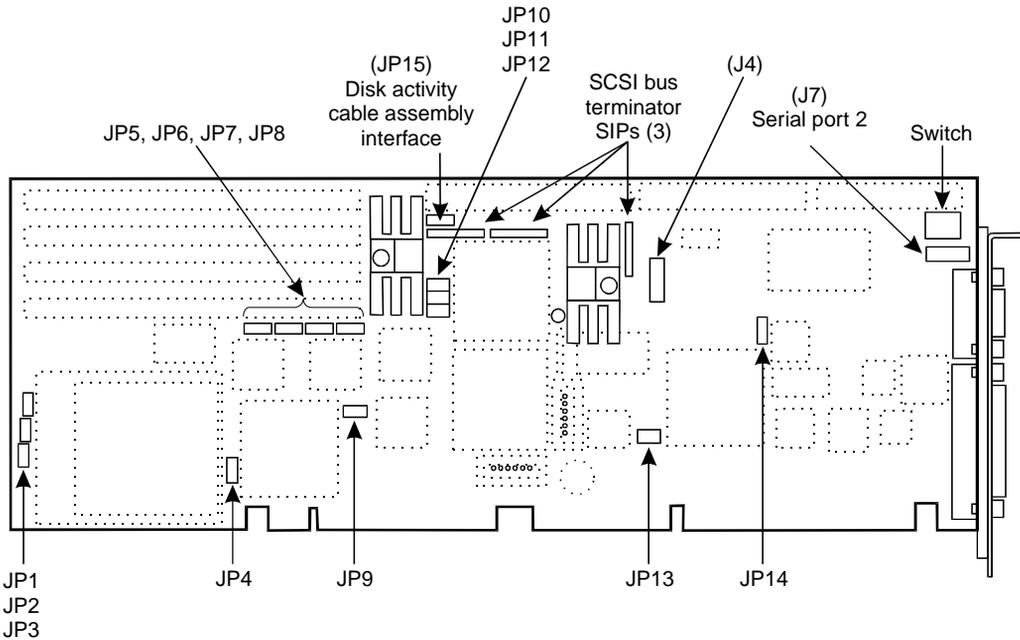


Figure 5-20. Jumper Settings for the P5 75 MHz CPU Circuit Card

Figure 5-21 shows the jumper settings.

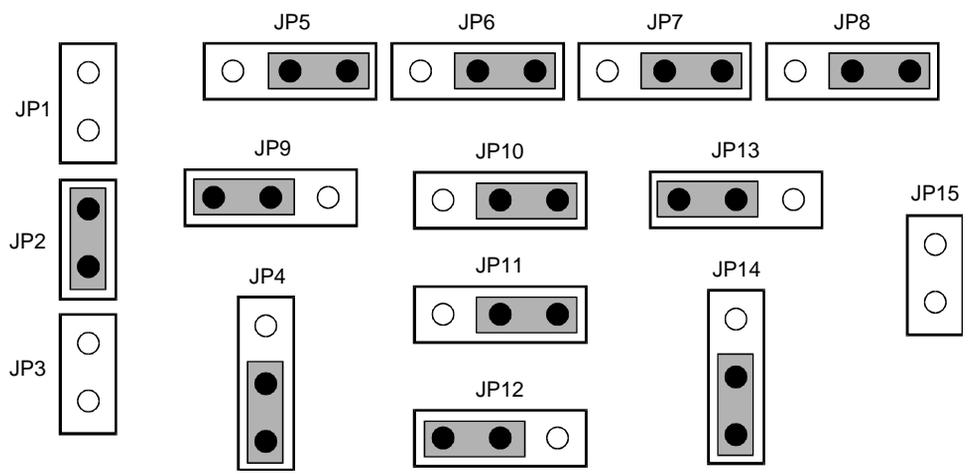


Figure 5-21. Jumper Settings for the P5 75 MHz CPU Circuit Card

## Switch Settings

The P5 75 MHz CPU card has switches that you must set before you install the circuit card ([Figure 5-22](#)).



### NOTE:

The switch ([Figure 5-22](#)) has been rotated 180 degrees.

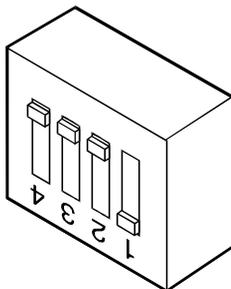


Figure 5-22. Switch Settings for the P5 75 MHz CPU Circuit Card

## Placing the P5 75 MHz CPU Circuit Card in the MAP/40

See "[General Procedures](#)" and the following procedures for P5 75 MHz 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 P5 75 MHz CPU circuit card ([Figure 5-23](#)).

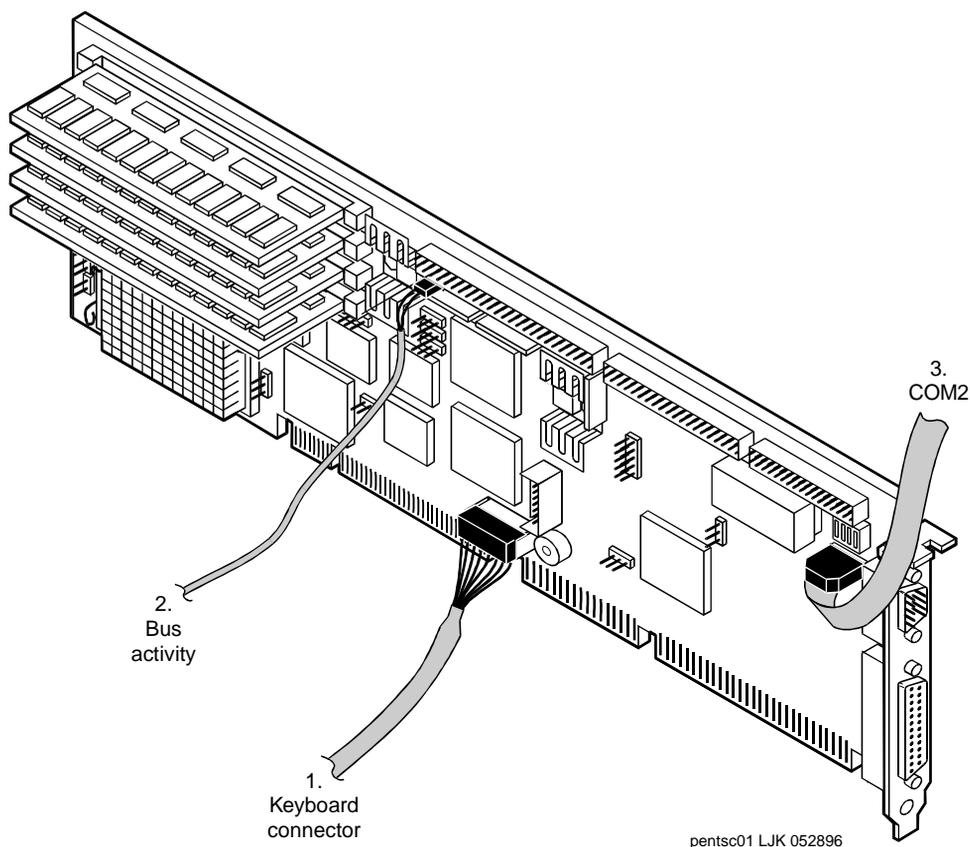


Figure 5-23. Attaching Cables to the P5 75 MHz CPU Circuit Card - Part 1

6. Complete Step 3 of "General Procedure."
7. Attach the disk activity cable to the P5 75 MHz CPU circuit card with the red lead toward the back of the MAP/40 ([Figure 5-23](#)).
8. Install the rear COM2 cable to the P5 75 MHz CPU circuit card ([Figure 5-23](#)).
9. Dress this cable to the side ([Figure 5-23](#)).
10. Attach the SCSI cable to the SCSI controller pins on the P5 75 MHz CPU circuit card ([Figure 5-24](#)).

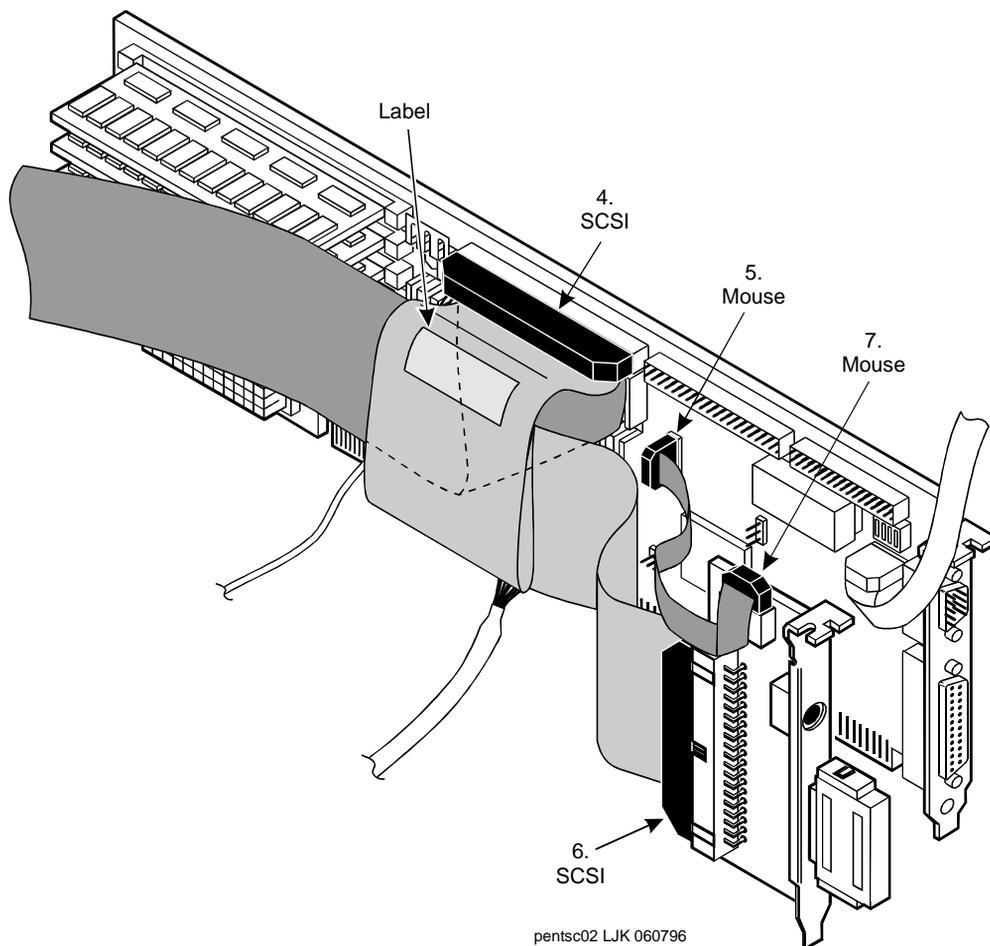


Figure 5-24. Attaching Cables to the P5 75 MHz CPU Circuit Card - Part 2



**NOTE:**

The SCSI cable has a label which contains the following message (Figure 5-24):

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 5-24).

11. Attach the mouse cable to the P5 75 MHz CPU circuit card ([Figure 5-24](#)).
12. Attach the SCSI cable to the external SCSI connector circuit card ([Figure 5-24](#)).
13. Install the external SCSI connector circuit card. See "[External SCSI Connector Circuit 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 P5 75 MHz CPU circuit card ([Figure 5-25](#)).

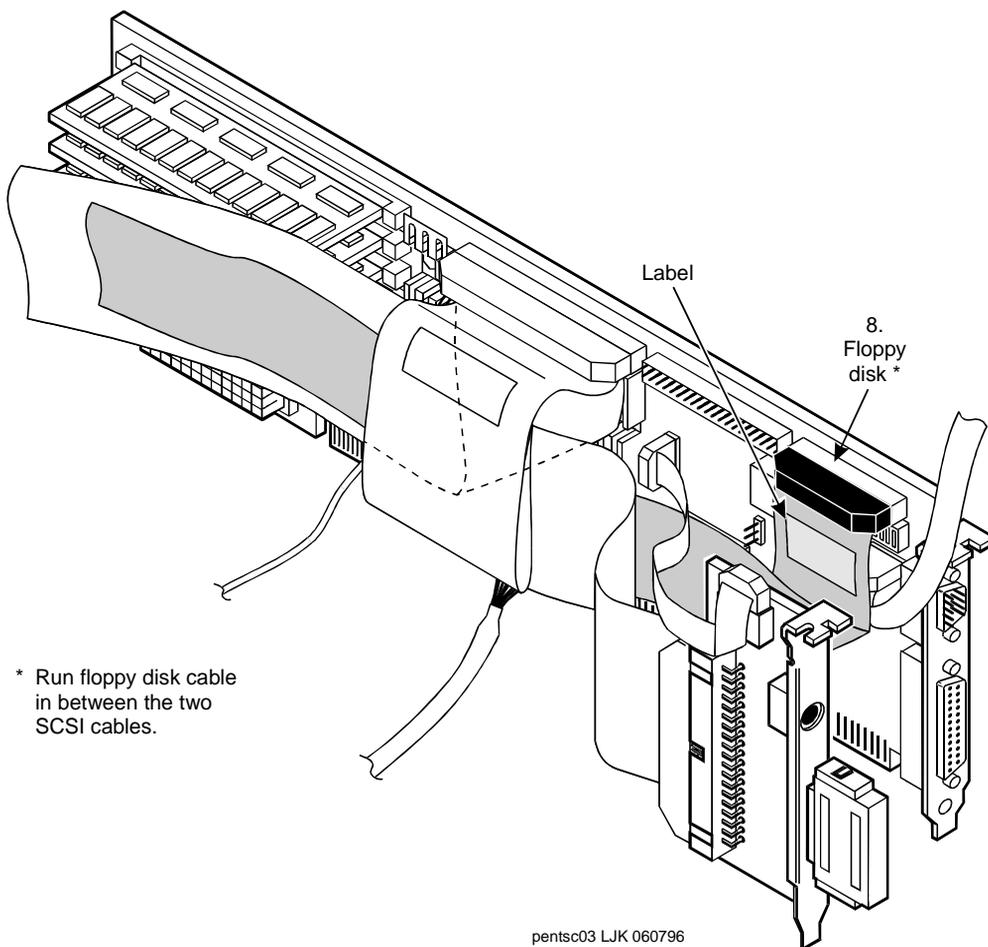


Figure 5-25. Attaching Cables to the P5 75 MHz CPU Circuit Card - Part 3



**NOTE:**

The floppy cable has a label which contains the following message ([Figure 5-25](#)):

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 5-25](#)).
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 Cards](#)" for the procedure.
20. Complete Steps 4 through 11 of "[General Procedures](#)."

## Verifying the Parameter Settings

P5 75 MHz 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 "[Rebooting the 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 5-26](#)).

Would you like to configure the Host Adapter, or run the SCSI disk utilities? Select the option and press <Enter>. Press <F5> to switch between color and monochrome modes.

Options  
Configure/View Host Adapter Settings  
SCSI Disk Utilities

Figure 5-26. 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 "[Rebooting the 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 P5 75 MHz 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 P5 75 MHz CPU Circuit Card

Option	Setting
<b>Time and Date</b>	
Set the time and date to the current time and date.	
Time/Date Boot Errors	ON
<b>Floppy Disks</b>	
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
<b>Fixed Disks</b>	
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)
<b>Video Adapter</b>	
Select Video Adapter Type	VGA/EGA
Video Configuration Errors	ON
<b>Keyboard</b>	
Keyboard Configuration Errors	ON
Set Keyboard Typematic Rate	NO
<b>Shadow RAM</b>	
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
<b>Boot Options</b>	
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 P5 75 MHz CPU Circuit Card**  
 — Continued

Option	Setting
<b>Password Options</b>	
Password Protect Options	None
<b>Password Edit</b>	
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 P5 75 MHz 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 P5 75 MHz CPU Circuit Card**

Option	Setting
<b>Serial Ports</b>	
16550 Compatible UART 1:	DISABLED
16550 Compatible UART 2:	02F8, IRQ3
<b>Parallel Ports</b>	
Select Parallel Port Address:	0378

*Continued on next page*

Table 5-5. CMOS Advanced Option Settings for the P5 75 MHz CPU Circuit Card —

Option	Setting
Select Parallel Port IRQ:	IRQ7
Select Parallel Port Mode:	ISA Compatible
<b>PS/2 Mouse</b>	
On-board PS/2 Mouse Port	OFF
<b>Cache</b>	
Internal 16K Code/Data Cache:	Enabled
Level 2 Write Back Cache:	Enabled
Level 2 Cache Test:	Disabled
<b>PCI Configuration</b>	
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
PCI Bus Device 00:01:	OK
PCI Bus Device 00:02:	OK
<b>PCI INT/IRQ Binding</b>	
INTA IRQ Availability	AUTOMATIC
INTB IRQ Availability	AUTOMATIC

*Continued on next page*

Table 5-5. CMOS Advanced Option Settings for the P5 75 MHz CPU Circuit Card —

Option	Setting
INTC IRQ Availability	AUTOMATIC
INTD IRQ Availability	AUTOMATIC
<b>Memory Options</b>	
Base Memory Size:	640K
Memory Gap Block Size:	Disabled
Memory Gap Address Range	N/A
<b>System Performance</b>	
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
<b>Miscellaneous</b>	
Watchdog Timer Delay:	1.2 sec
ISA/PCI Option ROM Scan Order	PCI ROM Scan First
<b>Console Redirection</b>	
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 5-27](#)). There is only one external SCSI connector circuit card installed on the system.

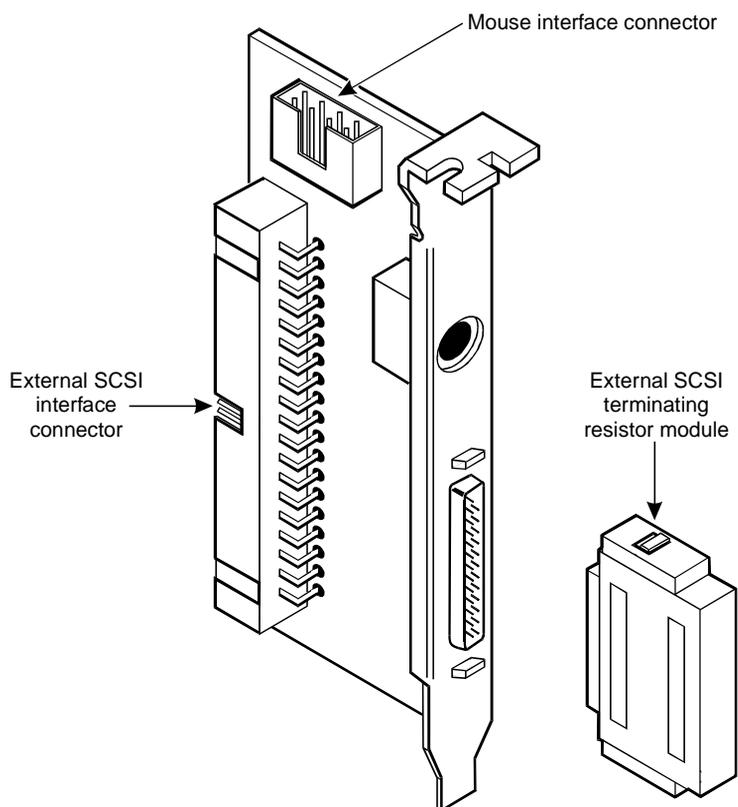


Figure 5-27. External SCSI Connector Circuit Card and Terminating Resistor Module

### Setting the Resource Options

There are no switches or jumpers to set.

### Replacing an External SCSI Connector Circuit Card

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 is in operation.

## Video Controller Circuit Cards

---

The Lucent INTUITY system supports three video controller circuit cards which are compatible with an ISA backplane and one video controller circuit card which is compatible with PCI backplane.

The video controller circuit cards allow the MAP/40 to interface with a monitor. There is one video controller card installed on the system.

### ISA Video Controller Circuit Cards

The three ISA compatible video controller cards supported by the Lucent INTUITY are:

- STB Horizon
- WDXLR831124
- WDXLR83160



**NOTE:**

The WDXLR833124 is not supported by the Lucent INTUITY system because it will not work with the P5 120 MHz CPU circuit card.

### STB Horizon Circuit Card

[Figure 5-28](#) shows the STB Horizon video controller circuit card.

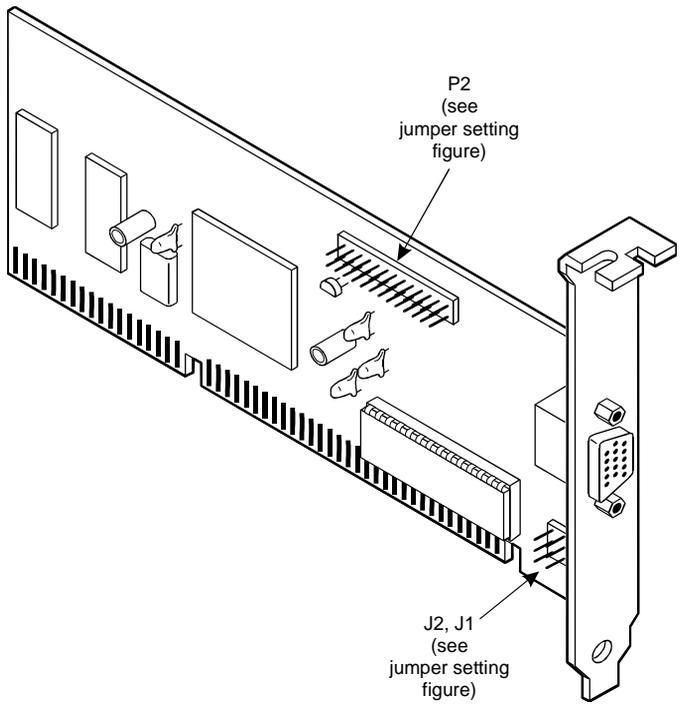
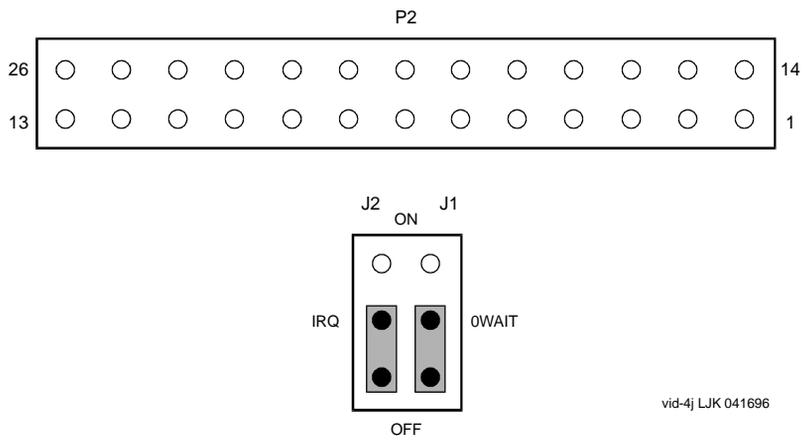


Figure 5-28. STB Horizon Video Controller Circuit Card

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 5-29](#)). There are no switches on the STB Horizon video controller card.

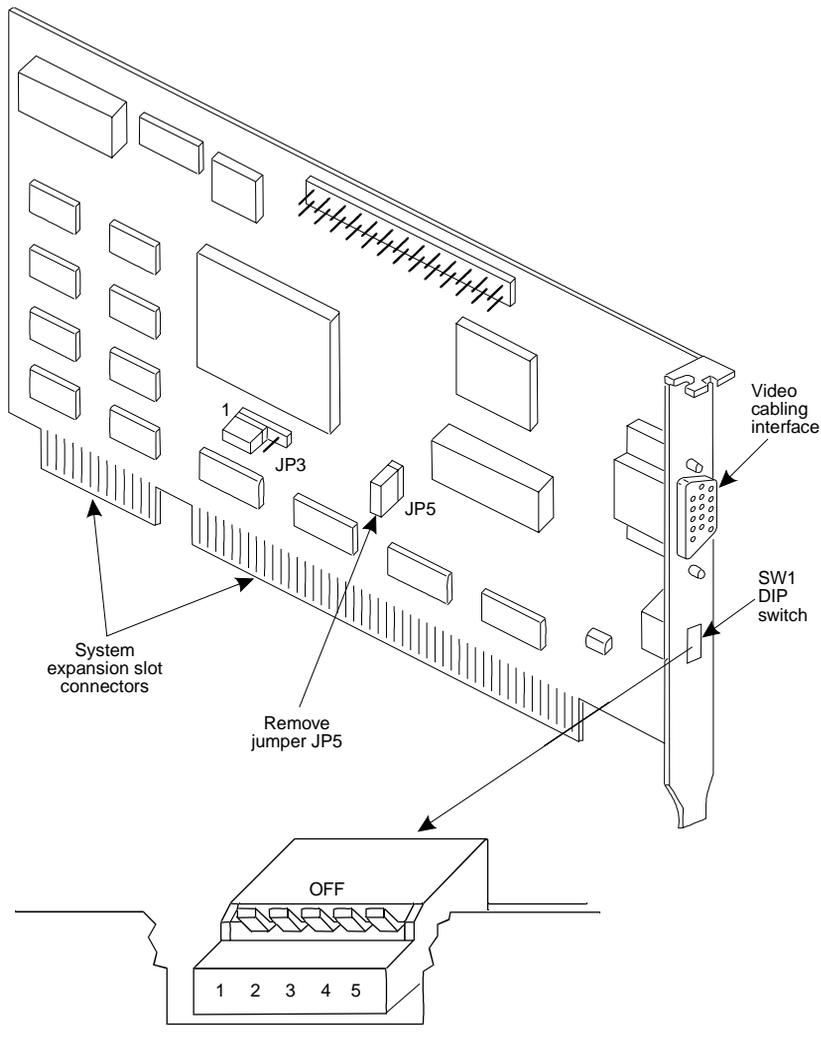


vid-4j LJK 041696

Figure 5-29. STB Horizon Video Controller Circuit Card Jumper Settings

## WDXLR831124 Circuit Card

[Figure 5-30](#) shows the WDXLR831124 video controller circuit card. 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 ([Figure 5-30](#)).



**Figure 5-30. WDXLR831124 Video Controller Circuit Card and Switch Settings**

## WDXLR83160 Circuit Card

[Figure 5-31](#) shows the WDXLR83160 video controller circuit card. 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 ([Figure 5-31](#)).

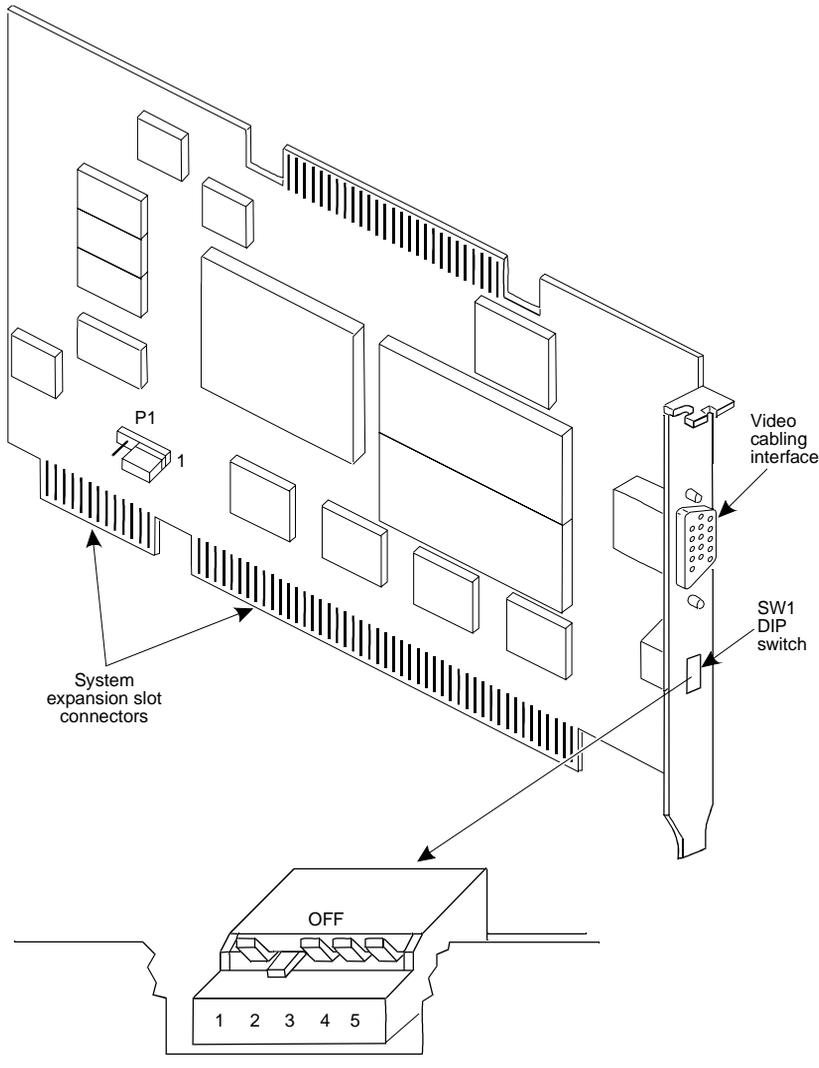
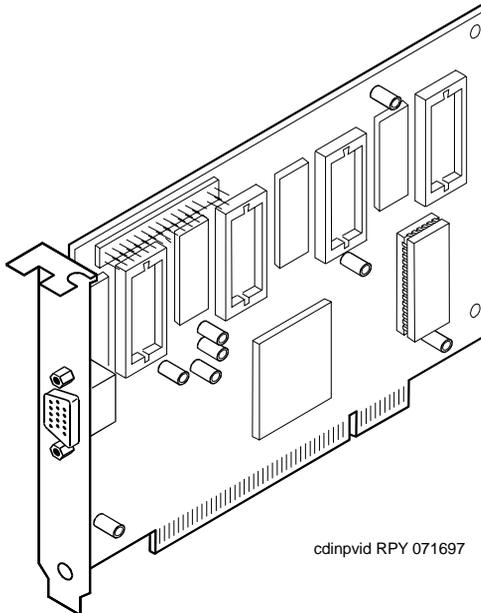


Figure 5-31. WDXLR83160 Video Controller Circuit Card and Switch Settings

## PCI Video Controller Circuit Card

[Figure 5-32](#) shows the PCI video controller circuit card.



---

**Figure 5-32. PCI Video Controller Circuit Card**

There are no jumpers to set on the PCI video circuit card.

### Placing the Video Controller Circuit Card in the MAP/40

See "[General Procedures](#)" above for the Video Controller circuit card installation procedure.

## Remote Maintenance Circuit Cards

The remote maintenance circuit card provides remote diagnostics of basic MAP/100 components ([Figure 5-33](#)). There is one remote maintenance circuit card installed on the system.

