Lucent Technologies
Bell Labs Innovations

INTUITY™ Interchange

Release 5.3

MAP/5P System Maintenance

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 Nomérique n'émet pas de bruits radioélectriques dépassant les limites applicables aux appareils numériques de la class A préscrites dans le reglement sur le brouillage radioélectrique édicté par le ministére des Communications du Canada.

Trademarks
See the section titled "About This Book."

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

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

Comments
To comment on this document, see the section titled "About This Book."

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About This Book
Purpose

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About This Book

Purpose

This book, *INTUITY™ Interchange Release 5.3 MAP/5P Maintenance, Issue 1*,
585-313-809 contains information for troubleshooting and diagnosing problems
associated with the MAP/5P hardware. Component replacement procedures and
common system procedures are also included in the book. Installation procedures
for base system software, Lucent INTUITY system software, feature 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/5P
hardware installation training course (see "Related Resources" below).

Release History

This is the first release of this book.

How to Use This Book

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

For Troubleshooting Information

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

For Diagnostic Information

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

For Common System Procedures

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

For Hardware Information

Instructions for replacing or installing hardware components of the MAP/5P 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".

For Software Information

Instructions for replacing or installing software components of the MAP/5P are available in Chapter 8, "Installing Base System Software", Chapter 9, "Installing Lucent™ Intuity™ System Software", Chapter 10, "Installing the Optional Feature Software", Chapter 11, "Installing an RFU".

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Conventions Used in This Book

This section describes the conventions used in this book.

Terminology

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

    Type **y** to continue.

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

    Enter **y** to continue.

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

    Select Start Test.

- The INTUITY Interchange system displays "screens", "*windows" and "menus*". "Screens" make up the INTUITY Interchange user interface through which you can enter data or commands or access windows or menus (Figure 1). "Windows" show and request system information (Figure 2). "Menus" (Figure 3) present options from which you can choose to view another menu, screen or window.

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

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```
  ┌─────Networking Administration─────┐  ┌───AMIS Analog Machine Administration───┐
  │ Local Machine Administration      │  │                                        │
  │>Remote Machine Administration     │  │ Machine Name: ▉_____     │
  │ Networking Channel Administration │  │                                        │
  │ TCP/IP Administration             │  │ Dial Str: _____      │
  │ Remote Machine Information         │  │                                        │
  └───────────────────────────────────┘  └────────────────────────────────────────┘


     ┌────────Remote Machine Administration────────┐
     │ Remote Machines List                         │
     │ Audix Digital Network Machine Administration │
     │>AMIS Analog Machine Administration           │
     │ Octel Machine Administration                 │
     └──────────────────────────────────────────────┘




  Enter Machine Name, use <CHOICES> for list


  ┌─────┐ ┌───────┐ ┌────┐   ┌────────┐┌────────┐  ┌──────┐ ┌────┐ ┌────────┐
  │ HELP│ │CHOICES│ │    │   │PREV-FRM││NEXT-FRM│  │CANCEL│ │    │ │CHG-KEYS│
  └─────┘ └───────┘ └────┘   └────────┘└────────┘  └──────┘ └────┘ └────────┘
```

Figure 1.   Example of an INTUITY Interchange Screen

```
  ┌──────────────Subscriber Parameter Administration───────────────┐
  │        Mailbox ID: ▉_____                        │
  │    Remote Machine: _____                      │
  │              Type: _____                         │
  │                                                                 │
  │   Network Address: _____                      │
  │              Name: _____                   │
  │      Community ID: __                                           │
  │      NameNet Type: _                                            │
  │                                                                 │
  │        Voiced Name: _                                           │
  │      Last Updated: _____                               │
  │   Last Usage Date: _____                               │
  └─────────────────────────────────────────────────────────────────┘
```
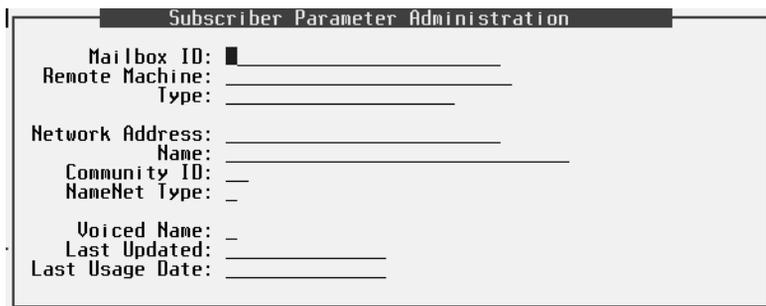
Figure 2.   Example of an Intuity Interchange Window
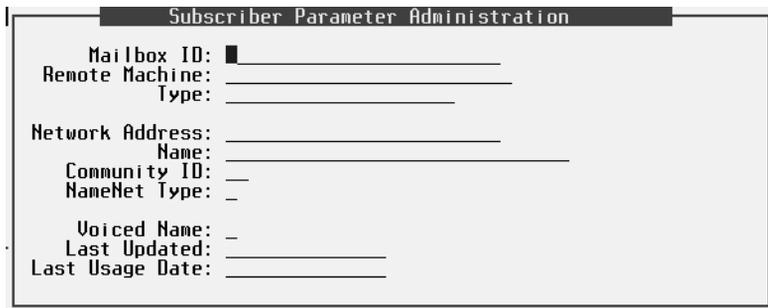
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```
┌────────────────────────────────────────────────┐
│ │┌───── Subscriber Parameter Administration ─────┐ │
│        Mailbox ID: ▮_____              │
│     Remote Machine: _____       │
│              Type: _____             │
│                                                    │
│    Network Address: _____        │
│              Name: _____      │
│        Community ID: __                               │
│        NameNet Type: _                               │
│                                                    │
│         Voiced Name: _                               │
│        Last Updated: _____                  │
│     Last Usage Date: _____                  │
│                                                    │
└────────────────────────────────────────────────┘
```

Figure 3.   Example of a 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.

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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

- 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.

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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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The following trademarked products are mentioned in books in the Lucent INTUITY document set:

- AT is a trademark of Hayes Microcomputer Products, Inc.

- AUDIX is a registered trademark of Lucent Technologies™.

- cc:Mail is a registered trademark of cc:Mail, a subsidiary of Lotus Development Corporation.

- COMSPHERE is a registered trademark of Paradyne Corp.

- CONVERSANT Voice Information System is a registered trademark of Lucent Technologies™.

- DEFINITY is a registered trademark of Lucent Technologies™.

- DMS-100 is a trademark of Northern Telecom Limited.

- Dterm is a trademark of NEC Telephones, Inc.

- Equinox is a trademark of Equinox Systems, Inc.

- 5ESS is a registered trademark of Lucent Technologies™.

- INTUITY is a trademark of Lucent Technologies™.

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- MS is a registered trademark of Microsoft Corporation.

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- SUPERSET is a trademark of Mitel Corporation.

- SX-100 is a trademark of Mitel Corporation.

- SX-200 is a trademark of Mitel Corporation.

- SX-2000 is a trademark of Mitel Corporation.

- TMI is a trademark of Texas Micro Systems, Inc.

- UNIX is a registered trademark of UNIX Systems Laboratories, Inc.

- Voice Bridge is a registered trademark of Voice Technologies Group, Inc.

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Related Resources

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

Documentation

➡ NOTE:
Always refer to the appropriate book for specific information on planning, installing, administering, or maintaining a Lucent INTUITY system.

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

- *Lucent INTUITY Messaging Solutions System Description*, 585-310-235, for a complete description of the Lucent INTUITY product and features

- "INTUITY™ Interchange Release 5.3 MAP/5P System Installation", 585-313-809, 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:

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

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

Training

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

- Lucent Technologies customers and all others in the United States and Canada: (800) 255-8988

- Customers in other locations should contact their sales representative for information

- Organizations within Lucent Technologies: (904) 636-3261

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How to Comment on This Book

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

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1 Troubleshooting
Overview

Page 1

Troubleshooting

1

Overview

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

Purpose

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

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.	Check the Alarm Management window by doing the following: 1. Starting at the Lucent™ INTUITY™ Main menu window, select > Customer/Serv. Admin > Alarm Management	Fill in the Alarm Screen. 1. Enter the product ID in the `Product ID` field. If the product ID is not known, enter **2200000000** 2. Enter a valid telephone number in the `Alarm Destination` field. 3. Press F8 (Chg-Keys). 4. Press F1 (Test_Alrm). 5. If the product ID was not known in Step 1 call INADS for the correct number.

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

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-GB tape drive can be read by a 525-MB tape drive. The only tapes, created in a 525-MB tape drive, which can be read by a 2-GB tape drive, are Lucent INTUITY system backup tapes.	Replace the tape with a compatible tape.
The tape is not formatted.	Check the format status.	Format the tape. See "Formatting Cartridge Tapes", in Chapter 3, "Common System Procedures" for the procedure.
The tape drive is not working correctly.	Check the operation of the tape drive during a backup. If the tape drive is spinning but there is no processor time being allotted to the cpio process, the tape drive is not working correctly.	Replace the tape drive. See "Cartridge Tape Drive Replacement", in Chapter 7, "Replacing Other Components" for the procedure.

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

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1 Troubleshooting
The Voice Ports Are Answering in Standalone Mode

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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: 1. Starting at the Lucent INTUITY Main menu window, select > Voice System Admin. > Voice Equipment 2. Press F8 (Chg-Keys). 3. Press F2 (Renumber).
Incorrect entry in Services to Call Numbers field or Startup Services field.	See the Chapter 6, "Initial Administration and Test for Messaging" of the Installation Manual.	To enter the correct numbers in the Services to Call Numbers field, do the following: 1. Starting at the Lucent INTUITY Main menu window, select > Voice System Admin. > Voice Equipment 2. Enter the correct numbers.
The link to the switch is out of service.	Check the link to the switch.	Restore the link to service.
Subscribers have the wrong host PBX assigned	Check the host PBX.	Reassign the host PBX.

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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.	See 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 see 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.

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System Will Not Boot

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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 "Memory and SIMM Description", in Appendix A, "System Configuration" for the correct configuration.
If the system displays the following message, the problem could be the diskette cable orientation. `BIOS Not Installed`	Check the diskette cable orientation on the P5 120 MHz CPU circuit card. The tracer on the cable should be on the right as you look at the P5 120 MHz CPU circuit card.	To fix the problem, do the following: 1. Access the circuit card cage. See "Removing the Dress Cover" in Chapter 4, "Getting Inside the Computer", for the procedure. 2. Fix the diskette cable orientation. 3. Close the circuit card cage. See "Replacing the Dress Cover" in Chapter 4, "Getting Inside the Computer", for the procedure. 4. Restore power to the system. See "Restoring Power to the MAP/5P" in Chapter 4, "Getting Inside the Computer", for the procedure.

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: 1. Starting at the Lucent INTUITY Main menu. 2. Accessing `Customer/Services Administration`. 3. Accessing `Feature Options`.	If the customer has purchased the optional feature, activate the optional feature. If the customer has not purchased the optional feature, refer them to their sales representative.

System 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 "Memory and SIMM Description", in Appendix A, "System Configuration" 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 CPU.	Replace the defective SIMM. See "Memory Replacement", in Chapter 7, "Replacing Other Components" for the procedure.

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The Keyboard Is Not Operating

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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 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.

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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 "Tip/Ring Circuit Cards", in Chapter 5, "Replacing or Installing Circuit Cards" for the correct settings.	Correct the switch settings.

The Tip/Ring cards are incorrectly numbered.	There is nothing to check in this instance. If this is the suspected problem continue with the probable fix.	Renumber the Tip/Ring circuit cards by doing the following:
		
		This will start and stop the voice system.
		
		1. Starting at the Lucent INTUITY Main menu, select
		
		`> Voice System Admin.`
		`> Voice Equipment`
		
		2. Press F8 (Chg-Keys).
		
		3. Select `Renumber`.
		
		4. Press F2 (Renumber).

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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 *"INTUITY™ Interchange Release 5.3 MAP/5P System Installation"*.
The printer has not been configured correctly	Check the printer configuration.	Reconfigure the printer. See Chapter 4, "Connecting Peripherals and Powering Up" in *"INTUITY™ Interchange Release 5.3 MAP/5P System Installation"*.
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.

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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.	1. If the power voltage is not 5V, replace the power supply.
		2. Reboot the system.
The power cable is not properly attached to Hard Disk Drive 0.	Check the Hard Disk Drive 0 power cable connection.	1. Correct the power cable connection to Hard Disk Drive 0.
		2. Reboot the system.
The SCSI Bus cable is not properly attached to Hard Disk Drive 0.	Check the Hard Disk Drive 0 SCSI Bus cable connection.	1. Correct the SCSI Bus cable connection to Hard Disk Drive 0.
		2. Reboot the system.
The SCSI Bus cable is defective.	Check the SCSI Bus cable.	1. Replace the SCSI Bus cable.
		2. Reboot the system.

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

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:
	
	  1. Remove the SCSI Bus cable.
	
	  2. Check the pins on the hard disk drive.
		1. If a pin is bent, straighten the pin.
		
		   If a pin is broken, replace the hard disk drive.
		
		2. Reboot the system.

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:
	
	  1. Remove the SCSI Bus cable.
	
	  2. Check the pins on the circuit card.
		1. If a pin is bent, straighten the pin.
		
		   If a pin is broken, replace the circuit card.
		
		2. Reboot the system.

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

Possible Cause	Check/See	Probable Fix
Hard Disk Drive 0 has been corrupted and the system can not access the boot image.	Check the status of Hard Disk Drive 0.	1. If the system has a remote maintenance circuit card diagnose the hard disk drive and replace if necessary.
		2. If the system is mirrored, boot off of the backup hard disk drive.
		3. If the system did not boot perform the following steps:
		a. Perform a surface analysis on both Hard Disk Drive 0 and its backup hard disk drive.
		b. If the surface analysis indicates either hard disk drive must be replaced, replace the disk.
		4. If the system is not mirrored complete the following steps:
		a. Perform a surface analysis.
		b. If the surface analysis indicates the hard disk drive must be replaced, replace the disk.
		c. If the surface analysis does not indicate that the disk should be replaced, reload the system.

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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

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

Possible Cause	Check/See	Probable Fix
Hard Disk Drive 0 has been corrupted and the system can not access the boot image.	Check the status of Hard Disk Drive 0.	1. If the system has a remote maintenance circuit card diagnose the hard disk drive and replace if necessary.
		2. If the system is mirrored, boot off of the backup hard disk drive.
		3. If the system did not boot perform the following steps:
		a. Perform a surface analysis on both Hard Disk Drive 0 and its backup hard disk drive.
		b. If the surface analysis indicates either hard disk drive must be replaced, replace the disk.
		4. If the system is not mirrored complete the following steps:
		a. Perform a surface analysis.
		b. If the surface analysis indicates the hard disk drive must be replaced, replace the disk.
		c. If the surface analysis does not indicate that the disk should be replaced, reload the system.

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 .

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.

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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.   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.	1. Correct the SCSI cable connection to the circuit card. 2. Reboot the system.
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: 1. Remove the SCSI Bus cable. 2. Check the pins on the circuit card.	1. If a pin is bent, straighten the pin. If a pin is broken, replace the circuit card. 2. Reboot the system.

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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.	1. If the system is mirrored, boot off of the backup hard disk drive.
		2. If the system is not mirrored, or if the problem persists, restore or reload the system.

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.	1. Shut down the system. 2. Inform the customer of the problem in their wiring.
The power supply output voltage is not correct.	Check the voltage on the power supply output cables.	1. Replace the power supply.
The file system is partially corrupted.	Check the system file system.	1. If the system is mirrored, boot off of the backup hard disk drive. 2. If the system is not mirrored, or if the problem persists, restore or reload the system.

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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.	1. Place the BEE selector switch in the off position.
		2. Shut down the system.
		3. Reboot the system.
		4. Set the remote maintenance circuit card address to DC000-DCFFF.
		5. Place the BEE selector switch in the on position.
		6. Stop the voice system.
		7. Start the voice system.

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.

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Diagnostics

2

Overview

This chapter describes:

- Conducting audits

- Diagnosing AMIS Analog Networking

- Diagnosing digital networking

- Diagnosing Multi-port serial circuit cards

- Diagnosing switch integration

- Diagnosing TCP/IP

- Diagnosing voice ports

- Diagnosing Tip/Ring circuit cards

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.

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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

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Table 2-1. INTUITY AUDIX Voice Messaging Database Audits

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

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Table 2-1. INTUITY AUDIX Voice Messaging Database Audits

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

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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).

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```
                INTUITY (TM) Main Menu

        AUDIX Administration
        Customer/Services Administration
        Networking Administration
        Upgrade
        Voice System Administration
```
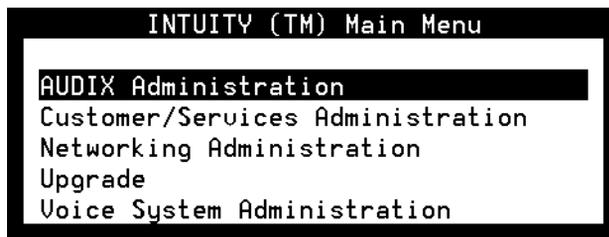
Figure 2-1.   Lucent INTUITY Main Menu

2. Select

```
> AUDIX Administration
```

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

```
AUDIX           Active          Alarms:  mwA                  Logins: 1




enter command:
```
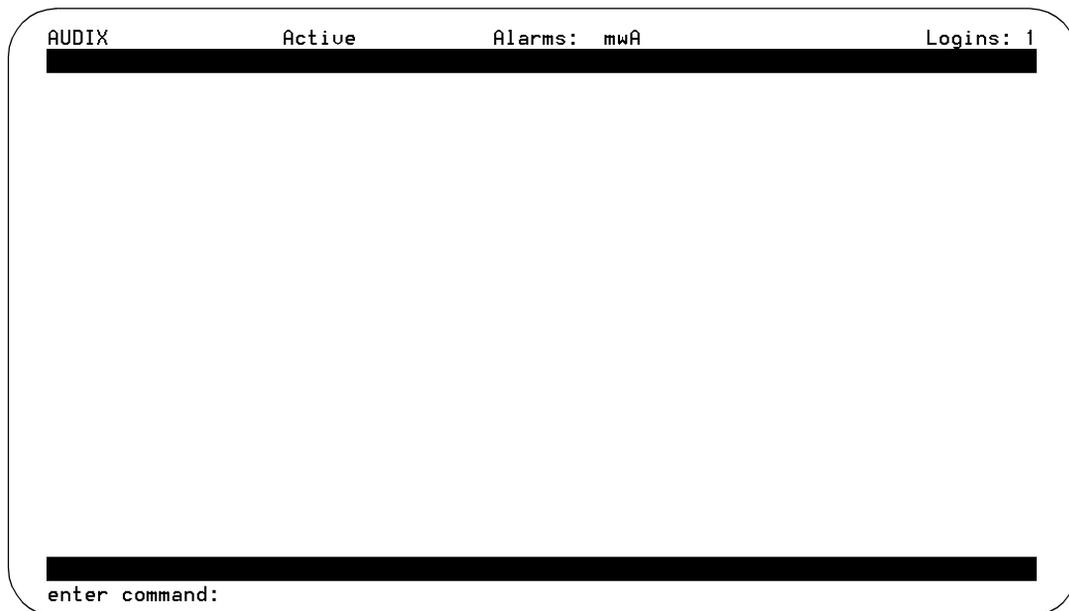
Figure 2-2.   AUDIX Administration Screen

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

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

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```
┌─────────────────────────────────────────────────────────────────┐
│AUDIX          Active          Alarms: Mmw              Logins: 1  │
│audit mailboxes                                      Page 1 of 1   │
│                           AUDIT RESULTS          Date: 10/16/95 12:29│
│                                                                   │
│              Audit Name           Result                          │
│              Audit Mailboxes                                      │
│              Audit Mailbox Data                                   │
│                                                                   │
│                                                                   │
│                                                                   │
│                                                                   │
│                                                                   │
│                                                                   │
│                                                                   │
│                                                                   │
│                                                                   │
│                                                                   │
│                                                                   │
│Press [Enter] to execute                                          │
│enter command: audit mailboxes                                    │
│                                                                   │
└─────────────────────────────────────────────────────────────────┘
```
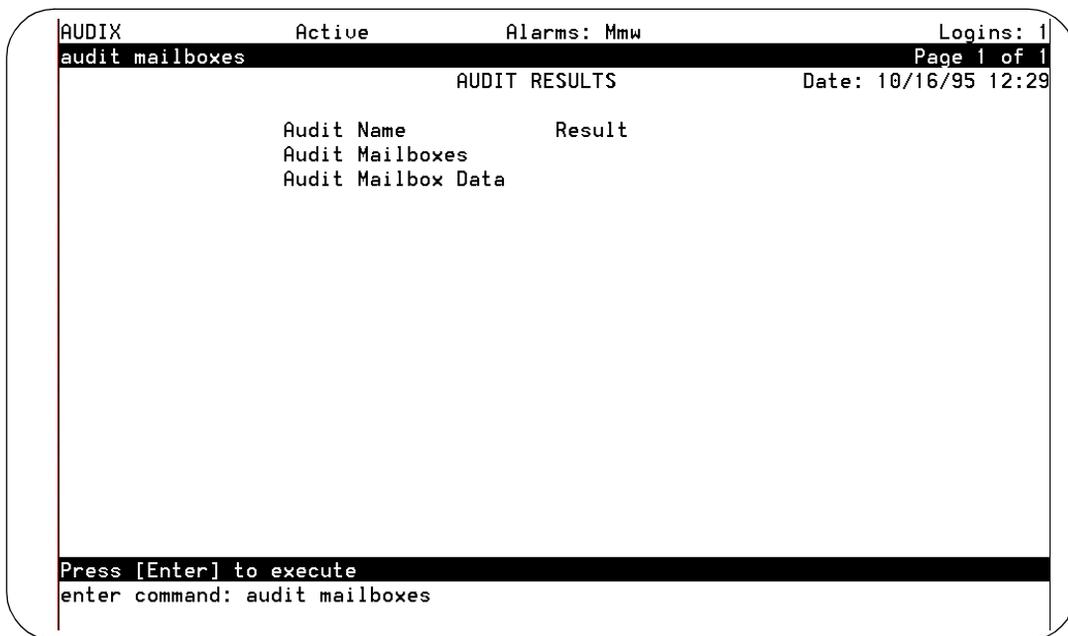
Figure 2-3.   Audit Screen

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 "INTUITY™ Interchange Release 5.3 Alarm and Log Messages" 585-313-809, 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).

```
                 Confirm
 Networking Audit Audits may take up to
 15 minutes to complete. This audit will
 be run in the background.

 Press <y> to confirm.
 Press <n> to cancel.
```

Figure 2-5.   Confirm Audit Window

5. Press **y**.

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$\Longrightarrow$ **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 *"INTUITY™ Interchange Release 5.3 Alarm and Log Messages",* 585-313-809, 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

```
> Customer/Services Administration

    > Database Audits
```

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 *"INTUITY™ Interchange Release 5.3 Alarm and Log Messages"*, 585-313-809, 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).

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2. Enter **trace**

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

```
AUDIX               Active            Alarms:   wA                    Logins: 2
trace                                                             Page 1 of 1



                        AMIS-TRACE ACTIVATION


            AMIS-TRACE Activated? n

        Trace Level: _____







      [Note: To view AMIS trace log entries, enter "display amis-trace."]



enter command: trace
```

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 ().

2. Enter **display amis-trace**

The system displays the AMIS Trace Log screen ().

```
AUDIX              Active            Alarms:   wA                      Logins: 2
display amis-trace                                                 Page 1 of 1

                    AMIS TRACE LOG


The following options control which entries will be displayed.


           Start Date: __/__/__          Time: __:__

      Search String: _____








enter command: display amis-trace
```
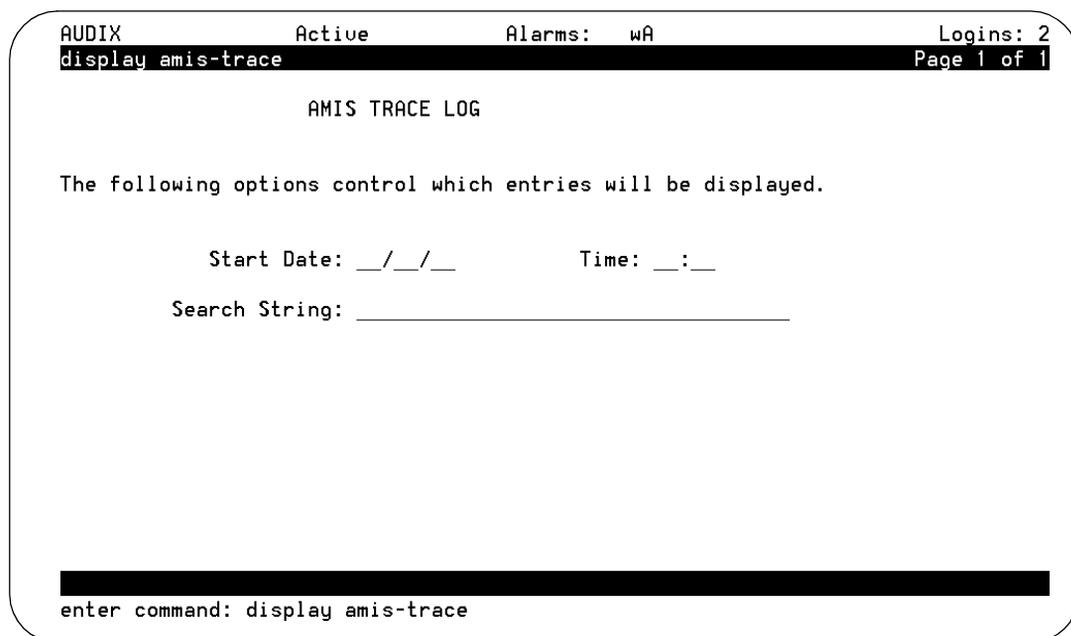
Figure 2-7.　AMIS Trace Log Screen

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 ().

```
AUDIX              Active           Alarms:   wA                  Logins: 2
display amis-trace                                                   Page 1

                        AMIS TRACE LOG

  CHN#-----------SENT------------------ CNN#----------RECEIVED------------------









Press [NextPage], [PreuPage] or [Cancel] to abort
enter command: display amis-trace
```

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

> Customer/Services Administration

> Diagnostics

> Networking Diagnostics

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).

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3. Press F4 (Diagnose).

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

```
            Diagnostics
>Remote Connection Test
 Channel Internal Loop Around Test
 Modem Loop Around Test
 Network Loop Around Test
 Networking Board Reset
```

Figure 2-10.   Networking Diagnostics Menu

4. Select

```
> Remote Connection Test
```

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

```
Remote Connection Test

Machine Name: _____

Channel No. : ___
```
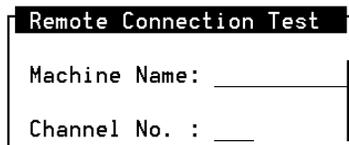
Figure 2-11.   Remote Connection Test Window

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).

```
                          Test Results

        CONNECTION TEST
        MACHINE: drmid10
        OKAY
```
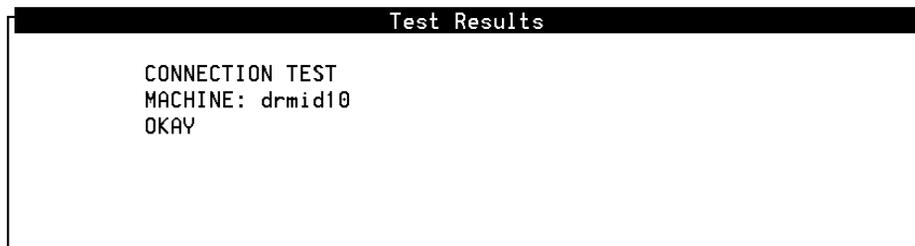
Figure 2-12.   Test Results Screen for a Remote Connection Test

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 Step 2 through Step 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.

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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).

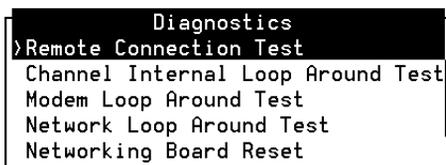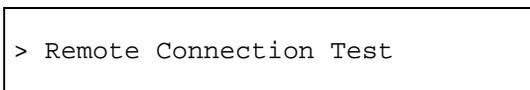The system displays the Networking Diagnostics menu (Figure 2-10).

4. Select

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

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

```
┌Channel Internal Loop Around Test┐
│                                 │
│    Channel: ___                 │
│                                 │
└─────────────────────────────────┘
```

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).

```
┌─────────────────────────────────────────────┐
│                  Test Results                │
│                                              │
│        INTERNAL LOOP BACK TEST               │
│        CHANNEL: 1                            │
│        OKAY                                  │
│                                              │
│   Press <CANCEL> to continue                 │
│                                              │
│                                              │
└─────────────────────────────────────────────┘
```
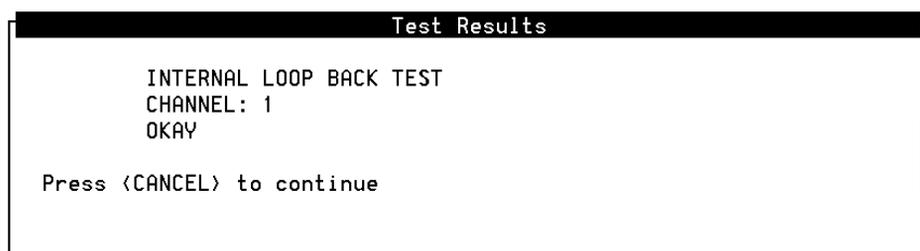
Figure 2-14.   **Test Results Window for a Channel Internal
Loop-Around Test**

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 *"INTUITY™ Interchange Release 5.3 Alarm
    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 Step 2 through Step 7 for each equipped channel on the ACCX
    board.

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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).

```
┌Modem Loop Around Test┐
│                      │
│  Channel: ___        │
│                      │
└──────────────────────┘
```

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 *"INTUITY™ Interchange Release 5.3 Alarm and Log Messages"* 585-313-809, for the procedure.

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

8. Repeat Step 2 through Step 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).

```
┌Start Network Loop Around Test┐
│                              │
│      Speed: ▓___             │█
│                              │█
│      Channel: ___            │█
│                              │
└──────────────────────────────┘
```
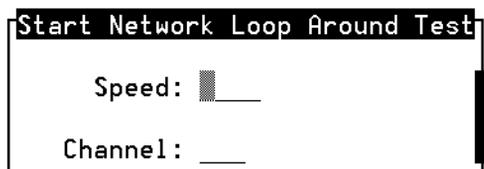
Figure 2-16.   Start Network Loop-Around Test Window

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).

```
┌──────────────────Test Results─────────────────────┐
│ Network Loop Around Test Started on Channel 1      │
│ Press ⟨CANCEL⟩ to continue                         │
│                                                    │█
│                                                    │█
│                                                    │█
│                                                    │
│                                                    │
└────────────────────────────────────────────────────┘
```
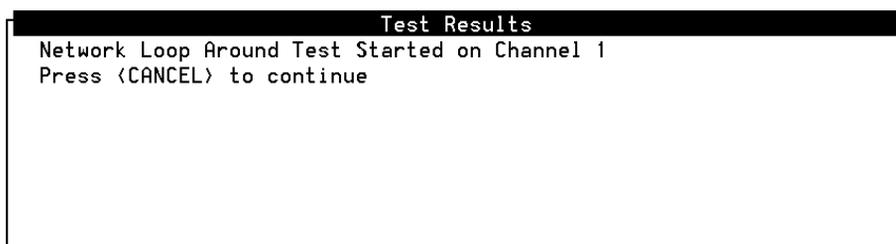
**Figure 2-17.   Start Test Results Window for a Network
            Loop-Around Test**

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

```
> Network Loop-Around Test

    > Stop Test
```

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

```
Stop Network Loop Around Test
   Channel: ▓__
```

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).

```
                    Test Results
 Network Loop Around test stopped on Channel 1
 Press <CANCEL> to continue
```
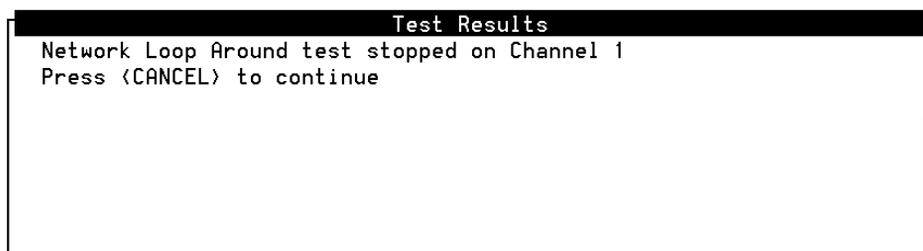
Figure 2-19.   Stop Test Results Window for a Network Loop-Around Test

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11. Press [F6] (Cancel) to exit the screen and return to the Networking
     Diagnostics menu (Figure 2-10).

12. Repeat Step 2 through Step 11 for each channel to be tested.
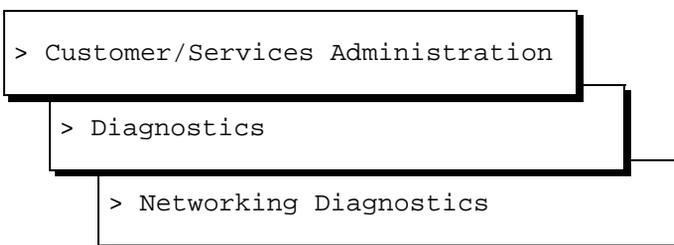
Networking Board Reset

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

> 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

> Networking Board Reset

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

```
Networking Board Reset
 Board No.: __
```
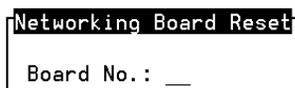
Figure 2-20.   Networking Board Reset Window

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).

```
                        Test Results
 Networking Board 1 has been reset
 Press <CANCEL> to continue




```
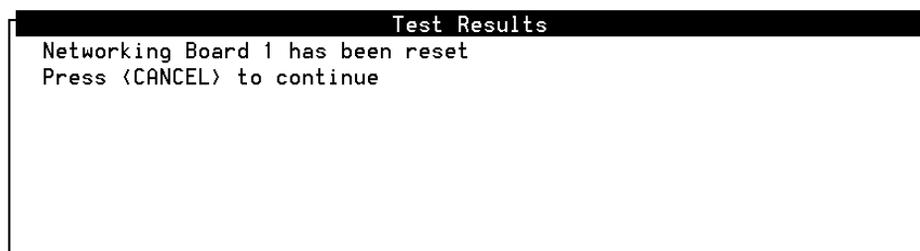
Figure 2-21.   Networking Board Reset Results Screen

6. Press [F6] (Cancel) to exit the screen and return to the Networking Diagnostics menu (Figure 2-10).

7. Repeat Step 2 through Step 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
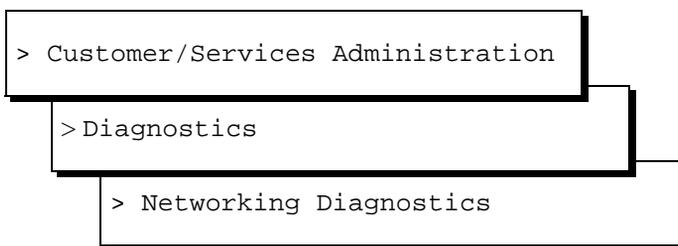
1. Starting at the Lucent INTUITY Main menu (Figure 2-1), select

```
> Customer/Services Administration

    > Diagnostics

        > Networking Diagnostics
```

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](#)).

```
┌Busyout Networking Channel┐
│                          │
│    Channel: ___          │
│                          │
└──────────────────────────┘
```
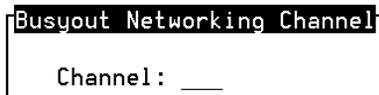
Figure 2-22. Busyout Networking Channel Window

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 [Step 2](#) through [Step 4](#) for each channel to busyout.

Release Networking Channels

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 F2 (Release).

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

```
┌Release Networking Channel┐
│                          │
│    Channel: ___          │
│                          │
└──────────────────────────┘
```

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 Step 2 through Step 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
 -----------------------------------------------------------------
                OUTGOING CONNECTIONS         INCOMING CONNECTIONS
 MACHINE    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
 lzbig2
 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.

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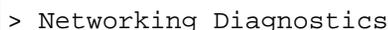
The system displays the Megaport and Megaplex Configuration and Diagnostics screen (Figure 2-25). This screen contains a menu bar with the options Driver Stats, Port Stats, and Diagnostics.

```
        MEGAPORT/MEGAPLEX CONFIGURATION AND DIAGNOSTICS V. 1.04
   Driver Stats   Port Stats    Diagnostics

    Driver Status
    Board Status
    Counters



               MEGAPORT/MEGAPLEX CONFIGURATION
               AND DIAGNOSTICS UTILITY V. 1.04




                                        Use Arrow Keys: F1 for help
```
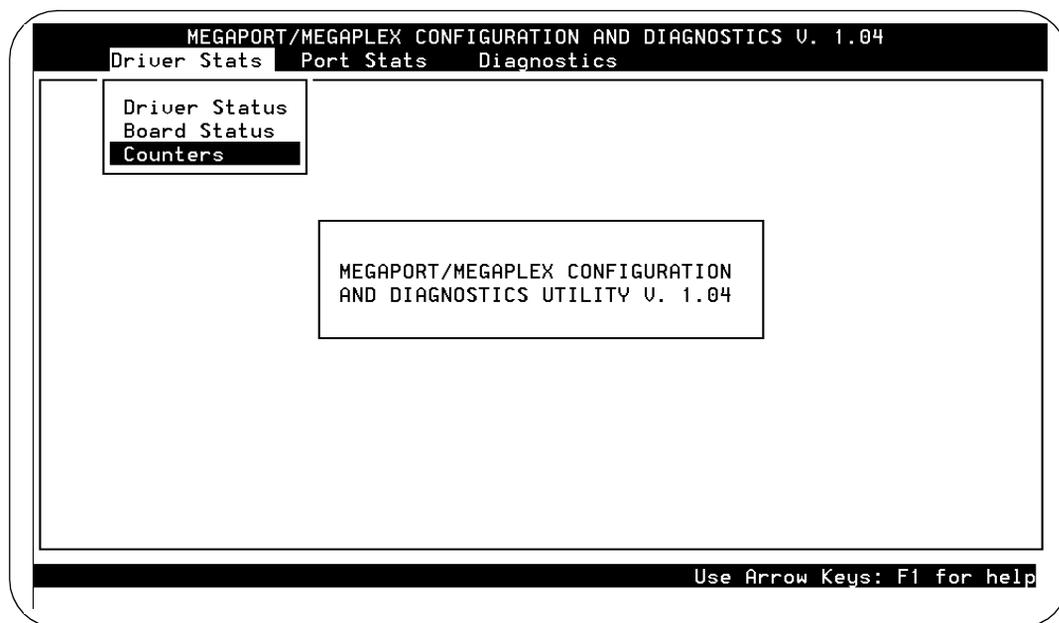
Figure 2-25.   Megaport and Megaplex Configuration and Diagnostics Screen

- 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 Ⓕ 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

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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).

```
────── Board ──────
/dev/ttysa[a-x]
/dev/ttysb[a-x]
/dev/ttysc[a-x]
/dev/ttysd[a-x]
/dev/ttyse[a-x]
/dev/ttysf[a-x]
/dev/ttysg[a-x]
/dev/ttysh[a-x]
/dev/ttysi[a-x]
/dev/ttysj[a-x]
```

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

```
> Port Stats

    > Port Status
```

2. Press [ENTER].

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

```
        device: /dev/ttysaa
```
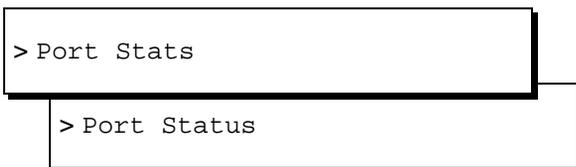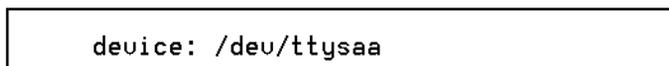
Figure 2-28.   **Prompt Window**

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

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

```
┌──────────────────/dev/ttysaa──────────────────┐
│     OUTPUT                      INPUT          │
│  TD            OFF          RD          OFF     │
│  DTR           OFF          DCD         OFF     │
│                                                │
│  XON/XOFF      XON'ed                           │
│  Status        CLOSED                           │
│  CPS              0    ▓    CPS          0       │
│  Transmitted         0     Received          0  │
│  Buffered         0        Buffered      0       │
└────────────────────────────────────────────────┘
```

Figure 2-29.   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.
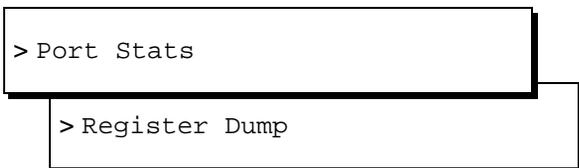
   The system displays the Termio window.

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).
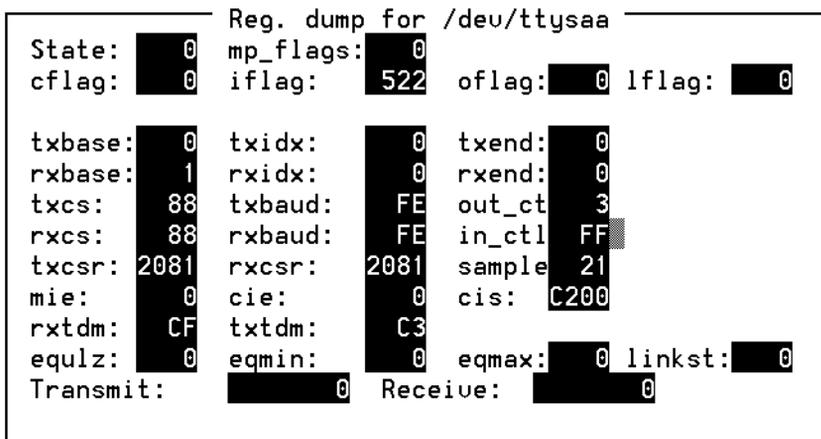
Figure 2-30.   Register Dump Window

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

```
> Diagnostics

    > Loopback
```

2. Press ENTER.

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

```
  ┌─ Loopback ─┐
  │ Configure  │
  │ Run        │
  └────────────┘
```
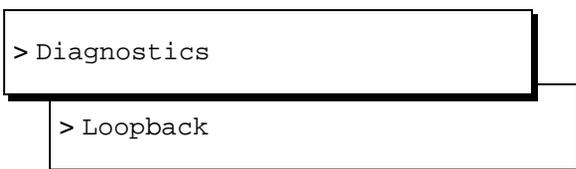
Figure 2-31.   Loopback Menu

3. Select

```
> Configure
```

4. Press ENTER.

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

```
   ┌ Configure ┐
   │ Speed     │
   │ Board     │
   │ Verify    │
   │ Update    │
   └───────────┘
```

Figure 2-32. Configure Menu

5. Select

   ```
   > Board
   ```
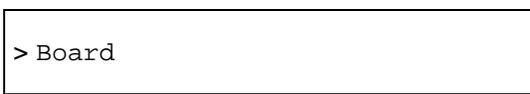
6. Press ENTER.

   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

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11. Place the cursor on 8 Ports.

12. Press ENTER.

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

```
┌─── Loop type ───┐
│ External Loopback │
│ Internal Loopback │
└───────────────────┘
```
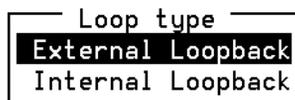
Figure 2-34.   Loop Type Menu

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  │   │                     │
│sab     156825     151237        0   3874  │   │  ESC to exit        │
│sac     156825     151258        0   3875  │   │                     │
│sad     156825     151230        0   3876  │   │  F2  Reset Errors   │
│sae     156825     151219        0   3875  │   │                     │
│saf     156825     151195        0   3870  │   │  F3  Reset Test     │
│sag     156825     151170        0   3861  │   │                     │
│sah     156825     151160        0   3857▓ │   │  F4  Refresh Screen │
└───────────────────────────────────────────┘   │                     │
                                                 └─────────────────────┘
```
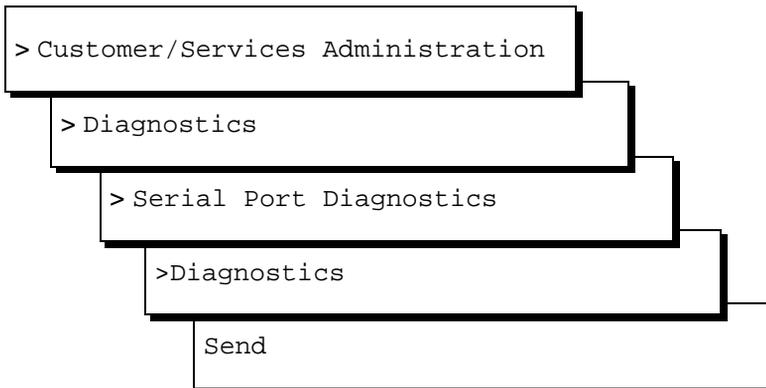
Figure 2-35.   Internal Loopback Window

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

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

2. Press ENTER.

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

3. Press ENTER.

   The system displays the Speed menu (Figure 2-36).

```
┌─ Speed ─┐
   75
   110
   134
   150
   200
   300
   600
   1200
   1800
   2400
   4800
   9600
   19200
   38400
```
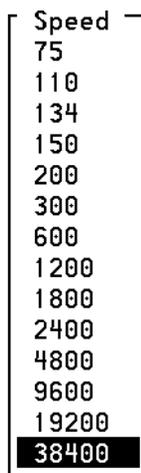
Figure 2-36.   Speed Menu

4. Select the appropriate speed.

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5. Press ENTER .

The system displays the Characters Transmitted window (Figure 2-37).
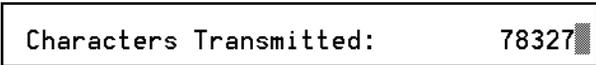
```
Characters Transmitted:        78327▨
```

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 *"INTUITY™ Interchange Release 5.3 Alarm and Log Messages"* 585-313-809, 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.
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 Interface Circuit Card Diagnostics

The DCIU interface 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.

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Diagnostics Procedure

To diagnose the switch integration card, 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).

```
 Test Type
>board
 reset
```

Figure 2-39.   Test Type Menu

4. Select

> > Board

   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.
```

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```
                    -------------------------
                         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

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```
> 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.
```

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 2-40).

```
                     Confirm
WARNING: The DCIU board is currently in
use.  Removing it from service will
disable all lines  associated with the
DCIU, including all AUDIX lines.

Press <y> to confirm.
Press <n> to cancel.
```

Figure 2-40.   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 2-41).

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```
                        Command Output

Busyout DCIU Output:
The Switch Link is changed to state MANOOS.

Press CANCEL to leave this window.
```

Figure 2-41.   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 2-42).
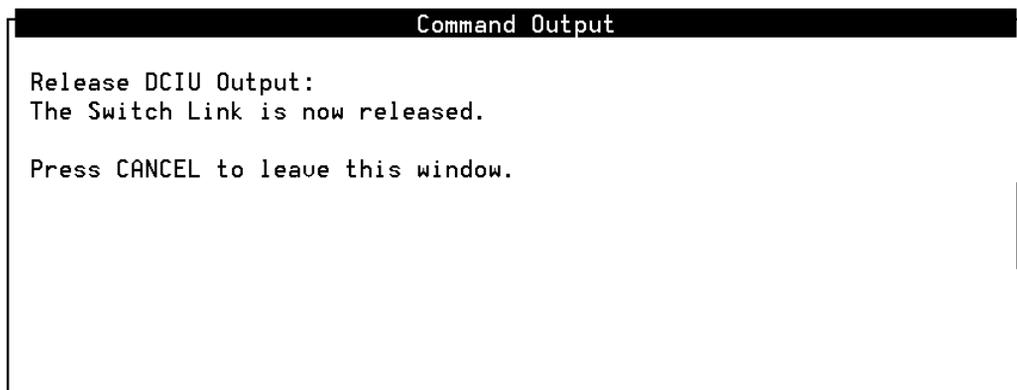
Figure 2-42.   **Release Command Output Window**

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.
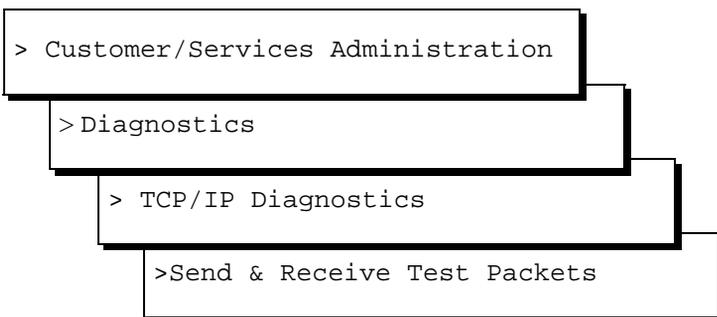
Testing the TCP/IP Software

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

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```
> Customer/Services Administration

    > Diagnostics

      > TCP/IP Diagnostics

          >Send & Receive Test Packets
```

The system displays the Send & Receive Test Packets From window (Figure 2-43).

```
Send & Receive Test Packets From

IP Address: _____
```

Figure 2-43.   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 2-44). 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 2-44.   **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 the customer 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

> ```
> > Customer/Services Administration
>
>    > Diagnostics
>
>       > TCP/IP Diagnostics
>
>          >Send & Receive Test Packets
> ```
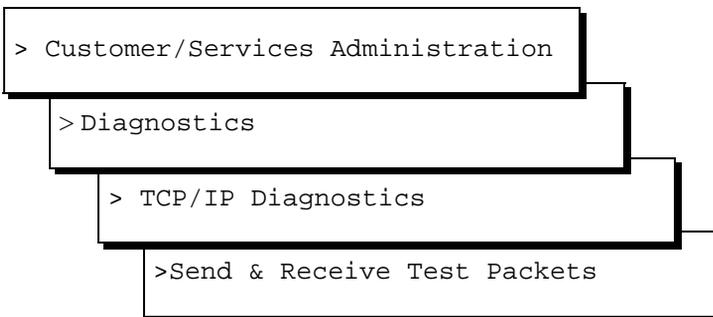
   The system displays the Send & Receive Test Packets From window
   (Figure 2-43).

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 2-44) 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:

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

```
> Customer/Services Administration

   > Diagnostics

      > TCP/IP Diagnostics

         >View Packet Statistics
```

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The system displays the Packet Statistics window ([Figure 2-45](#)).

```
                         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 2-45.   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 the customer 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.

(1 of 2)

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Table 2-5. Fields on Packet Statistics Screen

Field	Description
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.

(2 of 2)

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 2-46).

```
              Voice Port Loop Around Test

      Dialing Channel:
       Target Channel:
           Test Type:
   Immediate Diagnose?:
```

Figure 2-46. Voice Port Loop Around Test Window

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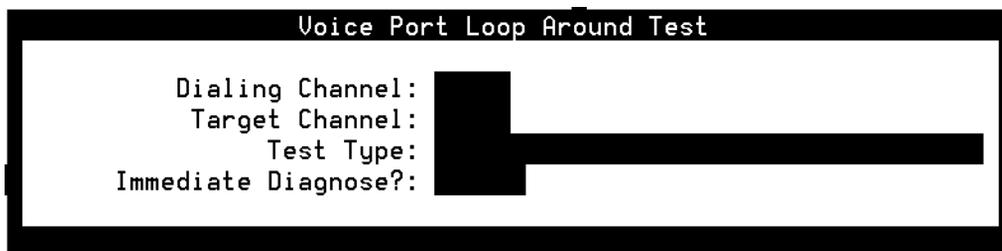
2. Enter a channel number in the `Dialing Channel:` field.

   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`

   ### $\Longrightarrow$ 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 2-47).

```
              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 2-47.   Voice Port Loop Around Test Results Screen

7. Press (ENTER).

    The system displays the Voice Port Loop Around Test window (Figure 2-46).
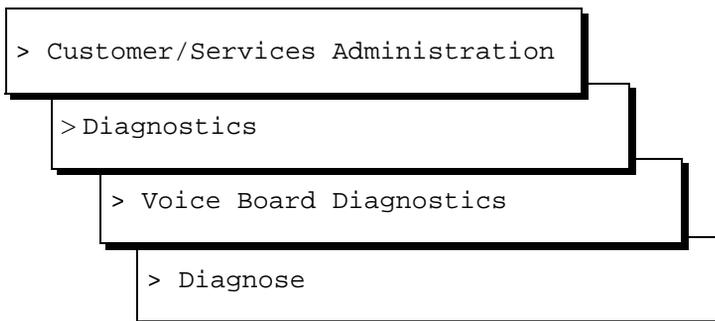
Tip/Ring Circuit Card Diagnostics

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

```
> Customer/Services Administration

    > Diagnostics

        > Voice Board Diagnostics

            > Diagnose
```

The system displays the Diagnose Equipment window (Figure 2-48).

```
                    Diagnose Equipment

    Equipment to diagnose:
          Equipment Number:
       Immediate diagnosis?
```
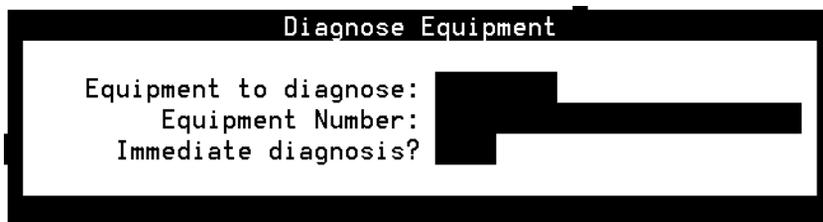
Figure 2-48. Diagnose Equipment Window

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.

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■ 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".

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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

```
> Customer/Services Administration

  > Diagnostics

    > Voice Board Diagnostics

      > Busy Out
```
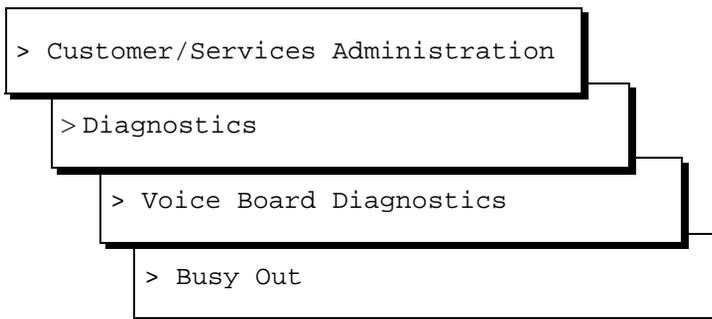
The system displays the Busyout of Voice Equipment window (Figure 2-49).

```
                Busyout of Voice Equipment

            New State: manoos
            Equipment:
     Equipment Number:
    Change Immediately?
```
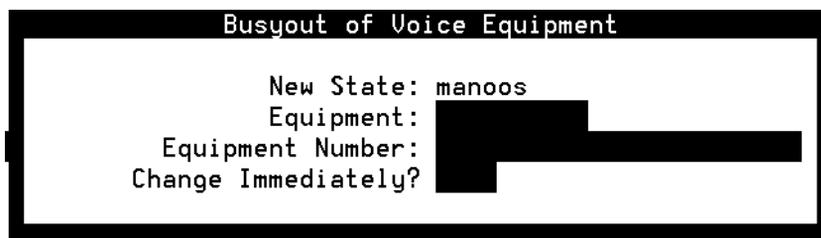
Figure 2-49.   Busyout of Voice Equipment Window

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

```
> Customer/Services Administration

    > Diagnostics

        > Voice Board Diagnostics

            > Release
```

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The system displays the Release of Voice Equipment window
([Figure 2-50](#)).
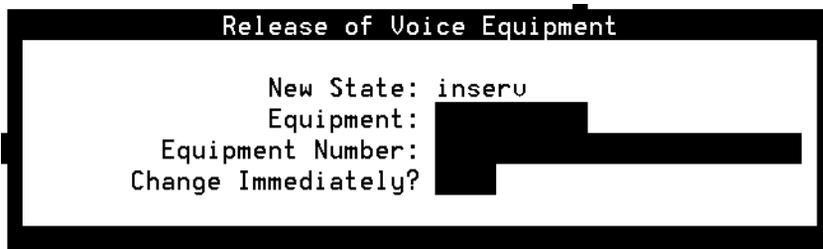
Figure 2-50.   Release of Voice Equipment Window

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).

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Overview

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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.

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Accessing the Product IDMain Menu

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).

```
          INTUITY (TM) Main Menu

AUDIX Administration
Customer/Services Administration
Networking Administration
Upgrade
Voice System Administration
```
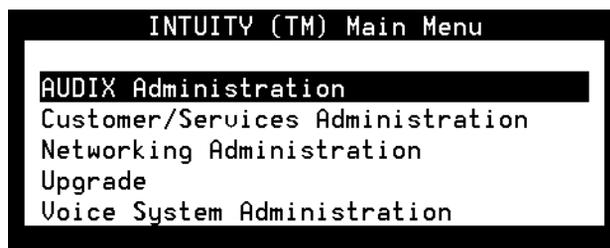
Figure 3-1.   Lucent INTUITY Main Menu

2. Select

```
> Customer/Services Administration
```

```
    > Alarm Management
```

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

```
┌──────────────────────────────────────────────┐
│           Alarm  Management                   │
│                                               │
│ Product ID                      2999999999    │
│                                               │
│ Alarm Destination               ..........    │
│                                               │
│ Alarm Origination               ACTIVE        │
│                                               │
│ Alarm Level                     MINOR         │
│                                               │
│ Alarm Suppression               ACTIVE        │
│                                               │
│ Clear Alarm Notification        ACTIVE        │
│                                               │
└──────────────────────────────────────────────┘
```

Figure 3-2. Alarm Management Window

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

About Cartridge Drives and Tapes

Cartridge tapes provide for the storage of information used by the Lucent INTUITY system. The MAP/5P reads information from and writes information to cartridge tapes through the tape drive. The tape drive is located in Bay 1 (Figure 3-3).
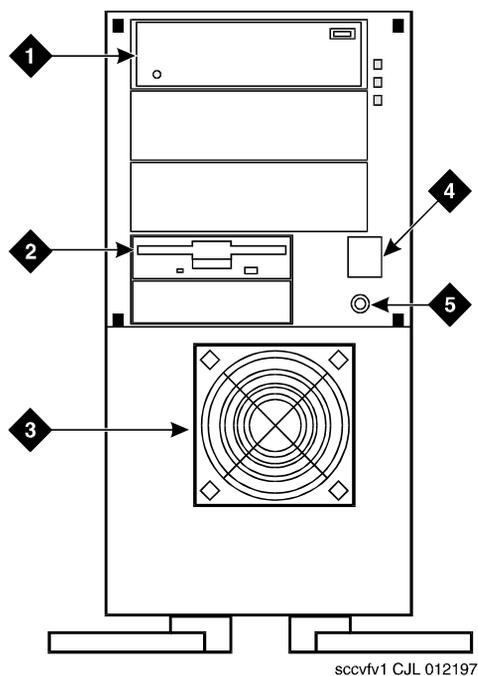
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```
1.    Cartridge tape drive
2.    Diskette drive
3.    Circuit card cage fan
4.    Power button
5.    Reset button
```

sccvfv1 CJL 012197

Figure 3-3.   Front View of the MAP/5P

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.

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Inserting the Cartridge Tape

To insert a cartridge tape, do the following:

1. Locate the tape drive on the front of the MAP/5P (Figure 3-3).

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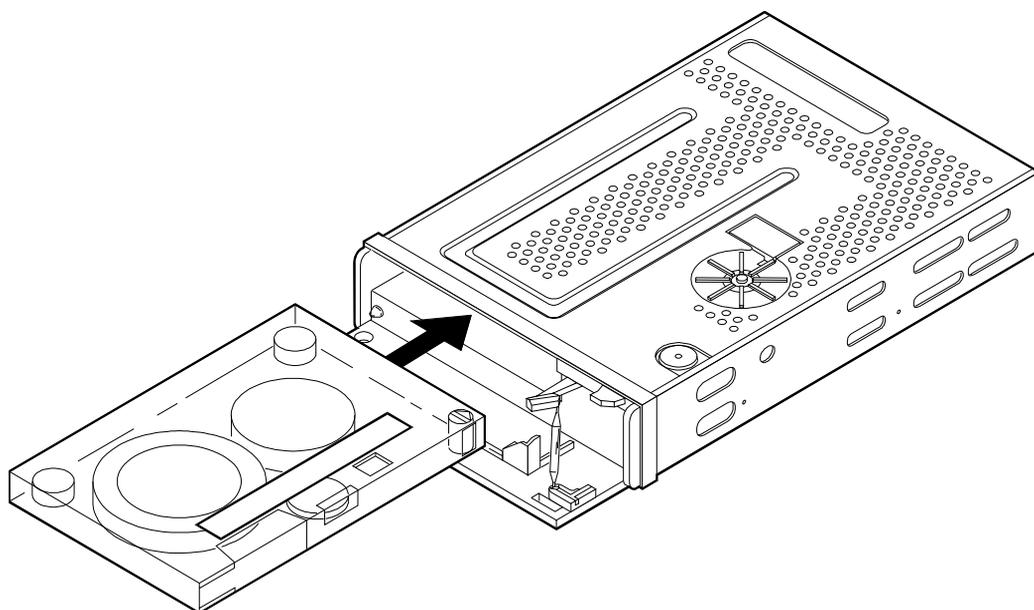
Figure 3-4.   Tape Insertion with a Tape Drive

NOTE:
The light on the tape 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

To remove a cartridge tape, do the following:

⚠ CAUTION:

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

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

2. Pull out the tape.

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

```
> Customer/Services Administration

    > System Management

        > UNIX Management

            >Format UNIX Floppy/Tape
```

The system displays the Format UNIX Floppy/Tape menu (Figure 3-5).

```
            Format UNIX Floppy/Tape
>Format 3.5 inch 1.44 Mbyte (High Density)
 Format 3.5 inch 720 Kbyte (Low Density)
 Format Cartridge Tape
```

Figure 3-5.   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 "About Cartridge Drives and Tapes" above for more information.

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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⌉.

About Diskette Drives and Diskettes

Diskette 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-MB)
- Low density (720-KB)

Inserting and Removing Diskettes

Inserting the Diskettes

To insert a diskette, do the following:

1. Locate the diskette drive on the front of the MAP/5P (Figure 3-3).

2. Check the read/write switch to make sure that the diskette is not write-protected.

3. Insert the diskette in the drive.

   $\implies$ **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.

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Removing the Diskettes
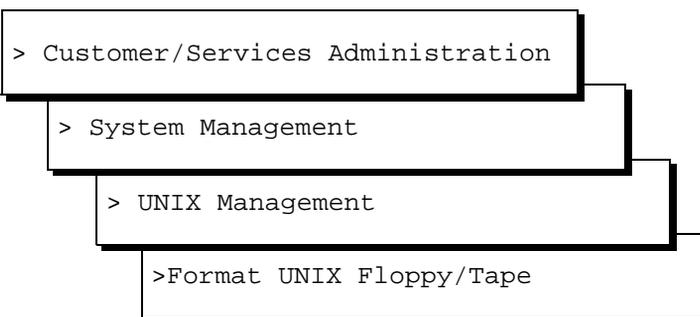
To remove a diskette, do the following:

⚠ CAUTION:

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

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

2. Pull out the diskette.

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

```
> Customer/Services Administration

    > System Management

        > UNIX Management

            >Format UNIX Floppy/Tape
```
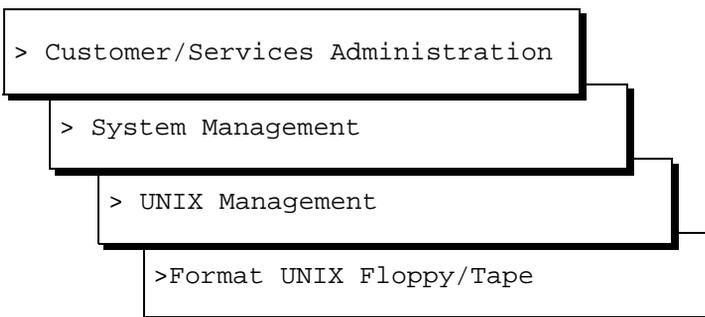
The system displays the Format UNIX Floppy/Tape menu (Figure 3-5).

2. Select `Format 3.5 inch 1.44 MB (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 Diskettes" above 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⌷.

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 Appendix D, "Disaster Recovery Checklists", 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" below for backup verification procedures.

How to Manage Tapes

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

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

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

What Data Is Backed Up

An unattended backup saves:

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

- INTUITY AUDIX® Digital Networking connectivity and communication information

- INTUITY AUDIX Voice Messaging message headers, mailing lists, subscriber profiles (including automated attendant administration), and message-waiting indicator status

- Switch integration parameters

- Serial port assignments

- Hard disk configuration

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

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

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

(1 of 2)

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

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

     (2 of 2)

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

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

Directory	Description
/vm/audix/md/mdata	Message headers, mailing lists, subscriber profiles, and message-waiting indicator status
/vm/audix/md/mdata/ocserv	Outgoing call queue status files
/vm/audix/md/config/hlrfile	High-level resource control file
/vm/audix/sd/mail/dr	Message delivery queue
/vm/audix/sd/mail/mb	Mailbox record (incoming and outgoing mailbox data)
/vm/audix/sd/mail/node	Mailbox node status file (for networking)
/vm/audix/sd/mail/xmq	Remote transmission queue
/vm/audix/sd/mesg/mh	Message headers (stores information per message such as original extension number, etc.)
/vm/audix/sd/mesg/vf	Voice file reference count (number of references per voice file)
/vm/audix/sd/sdata/attend	Automated attendant data
/vm/audix/sd/sdata/cls	Class-of-service data
/vm/audix/sd/sdata/netport	
/vm/audix/sd/sdata/netprof	
/vm/audix/sd/sdata/pdir	Personal directory data
/vm/audix/sd/sdata/rmatrix	Sending restriction matrix data
/vm/audix/sd/sdata/sdl	Mailing and delivery list file
/vm/audix/sd/sdata/sup	Subscriber profile file
/vm/audix/sd/sdata/syp	System-wide data

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

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

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

Verifying the Unattended Backup

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

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

Successful Backup Verification using the Log Administration Menu

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

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

```
> Customer/Services Administration

    > Log Administration

        > Administrator's Log
```

The system displays the Administrator's Log Display Selection window
(Figure 3-6).

```
                  Administrator's Log Display Selection

                            Administrator's Log


 The following options control which entries will be displayed.



    Start Date: 9 /28/95          Time: 12:41:59

   Application: __            Event ID: _____

 Search String:

 _____
 __
```

Figure 3-6.   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 3-7).

```
                        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 3-7.   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 3-8).

```
AUDIX              Active           Alarms:  mwA              Logins: 1




















enter command:
```

Figure 3-8.   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 3-9](#)).

```
AUDIX              Active            Alarms: Mmw                    Logins: 1
display administrator's-log                                    Page 1 of 1
                        ADMINISTRATOR'S LOG


  The following options control which entries will be displayed.


    Start Date: 10/13/95          Time: 12:12

    Application: __            Event ID: _____

Search String:


_____




enter command: display administrator's-log
```
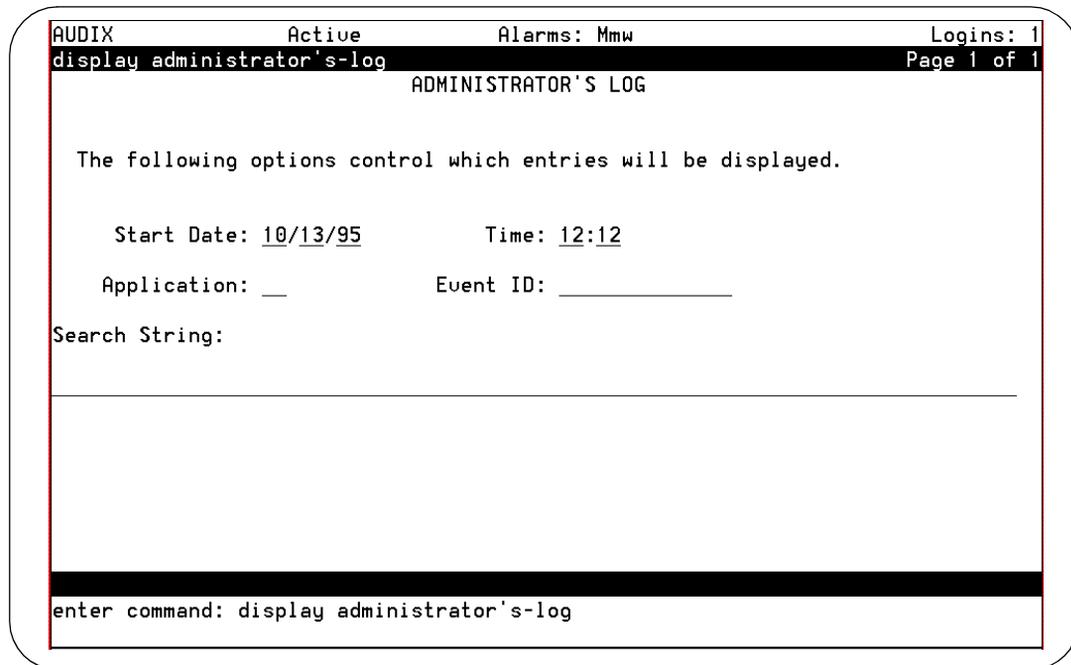
Figure 3-9.   AUDIX Administrator's Log Display Selection Screen

3. Move the cursor to the `Event ID:` field.

4. Enter **BKRST001**

5. Press ⎄F3⎄ (Save).

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

```
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 Manage
                                           ment Form changed to MINOR
02/12/96 15:44  MT   AOMADM00001      1   Clear Alarm Notification on Alarm Manag
                                           ement 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
```
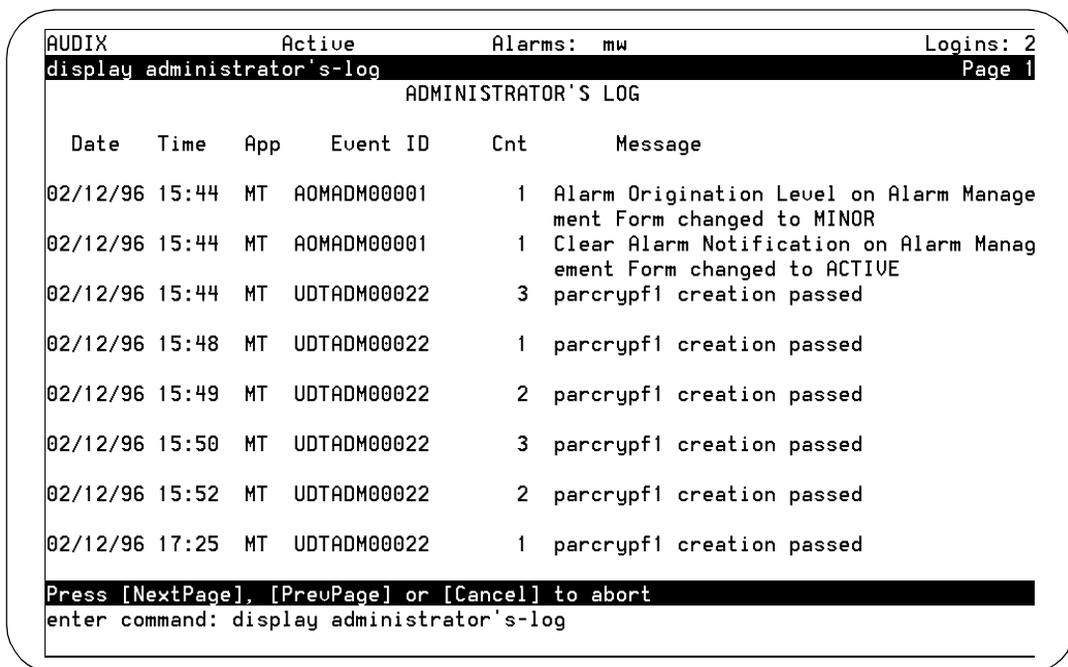

Figure 3-10.   AUDIX Administrator's Log Screen

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)" above 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.

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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
```

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The system displays the Backup window (Figure 3-11).

```
┌─────────────────────────────────────────────────────┐
│                    Backup                            │
│                                                      │
│  System Data                                    Yes  │
│  ─────────────────────────                      ───  │
│                                                      │
│  AUDIX Announcements                            Yes  │
│  ─────────────────────                          ───  │
│                                                      │
│  AUDIX Names                                    Yes  │
│  ───────────────────                            ───  │
│                                                      │
│  Greetings and Messages                         Yes  │
│  ──────────────────────                         ───  │
│                                                      │
│  Guest Messages                                 Yes  │
│  ─────────────────                              ───  │
│                                                      │
│  Lodging System Files                           Yes  │
│  ────────────────────                           ───  │
│                                                      │
│  ─────────────────────────                      ───  │
│                                                      │
│  ─────────────────────────                      ───  │
│                                                      │
│  ─────────────────────────                      ───  │
│                                                      │
└─────────────────────────────────────────────────────┘
```

Figure 3-11.   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)

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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.

   $\Longrightarrow$ **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 the Cartridge Tape" above for this procedure.

8. Press $\boxed{\text{ENTER}}$ when the tape drive is idle.

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

   $\Longrightarrow$ **NOTE:**

   > The light on the 2-GB drive will blink when the drive is in use. If the light is not blinking, the tape drive is idle.

9. If another tape is necessary:

   a. Remove the current tape. See "Removing the Cartridge Tape" above for this procedure.

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

   c. Insert the next tape. See "Inserting the Cartridge Tape" above for this procedure.

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

When the backup is complete, the system displays the following message:

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

10. Press $\boxed{\text{ENTER}}$.

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.

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.

Depending on the severity of the situation, Lucent INTUITY software may have to be reinstalled before restoring any backups. See Chapter 9, "Installing Lucent™ Intuity™ System Software", for these procedures.

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

To restore the backup, do the following:

1. Stop the voice system. See "Stopping the Voice System" below 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 the Cartridge Tape" above for more information.

4. Press $\boxed{\text{ENTER}}$ to continue.

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

- Tape label

- Date

- List of packages (with release and version) installed on the machine when the tape was made

- Data types

The following is an example of tape header information:

```
PRODUCT_ID=2299999999

DATE=09/11/93 09:51

PKG=VM:0:R1.1

PKG=mtce:1.0:1.0-4

PKG=netw:0:1.0-4.3

PKG=vs:1.0:1.0-4

TYPE=System Data:

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

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

    If it does not,

    a. Press ESC.

    b. Return to Step 3 above.

    c. Try another tape.

    If it does, continue with Step 6.

6. Press ENTER to continue.

    The system displays the Restore window.

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

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

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

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

10. Insert subsequent tapes if prompted.

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11. Press ENTER when the restore is complete.

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" below 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

```
> Customer/Services Administration

    > System Management

        > System Control

            >Start Voice System
```

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 3-12).
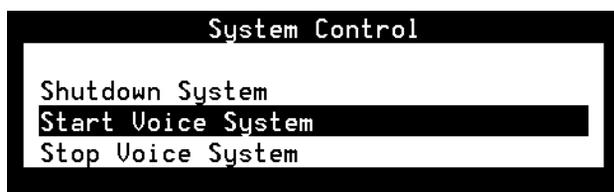
Figure 3-12.   System Control Menu

You have completed this procedure.

Stopping the Voice System

! **CAUTION:**

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

To stop the voice system, do the following:

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

```
> Customer/Services Administration

    > System Management

        > System Control

            >Stop Voice System
```
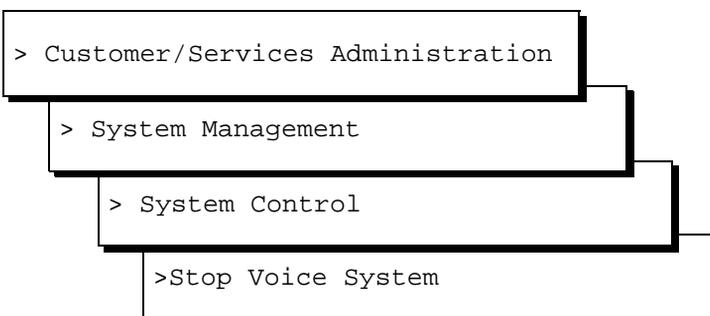
The system displays the Wait Time window (Figure 3-13).

Figure 3-13.   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.
   ```

   ### $\Longrightarrow$ **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" above 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 Lucent INTUITY System

1. Stop the voice system. See "Stopping the Voice System" above for the procedure.

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

> > Customer/Services Administration
> >
> > > System Management
> > >
> > > > System Control
> > > >
> > > > > Shutdown System

The system displays the Wait Time window (Figure 3-13).