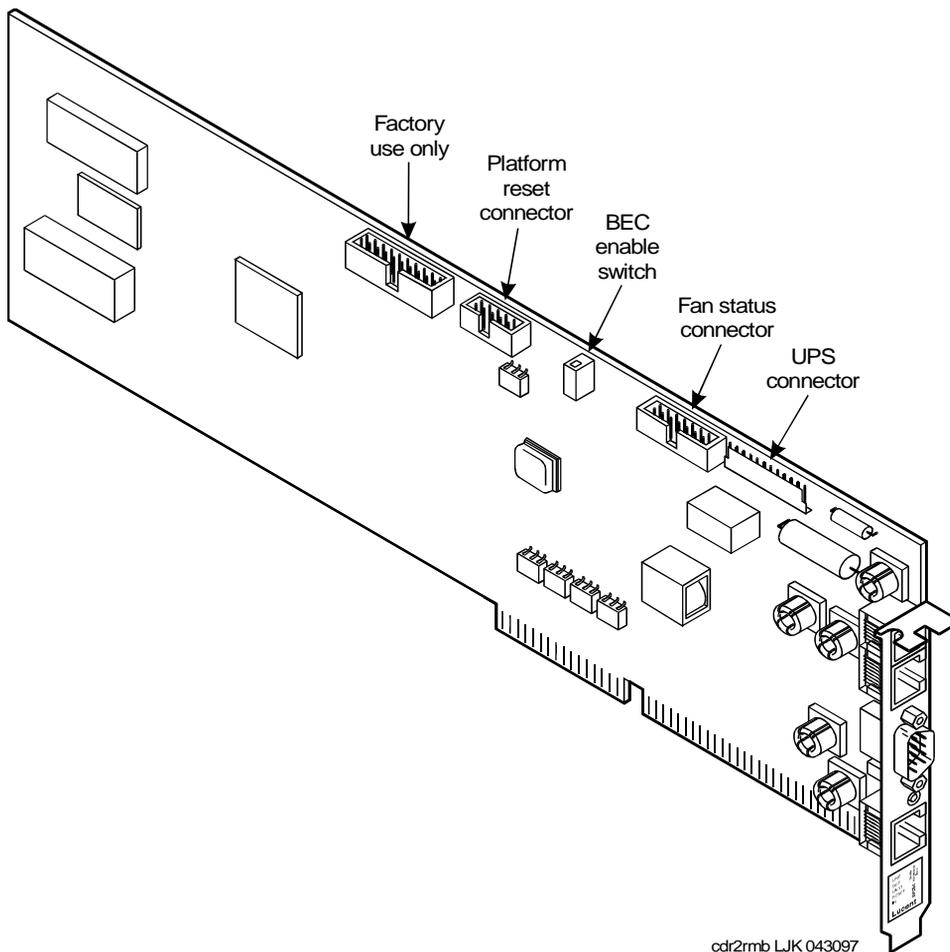


Figure 5-33. Remote Maintenance Circuit Card

### Types of Remote Maintenance Circuit Cards

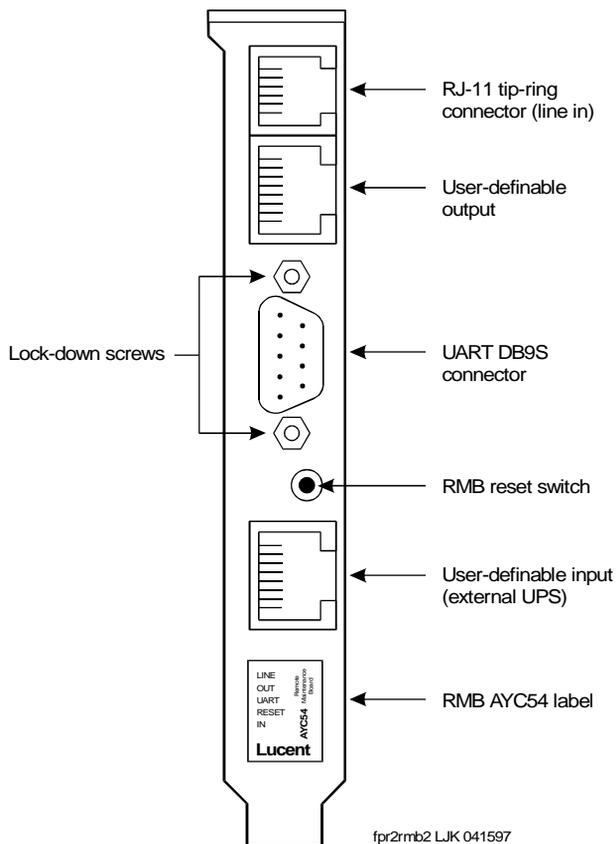
The Lucent INTUITY system supports remote maintenance circuit cards:

- With an internal modem (AYC54)
- Without an internal modem (AYC55)

You can determine the type of remote maintenance circuit card installed on you system by viewing the faceplate. [Figure 5-34](#) shows the faceplate of a remote maintenance circuit card with an internal modem (AYC54).

**NOTE:**

The AYC54 remote maintenance circuit card can be connected to an external modem.



**Figure 5-34. AYC54 Remote Maintenance Circuit Card Faceplate**

[Figure 5-35](#) shows the faceplate of a remote maintenance circuit card without an internal modem (AYC55).

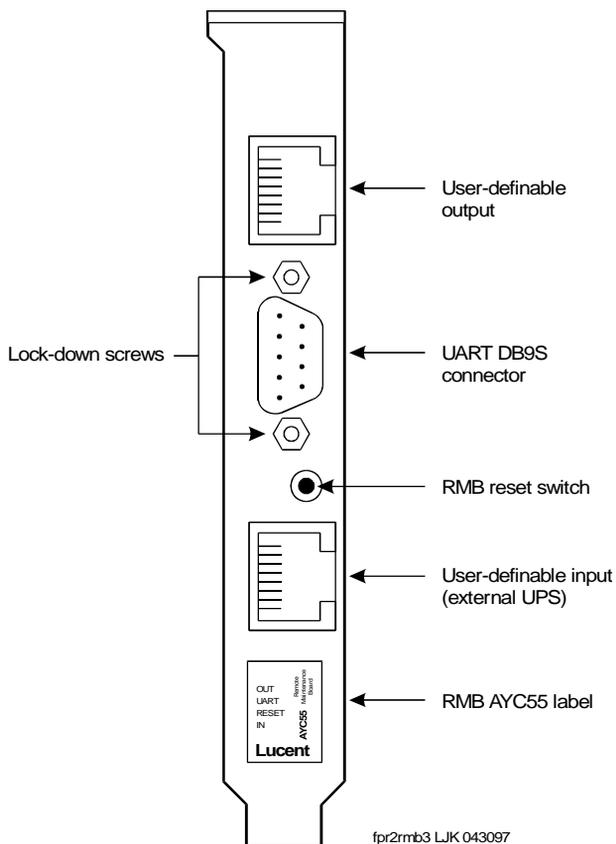


Figure 5-35. AYC55 Remote Maintenance Circuit Card Faceplate

### Setting the Resource Options

The remote maintenance circuit card is equipped with a BEC enable switch (Figure 5-33) Ensure that this switch is set to the ON position (Figure 5-34).

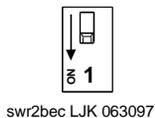
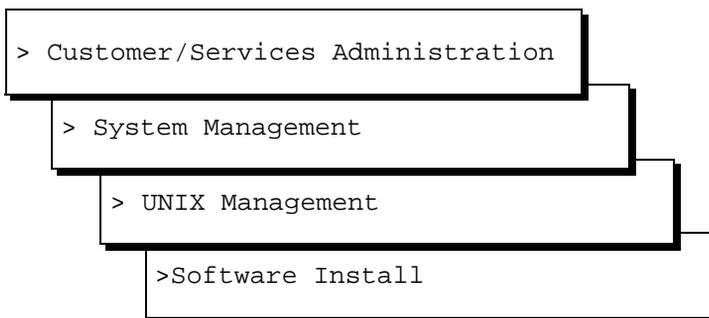


Figure 5-36. BEC Enable Switch

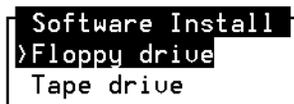
## Installing the Remote Maintenance Circuit Card Software Package

To install the remote maintenance circuit card software package, do the following:

1. Stop the voice system. See "[Stopping the Voice System](#)" in [Chapter 3, "Common System Procedures"](#), for the procedure.
2. Start at the Lucent INTUITY Main menu ([Figure 5-1](#)), select



The system displays the Software Install menu ([Figure 5-37](#)).



**Figure 5-37. Software Install Menu**

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. Insert the tape labeled "RMB Software Set" into the tape drive.

5. Press **ENTER**.

The system displays the following message:

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

The following sets are available:

```
1      RMBset   Remote Maintenance Board Package
              (AYC54/55)
```

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

6. Press **ENTER**.

The system displays the following message:

```
Processing:
```

```
Set: RMB Software Set R2.0 (RMBset) from <ctapel>.
```

```
Intuity RMB Software Set R2.0
(i486)
```

```
Using </> as the package base directory.
```

```
Please select the country code:
```

```
01 - United States
02 - International
```

```
Country code [01]:
```

7. Enter the appropriate code.

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. Remove the cartridge tape.

10. Start the voice system. See [“Starting the Voice System”](#) in [Chapter 3, “Common System Procedures”](#), for the procedure.

## Replacing a Defective Remote Maintenance Circuit Card

See [“General Procedures”](#) for procedures on remote maintenance circuit card installation.

1. Complete the procedures listed in [“Removing a Circuit Card”](#) above for the defective circuit card.
2. Complete the procedures listed in [“Installing a Circuit Card”](#) above.



### NOTE:

Make sure the BEC enable switch on the remote maintenance circuit card is in the ON position ([Figure 5-36](#)).

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. Restore the system to service.
6. Call the remote maintenance center and inform them that you have replaced the remote maintenance circuit card.

The remote maintenance center 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

See [“General Procedures”](#) for procedures on 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 the procedure.
  - b. Shut down the voice system. See [“Shutting Down the System”](#) in [Chapter 3, “Common System Procedures”](#), for the procedure.
2. Remove power from the MAP/40. See [“Removing Power from the MAP/40”](#) in [Chapter 4, “Getting Inside the Computer”](#), for power removal procedures.

3. Remove the circuit card cage access panel. See [“Removing the Circuit Card Cage Access Panel”](#) in Chapter 4, [“Getting Inside the Computer”](#), for power removal procedures.
4. Complete the procedures listed in [“Installing a Circuit Card”](#) above.



**NOTE:**

Make sure the BEC enable switch on the remote maintenance circuit card is in the ON position ([Figure 5-36](#)).

5. Connect the modem line to the remote maintenance circuit card and the switch.



**CAUTION:**

*Step 6 must be completed during the reboot of the system.*

6. 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 CPU. See [“P5 75 MHz CPU Circuit Card”](#) above for the procedure.

7. Reboot the Lucent INTUITY system. See [“Rebooting the System”](#) in [Chapter 3, “Common System Procedures”](#), for the procedure.
8. Install the Remote Maintenance Circuit Card Software package. See [“Installing the Remote Maintenance Circuit Card Software Package”](#) above for the procedure.
9. Place the BEC enable switch on the remote maintenance circuit card in the ON position ([Figure 5-36](#)).
10. Press **ENTER**.
11. Reboot the Lucent INTUITY system. See [“Rebooting the System”](#) in [Chapter 3, “Common System Procedures”](#), for the procedure.
12. Call the remote maintenance center and inform them that you have installed the remote maintenance circuit card.

The remote maintenance center will log in through the remote maintenance circuit card and:

- Set the passwords
- Verify the product ID
- Verify the alarm destination

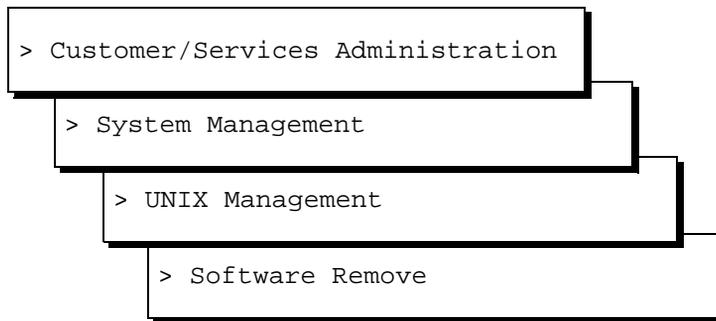
## Replacing a Remote Maintenance Circuit Card with a Modem

See [“Removing a Circuit Card” on page 5-2](#) for procedures on remote maintenance circuit card removal.

1. Call the remote maintenance center and inform them that you are removing a remote maintenance circuit card and restoring the COM2 Port.

The remote maintenance center will do [Step a](#) and [Step b](#):

- a. Log in through the remote maintenance circuit card and reentered 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 5-7](#)).

```

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 UM           AUDIX(R) Module marker file
                   (AUDIX) NA
 4 UM+3        AUDIX(R) Software Patches
                   (AUDIX) 2.0-16
 5 UM-britsh    British System Announcements
                   (AUDIX) 2.0-14
 6 UM-dfltdb   AUDIX(R) Default db
                   (AUDIX) 2.0-14
 7 UM-french   French-c System Announcements
                   (AUDIX) 2.0-14
 8 UM-sat      AUDIX(R) English Announcements
                   (AUDIX) 2.0-14
 9 UM-spansh   Lat-Span System Announcements
                   (AUDIX) 2.0-14
10 UM-sw       AUDIX(R) Software
                   (AUDIX) 2.0-16

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

Figure 5-38. Software Remove Screen

3. Locate and record the numbers for the RMBset software package.
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 [Step 5](#) and [Step 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. See [“Removing a Circuit Card”](#) for the procedure.

11. Make sure the COM2 port is correctly connected to the motherboard.
12. Replace the MAP/40 hardware. See [“Replacing the Retaining Bracket, Access Panel, and Dress Cover”](#) in [Chapter 4, “Getting Inside the Computer”](#), for power removal procedures.
13. Apply power to the MAP/40. See [“Restoring Power to the MAP/40,”](#) in [Chapter 4, “Getting Inside the Computer”](#) for this procedure.
14. Reboot the Lucent 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 CPU. See [“P5 75 MHz CPU Circuit Card”](#) above for the procedure.
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 MAP/40 System Installation 585-310-170* for the procedure.
18. Contact the remote maintenance center 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 remote maintenance center will complete the procedure.



**NOTE:**

At this point the modem should have 3 LEDs lit.

20. Have the remote maintenance center login through the modem and change the tsc password back to the original.

## Installing a Remote Maintenance Circuit Card, Version 2

The remote maintenance circuit card provides remote diagnostics of basic components ([Figure 5-33](#)). There is one remote maintenance circuit card installed on the system.

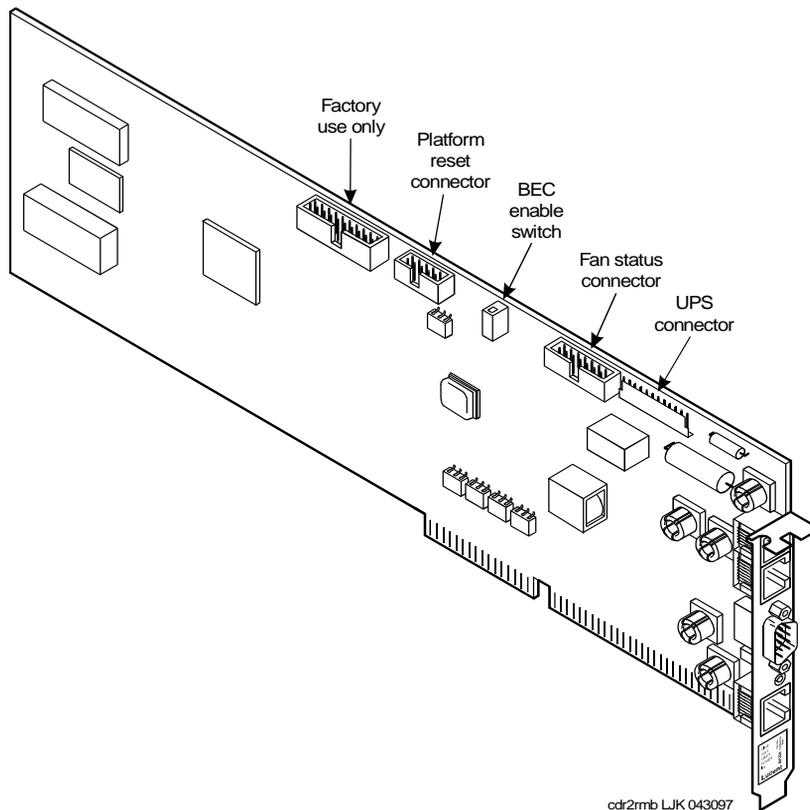


Figure 5-39. Remote Maintenance Circuit Card

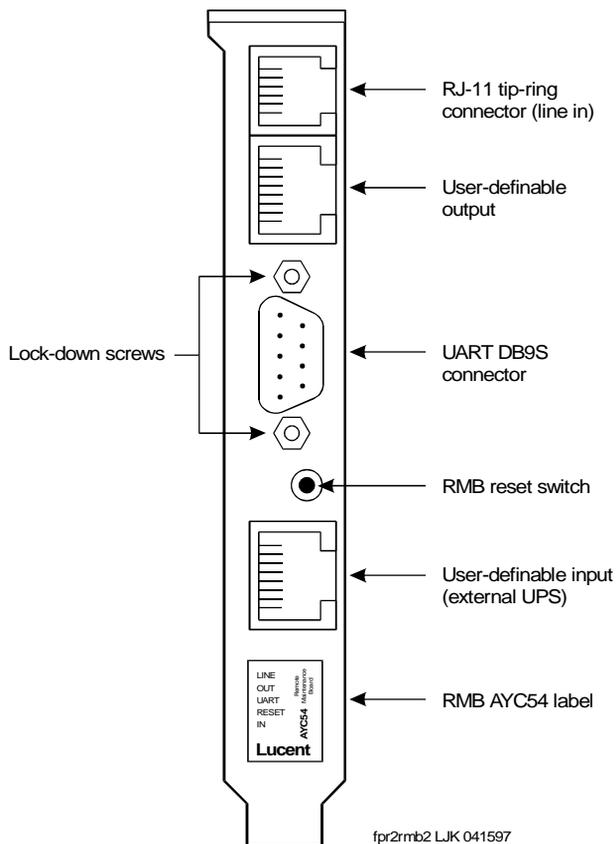
### Types of Remote Maintenance Circuit Cards

The Lucent INTUITY system supports remote maintenance circuit cards:

- With an internal modem (AYC54)
- Without an internal modem (AYC55)

You can determine the type of remote maintenance circuit card installed on you system by viewing the faceplate. [Figure 5-34](#) shows the faceplate of a remote maintenance circuit card with an internal modem (AYC54).

**NOTE:**  
The AYC54 remote maintenance circuit card can be connected to an external modem.



**Figure 5-40. AYC54 Remote Maintenance Circuit Card Faceplate**

[Figure 5-35](#) shows the faceplate of a remote maintenance circuit card without an internal modem (AYC55).

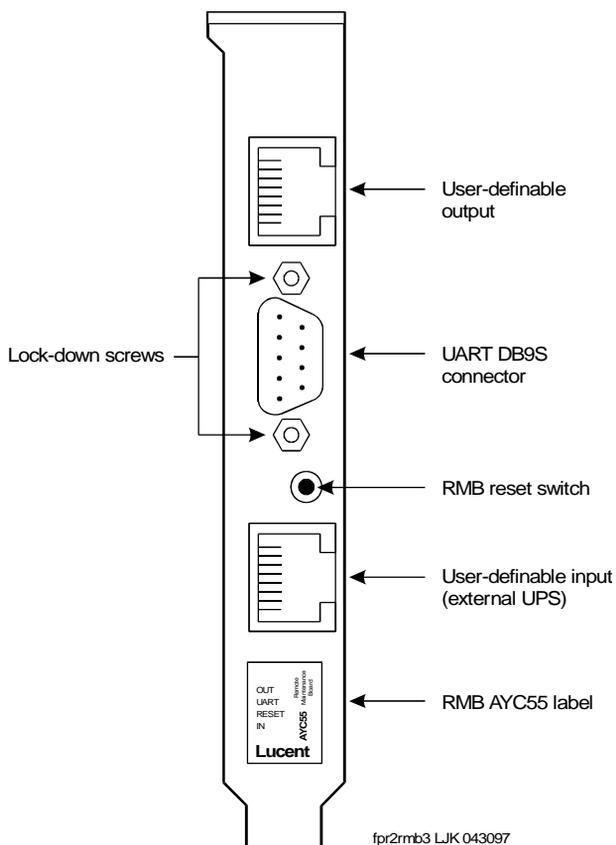


Figure 5-41. AYC55 Remote Maintenance Circuit Card Faceplate

### Setting the Resource Options

The remote maintenance circuit card is equipped with a BEC enable switch (Figure 5-33). Ensure that this switch is set to the ON position (Figure 5-36).



swr2bec LJK 063097

Figure 5-42. BEC Enable Switch

## Installing the Remote Maintenance Circuit Card Software Package

---

To install the remote maintenance circuit card software package, do the following:

1. Stop the voice system.
2. Start at the Lucent™ INTUITY™ Main menu ([Figure 5-43](#)).

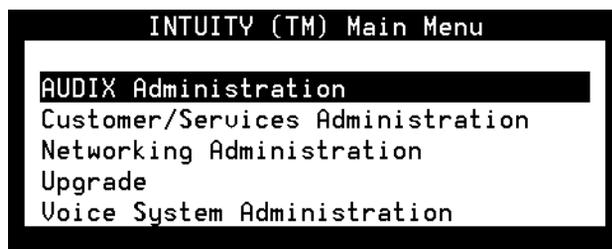
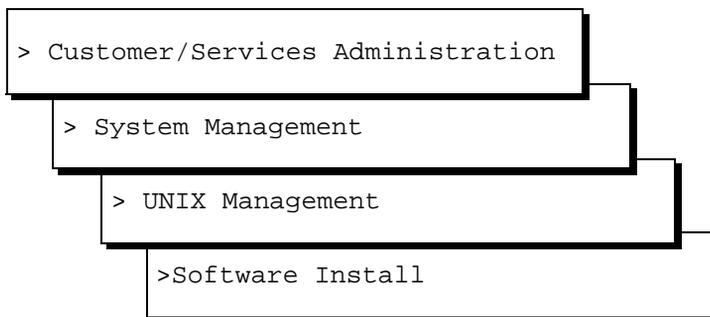


Figure 5-43. Lucent INTUITY Main Menu

3. Select



The system displays the Software Install menu ([Figure 5-37](#)).

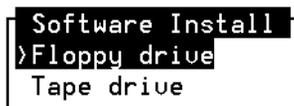


Figure 5-44. Software Install Menu

4. 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)
```

5. Insert the tape labeled "RMB Software Set" into the tape drive.

6. Press **ENTER**.

The system displays the following message:

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

The following sets are available:

```
    1      RMBset      INTUITY RMB V2 set  
                        (i486) i.2.2
```

```
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:

```
Processing:
```

```
Set: RMB Software Set R2.0 (RMBset) from <ctapel>.
```

```
Intuity RMB Software Set R2.0  
(i486)
```

```
Using </> as the package base directory.
```

```
Please select the country code:
```

```
    01 - United States  
    02 - International
```

```
Country code [01]:
```

8. Enter the appropriate code.

The system displays the following message:

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

9. Enter **q**

10. Remove the cartridge tape.

11. Start the voice system.

## Replacing a Defective Remote Maintenance Circuit Card

---

To replace a defective remote maintenance circuit card, you must:

- Remove the defective remote maintenance circuit card
- Install the new remote maintenance circuit card
- Attach external cables to the remote maintenance circuit card

## Removing the Defective Remote Maintenance Circuit Card

To remove the defective remote maintenance 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:**

Note all symptoms of failure and include this information with the remote maintenance circuit card when it is returned.

2. If the system is in service, perform the following steps.
  - a. Stop the voice system.
  - b. Shut down the voice system.
3. Remove power from the computer.
4. Access the circuit card cage.
5. Locate the remote maintenance circuit card.
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:**

Make sure to install the replacement remote maintenance circuit card in the same backplane slot.

9. Remove the circuit card from the chassis.



**CAUTION:**

*Hold the circuit card carefully by the edges and place it on a grounded mat.*

## Installing the New Remote Maintenance Circuit Card

To install the new remote maintenance circuit card, you must:

- Insert the circuit card
- Attach cables to the circuit card
- Restore the system
- Verify the installation

### Inserting the Circuit Card

To insert the new remote maintenance 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. Make sure the BEC enable switch on the remote maintenance circuit card is in the ON position ([Figure 5-36](#)).
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.

[Table 5-6](#) lists the correct slot for each platform.

**Table 5-6. Remote Maintenance Circuit Card Slot Locations**

Platform	Correct Slot
MAP/5P	ISA Slot 2
MAP/40	Slot 9
MAP/40P	ISA Slot 9
MAP/100	Slot 19

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.

## Attaching Cables to the Circuit Card

The type and number of cables depend upon the platform. See [Figure 5-45](#) to distinguish among the cables that may be present in each of the platforms. The following list details cabling requirements:

- MAP/5P – MAP/5P reset cable
- MAP/40 – 486 reset cable
- MAP/40P - keyboard cable
- MAP/100 – fan-status cable and 486 reset cable  
(If the MAP/100 has an internal UPS, connect the UPS cable)

### **WARNING:**

*If the UPS cable is connected to a MAP/100 with dual/redundant power supplies, then damage to the RMB results when power is supplied to the platform.*

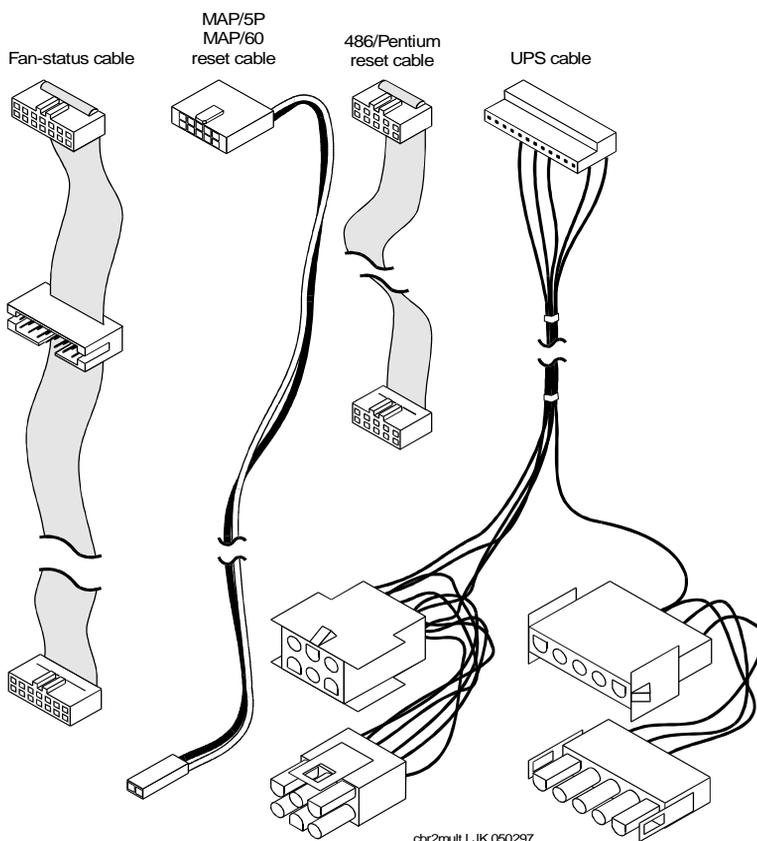


Figure 5-45. RMB cables

The cable code (printed on the cable) is as follows:

- ED5P 208-30 G 32 – fan status cable
- ED5P 208-30 GR 31 – reset cable

Figure 5-46 and Figure 5-47 show the cable connectors on the remote maintenance circuit card.

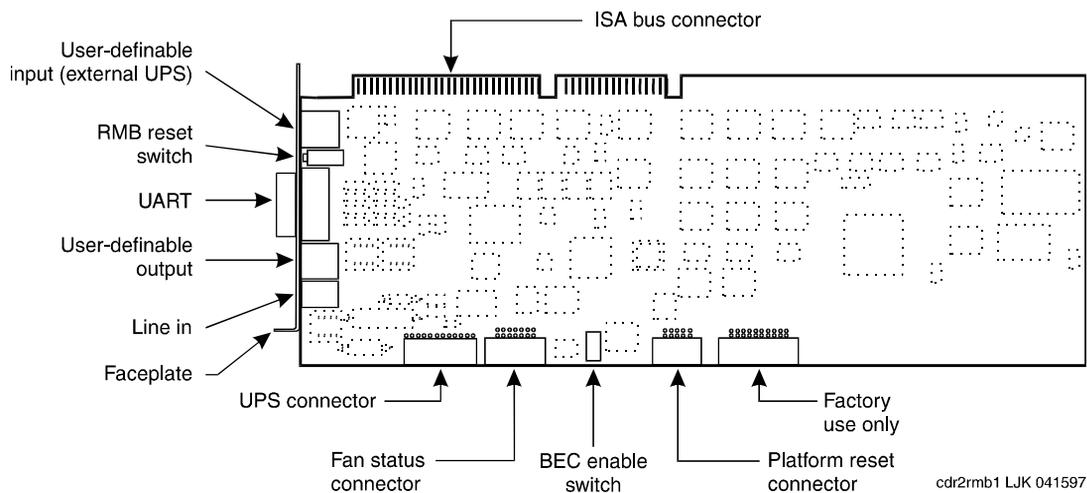


Figure 5-46. RMB connectors (top view)

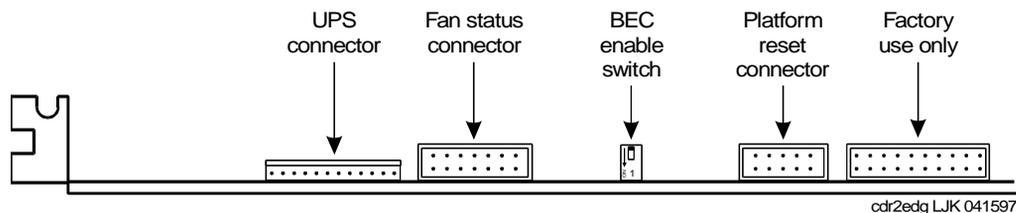
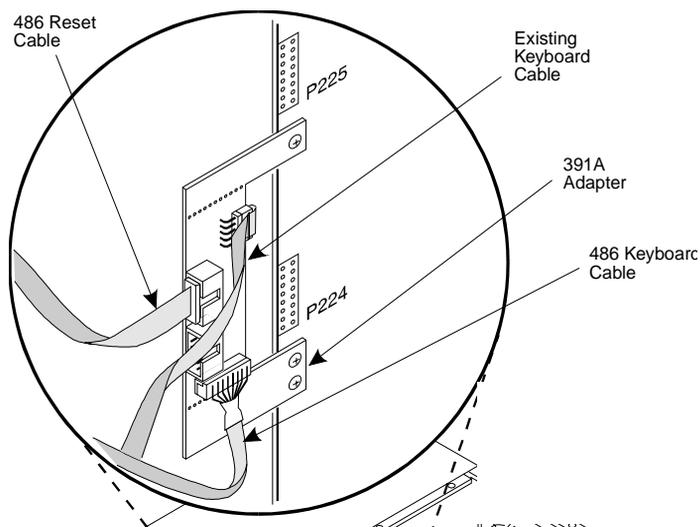


Figure 5-47. RMB connectors (side view)

You can dress the cables above or below the RMB. Use your judgement to determine the best way to connect to the board with the least amount of strain on the cables.

**MAP/40 Cable Connections.** The remote maintenance circuit card cables attach to a bracket on the MAP/40 backplane ([Figure 5-48](#)).



**Figure 5-48. MAP/40 cabling for the Remote Maintenance Circuit Card**

### Restoring the System

To restore the system, do the following:

1. Replace all cables removed from other cards. Make sure these cables are attached to their proper terminations.
2. Close the computer.
3. Reboot the voice system.

### Verifying the Installation

To verify the installation of the circuit card, do the following:

1. Starting at the Lucent™ INTUITY™ Main menu ([Figure 5-43](#)), select

```
> Customer/Services Administration
```

```
> System Verification
```

```
> View Installed Hardware
```

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

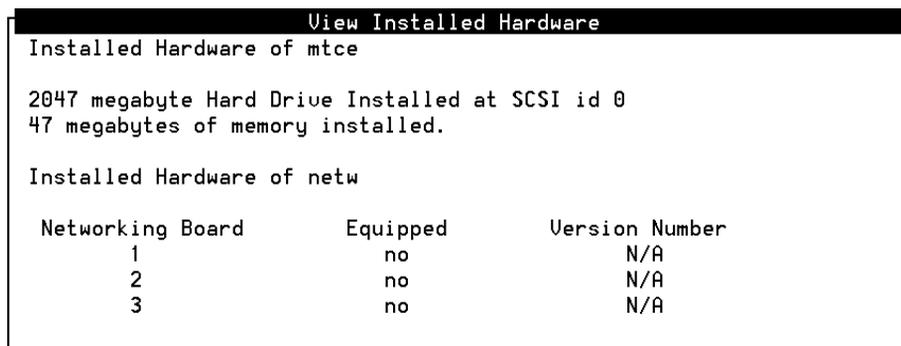


Figure 5-49. View Installed Hardware Window

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

### Attaching External Cables to the Remote Maintenance Circuit Card

To connect the remote maintenance circuit card, do the following:

1. Connect the modem line to the remote maintenance circuit card and the switch.
2. Connect the external UPS line to the modem.
3. Connect the EMI suppression cable to the remote maintenance circuit card and the switch.
4. Restore the system to service.
5. Call the remote maintenance center and inform them that you have installed the remote maintenance circuit card.

The remote maintenance center 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

---

To replace a modem with a remote maintenance circuit card, do the following:

1. Stop the voice system.
2. Install the RMBset software package. See ["Installing the Remote Maintenance Circuit Card Software Package"](#) above for the procedure.
3. Shut down the voice system.
4. Remove power from the computer.
5. Access the circuit card cage.
6. Complete the procedures listed in ["Installing the New Remote Maintenance Circuit Card"](#) above.
7. Connect the modem line to the remote maintenance circuit card and the switch.
8. Turn the computer on.



### **CAUTION:**

*Step 6 must be completed during the reboot of the system.*

9. After memory check, enter CMOS setup.
10. 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 CPU.

11. Exit CMOS Setup.

The system will begin booting. The UNIX kernel will be rebuilt to include the remote maintenance circuit card changes.

12. Make sure the system has returned to service.
13. Call the remote maintenance center and inform them that you have installed the remote maintenance circuit card.

The remote maintenance center will log in through the remote maintenance circuit card and:

- Set the passwords
- Verify the product ID
- Verify the alarm destination

**5** Replacing or Installing Circuit Cards  
*Installing a Remote Maintenance Circuit Card, Version 2*

*Page 5-74*

# 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 Two 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 non-mirrored system.

**Table 6-1. Non-Mirrored Hard Disk Drive Contents**

Disk Identity	Information Contained on Disk
Disk 0 SCSI ID 00 Bay 4, first installed	UNIX operating system, all Lucent INTUITY software, system data, and speech/voice storage
Disk 1 SCSI ID 01 Bay 3, second installed	Speech/voice storage

[Table 6-2](#) show the information contained on each hard disk drive in a mirrored system.

**Table 6-2. Mirrored Hard Disk Drive Contents**

Disk Identity	Information Contained on Disk
Disk 0 SCSI ID 00 Bay #1, first installed	UNIX operating system, all Lucent INTUITY software, system data, and speech/voice storage
Disk 1 SCSI ID 01 Bay #2, second installed	The same information as is contained on Disk 0; an identical copy of Disk 0 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 1 Failure in a Nonmirrored System

---

Hard Disk Drive 1 contains speech and voice storage. If this hard disk drive fails subscriber information will be lost. Subscribers will not be able to access there messages and may not be able to log in to the system.

To verify that Hard Disk Drive 1 has failed, do the following:

1. Start at the Lucent INTUITY Main menu ([Figure 6-1](#)).

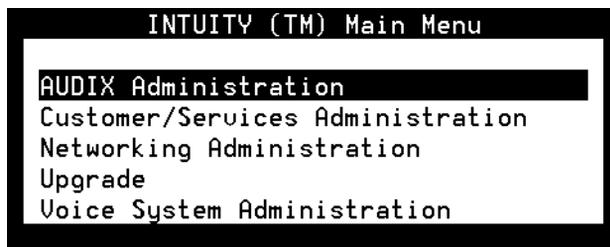
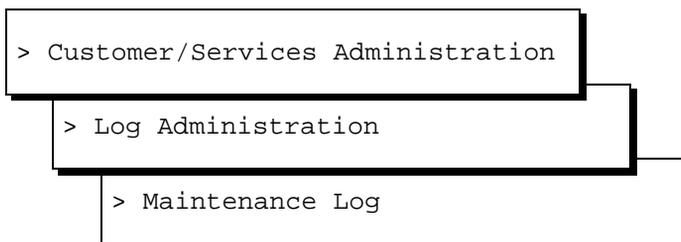


Figure 6-1. Lucent INTUITY Main Menu

---

2. Select



The system displays the Maintenance Log Display Selection window ([Figure 6-2](#)).

```
Maintenance Log Display Selection

Maintenance Log

The following options control which entries will be displayed.

Errors? Y      Resolutions? Y      Events? Y

Start Date: 7/24/95      Time: __:__:__

Application: __      Event ID: _____

Problem Resource: Type: _____      Location: __ __ __

Reporting Resource: Type: _____      Source: _____

Search String:

_____
```

Figure 6-2. Maintenance Log Display Selection Window

3. Enter **MT** in the `Application` field and **FSY001** in the `Event ID` field.
4. Press **F3** (Save).

The system displays the appropriate Maintenance Log window ([Figure 6-3](#)).

Maintenance Log						
PROBLEM Type	RESOURCE Inst	Location	Msg Typ	REPORTING Type	RESOURCE Inst	Source
NIGHT_AUD	1		EUN	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		EUN	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		EUN	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		EUN	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		EUN	MPM	1	193

Figure 6-3. Maintenance Log Window

- 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: c0t1d0s0`, the jumper id is 1.

**NOTE:**

Note that the jumper ID is the same as the SCSI ID.

See "[Software and Hardware Procedures for Replacing Hard Disk Drive 1](#)" for the replacement procedure.

## Identifying a Hard Disk Drive Failure in a Mirrored System

---

In a mirrored system both hard disk drives contain 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 1 Failure in a Nonmirrored System](#)" above for the 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.

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 Drive 1](#)" 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 Disk 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/40. There may be two hard disk drives, located in Position 3 and Position 4 of the peripheral bay ([Figure 6-4](#)). The drive in Position 3 is referred to as "Drive 1." The drive in Position 4 is referred to as "Drive 0." Procedures vary depending on which drive you are replacing.



#### **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.*

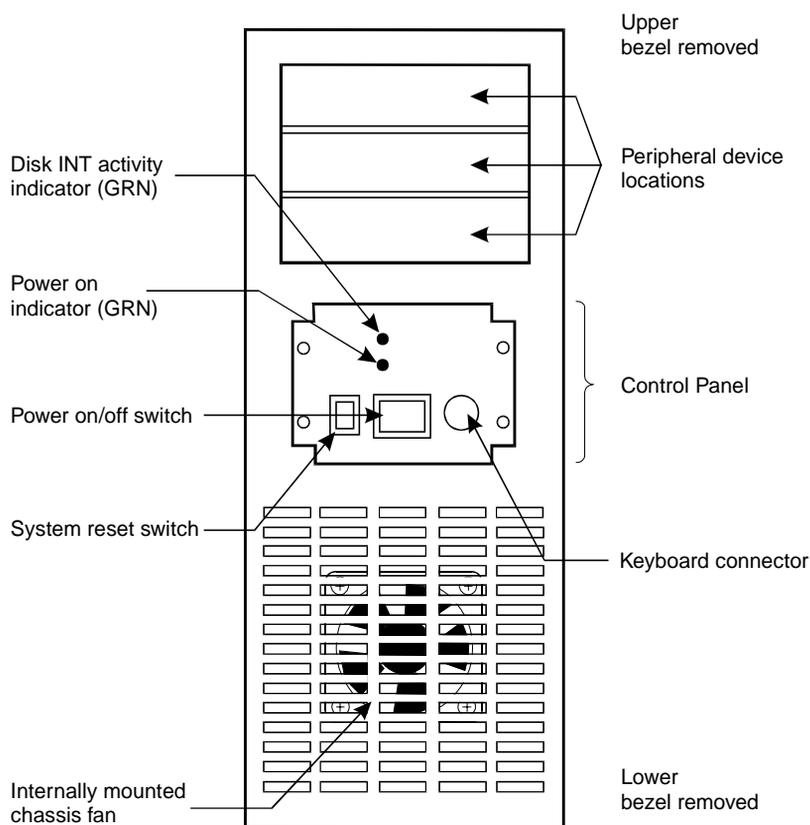


Figure 6-4. Front View of the MAP/40

## 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 the System](#)", in [Chapter 3, "Common System Procedures"](#) for the procedure.
3. Remove power from the MAP/40. See "[Removing Power from the MAP/40](#)" in [Chapter 4, "Getting Inside the Computer"](#) for the procedure.
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. If you are removing the hard disk drive in Position 3, complete the following Steps a through c:
  - a. Locate and remove the power cord and bus cable assembly connections for the drive.
  - b. 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.
  - c. Slide the hard disk drive forward within the peripheral bay and remove the unit through the front opening of the MAP/40 chassis.
6. If you are removing the hard disk drive in Position 4, complete the following Steps a through g:
  - a. Complete Steps 5a through 5c above to remove the hard disk drive in Position 3.



**NOTE:**

The hard disk drive in Position 3 must be removed to provide adequate clearance to remove the hard disk drive in Position 4.

- b. Locate and remove the power cord and bus cable assembly connections for the drive.
  - c. 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.
  - d. Slide the hard disk drive backward approximately an inch.
  - e. Tip the front of the hard disk drive up slightly.
  - f. Move the hard disk drive to the Position 3 slot.
  - g. Remove the hard disk drive through the front of the chassis.
7. Place the defective hard disk drive upside down, with the circuit board facing up, on an ESD-protected surface.
8. 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](#) and [Figure 6-6](#).

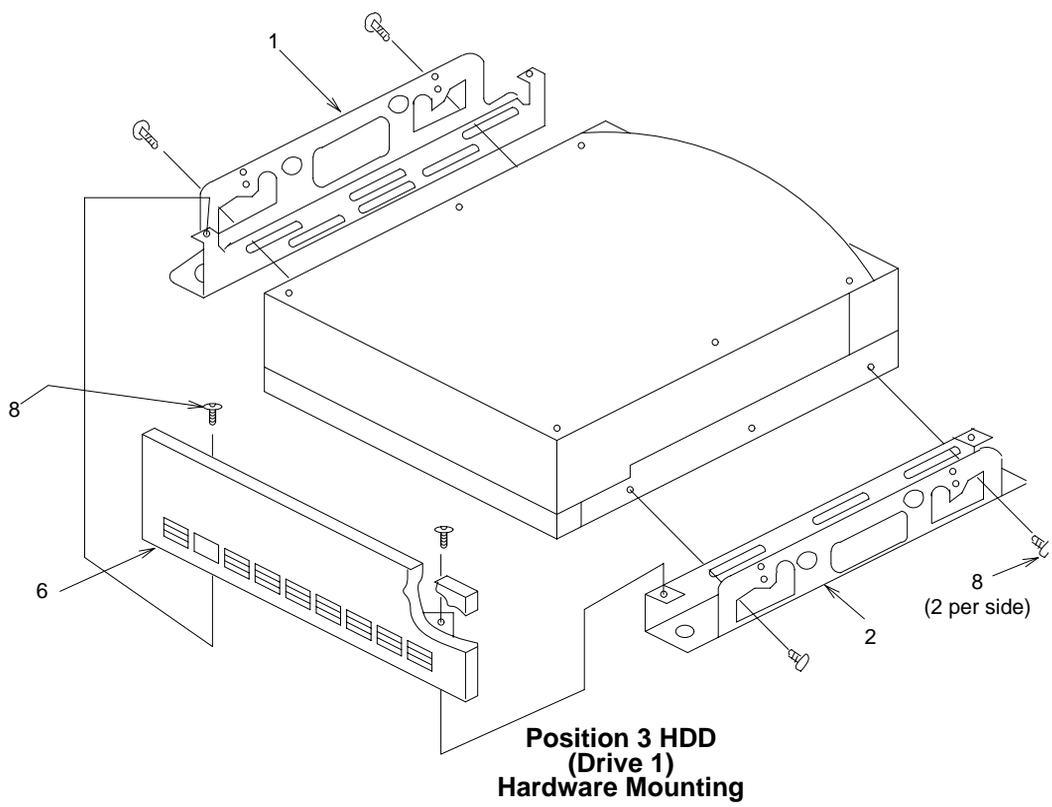


Figure 6-5. Position 3 Hard Disk Drive Mounting Kit

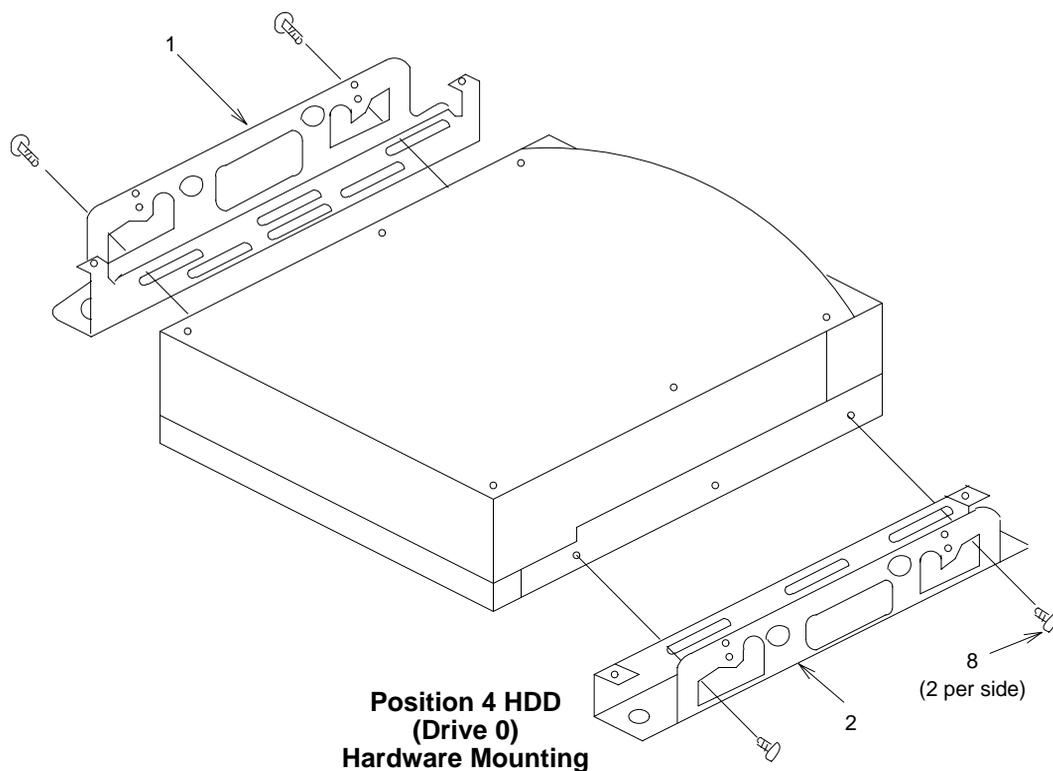


Figure 6-6. Position 4 Hard Disk Drive Mounting Kit

9. 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 6-7](#) shows the location of the jumpers on the Type A hard disk drive. [Figure 6-8](#) and [Figure 6-9](#) show the jumper settings.

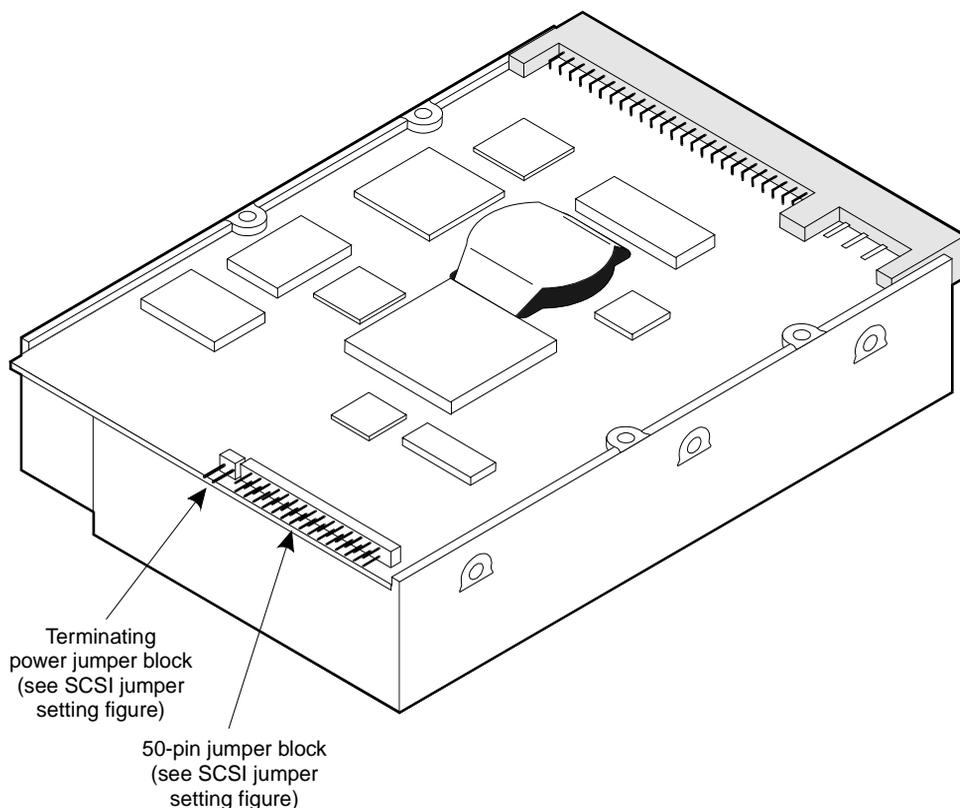


Figure 6-7. Jumper Locations on the Type A Hard Disk Drive

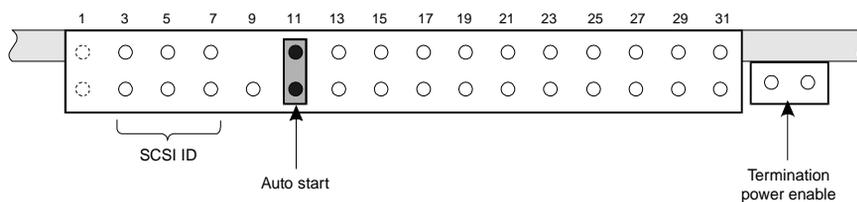


Figure 6-8. Jumper Settings for the First Type A Hard Disk Drive Installed;  
Bay 4, SCSI ID = 0

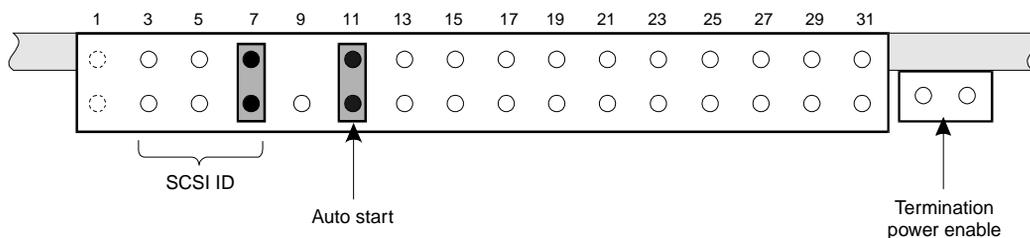
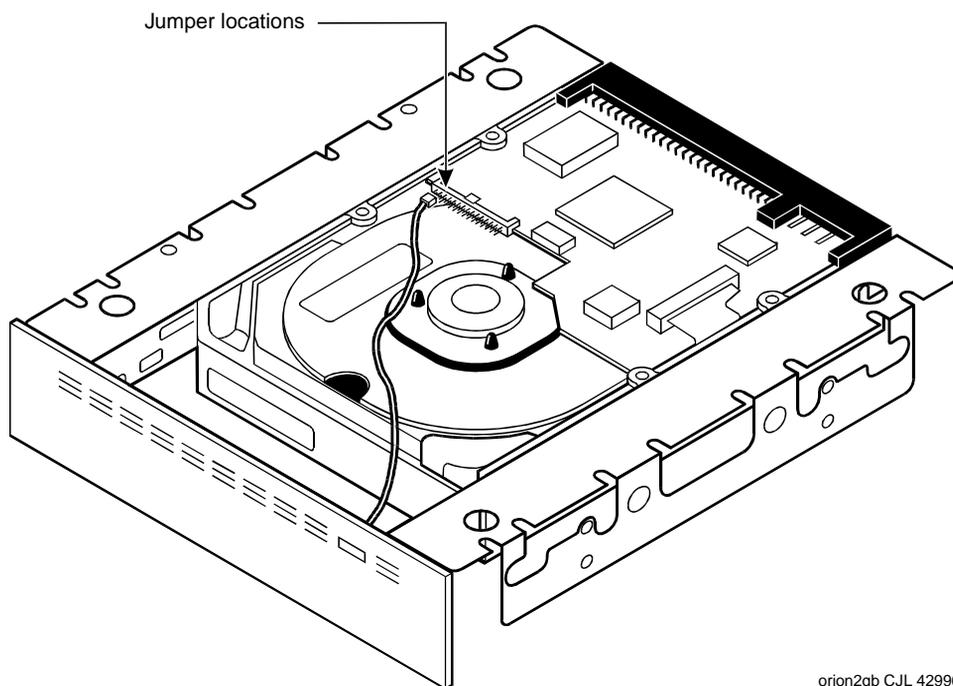


Figure 6-9. Jumper Settings for the Second Type A Hard Disk Drive Installed;  
Bay 3, SCSI ID = 1

The Type B hard disk drive has the jumpers located in the center of the unit (Figure 6-10). Figure 6-11 and Figure 6-12 show the jumper settings for the Type B hard disk drive.



orion2ab C.JL 42996

Figure 6-10. Jumper Locations on the Type B Hard Disk Drive

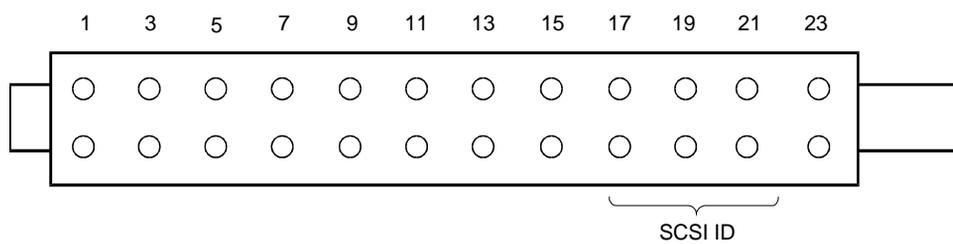
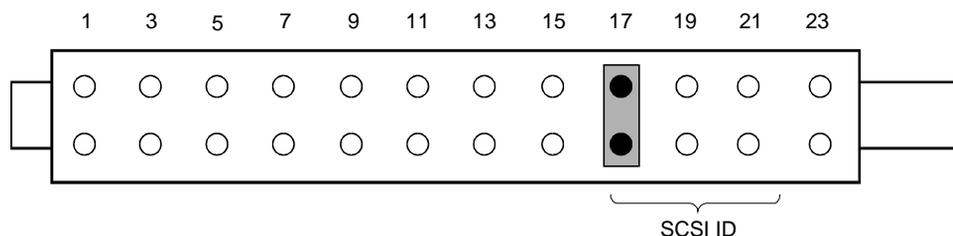


Figure 6-11. Jumper Settings for the First Type B Hard Disk Drive Installed;  
Bay 4, SCSI ID = 0



**Figure 6-12. Jumper Settings for the Second Type B Hard Disk Drive Installed; Bay 3, SCSI ID = 1**

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](#) and [Figure 6-6](#)).
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/40

1. Locate the bottom set of slots on either side of the MAP/40 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/40 peripheral bay.



#### NOTE:

Use only the bottom position to secure the disk drive/mounting brackets inside the MAP/40. Do not use the threaded holes.

2. Place the drive in the MAP/40 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/40 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/40”](#) 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 the Platform 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 Optional Feature 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 Cards”](#), 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.

4. Press **(F6)** (Cancel) 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/rcvrvv1`

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 disk 0 fails on a mirrored system. The following procedure explains how to replace disk 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 back-up

See “[Backing Up \(Attended\)](#)“, in [Chapter 3](#), “[Common System Procedures](#)” for the 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

```
> Customer/Services Administration
```

```
> Alarm Management
```

The system displays the Alarm Management window ([Figure 6-13](#)).

---

Alarm Management	
Product ID	<u>2999999999</u>
Alarm Destination	<u>916148606427</u>
Alarm Origination	<u>ACTIVE</u>
Alarm Level	<u>MINOR</u>
Alarm Suppression	<u>ACTIVE</u>
Clear Alarm Notification	<u>ACTIVE</u>

---

Figure 6-13. Alarm Management Window

2. Move the cursor to the Alarm Suppression field and type **active**
3. Press **F3** (Save).

The system displays the Information window ([Figure 6-14](#)).

---

```
Information
Alarm Form Update was successful

Press <Enter> to continue.
```

---

Figure 6-14. Information Window

4. Press **ENTER**.

The system displays the Alarm Management window ([Figure 6-13](#)).

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 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. Set Hard Disk Drive 0, which was removed from Bay 4, aside.
3. Change the jumpers for Hard Disk Drive 1 to the correct positions for Hard Disk Drive 0 ([Figure 6-8](#) or [Figure 6-11](#)).
4. Replace the changed Hard Disk Drive 1 in Bay 4. See "[Mounting a Hard Disk Drive in the MAP/40](#)", 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 6-12](#)).
6. Place the new hard disk drive in Bay 3. See "[Mounting a Hard Disk Drive in the MAP/40](#)", in "[Software and Hardware Procedures for Replacing Hard Disk Drive 0 \(Nonmirrored System\)](#)" for the procedure.



**NOTE:**

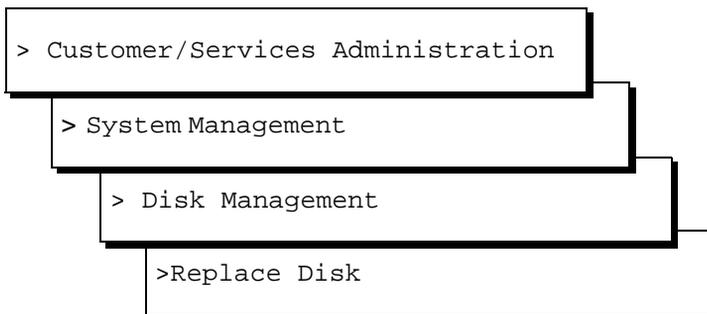
This drive is now Hard Disk Drive 1.

7. Complete the procedure in "[Connecting Cables to the Hard Disk Drive](#)", in "[Software and Hardware Procedures for Replacing Hard Disk Drive 0 \(Nonmirrored System\)](#)" for the procedure.
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."

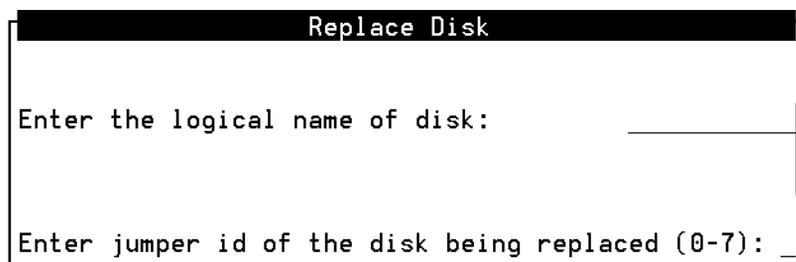
## Initializing the New Hard Disk Drive

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 6-15](#)).



---

**Figure 6-15. 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 **F3** (Save).
  - 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.

6 Replacing the Hard Disk Drive

Software and Hardware Procedures for Replacing Hard Disk Drive 0

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- 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/rdisk/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 3 to the correct positions for Hard Disk Drive 1 ([Figure 6-9](#) or [Figure 6-11](#)).
3. Change the jumpers for the drive removed from Bay 4 to the correct positions for Hard Disk Drive 0 ([Figure 6-8](#) or [Figure 6-10](#)).
4. Place Hard Disk Drive 0 in Bay 4. See [“Mounting a Hard Disk Drive in the MAP/40”](#), in [“Software and Hardware Procedures for Replacing Hard Disk Drive 0 \(Nonmirrored System\)”](#) for the procedure.
5. Place Hard Disk Drive 1 in Bay 3. See [“Mounting a Hard Disk Drive in the MAP/40”](#), 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

```
> Customer/Services Administration
```

```
> Alarm Management
```

The system displays the Alarm Management window ([Figure 6-13](#)).

2. Move the cursor to the Alarm Suppression field and type **inactive**
3. Press **F3** (Save).

The system displays the Information window ([Figure 6-14](#)).

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 Drive 1

---

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 disk 0*. If it is not possible to log in to the Lucent INTUITY system, it is possible that disk 0 has failed. Refer to one of the "[Software and Hardware 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 disks other than disk 0 is the method by which data is restored to the new disk. This difference is clearly noted in this procedure.

## Performing an Attended Backup

---

See "[Backing Up \(Attended\)](#)", in [Chapter 3, "Common System Procedures"](#) for the 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

```
> Customer/Services Administration
```

```
> Alarm Management
```

The system displays the Alarm Management window ([Figure 6-13](#)).

2. Move the cursor to the Alarm Suppression field and type **active**
3. Press **F3** (Save).

The system displays the Information window ([Figure 6-14](#)).

4. Press **ENTER**.

The system displays the Alarm Management window ([Figure 6-13](#)).

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

```
> Customer/Services Administration
```

```
> Alarm Management
```

The system displays the Alarm Management window ([Figure 6-13](#)).

2. Move the cursor to the Alarm Suppression field and type **inactive**.
3. Press **F3** (Save).

The system displays the Information window ([Figure 6-14](#)).

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 Replacing the Hard Disk Drive

*Software and Hardware Procedures for Installing an Lucent INTUITY System with*

*Page 6-27*

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

## **Software and Hardware Procedures for Installing an Lucent INTUITY System with Two New Hard Disk Drives**

---

To install the Lucent INTUITY system in a MAP/40 with two 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 "[Installing UnixWare](#)" in [Chapter 9, "Installing Base System Software"](#).
3. Clean Hard Disk Drive 1. See "[Cleaning a Hard Disk Drive](#)", below for the procedure.
4. Reboot the Lucent INTUITY system. See "[Rebooting the System](#)", in [Chapter 3, "Common System Procedures"](#) for the procedure.
5. Complete "[Installing the INTUNIX+e Software](#)", "[Running installit](#)", "[Installing the Platform Software](#)", and "[Installing the Switch Interface Software Packages](#)" in [Chapter 9, "Installing Base System Software"](#).
6. Initialize Hard Disk Drive 1. Complete Steps 8 through 13 in "[Adding a Hard Disk Drive](#)" below for the procedure.
7. Reinstall the Lucent INTUITY system software. See [Chapter 10, "Installing Lucent Intuity System Software"](#) for the procedure.
8. Reinstall the multi-user software, if used. See [Chapter 11, "Installing the Optional Feature Software"](#) for the procedure.
9. If you are installing a system equipped with an internal remote maintenance circuit card, install the corresponding software. See "[Remote Maintenance Circuit Cards](#)", in [Chapter 5, "Replacing or Installing Circuit Cards"](#) for the procedure.
10. Reboot the Lucent INTUITY system. See "[Rebooting the System](#)", in [Chapter 3, "Common System Procedures"](#) for the procedure.
11. Stop the voice system. See "[Stopping the Voice System](#)", in [Chapter 3, "Common System Procedures"](#) for the procedure.
12. Restore the attended and unattended backup tapes, beginning with the oldest first. See "[Restoring Backups](#)", in [Chapter 3, "Common System Procedures"](#) for the procedure.
13. You have completed the procedure for installing the Lucent INTUITY system in a MAP/40 with two new 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 Drive 1”](#) 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 the System”](#), in [Chapter 3, “Common System Procedures”](#) for the procedure.
4. Remove power from the MAP/40. See [“Removing Power from the MAP/40”](#), in [Chapter 4, “Getting Inside the Computer”](#) for the procedure.
5. Access the peripheral bay. See [“Removing the Circuit Card Cage Access Panel”](#), 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/40”](#), 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 [“Rebooting the System”](#), in [Chapter 3, “Common System Procedures”](#) for the procedure.
8. Starting at the Lucent INTUITY Main menu ([Figure 6-1](#)), select