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 displays the following message:

```
The system is down.
Press Ctrl-Alt-Del to reboot your computer.
```

5. Continue with the next procedure, "Rebooting the System".

Rebooting the System

Rebooting the system can be done in two ways:

- A *warm reboot* (performed while the computer is on)

- A *cold reboot* (turning the computer off, then back on again)

Performing a Warm Reboot

1. Make sure that there is no diskette in the floppy drive.

2. Press `Ctrl-Alt-Del`.

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

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

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

3. If FAIL appears in the status column for any component do the following:

   a. Record the component's name.

   b. Access the alarm log to begin troubleshooting. See Chapter 1, "Getting Started," in *Lucent INTUITY Alarms and Log Messages* for this procedure.

Performing a Cold Reboot

1. Make sure that there is no diskette in the floppy drive.

2. To perform a cold reboot, turn the MAP/5P 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/5P (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
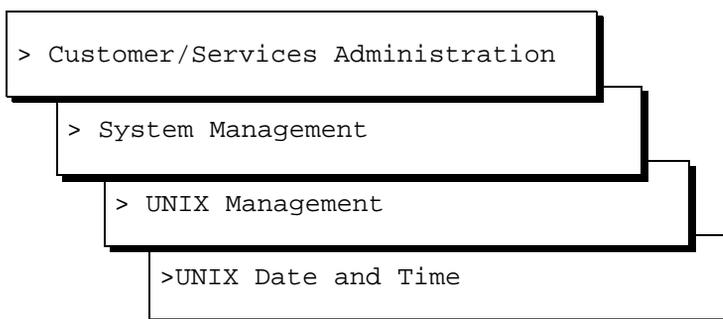
```
> Customer/Services Administration

   > System Management

      > UNIX Management

         >UNIX Date and Time
```

The system displays the UNIX Date and Time window (Figure 3-14).

```
                    UNIX Date and Time

Date:                          October     16, 1995

Time:                          10:51

AM/PM:                         AM

Timezone:                      Eastern

Is Daylight Savings Time used?: YES
```
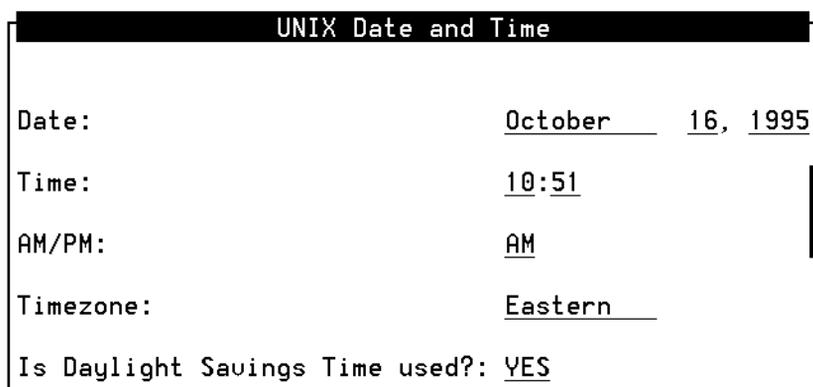
Figure 3-14.   UNIX Date and Time Window

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 (Figure 3-14).

2. If the month shown is not correct, complete Steps a through c below:

   a. Press F2 (Choices) to display the months of the year (Figure 3-15).

Figure 3-15.   UNIX Month Choices Menu

   b. Use ▲ or ▼ to move the cursor and highlight the correct month.

   c. Press ENTER to place the name of the correct month into the month field.

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

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

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

Changing the Day

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

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

Changing the Year

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

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

Changing the Time Field

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

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

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

Changing the AM/PM Field

If `AM/PM` is not correct as shown, type **a** for a.m. or **p** for p.m. and continue with the next procedure, "Changing the Time Zone Field".

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

Changing the Time Zone Field

If the time zone shown is not correct, complete the following 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 3-16).

```
┌──────────┐
│ Timezone ┃
│)Greenwich┃
│ Atlantic ┃
│ Eastern  ┃
│ Central  ┃
│ Mountain ┃█
│ Pacific  ┃█
│ Yukon    ┃
│ Alaska   ┃
│ Bering   ┃
│ Hawaii   ┃
└──────────┘
```
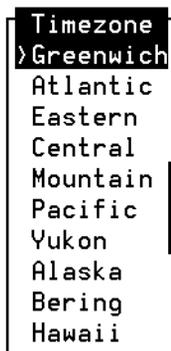
Figure 3-16. UNIX Time Zone Choices Menu

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" above 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

```
> Customer/Services Administration

    > System Management

       > UNIX Management

            >UNIX Date and Time
```

The system displays the UNIX Date and Time window (Figure 3-14).

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

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Getting Inside the Computer

4

Overview

This chapter describes procedures for:

- Proper electrostatic discharge protection

- Power removal and restoration

- Computer chassis access

Purpose

The purpose of this chapter is to provide the correct procedures for accessing the internal components of the MAP/5P.

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Protecting against Damage from Electrostatic Discharge

> **⚠ CAUTION:**
> *Read this section before unpacking the MAP/5P. 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 your 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.*

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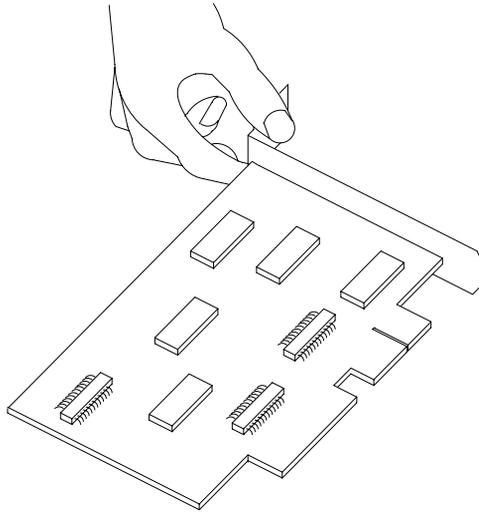
Figure 4-2.   How to Hold a Small Circuit Card
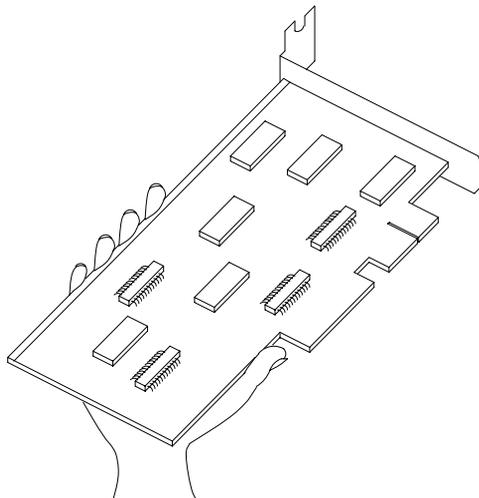
Figure 4-3.   How to Hold a Large Circuit Card

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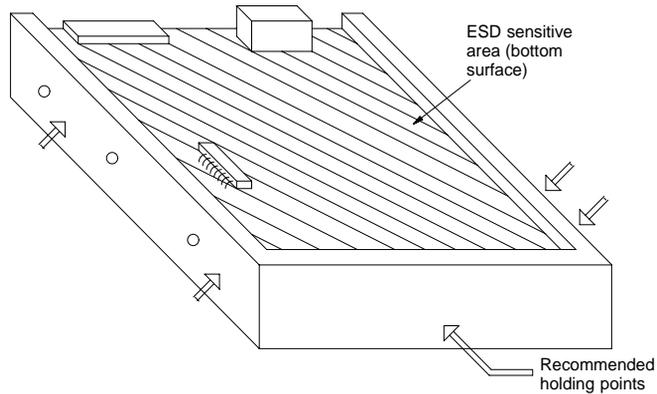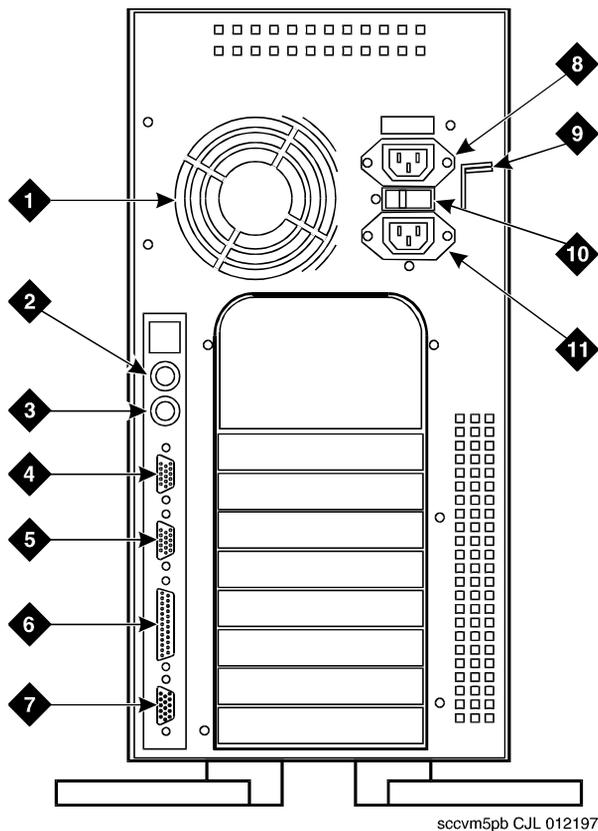
Figure 4-4.   ESD-Sensitive Area of an Electronic Component

Removing Power from the MAP/5P

The MAP/5P requires a dedicated circuit with a dedicated circuit breaker.   The
power cord connects to the rear of the MAP/5P at the point labeled AC power inlet
receptacle (Figure 4-5). Before you begin any work in the MAP/5P complete the
following procedure to remove power from the MAP/5P.

sccvm5pb CJL 012197

1.   Power supply fan intake
2.   Keyboard connector
3.   Mouse connector
4.   COM1
5.   COM2
6.   Parallel port
7.   Video connector
8.   AC power supply outlet
9.   Dress cover lock
10. AC voltage selector switch
11. AC power inlet receptacle

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

1. Shut down the Lucent™ INTUITY™ system. See "Shutting Down the Lucent Intuity 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/5P.

    The green lamp labeled POWER ON on the front of the unit should be off.

4. Unplug the MAP/5P from the power outlet.

5. Remove the MAP/5P power cord from the AC receptacle in the wall.

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/5P. You must remove the dress cover to access these components.

⚠ DANGER:

Shut power off before removing the dress cover. See "Removing Power from the MAP/5P", above for the procedure.

To remove the dress cover, do the following:

1. Place the dress cover lock (Figure 4-5) in the open position.

    ### ⇒ NOTE:

    Figure 4-5 shows the dress cover lock in the locked position.

2. Simultaneously compress the dress cover latches on either side of the MAP/5P (Figure 4-6).

3. Slide the dress cover away from the MAP/5P.

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4   Getting Inside the Computer
Removing the Dress Cover

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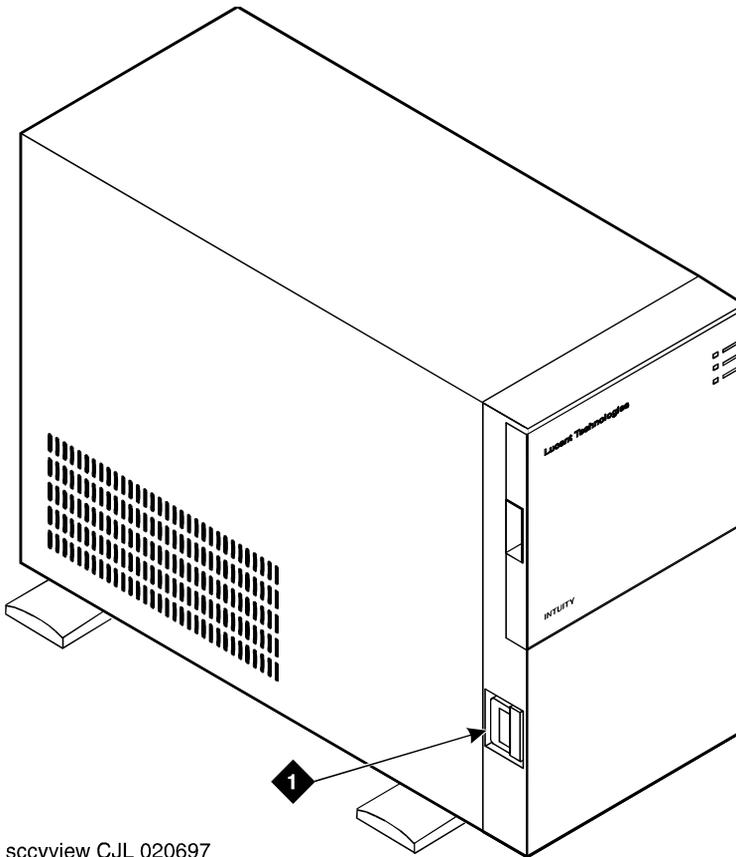
sccvview CJL 020697

1.   Dress cover latch

Figure 4-6.   Removing the Dress Cover

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Replacing the Dress Cover

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Replacing the Dress Cover

To replace the dress cover, do the following:

1. Align the dress cover with the MAP/5P chassis.

2. Slide the dress cover back until it locks into place.

3. Close the dress cover lock on the back of the MAP/5P chassis.

Restoring Power to the MAP/5P

To restore power to the MAP/5P, do the following:

1. Plug the MAP/5P power cord into the designated power outlet.

2. Fasten the power cord to the MAP/5P dress cover lock using a cable tie.

   NOTE:
   Leave some slack in the power cord between the dress cover lock and the back of the MAP/5P.

3. Turn on the monitor's power switch.

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

4. Press on the power switch on the front of the MAP/5P.

   The green lamp on the front of the unit should be lit.

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5 Replacing or Installing Circuit Cards
Overview

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Replacing or Installing Circuit Cards

5

Overview

This chapter describes:

- Configuring circuit cards in the MAP/5P

- Types of circuit cards

- General steps for circuit card installation

- Specific procedures for installation of standard and optional MAP/5P 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

⚠ CAUTION:

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

To remove a circuit card, you must:

- Remove the Lucent™ INTUITY™ system from service.

- Access the circuit card.

- Extract the circuit card.

Removing the Lucent INTUITY System from Service

To remove the Lucent INTUITY system from service, 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. Stop the voice system. See "Stopping the Voice System" in Chapter 3, "Common System Procedures", for the procedure.

3. Shut down the voice system. See "Shutting Down the Lucent Intuity System" in Chapter 3, "Common System Procedures", for the procedure.

4. Remove the incoming power. See "Removing Power from the MAP/5P" in Chapter 4, "Getting Inside the Computer", for this procedure.

Accessing the Circuit Card

To access the circuit card, remove the dress cover. See "Removing the Dress Cover" in Chapter 4, "Getting Inside the Computer", for this procedure.

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General Procedures

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Extracting the Circuit Card

To extract the circuit card, do the following:

1. Locate the circuit card to be replaced within the card cage.

2. Disconnect any attached cables.

   ⇒ **NOTE:**
   Pay close attention to the connectivity of each cable to make it easier to connect them to the replacement circuit card.

3. If there are cables attached to other circuit cards which would impede the removal of the circuit card, disconnect them and place them to the side.

   ⇒ **NOTE:**
   Pay close attention to the connectivity of each cable.

4. Remove the retaining screw from the circuit card faceplate and save it.

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

   ⇒ **NOTE:**
   Note the slot assignment because you must install the replacement circuit card in the same backplane slot.   See "Component Assignments" in Appendix A, "System Configuration"," for circuit card slot assignments.

6. Remove the circuit card from the MAP/5P.

   ⚠ **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.

7. 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.

Installing a Circuit Card

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

To install a circuit card, you must:

- Insert the circuit card.

- Re-assemble the MAP/5P.

- Restore the Lucent INTUITY system to service.

$\Longrightarrow$ **NOTE:**
  If you are adding an additional circuit card to the Lucent INTUITY system,
  complete the procedures, "Removing the Lucent Intuity System from
  Service" and "Accessing the Circuit Card," above.

Inserting the Circuit Card

To insert the circuit card, do the following:

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

   $\Longrightarrow$ **NOTE:**
     Keep the package and all ESD protective wrapping. If you must
     return a circuit 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 circuit card.

   $\Longrightarrow$ **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 circuit card into the
   backplane connector slot position from which you removed the damaged
   circuit card. If necessary, see Appendix A, "System Configuration", to
   determine the correct slot in which to place the circuit 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 circuit card. Make sure these cables are
   attached to their proper terminations.

7. Replace all cables removed from other circuit cards. Make sure these
   cables are attached to their proper terminations.

Re-assembling the MAP/5P

To re-assemble the MAP/5P, replace the dress cover. See "Replacing the Dress
Cover" in Chapter 4, "Getting Inside the Computer", for the procedure.

Restoring the Lucent INTUITY System to Service

To restore the Lucent INTUITY system to service, do the following:

1. Restore power to the MAP/5P. See "Restoring Power to the MAP/5P" in Chapter 4, "Getting Inside the Computer", for the procedure.

2. Verify the Lucent INTUITY system operation by placing a call to a user.

3. 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).

```
                   INTUITY (TM) Main Menu

         AUDIX Administration
         Customer/Services Administration
         Networking Administration
         Upgrade
         Voice System Administration
```
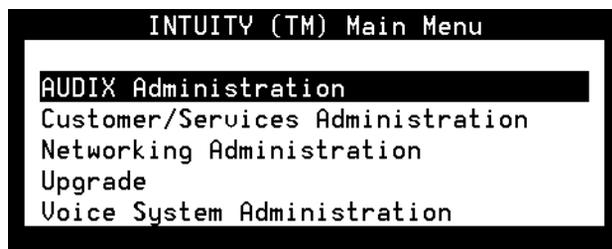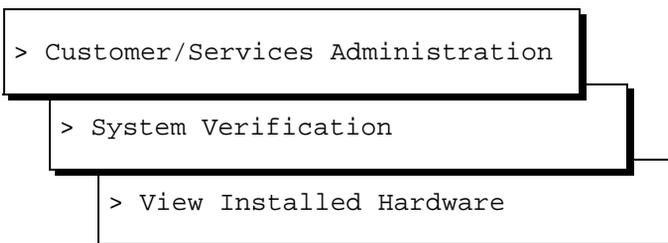
Figure 5-1.   Lucent INTUITY Main Menu

   b. Select

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

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

```
                    View Installed Hardware
Installed hardware of mtce

MAP/40 chassis configured as a Model 40 with:
 o 63 megabytes of memory installed
 o -2032 megabyte hard drive installed at SCSI id 0
Remote Maintenance board installed.

Installed hardware of netw

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

Figure 5-2.   View Installed Hardware Window

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

Circuit Card Settings

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

⚠ CAUTION:

*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"](#).*

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 circuit 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.

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Multi-Port Serial Circuit Card

The multi-port serial circuit card for the MAP/5P (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 circuit card in the MAP/5P.
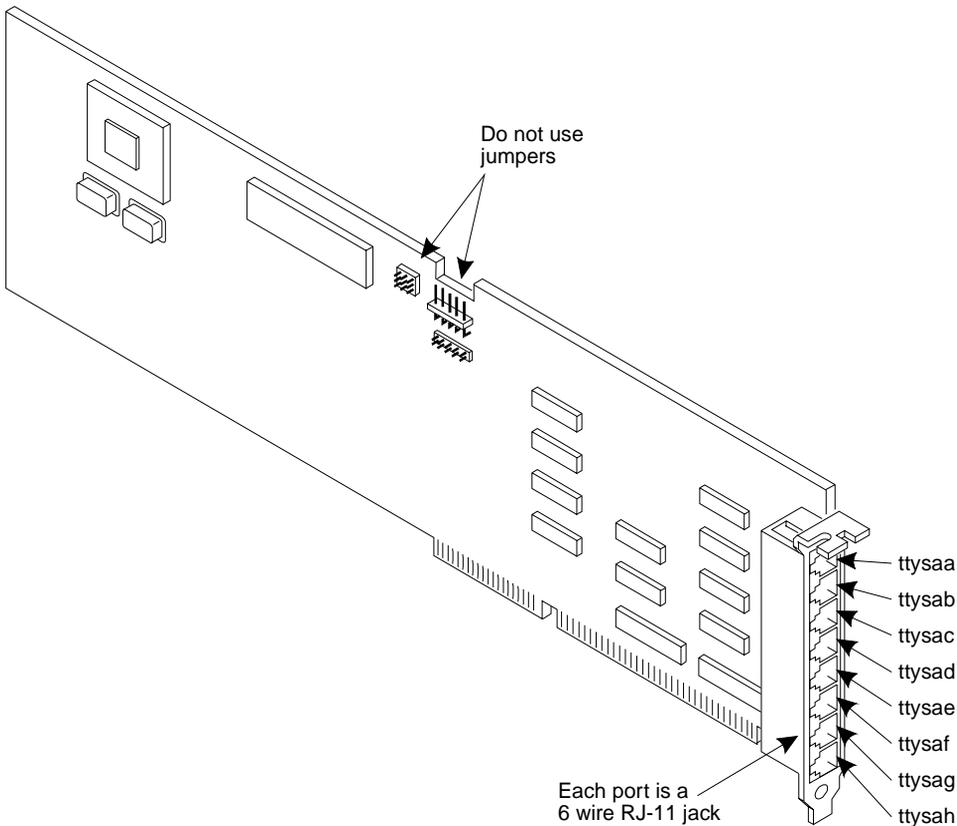
Figure 5-3.   Multi-Port Serial Circuit Card

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

See "General Procedures" above for multi-port serial circuit card installation procedure.

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ACCX (AYC22) Circuit Card

The Lucent INTUITY system supports up to eight networking channels on the MAP/5P 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 one ACCX circuit card in the MAP/5P.

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Switch
(see ACCX
switch setting
figure)

72 pin
D-Sub
connector
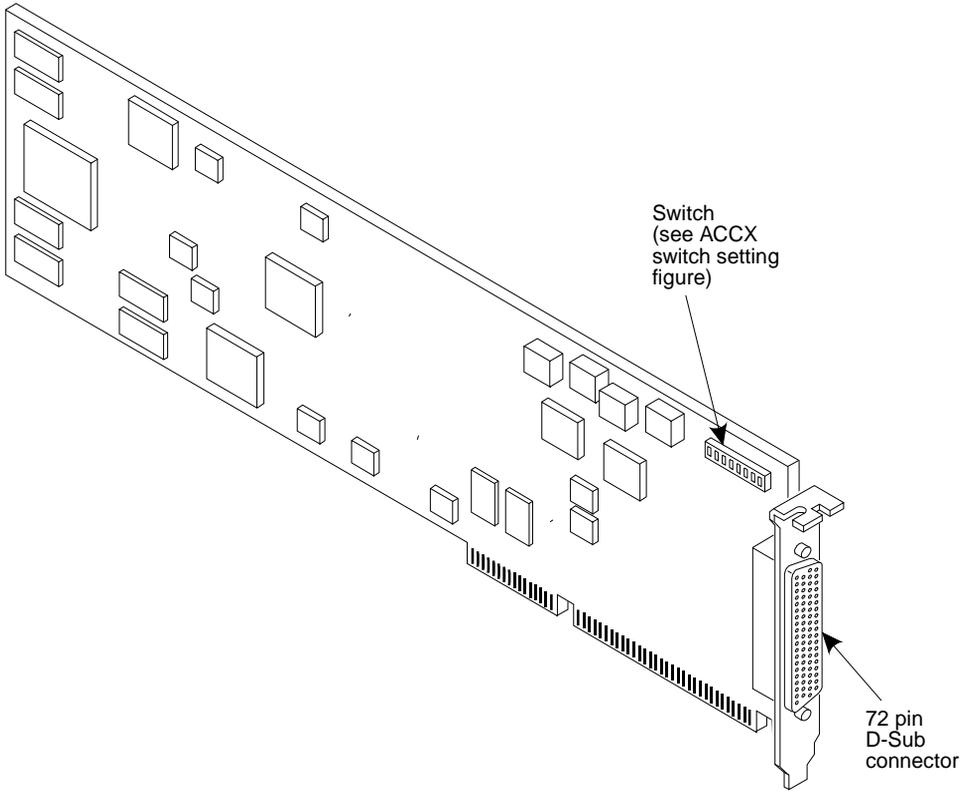
Figure 5-4.   ACCX Networking Circuit Card

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

Base I/O address = 140 hex
ACCX (AYC22) Card #1
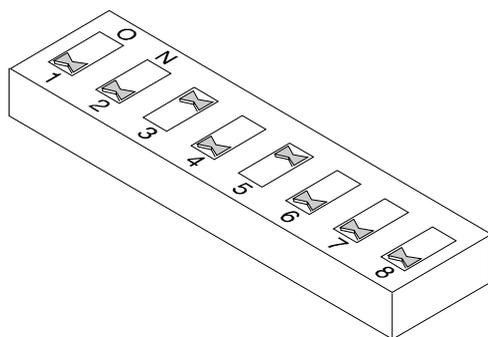
Figure 5-5.   Switch Settings for the MAP/5P ACCX Circuit Card

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

Switch Interface Circuit Cards

The Lucent INTUITY system interfaces with the customer switch through:

- DCIU circuit card
- Digital station interface circuit card
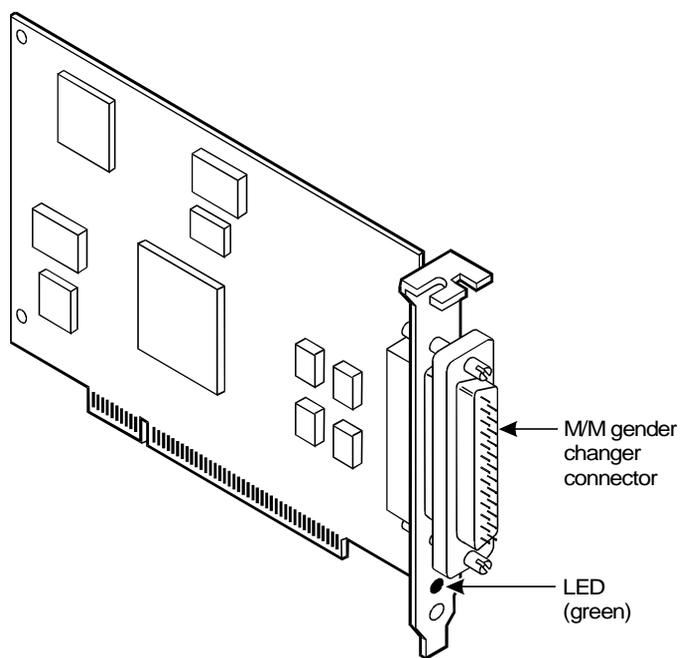
DCIU Circuit Card

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

> **NOTE:**
> In order to use this circuit card the DCIU Switch Integration set must be installed on the Lucent INTUITY system. See "Installing the DCIU Switch Integration Set" in Chapter 8, "Installing Base System Software", for the procedure.
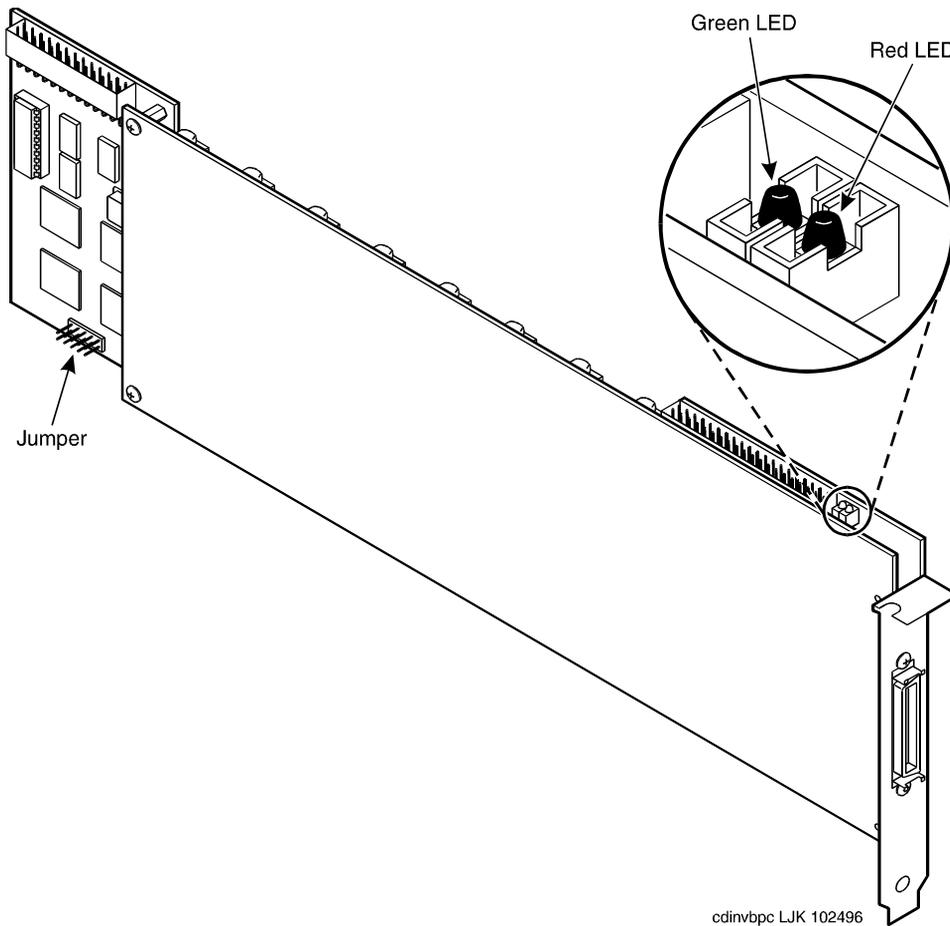
You can install only one DCIU circuit card in the MAP/5P.

dciu KLC 080696

Figure 5-6.   DCIU Circuit Card

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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 DCIU Circuit Card

See "General Procedures" for the DCIU circuit card removal and installation procedures.

Installing a DCIU Circuit Card

Use the following procedure to install a DCIU circuit card in a system which previously did not have a DCIU circuit card installed.

1. Stop the voice system. See "Stopping the Voice System" in Chapter 3, "Common System Procedures", for the procedure.

2. Install the Lucent INTUITY DCIU Switch Integration set.   See "Installing the DCIU Switch Integration Set" in Chapter 8, "Installing Base System Software" for the procedure.

3. Install the DCIU circuit card. See "Installing a Circuit Card" for the procedure.

4. 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 5-7) 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 Circuit Card Switch Integration set must be installed on the Lucent INTUITY system. See "Installing the Digital Station Interface Circuit Card Switch Integration Set" in Chapter 8, "Installing Base System Software", for the procedure.

You can install only one digital station interface circuit card in the MAP/5P.

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Figure 5-7.   Digital Station Interface Circuit Card

Setting the Resource Options

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 5-8) allows you to connect the Lucent INTUITY system to your local area network. Only one LAN circuit card can be installed in the MAP/5P.

⚠ **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 <u>Chapter 8, "Initial Administration and Test for TCP/IP LAN Connectivity and Lucent Intuity Message Manager"</u>," in <u>"INTUITY™ Interchange Release 5.3 MAP/5P System Installation"</u> for more information on cabling and TCP/IP administration.
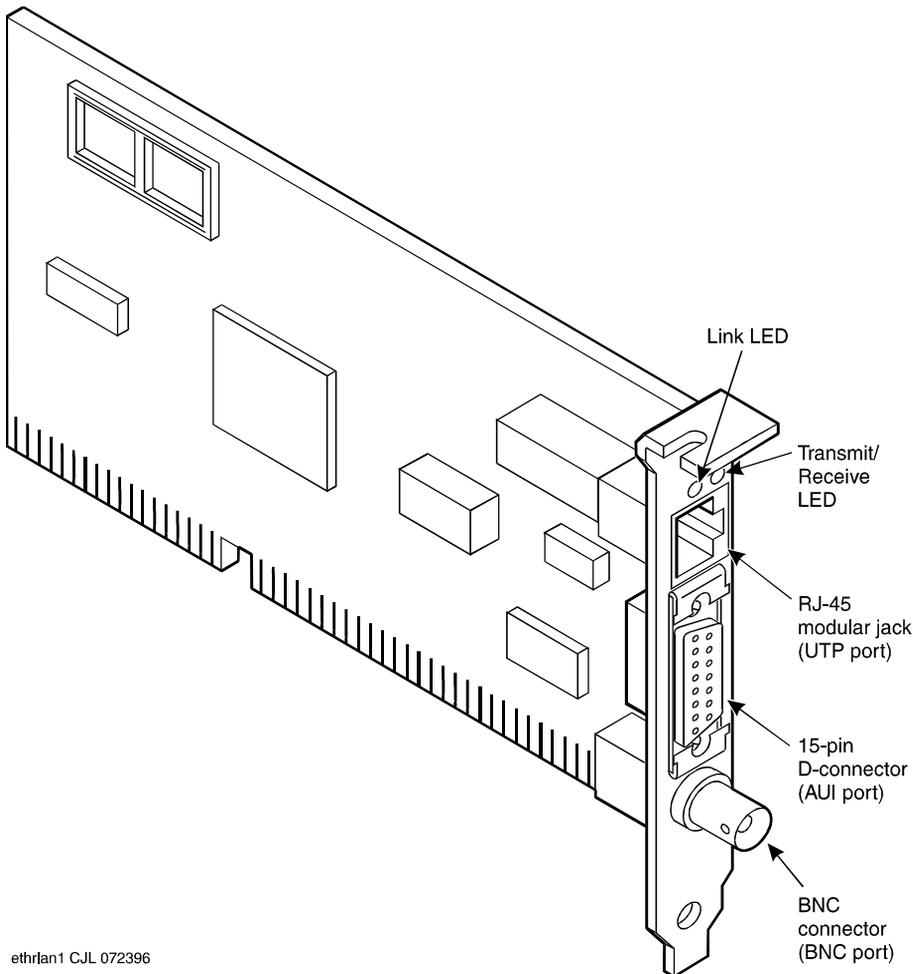
ethrlan1 CJL 072396

Figure 5-8.　Ethernet LAN Circuit Card

The Ethernet LAN circuit card is software configured. The default software configuration is as follows:

- IRQ - 10

- I/O base address - 280

- RAM base address - D8000

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

Installing the LAN Circuit Card

Installation of the Ethernet LAN circuit card must be done in the following sequence of operation.

1. Install the Ethernet LAN circuit card in the MAP/5P. See "Component Assignments" in Appendix A, "System Configuration", for the correct slot.

2. Restore power to the system. See "Restoring Power to the MAP/5P" in Chapter 4, "Getting Inside the Computer", for the procedure.

3. Administer the TCP/IP. See Chapter 8, "Initial Administration and Test for TCP/IP LAN Connectivity and Lucent Intuity Message Manager"," in "INTUITY™ Interchange Release 5.3 MAP/5P System Installation" for more information on TCP/IP administration.

4. Shut down the system. See "Shutting Down the Lucent Intuity System" in Chapter 3, "Common System Procedures", for the procedure.

5. Cable the Ethernet LAN circuit card. See Appendix E, "Cable Connectivity" in "INTUITY™ Interchange Release 5.3 MAP/5P System Installation" for more information on TCP/IP administration.

6. Reboot the system. See "Rebooting the System" in Chapter 3, "Common System Procedures", for the procedure.

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Configuring the LAN Circuit Card

To configure the LAN circuit card, do the following:

1. Enter **smc_setup**

   The system displays the SMC LAN Adapter Setup screen (Figure 5-9).