```
> Customer/Services Administration
> System Management
> Disk Management
> Install Disk
```

The system displays the Install Disk window ([Figure 6-16](#)).



**Figure 6-16. Install Disk Window**

9. Enter the SCSI ID number of the disk you are installing. See [“Hard Disk Drive Contents in Two Hard Disk Drive Systems”](#) above for the SCSI ID.
10. Press **F3** (Save).

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/rdisk/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 6-17](#)).



---

**Figure 6-17. Disk Management 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, 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 a 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/rdisk/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 6-18](#))

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 6-18. 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 6-18](#), 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 6-18](#))

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(lm) command. For a DOS partition, 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:

- Memory modules
- Fan filters
- Card cage fans
- Diskette drives
- Power supplies
- SCSI cartridge tape drives
- 12-slot backplanes
- Terminator SIPs

---

## Purpose

The purpose of this chapter is to ensure that the correct procedures are used to replace the internal components of the MAP/40. This chapter also provides information on the correct configuration and settings for the individual components.

## Replacing the Electromagnetic Interference Reduction Component

---

The MAP/40 contains an electromagnetic interference (EMI) reduction component. This EMI component is necessary to comply with Federal Communications Commission (FCC) regulations.

### CAUTION:

*The EMI component is fragile and should be handled with care.*

A ring type ferrite core toroid is placed on the floor next to the MAP/40. 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/40 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 Tip/Ring cables to the ring type ferrite core toroid ([Figure 7-1](#)).

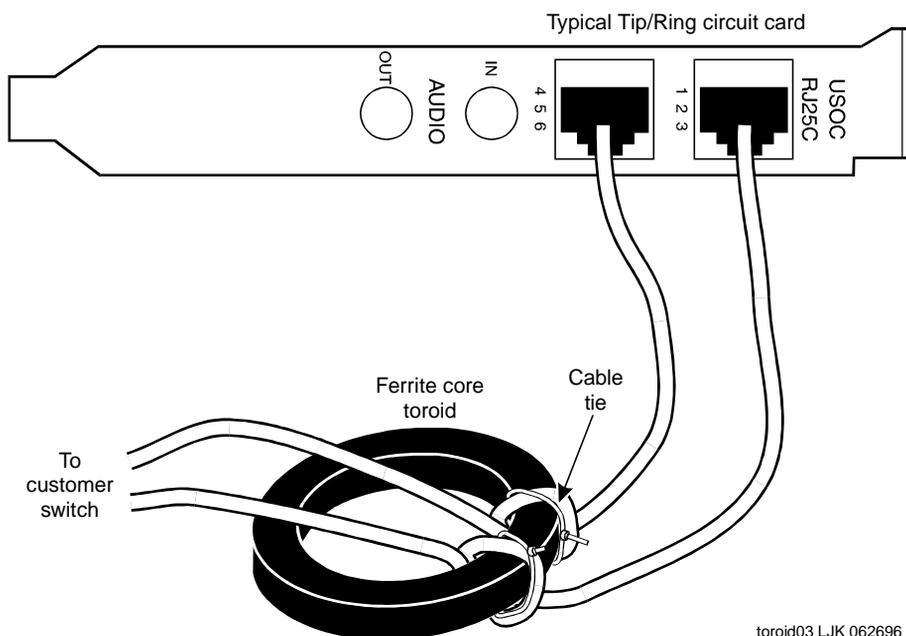


Figure 7-1. MAP/40 Ring Type Ferrite Core Toroid Installation

3. Remove the cables from the Tip/Ring circuit cards.



**CAUTION:**

*Make sure you note the connectivity of each cable.*

4. Unwrap the Tip/Ring cables from the ring type ferrite core toroid.
5. 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. Dress a Tip/Ring cable through the ring type ferrite core toroid ([Figure 7-1](#)).
3. Loop it around and dress it through the ring type ferrite core toroid a second time ([Figure 7-1](#)).
4. Place the end of the Tip/Ring cable in the appropriate port on the Tip/Ring circuit card.

 **CAUTION:**

*The ring type toroid must lay flat on the ground next to the MAP/40. Make sure that the length of cable between the ring type ferrite core toroid and the Tip/Ring circuit card is as short as possible. Any excess cable should be dressed neatly on the customer line side of the ring type ferrite core toroid.*

5. Repeat Steps 3 through 5 for each Tip/Ring cable.
6. Secure all of the Tip/Ring cables to the ring type ferrite core toroid using a cable tie ([Figure 7-1](#)).
7. 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/40
- 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](#)".*

## Identifying a Defective SIMM

The following situations could indicate a missing or defective SIMM:

- The system will not boot
- The memory test fails
- A parity error on the CPU occurs

If you suspect a defective SIMM is present on the P5 75 MHz CPU circuit card, do the following:

## Checking for Proper SIMM Seating

1. Verify that the replacement SIMM 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.

7 Replacing Other Components

Replacing Defective Memory Modules

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- 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 the System](#)," in [Chapter 3, "Common System Procedures"](#) for the procedure.
3. Remove power from the MAP/40. See "[Removing Power from the MAP/40](#)," 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. 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.
6. 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 "[P5 75 MHz CPU Circuit Card](#)," in [Chapter 5, "Replacing or Installing Circuit Cards"](#), for more information on removing the CPU circuit card.
- c. Reboot the system. See "[Rebooting the 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 of the SIMMs. See "[Removing SIMMs](#)," for more information on removing the SIMMs.
2. Install a new SIMM, identical to the SIMM which was removed. See "[Installing SIMMs](#)," for the procedure.
3. Reinstall the CPU circuit card. See "[P5 75 MHz CPU Circuit Card](#)," in [Chapter 5, "Replacing or Installing Circuit Cards"](#), for more information on installing the CPU circuit card.
4. Restore power to the MAP/40. See "[Restoring Power to the MAP/40](#)," in [Chapter 4, "Getting Inside the Computer"](#), for more information on restoring the power.
5. Reboot the system. See "[Rebooting the System](#)," in [Chapter 3, "Common System Procedures"](#) for the procedure.
6. Verify the amount of memory as the system reboots.
7. If the amount of memory shown by the system is not equal to the amount of memory 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/40. See "[Removing Power from the MAP/40](#)," in [Chapter 4, "Getting Inside the Computer"](#), for more information on removing the power.
  - b. Replace the SIMM which was removed in Step 1. See "[Installing SIMMs](#)," for more information on replacing the SIMM.
  - c. Return to Step 1 and continue, removing a second of SIMM.
8. If the amount of memory shown by the system equals the amount of memory installed on the card, the SIMM you removed is defective.
9. Replace the circuit card retaining bracket, circuit card access panel, and dress cover. See [Chapter 4, "Getting Inside the Computer"](#), for more information on replacing these components.
10. Apply power to the unit. See "[Restoring Power to the MAP/40](#)," in [Chapter 4, "Getting Inside the Computer"](#), for more information on restoring power to the MAP/40.

## Removing SIMMs

1. Verify that the replacement SIMMs are on site and appear to be in usable condition.
2. Shut down the system. See "[Shutting Down the System](#)," in [Chapter 3, "Common System Procedures"](#) for the procedure.
3. Remove the incoming power. See "[Removing Power from the MAP/40](#)," in [Chapter 4, "Getting Inside the Computer"](#), for this procedure.

## 7 Replacing Other Components

### Replacing Defective Memory Modules

Page 7-7

4. Remove dress cover, access panel, and retaining bracket. See [Chapter 4, "Getting Inside the Computer"](#), for these procedures.
5. 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.
6. Lay the CPU circuit card on a flat, clean, ESD-protected surface.
7. Release the metal snap locks gently at the edge of the SIMM connectors.
8. Rotate the SIMM back and downward to approximately a 60-degree angle.
9. Remove the SIMM.

## Installing SIMMs

---

1. Shut down the system. See "[Shutting Down the System](#)," in [Chapter 3, "Common System Procedures"](#) for the procedure.
2. Remove the incoming power. See "[Removing Power from the MAP/40](#)," in [Chapter 4, "Getting Inside the Computer"](#), for this procedure.
3. Remove dress cover, access panel, and retaining bracket. See [Chapter 4, "Getting Inside the Computer"](#), for these procedures.
4. Remove the CPU circuit card. See "Removing a Circuit Card," in [Chapter 5, "Replacing or Installing Circuit Cards"](#), for this procedure.
5. 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.

6. Push down at that angle until the SIMM is reset into the SIMM carrier.
7. 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.
8. 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.
9. Reinstall the CPU circuit card. See "[Installing a Circuit Card](#)," in [Chapter 5, "Replacing or Installing Circuit Cards"](#), for this procedure.
10. Reboot the system. See "[Rebooting the System](#)," in [Chapter 3, "Common System Procedures"](#) for the procedure.

11. Verify the amount of memory as the system reboots.
12. Replace the circuit card retaining bracket, circuit card access panel, and dress cover. See [“Replacing the Retaining Bracket, Access Panel, and Dress Cover,”](#) in [Chapter 4, “Getting Inside the Computer,”](#) for these procedures.
13. Apply power to the MAP/40. See [“Restoring Power to the MAP/40,”](#) in [Chapter 4, “Getting Inside the Computer,”](#) for this procedure.

## Replacing the Fan Filter

The MAP/40 is equipped with a fan filter designed to remove dust and debris from the air before the air circulates inside the chassis. The filter is located behind a vented cover which attaches to the lower portion of the bezel ([Figure 7-2](#)). The fan filter should be checked on a regular basis to determine the condition and cleaned if necessary.

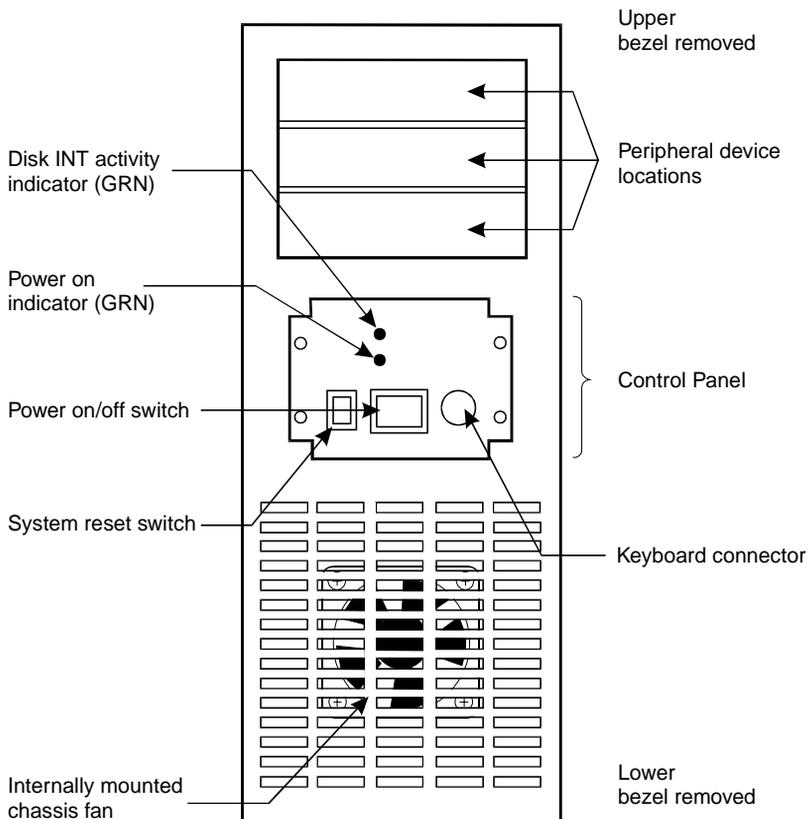


Figure 7-2. Front View of MAP/40

## Removing the Fan Filter

---

To remove the fan filter for replacement or cleaning, do the following:

1. Shut down the Lucent INTUITY system. See "[Shutting Down the System](#)," in [Chapter 3, "Common System Procedures"](#) for the procedure.
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 front of the MAP/40.  
The green lamp, labeled POWER ON, on the front of the unit should be off.
4. Remove the vented cover from the lower portion of the bezel by pressing down gently on the top of the cover and pulling out.
5. Remove the fan filter from the vented cover.

## 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/40.*

## Installing the Fan Filter

---

To install the fan filter, do the following:

1. Place the fan filter into the vented cover.
2. Place the vented cover into the bezel by inserting the lower portion behind the bezel, pressing down gently on the top of the cover, and pushing in toward the chassis.

## Replacing the Card Cage Fan

The MAP/40 contains two fans that provide cooling inside the unit. The first is located inside the power supply and is *not* serviceable. Never attempt repairs to this fan. If it fails, you must replace the entire power supply. See “[Replacing the Power Supply](#),” for more information.

The second fan (406900126) is located in front of the card cage, behind the front cover panel. It is mounted on a support plate to force air-flow through the MAP/40 chassis, across the circuit cards as illustrated in [Figure 7-3](#).

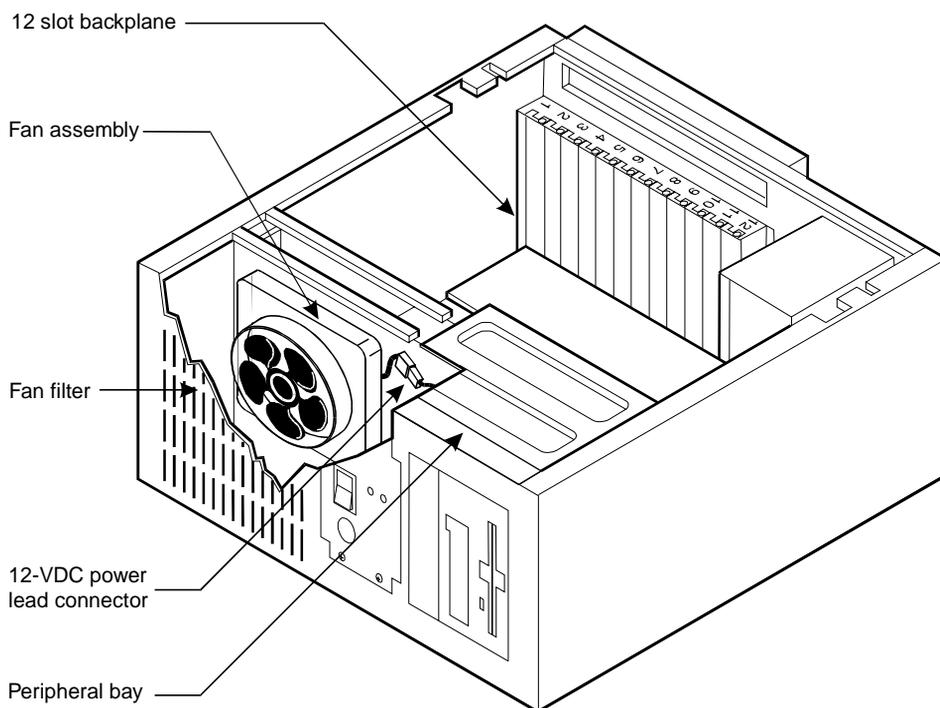


Figure 7-3. MAP/40 Internal Layout

### Removing the Card Cage Fan

To remove the card cage fan, 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 the procedure.

- b. Shut down the voice system. See [“Shutting Down the System,”](#) in [Chapter 3, “Common System Procedures”](#) for the procedure.
3. Remove the incoming power. See [“Removing Power from the MAP/40,”](#) in [Chapter 4, “Getting Inside the Computer”](#), for this procedure.
4. Remove dress cover and access panel. See [Chapter 4, “Getting Inside the Computer”](#), for these procedures.
5. Remove the two Phillips screws that hold the fan in position ([Figure 7-3](#)).
6. Unplug the 12-VDC power lead connector ([Figure 7-3](#)).
7. Lift the card cage fan out of the chassis. The card cage fan consists of the card cage fan and the attached support plate.
8. Remove the four screws retaining the card cage fan.
9. Remove the fan from the support plate.

## Installing a Card Cage Fan

To install the card cage fan, do the following:

1. Attach the new fan to the support plate using the four screws removed in Step 8 of “Removing a Card Cage Fan.”



### NOTE:

The card cage fan unit must be installed so that air travels through the mounting plate hole towards the card cage area, as shown in [Figure 7-3](#). Locate the air-flow direction indicators to ensure that the fan is properly mounted.

2. Using the supplied nylon cable tie, secure the power harness to the fan assembly.
3. Attach the 12-VDC connector. The connector is keyed to ensure correct mating.
4. Mount the card cage fan unit in the MAP/40 chassis and secure it with the two screws.
5. Replace the circuit card access panel. See [“Replacing the Retaining Bracket, Access Panel, and Dress Cover,”](#) in [Chapter 4, “Getting Inside the Computer”](#), for this procedures.
6. Apply power to the MAP/40. See [“Restoring Power to the MAP/40,”](#) in [Chapter 4, “Getting Inside the Computer”](#), for this procedure.
7. Verify that the replacement fan is operating by placing a small sheet of paper across the grill on the intake side of the fan. The paper should adhere to the grill.

If the fan is operating, continue with Step 8.

If the fan is not operating or is spinning very slowly, check all wiring connections and voltages to ensure that the replacement unit is receiving power.



**CAUTION:**

*Do not leave the MAP/40 powered up for any length of time or proceed to the next step until the card cage fan is fully operational.*

8. Replace the dress cover and reconnect the keyboard, video, and network circuits as needed. See [Chapter 4, "Getting Inside the Computer"](#), for these procedures.

## Replacing the Diskette Drive

The 1.44 Mbyte, 3.5-inch diskette drive is assembled by the manufacturer with a mounting kit. The diskette drive is located in Position 1 of the peripheral bay, as shown in [Figure 7-2](#).



**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 Diskette Drive

To remove the diskette drive, 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 the procedure.
  - b. Shut down the voice system. See "[Shutting Down the System](#)," in [Chapter 3, "Common System Procedures"](#) for the procedure.
3. Remove the incoming power. See "[Removing Power from the MAP/40](#)," in [Chapter 4, "Getting Inside the Computer"](#), for this procedure.
4. Remove dress cover and access panel. See [Chapter 4, "Getting Inside the Computer"](#), for these procedures.
5. Return the MAP/40 to the upright position.

6. Remove the power cord connector (P11) from the back of the diskette drive. Move it to the side.
7. Remove the bus cable assembly connection from the back of the diskette drive. Move it to the side.
8. Locate the four 3-millimeter screws on the peripheral bay chassis. Holding the rear of the diskette drive, remove these screws.



**CAUTION:**

*Keep these four screws separate. These screws are metric. Using any of the other screws associated with the MAP/40 will damage the threads in the diskette drive mounting hardware.*

9. Slide the diskette drive forward within the peripheral bay and remove it through the front opening of the MAP/40 chassis.



**CAUTION:**

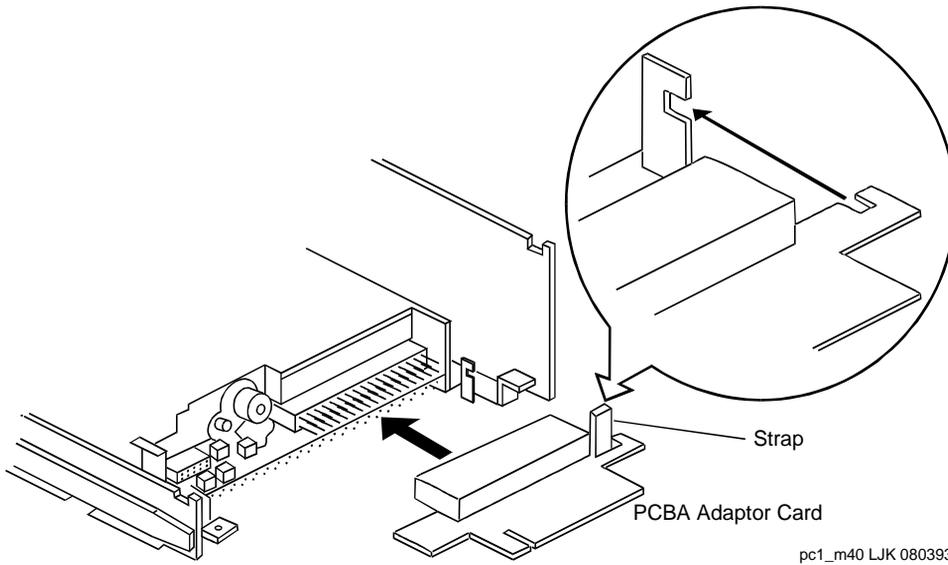
*Handle the diskette drive with care. The spindle motor, stepping motor, and printed circuit board are located on the bottom of the diskette drive. Do not place any force or strain on these components and do not touch the surface of the diskette drive printed circuit board.*

10. Place the diskette drive assembly on an ESD-protected surface and carefully remove the PCBA 5-inch adapter card ([Figure 7-4](#)).



**CAUTION:**

*Do not bend or twist the PCBA 5-inch adapter card connector pins.*



**Figure 7-4. Diskette Drive Unit PCBA 5-Inch Adapter Card**

11. Remove the four 3-millimeter screws that secure the drive unit to the 5.25-inch diskette drive hardware mounting kit. These screws are shown as item 8 in [Figure 7-5](#).

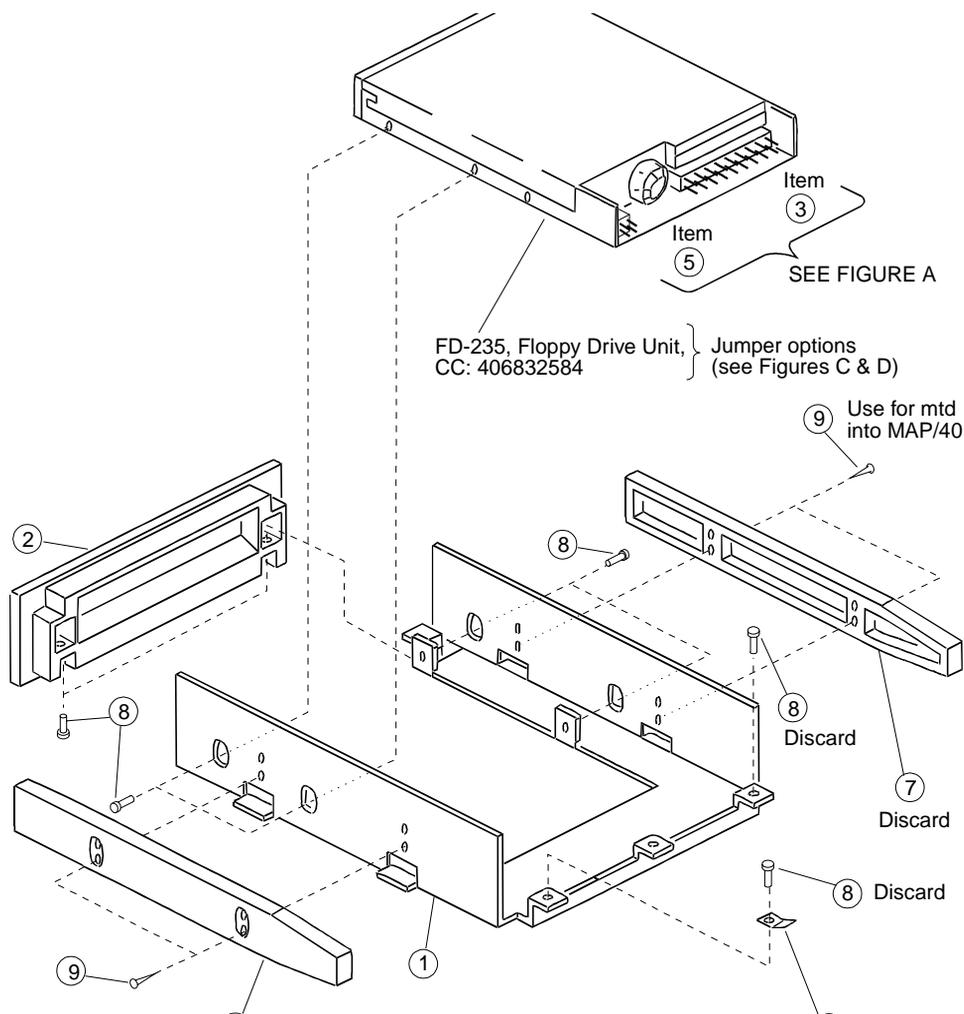


Figure 7-5. Diskette Drive Assembly

12. Slide the drive unit back to clear the front bezel. The bezel is shown as item 2 in [Figure 7-5](#).
13. Place the diskette drive upside down, with the printed circuit board facing up, on an ESD-protected surface.

## Installing a Diskette Drive

---

To install the diskette drive, do the following:

1. Remove the new diskette 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 diskette drive for the MAP/40 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 diskette drive you are installing.

3. Verify that the jumpers are set as shown in [Figure 7-6](#) and [Figure 7-7](#).

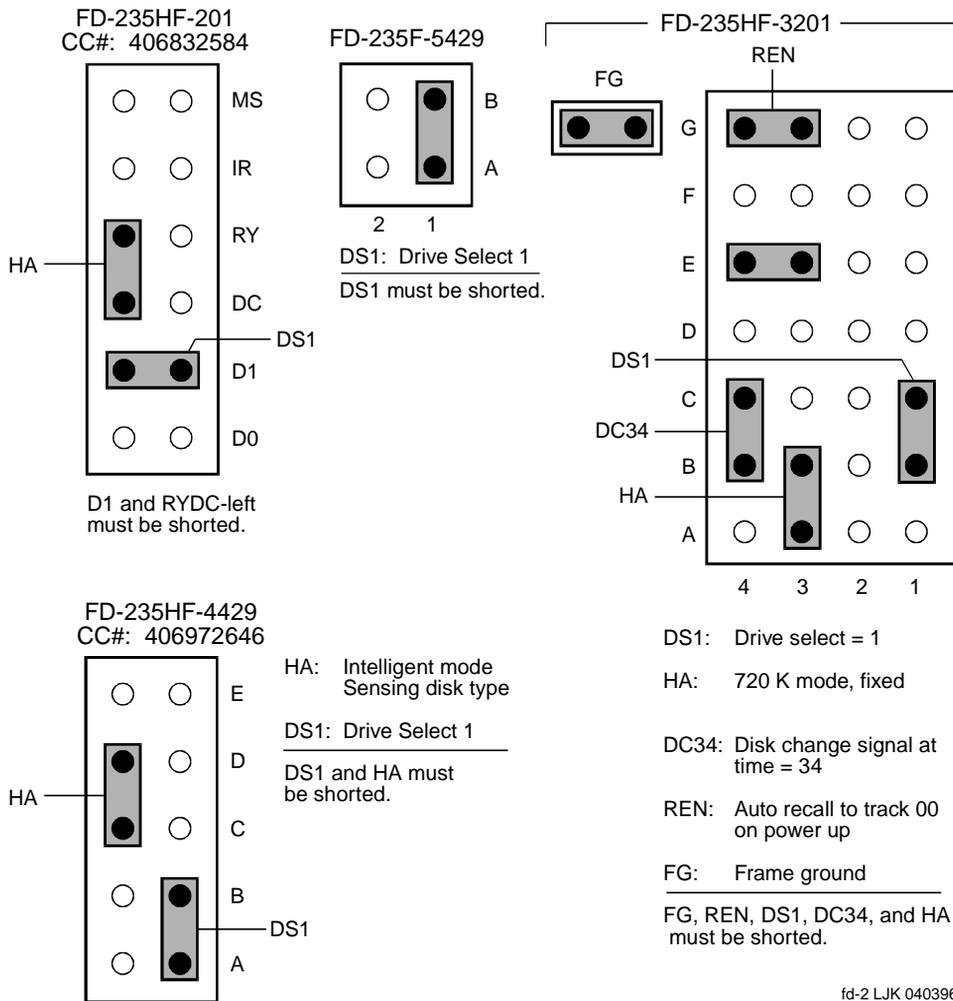
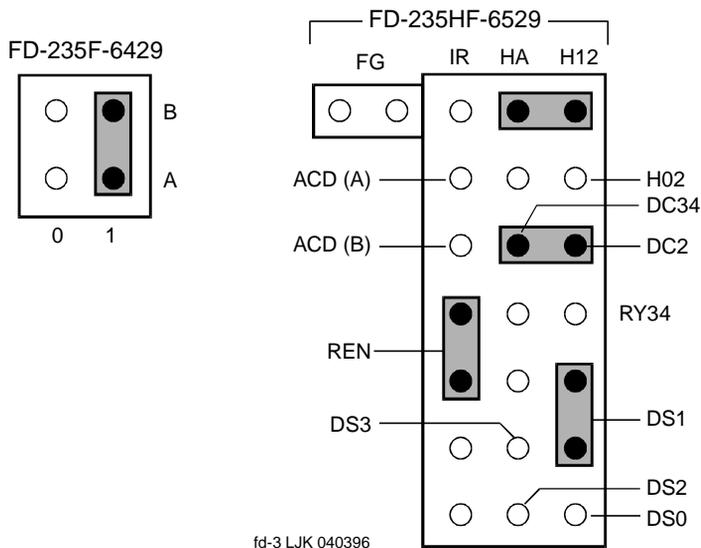


Figure 7-6. Diskette Drive Jumper Connections (201, 3201, 4429, 5429)



**Figure 7-7. Diskette Drive Jumper Connections (6429, 6529)**

4. Hold the diskette drive by the metal sides and carefully attach it to the 5.25-inch mounting hardware and bezel.
5. Secure the diskette drive using the four 3-millimeter screws removed in [11](#) of "[Replacing the Diskette Drive](#)".
6. Attach the PCBA adapter card, being careful to align the tabs shown in [Figure 7-4](#).
7. Slide the new diskette drive unit into the MAP/40 peripheral bay. Ensure the front of the diskette drive is flush with the other units in the peripheral bay.
8. Secure the diskette drive to the peripheral bay with the four 3-millimeter screws removed in [8](#) of "[Replacing the Diskette Drive](#)."
9. Attach the diskette 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 diskette 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.

When making the power cable connection, twist the cable clockwise three times before plugging the connector into the diskette drive. This will neatly dress the cable toward the bottom of the MAP/40 chassis. Tuck all wiring neatly back into its original placement, paying special attention not to pinch sections of cable when reassembling the unit.

11. Replace the circuit card access panel and dress cover. See [Chapter 4, "Getting Inside the Computer"](#), for these procedures.
12. Apply power to the MAP/40. See "[Restoring Power to the MAP/40](#)," in [Chapter 4, "Getting Inside the Computer"](#), for this procedure.

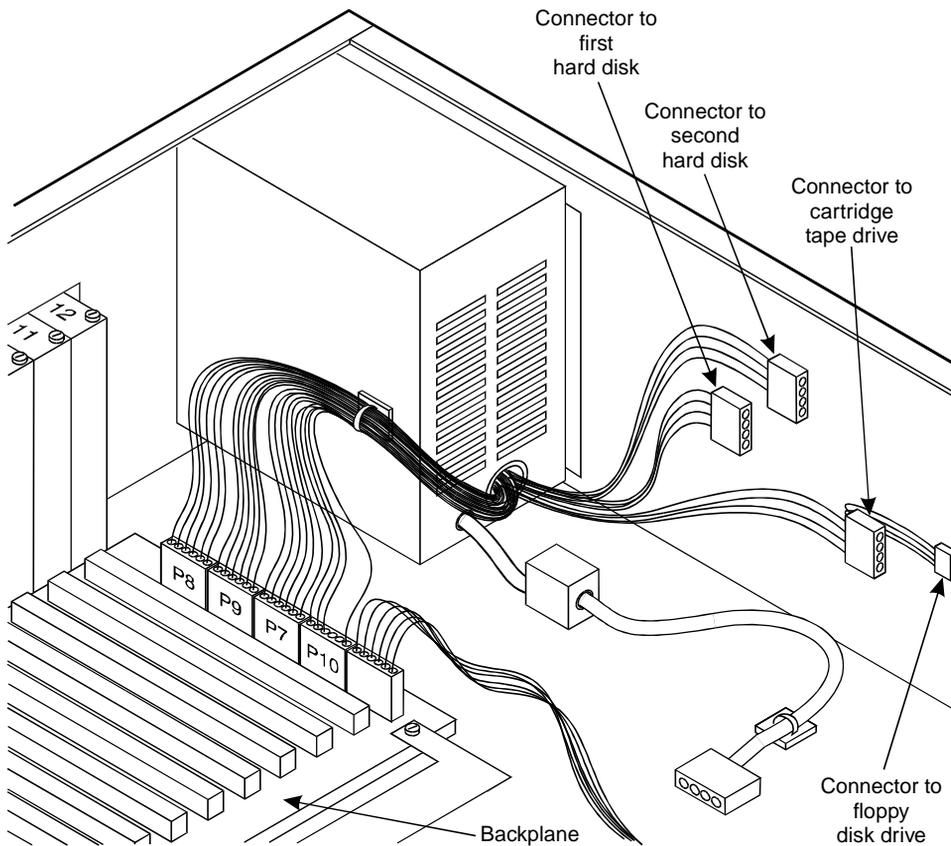
## Replacing the Power Supply

The 110/220-VAC power supply is located in the upper right corner of the MAP/40 as shown in [Figure 7-3](#).

## Removing the Power Supply

To remove the 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 the procedure.
  - b. Shut down the voice system. See "[Shutting Down the System](#)," in [Chapter 3, "Common System Procedures"](#) for the procedure.
3. Remove the incoming power. See "[Removing Power from the MAP/40](#)," in [Chapter 4, "Getting Inside the Computer"](#), for this procedure.
4. Remove dress cover, circuit card access panel, and circuit card retaining bracket. See [Chapter 4, "Getting Inside the Computer"](#), for these procedures.
5. Unplug the connector to the cartridge tape drive ([Figure 7-8](#)).
6. Unplug the connector to the diskette drive ([Figure 7-8](#)).
7. Unplug the connector to the second hard disk drive, if provided.
8. Unplug the connector to the first hard disk drive ([Figure 7-8](#)).



map40-ps KLC 052396

Figure 7-8. MAP/40 Power Supply Unit

9. Remove the circuit cards in slots 11 and 12. This is necessary to provide enough clearance to remove the power supply unit from the chassis.
10. Remove the bus cable assemblies to the peripheral devices. This is necessary to provide adequate clearance to access the backplane power supply connectors P8, P9, P10, and P11.
11. Locate the power supply output cable, which is mounted behind the power supply. Using a small pair of wire snips, cut the tie that secures this to the chassis base (Figure 7-8).
12. Disassemble the output power cord connector by squeezing the connector side latches and carefully sliding it apart (Figure 7-8).
13. Remove the six screws on the chassis rear area that secure the power supply unit (Figure 7-8).

14. Slide the unit slightly forward towards the peripheral bay and tilt towards the backplane.
15. Lift and remove the power supply.
16. Remove the four screws which secure the power supply to the mounting plate ([Figure 7-8](#)).
17. Remove the power supply from the mounting plate.

## Installing a Power Supply

To install the power supply, do the following:

1. Remove the spare power supply unit from the shipping carton.



### 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.

The replacement power supply unit has two cable adhesive mounts and six nylon cable ties.

2. Verify the input AC voltage selection switch, located on the chassis side close to the button edge, is in the correct position.

The switch is a slide type. Printed text on the surface indicates the input voltage requirements, either 115 or 230 Volts. The correct position for systems installed in the United States is 115 volts.

3. Mount the power supply unit to the mounting plate using the four screws provided
4. Install the power supply unit into the chassis and align the screw holes.
5. Install the six screws on the chassis rear area that secure the power supply unit.
6. Attach the power supply DC output connectors P8, P9, P10, and P11 to the backplane connectors J13, J14, J15, and J16. The backplane connectors and power supply DC output lead connector have matching keyed connectors.
7. Attach the connector to the cartridge tape drive ([Figure 7-8](#)).
8. Attach the connector to the diskette drive ([Figure 7-8](#)).
9. Attach the mini-power connector, if provided ([Figure 7-8](#)).
10. Attach the connector to the second hard disk drive, if provided.  

If a second hard disk drive is not installed, dress this lead back out of the way to reduce cable congestion as previously outlined ([Figure 7-8](#)).
11. Attach the connector to the first hard disk drive ([Figure 7-8](#)).

12. Connect the power supply internal AC cord and secure with one of the nylon cable ties provided with the replacement unit.
13. Reinstall the circuit cards you removed from slots 11 and 12. See [“Installing a Circuit Card,”](#) in [Chapter 5, “Replacing or Installing Circuit Cards,”](#) for this procedure.
14. Connect the LED INT cable assembly located inside the chassis to the header located on the CPU circuit card.
15. Apply power to the MAP/40. See [“Restoring Power to the MAP/40,”](#) in [Chapter 4, “Getting Inside the Computer,”](#) for this procedure.
16. Complete Steps a and b to verify the replacement power supply unit is functioning properly.
  - a. Make sure the backplane +5V, -5V +12V and -12V LED indicators are on.
  - b. Make sure the card cage fan is operating.

If one or more of these voltage indicators are not on or if the fan is not working, diagnostics are required to determine the problem. See [Chapter 2, “Diagnostics,”](#) for the possible diagnostics.

17. Remove power from the MAP/40. See [“Removing Power from the MAP/40,”](#) in [Chapter 4, “Getting Inside the Computer,”](#) for this procedure.

 NOTE:

The system will reboot automatically. Make sure the power is turned off before the system reboots.

18. Replace the circuit card retaining bracket, circuit card access panel, and dress cover. See [“Replacing the Retaining Bracket, Access Panel, and Dress Cover,”](#) in [Chapter 4, “Getting Inside the Computer,”](#) for these procedures.
19. Apply power to the MAP/40. See [“Restoring Power to the MAP/40,”](#) in [Chapter 4, “Getting Inside the Computer,”](#) for this procedure.

## Replacing the SCSI Cartridge Tape Drive

---

The SCSI cartridge tape drive is located in Position 2 of the peripheral bay ([Figure 7-2](#)). The following procedures detail removal and installation of the SCSI cartridge tape drive for the MAP/40.

### 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

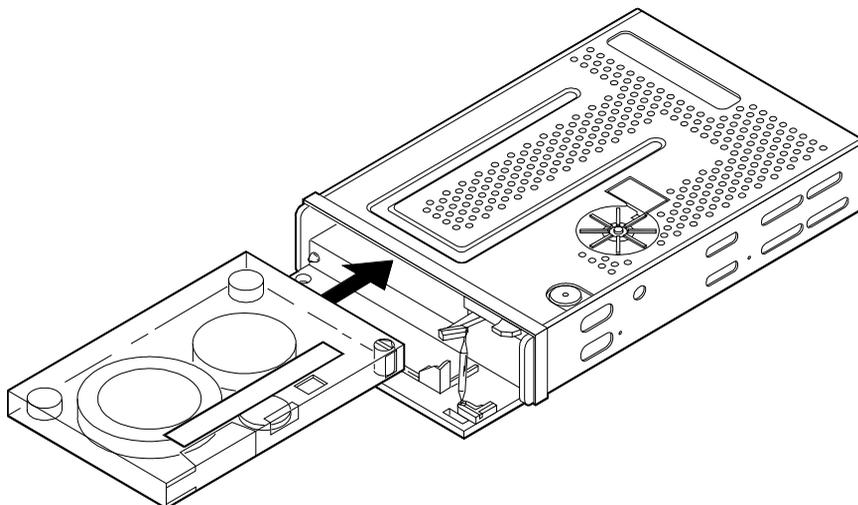
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Two types of tape drives are currently used with the MAP/40:

- 540-Mbyte
- 2-Gbyte

Installation procedures are the same for either type of drive, but jumper settings are different. See "[About Cartridge Drives and Tapes](#)," in [Chapter 3](#), "[Common System Procedures](#)", for more information on the tape drives and their usage.

---



---

Figure 7-9. SCSI Tape Drive

## Removing a SCSI Cartridge Tape Drive

---

To remove the SCSI cartridge tape drive, 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 the procedure.
  - b. Shut down the voice system. See "[Shutting Down the System](#)," in [Chapter 3, "Common System Procedures"](#) for the procedure.
3. Remove the incoming power. See "[Removing Power from the MAP/40](#)," in [Chapter 4, "Getting Inside the Computer"](#), for this procedure.
4. Remove the dress cover and the circuit card access panel. See [Chapter 4, "Getting Inside the Computer"](#), for these procedures.
5. Return the MAP/40 to the upright position.
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 diskette 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. Refer to [Figure 7-10](#) for jumper settings on the 540-Mbyte tape drive and [Figure 7-11](#) for jumper settings on the 2-Gbyte tape drive.

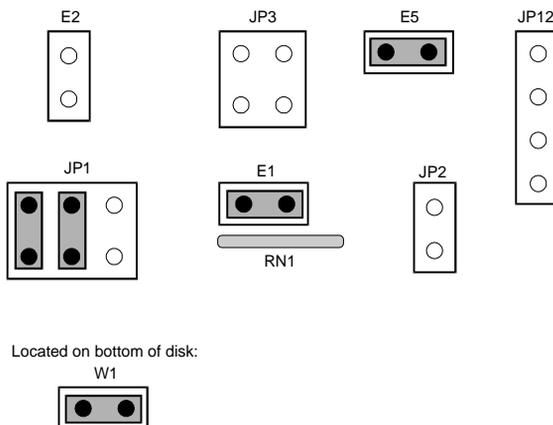


Figure 7-10. Jumper Settings for the 525-Mbyte SCSI Cartridge Tape Drive, SCSI ID = 3

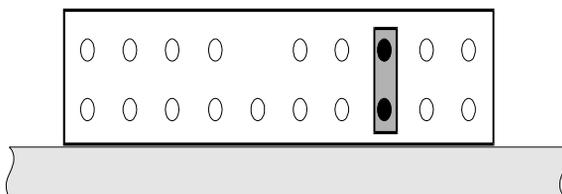


Figure 7-11. Jumper Settings for the 2-Gbyte SCSI Cartridge Tape Drive, SCSI ID = 3

## Installing a SCSI Cartridge Tape Drive

To install the SCSI cartridge tape drive, do the following:

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 [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.

When making the power cable connection, twist the cable clockwise three times before plugging the connector into the drive. Neatly dress the cable towards the bottom of the chassis. Tuck all wiring neatly back into its original placement, paying special attention not to pinch sections of cable when reassembling.

6. Replace the circuit card access panel and the dress cover. See "[Replacing the Retaining Bracket, Access Panel, and Dress Cover](#)," in [Chapter 4, "Getting Inside the Computer"](#), for these procedures.
7. Apply power to the MAP/40. See "[Restoring Power to the MAP/40](#)," in [Chapter 4, "Getting Inside the Computer"](#), for this procedure.

## Replacing the 12-Slot Backplane

---

The following procedures detail removing and installing the 12-slot backplane, to which all of the circuit cards and peripheral device connections are made. The backplane ([Figure 7-12](#)) is located in the bottom of the MAP/40 card cage area as shown in [Figure 7-3](#).

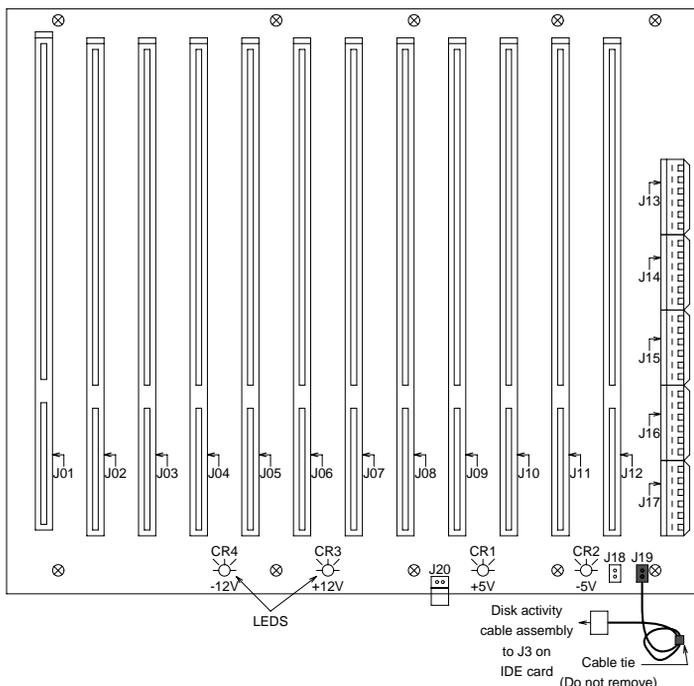


Figure 7-12. MAP/40 12-Slot Backplane LED Indicators and Cabling

## Removing the 12-Slot Backplane

To remove the 12-slot backplane, do the following:

### **⚠ 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”](#).

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 the System](#)," in [Chapter 3, "Common System Procedures"](#) for the procedure.
3. Remove the incoming power. See "[Removing Power from the MAP/40](#)," in [Chapter 4, "Getting Inside the Computer"](#), for this procedure.
4. Remove the dress cover, the circuit card access panel, and the circuit card retaining bracket. See [Chapter 4, "Getting Inside the Computer"](#), for these procedures.
5. Remove all of the circuit cards. See "[Removing a Circuit Card](#)," in [Chapter 5, "Replacing or Installing Circuit Cards"](#), for this procedure.

 NOTE:

Pay close attention to the backplane connector slots from which each circuit card is removed. The circuit cards will need to be replaced in the same slots in the new backplane. See "[Component Configuration](#)" in [Appendix A, "System Configuration"](#), for circuit card placement.

6. Unplug all power lead connectors (J13 to J16) along the power supply side of the backplane and move the cables off to the side.

Remove the connectors by pushing towards the circuit card area and pulling up at the same time. Each connector has a self-locking, keyed tab to maintain the connection and prevent improper installation.
7. Unplug the disk activity cable assembly from J19 pin header on the backplane as shown in [Figure 7-12](#).
8. When you have removed all circuit cards and connectors from the backplane, remove the ten screws that secure the backplane to the MAP/40 chassis.
9. Lift the backplane from the MAP/40.

## Installing the 12-Slot Backplane

To install the 12-slot backplane, do the following:

1. Remove the new backplane 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. Inspect the backplane to verify that the J20 jumper shown in [Figure 7-12](#) is present. If this jumper is provided continue with Step 3. If this jumper is not provided, complete Steps a through c.
  - a. Remove the jumper from the defective backplane.
  - b. Place the jumper on the replacement backplane.
  - c. Make a note on the trouble report and attach the trouble report to the defective backplane.
3. Mount the new backplane to the MAP/40 chassis using the ten screws you removed in [8](#) of the procedure "[Removing the 12-Slot Backplane.](#)"

4. Connect all power cable harnesses that you removed from the power supply side of the backplane in [6](#) of the procedure "[Removing the 12-Slot Backplane.](#)"

Each power supply connector is individually keyed to prevent improper connection.

5. Seat the CPU circuit card, the video controller card, and the SCSI controller card. See "[Installing a Circuit Card,](#)" in [Chapter 5, "Replacing or Installing Circuit Cards,"](#) for the procedure.

 **NOTE:**

Be sure to mount these cards in their correct backplane slot. See "[Component Configuration](#)" in [Appendix A, "System Configuration,"](#) for these locations.

6. With the MAP/40 still disassembled, connect the COM2 interface and keyboard to the appropriate connectors on the CPU board.
7. Connect the video monitor cord to the video monitor interface plug termination on the video controller board.
8. Connect the disk activity LED cable assembly to J19, and front panel LED cable assembly to connector J17 on the backplane.
9. Connect the bus cable assemblies for both hard disk drives and the diskette drive to the correct connections on the SCSI controller card.
10. Ensure that you have connected all cables and harnesses to their appropriate backplane and circuit card terminations.
11. Restore power to the MAP/40. See "[Restoring Power to the MAP/40,](#)" in [Chapter 4, "Getting Inside the Computer,"](#) for the procedure.
12. Check for the following indications that the system is properly connected:
  - The card cage fan begins operating.
  - The front control panel "Power On" indicator is lit.
  - The power supply internal fan is operating.

- The four backplane LEDs CR1 through CR4 shown in [Figure 7-12](#) are all lit to show that the appropriate voltages are being applied to the backplane.
- The monitor shows indications that the MAP/40 is attempting to boot. A self-check of memory is displayed on the terminal.
- The diskette drive LED will temporarily light, indicating diskette drive bus activity and proper cable connection.

If the system is assembled properly, the machine will finish its boot process in approximately 2 minutes and remain in an idle state, waiting for system login. If the system is not assembled properly, repeat Steps 1 through 13 above.



**NOTE:**

Depending on the particular configuration of the MAP/40 being serviced, error messages may be displayed on the screen indicating that certain circuit cards are not in their proper slots. This will not affect the MAP/40's attempt to boot, and the error messages should subside when the system is fully operational with the four circuit cards.

13. Install the remaining cards in their appropriate backplane slots. See [“Installing a Circuit Card,”](#) in [Chapter 5, “Replacing or Installing Circuit Cards,”](#) for this procedure.
14. Connect all remaining bus cable assemblies.
15. Replace the circuit card retaining bracket, the circuit card cage access panel, and the dress cover. See [“Replacing the Retaining Bracket, Access Panel, and Dress Cover,”](#) in [Chapter 4, “Getting Inside the Computer,”](#) for these procedures.
16. Apply power to the MAP/40. See [“Restoring Power to the MAP/40,”](#) in [Chapter 4, “Getting Inside the Computer,”](#) for this procedure.

## Replacing a Terminator SIP

If the circuit card is the last circuit card connected to either end of the TDM bus, you must ensure that the TDM bus terminator single in-line packages (SIPs) are in place on the circuit card. If the circuit card is not the last circuit card on the bus, you must remove the SIPs.



**NOTE:**

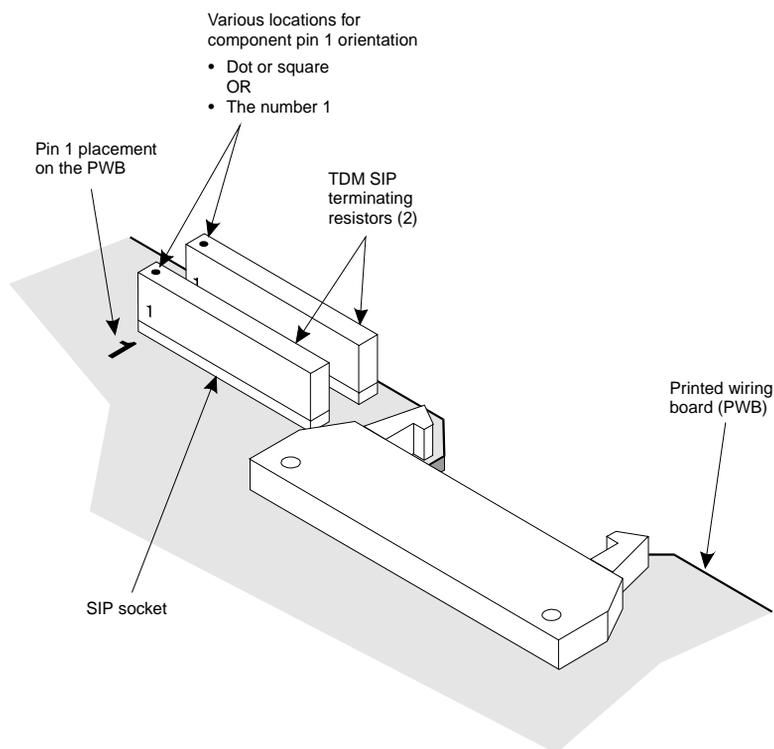
“Last circuit card connected” means that there are no other cards between the circuit card and the end of the bus. There may, however, be empty connectors.

To replace a terminator SIP, complete the following:

1. Align the terminator SIP with the SIP socket on the circuit card ([Figure 7-13](#)).

There are markings on both the terminator SIP and the circuit card which should be used to align the terminator SIP.

2. Insert the terminator SIP.



---

Figure 7-13. Replacing Terminator SIPs on the TDM Bus



# 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 48 channels (eight T/R circuit cards) through two 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.

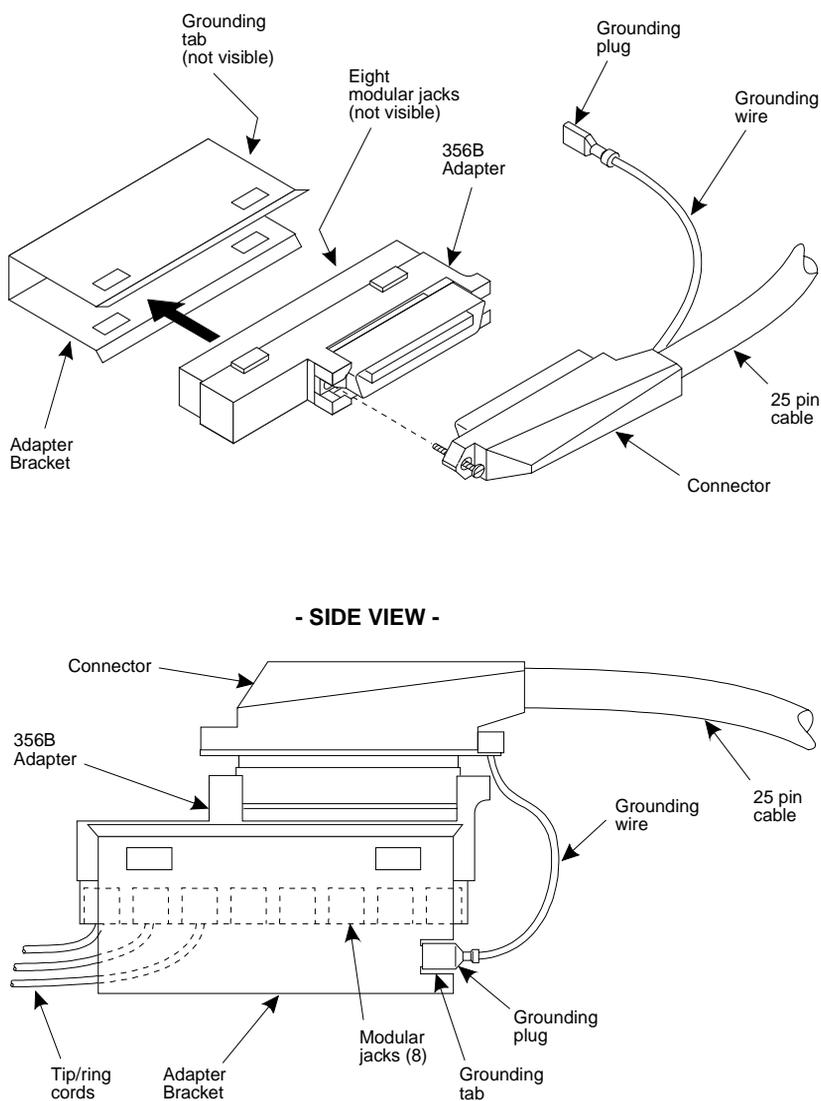


Figure 8-1. Assembly of the MAP/40 Tip/Ring Distribution Hardware with 356B Adapter

### 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.

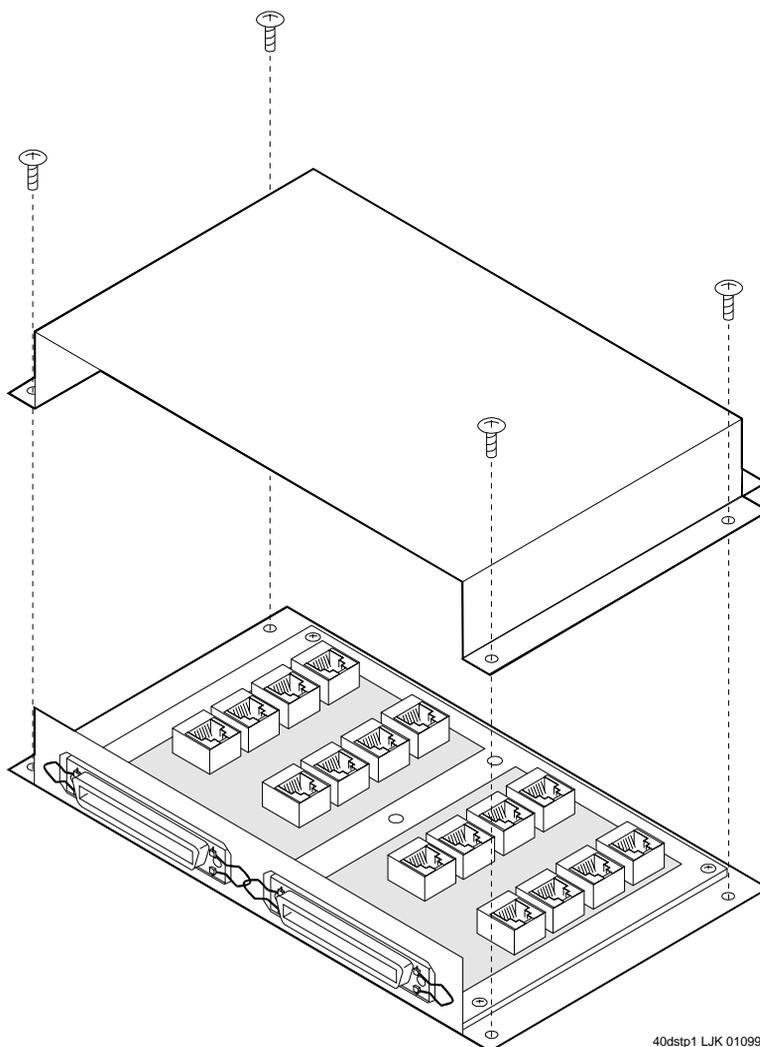


Figure 8-2. MAP/40 Tip/Ring Distribution Hardware Assembly without 356B Adapter

## 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

---

To install the Tip/Ring distribution hardware with the 356B adapter, do the following:

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 "[Stopping the Voice System](#)," in [Chapter 3, "Common System Procedures"](#) for the procedure.
  - b. Shut down the system. See "[Shutting Down the System](#)," in [Chapter 3, "Common System Procedures"](#) for the procedure.
4. Remove the incoming power. See "[Removing Power from the MAP/40](#)," in [Chapter 4, "Getting Inside the Computer"](#), for this procedure.
5. Remove dress cover and access panel. See [Chapter 4, "Getting Inside the Computer"](#), for these procedures.
6. Verify that all of the necessary components are included. See "[Tip/Ring Distribution Hardware with a 356B Adapter](#)" for the components.
7. Place the MAP/40 on its side and install the distribution mounting plate below the circuit card cage on the bottom of the MAP/40 ([Figure 8-3](#)).

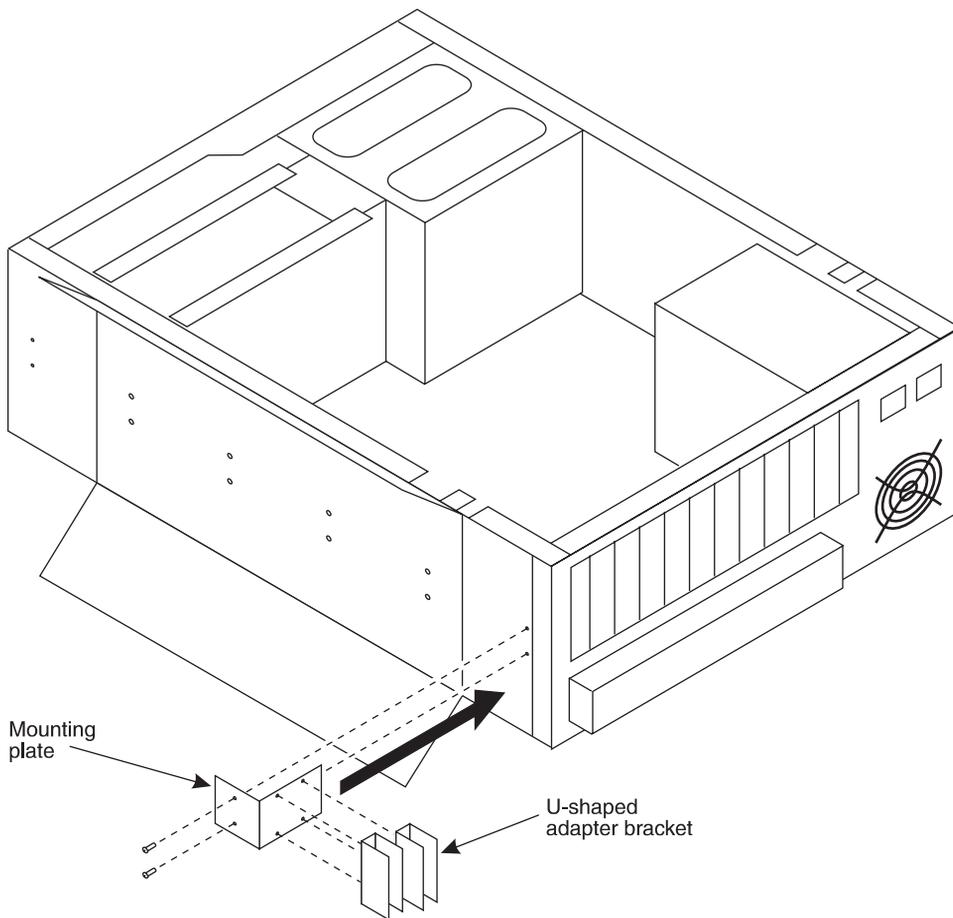


Figure 8-3. Tip/Ring Distribution Hardware After Assembly

8. Locate the two mounting holes which are parallel to those used to mount the support base.
9. Attach the short end of the mounting plate to the two mounting holes with the two screws provided. The end of the mounting plate should rest against the support base.
10. Return the MAP/40 to an upright position.
11. 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/40 top surface ([Figure 8-3](#)).

8 Installing the Tip/Ring Distribution Hardware

*Installing and Connecting the Tip/Ring Distribution Hardware with the 356B*

Page 8-7

12. 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](#)).
13. Using the connector provided, attach the 25-pair, high-density cable to the 356B adapter.
14. 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.*

15. 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 "[Tip/Ring Circuit Cards](#)," 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

---

To install the Tip/Ring distribution hardware without the 356B adapter, do the following:

1. Make sure that the Tip/Ring distribution hardware assembly kit is on site and appears to be in usable condition
2. Verify that all of the necessary components are included. See "[Tip/Ring Distribution Hardware without a 356B Adapter](#)" for the components.
3. If you are currently connected to the telephone network, notify the service provider that you are disconnecting.  
They will ask you which extensions will be affected.
4. If the system is in service, perform 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 system. See "[Shutting Down the System](#)," in [Chapter 3, "Common System Procedures"](#) for the procedure.

### Connecting the Tip/Ring Distribution Hardware without the 356B Adapter

---

To connect the Tip/Ring distribution hardware without the 356B adapter, do the following:

1. Remove the seven screws that secure the distribution panel cover.
2. Put the distribution panel cover aside.
3. [Table 8-1](#) shows the numbering scheme for connecting the short modular cords provided with the T/R circuit cards 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.

**Table 8-1. Connecting the Modular Cords from the MAP/40 Tip/Ring Circuit Cards to the Tip/Ring Distribution Panel**

T/R Card	Channel Numbers on the T/R Card	Jack Number on the Distribution Panel
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

4. Make telephone line connections to the MAP/40 with the 25-pair, high-density cable(s) equipped with USOC RJ21X connections.
5. Mount the rear cover plate to the distribution panel cover with the four screws provided.
6. Mount the T/R distribution panel on a wall or cabinet or allow it to rest on a shelf or the floor.

## Completing the Installation

To complete the installation and put the system back in service, do the following:

1. Replace the circuit card access panel and the dress cover and reconnect the keyboard, and the monitor. See "[Replacing the Retaining Bracket, Access Panel, and Dress Cover](#)," in [Chapter 4, "Getting Inside the Computer"](#), for more information on replacing these components.
2. Power up the MAP/40. See "[Restoring Power to the MAP/40](#)," in [Chapter 4, "Getting Inside the Computer"](#), for more information on restoring power to the unit.
3. Run diagnostics to verify the hardware is functioning properly. See "[Tip/Ring Circuit Card Diagnostics](#)," 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:

- Installation procedures for the Unixware software
- Installation procedures for the AUDIX® software

---

## Purpose

This purpose of this chapter is to provide the information necessary to reload the operating system to a computer which has experienced a disk failure. This chapter should be used in conjunction with [Appendix D, "Disaster Recovery Checklists".](#)



**NOTE:**

The installer must have the root password to complete this procedure.

## 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.

### 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.*

## Preparing the System

---

To prepare the system, do the following:

1. Verify the CMOS settings. See "[P5 75 MHz CPU Circuit Card](#)" in [Chapter 5, "Replacing or Installing Circuit Cards"](#)."
2. Verify the SCSI adapter settings. See "[P5 75 MHz CPU Circuit Card](#)" in [Chapter 5, "Replacing or Installing Circuit Cards"](#)."
3. Low level format Hard Disk Drive 0. See "[Cleaning a Hard Disk Drive](#)" in [Chapter 6, "Replacing the Hard Disk Drive"](#)."
4. Continue with the next procedure, "[Starting the Unixware Installation](#)."

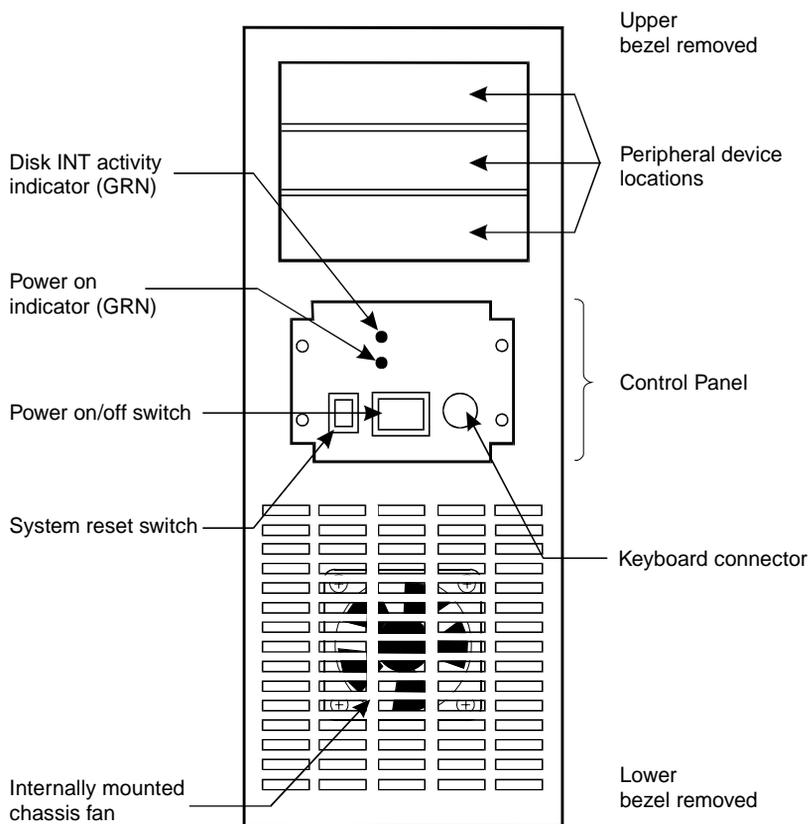
## Starting the Unixware Installation

---

To start the Unixware installation, do the following:

1. Insert the diskette labeled "Lucent 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 front of the MAP/40 ([Figure 9-1](#)).

If the system is on, reboot the system. See "[Rebooting the System](#)" in [Chapter 3, "Common System Procedures"](#)," for the procedure.



m40frnt C.JL 032896

**Figure 9-1. Front View of the MAP/40**

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 Lucent INTUITY UNIX Boot Floppy 1 of 3 from the floppy disk drive.
4. Continue with the next procedure, "[Loading the Host Bus Adapter.](#)"

## Loading the Host Bus Adapter

To load the host bus adapter, do the following:

1. Insert the diskette labeled "Pentium HBA Floppy" into the floppy disk drive.
2. 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, 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.

3. Remove the diskette labeled "Pentium HBA Floppy" from the floppy disk drive.
4. Continue with the next procedure, "[Continuing the UnixWare Installation.](#)"

## Continuing the UnixWare Installation

To continue the UnixWare installation, do the following:

1. Insert the diskette labeled "Unixware for INTUITY Boot Floppy 2 of 3" into the floppy disk drive.
2. Press **(ENTER)**.

The system displays the Introduction screen ([Figure 9-2](#)).

### 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/40](#)" in [Chapter 4, "Getting Inside the Computer"](#)," for the procedure.

Unixware Installation

Introduction

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

Figure 9-2. Introduction Screen

3. 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, continue with the next procedure, "[Setting Up the Keyboard](#)."

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

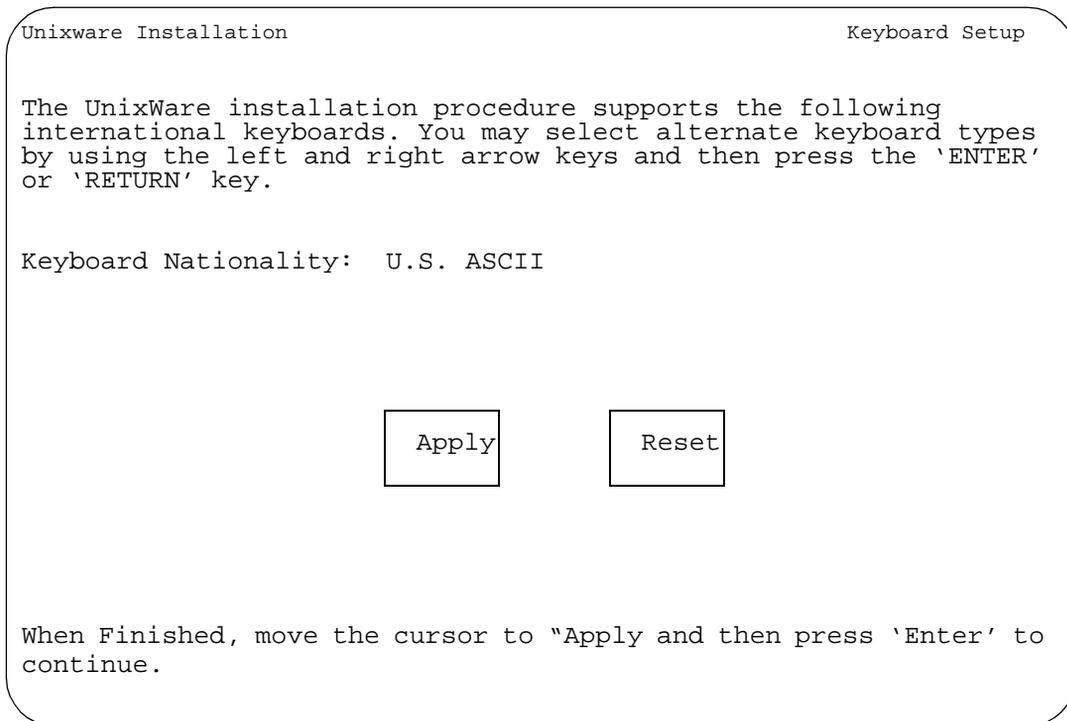
## Setting Up the Keyboard

---

To setup the keyboard, do the following:

1. Starting at the UnixWare Installation Files Deleted Warning screen ([Figure 9-3](#)), press `ENTER`.

The system displays the Keyboard Setup screen ([Figure 9-4](#)).



**Figure 9-4. Keyboard Setup Screen**

2. Use the left  and right  arrows on your keyboard to move through the field selections.
3. Select U.S. ASCII.
4. 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](#)).
5. Continue with the next procedure, "[Configuring the System Date and Time](#)."

Unixware Installation Configure Date and Time  
On this screen, you will check the current date and time that is set on your computer and change them if necessary. You also select what timezone configuration you require. Either set a continent(s) which will lead you onto a further screen with locations or manual entry for a custom timezone.

The current date:  
The current Time:  
Enter the current year:  
Enter the month of the year:  
Enter the day of the month:  
Enter the hour of the day:  
Enter the minute of the hour:  
Timezone configuration:

Apply

Reset

Press 'TAB' to move the cursor between fields. When finished, move the cursor to 'APPLY' and then press 'ENTER' to continue.

Figure 9-5. Configure Date and Time Screen

## Configuring the System Date and Time

---

To configure the system date and time, do the following:

1. Starting at the Configure Date and Time screen ([Figure 9-5](#)), 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.
2. Select the appropriate data for each field.
3. Press the down  arrow to move to the Apply field and press .  
The system displays the Continent Location Choice screen ([Figure 9-6](#)).
4. Continue with the next procedure, "[Choosing the Continent Location](#)."



Unixware Installation

Primary Hard Disk Partitioning

In order to install UnixWare, you must reserve a partition (a portion of your hard disk's space) on your primary hard disk for the UNIX System. After you press 'ENTER' you will be shown a screen that will allow you to create new partitions, delete existing partitions or change the active partition of your primary hard disk (the partition that your computer will boot from).

WARNING: All files in any partition(s) you delete will be destroyed. If you wish to attempt to preserve any files from an existing UNIX System, do not delete its partition(s).

The UNIX System partition that you intend to use on the primary hard disk must be at least 120 MBs and labeled 'ACTIVE.'

Figure 9-7. Primary Hard Disk Partitioning Screen

### Partitioning Hard Disk Drive 0

To partition Hard Disk Drive 0, do the following:

1. Starting at the Primary Hard Disk Partitioning screen ([Figure 9-7](#)), press **ENTER**.

The system displays the Partition Creation screen ([Figure 9-8](#)).

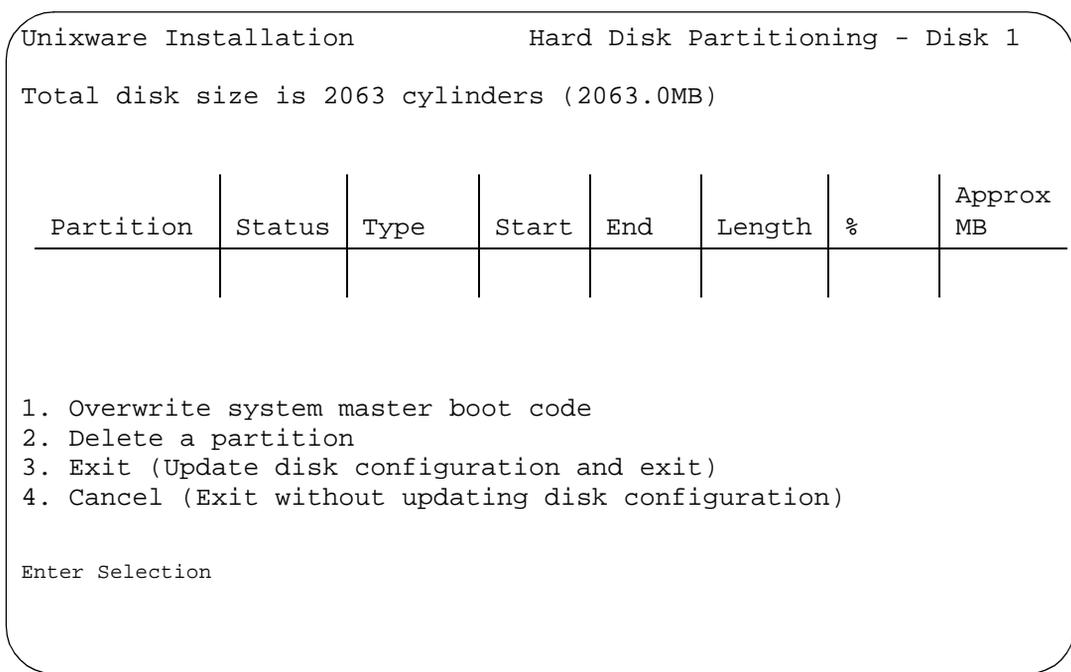


Figure 9-8. Partition Creation Screen

2. Enter 2

The system displays the Partition Configuration screen ([Figure 9-9](#)).

Partition Type -  
Percentage of disk -

Apply

Reset

Press 'TAB' to move the cursor between fields. When finished, move the cursor to 'APPLY' and then press 'ENTER' to continue.

**Figure 9-9. Partition Configuration Screen**

3. Use the left  and right  arrows on your keyboard to move through the field selections.
4. Select UNIX system for the Partition Type field.
5. Select 100 for the Percentage of disk field.
6. Press the down  arrow to move to the Apply field and press .

The system displays the Partition Confirmation screen ([Figure 9-10](#)).

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 9-10. Partition Confirmation Screen

7. Enter **3**

The system displays the Secondary Hard Drive Partitioning screen ([Figure 9-11](#)).

8. Continue with the next procedure, "[Partitioning Hard Disk Drive 1.](#)"

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.

Figure 9-11. Secondary Hard Disk Partitioning Screen

## Partitioning Hard Disk Drive 1

### NOTE:

This screen will not appear if you do not have a second hard disk drive. Continue with the next procedure, "[Choosing the Installation Type.](#)"

To partition Hard Disk Drive 1, do the following:

1. Starting at the Secondary Hard Disk Partitioning screen ([Figure 9-11](#)), select "1".
2. Press **ENTER**.  
The system displays the Installation Type Selection screen ([Figure 9-12](#)).
3. Continue with the next procedure, "[Choosing the Installation Type.](#)"

Unix System Installation Installation Type Selection

You must choose a system type. The system type you choose will determine the default file system sizes you will specify on the next screen.

Press the 'F1' or '?' key to see more information about these different system types.

Platform Type: MAP/40  
CPU Type: Pentium  
Offer Type: INTUITY AUDIX

Apply

Reset

Press 'TAB' to move between fields. Press 'ENTER' to apply fields.

Figure 9-12. Installation Type Selection Screen

## Choosing the Installation Type

---

To choose the installation type, do the following:

1. Starting at the Installation Type Selection screen ([Figure 9-12](#)), 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.
2. Select MAP/40 for the Platform Type field.
3. Select Pentium for the CPU Type field.
4. Select INTUITY AUDIX for the Offer Type field.
5. Press the down  arrow to move to the Apply field.
6. Press .

The system displays the UnixWare Installation Set Slice Sizes screen ([Figure 9-13](#)).

7. Continue with the next procedure, "[Setting the Slice Sizes](#)."

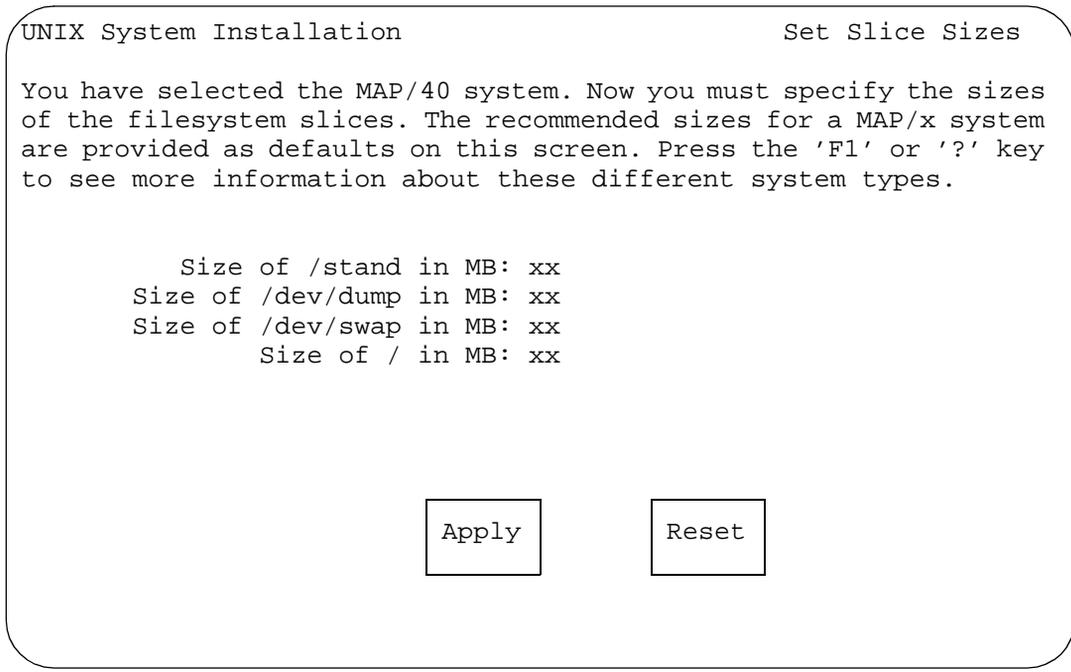


Figure 9-13. UnixWare Installation Set Slice Sizes Screen

### Setting the Slice Sizes

To set the slice sizes, do the following:

1. Starting at the UnixWare Installation Set Slice Sizes screen ([Figure 9-13](#)), 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.
2. 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/40

Slice	Space Requirements (MBytes)
/stand	10
/dev/dump	65
/dev/swap	129
/	200

3. Press the down ▼ arrow to move to the Apply field.

4. Press **ENTER**.

The system displays the Hard Disk Surface Analysis screen ([Figure 9-14](#)).

5. Continue with the next procedure, "[Performing a Hard Disk Drive Surface Analysis](#)."