```
SMC LAN Adapter Setup Program -- Version 1.21


Board Type:    8416
Node Address:

                  Current Setup

I/O Base Address    280
IRQ                 10
RAM Size            8 K
WIN Size            8 K
RAM Base Address    0D8000
Add Wait States     Yes
Network Connection  TwPr-No Link
Link Integrity      Disabled
ROM Size            Disabled
ROM Base Address    Disabled
Pnpboot             Disabled


Do you want to change the setup? (y)->
```

Figure 5-9.   SMC LAN Adapter Setup Screen

2. Make sure your settings match those shown in Figure 5-9.

3. Enter **/etc/confnet.d/configure -i**

   The system displays the following message:

   ```
   These are the device(s) available on your system:
   1    sme_0
   ```

   ```
   Type the number of the device(s) to be configured with
   inet [?,??,q]
   ```

4. Enter the appropriate number.

   The system displays the following message:

   ```
   Please enter the IP host name for device sme_0:
   ```

5. Enter the your machine name.

   ⚠ CAUTION:
   Do not take the default.

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The system displays the following message:

```
Please initialize the IP address for host XXX:
```

6. Enter the IP address.

The system displays the following message:

```
Configure host XXX with default Ethernet(TM)ifconfig
options?
Info message is long. (yes no ClassC BerkeleyC info;
default: info)
```

7. Enter the **ClassC**.

The system displays the system prompt.

Tip/Ring Circuit Cards

Tip/Ring circuit cards provide the channels which are used by the Lucent INTUITY system. There are six channel on each Tip/Ring circuit card. The MAP/5P accommodates three Tip/Ring circuit cards.

The Lucent INTUITY system supports three types of Tip/Ring circuit cards.

- AYC10 (IVC6) Tip/Ring circuit card

- AYC29 (IVC6A) Tip/Ring circuit card

- AYC30 (NGTR) Tip/Ring circuit card

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AYC10 (IVC6) Tip/Ring Circuit Card

Figure 5-10 show the AYC10 Tip/Ring circuit card.

Rocker
switches
(see IVC6
switch setting
figure)

TDM bus
terminator SIPs

8-pin
modular
jacks

Audio
input

Audio
output
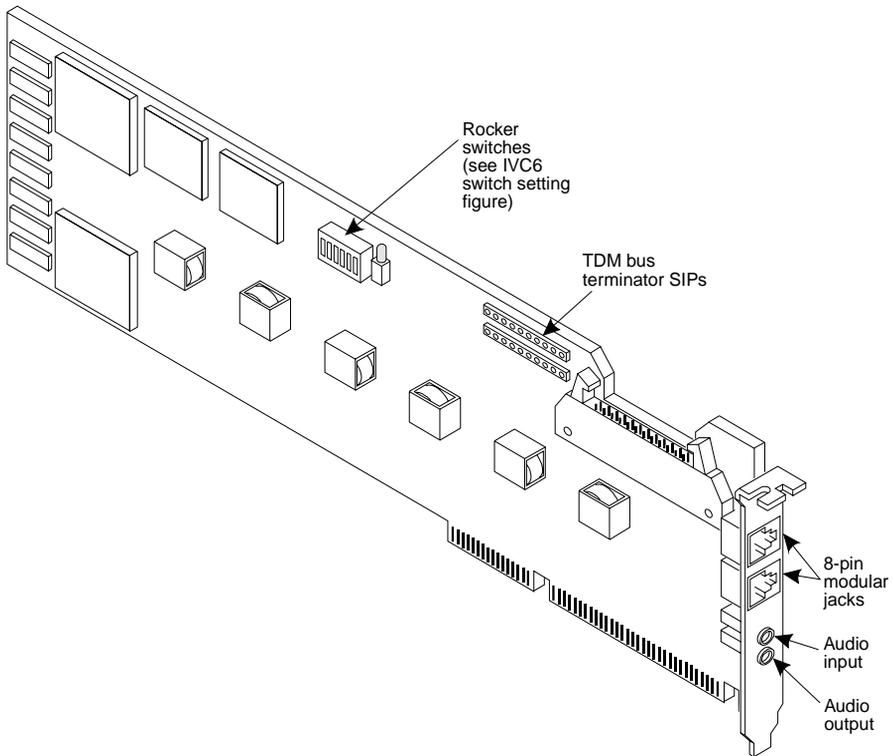
Figure 5-10.   AYC10 Tip/Ring Circuit Card

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Each of the possible three Tip/Ring circuit cards in the MAP/5P has a unique address. The addresses are set on the circuit card switch bank (Figure 5-11). There are no jumpers to set on the AYC10 Tip/Ring circuit card.

Base I/O address = 100 Hex.

IVC6 T/R 0
First card installed

Base I/O address = 200 Hex.

IVC6 T/R 1
Second card installed

Base I/O address = 300 Hex.

IVC6 T/R 2
Third card installed

Base I/O address = 500 Hex.

IVC6 T/R 3
Fourth card installed

Base I/O address = 600 Hex.

IVC6 T/R 4
Fifth card installed

Base I/O address = 700 Hex.

IVC6 T/R 5
Sixth card installed

Base I/O address = 900 Hex.

IVC6 T/R 6
Seventh card installed

Note: Rocker switches 5 and 6 can be set either open or closed.

Figure 5-11.   AYC10 Tip/Ring Switch Settings

AYC29 (IVC6A) Tip/Ring Circuit Card

The AYC29 Tip/Ring circuit card is the Australian version of the AYC10 Tip/Ring circuit card. See "AYC10 (IVC6) Tip/Ring Circuit Card" above for jumper information.

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AYC30 (NGTR) Tip/Ring Circuit Card

Figure 5-12 show the AYC30 Tip/Ring circuit card.
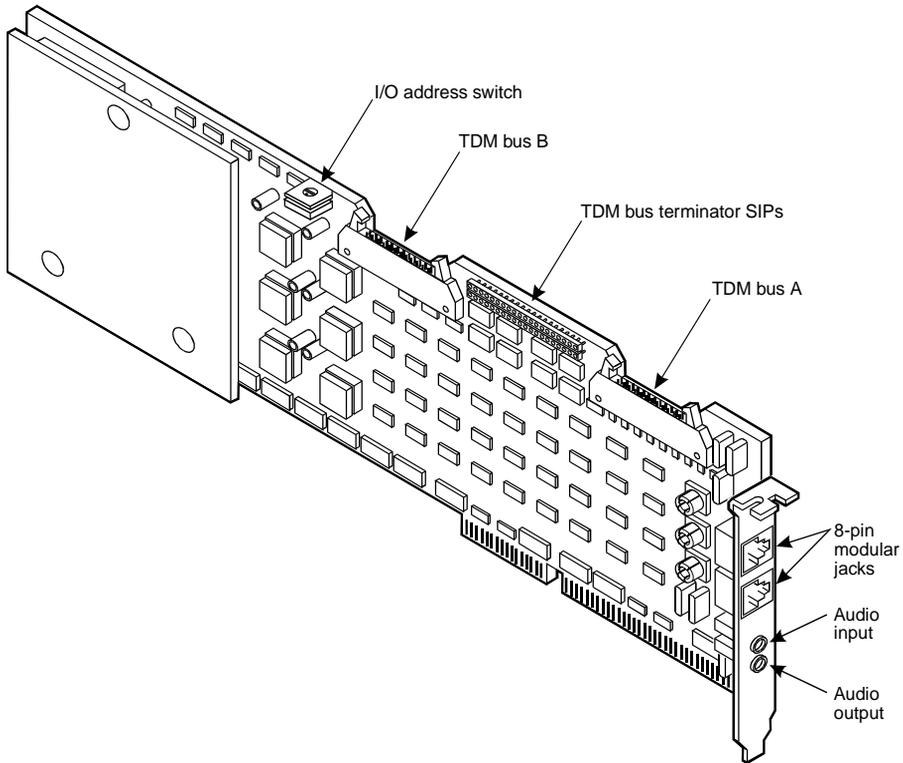
Figure 5-12.   AYC30 Tip/Ring Circuit Card

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Each of the three AYC30 Tip/Ring circuit cards in the MAP/5P has a unique address. The addresses are set on the circuit card switch bank (Figure 5-13). There are no jumpers to set on the AYC30 Tip/Ring circuit card.

Base I/O address = 100 Hex.
NGTR T/R 0
First card installed

Base I/O address = 200 Hex.
NGTR T/R 1
Second card installed

Base I/O address = 300 Hex.
NGTR T/R 2
Third card installed

Base I/O address = 500 Hex.
NGTR T/R 3
Fourth card installed

Base I/O address = 600 Hex.
NGTR T/R 4
Fifth card installed

Base I/O address = 700 Hex.
NGTR T/R 5
Sixth card installed

Base I/O address = 900 Hex.
NGTR T/R 6
Seventh card installed

NGTR T/R 7
Eighth card installed

swcvng4 KLC 110596

Figure 5-13.   AYC30 Tip/Ring Circuit Card Switch Settings

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SCSI Controller Circuit Card

The SCSI controller circuit card provides the ability to interface with internal and external SCSI devices. The MAP/5P accommodates one SCSI controller circuit card (Figure 5-14).

cdcvscs CJL 021997

1.	68-Pin 16-bit external SCSI connector
2.	68-Pin SCSI cable connector
3.	50-pin cable connector (not used)
4.	LED cable connector

**Figure 5-14.	SCSI Controller Circuit Card**

There are no jumpers or switches on the SCSI controller circuit card.

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To install the SCSI controller circuit card, do the following:

1. See "General Procedures" above for the SCSI controller circuit card installation procedure.

2. Verify the SCSI Utility settings by completing the following Step a through Step g:

   a. When prompted during the boot up, press (CONTROL) **-** (A)**.**

       The system displays the Host Adapter Configuration screen (Figure 5-15).

```
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 5-15. Host Adapter Configuration Screen

   b. Place the cursor on `Configure/View Host Adapter Settings`. Use the up (▲) and down (▼) arrows to move the cursor.

   c. Press (ENTER).

   d. Compare the Host Adapter settings with those listed in Table 5-1.

       Use the up (▲) and down (▼) arrows to move the cursor between fields. Use the left (◄) and right (►) arrows to change the value of the field. Use the (ESC) key to return to the previous menu.

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Table 5-1. Host Adapter Settings

Option	Setting
SCSI Bus Interface Definitions	
Host Adapter SCSI ID	7
SCSI Parity Checking	Enabled
Host Adapter SCSI Termination	Automatic
Boot Device Options	
Boot Target ID	0
Boot Lun Number	0
SCSI Device Configuration	
Initiate Sync Negotiation	Yes (Enabled)for all IDs
Maximum Sync Transfer Rate	20 MB/sec for all IDs
Enable Disconnection	Yes (Enabled)for all IDs
Send Start Unit Command	No (Disabled)for all IDs
Initiate Wide Negotiation	Yes (Enabled)for all IDs
Advanced Host Adapter Settings	
Plug and Play SCAM Support	Disabled
Host Adapter BIOS	Enabled
Support Removable Disks Under BIOS as Fixed Disks	Boot only
Extended BIOS Translation for DOS Drives > 1 GB	Enabled
Display <CTRL-A> Message During BIOS Initialization	Enabled
Multiple LUN Support	Disabled
BIOS Support for Bootable CD-ROM	Enabled
BIOS Support for Int 13 Extensions	Enabled
Support for Ultra SCSI Speed	Disabled

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e. When you have completed setting the SCSI utility, press ⌜ESC⌟.

The system displays the following message:

```
Do you want to save the SCSI Utility changes

     YES                    NO
```

f. Place the cursor on YES

g. Press ⌜ENTER⌟.

Speech and Signal Processor Circuit Card

The SSP circuit card is equipped with 16 MB of memory contained on a dual
in-line memory module (DIMM). The DIMM is located in the lower portion of the
SSP circuit card. See Figure 5-16. There must be one SSP circuit card installed
on the MAP/5P.

⚠ CAUTION:
The DIMM is not field servicable.

There are no jumpers installed on the SSP card.

There are two types of switches on the SSP card:

■ Two-position switches, Figure 5-17.

■ Rotary switch, Figure 5-18.

If the SSP card is not located at the end of the TDM bus, both two-position
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.

The rotary switch must be set to zero.

1. "Removing a Circuit Card"

2. "Installing a Circuit Card"

⚠ CAUTION:
*Use this procedure when adding an SSP circuit card to a system which is
not currently equipped with one. Do not use this procedure when replacing a
defective circuit card.*

To add an SSP circuit card to a Lucent INTUITY system:

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 in Slot 1. "Tip/Ring Circuit Cards"

3. Remove the remaining tip/ring circuit cards. "Tip/Ring Circuit Cards"

4. Remove the TDM us terminator SIPs from the tip/ring circuit cards."Tip/Ring Circuit Cards"

5. Replace the remaining tip/ring circuit cards."Tip/Ring Circuit Cards"

6. Verify the two-position selector switches, on the SSP circuit, are set properly."Tip/Ring Circuit Cards"

7. Determine the proper slot location."Tip/Ring Circuit Cards"

TDM termination (future)

TDM bus B termination

Two-position switch

TDM bus A termination

Rotary switch

Jumpers

Memory
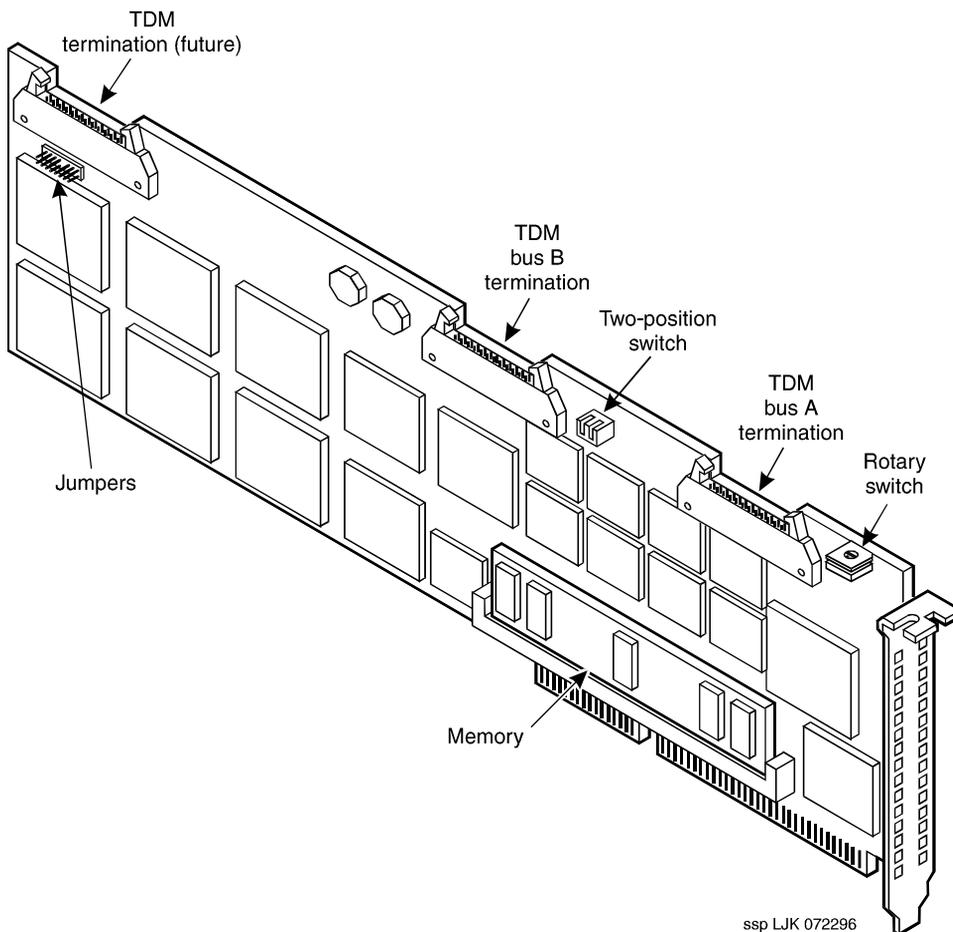
ssp LJK 072296

Figure 5-16. AYC43W Speech and Signal Processor Card

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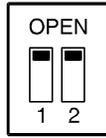
ssp-sw LJK 072296

Figure 5-17.   SSP Two-Powition Switch
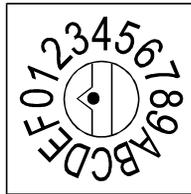
sspdial LJK 072296

Figure 5-18.   SSP Rotary Switch

Remote Maintenance Circuit Cards

The remote maintenance circuit card provides remote diagnostics of basic
MAP/5P components (Figure 5-19). There is one remote maintenance circuit card
installed on the system.
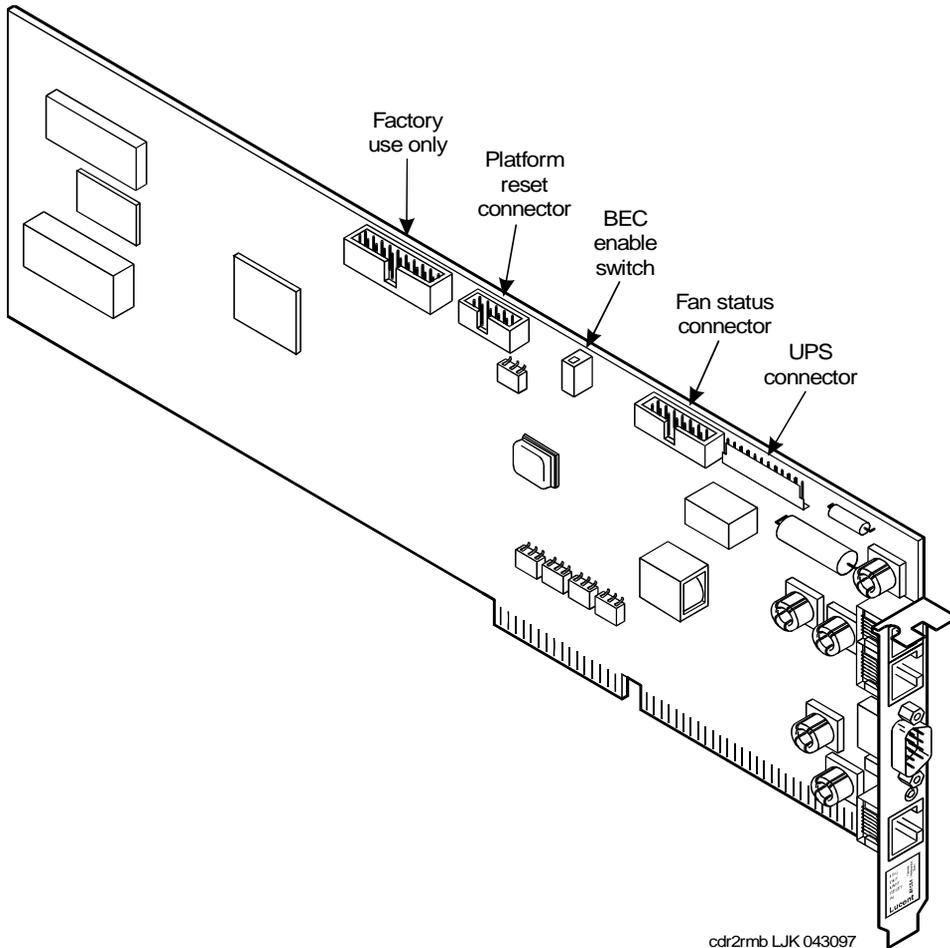
Figure 5-19.   Remote Maintenance Circuit Card

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)

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You can determine the type of remote maintenance circuit card installed on your system by viewing the faceplate. Figure 5-20 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.

RJ-11 tip-ring connector (line in)

User-definable output

Lock-down screws

UART DB9S connector

RMB reset switch

User-definable input (external UPS)

LINE
OUT
UART
RESET
IN
Lucent

Remote Maintenance Board
AYC54

RMB AYC54 label

fpr2rmb2 LJK 041597

Figure 5-20.   AYC54 Remote Maintenance Circuit Card Faceplate

Figure 5-21 shows the faceplate of a remote maintenance circuit card without an internal modem (AYC55).

User-definable output

Lock-down screws

UART DB9S connector

RMB reset switch

User-definable input (external UPS)

RMB AYC55 label

OUT
UART
RESET
IN
AYC55
Remote Maintenance Board
Lucent

fpr2rmb3 LJK 043097

Figure 5-21.   AYC55 Remote Maintenance Circuit Card Faceplate

Setting the Resource Options

The remote maintenance circuit card is equipped with a BEC enable switch (Figure 5-19) Ensure that this switch is set to the ON position (Figure 5-22).

ON **1**

swr2bec LJK 063097

Figure 5-22.   BEC Enable Switch

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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 5-23).

```
      INTUITY (TM) Main Menu

AUDIX Administration
Customer/Services Administration
Networking Administration
Upgrade
Voice System Administration
```

Figure 5-23.   Lucent INTUITY Main Menu

3. Select

```
> Customer/Services Administration

   > System Management

      > UNIX Management

         >Software Install
```

The system displays the Software Install menu (Figure 5-24).

```
   Software Install
>Floppy drive
 Tape drive
```

Figure 5-24.   Software Install Menu

4. Select Tape drive.

The system displays the following message:

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```
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 remote 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]
   ```

7. Press ⌈ENTER⌉.

   The system displays the following message:

   ```
   Processing:

   Set: RMB Software Set R2.0 (RMBset) from <ctape1>.

   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. See "Starting the Voice System" in Chapter 3, "Common System Procedures", for the procedure.

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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 "Inserting the Circuit Card" and "Re-assembling the MAP/5P" above.

   $\implies$ **NOTE:**
   Make sure the BEC enable switch on the remote maintenance circuit card is in the ON position (Figure 5-22).

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

4. Connect the EMI suppression cable to the remote maintenance circuit card and the switch.

5. Complete the procedures listed in "Restoring the Lucent Intuity System to Service" above.

6. Call your 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 Lucent Intuity System" in Chapter 3, "Common System Procedures", for the procedure.

2. Remove power from the MAP/5P. See "Removing Power from the MAP/5P" in Chapter 4, "Getting Inside the Computer",for power removal procedures.

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3. Remove the dress cover. See "Removing the Dress Cover" in Chapter 4, "Getting Inside the Computer", for power removal procedures.

4. Complete the procedures listed in "Inserting the Circuit Card" and "Re-assembling the MAP/5P" above.

   ⟹ NOTE:
   Make sure the BEC enable switch on the remote maintenance circuit card is in the ON position (Figure 5-22).

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 "Verifying the CMOS Settings" in Chapter 7, "Replacing Other Components", 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 5-22).

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" 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 rested the tsc password.

   b. Log off.

2. Starting at the Lucent INTUITY Main menu (Figure 5-1), select

> Customer/Services Administration

> System Management

> UNIX Management
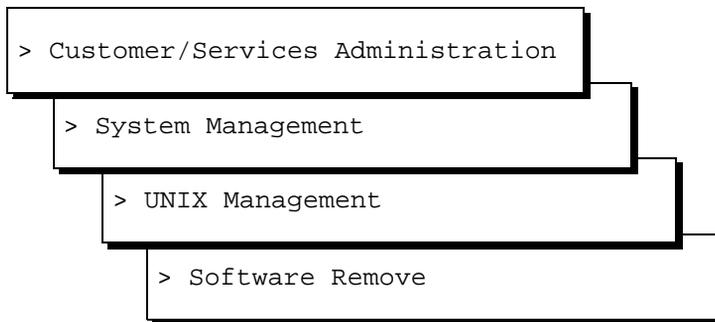
> Software Remove

The system displays the Software Remove screen (Figure 5-25).

```
The following packages are available:
 1  APPLset       AUDIX(R) Application Set
                  (AUDIX) 4.0-7
 2  AUDIXset      INTUITY Platform AUDIX Set
                  (i486) unofcl:02/12/96
 3  AUDIXtune     INTUITY Platform AUDIX Tuning
                  (i486) unofcl:02/12/96
 4  INTUNIX       UnixWare 1.1.2 Enhancement Set
                  (486) 1.0
 5  INTUNIX1      UnixWare 1.1.2 Platform Enhancements Extension
                  (486) 1.0
 6  IVC6DI        INTUITY IVC6 Device Interface for softFAX
                  (x86sur4_wicd1) unofcl:02/12/96
 7  TSM           INTUITY Transaction State Machine Package
                  (i486) unofcl:02/12/96
 8  VM            AUDIX(R) Module marker file
                  (AUDIX) NA
 9  VM-dfltdb     AUDIX(R) Default db
                  (AUDIX) 4.0-7
10  VM-files      AUDIX(R) Files
                  (AUDIX) 4.0-7

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

Figure 5-25.   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 Lucent Intuity System" in Chapter 3, "Common System Procedures", for the procedure.

10. Remove the remote maintenance circuit card from the MAP/5P. See "Removing a Circuit Card" for the procedure.

11. Make sure the COM2 port is correctly connected to the motherboard.

12. Replace the dress cover. See "Replacing the Dress Cover" in Chapter 4, "Getting Inside the Computer", for power removal procedures.

13. Apply power to the MAP/5P. See "Restoring Power to the MAP/5P" 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 "Verifying the CMOS Settings" in Chapter 7, "Replacing Other Components", 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 11, "Administration and Test for Lucent Intuity Peripherals" in *"INTUITY™ Interchange Release 5.3 MAP/5P System Installation"* 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.

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Installing a Remote Maintenance Circuit Card, Version 2

The remote maintenance circuit card provides remote diagnostics of basic components (Figure 5-19). There is one remote maintenance circuit card installed on the system.
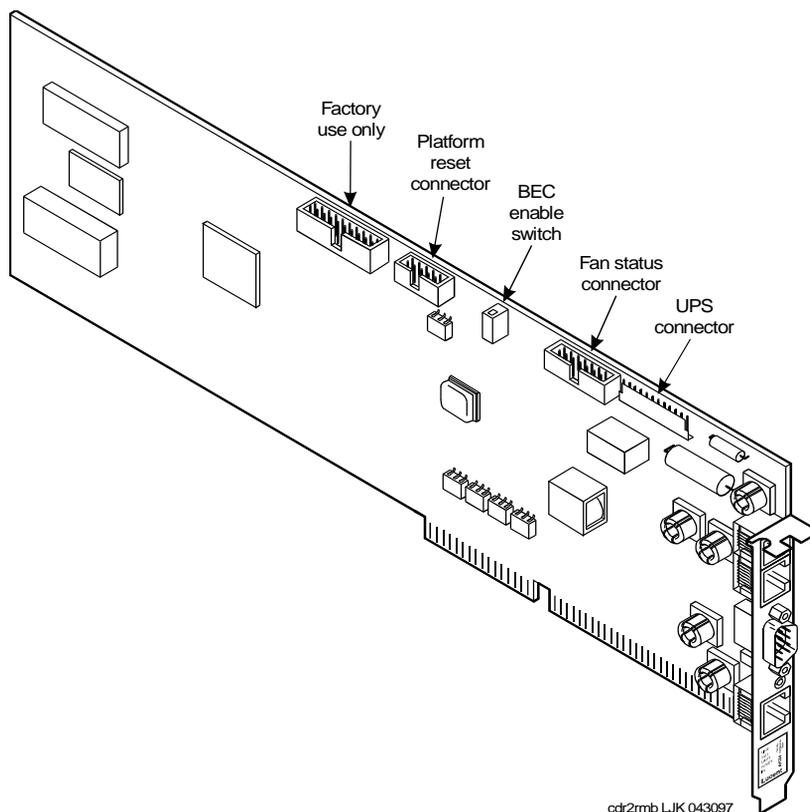
Figure 5-26. Remote Maintenance Circuit Card

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 5-20 shows the faceplate of a remote maintenance circuit card with an internal modem (AYC54).

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⇒ NOTE:
The AYC54 remote maintenance circuit card can be connected to an external modem.
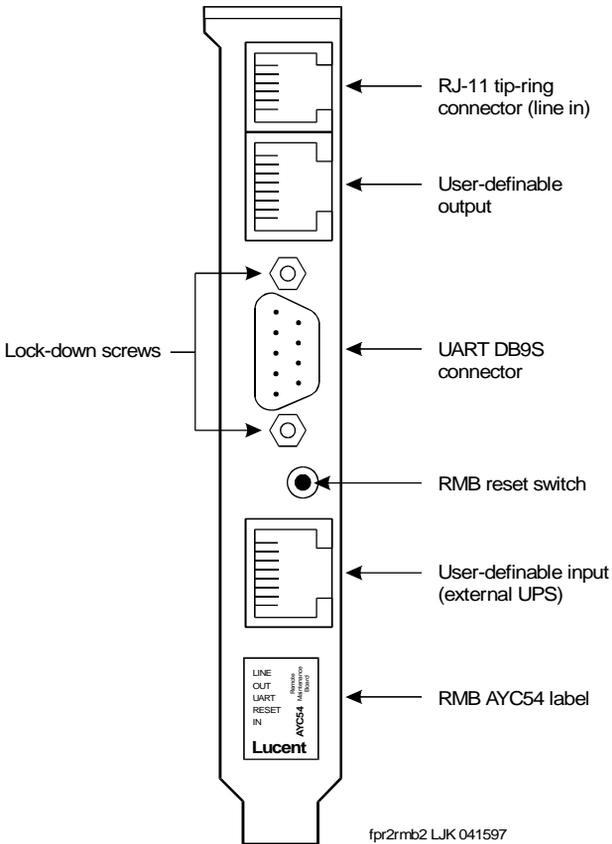
Figure 5-27. AYC54 Remote Maintenance Circuit Card Faceplate

Figure 5-21 shows the faceplate of a remote maintenance circuit card without an internal modem (AYC55).
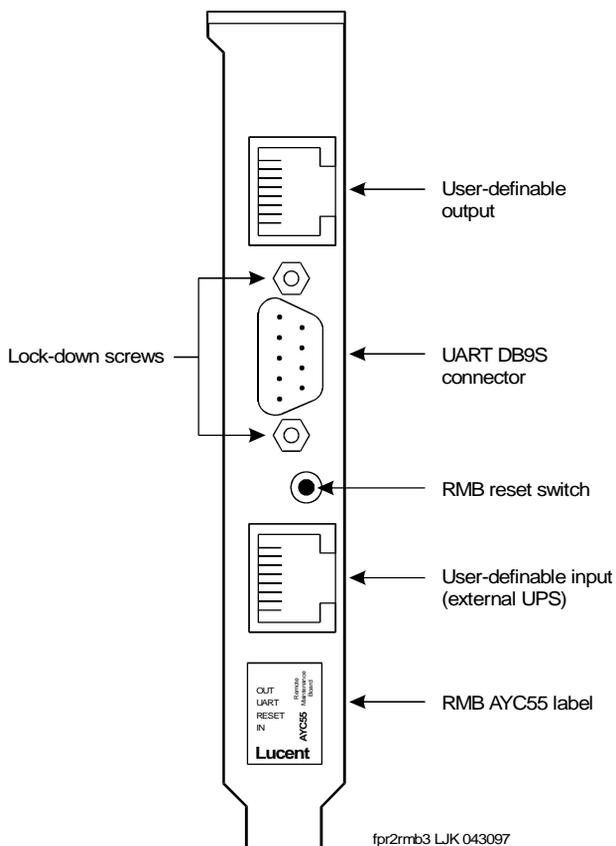
Figure 5-28.   AYC55 Remote Maintenance Circuit Card Faceplate

Setting the Resource Options

The remote maintenance circuit card is equipped with a BEC enable switch
(Figure 5-19). Ensure that this switch is set to the ON position (Figure 5-22).

Figure 5-29.   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 5-30).

```
        INTUITY (TM) Main Menu

 AUDIX Administration
 Customer/Services Administration
 Networking Administration
 Upgrade
 Voice System Administration
```
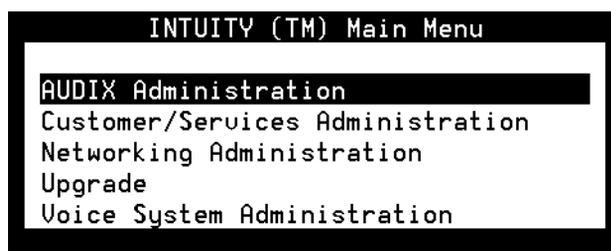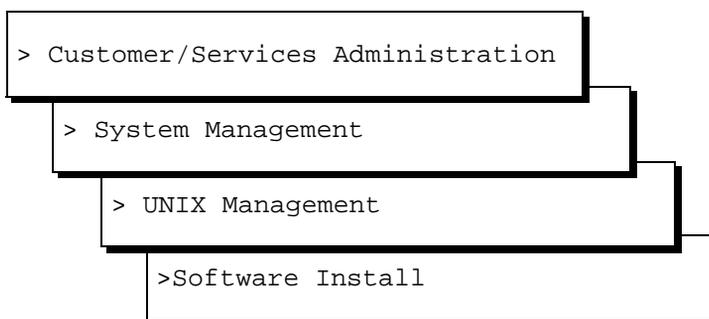
Figure 5-30.   Lucent INTUITY Main Menu

3. Select

```
> Customer/Services Administration

    > System Management

        > UNIX Management

            >Software Install
```

The system displays the Software Install menu (Figure 5-24).

```
    Software Install
 >Floppy drive
  Tape drive
```
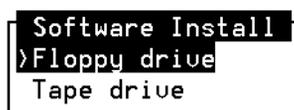
Figure 5-31.   Software Install Menu

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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 remote 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 <ctape1>.

   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.

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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.

   $\Longrightarrow$ **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.

   $\Longrightarrow$ **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 5-22).

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 5-2 lists the correct slot for each platform.

Table 5-2. 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.

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Attaching Cables to the Circuit Card

The type and number of cables depend upon the platform. See Figure 5-32 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 5-32.   RMB cables

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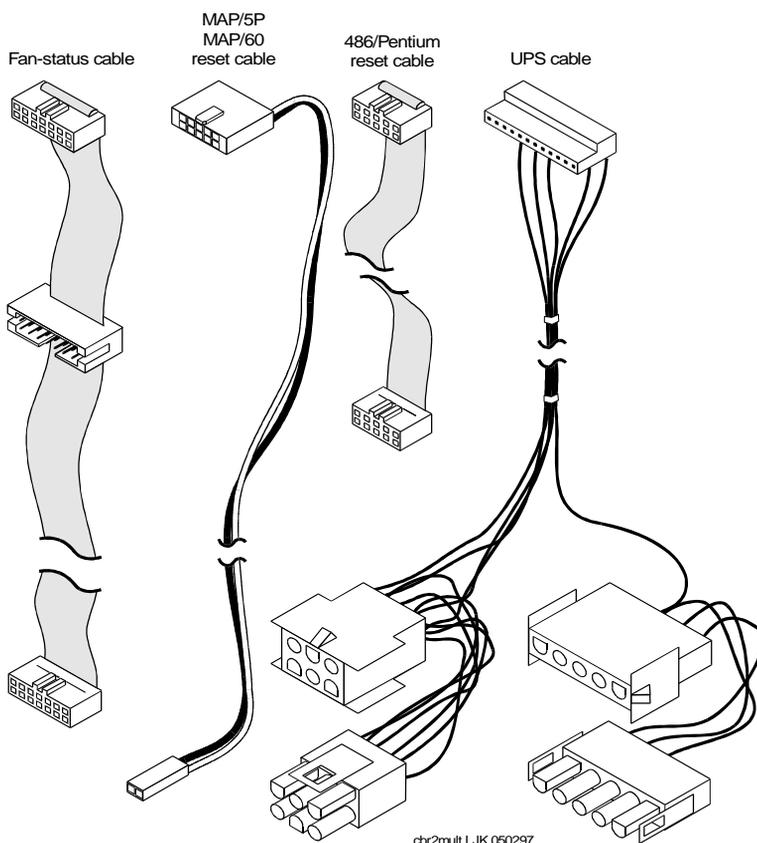
The cable code (printed on the cable) is as follows:

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

Figure 5-33 and Figure 5-34 show the cable connectors on the remote maintenance circuit card.
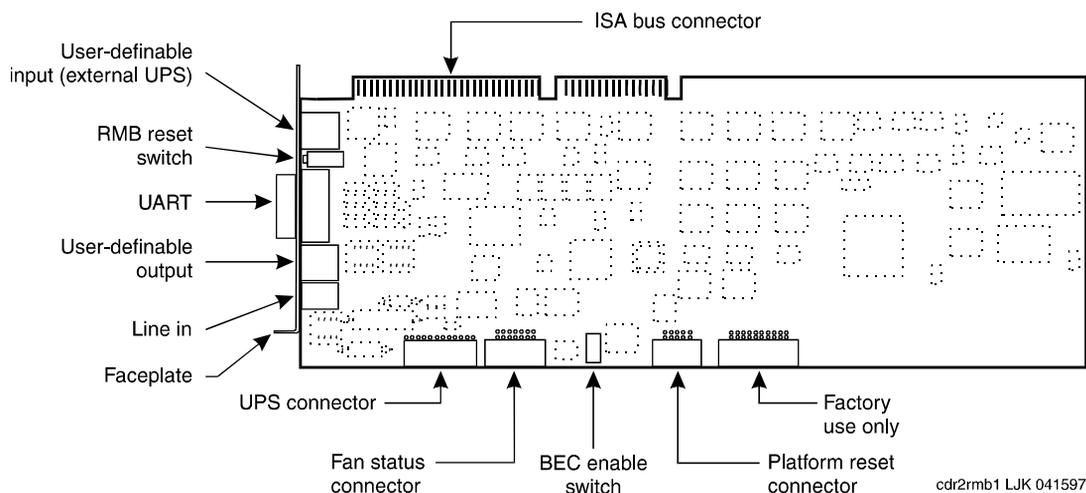
Figure 5-33.   RMB connectors (top view)
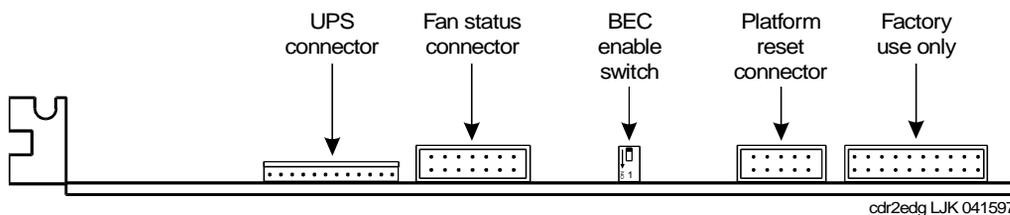
Figure 5-34.   RMB connectors (side view)

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.

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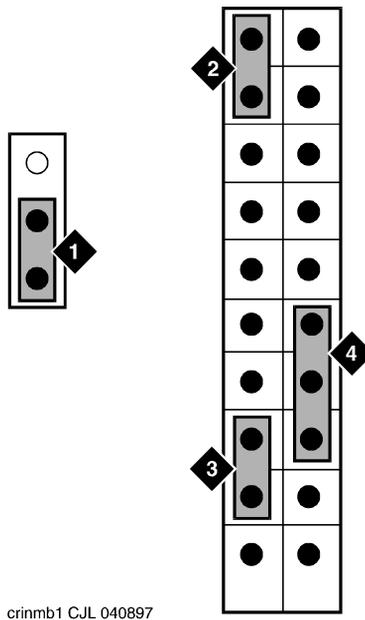
MAP/5P Cable Connections. The remote maintenance circuit card connects to CN30 which is located on the motherboard. Figure 5-35 shows the location of CN30. Figure 5-36 shows the cable connection to CN30.

jpcvmb4 CJL 040797

1. JP5 - flash BIOS function
2. JP6 - BIOS ROM type
3. JP1 - BIOS type
4. JP2 - LED function
5. JP15 - standby power connector
6. JP4 - second-level cache
7. JP3 - second-level cache
8. JP30 - external battery connector
9. JP16 - software shutdown
10. JP42 - L2 cache mode
11. JP43 - CPU voltage for I/O
12. JP7 - regulator
13. JP44 - CPU voltage for core
14. JP11 - SMM/reset switch
15. JP14 - power-on switch connector
16. CN30
17. CN19

Figure 5-35.   Motherboard Jumper Locations

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crinmb1 CJL 040897

1.   RMB reset cable connector (pins 1 and 2 of CN30)
2.   Reset switch connector (pins 19 and 20 of CN19)
3.   Turbo LED connector (pins 12 and 13 of CN19)
4.   Power LED connector (pins 3,4, and 5 of CN19)

Figure 5-36.   Motherboard Cable Connections

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 5-30), select

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```
┌─────────────────────────────────────────┐
│ > 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 5-37.   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.

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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.

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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

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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.

➔ NOTE:

If your system is configured with only one hard disk drive, see "Recovering from a Hard Disk Drive 0 Failure in a Single Disk System" below for the procedure.

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Identifying a Hard Disk Drive 0 Failure in a Single Disk 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 "Recovering from a Hard Disk Drive 0 Failure in a Single Disk System" below 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.

$\Longrightarrow$ NOTE:

If the following procedure can not be performed, and the failure is causing several message to appear on the console, it is likely that Hard Disk Drive 0 has failed.

To verify that a hard disk drive has failed, do the following:

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