```
UNIX System Installation                               Hard Disk Surface Analysis
```

```
Surface analysis is recommended but not required.  Here you must
choose to skip or perform surface analysis.
```

```
Press the '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 9-14. Hard Disk Surface Analysis Screen**

## Performing a Hard Disk Drive Surface Analysis

### **CAUTION:**

*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.*

To perform a hard disk drive surface analysis, do the following:

1. Starting at the Hard Disk Surface Analysis screen ([Figure 9-14](#)), 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.
```

The system displays the UnixWare Installation screen ([Figure 9-15](#)).

UnixWare Installation

Exchange Diskette

Remove the diskette from the drive and insert the diskette labeled  
"Boot Floppy 3 of 3".

Press 'Enter' to continue

**Figure 9-15. Hard Disk Surface Analysis Screen**

- Remove boot floppy 3 of 3 from the drive now.
2. Remove the Lucent INTUITY UNIX Boot Floppy 2 of 3 from the floppy disk drive.
  3. Continue with the next procedure, "[Copying the Unix System Files.](#)"

## Copying the Unix System Files

To copy the Unix system files, do the following:

1. Insert the diskette labeled "Lucent INTUITY UNIX Boot Floppy 3 of 3" into the floppy disk drive.
2. 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 9-16](#)).

UnixWare Installation

Remove Diskette 3

Remove boot floppy 3 of 3 from the drive now.

Press 'Enter' to continue.

**Figure 9-16. Remove Diskette Screen**

3. Remove the "Lucent INTUITY UNIX Boot Floppy 3 of 3" from the floppy disk drive.
4. Press **ENTER**.  
The system displays the Application Server Media Type screen ([Figure 9-17](#)).
5. Continue with the next procedure, "[Loading the Application Server Software](#)."

```
UnixWare Installation                               Application Server Media Type
```

```
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 9-17. Application Server Media Type Screen

## Loading the Application Server Software

To load the application server software, do the following:

1. Insert the cartridge tape labeled “Lucent INTUITY R4.0 UnixWare Image Tape” into the tape drive. See “[Inserting and Removing Cartridge Tapes](#)” in [Chapter 3, “Common System Procedures,”](#) for the procedure.
2. Enter **4**

The system displays the Insert Lucent INTUITY Tape screen ([Figure 9-18](#)).

UnixWare Installation

Insert Intuity Image Tape

Please insert the INTUITY Image cartridge tape into the tape drive and press 'ENTER'.

Your choices are:

1. The tape has been inserted in the tape drive.
2. Go back to previous menu.

Figure 9-18. Insert Lucent INTUITY Tape Screen

3. 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 Lucent Intuity.
```

```
Welcome to USL UnixWare System V Release 4.2 Version 1
Console Login:
```

**⇒ NOTE:**

Ignore the following message, if it is displayed:

```
Error: IRQ chosen for driver does not match adapter
configuration XXXXXX Equinox Megaport STREAMS
Device Driver.
```

4. Remove the cartridge tape labeled "Lucent INTUITY UnixWare Image" from the tape drive. See "[Inserting and Removing Cartridge Tapes](#)" in [Chapter 3, "Common System Procedures](#)," for the procedure.
5. Continue with the next procedure, "[Installing the INTUNIX+e Software](#)."

## Installing the INTUNIX+e Software

To install the INTUNIX+e software, do the following:

1. 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.

2. Log in to the system as root.
3. 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 (#).

4. 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)
```

5. Insert the Lucent INTUITY INTUNIX+e cartridge tape into the tape drive. See "[Inserting and Removing Cartridge Tapes](#)" in [Chapter 3, "Common System Procedures](#)," for the procedure.

6. Press **(ENTER)**.

The system displays the following message:

The following sets are available:

1. INTUNIX+e INTUITY UnixWare 1.1.2 Enhancement Set  
- Update E  
(i486)

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:

The following packages are available:

1. ezsetup SMC LAN Adapter Setup Program
2. smcUW11 SMC Ethernet Device Driver ISA
3. audfs AUDIX File System
4. rpcfix
5. year2000

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

8. Press **(ENTER)**.

The system displays a series of messages and then the following message:

A version of the LAN driver is already installed.  
Do you want to overlay that driver and re-use the kernel options for the driver? The overlay option, which is often used during field upgrades, will preserve the network environment.

y) to overlay

q) to quit (default: quit)

Do you want to overlay the driver:

9. Enter **y**

The system displays the following message:

The board currently installed in the system is the 8416 LAN adapter.

- 1) 8216 LAN adapter
- 2) 8416 LAN adapter
- q) to abort installation

Please enter the board type you wish to use:

10. Enter **2**



**NOTE:**

Ignore any warning messages displayed by the system.

The system displays the following message:

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

11. Enter **q**
12. Remove the Lucent INTUITY INTUNIX+e cartridge tape from the tape drive. See "[Inserting and Removing Cartridge Tapes](#)" in [Chapter 3, "Common System Procedures"](#)," for the procedure.

## Running *installit*

---

To run *installit*, do the following:

1. Enter **installit**



**CAUTION:**

*Make sure the **installit** command and the associated reboots have been completed prior to continuing with any other procedure.*

The system displays the following message:

```
Installit execution started: <date>  
  
The system will attempt to perform a new installation  
  
Press <ENTER> to continue the Volume Manager  
installation
```

2. 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 to continue the  
reconfiguration  
  
Hit RETURN to continue.
```

3. Press **(ENTER)**.

The system is rebooted and then displays the following message:

```
The system must now be rebooted.  
  
Hit RETURN to continue.
```

4. Press **(ENTER)**.

The system is rebooted and then displays the following message:

```
Console Login:
```

5. Continue with the next procedure, "[Installing the Platform Software](#)."

## Installing the Platform Software

To install the platform software, do the following:

1. Log in to the system as root.
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 Lucent INTUITY Platform AUDIX 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 AUDIX Set  
                        (;486)
```

```
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: Lucent Intuity Platform AUDIX Set (AUDIXset) from  
<ctape1>.
```

```
Lucent Intuity Platform AUDIX Set  
(i486)
```

```
Using </> as the package base directory.
```

```
Do you want to run default set installation? (default:  
y)
```

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)**.

## Installing the Switch Interface Software Packages

---

There are two switch interface software packages available with the Lucent INTUITY system:

- DCIU Switch Integration set
- Serial-Inband Switch Integration set
- VB-PC Switch Integration set

### Installing the DCIU Switch Integration Set

---

To install the DCIU Switch Integration set, do the following:

1. Log in to the system as root.
2. Stop the voice system.

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. Insert the Lucent INTUITY DCIU Switch Integration Set cartridge tape into the tape drive. See "[Inserting and Removing Cartridge Tapes](#)" in [Chapter 3, "Common System Procedures"](#)," for the procedure.

5. 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 (V2)  
                          ( ;486)
```

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

6. Press **(ENTER)**.

The system displays the following message:

```
Processing:
```

```
Set: INTUITY Platform DCIU set (DCIUset) from <ctape1>.
```

```
INTUITY Platform DCIU set  
(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 card

```
Enter 1 or 2: [1]
```

7. Press **(ENTER)**.

The system displays several status messages, then 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
```

## Installing the Serial-Inband Switch Integration Set

---

To install the Serial-Inband Switch Integration set, do the following:

1. Log in to the system as root.
2. Stop the voice system. See "[Stopping the Voice System](#)" 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. Insert the Lucent INTUITY Serial-Inband Switch Integration Set cartridge tape into the tape drive. See "[Inserting and Removing Cartridge Tapes](#)" in [Chapter 3, "Common System Procedures"](#)," for the procedure.
5. Press **(ENTER)**.

The system displays the following message:

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

```
The following sets are available:
```

```
1      SWINset      Serial-Inband Switch Integration  
                        Set  
                        (:486)
```

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

6. Press **ENTER**.

The system displays the following message:

Processing:

```
Set: Serial-Inband Switch Integration Set (SWINset)
from <ctapel>.
```

```
Serial-Inband Switch Integration Set
(i486)
```

```
Using </> as the package base directory.
```

The following types of host switches are available.  
They are:

- 1) NEC NEAX
- 2) Siemens HICOM
- 3) Ericsson MD110
- 4) Merlin Legend
- 5) DMS100
- 6) Intecom
- 7) Norstar
- 8) System 25
- 9) 5ESS
- 10) Definity Mode Code

The system displays several status messages, then the following message:

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

7. Enter **q**

8. Start the voice system. See [“Starting the Voice System”](#) in [Chapter 3, “Common System Procedures”](#), for the procedure.

## Installing the Digital Station Interface Switch Integration Set

---

To install the Digital Station Interface Switch Integration set, do the following:

1. Log in to the system as root.
2. Stop the voice system.
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. Insert the Lucent INTUITY Digital Station Interface Switch Integration Set cartridge tape into the tape drive. See [“Inserting and Removing Cartridge Tapes”](#) in [Chapter 3, “Common System Procedures”](#), for the procedure.

5. Press **(ENTER)**.

The system displays the following message:

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

```
The following sets are available:
```

```
1      VBPCset      VB-PC Switch Integration Set
                        (;486)
```

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

6. Press **(ENTER)**.

The system displays the following message:

```
Processing:
```

```
Set: VB-PC Switch Integration Set (VBPCset) from
<ctapel>.
```

```
VB-PC Switch Integration Set
(i486)
```

```
Using </> as the package base directory.
```

```
The following types of host switches are available.
They are:
```

```
1) NORTEL MERIDIAN 1
```

The system displays several status messages, then the following message:

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

7. Enter **q**
8. Enter **cd /**
9. 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
```

10. Press **ENTER**.



# Installing Lucent INTUITY System Software

# 10

---

## Overview

---

This chapter details installation procedures for the following packages:

- INTUITY AUDIX® Voice Messaging System R4.0
- Lucent™ INTUITY™ Announcement sets

## 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 Lucent INTUITY System Software

---

[Table 10-1](#) lists 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 | <a href="#">Chapter 9</a> |
|   | Stop the voice system                 | <a href="#">Chapter 3</a> |
|   | Install announcement sets             | This chapter              |
|   | Install switch integration software   | <a href="#">Chapter 9</a> |
|   | Install Intunix software              | <a href="#">Chapter 9</a> |
|   | Reboot the system                     | <a href="#">Chapter 3</a> |



**NOTE:**

The voice system should be stopped to load all the packages except for the INTUITY AUDIX Voice Messaging R4.0 software.

## 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. Start at the Lucent INTUITY Main Menu ([Figure 10-1](#)).

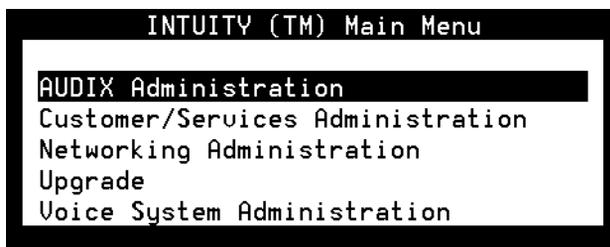
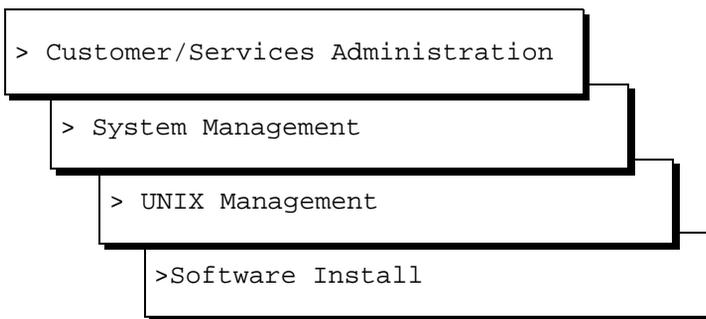


Figure 10-1. Lucent INTUITY Main Menu

2. Select



The system displays the Software Install menu ([Figure 10-2](#)).

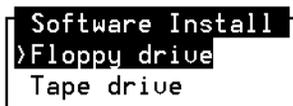


Figure 10-2. Software Install Menu

3. 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.
4. 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)
```

5. 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]
```

6. 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]
```

7. If you are installing the default language set, enter **y**

**⇒ NOTE:**

If you are installing an optional or secondary language set, enter **n**

10 Installing Lucent INTUITY System Software

*Installing the Lucent INTUITY System Default Announcement Set and/or Optional*

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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)
```

8. Enter **q**
9. 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.
10. Press **(F6)** (Cancel) until the system displays the Lucent INTUITY Main Menu ([Figure 10-1](#)).

# Installing the Optional Feature 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 the procedure.
2. Start at the Lucent™ INTUITY™ Main menu ([Figure 11-1](#)).