```
          INTUITY (TM) Main Menu

   AUDIX Administration
   Customer/Services Administration
   Networking Administration
   Upgrade
   Voice System Administration
```
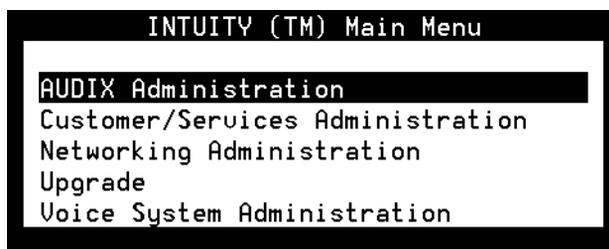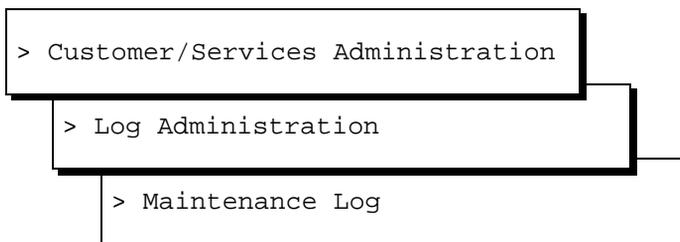
Figure 6-1. Lucent INTUITY Main Menu

2. Select

```
> Customer/Services Administration
```

```
   > Log Administration
```

```
      > Maintenance Log
```

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 ⌷ (Save).

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

```
                        Maintenance Log
       PROBLEM RESOURCE           Msg              REPORTING RESOURCE
Type            Inst Location     Typ  Type             Inst  Source

NIGHT_AUD       1                 EVN  MPM              1     192
App: VM EventID:NIGHT_AUD0239         Date/Time Rec:04/01/96 01:01:48 Cnt:  1
aux1/2=45/0,Starting Audit AUD_NIGHTLY

AUDIT           1                 EVN  AUDIT            1     3
App: VM EventID:AUDIT0239             Date/Time Rec:04/01/96 01:01:48 Cnt:  1
aux1/2=0/0,file chk: recs=18

AUDIT           1                 EVN  AUDIT            1     2
App: VM EventID:AUDIT0239             Date/Time Rec:04/01/96 01:01:58 Cnt:  1
aux1/2=0/0,dsub: cleared SIDs=0 refs=0

AUDIT           1                 EVN  AUDIT            1     1
App: VM EventID:AUDIT0239             Date/Time Rec:04/01/96 01:02:09 Cnt:  1
aux1/2=0/0,age: msgs=0 rm=0 space=0 blks rm_out=0

NIGHT_AUD       1                 EVN  MPM              1     193
```

Figure 6-3.   Maintenance Log Window

5. Verify that there is an entry for a hard disk drive failure.

    The hard disk drive will be identified by the name and jumper id.

    The disk name is shown in the message text after the word `name:`. The
    jumper id is embedded in the string of numbers and letters that follow the
    word `id:`. The jumper id is the single digit number that follows the letter "t".
    For example, if the text reads id*: c0t1d0s0, the jumper id is 1.

    ➡ **NOTE:**
       Note that the jumper ID is the same as the SCSI ID.

➡ **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 *"INTUITY™ Interchange Release 5.3
   Alarm and Log Messages"* for the procedure to access the alarm log.

If Hard Disk Drive 0 has failed, see *"Recovering from a Hard Disk Drive 0 Failure
in a Mirrored System"* below for the replacement procedure.

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If Hard Disk Drive 1 has failed, see "Recovering from a Hard Disk Drive 1 Failure" below for the replacement procedure.

Recovering from a Hard Disk Drive 0 Failure

The following sections list the procedures for recovering from a Hard Disk Drive 0 failure in both single disk and mirrored systems.

Recovering from a Hard Disk Drive 0 Failure in a Single Disk System

Because Disk 0 contains the base system software, you must reinstall the entire Lucent INTUITY system if this disk fails on a single disk system. To recover from a Hard Disk Drive 0 failure in a single disk system, do the following:

1. Replace the hard disk drive. See "Replacing Hard Disk Drive 0" below for the procedure.

   ### ⚠ CAUTION:
   After installing a 2-GB 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.*

2. Verify the CMOS settings. See "Verifying the CMOS Settings" in Chapter 7, "Replacing Other Components".

3. Verify the SCSI host adapter settings. See "SCSI Controller Circuit Card" in Chapter 5, "Replacing or Installing Circuit Cards".

4. Low level format the hard disk drive. See "Performing a Low-Level Format" in Chapter 6, "Replacing the Hard Disk Drive".

5. Reinstall the base system software. See "Installing UnixWare" and "Installing the Platform Software" in Chapter 8, "Installing Base System Software", for the procedure.

6. Install the INTUNIX+e update package. See "Installing the INTUNIX+e Software" in Chapter 8, "Installing Base System Software".

7. Install the AUDIX® software. See "Installing the Platform Software" in Chapter 8, "Installing Base System Software".

8. Install the DCIU software. See "Installing the DCIU Switch Integration Set" in Chapter 8, "Installing Base System Software".

9.   Install the Lucent INTUITY AUDIX Voice Messaging System software. See "Installing the Intuity AUDIX Voice Messaging System" in Chapter 9, "Installing Lucent™ Intuity™ System Software".

10. Install the Lucent INTUITY System Default Announcement set and/or Optional Language Package Announcement sets software. See "Installing the Lucent Intuity System Default Announcement Set and/or Optional Language Package Announcement Sets" in Chapter 9, "Installing Lucent™ Intuity™ System Software".

11. Load RFU Software Update cartridge tape if any. Contact the remote maintenance center for the identity of the current RFU. See Chapter 11, "Installing an RFU".

12. Reboot the system. See "Rebooting the System" in Chapter 3, "Common System Procedures".

13. Configure the LAN circuit card. See "Configuring the LAN Circuit Card" in Chapter 5, "Replacing or Installing Circuit Cards".

14. Restore the system from the nightly backup tape. See "Restoring Backups" in Chapter 3, "Common System Procedures".

15. Press [F6] (Cancel) three times to return to the Console Login prompt.

16. Login as tsc.

17. Insert the attended backup tape. See "Inserting the Cartridge Tape" in Chapter 3, "Common System Procedures", for the procedure.

18. 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.

19. Enter **/vs/bin/util/rcvrv1**

     This command will rename the file **/snap/installit.vs** to **/snap/recovered.inf.** This takes the system out of the disaster recovery state.

20. Enter **exit**

     The system displays the console login prompt.

21. Login to the system as craft.

22. Start the voice system. See "Starting the Voice System" in Chapter 3, "Common System Procedures", for the procedure.

Recovering from a Hard Disk Drive 0 Failure in a Mirrored System

Preparing the Lucent INTUITY System

To prepare the Lucent INTUITY System, do the following:

1. Perform an attended backup. See "Backing Up (Attended)" in Chapter 3, "Common System Procedures", for the attended back-up procedure.

2. If your system has alarm origination, activate alarm suppression by completing the following Step a through Step d:

    a. Starting at the Lucent INTUITY Main menu (Figure 6-1), select

    ```
    > Customer/Services Administration

        > Alarm Management
    ```

    The system displays the Alarm Management window (Figure 6-4).

```
                    Alarm  Management

Product ID                        2999999999

Alarm Destination                 _____

Alarm Origination                 ACTIVE

Alarm Level                       MINOR

Alarm Suppression                 ACTIVE

Clear Alarm Notification          ACTIVE
```

Figure 6-4.   **Alarm Management Window**

    b. Move the cursor to the `Alarm Suppression` field and type **active**

c. Press F3 (Save).

The system displays the Information window (Figure 6-5).

```
                  Information
 Alarm Form Update was successful


 Press <Enter> to continue.
```
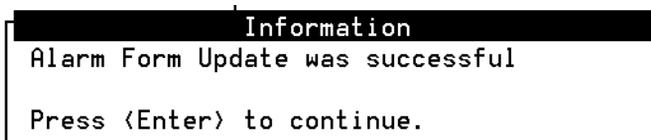
Figure 6-5. Information Window

d. Press ENTER.

The system displays the Alarm Management window (Figure 6-4).

Reconfiguring Both Hard Disk Drives

Because the Lucent INTUITY system must boot off of a hard disk drive with the jumpers configured to be SCSI ID 0, you must reconfigure both hard disk drives.

To reconfigure both hard disk drives, do the following:

1. Remove Hard Disk Drive 0. See "Hard Disk Drive 0 Removal" below for the procedure.

! CAUTION:

Return to Step 2 of this procedure before you install the replacement hard disk drive.

2. Remove Hard Disk Drive 1. See "Hard Disk Drive 1 Removal" below for the procedure.

! CAUTION:

Return to Step 3 of this procedure before you reinstall Hard Disk Drive 1.

3. Change the jumpers for Hard Disk Drive 1 to the correct positions for Hard Disk Drive 0. See "Setting the Hard Disk Drive 0 Jumper Settings" below for the correct settings.

4. Replace the changed Hard Disk Drive 1 in the position reserved for Hard Disk Drive 0. See "Inserting Hard Disk Drive 0" below 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. See "Setting the Hard Disk Drive 1 Jumper Settings" below for the correct settings.

6. Place the new hard disk drive in the position reserved for Hard Disk Drive 1. See "Inserting Hard Disk Drive 1" below for the procedure.

> $\Longrightarrow$ **NOTE:**
> This drive is now Hard Disk Drive 1.

7. Reboot the Lucent INTUITY system. See "Rebooting the System" in Chapter 3, "Common System Procedures", for the procedure.

Initializing the New Hard Disk Drive 0

To initialize the hard disk drive, do the following:

1. Starting at the Lucent INTUITY Main menu (Figure 6-1), select

```
> Customer/Services Administration

  > System Management

    > Disk Management

      >Replace Disk
```

The system displays the Replace Disk window (Figure 6-6).

```
                    Replace Disk

Enter the logical name of disk:          _____


Enter jumper id of the disk being replaced (0-7): _
```

Figure 6-6.   Replace Disk Window

2. In the Enter the logical name of the disk: field, enter **Disk 0**

3. In the Enter jumper id of the disk being replaced (0-7): field, enter **1**

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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 below.

- 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 the following Steps a through c:
>
> > a. Press y.
> >
> >   The system displays the following message:
> >
> >    > ```
> >    > Option to auto clean disk not supported
> >    > in this version.
> >    > You must run the shell command fdisk
> >    > /dev/rdsk/c0t1d0s0 and delete any active
> >    > partitions.
> >    > Hit Enter to continue.
> >    > ```
> >
> > b. Press [ENTER].
> >
> > c. Clean the hard disk drive. See "Cleaning a Hard Disk Drive"
> >   below for the procedure.
> >
> > d. Return to Step 1 above.
>
> 5. Press [ENTER] when the system displays the following message:
>
>    ```
>    Disk replace was successful
>    Hit Enter to continue.
>    ```

⮕ **NOTE:**
At this point the mirroring has been completed and the information has been restored to Hard Disk Drive 0.

Restoring the SCSI IDs

In "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 the hard disk drive from Bay 5. See "Hard Disk Drive 0 Removal" below for the procedure.

2. Change the jumpers on the hard disk drive to the correct positions for Hard Disk Drive 1. See "Setting the Hard Disk Drive 1 Jumper Settings" below for the procedure.

3. Place the hard disk drive to the side.

4. Remove the hard disk drive from Bay 6. See "Hard Disk Drive 1 Removal" below for the procedure.

5. Change the jumpers on the hard disk drive to the correct positions for Hard Disk Drive 0. See "Setting the Hard Disk Drive 0 Jumper Settings" below for the procedure.

6. Place this hard disk drive in Bay 5. See "Inserting Hard Disk Drive 0" below for the procedure.

7. Place this hard disk drive in Bay 6. See "Inserting Hard Disk Drive 1" below for the procedure.

Restoring the Lucent INTUITY System

To restore the Lucent INTUITY system, do the following:

1. Restore power to the MAP/5P. See "Restoring Power to the MAP/5P" in Chapter 4, "Getting Inside the Computer", for the procedure.

2. Inactivate alarm suppression by completing the following Step a through Step d:

   > **NOTE:**
   > This procedure only applies to systems with alarm origination.

   a. Starting at the Lucent INTUITY Main menu (Figure 6-1), select

   ```
   > Customer/Services Administration

       > Alarm Management
   ```

   The system displays the Alarm Management window (Figure 6-4).

   b. Move the cursor to the `Alarm Suppression` field and type **inactive**

   c. Press �F3 (Save).

   The system displays the Information window (Figure 6-5).

   d. Press ENTER.

Recovering from a Hard Disk Drive 1 Failure

The following procedure explains how to replace Hard Disk Drive 1 on an existing Lucent INTUITY system.

Preparing the Lucent INTUITY System

To prepare the Lucent INTUITY System, do the following:

1. Perform an attended backup. See "Backing Up (Attended)" in Chapter 3, "Common System Procedures", for the attended back-up procedure.

2. If your system has alarm origination, activate alarm suppression by completing the following Step a through Step d:

   a. Starting at the Lucent INTUITY Main menu (Figure 6-1), select

   ```
   > Customer/Services Administration

       > Alarm Management
   ```

   The system displays the Alarm Management window (Figure 6-4).

   b. Move the cursor to the Alarm Suppression field and type **active**

   c. Press F3 (Save).

   The system displays the Information window (Figure 6-5).

   d. Press ENTER.

   The system displays the Alarm Management window (Figure 6-4).

Inserting Hard Disk Drive 1

See "Replacing Hard Disk Drive 1" below for the procedure. Continue with the next step, "Initializing the New Hard Disk Drive 1".

Initializing the New Hard Disk Drive 1

See "Initializing the New Hard Disk Drive 0" above for the procedure. Continue with the next step, "Restoring the Lucent Intuity System".

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Restoring the Lucent INTUITY System

To restore the Lucent INTUITY system, do the following:

1. Restore power to the MAP/5P. See "Restoring Power to the MAP/5P" in Chapter 4, "Getting Inside the Computer", for the procedure.

2. Inactivate alarm suppression, by completing the following Step a through Step d:

   ### NOTE:
   This procedure only applies to systems with alarm origination.

   a. Starting at the Lucent INTUITY Main menu (Figure 6-1), select

   ```
   > Customer/Services Administration

       > Alarm Management
   ```

   The system displays the Alarm Management window (Figure 6-4).

   b. Move the cursor to the `Alarm Suppression` field and type **inactive**

   c. Press F3 (Save).

   The system displays the Information window (Figure 6-5).

   d. Press ENTER.

Installing a Lucent INTUITY System with Two New Hard Disk Drives

To install the Lucent INTUITY system with two new hard disk drives, do the following:

1. Install the hard disk drives. See "Hard Disk Drive 0 Installation" below and "Hard Disk Drive 1 Installation" below for the procedure.

2. Complete "Installing UnixWare" in Chapter 8, "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 "Shutting Down and Rebooting the Lucent Intuity System" in Chapter 3, "Common System Procedures", for the procedure.

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5. Complete "Installing the INTUNIX+e Software", "Running installit", "Installing the Platform Software", and "Installing the Switch Interface Software Packages" in Chapter 8, "Installing Base System Software".

6. Install the AUDIX software. See "Installing the Platform Software" in Chapter 8, "Installing Base System Software".

7. Initialize Hard Disk Drive 1. See "Initializing the New Hard Disk Drive 1" above for the procedure.

8. Reinstall the Lucent INTUITY system software. See Chapter 9, "Installing Lucent™ Intuity™ System Software".

9. Reinstall the multi-user software, if used. See Chapter 10, "Installing the Optional Feature Software".

10. If you are installing a system equipped with a DCIU circuit card, install the corresponding software. See "Installing the DCIU Switch Integration Set" in Chapter 8, "Installing Base System Software", for the procedure.

11. Reboot the Lucent INTUITY system. See "Shutting Down and Rebooting the Lucent Intuity System" in Chapter 3, "Common System Procedures", for the procedure.

12. Stop the voice system. See "Stopping the Voice System" in Chapter 3, "Common System Procedures", for the procedure.

13. Restore the attended and unattended backup tapes, beginning with the oldest first. See "Restoring Backups" in Chapter 3, "Common System Procedures", for the procedure.

Replacing a Hard Disk Drive

The MAP/5P can contain two hard disk drives. The first hard disk drive, SCSI ID 0, is located in Bay 6 (Figure 6-7). The second hard disk drive, if provided, is located in Bay 5 (Figure 6-7).
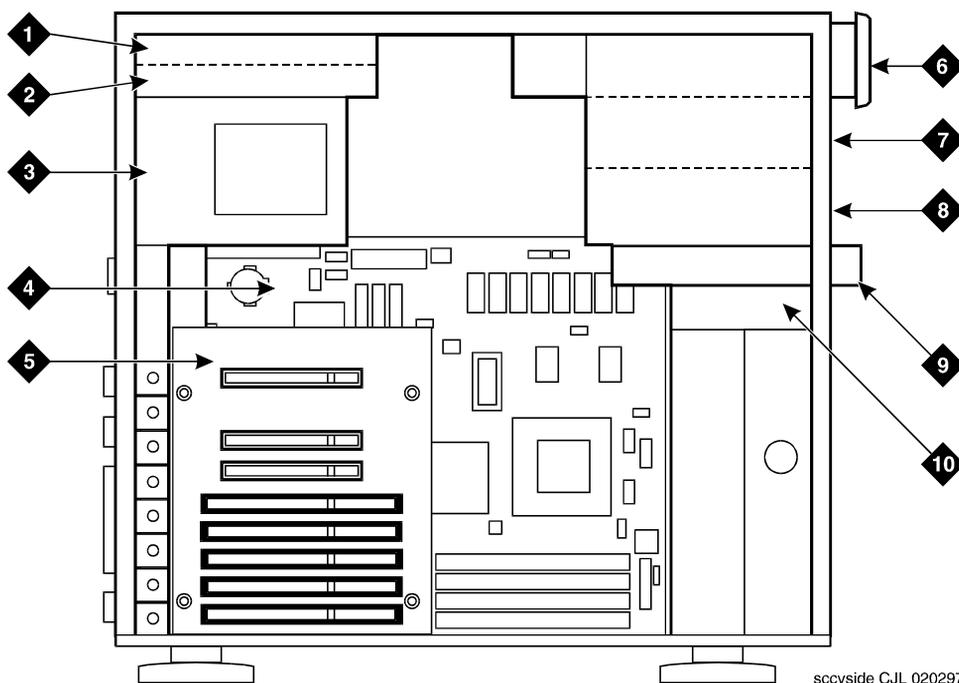
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1. Bay 6 - Hard Disk Drive 0
2. Bay 7 - Empty
3. Power supply
4. Motherboard
5. Riser card

6. Bay 1 - Cartridge tape drive
7. Bay 2 - Empty
8. Bay 3 - Empty
9. Bay 4 - Diskette drive
10. Bay 5 - Hard Disk Drive 1 (if used)

Figure 6-7.   Internal View of the MAP/5P

Replacing Hard Disk Drive 0

> ⚠ **CAUTION:**
> *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".*

Hard Disk Drive 0 Removal

To remove Hard Disk Drive 0, you must:

■ Remove the Lucent INTUITY system from service.

■ Access the hard disk drive.

■ Extract the hard disk drive.

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Removing the Lucent INTUITY System from Service

To remove the Lucent INTUITY system from service, do the following:

NOTE:

> This procedure is not necessary if Hard Disk Drive 0 has failed on a single-disk system.

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

2. Stop the voice system. See "Stopping the Voice System" in Chapter 3, "Common System Procedures", for the procedure.

3. Shut down the voice system. See "Shutting Down the Lucent Intuity System" in Chapter 3, "Common System Procedures", for the procedure.

4. Remove the incoming power. See "Removing Power from the MAP/5P" in Chapter 4, "Getting Inside the Computer", for this procedure.

Accessing Hard Disk Drive 0

To access Hard Disk Drive 0, remove the dress cover. See "Removing the Dress Cover" in Chapter 4, "Getting Inside the Computer", for this procedure.

Extracting Hard Disk Drive 0

To extract Hard Disk Drive 0, do the following:

1. Remove the SCSI cable from the back of the hard disk drive.

2. Remove the power cord from the back of the hard disk drive.

3. Locate the screws holding Hard Disk Drive 0 to the peripheral bay frame

   NOTE:

   > Pay close attention to the location of the screws in both the peripheral frame and the hard disk drive.

4. Holding the rear of the hard disk drive, remove these screws.

5. Place the hard disk drive assembly, with the printed circuit board facing up, on an ESD-protected surface.

6. Continue with the next procedure, "Hard Disk Drive 0 Installation".

Hard Disk Drive 0 Installation

To install Hard Disk Drive 0, you must:

■ Set the jumper settings.

■ Insert the hard disk drive.

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Setting the Hard Disk Drive 0 Jumper Settings

The Lucent INTUITY system supports the following two types of hard disk drives:

- Seagate (Figure 6-8)
- Capricorn

drcvsg1 LJK 062397
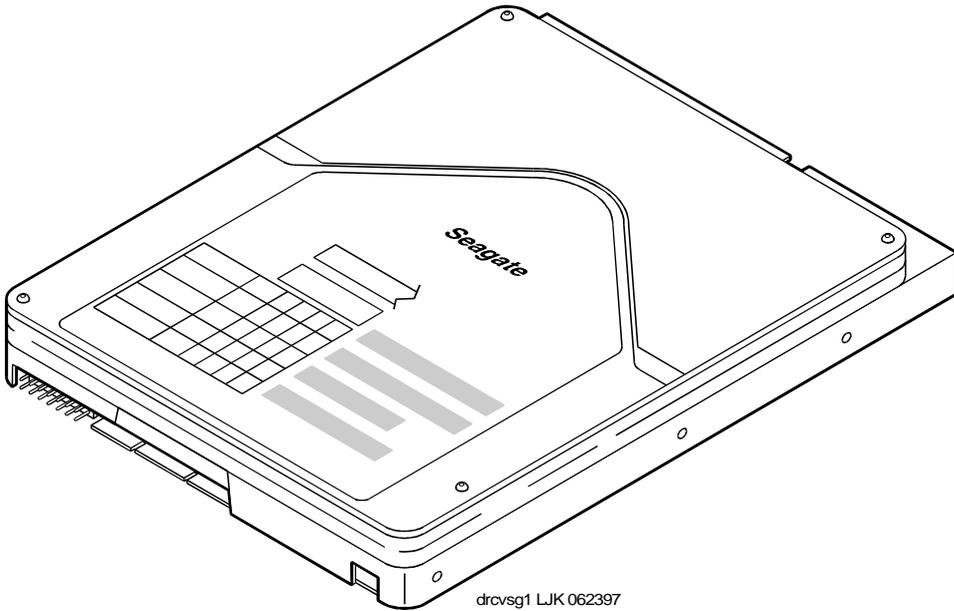
Figure 6-8.   Seagate Hard Disk Drive

Figure 6-9 shows the correct jumper settings for the Seagate hard disk drive SCSI ID 0.

SCSI ID 0

jpcvsg0 LJK 071697
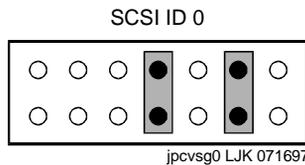
Figure 6-9.   Hard Disk Drive 0 Jumper Settings - Seagate

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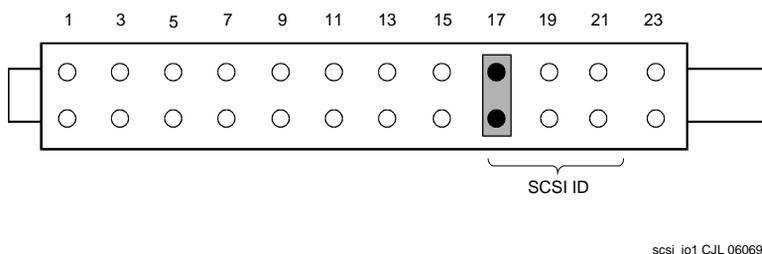Figure 6-10 shows the correct jumper settings for the Capricorn hard disk drive SCSI ID 0.
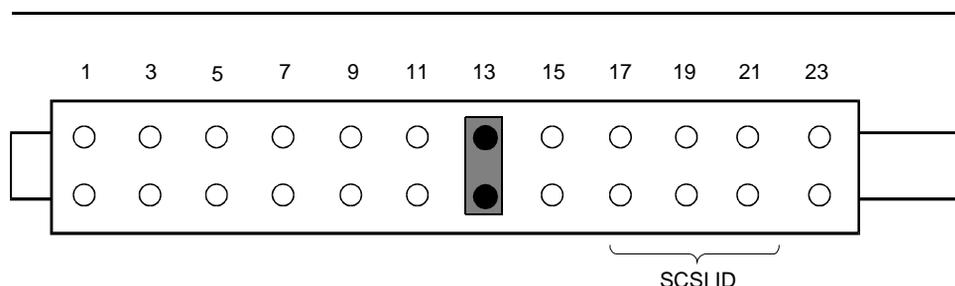
Figure 6-10. Hard Disk Drive 0 Jumper Settings - Capricorn

Inserting Hard Disk Drive 0

To insert the hard disk drive, do the following:

1. Remove the new hard disk drive 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. Align Hard Disk Drive 0, with the component side down, with the correct holes in Bay 6.

   NOTE:
   Pay close attention to the location of the screws in both the peripheral bay and the hard disk drive.

3. Attach the hard disk drive to the peripheral bay using the four screws removed in Step 4 of "Extracting Hard Disk Drive 0" above.

4. Attach the power cable to the hard disk drive.

5. Attach the SCSI cable to the hard disk drive.

Replacing Hard Disk Drive 1

⚠ CAUTION:
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".

Hard Disk Drive 1 Removal

To remove Hard Disk Drive 1, you must:

- Remove the Lucent INTUITY system from service.

- Access the hard disk drive.

- Extract the hard disk drive.

Removing the Lucent INTUITY System from Service

To remove the Lucent INTUITY system from service, 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. Stop the voice system. See "Stopping the Voice System" in Chapter 3, "Common System Procedures", for the procedure.

3. Shut down the voice system. See "Shutting Down the Lucent Intuity System" in Chapter 3, "Common System Procedures", for the procedure.

4. Remove the incoming power. See "Removing Power from the MAP/5P" in Chapter 4, "Getting Inside the Computer", for this procedure.

Accessing Hard Disk Drive 1

To access Hard Disk Drive 1, remove the dress cover. See "Removing the Dress Cover" in Chapter 4, "Getting Inside the Computer", for this procedure.

Extracting Hard Disk Drive 1

To extract Hard Disk Drive 1, do the following:

1. Remove the SCSI cable from the back of the hard disk drive.

2. Remove the power cord from the back of the hard disk drive.

3. Press down on the thumb-tab which locks the peripheral frame in place (Figure 6-11).
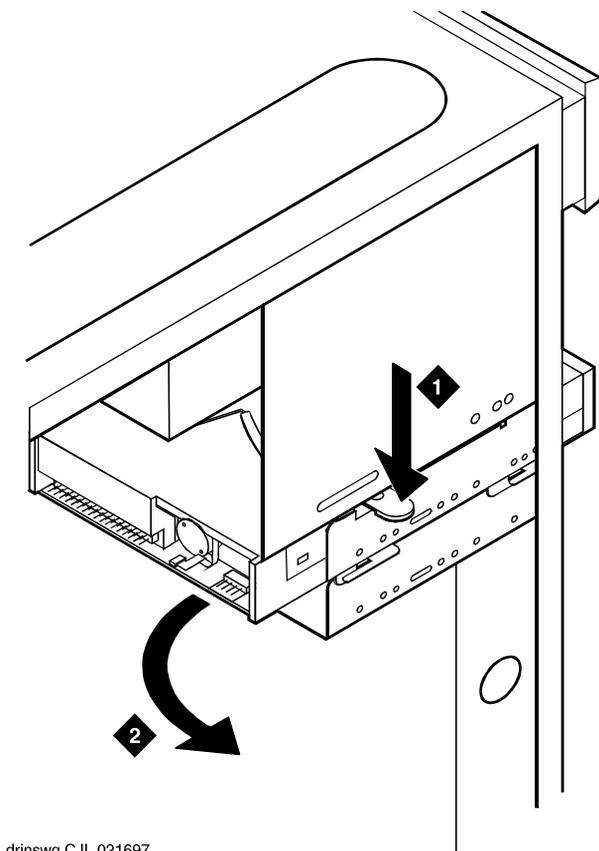
drinswg CJL 021697

1.   Press down on thumb tab
2.   Rotate frame out of chassis

Figure 6-11.   Removing the Peripheral Frame

4. Pull the peripheral frame toward you (Figure 6-11).

   The frame will rotate toward the front of the MAP/5P until the bracing lip has been cleared. At this point you can pull the frame out of the MAP/5P.

5. Locate the screws holding Hard Disk Drive 1 to the peripheral frame

   NOTE:
   Pay close attention to the location of the screws in both the peripheral frame and the hard disk drive.

6. Holding the rear of the hard disk drive, remove these screws.

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7. Remove Hard Disk Drive 1 from the peripheral frame.

8. Place the hard disk drive assembly, with the printed circuit board facing up, on an ESD-protected surface.

9. Continue with the next procedure, "Hard Disk Drive 1 Installation".

Hard Disk Drive 1 Installation

To install Hard Disk Drive 1, you must:

■ Set the jumper settings.

■ Insert the hard disk drive.

Setting the Hard Disk Drive 1 Jumper Settings

Figure 6-12 shows the correct jumper settings for the Seagate hard disk drive SCSI ID 1.
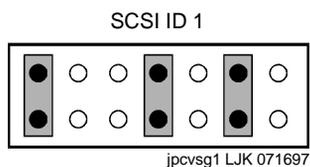
Figure 6-12.   Hard Disk Drive 1 Jumper Settings - Seagate

Figure 6-13 shows the correct jumper settings for the Capricorn hard disk drive SCSI ID 1.

Figure 6-13.   Hard Disk Drive 1 Jumper Settings - Capricorn

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Replacing a Hard Disk Drive

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Inserting Hard Disk Drive 1

To insert the hard disk drive, do the following:

1. Remove the new hard disk drive 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. Attach the hard disk drive, with the component side down, to the peripheral frame using the four screws removed in Step 6 of "Extracting Hard Disk Drive 1" above.

   > **NOTE:**
   > Pay close attention to the location of the screws in both the peripheral frame and the hard disk drive.

3. Attach the power cable to the hard disk drive.

4. Attach the SCSI cable to the hard disk drive.

5. Place the front of the peripheral frame into the MAP/5P.

6. Align the peripheral frame so that the bracing lip on the MAP/5P chassis is below the guide on the peripheral frame (Figure 6-14).
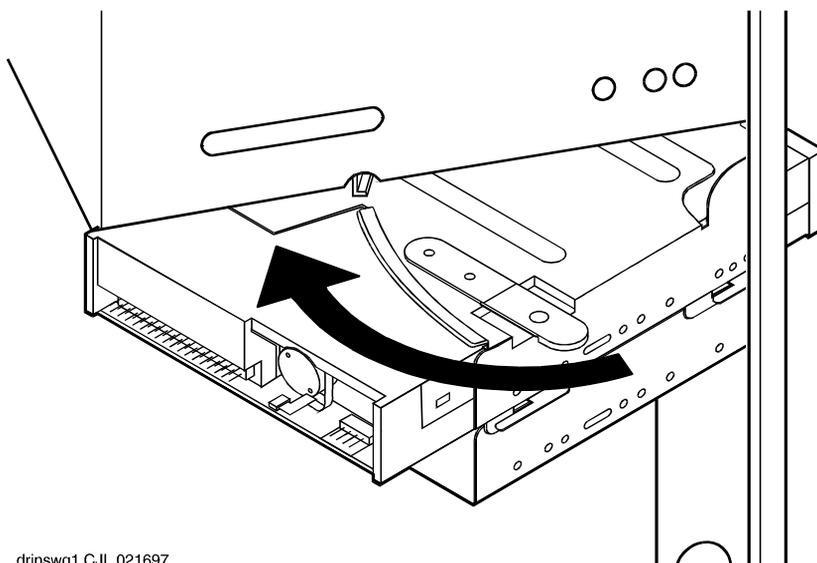
drinswg1 CJL 021697

Figure 6-14.   Installing the Peripheral Frame

7. Rotate the peripheral frame into the MAP/5P chassis until it is locked in place.

8. Check the cable connections to both the diskette drive and Hard Disk Drive 1.

Adding a Hard Disk Drive

This section details the procedures for adding Hard Disk Drive 1 to a Lucent INTUITY system. If you are replacing an existing drive, see "Recovering from a Hard Disk Drive 0 Failure" above or "Recovering from a Hard Disk Drive 1 Failure" above 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 "Setting the Hard Disk Drive 1 Jumper Settings" above for the procedure.

3. Install the hard disk drive. See "Inserting Hard Disk Drive 1" above for the procedure.

4. Reboot the Lucent INTUITY system. See "Rebooting the System" in Chapter 3, "Common System Procedures", for the procedure.

5. 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 6-15).

```
                        Install Disk




Enter jumper id of the disk being added (0-7): _
```

Figure 6-15.   Install Disk Window

6. Enter **1**

7. 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 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 the following Steps a through c.

   a. Press y.

      The system displays the following message:

      ```
      Option to auto clean disk not supported in this
      version.
      You must run the shell command fdisk
      /dev/rdsk/c0t1d0s0 and delete any active
      partitions.
      Hit Enter to continue.
      ```

   b. Press ENTER.

   c. Clean the hard disk drive. See "Cleaning a Hard Disk Drive" below
       for the procedure.

8. Press $\boxed{\text{ENTER}}$.

   The system displays the Disk Management menu (Figure 6-16).

```
┌─────────────────┐
│ Disk Management │
│>Install Disk    │
│ Replace Disk    │
└─────────────────┘
```

Figure 6-16.   Disk Management Menu

9. Reboot the Lucent INTUITY system. See "Rebooting the System" in
    Chapter 3, "Common System Procedures", for the procedure.

10. Contact the remote maintenance center and ask them to turn on mirroring.

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. The hard disk drives can
be cleaned:

■ Using the **fdisk** command

■ Performing a low-level format

Using the fdisk Command

To clean a hard disk drive using the fdisk command, do the following:

1. Log in to the system as root.

2. Enter fdisk **/dev/rdsk/c0t1d0s0**

> ⚠ **CAUTION:**
> *The phrase c0t1d0s0 is the name of the disk to be cleaned. The
> phrase c0t1d0s0 is correct for Hard Disk Drive 1. Hard Disk Drive 0 is
> named c0t0d0s0.*

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Cleaning a Hard Disk Drive

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The system displays the Disk Cleaning screen (Figure 6-17).

```
Total disk size is 2048 cylinders (2048.0MB)
```

Table 6-1.

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)
```

Figure 6-17. 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 6-17, 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 6-17).

6. Enter **4**

    The system displays the following message:

    ```
    If you have created or altered a partition, you must
    initialize the partition to reflect the new
    configuration. For a UNIX System partition run the
    disksetup(1m) command. For a DOS partiton, run the DOS
    format command.  Changes limited to the "Active" status
    field require no additional action.
    ```
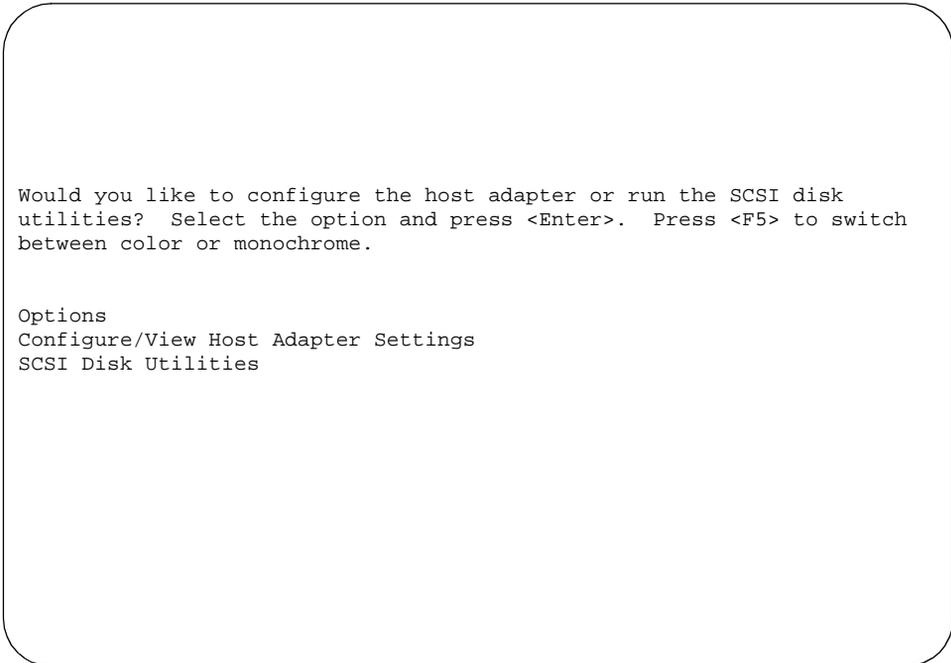
You have completed the procedure for cleaning a hard disk drive.

Performing a Low-Level Format

To low-level format a hard disk drive, do the following:

1. Reboot the system. See "Rebooting the System" in Chapter 3, "Common System Procedures".

2. Press (CONTROL)-(A) when prompted.

    The system displays the Host Adapter Configuration screen (Figure 6-18).

```
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 or monochrome.


Options
Configure/View Host Adapter Settings
SCSI Disk Utilities
```

Figure 6-18.   Host Adapter Configuration Screen

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3. Place the cursor on SCSI Disk Utilities. Use the up △ and down ▽
    arrows to move the cursor.

4. Press ENTER.

    The system displays the SCSI Disk Utilities screen (Figure 6-19).

```
        Select SCSI Disk and press <Enter>.

        SCSI ID #0     IBM DORS-32160
        SCSI ID #1     No Device
        SCSI ID #2     No Device
        SCSI ID #3     TANDBERG TDC4200
        SCSI ID #4     No Device
        SCSI ID #5     No Device
        SCSI ID #6     No Device
        SCSI ID #7     No Device
```

Figure 6-19.   SCSI Disk Utilities Screen

5. Place the cursor on the SCSI Disk to be formatted. Use the up △ and
    down ▽ arrows to move the cursor.

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6. Press ENTER.

   The system displays the Configure/Format Disk screen (Figure 6-20).

```
Configure Disk
Format Disk
```

Figure 6-20.   Configure/Format Disk Screen

7. Place the cursor on the Format Disk. Use the up ▲ and down ▼ arrows to move the cursor.

8. Press ENTER.

   The system will ask you to confirm that the disk is to be formatted.

9. Enter **y**

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7 Replacing Other Components
Overview

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Replacing Other Components

7

Overview

This chapter describes the procedures for replacing the:

- Cartridge tape drive

- CMOS battery

- Diskette drive

- Fans

- Memory

- Motherboard

- Riser card

- Power supply

Purpose
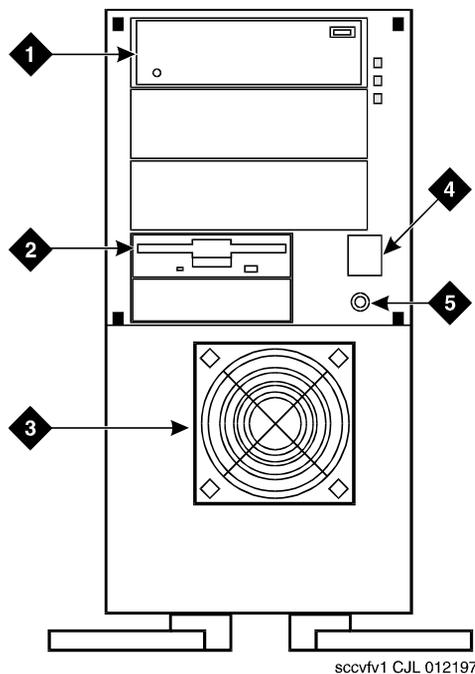
The purpose of this chapter is to ensure that the correct procedures are used to replace the internal components of the MAP/5P. This chapter also provides information on the correct configuration and settings for the individual components.

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Cartridge Tape Drive Replacement

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Cartridge Tape Drive Replacement

⚠️ **CAUTION:**
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".

The cartridge tape drive is located in Bay 1 of the MAP/5P (Figure 7-1).

sccvfv1 CJL 012197

1. Cartridge tape drive
2. Diskette drive
3. Circuit card cage fan
4. Power button
5. Reset button

Figure 7-1.   Front View of the MAP/5P

The following procedures detail removal and installation of the cartridge tape drive for the MAP/5P ().
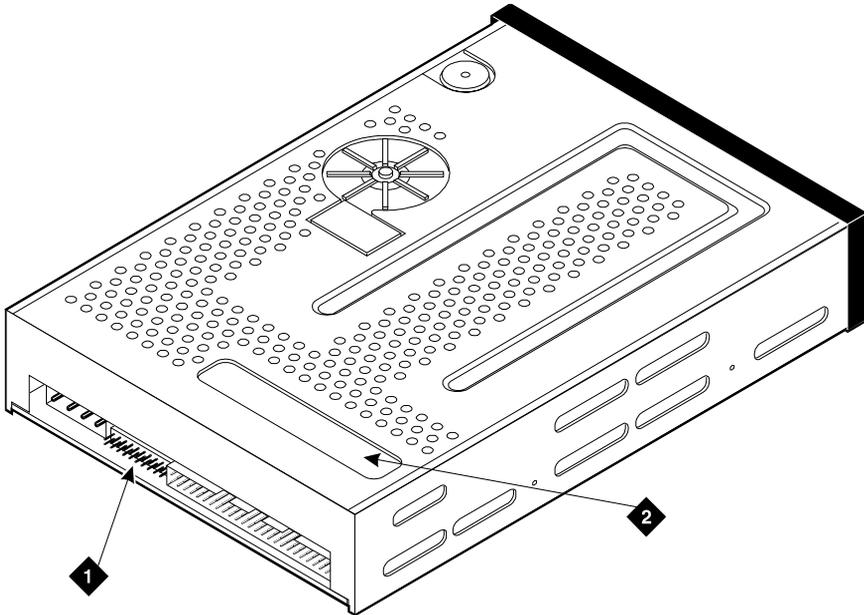
1.	Jumpers	2.	Terminating resistors

drcvtpe1 CJL 020597

Figure 7-2.   Cartridge Tape Drive

Cartridge Tape Drive Removal

To remove a cartridge tape drive, you must:

- Remove the Lucent™ INTUITY™ system from service.

- Access the cartridge tape drive.

- Extract the cartridge tape drive.

Removing the Lucent INTUITY System from Service

To remove the Lucent INTUITY system from service, 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. Stop the voice system. See "Stopping the Voice System" in Chapter 3, "Common System Procedures", for the procedure.

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3. Shut down the voice system. See "Shutting Down the Lucent Intuity System" in Chapter 3, "Common System Procedures", for the procedure.

4. Remove the incoming power. See "Removing Power from the MAP/5P" in Chapter 4, "Getting Inside the Computer", for this procedure.

Accessing the Cartridge Tape Drive

To access the cartridge tape drive, remove the dress cover. See "Removing the Dress Cover" in Chapter 4, "Getting Inside the Computer", for this procedure.

Extracting the Cartridge Tape Drive

To extract the cartridge tape drive, do the following:

1. Remove the SCSI cable from the cartridge tape drive.

   $\Longrightarrow$ **NOTE:**
   Make sure the SCSI cable pin adapter remains attached to the SCSI cable.

2. Remove the power cord from the cartridge tape drive.

3. Locate the four screws on peripheral bay chassis that secure the drive in Position 1 of the peripheral bay.

   $\Longrightarrow$ **NOTE:**
   Pay close attention to the location of the screws in both the peripheral bay chassis and the cartridge tape drive. If the screws are returned to a different position, the cartridge tape drive may protrude from the chassis too far or be recessed into the chassis too far.

4. Holding the rear of the drive, loosen and remove these mounting screws.

5. 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 .

6. Continue with the next procedure, "Cartridge Tape Drive Installation."

Cartridge Tape Drive Installation

To install a cartridge tape drive, you must:

- Verify the resource options.

- Insert the cartridge tape drive.

- Re-assemble the MAP/5P.

- Restore the Lucent INTUITY system.

Verifying the Resource Options

To verify the resource options, do the following:

1. Remove the three terminating resistors on the cartridge tape drive ([Figure 7-2]).

2. Verify that the settings are correct ([Figure 7-3]).
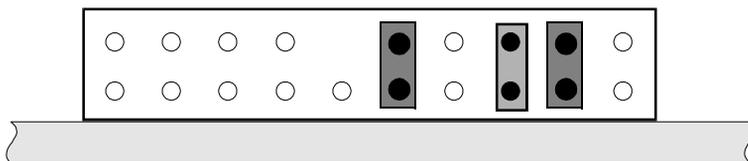
Figure 7-3.   Jumper Settings for the Cartridge Tape Drive, SCSI ID = 3

Inserting the Cartridge Tape Drive

To insert the cartridge tape drive, do the following:

1. Remove the new cartridge tape unit from its ESD-protective wrapping.

   $\Longrightarrow$ **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 Position 1 of the peripheral bay chassis with the printed circuit board side down.

3. Position the unit so that the cartridge tape drive screw holes line up with the appropriate holes in the peripheral bay.

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CMOS Battery Replacement

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> **NOTE:**
> Pay close attention to the location of the screws in both the peripheral bay chassis and the cartridge tape drive. If the screws are returned to a different position, the cartridge tape drive may protrude from the chassis too far or be recessed into the chassis too far.

4. Secure the drive in the peripheral bay using the four screws removed in Step 4 of the procedure, "Extracting the Cartridge Tape Drive", above.

5. Attach the power cable to the cartridge tape drive.

6. Attach the SCSI cable to the cartridge tape drive.

> **NOTE:**
> Make sure the SCSI cable pin adapter is attached to the SCSI cable.

Re-assembling the MAP/5P

To re-assemble the MAP/5P, replace the dress cover. See "Replacing the Dress Cover" in Chapter 4, "Getting Inside the Computer", for this procedure.

Restoring the Lucent INTUITY System

To restore the Lucent INTUITY system, do the following:
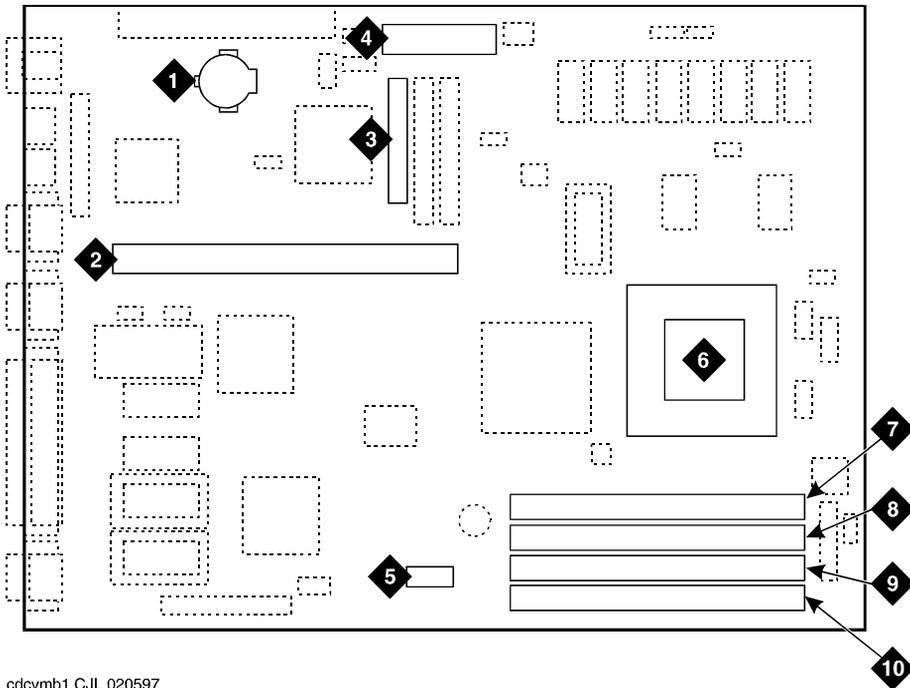
1. Restore power to the MAP/5P. See "Restoring Power to the MAP/5P" in Chapter 4, "Getting Inside the Computer", for the procedure.

2. Verify the Lucent INTUITY system operation by placing a call to a user.

CMOS Battery Replacement

⚠ **CAUTION:**
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".

The CMOS battery is located on the motherboard (Figure 7-4).

cdcvmb1 CJL 020597

1. CMOS battery   6. CPU fan
2. Riser card connector   7. SIMM4 socket (empty)
3. Diskette cable connector   8. SIMM3 socket (empty)
4. Power supply connectors   9. SIMM2 socket
5. Switches   10. SIMM1 socket

Figure 7-4.   Motherboard

CMOS Battery Removal

To remove the CMOS battery, you must:

- Remove the Lucent INTUITY system from service.

- Access the CMOS battery.

- Extract the CMOS battery.

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Removing the Lucent INTUITY System from Service

To remove the Lucent INTUITY system from service, 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. Stop the voice system. See "Stopping the Voice System" in Chapter 3, "Common System Procedures", for the procedure.

3. Shut down the voice system. See "Shutting Down the Lucent Intuity System" in Chapter 3, "Common System Procedures", for the procedure.

4. Remove the incoming power. See "Removing Power from the MAP/5P" in Chapter 4, "Getting Inside the Computer", for this procedure.

Accessing the CMOS Battery

To access the CMOS battery, remove the dress cover. See "Removing the Dress Cover" in Chapter 4, "Getting Inside the Computer", for this procedure.

Extracting the CMOS Battery

To extract the CMOS battery, do the following:

1. Gently push the battery to the side, away from the rear of the MAP/5P, until it has cleared the retaining bracket.

2. Pull the battery from the motherboard.

CMOS Battery Installation

To install the CMOS battery, you must:

- Insert the CMOS battery.

- Re-assemble the MAP/5P.

- Restore the Lucent INTUITY system.

- Verify the CMOS settings.

Inserting the CMOS Battery

To insert the CMOS battery, do the following:

1. Gently push the battery to the side, away from the rear of the MAP/5P, until it has cleared the retaining bracket.

2. Push the battery into the motherboard.

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Re-assembling the MAP/5P

To re-assemble the MAP/5P, replace the dress cover. See "Replacing the Dress Cover" in Chapter 4, "Getting Inside the Computer", for this procedure.

Restoring the Lucent INTUITY System

To restore the Lucent INTUITY system, do the following:

1. Restore power to the MAP/5P. See "Restoring Power to the MAP/5P" in Chapter 4, "Getting Inside the Computer", for the procedure.

2. Verify the Lucent INTUITY system operation by placing a call to a user.

Verifying the CMOS Settings

To verify the CMOS settings, see "Inserting the Motherboard" below.

Diskette Drive Replacement

! CAUTION:

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".

The 1.44 MB, 3.5-inch diskette drive is located in Bay 4 of the peripheral bay, as shown in Figure 7-1. There are no jumpers associated with the diskette drive used in the MAP/5P.

⇒ NOTE:

If you are replacing the diskette cable, you must remove the riser card. See "Riser Card Replacement" below for the procedure.

Diskette Drive Removal

To remove the diskette drive, you must:

- Remove the Lucent INTUITY system from service.

- Access the diskette drive.

- Extract the diskette drive.

Removing the Lucent INTUITY System from Service

To remove the Lucent INTUITY system from service, 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. Stop the voice system. See "Stopping the Voice System" in Chapter 3, "Common System Procedures", for the procedure.

3. Shut down the voice system. See "Shutting Down the Lucent Intuity System" in Chapter 3, "Common System Procedures", for the procedure.

4. Remove the incoming power. See "Removing Power from the MAP/5P" in Chapter 4, "Getting Inside the Computer", for this procedure.

Accessing the Diskette Drive
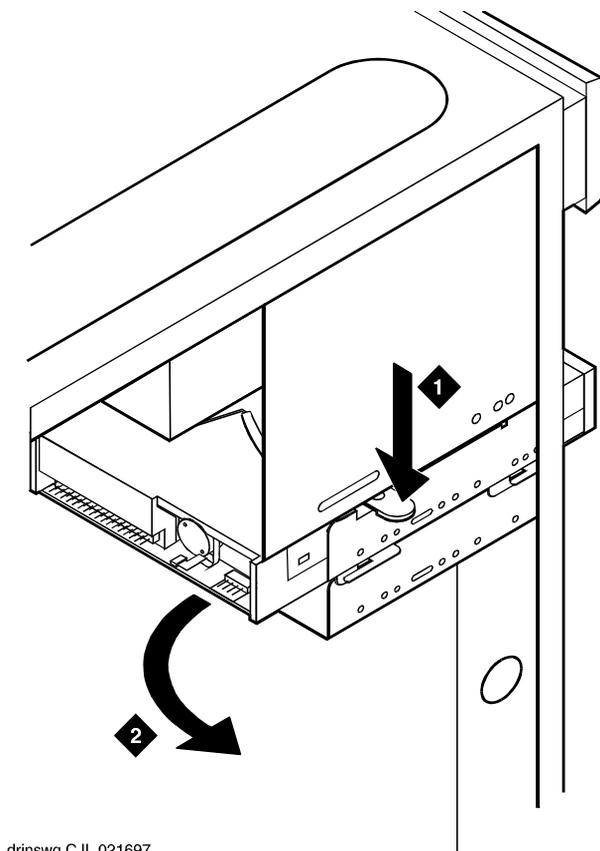
To access the diskette drive, remove the dress cover. See "Removing the Dress Cover" in Chapter 4, "Getting Inside the Computer", for this procedure.

Extracting the Diskette Drive

To extract the diskette drive, do the following:

1. Remove the diskette cable from the back of the diskette drive.

2. Remove the power cord from the back of the diskette drive.

3. Press down on the thumb-tab which locks the peripheral frame in place (Figure 7-5).

drinswg CJL 021697

1.   Press down on thumb tab
2.   Rotate frame out of chassis

Figure 7-5.   Removing the Peripheral Frame

4. Pull the peripheral frame toward you (Figure 7-5).

   The frame will rotate toward the front of the MAP/5P until the bracing lip has been cleared. At this point you can pull the frame out of the MAP/5P.

5. Locate the screws holding the diskette drive to the peripheral frame.

   ➡ **NOTE:**
   Pay close attention to the location of the screws in both the peripheral frame and the diskette drive. If the screws are returned to a different position, the diskette drive may protrude from the chassis too far or be recessed into the chassis too much.

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6. Holding the rear of the diskette drive, remove these screws.

7. Remove the diskette drive from the peripheral frame.

⚠ 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.

8. Place the diskette drive assembly, with the printed circuit board facing up, on an ESD-protected surface.

9. Continue with the next procedure, "Diskette Drive Installation."

Diskette Drive Installation

To install the diskette drive, you must:

- Insert the diskette drive.

- Re-assemble the MAP/5P.

- Restore the Lucent INTUITY system.

Inserting the Diskette Drive

To insert the diskette drive, do the following:

1. Remove the new diskette drive 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. Attach the diskette drive to the peripheral frame using the four screws removed in Step 6 of "Extracting the Diskette Drive" above.

⇒ NOTE:

Pay close attention to the location of the screws in both the peripheral frame and the diskette drive. If the screws are returned to a different position, the diskette drive may protrude from the chassis too far or be recessed into the chassis too much.

3. Attach the power cable to the diskette drive.

4. Attach the diskette cable to the diskette drive.

5. Place the front of the peripheral frame into the MAP/5P.

6. Align the peripheral frame so that the bracing lip on the MAP/5P chassis is below the guide on the peripheral frame (Figure 7-6).
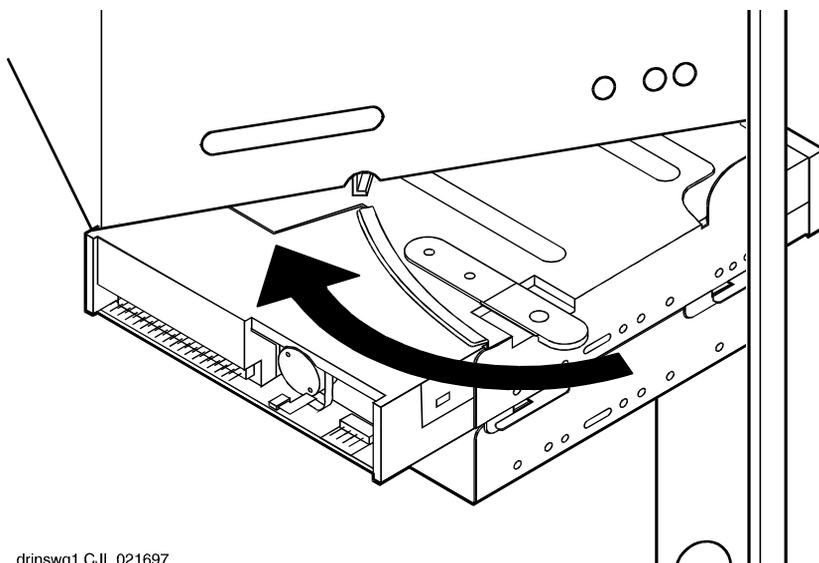
drinswg1 CJL 021697

Figure 7-6.   Installing the Peripheral Frame

7. Rotate the peripheral frame into the MAP/5P chassis until it is locked in place (Figure 7-6).

8. Check the cable connections to both the diskette drive and Hard Disk Drive 1 (if installed).

Re-assembling the MAP/5P

To re-assemble the MAP/5P, replace the dress cover. See "Replacing the Dress Cover" in Chapter 4, "Getting Inside the Computer", for this procedure.

Restoring the Lucent INTUITY System

To restore the Lucent INTUITY system, do the following:

1. Restore power to the MAP/5P. See "Restoring Power to the MAP/5P" in Chapter 4, "Getting Inside the Computer", for the procedure.

2. Verify the Lucent INTUITY system operation by placing a call to a user.

Fan Replacement

> ⚠️ **CAUTION:**
> *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".*

The MAP/5P contains the following fans that provide cooling inside the unit:

- Power supply fan
- Circuit card cage fan
- CPU fan

The power supply fan 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 "Power Supply Replacement" below for more information.

Circuit Card Cage Fan Replacement

The circuit card cage fan is located in front of the card cage, behind the dress cover (Figure 7-1). The circuit card cage fan forces air flow through the MAP/5P chassis, across the circuit cards.

Circuit Card Cage Fan Removal

To remove the circuit card cage fan, you must:

- Remove the Lucent INTUITY system from service.
- Access the circuit card cage fan.
- Extract the circuit card cage fan.

Removing the Lucent INTUITY System from Service

To remove the Lucent INTUITY system from service, 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. Stop the voice system. See "Stopping the Voice System" in Chapter 3, "Common System Procedures", for the procedure.

3. Shut down the voice system. See "Shutting Down the Lucent Intuity System" in Chapter 3, "Common System Procedures", for the procedure.

4. Remove the incoming power. See "Removing Power from the MAP/5P" in Chapter 4, "Getting Inside the Computer", for this procedure.

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Accessing the Circuit Card Cage Fan

To access the circuit card cage fan, do the following:

1. Remove the dress cover. See "Removing the Dress Cover" in Chapter 4, "Getting Inside the Computer"," for this procedure.

2. Remove the protective aluminum screen which holds the circuit card cage fan in the chassis.

Extracting the Circuit Card Cage Fan

To extract the circuit card cage fan, do the following:

1. Lift the circuit card cage fan out of the chassis.

2. Unplug the 12-VDC power lead connector.

⚠ CAUTION:

Do not operate the MAP/5P for any length of time without the circuit card cage fan installed and operational.

3. Continue with the next procedure, "Circuit Card Cage Fan Installation."

Circuit Card Cage Fan Installation

To install the circuit card cage fan, you must:

- Insert the circuit card cage fan.

- Re-assemble the MAP/5P.

- Restore the Lucent INTUITY system.

Inserting the Circuit Card Cage Fan

To insert the circuit card cage fan, do the following:

1. Attach the 12-VDC connector to the circuit card cage fan.

2. Place the circuit card cage fan in the MAP/5P chassis.

⇒ NOTE:
Make sure the air flow is directed into the MAP/5P chassis. There is an air flow direction arrow on the fan.

Re-assembling the MAP/5P

To re-assemble the MAP/5P, do the following:

1. Replace the aluminum screen.

2. Replace the dress cover. See "Replacing the Dress Cover" in Chapter 4, "Getting Inside the Computer"," for this procedure.

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Restoring the Lucent INTUITY System

To restore the Lucent INTUITY system, do the following:

1. Restore power to the MAP/5P. See "Restoring Power to the MAP/5P" in Chapter 4, "Getting Inside the Computer"," for the procedure.

2. 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 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/5P powered up for any length of time until the circuit card cage fan is fully operational.

3. Verify the Lucent INTUITY system operation by placing a call to a user.

CPU Fan Replacement

The CPU fan is located on the motherboard, on top of the CPU (Figure 7-4).

CPU Fan Removal

To remove the circuit card cage fan, you must:

- Remove the Lucent INTUITY system from service.

- Access the CPU fan.

- Extract the CPU fan.

Removing the Lucent INTUITY System from Service

To remove the Lucent INTUITY system from service, 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. Stop the voice system. See "Stopping the Voice System" in Chapter 3, "Common System Procedures"," for the procedure.

3. Shut down the voice system. See "Shutting Down the Lucent Intuity System" in Chapter 3, "Common System Procedures"," for the procedure.

4. Remove the incoming power. See "Removing Power from the MAP/5P" in Chapter 4, "Getting Inside the Computer"," for this procedure.

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Accessing the CPU Fan

To access the CPU fan, do the following:

1. Remove the dress cover. See "Removing the Dress Cover" in Chapter 4, "Getting Inside the Computer"," for this procedure.

2. 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 riser card connector slots from which each circuit card is removed. The circuit cards will need to be replaced in the same slots in the new riser card. See "Component Assignments" in Appendix A, "System Configuration", for circuit card placement.

Extracting the CPU Fan

To extract the CPU fan, do the following:

1. Remove the two screws which hold the CPU fan to the motherboard.

2. Lift the CPU out of the chassis.

3. Unplug the 12-VDC power lead connector.

4. Continue with the next procedure, "CPU Fan Installation."

CPU Fan Installation

To install the CPU fan, you must:

- Insert the CPU fan.

- Re-assemble the MAP/5P.

- Restore the Lucent INTUITY system.

Inserting the CPU Fan

To insert the CPU fan, do the following:

1. Attach the 12-VDC connector to the CPU fan.

2. Place the CPU fan on the motherboard.

3. Replace the two screws which hold the CPU fan to the motherboard.

Re-assembling the MAP/5P

To re-assemble the MAP/5P, do the following:

1. Replace the circuit cards. See "Installing a Circuit Card" in Chapter 5, "Replacing or Installing Circuit Cards"," for this procedure.

2. Replace the dress cover. See "Replacing the Dress Cover" in Chapter 4, "Getting Inside the Computer"," for this procedure.
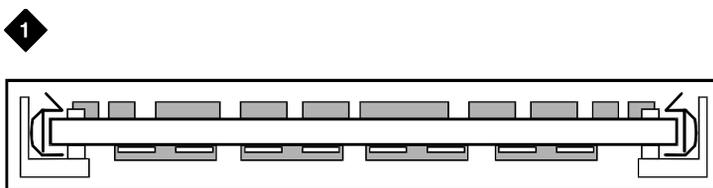
Restoring the Lucent INTUITY System

To restore the Lucent INTUITY system, do the following:

1. Restore power to the MAP/5P. See "Restoring Power to the MAP/5P" in Chapter 4, "Getting Inside the Computer"," for the procedure.

2. Verify the Lucent INTUITY system operation by placing a call to a user.

Memory Replacement

Single in-line memory modules (SIMMs) are located in the lower right hand portion of the mother board (Figure 7-4). The following situations could indicate a missing or defective SIMM:

- The system will not boot

- The power-on memory test fails

- A parity error on the motherboard occurs

In the case of a defective SIMM, both SIMMs should be replaced.

⚠ CAUTION:

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"."

SIMM Removal

To remove the SIMMs, you must:

- Remove the Lucent INTUITY system from service.

- Access the SIMMs.

- Verify the SIMM seating.

- Extract the SIMMs.

Removing the Lucent INTUITY System from Service

To remove the Lucent INTUITY system from service, 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. Stop the voice system. See "Stopping the Voice System" in Chapter 3, "Common System Procedures"," for the procedure.

3. Shut down the voice system. See "Shutting Down the Lucent Intuity System" in Chapter 3, "Common System Procedures"," for the procedure.

4. Remove the incoming power. See "Removing Power from the MAP/5P" in Chapter 4, "Getting Inside the Computer"," for this procedure.

Accessing the SIMMs

To access the SIMMs, do the following:

1. Remove the dress cover. See "Removing the Dress Cover" in Chapter 4, "Getting Inside the Computer"," for this procedure.

2. Remove the circuit cards in the bottom three slots. See "Removing a Circuit Card" in Chapter 5, "Replacing or Installing Circuit Cards"."

Verifying the SIMM Seating

To verify the SIMM seating, do the following:

1. Apply pressure to both SIMMs to ensure they are properly seated.

2. If both are properly seated, then both should be replaced, continue with the next procedure, "Extracting the SIMMs."

   If one or more of the SIMMs are not properly installed or seated, do the following Step a through Step d:

   a. Properly seat the SIMM.

   b. Replace the dress cover. See "Replacing the Dress Cover" in Chapter 4, "Getting Inside the Computer"," for this procedure.

   c. Restore the incoming power. See "Restoring Power to the MAP/5P" in Chapter 4, "Getting Inside the Computer"," for this procedure.

   d. 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, the problem has been corrected. Complete the following Steps 1 through 7:

      1. Shut down the voice system. See "Shutting Down the Lucent Intuity System" in Chapter 3, "Common System Procedures"," for the procedure.

      2. Remove the incoming power. See "Removing Power from the MAP/5P" in Chapter 4, "Getting Inside the Computer"," for this procedure.

      3. Remove the dress cover. See "Removing the Dress Cover" in Chapter 4, "Getting Inside the Computer"," for this procedure.

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4. Replace the circuit cards in the bottom three slots. See "Installing a Circuit Card" in Chapter 5, "Replacing or Installing Circuit Cards"."

5. Replace the dress cover. See "Replacing the Dress Cover" in Chapter 4, "Getting Inside the Computer"," for this procedure.

6. Restore the incoming power. See "Restoring Power to the MAP/5P" in Chapter 4, "Getting Inside the Computer"," for this procedure.

7. Reboot the system. See "Rebooting the System" in Chapter 3, "Common System Procedures"," for the procedure.

If the system shows an amount of memory less than that installed on the card, both of the SIMMs should be replaced, continue with the next procedure, "Extracting the SIMMs."

Extracting the SIMMs

To extract the SIMMs, do the following:

1. Release the metal snap locks at the edge of the SIMM2 socket by gently pushing them to the outside (Figure 7-7).
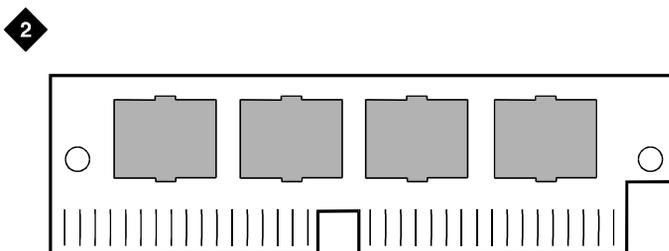
1. SIMM in socket - top view   2. SIMM - side view

Figure 7-7.   SIMM Socket

2. Rotate the SIMM downward to approximately a 45-degree angle.

3. Remove the SIMM.

4. Repeat Step 1 through Step 3 for the SIMM located in the SIMM1 socket.

5. Continue with the next procedure, "SIMM Installation."

SIMM Installation

To install the SIMMs, you must:

- Insert the SIMMs.

- Re-assemble the MAP/5P.

- Restore the Lucent INTUITY system.

Inserting the SIMMs

To insert the SIMMs, do the following:

1. Install a SIMM in the SIMM1 socket by positioning the it at approximately a 45-degree angle with respect to the motherboard.

    All SIMMs are keyed to prevent them from being inserted incorrectly.

2. Push down at that angle until the SIMM is reseated into the SIMM carrier.

3. 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.

4. 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.

5. Repeat Step 1 through Step 4 to install a SIMM in the SIMM2 socket.

Re-assembling the MAP/5P

To re-assemble the MAP/5P, do the following:

1. Replace the circuit cards in the bottom three slots. See "Installing a Circuit Card" in Chapter 5, "Replacing or Installing Circuit Cards"."

2. Replace the dress cover. See "Replacing the Dress Cover" in Chapter 4, "Getting Inside the Computer"," for this procedure.

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Restoring the Lucent INTUITY System

To restore the Lucent INTUITY system, do the following:

1. Restore power to the MAP/5P. See "Restoring Power to the MAP/5P" in Chapter 4, "Getting Inside the Computer''," for the procedure.

2. Verify the Lucent INTUITY system operation by placing a call to a user.

Motherboard Replacement

⚠ CAUTION:

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"."

Motherboard Removal

To remove the motherboard, you must:

■ Remove the Lucent INTUITY system from service.

■ Access the motherboard.

■ Extract the motherboard.

Removing the Lucent INTUITY System from Service
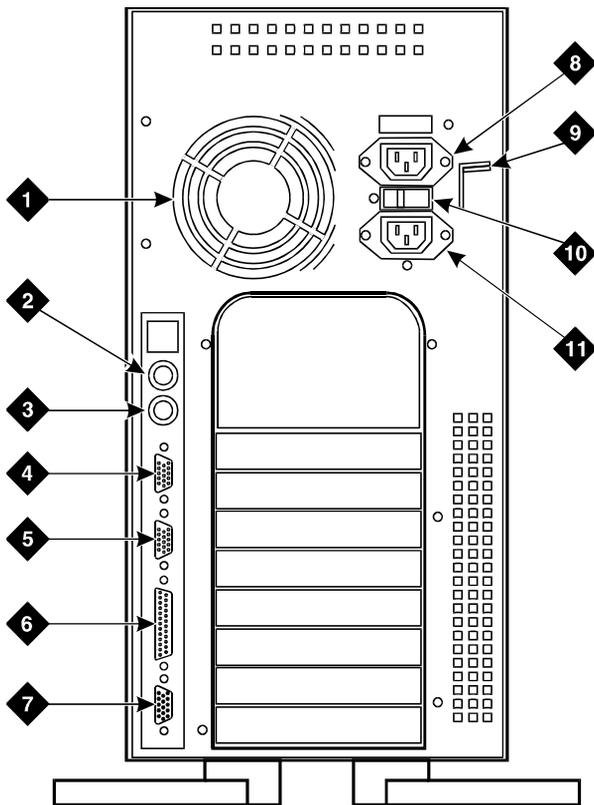
To remove the Lucent INTUITY system from service, do the following:

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

2. Stop the voice system. See "Stopping the Voice System" in Chapter 3, "Common System Procedures''," for the procedure.

3. Shut down the voice system. See "Shutting Down the Lucent Intuity System" in Chapter 3, "Common System Procedures''," for the procedure.

4. Remove the incoming power. See "Removing Power from the MAP/5P" in Chapter 4, "Getting Inside the Computer''," for this procedure.

Accessing the Motherboard

To access the motherboard, do the following:

1. Disconnect any cables attached to the ports in the back of the MAP/5P (Figure 7-8).

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1.   Power supply fan intake
2.   Keyboard connector
3.   Mouse connector
4.   COM1
5.   COM2
6.   Parallel port
7.   Video connector
8.   AC power supply outlet
9.   Dress cover lock
10.   AC voltage selector switch
11.   AC power inlet receptacle

Figure 7-8.   Rear View of the MAP/5P

2. Remove the dress cover. See "Removing the Dress Cover" in Chapter 4, "Getting Inside the Computer"," for this procedure.

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3. Remove all of the circuit cards. See "Removing a Circuit Card" in
   Chapter 5, "Replacing or Installing Circuit Cards"."

4. Remove the riser card. See "Riser Card Removal" below for the procedure.

Extracting the Motherboard

To extract the motherboard, do the following:

1. Disconnect the diskette cable from the motherboard (Figure 7-4).

2. Disconnect the power supply connections from the motherboard
   (Figure 7-4).

3. Push up on the motherboard retaining bracket.

4. Gently pull the motherboard forward until it has cleared the alignment pegs.

5. Slide the motherboard toward the front of the MAP/5P to allow the cable
   connectors, in the rear of the MAP/5P, to clear the chassis.

6. Remove the motherboard from the MAP/5P chassis.

7. Remove the memory from the motherboard. See "SIMM Removal" above
   for the procedure.

   ### NOTE:
   The new motherboard contains no memory. Use the memory from
   the defective motherboard to populate the replacement.

8. Continue with the next procedure, "Motherboard Installation."
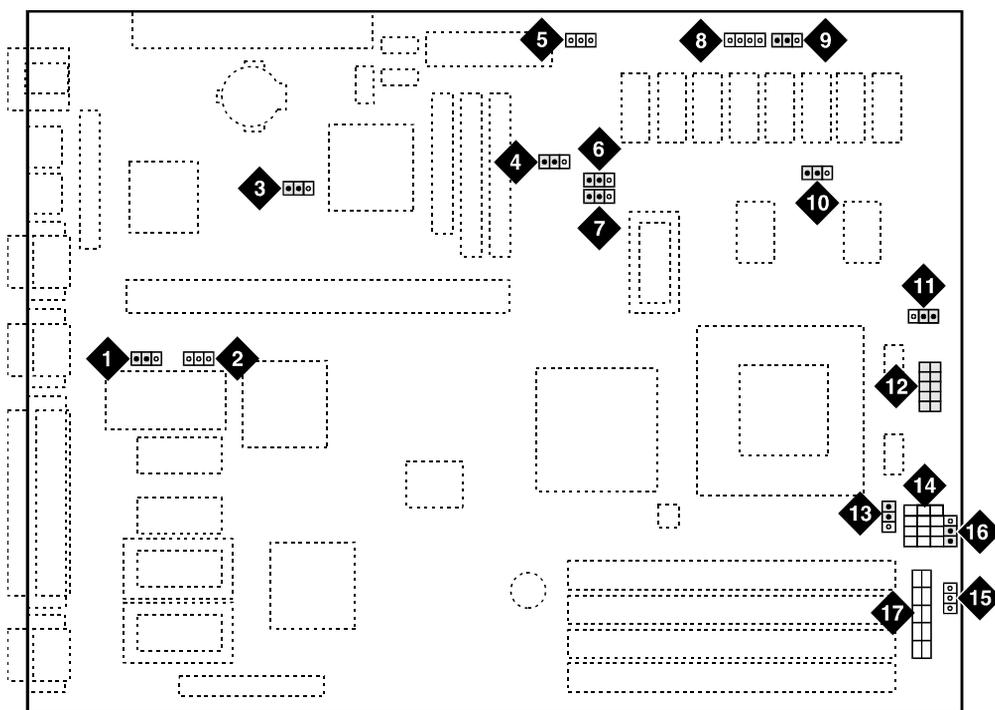
Motherboard Installation

To install the motherboard, you must:

■ Verify the resource options.

■ Insert the motherboard.

■ Re-assemble the MAP/5P.

■ Restore the Lucent INTUITY system.

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Verifying the Resource Options

The motherboard contains switches and jumpers that you must verify. Figure 7-4 shows the location of the switches. Figure 7-9 shows the location of the jumpers on the motherboard.