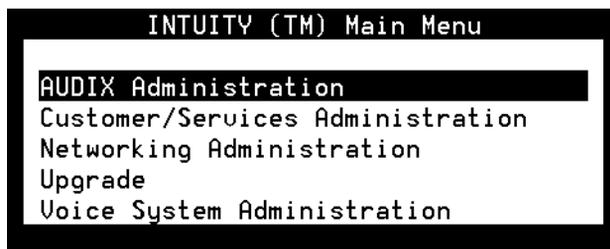
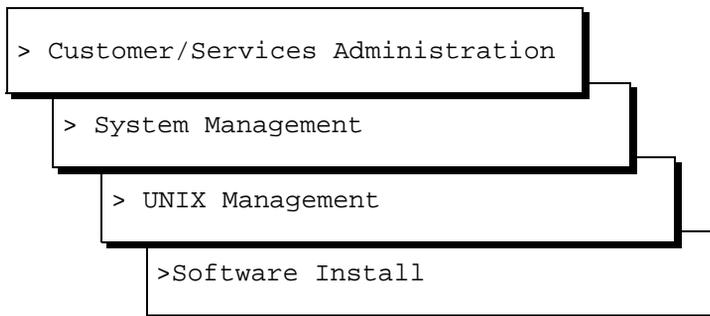


Figure 11-1. Lucent INTUITY Main Menu

3. Select



The system displays the Software Install menu ([Figure 11-2](#)).

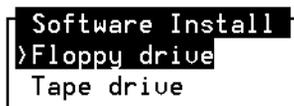


Figure 11-2. Software Install Menu

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 remove 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](#)).

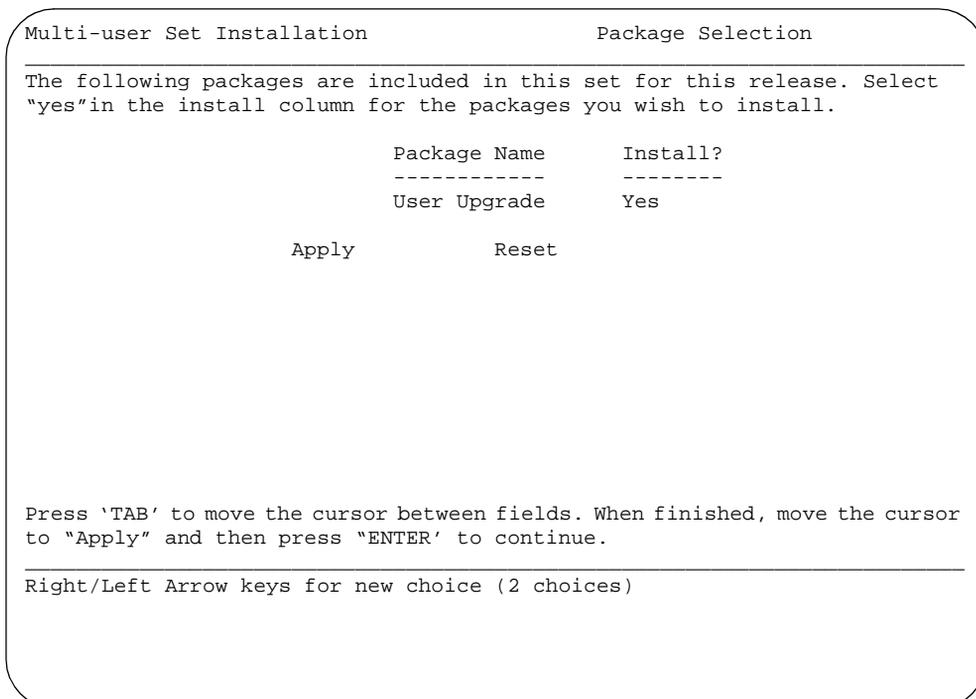


Figure 11-3. Package Selection Screen for Multi-User Software

8. Select **yes** for the User Upgrade.
9. Press **(ENTER)** with the cursor on Apply.

The system displays the following message:

```
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 the 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

```
> Customer/Services Administration
```

```
>System Verification
```

```
>View Installed Software
```

The system displays the View Installed Software window ([Figure 11-4](#)).

```
View Installed Software

Displaying pkginfo for all packages installed on this system...

set          APPLset          AUDIX(R) Application Set
set          AUDIXset        INTUITY Platform AUDIX Set
intuity      AUDIXtune       INTUITY Platform AUDIX Tuning
set          INTUNIX         UnixWare 1.1.2 Enhancement Set
patch       INTUNIX1        UnixWare 1.1.2 Platform Enhancements
Extension
application  IVC6DI          INTUITY IVC6 Device Interface for softFAX
intuity      TSM             INTUITY Transaction State Machine Package
application  VM              AUDIX(R) Module marker file
```

Figure 11-4. View Installed Software Window

- b. Verify that the UNIX Multi-User software has been installed on the system.

## Installing INTUITY Lodging Software Packages

To install the INTUITY Lodging Software packages, you must install the:

- INTUITY Lodging Software Set
- Optional Lodging Language package

### Installing INTUITY Lodging Software Set

To install the INTUITY Lodging Software set, do the following:

1. Stop the voice system. See [“Stopping the Voice System”](#) in [Chapter 3, “Common System Procedures”](#), for the procedure.

2. Starting at the Lucent INTUITY Main menu ([Figure 11-1](#)), select

```
> Customer/Services Administration
```

```
> System Management
```

```
> UNIX Management
```

```
>Software Install
```

```
> 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)
```

3. Insert the tape labeled "INTUITY Lodging Software Set" into the tape drive.
4. Press **ENTER**.

The system displays the following message:

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

The following sets are available:

```
1    LODGING    Intuity Lodging Software Set R2.0  
                (586) 2.0-1
```

```
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 Lodging Software Set R2.0 (LODGING) from  
<ctape1>.
```

```
Intuity Lodging Software Set R2.0  
(i486)
```

```
Using </> as the package base directory.
```

```
The following types of installations are available.  
They are:
```

```
1 - All Lodging software with GuestWorks Server PMS  
    interface
```

```
2 - All Lodging software with stand-alone PMS interface
```

3 - Custom - Installs one or more packages selected by the installer

Select type of installation:

- 1) Software with GuestWorks Server PMS interface
- 2) Software with stand-alone PMS interface
- 3) Custom installation

Enter Selection

6. To install all Lodging software with GuestWorks Server PMS, complete the following Steps a through d:
  - a. Enter **1**

The system displays the following message:

Confirm: You selected option 1. (y/n)
  - b. Enter **y**

The system installs the package and displays the following message:

Insert a cartridge into Tape Drive 1.  
Type [go] when ready  
or [q] to quit: (default: go)
  - c. Enter **q**
  - d. Remove the cartridge tape.
7. To install all Lodging software with stand-alone PMS, complete the following Steps a through d:
  - a. Enter **2**

The system displays the following message:

Confirm: You selected option 2. (y/n)
  - b. Enter **y**

The system installs the package and displays the following message:

Insert a cartridge into Tape Drive 1.  
Type [go] when ready  
or [q] to quit: (default: go)
  - c. Enter **q**
  - d. Remove the cartridge tape.

8. To perform a custom installation, complete the following Steps a through [h](#):

a. Enter **3**

The system displays the following message:

```
Confirm: You selected option 3. (y/n)
```

b. Enter **y**

The system displays the following message:

```
Install vlodg? (default:n)
```

c. If you want to install Lodging, enter **y**

If you do not want to install Lodging, enter **n**

The system displays the following message:

```
Install vfax? (default:n)
```

d. If you want to install fax, enter **y**

If you do not want to install fax, enter **n**

The system displays the following message:

```
Install vpms? (default:n)
```

e. If you want to install PMS, enter **y**

If you do not want to install PMS, enter **n**

 **NOTE:**

You can not install both Guest Works PMS and PMS on the same system.

The system displays the following message:

```
Install gwpm? (default:n)
```

f. If you want to install Guest Works PMS, enter **y**

If you do not want to install Guest Works PMS, enter **n**

 **NOTE:**

You can not install both Guest Works PMS and PMS on the same system.

The system displays the following message:

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

g. Enter **q**

h. Remove the cartridge tape.

## Installing the Optional Lodging Language Package

---

To install the optional Lodging Language package, do the following:

1. Starting at the Software Install menu ([Figure 11-2](#)), select

```
> Floppy drive
```

The system displays the following message:

```
Insert a floppy disk into the diskette drive
Type [go] when ready
    or [q] to quit: (default: go)
```

2. Press **ENTER**.

The system displays the following message:

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

The following sets are available:

```
1      useng      Intuity Lodging Language Package
                    (586) 2.0-1
```

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

3. Press **ENTER**.

The system displays the following message:

```
Processing:
```

```
Set: Intuity Lodging Language Package (useng) from
<ctapel>.
```

```
Intuity Lodging Language Package
(i486)
```

```
Using </> as the package base directory.
```

When the process is finished, the system displays the following message:

```
Installation of <useng> is completed.
```

```
Insert a into Floppy Drive 1.
```

```
Type [go] when ready,
    or [q] to quit: (default:go)
```

4. Enter **q**
5. Start the voice system. See [“Starting the Voice System”](#) in [Chapter 3](#), [“Common System Procedures”](#), for the procedure.
6. The Fax for Lodging feature option must be activated. Contact your remote maintenance service center.

## Installing the Enhanced List Administration Package

---

To install the Enhanced List Administration (ELA) package, do the following:

1. Log in to the Lucent INTUITY system using `craft` or `tsc`.
2. Stop the voice system. See "[Stopping the Voice System](#)" in [Chapter 3, "Common System Procedures"](#), for the procedure.
3. Starting at the Lucent INTUITY Main menu ([Figure 11-1](#)), select

```
> Customer/Services Administration
```

```
> System Management
```

```
> UNIX Management
```

```
>Software Install
```

The system displays the Software Install menu ([Figure 11-2](#)).

4. Insert the tape labeled "Enhanced-List Application" into the tape drive.
5. Select

```
> Tape drive
```

The system displays the following message:

```
Insert a diskette into Floppy 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 tape.
```

```
The following packages are available:  
1 ELA          Enhanced List Application Package
```

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

7. Press **ENTER**.

The system installs the software and displays several status messages. When the software installation is complete, the system displays the following message:

```
Installation of Enhanced List Application Package  
was successful.
```

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

8. Remove the tape from the cartridge tape drive.
9. Enter **q**
10. Reboot the system. See "[Rebooting the System](#)" in [Chapter 3, "Common System Procedures"](#), for the procedure.

**11** Installing the Optional Feature Software  
*Installing the Enhanced List Administration Package*

*Page 11-12*

# 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

---

The Lucent™ INTUITY™ uses 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 UnixWare](#)," in [Chapter 9, "Installing Base System Software"](#).

### ⚠ CAUTION:

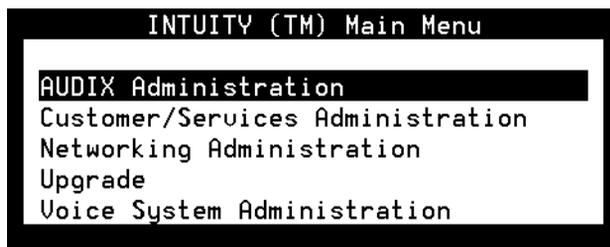
*Always verify with the remote maintenance center that the RFU is the most recent RFU available before loading.*

*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 the procedure.
2. Start at the Lucent INTUITY Main menu ([Figure 12-1](#)).



---

Figure 12-1. Lucent INTUITY Main Menu

3. Select

```
> Customer/Services Administration
> System Management
> UNIX Management
>Software Remove
```

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-british  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 "IXrfu+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 a New 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**.

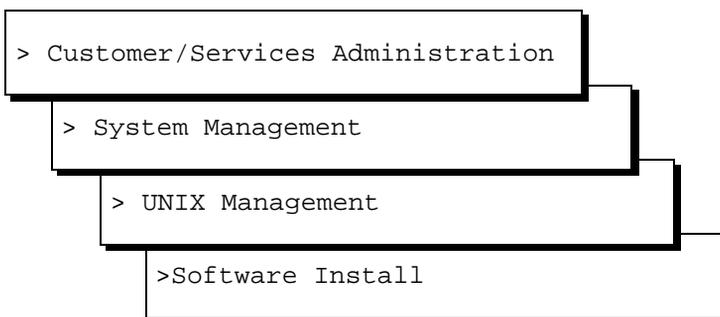
10. Continue with the next procedure, “Installing a New RFU.”

## 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](#)).

```
Software Install
>Floppy drive
Tape drive
```

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 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 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 the procedure.
8. Shut down and reboot the system. See "[Shutting Down and Rebooting the Lucent Intuity System](#)," in [Chapter 3, "Common System Procedures"](#) for the procedure.

## Verifying the RFU Installation

1. Starting at the Lucent INTUITY Main menu and ([Figure 12-1](#)) select

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

The system displays the View Installed Software window ([Figure 12-4](#) and [Figure 12-5](#)).

```
View Installed Software

Displaying pkginfo for all packages installed on this system...

set          APPLset          AUDIX(R) Application Set
set          AUDIXset        INTUITY Platform AUDIX Set
intuity     AUDIXtune        INTUITY Platform AUDIX Tuning
set          INTUNIX         UnixWare 1.1.2 Enhancement Set
patch       INTUNIX1        UnixWare 1.1.2 Platform Enhancements
Extension
application  IVC6DI          INTUITY IVC6 Device Interface for softFAX
intuity     TSM              INTUITY Transaction State Machine Package
application  VM              AUDIX(R) Module marker file
```

Figure 12-4. Sample View Installed Software Window (Detailed Version)

```
View Installed Software

Displaying pkginfo for all packages installed on this system...