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1. JP5 - flash BIOS function
2. JP6 - BIOS ROM type
3. JP1 - BIOS type
4. JP2 - LED function
5. JP15 - standby power connector
6. JP4 - second-level cache
7. JP3 - second-level cache
8. JP30 - external battery connector
9. JP16 - software shutdown
10. JP42 - L2 cache mode
11. JP43 - CPU voltage for I/O
12. JP7 - regulator
13. JP44 - CPU voltage for core
14. JP11 - SMM/reset switch
15. JP14 - power-on switch connector
16. CN30
17. CN19

Figure 7-9.   Motherboard Jumper Locations

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To verify the resource options, do the following:

1. Verify the jumper settings on the motherboard ().

jpcvmb3 CJL 040297
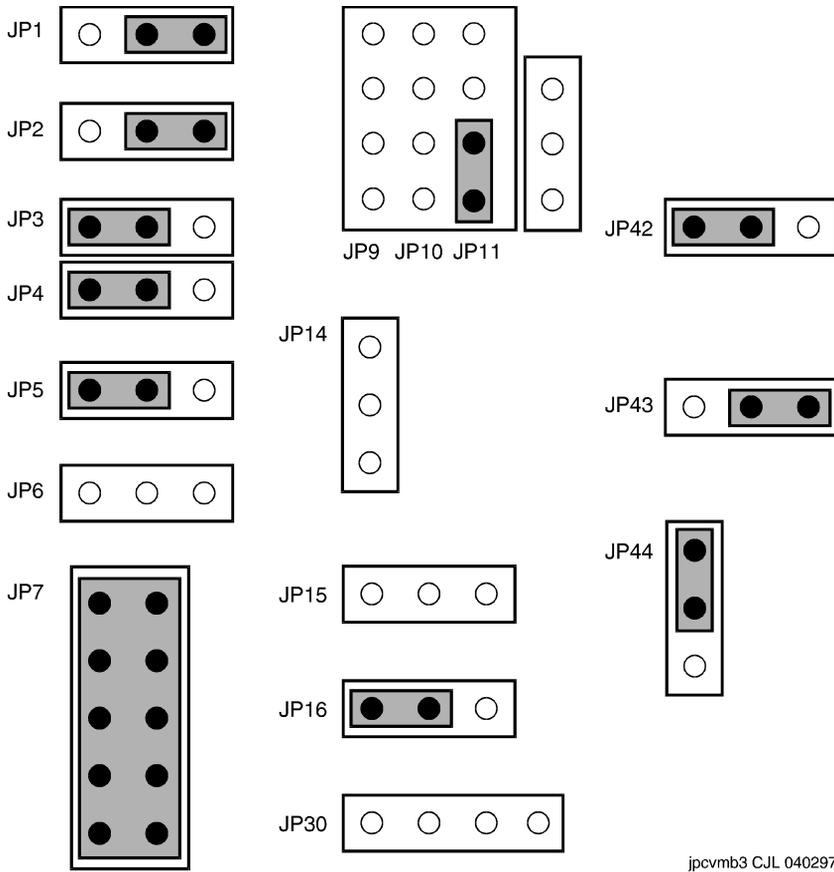
Figure 7-10.   Motherboard Jumper Settings

2. Verify the switch settings on the motherboard ().

swcv_mp5 CJL 020497
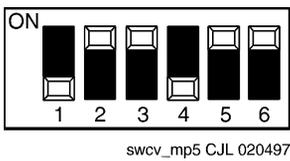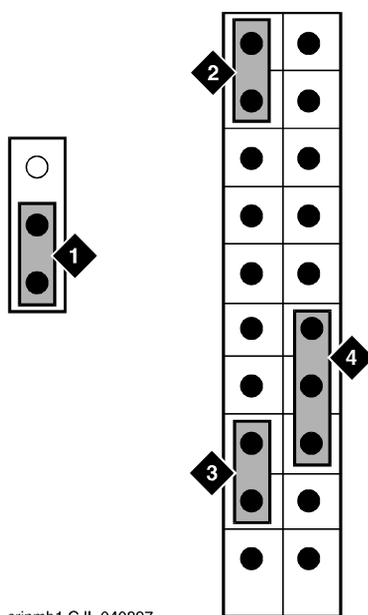
Figure 7-11.   Motherboard Switch Settings

Inserting the Motherboard

To insert the motherboard, do the following:

1. Place the SIMMs from the defective motherboard on to the replacement motherboard. See "SIMM Installation" on page 7-226 for the procedure.

2. Place the motherboard in the MAP/5P.

3. Align the external cable connectors on the motherboard with the corresponding holes in the MAP/5P chassis.

4. Slide the motherboard to the rear of the MAP/5P so that the external cable connectors protrude through the rear of the unit.

5. Align the holes in the motherboard with the alignment pegs in the MAP/5P (Figure 7-4).

6. Gently push the motherboard into the MAP/5P until the retaining bracket has snapped into place (Figure 7-4).

7. Attach the diskette cable to the motherboard (Figure 7-4).

8. Attach the power supply connections to the motherboard (Figure 7-4).

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9. Attach the reset switch connector to CN19 (Figure 7-12).

crinmb1 CJL 040897

1.   RMB reset cable connector (pins 1 and 2 of CN30)
2.   Reset switch connector (pins 19 and 20 of CN19)
3.   Turbo LED connector (pins 12 and 13 of CN19)
4.   Power LED connector (pins 3,4, and 5 of CN19)

Figure 7-12.   Motherboard Cable Connections

10. Attach the turbo LED connector to CN19 (Figure 7-12).

11. Attach the power LED connector to CN19 (Figure 7-12).

12. Attach the remote maintenance circuit card reset cable to CN30 (Figure 7-12).

Re-assembling the MAP/5P

To re-assemble the MAP/5P, do the following:

1. Replace the riser card. See "Riser Card Installation" above for the procedure.

2. Replace the circuit cards. See "Installing a Circuit Card" in Chapter 5, "Replacing or Installing Circuit Cards"."

3. Replace the dress cover. See "Replacing the Dress Cover" in Chapter 4, "Getting Inside the Computer"," for this procedure.

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4. Attach any cables which were connected to the following ports in the back of the MAP/5P (Figure 7-8).

    ■   Video port

    ■   Keyboard port

    ■   COM1

    ■   COM2

    ■   Parallel port

    ■   I/O port

Restoring the Lucent INTUITY System

To restore the Lucent INTUITY system , do the following:

1. Restore power to the MAP/5P. See "Restoring Power to the MAP/5P" in Chapter 4, "Getting Inside the Computer"," for the procedure.

2. Verify the CMOS settings by completing the following Step a through Step e:

    a. When prompted, press CONTROL - ALT - ESC

        The system displays the CMOS Configuration screen (Figure 7-13).
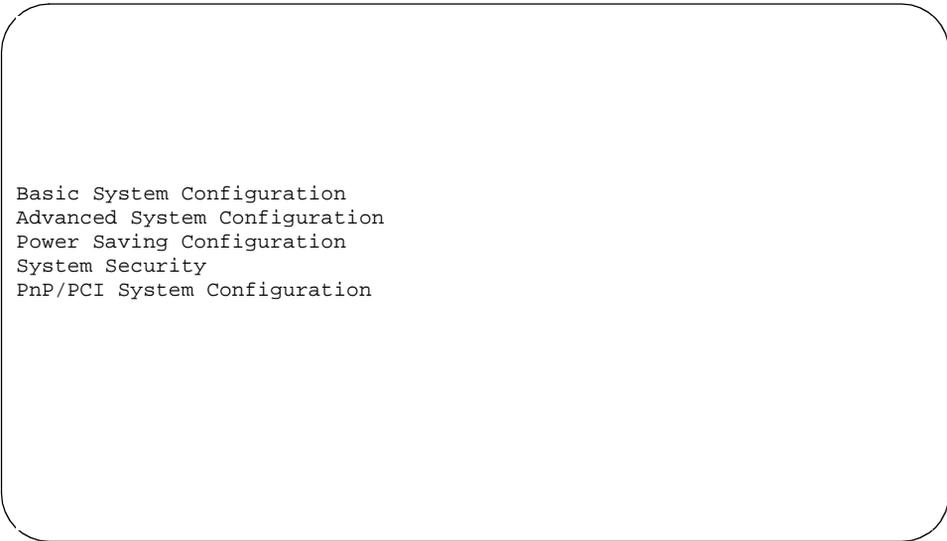
```
Basic System Configuration
Advanced System Configuration
Power Saving Configuration
System Security
PnP/PCI System Configuration
```

Figure 7-13.   CMOS Configuration Screen

     b.   Compare the CMOS settings with those listed in .

        Use the up ⏶ and down ⏷ arrows to move the cursor between fields. Use the left ◀ and right ▶ arrows to change the value of the field. Use the ESC key to return to the previous menu.

Table 7-1.   CMOS Settings

Option	Setting
Basic System Configuration	
`IDE0`	AUTO
IDE1	AUTO
IDE2	AUTO
IDE3	AUTO
On-board IDE Controller	Disabled
Hard Disk Block Mode	Disabled
Advanced PIO Mode	Disabled
Hard Disk Size >504 MB	Disabled
Hard Disk 32 Bit Access	Disabled
Large Memory Support Mode	Normal
Number Lock After Boot	Enabled
Memory Test	Enabled
Quiet Boot	Enabled
Configuration Table	Disabled
Advanced System Configuration	
Internal Cache (CPU Cache)	Enabled
External Cache	Enabled
Cache Scheme	Write Back
ECC/Parity Mode Selection	Parity
Memory @ 15MB-16MB Reserved for	[System] use
Power Saving Configuration	
Power Management Mode	Disabled
Power Saving Operation Mode	[Traditional]
IDE Hard Disk Standby Timer	Off
Monitor Power Saving Timer	Off

(1 of 3)

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Table 7-1. CMOS Settings

Option	Setting
System Standby Timer	Off
System Suspend Timer	Off
IRQ2, IRQ9	Disabled
IRQ3	Disabled
IRQ4	Disabled
IRQ5	Disabled
IRQ7	Disabled
IRQ10	Disabled
IRQ11	Disabled
IRQ12	Disabled
IRQ15	Disabled
Quick Start Timer	Off
Point Device Location	[None]
System Security	
Diskette Drive	Normal
Hard Disk Drive	Normal
System Boot Drive	Drive A then Drive C
Boot from CD-Rom	Disabled
Serial Port 1 Base Address	[3F8h]
Serial Port 2 Base Address	[2F8h]
Parallel Port Address	[378(IRQ7)]
Operation Mode	[Standard Parallel Port SPP] Mode
On-board PS/2 Mouse (IRQ12)	Disabled
Set-up Password	[None]
Power on Password	[None]
PnP/PCI System Configuration	
PCI IRQ Setting	Manual
PCI Slot 1	INTA 14
PCI Slot 2	INTD 14
PCI Slot 3	INTC 14

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Table 7-1. CMOS Settings

Option	Setting
On-Board VGA	-
PCI IRQ Sharing	[No]
VGA Palette Snoop	[Disabled]
Plug & Play OS	[No]
Reset Resources Assignment	[No]

(3 of 3)

    c. When you have completed setting the CMOS, press (ESC).

       The system displays the following message:

       `Do you want to save the CMOS settings?`

          `YES`   `NO`

    d. Place the cursor on `YES`

    e. Press (ENTER).

3. Verify the Lucent INTUITY system operation by placing a call to a user.

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Power Supply Replacement

The 110/220-VAC power supply is located in the upper left corner of the MAP/5P as shown in Figure 7-14.
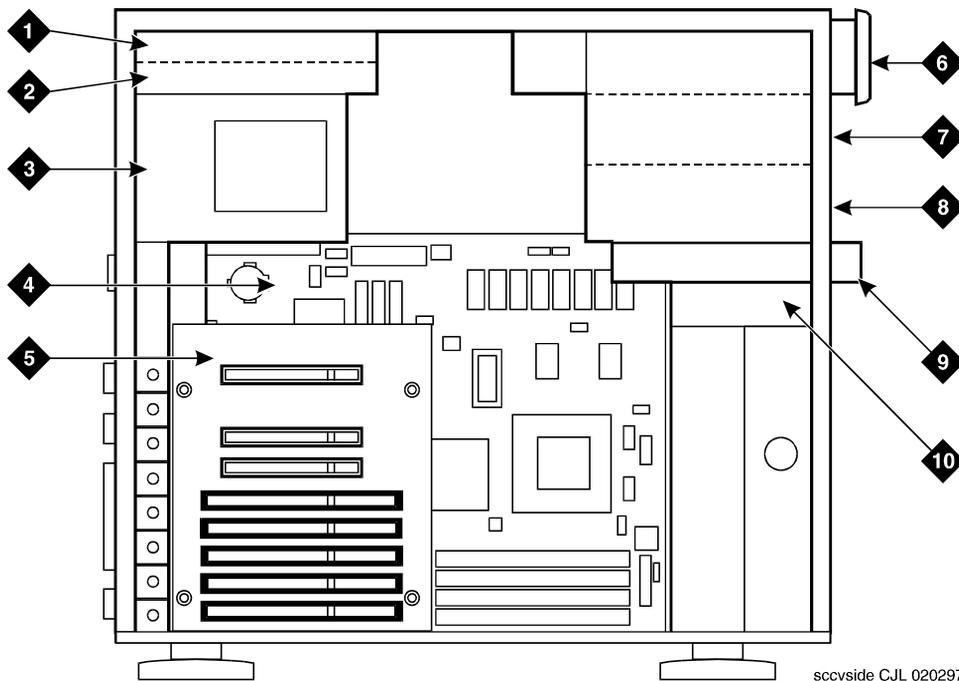
1. Bay 6 - Hard Disk Drive 0
2. Bay 7 - Empty
3. Power supply
4. Motherboard
5. Riser card
6. Bay 1 - Cartridge tape drive
7. Bay 2 - Empty
8. Bay 3 - Empty
9. Bay 4 - Diskette drive
10. Bay 5 - Hard Disk Drive 1 (if used)

sccvside CJL 020297

Figure 7-14.   MAP/5P Internal Layout

Power Supply Removal

To remove the power supply, you must:

- Remove the Lucent INTUITY system from service.

- Access the power supply.

- Extract the power supply.

Removing the Lucent INTUITY System from Service

To remove the Lucent INTUITY system from service, 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. Stop the voice system. See "Stopping the Voice System" in Chapter 3, "Common System Procedures"," for the procedure.

3. Shut down the voice system. See "Shutting Down the Lucent Intuity System" in Chapter 3, "Common System Procedures"," for the procedure.

4. Remove the incoming power. See "Removing Power from the MAP/5P" in Chapter 4, "Getting Inside the Computer"," for this procedure.
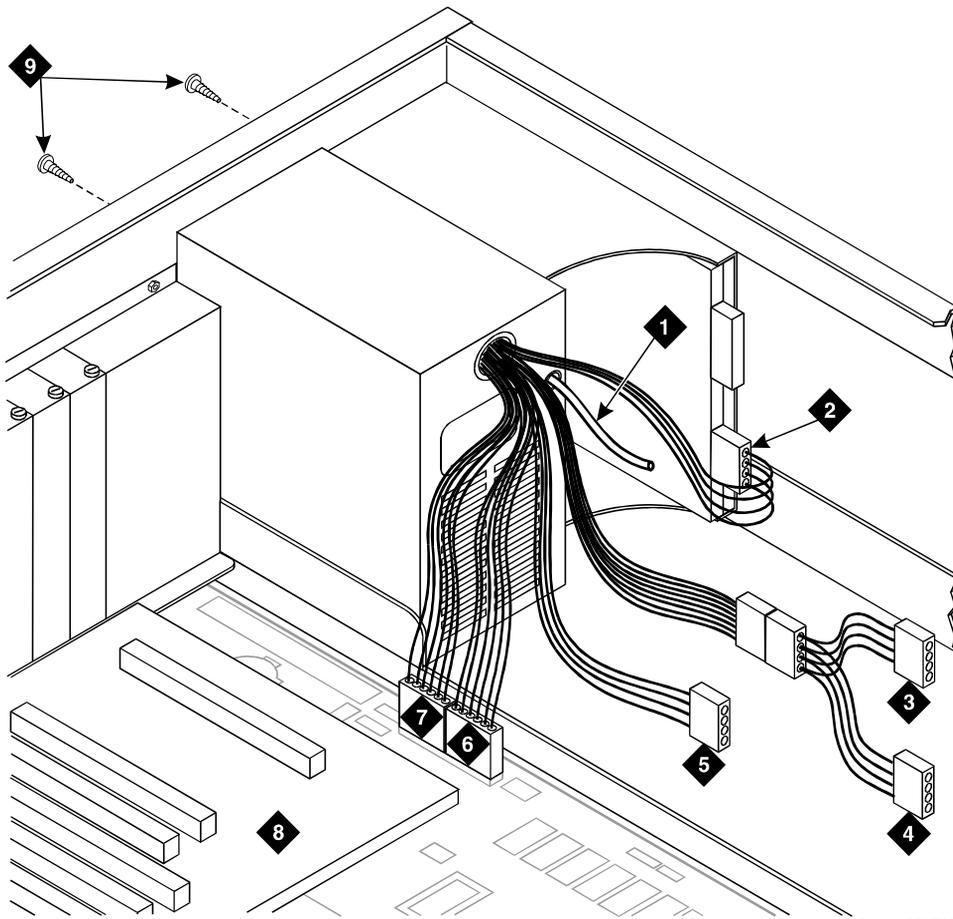
Accessing the Power Supply

To access the power supply, remove the dress cover. See "Removing the Dress Cover" in Chapter 4, "Getting Inside the Computer"," for this procedure.

Extracting the Power Supply

To extract the power supply, do the following:

1. Unplug the connector to the cartridge tape drive (Figure 7-15).

2. Unplug the connector to the diskette drive (Figure 7-15).

3. Unplug the connector to Hard Disk Drive 1, if provided (Figure 7-15).

4. Unplug the connector to Hard Disk Drive 0 (Figure 7-15).

5. Unplug both connectors to the motherboard (Figure 7-15).

pscvmap5 KLC 020797

1.	Power-on switch cable	7.	Motherboard connector
2.	Hard Disk Drive 0 connector	8.	Riser card
3.	Diskette drive connector	9.	Power supply retaining screws
4.	Hard Disk Drive 1 connector		
5.	Cartridge tape drive connector		
6.	Motherboard connector		

Figure 7-15.   MAP/5P Power Supply

6. Locate the power supply switch cable, which is mounted to the front of the chassis by a single screw.

7. Remove the screw holding the power supply switch (Figure 7-16).
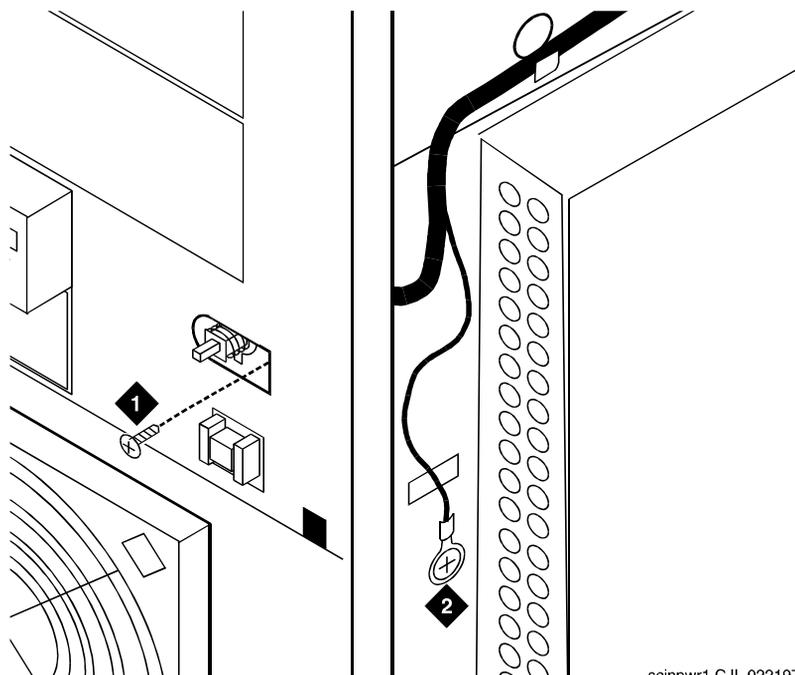
1.   Power supply switch retaining screw
2.   Power supply grounding wire and screw

Figure 7-16.   Power Supply Switch

8.   Remove the screw which holds the grounding wire to the chassis (Figure 7-16).

9.   Slide the power supply switch out of the retaining slot.

10. Remove the four screws on the chassis rear area that secure the power supply unit (Figure 7-15).

11. Slide the unit slightly forward towards the front of the MAP/5P and tilt towards the riser card.

12. Lift and remove the power supply.

Power Supply Installation

To install the power supply, you must:

■   Insert the power supply.

■   Re-assemble the MAP/5P.

■   Restore the Lucent INTUITY system.

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Inserting a Power Supply

To insert 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.

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. Install the power supply unit into the chassis and align the screw holes.

4. Install the four screws on the chassis rear area that secure the power supply unit (Figure 7-15).

5. Attach the power supply DC output connectors to the motherboard (Figure 7-15).

   NOTE:
   These connectors are keyed.

6. Attach the connector to the cartridge tape drive (Figure 7-15).

7. Attach the connector to the diskette drive (Figure 7-15).

8. Attach the connector to the Hard Disk Drive 1, if provided (Figure 7-15).

   If Hard Disk Drive 1 is not installed, dress this lead back out of the way to reduce cable congestion.

9. Attach the connector to Hard Disk Drive 0 (Figure 7-15).

10. Dress the power switch cable around to the front of the MAP/5P (Figure 7-17).
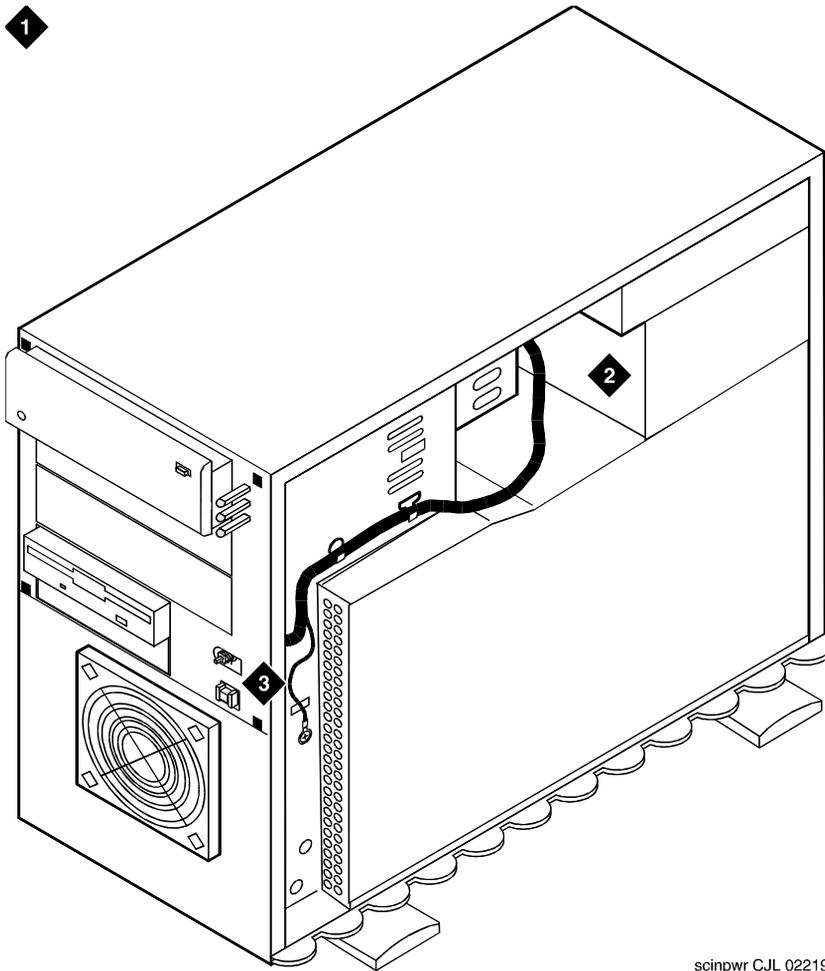
scinpwr CJL 022197

Figure 7-17.   Power Switch Cable

11. Slide the power switch into the slot provided (Figure 7-16).

12. Replace the screw you removed in Step 7 of "Power Supply Removal."

Re-assembling the MAP/5P

To re-assemble the MAP/5P, replace the dress cover. See "Replacing the Dress Cover" in Chapter 4, "Getting Inside the Computer"," for this procedure.

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Restoring the Lucent INTUITY System

To restore the Lucent INTUITY system, do the following:

1. Restore power to the MAP/5P. See "Restoring Power to the MAP/5P" in Chapter 4, "Getting Inside the Computer''," for the procedure.

2. Verify the Lucent INTUITY system operation by placing a call to a user.

Riser Card Replacement

! CAUTION:

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"."

The following procedures detail the 6-slot riser card installation and removal. All of the circuit cards are connected to the riser card. The riser card (Figure 7-14) is located in the back of the MAP/5P card cage area. The riser card is connected to the motherboard.

Riser Card Removal

To remove the riser card, you must:

- Remove the Lucent INTUITY system from service.

- Access the riser card.

- Extract the riser card.

Removing the Lucent INTUITY System from Service

To remove the Lucent INTUITY system from service, 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. Stop the voice system. See "Stopping the Voice System" in Chapter 3, "Common System Procedures''," for the procedure.

3. Shut down the voice system. See "Shutting Down the Lucent Intuity System" in Chapter 3, "Common System Procedures''," for the procedure.

4. Remove the incoming power. See "Removing Power from the MAP/5P" in Chapter 4, "Getting Inside the Computer''," for this procedure.

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Accessing the Riser Card

To access the riser card, do the following:

1. Remove the dress cover. See "Removing the Dress Cover" in Chapter 4, "Getting Inside the Computer"," for this procedure.

2. 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 riser card connector slots from which each circuit card is removed. The circuit cards will need to be replaced in the same slots in the new riser card. See "Component Assignments" in Appendix A, "System Configuration", for circuit card placement.

Extracting the Riser Card

To extract the riser card, do the following:

1. Remove the screw in the lower left corner of the riser card (Figure 7-14).

2. Gently pull the riser card away from the motherboard until the riser card connector is removed from the slot on the motherboard.

3. Continue with the next procedure, "Riser Card Installation."

Riser Card Installation

To install the riser card, you must:

- Insert the riser card.

- Re-assemble the MAP/5P.

- Restore the Lucent INTUITY system.

Inserting the Riser Card

To insert the riser card, do the following:

1. Remove the new riser card 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. Align the riser card connector with the slot on the motherboard.

3. Gently push the riser card connector into the motherboard.

4. Replace the screw in the bottom left corner of the riser card (Figure 7-14).

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Riser Card Replacement   Page 246

Re-assembling the MAP/5P

To re-assemble the MAP/5P, do the following:

1. Replace the circuit cards removed in <u>Step 1</u> of "<u>Extracting the Riser Card</u>."

    ➡ NOTE:
    Be sure to mount these cards in their correct riser card slot. See
    "<u>Component Assignments</u>" in <u>Appendix A, "System Configuration"</u>,
    for circuit card placement.

2. Replace the Dress Cover. See "<u>Replacing the Dress Cover</u>" in <u>Chapter 4,
   "Getting Inside the Computer"</u>," for the procedure.

Restoring the Lucent INTUITY System

To restore the Lucent INTUITY system, do the following:

1. Restore power to the MAP/5P. See "<u>Restoring Power to the MAP/5P</u>" in
   <u>Chapter 4, "Getting Inside the Computer"</u>," for the procedure.

2. Verify the Lucent INTUITY system operation by placing a call to a user.

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8   Installing Base System Software
Overview

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Installing Base System Software

<div align="right">

8

</div>

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.

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Installing UnixWare Page 248

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:
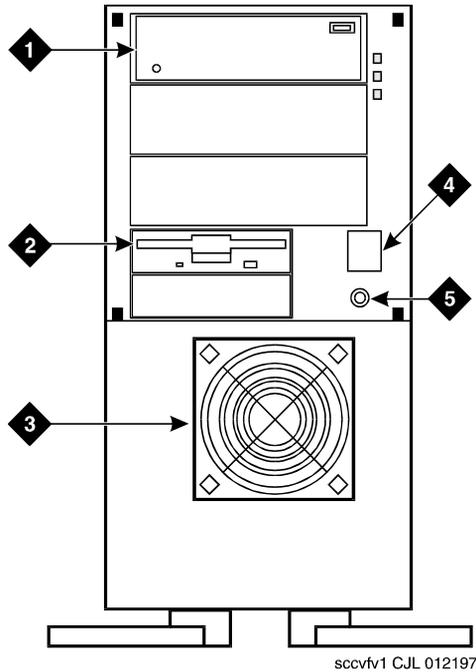
1. Verify the CMOS settings. See "Motherboard Installation" in Chapter 7, "Replacing Other Components"."

2. Verify the SCSI adapter settings. See "SCSI Controller Circuit Card" in Chapter 5, "Replacing or Installing Circuit Cards"."

3. Low level format Hard Disk Drive 0. See "Performing a Low-Level Format" 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/5P (Figure 8-1).

   If the system is on, reboot the system. See "Rebooting the System" in Chapter 3, "Common System Procedures"," for the procedure.

sccvfv1 CJL 012197

1. Cartridge tape drive
2. Diskette drive
3. Circuit card cage fan
4. Power button
5. Reset button

Figure 8-1.   Front View of the MAP/5P

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."

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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 8-2).

    > ➡ **NOTE:**
    > If the system displays a message that the system must have at least 60 MB 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/5P" in Chapter 4, "Getting Inside the Computer"," for the procedure.

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```
 ┌─────────────────────────────────────────────────────────────────
╱ 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        │
│ continue.                                                            │
│                                                                      │
│                                                                      │
╲                                                                      ╱
 └─────────────────────────────────────────────────────────────────
```

Figure 8-2.   Introduction Screen

3. Press $\boxed{\text{ENTER}}$.

   If Disk 0 has been replaced with a new hard disk drive, the system displays
   the UnixWare Installation Files Deleted Warning screen (Figure 8-3).

   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 8-3.   UnixWare Installation Files Deleted Warning Screen

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Setting Up the Keyboard

To setup the keyboard, do the following:

1. Starting at the UnixWare Installation Files Deleted Warning screen (Figure 8-3), press ENTER.

   The system displays the Keyboard Setup screen (Figure 8-4).

```
Unixware Installation                                    Keyboard Setup


The UnixWare installation procedure supports the following
international keyboards. You may select alternate keyboard types
by using the left and right arrow keys and then press the 'ENTER'
or 'RETURN' key.


Keyboard Nationality:  U.S. ASCII




                        Apply          Reset



When Finished, move the cursor to "Apply and then press 'Enter' to
continue.
```
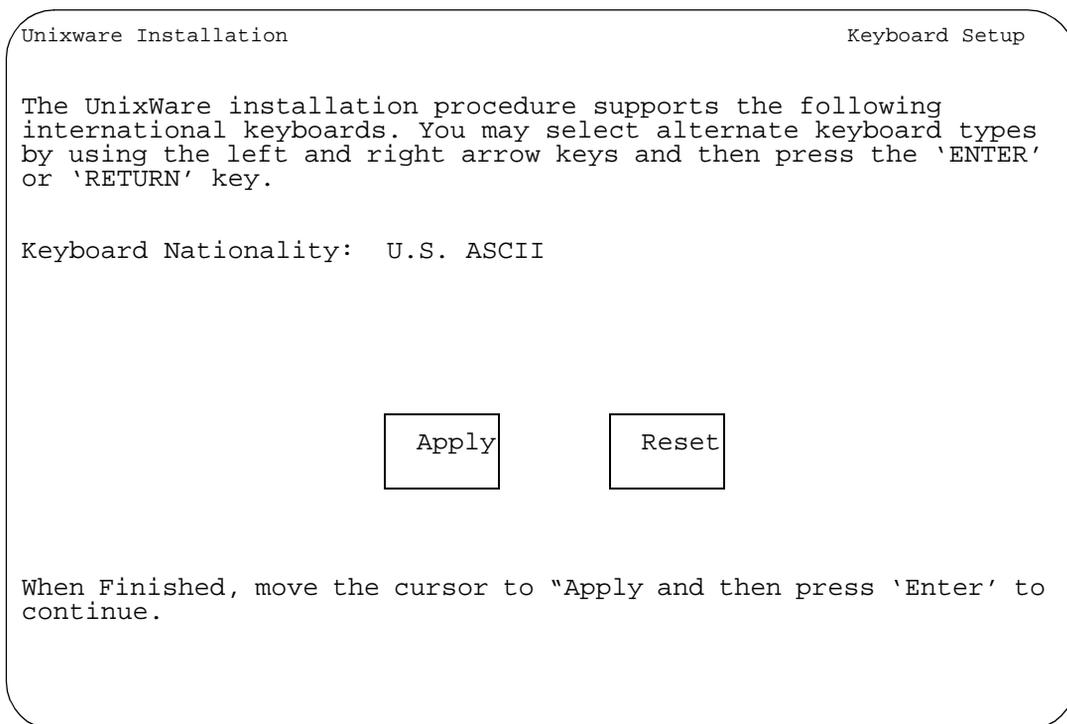
Figure 8-4.   Keyboard Setup Screen

2. Use the left ◄ and right ► arrows on your keyboard to move through the field selections.

3. Select U.S. ASCII.

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4. Press the down ▼ arrow to move to the `Apply` field and press ENTER.

   The system displays the Configure Date and Time screen (Figure 8-5).

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 8-5.   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 8-5), 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 ENTER.

The system displays the Continent Location Choice screen (Figure 8-6).

4. Continue with the next procedure, "Choosing the Continent Location."

```
UnixWare Installation          Continent Location Choice Screen

On this screen you choose the country/location you are in, having
already selected the continent. To go back to the continent screen
select 'BACK ONE SCREEN'. Use the left and right arrow keys.

Location:




                    ┌─────────┐        ┌─────────┐
                    │ Apply   │        │ Reset   │
                    └─────────┘        └─────────┘




Press 'TAB' to move the cursor between fields. When finished, move
the cursor to 'APPLY' and then press 'ENTER' to continue.


```

Figure 8-6. Continent Location Choice Screen

Choosing the Continent Location

To choose the continent location, do the following:

1. Starting at the Continent Location Choice screen (Figure 8-6), use the left ◄ and right ► arrows on your keyboard to move through the field selections.

2. Select the appropriate data for each field.

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3. Press the down ▼ arrow to move to the `Apply` field and press ENTER.

The system displays the Primary Hard Disk Partitioning screen (Figure 8-7).

4. Continue with the next procedure, "Partitioning Hard Disk Drive 0."

```
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.'




Press 'ENTER' to continue.
```

Figure 8-7.   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 8-7), press ENTER.

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The system displays the Partition Creation screen ([Figure 8-8](#)).

```
Unixware Installation          Hard Disk Partitioning - Disk 1

Total disk size is 263 cylinders (2063.0MB)
```

Table 8-1.

Partition	Status	Type	Start	End	Length	%	Approx MB

```
1. Overwrite system master boot code
2. Delete a partition
3. Exit (Update disk configuration and exit)
4. Cancel (Exit without updating disk configuration)


Enter Selection
```

Figure 8-8.   Partition Creation Screen

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2. Enter **2**

   The system displays the Partition Configuration screen ([Figure 8-9](#)).

```
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.
```
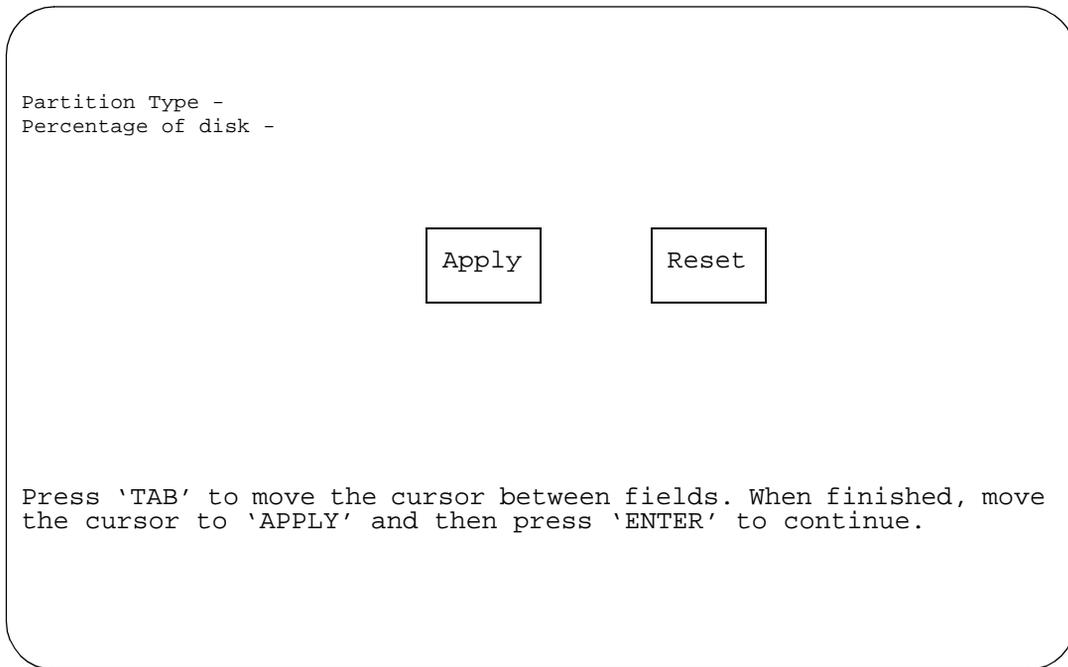
Figure 8-9.   Partition Configuration Screen

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.

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6. Press the down ▼ arrow to move to the `Apply` field and press `ENTER`.

   The system displays the Partition Confirmation screen (Figure 8-10).

```
Total disk size is 263 cylinders (2063.0MB)
```

Table 8-2.

Partition	Status	Type	Start	End	Length	%	Approx MB
1	Active	UNIX System	0	262	263	100	2063.0

```
1. Overwrite system master code
2. Delete a partition
3. Exit (Update disk configuration and exit)
4. Cancel (Exit without updating disk configuration)
```

Figure 8-10.   Partition Confirmation Screen

7. Enter **3**

The system displays the Secondary Hard Drive Partitioning screen
(Figure 8-11).

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.

Press '1' or '2' followed by 'ENTER'.



```

Figure 8-11.   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 8-11),
    select "1".

2. Press ENTER.

    The system displays the Installation Type Selection screen (Figure 8-12).

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/5P
    CPU Type: Pentium
    Offer Type: INTUITY AUDIX




              Apply           Reset



Press 'TAB' to move between fields.  Press 'ENTER' to apply fields.

```
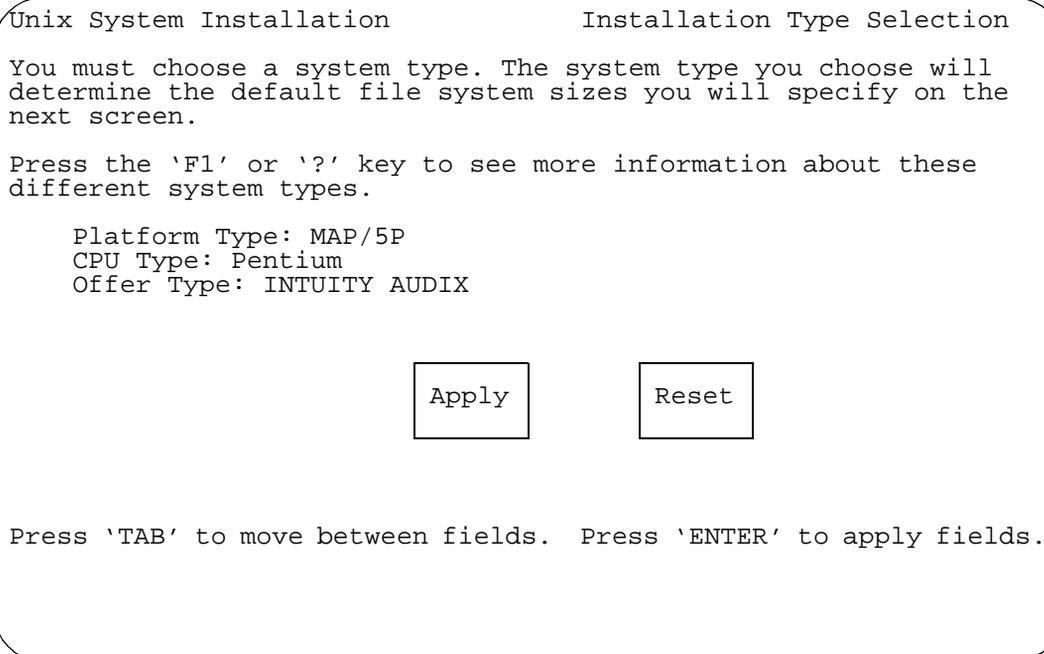
Figure 8-12.   Installation Type Selection Screen

Choosing the Installation Type

To choose the installation type, do the following:

1. Starting at the Installation Type Selection screen (Figure 8-12), 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/5P 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.

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6. Press ENTER.

The system displays the UnixWare Installation Set Slice Sizes screen (Figure 8-13).

7. Continue with the next procedure, "Setting the Slice Sizes."