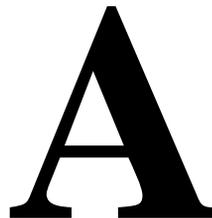
application  IVC6DI          AT&T Intuity IVC6 Device Interface for
softFAX 2.0
intuity     OSmods          Intuity Operating System Modifications
Module
application  VM              AUDIX(R) Module marker file
intuity     VM-dfltdb        AUDIX(R) Default db
intuity     VM-files         AUDIX(R) Files
intuity     VM-sw           AUDIX(R) Software
system      acp              Enhanced Application Compatibility
```

Figure 12-5. Sample View Installed Software Window (Abbreviated Version)

2. Locate the RFU title.



## System Configuration



---

## Memory Configuration

The MAP/40 supports 64-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 top left corner of the CPU circuit card ([Figure A-1](#)).

The CPU circuit card must be equipped with SIMMs in matched pairs and the SIMMs must be in one of the following configurations:

- 2 identical 32-Mbyte SIMMs located in the SIMM1 and SIMM2 sockets

 **NOTE:**

If only two SIMMs are installed, they must be placed in the SIMM1 and SIMM2 sockets.

- 4 identical 16-Mbyte SIMMs located in the SIMM1, SIMM2, SIMM3, and SIMM4 sockets
- 2 identical 16-Mbyte SIMMs located in the SIMM1 and SIMM2 sockets plus 2 identical 16-Mbyte SIMMs located in the SIMM3 and SIMM4 sockets.

 **NOTE:**

The Lucent™ INTUITY™ system will not boot if there is an odd number of SIMMs

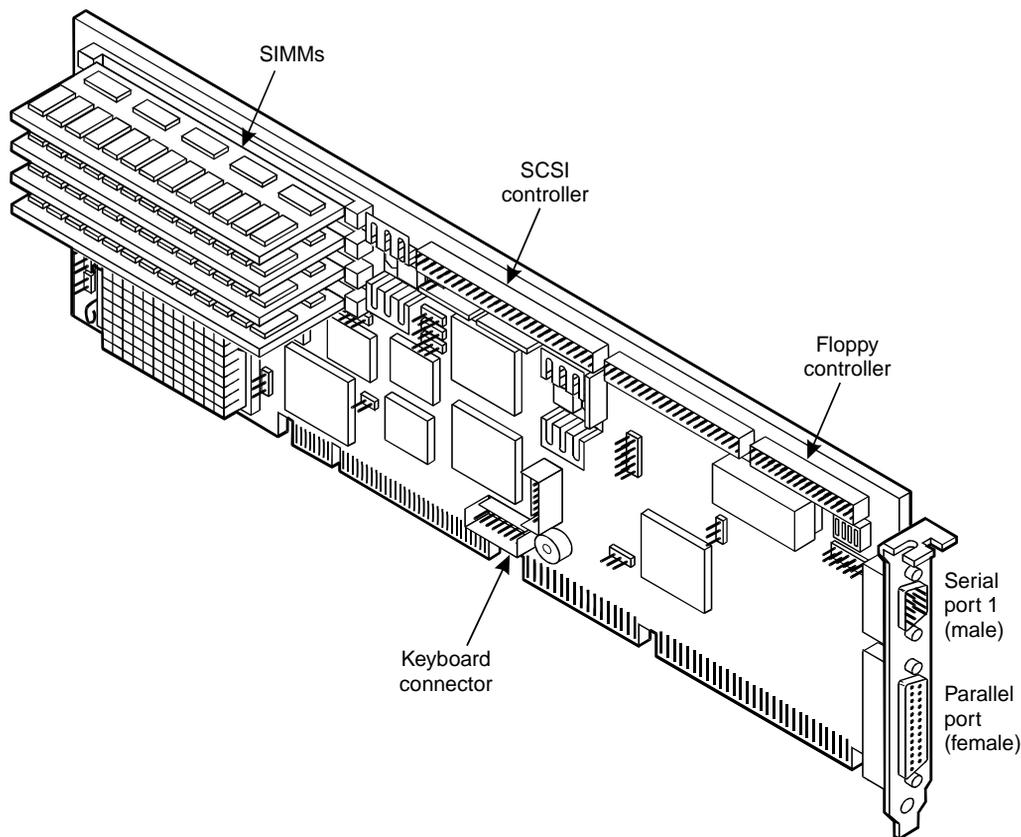


Figure A-1. P5 75 MHz CPU Circuit Card SIMM Location

## Component Configuration

This section details the:

- Component assignments
- Resource allocation

### Component Assignments

Circuit cards are placed in the MAP/40 in locations called *slots*. Slots are numbered 1 through 12 from the bottom of the MAP/40 to the top of the card cage. Slots are accessible from the back of the MAP/40 ([Figure A-2](#)).

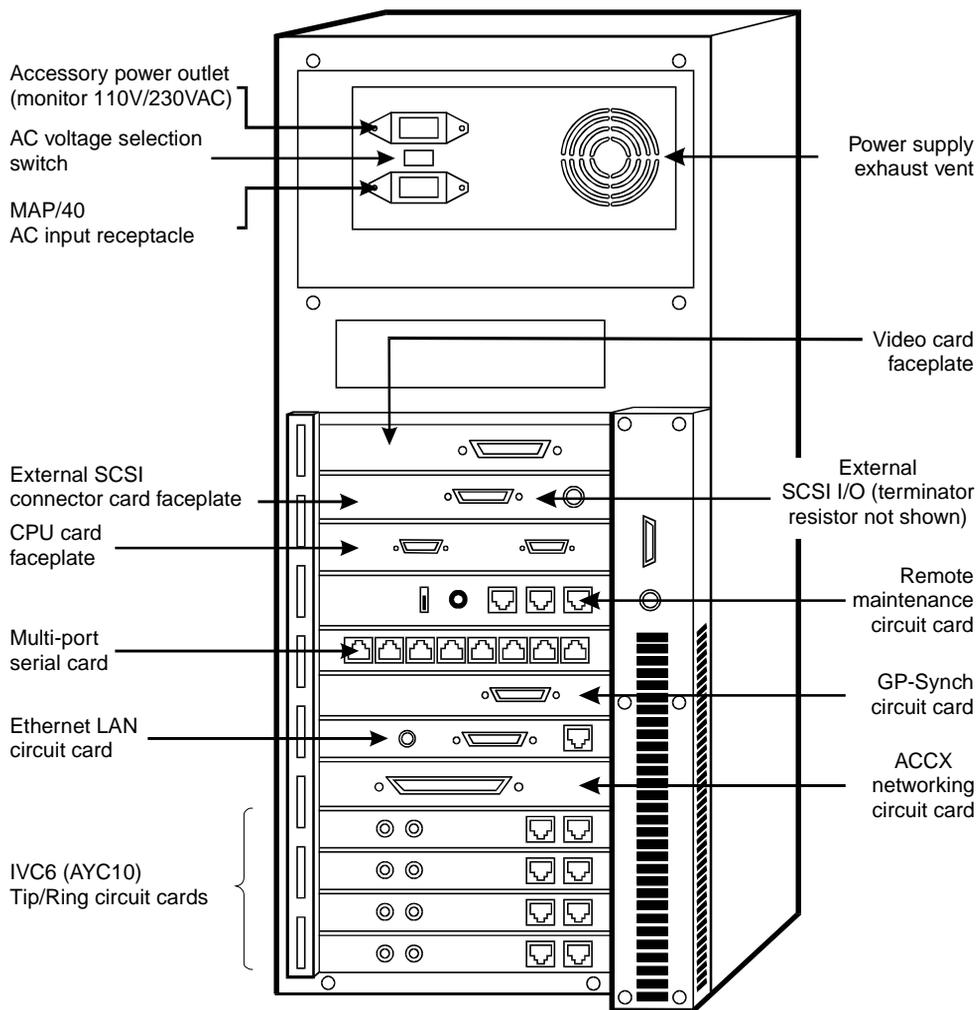


Figure A-2. Back View of the MAP/40

Operating hardware is placed in the MAP/40 in locations called *bays*. Bays are also numbered from the top to the bottom, 1 through 4. Bays are accessible from the front of the MAP/40 ([Figure A-3](#)).

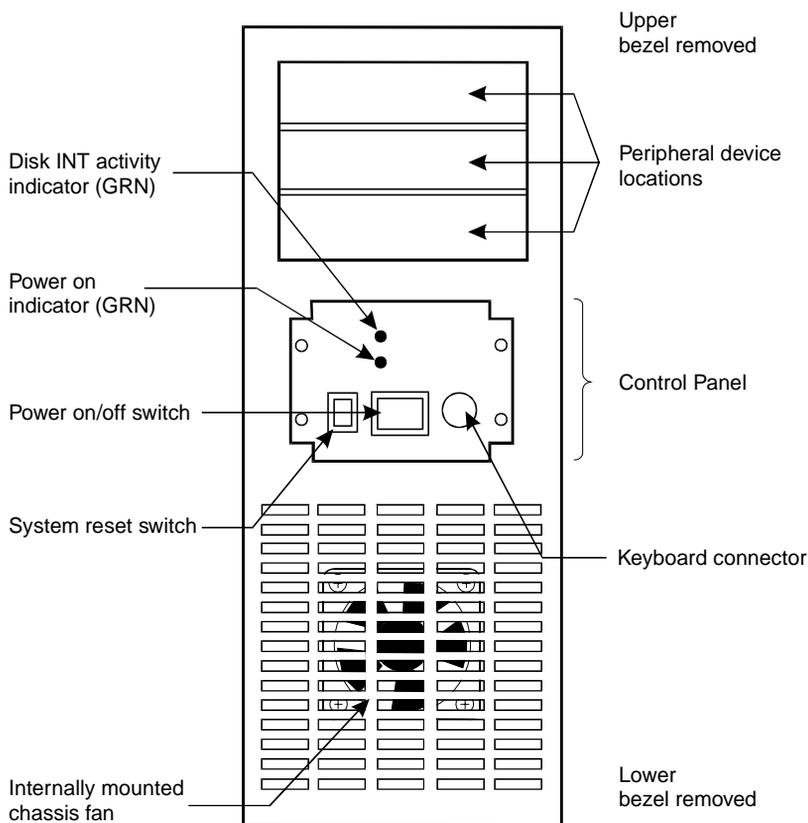


Figure A-3. Front View of the MAP/40

The following sections detail the fixed and variable assignments for circuit cards and other components installed in the MAP/40.

### Fixed Assignments

The following bay assignments are fixed in the MAP/40 and are not variable in their arrangement:

- Bay 1 — Diskette drive
- Bay 2 — SCSI tape drive
- Bay 3 — Second SCSI disk drive
- Bay 4 — Primary SCSI disk drive

The following slot assignments are fixed in the MAP/40 and are not variable in their arrangement:

- Slot 9 — Remote maintenance card
- Slot 10 — Central processing unit (CPU) card with the on-board SCSI controller
- Slot 11 — External SCSI connector with termination board
- Slot 12 — Video controller card

## Variable Assignments

The Tip/Ring, ACCX, LAN, Multi-port, and GP-Synch circuit cards all have variable assignments in the MAP/40. These assignments depend on how many cards have been installed. The following rules apply to the placement of optional cards in the MAP/40. These rules presume that the required circuit cards are placed in the MAP/40 as specified in “Fixed Assignments” above.

- A maximum of seven Tip/Ring circuit cards is supported.
- A maximum of two ACCX circuit cards is supported.
- All other circuit cards are supported as one per system.
- Tip/Ring circuit cards are traded off against ACCX circuit cards.
- Tip/Ring circuit cards are assigned slots sequentially, starting with slot 1.
- ACCX circuit cards are assigned in reverse sequential order in the lowest available slot after all Tip/Ring circuit cards have been installed. For example, if you are installing two ACCX circuit cards on a system with four Tip/Ring circuit cards, in slots 1 through 4, the first ACCX circuit card goes in slot 6 and the second card goes in slot 5. The switch settings on the circuit card determine if it is the first or second card. See “[ACCX \(AYC22\) Circuit Card](#),” in [Chapter 5, “Replacing or Installing Circuit Cards”](#), for the switch settings.
- The Multi-port serial card, if provided, goes in the highest available slot.
- The DCIU circuit card, if provided, goes in the highest available slot after the Multi-port serial card, if provided, has been installed.
- The LAN circuit card, if provided, goes in the highest available slot after both the Multi-port serial and GP-Synch circuit cards, if provided, have been installed.

The following tables outline the variable slot locations for optional circuit cards when all of the available slots are to be filled. Each column, with the addition of the required cards listed in “Fixed Assignments” above, is a configuration. In [Table A-1](#), for example, the first column represents a configuration that includes seven Tip/Ring circuit cards in slots 1 through 7, no ACCX circuit cards, one LAN circuit card in slot 8, no Multi-port serial cards, and no GP-Synch circuit cards.

[Table A-1](#) lists the variable slot locations for configurations where the number of Tip/Ring and ACCX circuit cards installed leaves the MAP/40 with only one slot available to accommodate either the LAN, Multi-port Serial, or GP-Synch card.

**Table A-1. Variable Slot Assignments When LAN, Multi-Port Serial, and GP-Synch Cards Are Mutually Exclusive**

| Circuit Card      | Slots | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| IVC-6 (AYC10)     | 1-7   | 1-6   | 1-5   | 1-7   | 1-6   | 1-5   | 1-7   | 1-6   | 1-5   |
| ACCX (AYC22)      | -     | 7     | 6-7   | -     | 7     | 6-7   | -     | 7     | 6-7   |
| LAN               | 8     | 8     | 8     | -     | -     | -     | -     | -     | -     |
| Multi-port Serial | -     | -     | -     | 8     | 8     | -     | -     | -     | -     |
| GP-Synch          | -     | -     | -     | -     | -     | -     | 8     | 8     | 8     |

[Table A-1](#) lists the variable slot locations for configurations where the LAN card and Multi-port serial card, LAN card and GP-Synch card, and Multi-port serial card and GP-Synch card pairings are mutually exclusive. The pairings are mutually exclusive when the number of Tip/Ring and ACCX circuit cards installed leaves the MAP/40 with only two slots open.

**Table A-2. Variable Slot Assignments When LAN + Multi-Port Serial, LAN + GP-Synch, and Multi-Port Serial + GP-Synch Pairings Are Mutually Exclusive**

| Circuit Card      | Slots | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| IVC-6 (AYC10)     | 1-6   | 1-5   | 1-4   | 1-6   | 1-5   | 1-4   | 1-6   | 1-5   | 1-4   |
| ACCX (AYC22)      | -     | 6     | 5-6   | -     | 6     | 5-6   | -     | 6     | 5-6   |
| LAN               | 7     | 7     | 7     | 7     | 7     | 7     | -     | -     | -     |
| Multi-Port Serial | 8     | 8     | 8     | -     | -     | -     | 8     | 8     | 8     |
| GP-Synch          | -     | -     | -     | 8     | 8     | 8     | 7     | 7     | 7     |

Table A-1 lists the variable slot locations for configurations where the LAN card, Multi-port serial card, and GP-Synch card are all included or all excluded.

**Table A-3. Variable Slot Assignments When LAN , Multi-Port Serial, and GP-Synch Cards Are All Included or All Excluded**

| Circuit Card      | Slots | Slots | Slots | Slots | Slots | Slots |
|-------------------|-------|-------|-------|-------|-------|-------|
| IVC-6 (AYC10)     | 1-5   | 1-4   | 1-3   | 1-7   | 1-6   | 1-5   |
| ACCX (AYC22)      | -     | 5     | 4-5   | -     | 7     | 6-7   |
| LAN               | 6     | 6     | 6     | -     | -     | -     |
| Multi-Port Serial | 8     | 8     | 8     | -     | -     | -     |
| GP-Synch          | 7     | 7     | 7     | -     | -     | -     |

## Resource Allocation

Table A-4 lists the resource assignments for all devices in the MAP/40. It includes the circuit cards as well as devices which are included on the CPU circuit card.

**Table A-4. MAP/40 Resource Allocation**

| Device                | IRQ | I/O Address | RAM Address                | Notes                                                |
|-----------------------|-----|-------------|----------------------------|------------------------------------------------------|
| VGA controller board  | -   | 3B0-3DF     | A0000-BFFFF<br>C0000-C7FFF | 128K Video RAM, required<br>32K Video BIOS, required |
| System BIOS           | -   | -           | E0000-FFFF                 | Located on CPU, required                             |
| CPU watchdog register | -   | 370         | -                          | Located on CPU, required, not used                   |
| 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                  |

*Continued on next page*

Table A-4. MAP/40 Resource Allocation — *Continued*

| Device                                               | IRQ | I/O Address | RAM Address | Notes                                      |
|------------------------------------------------------|-----|-------------|-------------|--------------------------------------------|
| 2-Gbyte SCSI disk                                    | -   | -           | -           | 1 required, 1 optional                     |
| 2-Gbyte SCSI tape                                    | -   | -           | -           | 1 required                                 |
| Diskette                                             | 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<br>1 required                  |
| ACCX circuit card                                    | 5   | x40-x4F     | -           | x=1-3,5-7,9<br>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**

| <b>Basic Component Description</b>               | <b>Order Number</b> |
|--------------------------------------------------|---------------------|
| 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, 12-slot                               | 406900084           |
| Base, tower                                      | 406900019           |
| Bezel, front                                     | 406900001           |
| Brackets, PC filter (20)                         | 406798686           |
| Cable assembly, 486 reset                        | 601436090           |
| Cable assembly, ACCX                             | 407027564           |

*Continued on next page*

**Table B-1. Component Ordering Numbers — Continued**

| Basic Component Description                      | Order Number |
|--------------------------------------------------|--------------|
| Cable assembly, ACCX                             | 601436124    |
| Cable assembly, ACCX/DCP                         | 601447170    |
| Cable assembly, ACCX/DCP                         | 601447188    |
| Cable assembly, COM2                             | 406899963    |
| Cable assembly, CPU extension                    | 601436132    |
| Cable assembly, disk activity                    | 406899856    |
| Cable assembly, EMI suppression (RMB)            | 407265529    |
| Cable assembly, floppy drive                     | 601412851    |
| Cable assembly, floppy drive (SCSI units)        | 601412851    |
| Cable assembly, LED PCB/fan                      | 406899872    |
| Cable assembly, port/line                        | 601447014    |
| Cable assembly, port/line                        | 601447162    |
| Cable assembly, reset/dual keyboard              | 406899997    |
| Cable assembly, reset/dual keyboard              | 407076876    |
| Cable assembly, SCSI peripheral control          | 601436058    |
| Cable assembly, switch power extension           | 406932947    |
| Cable assembly, telephone cord, 3-ft             | 601448632    |
| Cable assembly, bus activity (P5, 100-PCI)       | 601818206    |
| Cable assembly, bus mouse (P5 MAPs)              | 601818222    |
| Cable assembly, SCSI (P5 and 2-Gbyte tape drive) | 601818313    |
| Cable assembly, floppy (P5)                      | 601818339    |
| Cable assembly, keyboard (P5, 100-PCI, 100C-PCI) | 601818412    |
| Circuit card, ACCX interface                     | 106930944    |
| Circuit card, CPU, 25-MHz, 0 Mbyte memory        | 407019272    |
| Circuit card, CPU, 25-MHz, 0 Mbyte memory        | 407300276    |
| Circuit card, CPU, 50-MHz, 0 Mbyte memory        | 407019306    |
| Circuit card, CPU, 50-MHz, 0 Mbyte memory        | 407300342    |
| Circuit card, CPU, P575, 0 Mbyte memory          | 407483411    |

*Continued on next page*

**Table B-1. Component Ordering Numbers — Continued**

| Basic Component Description                    | Order Number |
|------------------------------------------------|--------------|
| Circuit card, CPU, P5120, 0 Mbyte memory       | 407515204    |
| Circuit card, ethernet LAN interface           | 407199538    |
| Circuit card, GP-Synch                         | 406801647    |
| Circuit card, multi-port serial                | 407009046    |
| Circuit card, remote maintenance               | 406969238    |
| Circuit card, SCSI drive controller            | 406830356    |
| Circuit card, SCSI drive controller            | 407021856    |
| Circuit card, serial, hi-speed                 | 407429398    |
| Circuit card, Tip/Ring (IVC6)                  | 106406580    |
| Circuit card, Tip/Ring (IVC6-1A)               | 107213944    |
| Circuit card, Tip/Ring, Next Generation (NGTR) | 107224586    |
| Circuit card, video controller                 | 406901884    |
| Circuit card, video controller                 | 407095835    |
| Circuit card, video controller                 | 407356955    |
| Circuit card, video controller                 | 4075300013   |
| Cord, 6-pin modular, 14-ft                     | 102937604    |
| Cord, AC power, 9-ft                           | 406900092    |
| Cord, AC power, Australia, 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, telephone, 25-ft                         | 103623195    |
| Cord, telephone, DW8A-SE, 25 ft                | 103848800    |
| Cover, dress                                   | 406900563    |
| Disk drive, floppy, 1.44-Mbyte                 | 406832584    |
| Disk drive, hard, SCSI, 1.75-Gbyte             | 407071950    |
| Disk drive, hard, SCSI, 2.0-Gbyte              | 407340942    |

*Continued on next page*

**Table B-1. Component Ordering Numbers — Continued**

| Basic Component Description           | Order Number |
|---------------------------------------|--------------|
| Door, drive cover                     | 406900043    |
| Door, vented                          | 406900035    |
| Fan, card cage, 85-cfm, 12VDC         | 406900126    |
| Filter, vented door (quantity: 5)     | 406900050    |
| Hardware, SID, Nor Telcom (Meridian)  | 407024702    |
| Hardware, SID, Nor Telcom (SL-1)      | 407024694    |
| 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    |
| IC, 4-Mbyte SIMM                      | 407559772    |
| Interface unit, AYC22 cable           | 107221467    |
| Interface unit, AYC22 cable           | 407020510    |
| Keyboard                              | 406743336    |
| Keyboard (GIS gray)                   | 407104066    |
| Miscellaneous hardware kit            | 406899849    |
| Monitor, color, VGA                   | 406594952    |
| Monitor, color, VGA (GIS gray)        | 407088335    |
| Power supply, AC, 325-Watts           | 406900027    |
| Power supply, AC, 325-Watts           | 406962654    |
| Resistor SIP, TDM terminator          | 403789167    |
| Switch, reset                         | 406901926    |
| Switch, rocker                        | 406901918    |
| Tape drive, SCSI streaming, 525-Mbyte | 407194729    |
| Tape drive, SCSI streaming, 2-Gbyte   | 407334507    |

*Continued on next page*

**Table B-1. Component Ordering Numbers — Continued**

| <b>Basic Component Description</b>      | <b>Order Number</b> |
|-----------------------------------------|---------------------|
| Terminator, single-ended active, SCSI-2 | 407524719           |
| Tester, RS-232 mini                     | 407515139           |
| Toroid, ring type                       | 405853458           |
| Toroid, split type                      | 407616846           |



# How to Build a System Using This Book



## Checklist for Building a System

The following checklist assumes that you are starting with a MAP/40 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. |          | <a href="#">Appendix B, "Component Ordering Numbers"</a>   |      |
| 2    | Determine the slot and bay locations for the equipment.       |          | <a href="#">Appendix A, "System Configuration"</a>         |      |
| 3    | Install the hard disk drive(s).                               |          | <a href="#">Chapter 6, "Replacing the Hard Disk Drive"</a> |      |
| 4    | Install the tape drive.                                       |          | <a href="#">Chapter 7, "Replacing Other Components"</a>    |      |
| 5    | Install the floppy disk drive.                                |          | <a href="#">Chapter 7, "Replacing Other Components"</a>    |      |

*Continued on next page*

| <b>Task</b> | <b>Description</b>                                     | <b>Comments</b>                       | <b>Refer to</b>                                                                  | <b>Done</b> |
|-------------|--------------------------------------------------------|---------------------------------------|----------------------------------------------------------------------------------|-------------|
| 6           | Install the circuit cards.                             |                                       | <a href="#">Chapter 5, "Replacing or Installing Circuit Cards"</a>               |             |
| 7           | Apply power to the unit.                               |                                       | <a href="#">Chapter 4, "Getting Inside the Computer"</a>                         |             |
| 8           | Install the base system software.                      |                                       | <a href="#">Chapter 9, "Installing Base System Software"</a>                     |             |
| 9           | Install the Lucent™ INTUITY™ system software.          |                                       | <a href="#">Chapter 10, "Installing Lucent Intuity System Software"</a>          |             |
| 10          | Install the UNIX multi-user software.                  | This is an optional feature software. | <a href="#">Chapter 11, "Installing the Optional Feature Software"</a>           |             |
| 11          | Perform initial administration and test on the system. |                                       | <i>Lucent INTUITY Messaging Solutions Release 4.0 MAP/40 System Installation</i> |             |

# Disaster Recovery Checklists

# D

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## Software Installation States

This section identifies either the procedure or the location of the checklist to use to replace disks in the MAP/40.

## Non-Mirrored Systems

The following table identifies either the procedure or the location of the checklist to follow for MAP/40 non-mirrored systems.

Table D-1. Software Installation States: Non-Mirrored MAP/40

| Platform Identity                                         | Disk Identity and Condition                                          | Procedure to Follow                                                                                                                                                                 |
|-----------------------------------------------------------|----------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| MAP/40—<br>Single Disk<br>Systems                         | All disks previously loaded                                          | See <a href="#">Table D-3</a>                                                                                                                                                       |
|                                                           | Disk 0 new (replacement)<br>No Disk 1 present                        | See <a href="#">Table D-4</a>                                                                                                                                                       |
| MAP/40—<br>Multi-Disk<br>Systems:<br>No Disk<br>Mirroring | All disks previously loaded                                          | See <a href="#">Table D-3</a>                                                                                                                                                       |
|                                                           | Disk 0 new (replacement)<br>Disk 1 new (replacement)                 | See <a href="#">Table D-4</a>                                                                                                                                                       |
|                                                           | Disk 0 new (replacement)<br>Disk 1 previously loaded                 | See <a href="#">Table D-5</a>                                                                                                                                                       |
|                                                           | Disk 0 previously loaded<br>Disk 1 new (replacement)                 | See “ <a href="#">Hardware Procedures for Replacing the Hard Disk Drive</a> ,” in <a href="#">Chapter 6</a> , “ <a href="#">Replacing the Hard Disk Drive</a> ”, for the procedure. |
|                                                           | Disk 0 previously loaded<br>Disk 1 new (addition to existing system) | See “ <a href="#">Hardware Procedures for Replacing the Hard Disk Drive</a> ,” in <a href="#">Chapter 6</a> , “ <a href="#">Replacing the Hard Disk Drive</a> ”, for the procedure. |

## Mirrored Systems

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The following table identifies either the procedure or the location of the checklist to follow for MAP/40 mirrored systems.

**Table D-2. Software Installation States: Mirrored MAP/40**

| Platform Identity                                      | Disk Identity and Condition                          | Procedure to Follow                                                                                                                                                                            |
|--------------------------------------------------------|------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| MAP/40–<br>Multi-Disk<br>Systems:<br>Disk<br>Mirroring | Disk 0 previously loaded<br>Disk 1 previously loaded | See <a href="#">Table D-6</a>                                                                                                                                                                  |
|                                                        | Disk 0 new (replacement)<br>Disk 1 new (replacement) | See <a href="#">Table D-4</a>                                                                                                                                                                  |
|                                                        | Disk 0 new (replacement)<br>Disk 1 previously loaded | See “ <a href="#">Software and Hardware Procedures for Replacing Hard Disk Drive 0 (Mirrored System)</a> ,” in <a href="#">Chapter 6, “Replacing the Hard Disk Drive”</a> , for the procedure. |
|                                                        | Disk 0 previously loaded<br>Disk 1 new (replacement) | See “ <a href="#">Hardware Procedures for Replacing the Hard Disk Drive</a> ,” in <a href="#">Chapter 6, “Replacing the Hard Disk Drive”</a> , for the procedure.                              |

## Disaster Recovery Checklists

The following checklists are included in this section:

- Checklist for Field Reloading for Non-Mirrored Systems
- Checklist for Systems with All New Disk(s)
- Checklist for Systems With New Disk 0 and Existing Other Disk(s)
- Checklist for Field Reloading for Mirrored Systems

### Checklist for Field Reloading for Non-Mirrored Systems

Table D-3. Checklist for Field Reloading for Non-Mirrored Systems

| ✓ | Task                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | Source                                                                                                                                   |
|---|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------|
|   | <p>Locate the most recent full attended backup tape. You will also need to use the nightly backup tape which should be located in the cartridge tape drive.</p> <p> <b>WARNING:</b><br/> <i>The attended backup tape contains subscriber data. If you do not have the attended backup tape, the system will lose all subscriber data and messages, and you will need to re-administer all subscribers. Contact your remote support center and inform them of the condition.</i></p> |                                                                                                                                          |
|   | <p>Shutdown the system if the system is responding to commands. If the system is not responding to commands, then continue with the procedures in this checklist.</p>                                                                                                                                                                                                                                                                                                                                                                                                | <p><a href="#">"Shutting Down and Rebooting the Lucent Intuity System,"</a> in <a href="#">Chapter 3, "Common System Procedures"</a></p> |
|   | <p>Leave all hard disks connected to the SCSI bus.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                                                                                                                                          |

*Continued on next page*

Table D-3. Checklist for Field Reloading for Non-Mirrored Systems — Continued

| ✓ | Task                                                                                                                                                                                                                                                                                                                                                                      | Source                                                                                                                                                                        |
|---|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|   | Install the base system software.<br><br> <b>CAUTION:</b><br><i>You <b>must</b> 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.</i> | <a href="#">"Installing UnixWare"</a> and <a href="#">"Installing the Platform Software,"</a> in <a href="#">Chapter 9,</a> <a href="#">"Installing Base System Software"</a> |
|   | Load switch integration software (tape or floppy disks).                                                                                                                                                                                                                                                                                                                  | <a href="#">"Installing the Switch Interface Software Packages"</a> in <a href="#">Chapter 9,</a> <a href="#">"Installing Base System Software"</a>                           |
|   | Install the Lucent INTUITY System software.                                                                                                                                                                                                                                                                                                                               | <a href="#">Chapter 10, "Installing Lucent Intuity System Software"</a>                                                                                                       |
|   | Stop the voice system.                                                                                                                                                                                                                                                                                                                                                    | <a href="#">"Stopping the Voice System,"</a> in <a href="#">Chapter 3,</a> <a href="#">"Common System Procedures"</a>                                                         |
|   | Load optional software packages such as CAS, UNIX® Multi-User, or Lucent INTUITY Intro Voice Response (floppy disks or cartridge tapes).                                                                                                                                                                                                                                  | <a href="#">Chapter 11, "Installing the Optional Feature Software"</a><br>or<br>The appropriate feature option documentation.                                                 |
|   | Load RFU Software Update cartridge tape if any. Contact the remote maintenance center for the identity of the current RFU.                                                                                                                                                                                                                                                | <a href="#">Chapter 12, "Installing an RFU"</a>                                                                                                                               |
|   | If you are installing a system equipped with an internal remote maintenance circuit card, install the corresponding software.                                                                                                                                                                                                                                             | <a href="#">"Remote Maintenance Circuit Cards,"</a> in <a href="#">Chapter 5,</a> <a href="#">"Replacing or Installing Circuit Cards"</a>                                     |
|   | Reboot the system.                                                                                                                                                                                                                                                                                                                                                        | <a href="#">"Shutting Down and Rebooting the Lucent Intuity System,"</a> in <a href="#">Chapter 3,</a> <a href="#">"Common System Procedures"</a>                             |

Continued on next page

**Table D-3. Checklist for Field Reloading for Non-Mirrored Systems — Continued**

| ✓ | Task                                                                                                                                                                       | Source                                                                                                                                            |
|---|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------|
|   | Restore the system from the backup tape(s) (attended and nightly).                                                                                                         | <a href="#">“Restoring Backups,”</a> in <a href="#">Chapter 3, “Common System Procedures”</a>                                                     |
|   | 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.                                                                                                                                            | <a href="#">“Verifying the Date and Time,”</a> in <a href="#">Chapter 3, “Common System Procedures”</a>                                           |
|   | 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.                                                           | <a href="#">“Software and Hardware Procedures for Replacing Hard Disk Drive 0,”</a> in <a href="#">Chapter 6, “Replacing the Hard Disk Drive”</a> |

**Checklist for Systems with All New Disk(s)**

**Table D-4. Checklist for Systems with All New Disk(s)**

| ✓ | Task                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | Source                                                                                                                                                               |
|---|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|   | <p>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.</p> <p><b>⚠ WARNING:</b><br/> <i>The attended backup tape contains subscriber data. If you do not have the attended backup tape, the system will loose all subscriber data and messages, and you will need to re-administer all subscribers. Contact your remote support center and inform them of the condition.</i></p> |                                                                                                                                                                      |
|   | <p>Replace the hard disk(s).</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | <p><a href="#">“Software and Hardware Procedures for Replacing Hard Disk Drive 0,”</a> in <a href="#">Chapter 6, “Replacing the Hard Disk Drive”</a></p>             |
|   | <p>Install the base system software.</p> <p><b>⇒ NOTE:</b><br/>                     Do not run <b>installit</b> at this time.</p> <p><b>⚠ CAUTION:</b><br/> <i>You <b>must</b> 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.</i></p>                                                                                                      | <p><a href="#">“Installing UnixWare”</a> and <a href="#">“Installing the Platform Software,”</a> in <a href="#">Chapter 9, “Installing Base System Software”</a></p> |
|   | <p>Load switch integration software (tape or floppy disks).</p>                                                                                                                                                                                                                                                                                                                                                                                                                                  | <p><a href="#">“Installing the Switch Interface Software Packages”</a> in <a href="#">Chapter 9, “Installing Base System Software”</a></p>                           |

*Continued on next page*

Table D-4. Checklist for Systems with All New Disk(s) — *Continued*

| ✓ | Task                                                                                                                                                                        | Source                                                                                                                                        |
|---|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------|
|   | Clean Hard Disk Drive 1.                                                                                                                                                    | <a href="#">“Cleaning a Hard Disk Drive,”</a> in <a href="#">Chapter 6,</a> <a href="#">“Replacing the Hard Disk Drive”</a>                   |
|   | Run <b>installit</b>                                                                                                                                                        | <a href="#">“Running installit”</a> in <a href="#">Chapter 9,</a> <a href="#">“Installing Base System Software”</a>                           |
|   | Install the Lucent INTUITY System software.                                                                                                                                 | <a href="#">Chapter 10,</a> <a href="#">“Installing Lucent Intuity System Software”</a>                                                       |
|   | Complete the software procedures to add Hard Disk Drive 1.                                                                                                                  | <a href="#">“Adding a Hard Disk Drive,”</a> in <a href="#">Chapter 6,</a> <a href="#">“Replacing the Hard Disk Drive”</a>                     |
|   | Stop the voice system.                                                                                                                                                      | <a href="#">“Stopping the Voice System,”</a> in <a href="#">Chapter 3,</a> <a href="#">“Common System Procedures”</a>                         |
|   | Load optional software packages such as CAS, UNIX® Multi-User, or Lucent INTUITY Intro Voice Response (floppy disks or cartridge tapes).                                    | <a href="#">Chapter 11,</a> <a href="#">“Installing the Optional Feature Software”</a><br>or<br>The appropriate feature option documentation. |
|   | Load RFU Software Update cartridge tape if any. Contact the remote maintenance center for the identity of the current RFU.                                                  | <a href="#">Chapter 12,</a> <a href="#">“Installing an RFU”</a>                                                                               |
|   | If you are installing a system equipped with an internal remote maintenance circuit card, install the corresponding software.                                               | <a href="#">“Remote Maintenance Circuit Cards,”</a> in <a href="#">Chapter 5,</a> <a href="#">“Replacing or Installing Circuit Cards”</a>     |
|   | Reboot the Lucent INTUITY system.                                                                                                                                           | <a href="#">“Rebooting the System,”</a> in <a href="#">Chapter 3,</a> <a href="#">“Common System Procedures”</a>                              |
|   | Restore the system from the backup tape(s) beginning with the oldest first (attended and nightly).                                                                          | <a href="#">“Restoring Backups,”</a> in <a href="#">Chapter 3,</a> <a href="#">“Common System Procedures”</a>                                 |
|   | 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-4. Checklist for Systems with All New Disk(s) — *Continued*

| ✓ | Task                                                                                                             | Source                                                                                                                                                                 |
|---|------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|   | Check the system date and time.                                                                                  | <a href="#">“Verifying the Date and Time,”</a> in <a href="#">Chapter 3, “Common System Procedures”</a>                                                                |
|   | 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. | <a href="#">“Software and Hardware Procedures for Replacing Hard Disk Drive 0 (Nonmirrored System),”</a> in <a href="#">Chapter 6, “Replacing the Hard Disk Drive”</a> |

## Checklist for Systems with New Disk 0 and Existing Other Disk(s)

Table D-5. Checklist for Systems with New Disk 0 and Existing Other Disk(s)

| ✓ | Task                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | Source                                                                                                                                                                               |
|---|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|   | <p>Locate the most recent full attended backup tape. You will also need to use the nightly backup tape which should be located in the Lucent INTUITY system streaming tape drive.</p> <p><b>⚠ WARNING:</b><br/> <i>The attended backup tape contains subscriber data. If you do not have the attended backup tape, the system will loose all subscriber data and messages, and you will need to re-administer all subscribers. Contact your remote support center and inform them of the condition.</i></p> |                                                                                                                                                                                      |
|   | <p>Install the base system software.</p> <p><b>⚠ CAUTION:</b><br/> <i>You <b>must</b> 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.</i></p>                                                                                                                                                                                                          | <p><a href="#">"Installing UnixWare"</a> and <a href="#">"Installing the Platform Software,"</a> in <a href="#">Chapter 9,</a> <a href="#">"Installing Base System Software"</a></p> |
|   | <p>Load switch integration software (tape or floppy disks).</p>                                                                                                                                                                                                                                                                                                                                                                                                                                             | <p><a href="#">"Installing the Switch Interface Software Packages"</a> in <a href="#">Chapter 9,</a> <a href="#">"Installing Base System Software"</a></p>                           |
|   | <p>Install the Lucent INTUITY System software.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                          | <p><a href="#">Chapter 10, "Installing Lucent Intuity System Software"</a></p>                                                                                                       |
|   | <p>Stop the voice system.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | <p><a href="#">"Stopping the Voice System,"</a> in <a href="#">Chapter 3,</a> <a href="#">"Common System Procedures"</a></p>                                                         |

*Continued on next page*

Table D-5. Checklist for Systems with New Disk 0 and Existing Other Disk(s) —

| ✓ | Task                                                                                                                                                                        | Source                                                                                                                                                                 |
|---|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|   | Load optional software packages such as CAS, UNIX® Multi-User, or Lucent INTUITY Intro Voice Response (floppy disks or cartridge tapes).                                    | <a href="#">Chapter 11, “Installing the Optional Feature Software”</a> or The appropriate feature option documentation.                                                |
|   | Load RFU Software Update cartridge tape if any. Contact the remote maintenance center for the identity of the current RFU.                                                  | <a href="#">Chapter 12, “Installing an RFU”</a>                                                                                                                        |
|   | If you are installing a system equipped with an internal remote maintenance circuit card, install the corresponding software.                                               | <a href="#">“Remote Maintenance Circuit Cards,”</a> in <a href="#">Chapter 5, “Replacing or Installing Circuit Cards”</a>                                              |
|   | Reboot the system.                                                                                                                                                          | <a href="#">“Shutting Down and Rebooting the Lucent Intuity System,”</a> in <a href="#">Chapter 3, “Common System Procedures”</a>                                      |
|   | Restore the system from the backup tape(s) (attended and nightly).                                                                                                          | <a href="#">“Restoring Backups,”</a> in <a href="#">Chapter 3, “Common System Procedures”</a>                                                                          |
|   | 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.                                                                                                                                             | <a href="#">“Verifying the Date and Time,”</a> in <a href="#">Chapter 3, “Common System Procedures”</a>                                                                |
|   | 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.                                                            | <a href="#">“Software and Hardware Procedures for Replacing Hard Disk Drive 0 (Nonmirrored System),”</a> in <a href="#">Chapter 6, “Replacing the Hard Disk Drive”</a> |

## Checklist for Field Reloading for Mirrored Systems

Table D-6. Checklist for Field Reloading for Mirrored Systems

| ✓ | Task                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | Source                                                                                                                                                               |
|---|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|   | <p>Locate the most recent full attended backup tape. You will also need to use the nightly backup tape which should be located in the Lucent INTUITY system streaming tape drive.</p> <p><b>⚠ WARNING:</b><br/> <i>The attended backup tape contains subscriber data. If you do not have the attended backup tape, the system will loose all subscriber data and messages, and you will need to re-administer all subscribers. Contact your remote support center and inform them of the condition.</i></p> |                                                                                                                                                                      |
|   | <p>Shutdown the system if the system is responding to commands. If the system is not responding to commands, then continue with the procedures in this checklist.</p>                                                                                                                                                                                                                                                                                                                                       | <p><a href="#">“Shutting Down and Rebooting the Lucent Intuity System,”</a> in <a href="#">Chapter 3, “Common System Procedures”</a></p>                             |
|   | <p>Leave all hard disks connected to the SCSI bus.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                      |                                                                                                                                                                      |
|   | <p>Install the base system software.</p> <p><b>⚠ CAUTION:</b><br/> <i>You <b>must</b> 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.</i></p>                                                                                                                                                                                                          | <p><a href="#">“Installing UnixWare”</a> and <a href="#">“Installing the Platform Software,”</a> in <a href="#">Chapter 9, “Installing Base System Software”</a></p> |
|   | <p>Wait for mirror synchronization to complete. When the mirroring is complete, the hard disk drive light will stop flashing.</p>                                                                                                                                                                                                                                                                                                                                                                           |                                                                                                                                                                      |
|   | <p>Install the Lucent INTUITY System software.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                          | <p><a href="#">Chapter 10, “Installing Lucent Intuity System Software”</a></p>                                                                                       |

Continued on next page

Table D-6. Checklist for Field Reloading for Mirrored Systems — *Continued*

| ✓ | Task                                                                                                                                                                          | Source                                                                                                                                            |
|---|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------|
|   | Run the disk replacement software procedures on disk01 for id01.                                                                                                              | <a href="#">“Software and Hardware Procedures for Replacing Hard Disk Drive 1,”</a> in Chapter 6, <a href="#">“Replacing the Hard Disk Drive”</a> |
|   | Stop the voice system.                                                                                                                                                        | <a href="#">“Stopping the Voice System”</a> in Chapter 3, <a href="#">“Common System Procedures”</a>                                              |
|   | Install the language tape for the system default language and any additional announcement sets.                                                                               | Chapter 10, <a href="#">“Installing Lucent Intuity System Software”</a>                                                                           |
|   | Load switch integration software (tape or floppy disks).                                                                                                                      | The appropriate switch documentation.                                                                                                             |
|   | Load optional software packages such as CAS, UNIX® Multi-User, or Lucent INTUITY Intro Voice Response (floppy disks or cartridge tapes).                                      | <a href="#">Chapter 11, “Installing the Optional Feature Software”</a><br>or<br>The appropriate feature option documentation.                     |
|   | Load RFU Software Update cartridge tape if any. Contact the remote maintenance center for the identity of the current RFU.                                                    | <a href="#">Chapter 12, “Installing an RFU”</a>                                                                                                   |
|   | If you are installing a system equipped with an internal remote maintenance circuit card, install the corresponding software.                                                 | <a href="#">“Remote Maintenance Circuit Cards,”</a> in Chapter 5, <a href="#">“Replacing or Installing Circuit Cards”</a>                         |
|   | Reboot the system.                                                                                                                                                            | <a href="#">“Shutting Down and Rebooting the Lucent Intuity System,”</a> in Chapter 3, <a href="#">“Common System Procedures”</a>                 |
|   | Restore the system from the backup tape(s) (attended and nightly).                                                                                                            | <a href="#">“Restoring Backups,”</a> in Chapter 3, <a href="#">“Common System Procedures”</a>                                                     |
|   | View the features option screen to verify that all of the customer features purchased are activated<br>Contact your remote maintenance center if there are any discrepancies. |                                                                                                                                                   |

*Continued on next page*

**Table D-6. Checklist for Field Reloading for Mirrored Systems — Continued**

| ✓ | Task                                                                                                             | Source                                                                                                                                            |
|---|------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------|
|   | Check the system date and time.                                                                                  | <a href="#">“Verifying the Date and Time,”</a> in <a href="#">Chapter 3, “Common System Procedures”</a>                                           |
|   | 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. | <a href="#">“Software and Hardware Procedures for Replacing Hard Disk Drive 0,”</a> in <a href="#">Chapter 6, “Replacing the Hard Disk Drive”</a> |

# Glossary

## 5ESS Switch

A central office switch manufactured by Lucent Technologies 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).

### ACA

See *automatic circuit assurance*.

### 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 a 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 a 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.

**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 identifier**

A two-letter code used in the administrator's log to identify the application or subsystem for which an alarm is being generated. There are eight application identifiers as follows: CA (Call Accounting), ML (MERLIN LEGEND), MT (Maintenance), NW (Digital Networking), SW (Switch Integration), VM (Voice Messaging), VP (Voice Processing), and VR (Voice Response).

**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 Lucent 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 to the system. See also *call-distribution group*.

**automatic circuit assurance (ACA)**

A feature of the switch that keeps records of both very long and very short calls and notifies the attendant when these calls exceed a certain parameter. The logic is that many very short calls or one very long one may suggest a trunk that is hung, broken, or out of order. The attendant can then physically dial into the trunk to check it.

**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.

### 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 *basic rate access*.

### binary synchronous communications (BSC)

A character-oriented synchronous link protocol.

### BIOS

See *basic input/output system*.

### 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.

### 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 can be busied out if they appear faulty or when maintenance tests are run.

---

**C**

**CA**

Call accounting system application identifier. See *application identifier*.

**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 classification analysis (CCA)**

A process that enables application designers to use information available within the system to classify the disposition of originated and transferred calls.

**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 can be placed at the end of a coverage path to handle redirected calls through call coverage, send all calls, go to cover, etc.

**call data handler process (CDH)**

A software process that accumulates generic call statistics and application events.

**call detail recording (CDR)**

A switch feature that uses software and hardware to record call data. See also *call detail recording utility*.

**call detail recording utility (CDRU)**

Applications software that collects, stores, optionally filters, and outputs call detail records for direct or polled output to peripheral devices. See also *call detail recording*.

**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 accounting system*.

**CCA**

See *call classification analysis*.

**CDH**

See *call data handler process*.

**CDR**

See *call detail recording*.

**CDRU**

See *call detail recording utility (CDRU)*.

**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.

**class of restriction (COR)**

A feature that allows up to 64 classes of call-origination and call-termination restrictions for telephones, telephone groups, data modules, and trunk groups. See also *class of service*.

**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). See also *class of restriction*.

**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*.

**COR**

See *class of restriction*.

**COS**

See *class of service*.

**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 Lucent Technologies. Each comcode is a 9-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.

**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 *troubleshooting*.

**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 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 (DSP)**

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 (DID)**

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

1. 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 INTUITY 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*.

**electrostatic discharge (ESD)**

The discharge of a static charge on a surface or body through a conductive path to ground, ESD can damage integrated circuits.

**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 (ESDI)**

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*.

**ESDI**

See *enhanced serial data interface*.

**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

### facilities restriction level (FRL)

A value that determines which types of calls the users of a switch are allowed to make.

### facility out-of-service (FOOS)

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 nodepoint 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 a 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*.

### FNPAC

See *foreign numbering-plan area code*.

## FOOS

See *facility out-of-service*.

## foreign exchange (FX)

A central office (CO) other than the one providing local access to the public telephone network.

## foreign numbering-plan area code (FNPAC)

An area code other than the local area code that must be dialed to call outside the local geographical area.

## 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.

## FRL

See *facilities restriction level*.

## 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.

## FX

See *foreign exchange*.

---

# G

## Generic 1, 2, or 3

Lucent 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 and -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 a 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*.

### host switch

The switch directly connected to the Lucent INTUITY system over the data link. Also, the physical link connecting a 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.

---

## I

### I/O

Input/output.

### IDI

See *isolating data interface*.

### IMAPI

See *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*.

### **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.

### **INTUITY messaging application programming interface (IMAPI)**

A software function-call interface that allows INTUITY AUDIX to interact with Lucent INTUITY Message Manager.

### **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 a 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.

---

## 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 device 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.

**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 *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 Lucent 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.

**ML**

MERLIN LEGEND application identifier. See *application identifier*.

**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-versa.

**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, Generic 1, and Generic 3 switches. MPDMs can 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*.

**MT**

Maintenance application identifier. See *application identifier*.

**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 *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.

**NT**

Networking application identifier. See *application identifier*.

---

**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)*.

**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*.

**PI**

See *processor interface*.

**PIB**

See *processor interface*.

**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*.

**property management system (PMS)**

A product used by lodging establishments to automate the management of guest records, reservations, room assignments, and billing. In an integrated PMS environment, special software links the PMS to the Lucent INTUITY Lodging system so that both systems share a common set of messages and commands.

**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 memory used in most computers to store the results of ongoing work and to provide space to store the operating system and applications that are actually running at any given moment.

**read-only memory (ROM)**

A form of computer memory that allows values to be stored only once; after the data is initially recorded, the computer can only read the contents. ROM is used to supply constant code elements such as bootstrap loaders, network addresses, and other more or less unvarying programs or instructions.

**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 Lucent 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**

A Lucent or Lucent-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**

1. 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   (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 Lucent 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. Lucent 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*.

**RUK**

See *reusable upgrade kit*.

---

**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.

**SMDR**

See *station message detail recording*.

**SMSI**

See *simplified message service interface*.

**station message detail recording**

See *call detail recording (CDR)*.

**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**

Switch integration application identifier. See *application identifier*.

**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-Lucent 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 75**

An advanced digital switch manufactured by Lucent Technologies that supports up to 800 lines for voice and data communications.

**System 75**

An advanced digital switch manufactured by Lucent Technologies that supports up to 3000 lines for voice and data communications.

**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 protocol*.

**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    (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.

**VM**

Voice messaging application identifier. See *application identifier*.

**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.

**VP**

Voice platform application identifier. See *application identifier*.

**VR**

Voice response application identifier. See *application identifier*.

---

**W**

**WAN**

See *wide area network*.

**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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