```
UNIX System Installation                          Set Slice Sizes

You have selected the MAP/5P system. Now you must specify the sizes
of the filesystem slices. The recommended sizes for a MAP/x system
are provided as defaults on this screen. Press the 'F1' or '?' key
to see more information about these different system types.


        Size of /stand in MB: xx
     Size of /dev/dump in MB: xx
     Size of /dev/swap in MB: xx
           Size of / in MB: xx




                  +---------+         +---------+
                  | Apply   |         | Reset   |
                  +---------+         +---------+



Press 'TAB' to move the cursor between fields. When finished, move
the cursor to 'Apply' and then press 'ENTER' to continue.
```

Figure 8-13.   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 8-13), 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 8-3.

Table 8-3. Space Requirements for the MAP/5P

Slice	Space Requirements (MB)
/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 8-14).

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 8-14. 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 8-14), 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.

   Remove boot floppy 3 of 3 from the drive now.
   ```

   The system displays the UnixWare Installation screen (Figure 8-15).

```
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 8-15.   Hard Disk Surface Analysis Screen

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 $\boxed{\text{ENTER}}$.

    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 8-16).

```
UnixWare Installation                              Remove Diskette 3




 Remove boot floppy 3 of 3 from the drive now.







 Press 'Enter' to continue.


```

Figure 8-16.   Remove Diskette Screen

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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 8-17).

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 8-17.   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 the Cartridge Tape" in Chapter 3, "Common System Procedures"," for the procedure.

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2. Enter **4**

The system displays the Insert Lucent INTUITY Tape screen (Figure 8-18).

```
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.

Press '1' or '2' followed by 'ENTER':


```
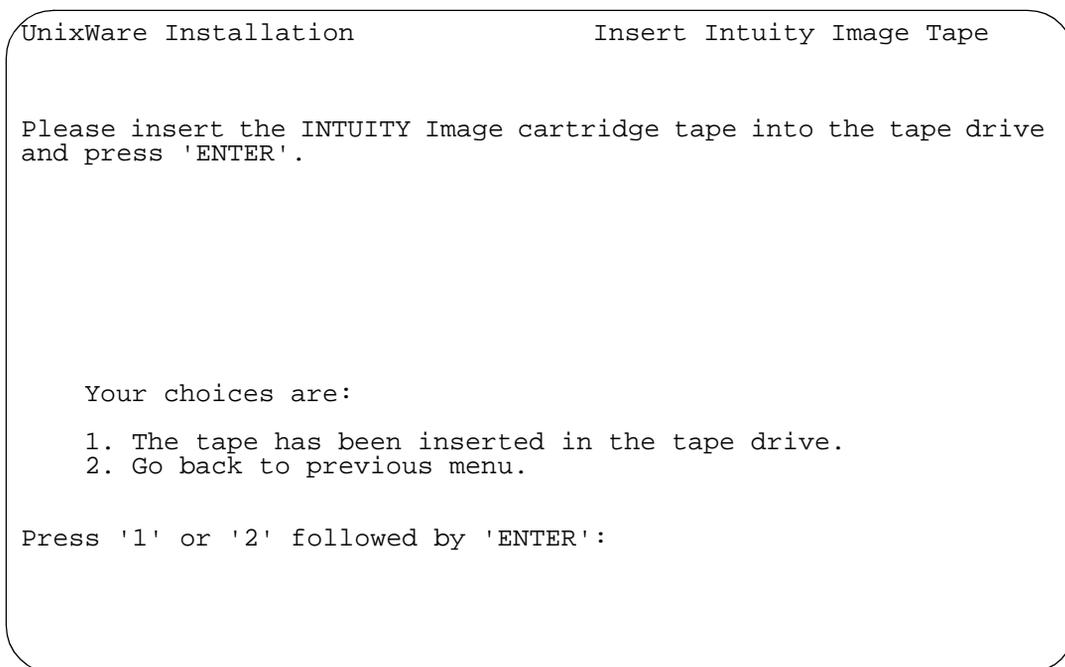
Figure 8-18.   Insert Lucent INTUITY Tape Screen

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:

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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 "Removing the Cartridge Tape" in Chapter 3, "Common System Procedures"," for the procedure.

5. Continue with the next procedure, "Running installit."

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 the Cartridge Tape" 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:
   ```

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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 "Removing the Cartridge Tape" in Chapter 3, "Common System Procedures"," for the procedure.

13. If your system is using a LAN circuit card, configure the LAN circuit card. See "Configuring the LAN Circuit Card" in Chapter 5, "Replacing or Installing Circuit Cards"."

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 the Cartridge Tape" 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 three switch interface software packages available with the Lucent
INTUITY system:

- DCIU Switch Integration set

- Serial-Inband Switch Integration set

- Digital Station Interface Circuit Card 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 the Cartridge Tape" 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 the Cartridge Tape" in Chapter 3, "Common System Procedures"," for the procedure.

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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 <ctape1>.

   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) Siemans 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 Circuit Card Switch Integration Set

To install the Digital Station Interface Circuit Card 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 Switch Integration Set cartridge tape into the tape drive. See "Inserting the Cartridge Tape" 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
   <ctape1>.

   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**

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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

9

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 <u>Appendix D, "Disaster Recovery Checklists"</u>.

Installing Lucent INTUITY System Software

lists the steps required to install Lucent INTUITY system software.

Table 9-1. Installation Checklist for Installing Lucent INTUITY System Software

✓	Task	Source
	Install INTUITY AUDIX Voice Messaging	Chapter 8
	Stop the voice system	Chapter 3
	Install announcement sets	This chapter
	Install switch integration software	Chapter 5
	Install Intunix software	This chapter
	Reboot the system	Chapter 3

NOTE:
The voice system should be stopped to load all the packages except for the INTUITY AUDIX Voice Messaging R4.0 software.

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. Stop the voice system.

2. Start at the Lucent INTUITY Main Menu (Figure 9-1).

```
          INTUITY (TM) Main Menu

 AUDIX Administration
 Customer/Services Administration
 Networking Administration
 Upgrade
 Voice System Administration
```
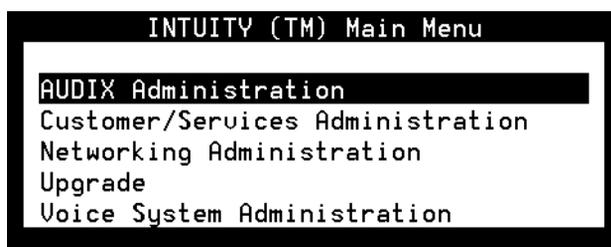
Figure 9-1.   Lucent INTUITY Main Menu

3. Select

```
> Customer/Services Administration

    > System Management

       > UNIX Management

          >Software Install
```

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The system displays the Software Install menu (Figure 9-2).

```
┌─────────────────┐
│ Software Install │
│>Floppy drive     │
│ Tape drive       │
└─────────────────┘
```
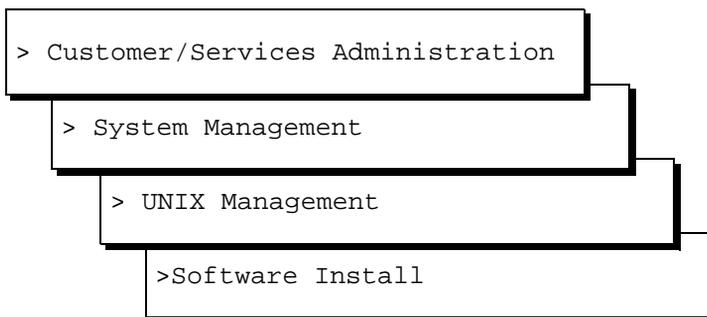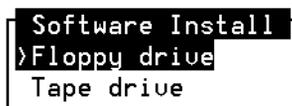
Figure 9-2.   Software Install Menu

4. Insert the cartridge tape labeled "INTUITY AUDIX Voice Messaging System" into the tape drive. See "Inserting the Cartridge Tape" in Chapter 3, "Common System Procedures", for the procedure.

5. 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)
   ```

6. 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]
   ```

7. Press (ENTER).

   The system displays a series of 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**

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Installing the Lucent INTUITY System Default Announcement Set and/or Optional Language Package Announcement Sets

Use the following procedure to install both the system default announcement set and any optional language (announcement set) packages.

⚠ CAUTION:

Do not install optional language announcement sets from earlier or later Lucent INTUITY releases. All optional language tapes used with the Lucent INTUITY system R4.0 should be labeled 4.0 and installed with INTUITY AUDIX R4.0.

1. Starting at the Lucent INTUITY Main Menu (Figure 9-1), select
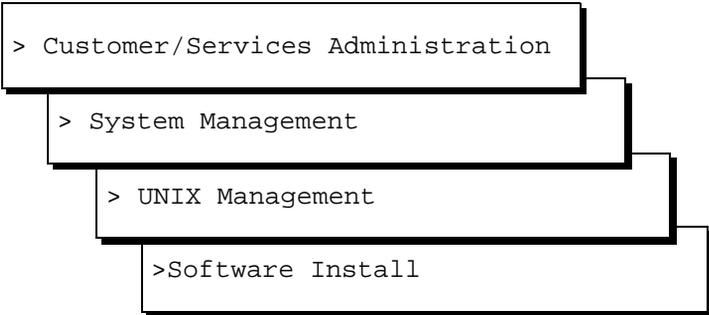
```
> Customer/Services Administration

    > System Management

        > UNIX Management

            >Software Install
```

The system displays the Software Install menu (Figure 9-2).

2. Insert the cartridge tape labeled "System Announcements" into the tape drive. See "Inserting the Cartridge Tape" 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)
```

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4. Press ENTER.

   The system displays the following message:

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

   The following sets are available:
       1   language x   Language Name System Announcements
                            (AUDIX) R3.x

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

5. Press ENTER.

   The system displays following message:

   ```
   Processing:
   (Language Name) System Announcements
   (AUDIX) R3.x
   Using</> as the package base directory.
   Lucent Bell Laboratories
   Is this to be the default language set?
   (default: y) [y,n,?,q]
   ```

6. If you are installing the default language set, enter **y**

   > **NOTE:**
   > If you are installing an optional or secondary language set, enter **n**

   The system displays the following message:

   ```
   Installation of <optional language name> System
   Announcements (VM-<optional language abbreviation>) was
   successful.

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

7. Enter **q**

8. Remove the cartridge tape labeled "System Announcements" from the tape drive. See "Removing the Cartridge Tape" in Chapter 3, "Common System Procedures", for the procedure.

9. Press F6 (Cancel) until the system displays the Lucent INTUITY Main Menu (Figure 9-1).

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10 Installing the Optional Feature Software
Overview

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Installing the Optional Feature Software

10

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 10-1).


```
          INTUITY (TM) Main Menu

AUDIX Administration
Customer/Services Administration
Networking Administration
Upgrade
Voice System Administration
```
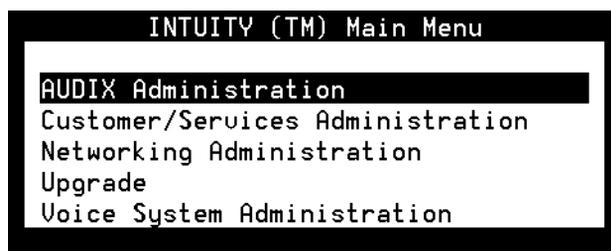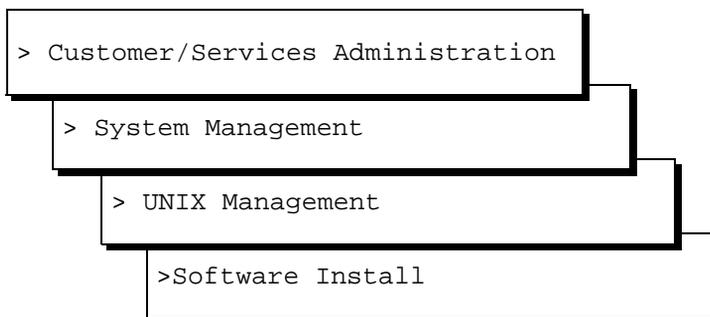
Figure 10-1. Lucent INTUITY Main Menu

3. Select


```
> Customer/Services Administration

    > System Management

        > UNIX Management

            >Software Install
```

The system displays the Software Install menu (Figure 10-2).

```
    Software Install
   >Floppy drive
    Tape drive
```

Figure 10-2.   **Software Install Menu**

4. Select `Floppy drive`.

   The system displays the following message:

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

5. Insert the diskette labeled "UNIX Multi-User Package Installation Diskette 1 of 1" into the floppy drive.

6. Press (ENTER).

   The system displays the following message:

   ```
   Installation in progress. Do not remote the diskette.

   The following sets are available:
        1    multiusr   Multi-user Set
                        (386) 1

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

7. Press ⌜ENTER⌝.

The system displays the Package Selection screen for Multi-User Software (Figure 10-3).

```
 _____
|                                                                         |
| Multi-user Set Installation                  Package Selection          |
| _____ |
| The following packages are included in this set for this release. Select |
| "yes"in the install column for the packages you wish to install.         |
|                                                                          |
|                         Package Name       Install?                      |
|                         ------------       --------                      |
|                         User Upgrade       Yes                           |
|                                                                          |
|                 Apply              Reset                                 |
|                                                                          |
|                                                                          |
|                                                                          |
|                                                                          |
|                                                                          |
|                                                                          |
|                                                                          |
| Press 'TAB' to move the cursor between fields. When finished, move the cursor |
| to "Apply" and then press "ENTER' to continue.                           |
| _____ |
| Right/Left Arrow keys for new choice (2 choices)                         |
|                                                                          |
|                                                                          |
|_____|
```

Figure 10-3. 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 $\boxed{\text{ENTER}}$ 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 10-1), select

    ```
    > Customer/Services Administration

        >System Verification

            >View Installed Software
    ```

The system displays the View Installed Software window (Figure 10-4).


```
                        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 10-4.   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 10-1), select

```
> Customer/Services Administration

    > System Management

        > UNIX Management

            >Software Install

                > Tape drive
```
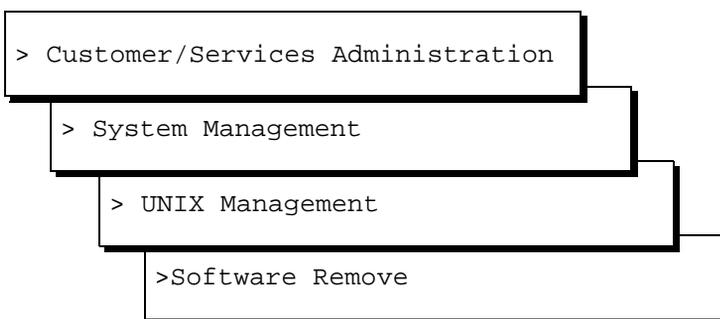
The system displays the following message:

```
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 remote 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 Step a through Step 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 Step a through Step 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 Step a through Step 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 gwpms? (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 10-2), 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 remote 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
<ctape1>.

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 10-1), select

   ```
   > Customer/Services Administration

       > System Management

           > UNIX Management

               >Software Install
   ```

   The system displays the Software Install menu (Figure 10-2).

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.

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Installing the Enhanced List Administration Package   **Page 295**

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.

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11 Installing an RFU
Overview

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Installing an RFU

11

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™ system 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 8, "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 11-1).

```
            INTUITY (TM) Main Menu

  AUDIX Administration
  Customer/Services Administration
  Networking Administration
  Upgrade
  Voice System Administration
```
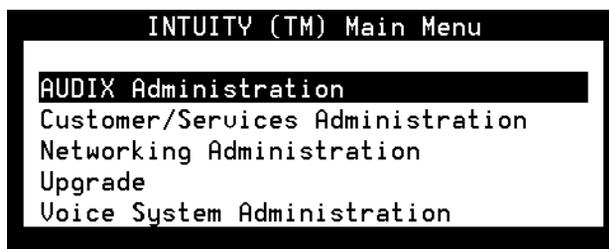
Figure 11-1. Lucent INTUITY Main Menu

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3. Select

> Customer/Services Administration

> System Management

> UNIX Management

>Software Remove

The system displays the Software Remove screen (Figure 11-2), which lists the software installed on the system.

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

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

Figure 11-2.   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.

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5. Note the number of the RFU given in the first column.

NOTE:
In Figure 11-2 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 11-2:

```
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 11-1) select

```
> Customer/Services Administration

    > System Management

        > UNIX Management

            >Software Install
```

The system displays the Software Install menu (Figure 11-3).

```
     ┌─────────────────┐
     │ Software Install │
     │)Floppy drive     │
     │ Tape drive       │
     └─────────────────┘
```
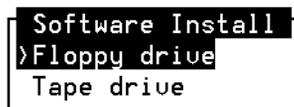
Figure 11-3.   Software Install Menu

2. Insert the tape labeled "Lucent INTUITY RFU Software" into the tape drive.
   See "Inserting the Cartridge Tape" 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 $\boxed{\text{ENTER}}$.

   The system displays the following message:

   ```
   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 "Removing the Cartridge Tape" 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 11-1), select

```
> Customer/Services Administration

    > System Verification

        > View Installed Software
```

The system displays the View Installed Software window (Figure 11-4 and Figure 11-5).

```
                    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 11-4.　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 11-5.　Sample View Installed Software Window (Abbreviated Version)

　　2.　Locate the RFU title.

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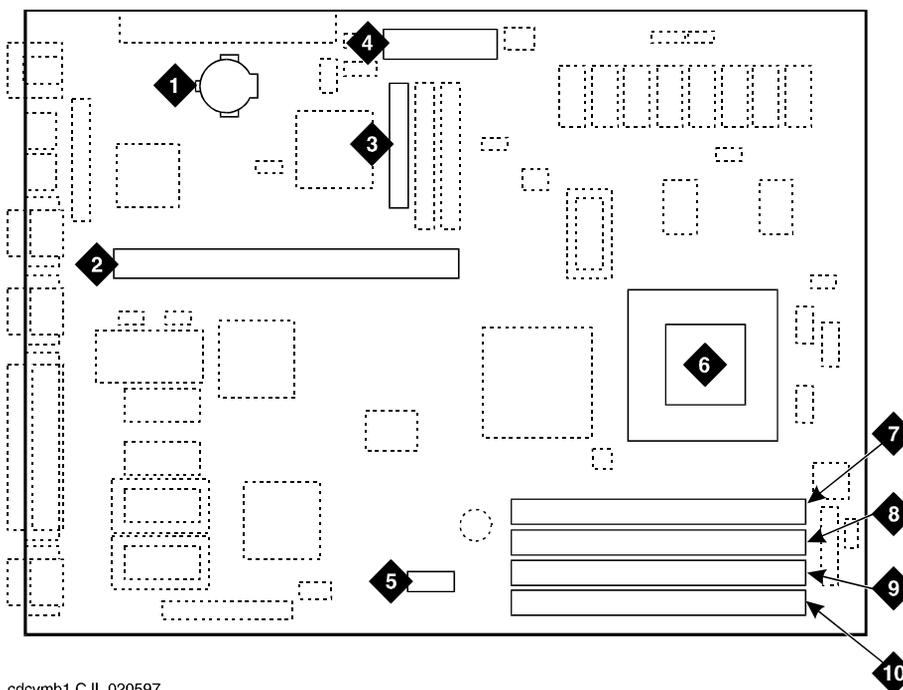
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Memory and SIMM Description

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System Configuration

A

Memory and SIMM Description

The MAP/5P supports 64-MB of memory packaged on two 32-MB single in-line memory modules (SIMM). These modules are placed in sockets located in the bottom right corner of the motherboard ().

cdcvmb1 CJL 020597

1.	CMOS battery	6.	CPU
2.	Riser card connector	7.	SIMM4 socket (empty)
3.	Diskette cable connector	8.	SIMM3 socket (empty)
4.	Power supply connectors	9.	SIMM2 socket
5.	Switches	10.	SIMM1 socket

Figure A-1.   Motherboard

The motherboard must be equipped with SIMMs in matched pairs.
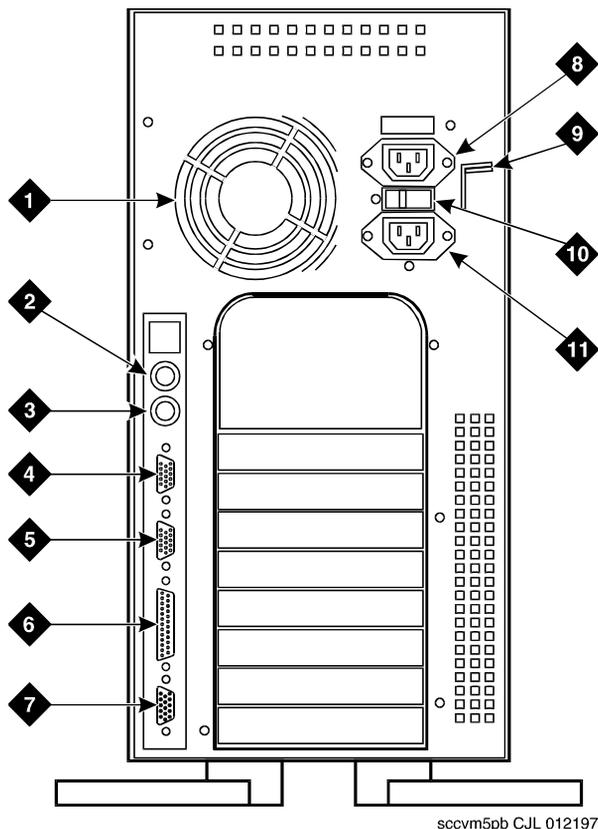
⊐> NOTE:
The Lucent™ INTUITY™ system will not boot if there is an odd number of
SIMMs. In addition, the system will not boot if the SIMM pairs are
unmatched.

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Component Assignments

Circuit cards are placed in the MAP/5P in locations called *slots*. Slots are numbered PCI 1 through PCI 3 and ISA 2 through ISA 6 from the top of the MAP/5P to the bottom of the circuit card cage. Slots are accessible from the back of the MAP/5P ().

sccvm5pb CJL 012197

1. Power supply fan intake
2. Keyboard connector
3. Mouse connector
4. COM1
5. COM2
6. Parallel port
7. Video connector
8. AC power supply outlet
9. Dress cover lock
10. AC voltage selector switch
11. AC power inlet receptacle

Figure A-2.   Back View of the MAP/5P

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Operating hardware is placed in the MAP/5P in locations called *bays*. Bays are numbered 1 through 7. Bays 1 through 5 are accessible from the front of the MAP/5P (Figure A-3).

sccvfvw CJL 020697

1.   INT drive indicator
2.   Speed indicator
3.   Power indicator
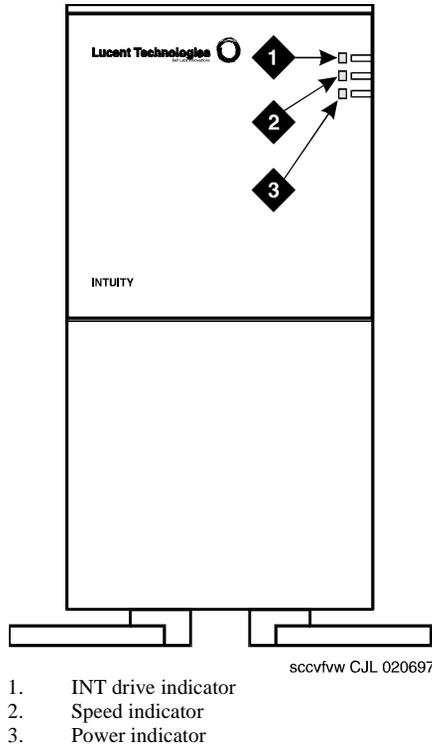
Figure A-3.   Front View of the MAP/5P

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Bays 6 and 7 are accessible only after the dress cover has been removed (Figure A-4).
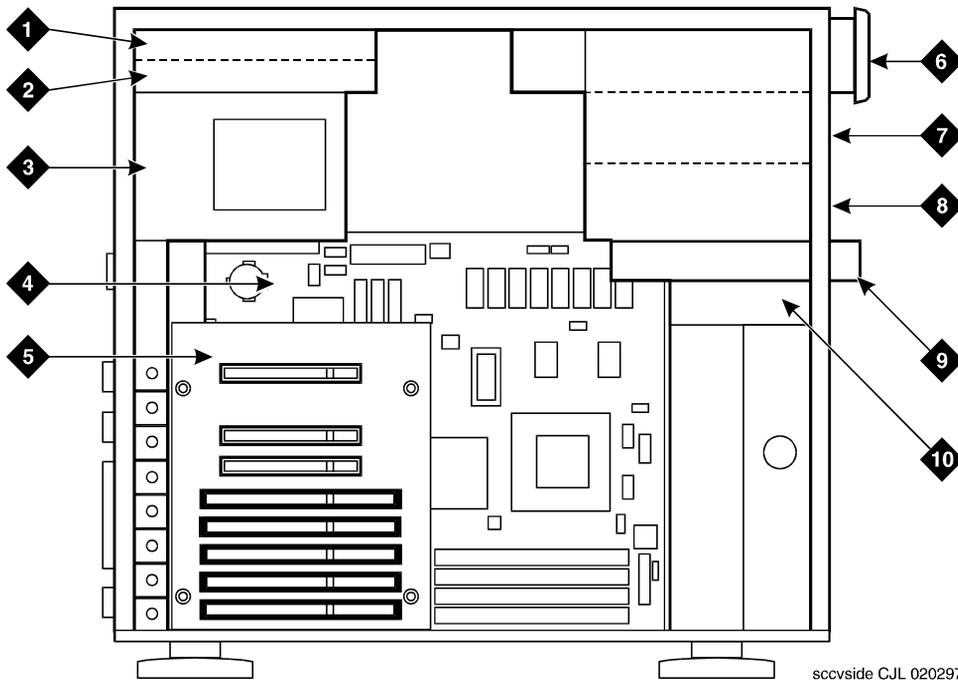
sccvside CJL 020297

1. Bay 6 - Hard Disk Drive 0
2. Bay 7 - Empty
3. Power supply
4. Motherboard
5. Riser card
6. Bay 1 - Cartridge tape drive
7. Bay 2 - Empty
8. Bay 3 - Empty
9. Bay 4 - Diskette drive
10. Bay 5 - Hard Disk Drive 1 (if used)

Figure A-4. MAP/5P Internal Layout

The following sections detail the fixed and variable assignments for circuit cards and other components installed in the MAP/5P.

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Fixed Assignments

The following bay assignments are fixed in the MAP/5P:

- Bay 1 — Cartridge Tape drive

- Bay 2 — Empty

- Bay 3 — Empty

- Bay 4 — Diskette drive

- Bay 5 — Hard Disk Drive 1 (if provided)

- Bay 6 — Hard Disk Drive 0

- Bay 7 — Empty

The following slot assignment is fixed in the MAP/5P:

- PCI Slot 1 — SCSI controller circuit card

- ISA Slot 2 — remote maintenance circuit card

Variable Assignments

The Tip/Ring, ACCX, LAN, Multi-port, and switch interface circuit cards all have variable assignments in the MAP/5P. These assignments depend on how many cards have been installed. The following rules apply to the placement of optional cards in the MAP/5P. These rules presume that the required circuit cards are placed in the MAP/5P as specified in "Fixed Assignments" above.

- A maximum of three Tip/Ring circuit cards is supported.

- All other circuit cards are supported as one per system.

- Tip/Ring circuit cards are assigned slots sequentially, starting, at the bottom, with slot 6.

- The ACCX circuit card is assigned in the lowest numbered available slot after all Tip/Ring circuit cards have been installed. For example, if Tip/Ring circuit cards are installed in ISA Slot 5 and ISA Slot 6, place the ACCX circuit card in ISA Slot 4.

- The LAN circuit card, if provided, goes in the lowest numbered available ISA slot.

- The switch interface circuit card, if provided, goes in the lowest numbered available ISA slot after the LAN circuit card, if provided, has been installed.

- The multi-port serial circuit card, if provided, goes in the lowest numbered ISA slot after both the LAN and switch interface circuit cards, if provided, have been installed.

- If any ISA slots are unoccupied, they should be between the set of Tip/Ring and ACCX circuit cards and the set of LAN, switch interface, and multi-port serial circuit cards.

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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 4 through 6, no other optional circuit cards.

Table A-1 lists the variable slot locations for configurations with multiple Tip/Ring circuit cards and one other optional circuit card.

Table A-1.   Variable Slot Assignments When System is Equipped with Tip/Ring Circuit Cards and One other Optional Circuit Card

Circuit Card	Slots	Slots	Slots	Slots	Slots
Tip/Ring	4-6	4-6	4-6	4-6	4-6
ACCX (AYC22)	-	3	-	-	-
LAN	-	-	3	-	-
Multi-port serial	-	-	-	3	-
Switch Interface	-	-	-	-	3

Table A-1 lists the variable slot locations for configurations with Tip/Ring circuit cards and multiple other optional circuit cards.

Table A-2.   Variable Slot Assignments When System is Equipped with Tip/Ring Circuit Cards and Multiple other Optional Circuit Cards

Circuit Card	Slots	Slots	Slots	Slots	Slots	Slots	Slots	Slots	Slots	Slots
Tip/Ring	5-6	5-6	5-6	5-6	5-6	5-6	6	6	6	6
ACCX (AYC22)	4	4	4	-	-	-	5	5	5	-
LAN	3	-	-	3	3	-	3	3	-	3
multi-port serial	-	-	3	4	-	4	4	-	4	5
Switch interface	-	3	-	-	4	3	-	4	3	4

Resource Allocation

Table A-3 lists the resource assignments for all devices in the MAP/5P. It includes the circuit cards as well as devices which are included.

Table A-3.　MAP/5P Resource Allocation

Device	IRQ	I/O Address	RAM Address	Notes
VGA controller	-	Plug & Play	A0000-BFFFF	128 Kbyte video RAM required
			C0000-C7FFF	32 Kbyte video BIOS required
System BIOS	-	-	E0000-FFFF	Located on CPU, required
LPT1 port	7	378-37F	-	Located on CPU, required
COM1 port	4	3F8-3FF	-	Located on CPU, required
COM2 port	3	2F8-2FF	-	Disable for remote maintenance circuit card
PCI SCSI	14	Plug & Play	C8000-CBFFF	SCSI ID 7, required
2-GB SCSI disk	-	-	-	1 required, 1 optional
2-GB SCSI tape	-	-	-	SCSI ID 3, 1 required
Diskette drive	6	3F0-3F7	-	DMA 2, controller located on SCSI controller card, required
LAN circuit card	10	280-29F	D8000-D9FFF	1 optional
Multi-port circuit card	-	-	D0000-D3FFF	1 optional
Tip/Ring circuit card	2	x00-x1F	-	x=1-3; 1 required, 2 optional
ACCX circuit card	5	140-14F	-	1 optional

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Table A-3. MAP/5P Resource Allocation

Device	IRQ	I/O Address	RAM Address	Notes
DCIU interface circuit card	12	240-24F	D4000-D7FFF	1 optional; not allowed with VB-PC
Digital station interface circuit card	12	224-227	-	1 optional, not allowed with DCIU interface circuit card
Remote maintenance circuit card	3	180-187	DC000-DCFFF	disable COM2 on P5 120 MHz CPU

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B   Component Ordering Numbers
Component Ordering Numbers

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Component Ordering Numbers

B

Component Ordering Numbers

Table B-1.   Component Ordering Numbers

Basic Component Description	Order Number
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, SCSI, 68-50 pin	407714526
Adapter, SPM port connector	105012645
Cable assembly, ACCX	407027564
Cable assembly, ACCX/DCP, 35-ft, female	601447170
Cable assembly, ACCX/DCP, 35-ft, male	601447188
Cable assembly, diskette drive	407714559
Cable assembly, SCSI, 68-pin	407714542
Cable assembly, remote maintenance circuit card reset	601844400
Cable assembly, octopus, RJ-45, digital station card	407789064
Cable Assembly, TDM Bus, MAP 5/P	ED5P20830 G-2B
Circuit card, ACCX interface	106930944

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B   Component Ordering Numbers
Component Ordering Numbers

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Table B-1.   **Component Ordering Numbers**

Basic Component Description	Order Number
Circuit card, DCIU interface	601824956
Circuit card, digital station interface circuit card, Mitel	407780923
Circuit card, digital station interface circuit card, Nortel	407780956
Circuit card, digital station interface circuit card, Rolm	407780949
Circuit card, ethernet LAN interface	601834153
Circuit card, multi-port serial	407009406
Circuit card, remote maintenance, with on-board modem	107725467
Circuit card, remote maintenance without modem	107765109
Circuit card, SCSI controller	407711639
Circuit Card, Speech and Signal Processor (AYC43W)	601835820
Circuit card, Tip/Ring (AYC10)	106406580
Circuit card, Tip/Ring (AYC29)	107213944
Circuit card, Tip/Ring (AYC30)	107224586
Cord, 6-pin modular, 14-ft	102937604
Cord, AC power, United States, 6-ft	407714773
Cord, AC power, Australia, 8-ft	407051630
Cord, AC power, Chile (Italy-style), 6-ft	407515196
Cord, AC power, Germany, 6-ft	407051648
Cord, AC power, India, 8-ft	407406735
Cord, AC power, Japan, 8-ft	407406727
Cord, AC power, United Kingdom, 6-ft	406999243
Cord, power, monitor (PC style)	407714781
Cord, telephone, 25-ft	103623195
Cord, telephone, DW8A-SE, 25 ft	103848800
Cover, dress	407714609
Diskette drive, 1.44-MB	407714765
Disk drive, hard, SCSI, 2.0-GB, Capricorn	407711647
Disk drive, hard, SCSI, 2.0-GB, Seagate	407773555
Door, front	407714617
Fan, card cage	407714807

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Table B-1.　Component Ordering Numbers

Basic Component Description	Order Number
Fan, CPU	407714815
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, 32-MB SIMM	407711654
Interface unit, AYC22 cable	107221467
Interface unit, AYC22 cable	407020510
Keyboard	407681907
Monitor, color, VGA	406504571
Motherboard, 0-MB memory	407711548
Power supply, AC	407711662
Riser card	407711621
Software, diagnostics diskette	407714799
Tape drive, SCSI streaming, 2-GB	407329937

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C How to Build a System Using This Book
Checklist for Building a System   **Page 315**

How to Build a System Using This Book

C

Checklist for Building a System
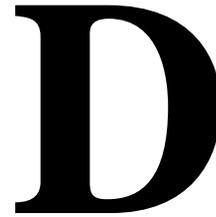
The following checklist (Table C-1) assumes that you are starting with a MAP/5P shell which has only the power supply, motherboard and the riser card.

If your system does not have a power supply, a motherboard, or a riser card included, see Chapter 7, "Replacing Other Components", for the installation procedures.

Table C-1. Checklist for Building a System

Task	Description	Comments	Refer to	Done
1	Acquire all of the components necessary to build your system.		Appendix B, "Component Ordering Numbers"	
2	Determine the slot and bay locations for the equipment.		Appendix A, "System Configuration"	
3	Install the hard disk drive(s).		Chapter 6, "Replacing the Hard Disk Drive"	
4	Install the tape drive.		Chapter 7, "Replacing Other Components"	
5	Install the floppy disk drive.		Chapter 7, "Replacing Other Components"	
6	Install the circuit cards.		Chapter 5, "Replacing or Installing Circuit Cards"	
7	Apply power to the unit.		Chapter 4, "Getting Inside the Computer"	
8	Install the base system software.		Chapter 8, "Installing Base System Software"	
9	Install the Lucent™ INTUITY™ system software.		Chapter 9, "Installing Lucent™ Intuity™ System Software"	
10	Install the UNIX multi-user software.	This is an optional feature software.	Chapter 10, "Installing the Optional Feature Software"	
11	Perform initial administration and test on the system.		"INTUITY™ Interchange Release 5.3 MAP/5P System Installation"	

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 Software Installation States

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Disaster Recovery Checklists

D

Software Installation States

This section identifies either the procedure or the location of the checklist to use to recover from a disaster.

Single Disk Systems

Table D-1 identifies either the procedure or the location of the checklist to follow for single-disk systems.

Table D-1.   Software Installation States: Single Disk Systems

Platform Identity	Disk Identity and Condition	Procedure to Follow
Single Disk Systems	Previously loaded Hard Disk Drive 0	See Table D-3
	New Hard Disk Drive 0	See Table D-4

Mirrored Systems

Table D-2 identifies either the procedure or the location of the checklist to follow for mirrored systems.

Table D-2.   Software Installation States: Mirrored Systems

Platform Identity	Disk Identity and Condition	Procedure to Follow
MAP/5P– Two-Disk System:	Disk 0 new (replacement) Disk 1 new (replacement)	See Table D-3
	Disk 0 new (replacement) Disk 1 previously loaded	See Table D-5
	Disk 0 previously loaded Disk 1 new (replacement)	See Table D-5

Disaster Recovery Checklists

The following checklists are included in this section:

- Checklist for field reloading single disk systems (Table D-3)

- Checklist for installing systems with all new disks (Table D-4)

- Checklist for systems with new Hard Disk Drive 0 and existing Hard Disk Drive 1 (Table D-5)

- Checklist for systems with existing Hard Disk Drive 0 and new Hard Disk Drive 1 (Table D-6)

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Checklist for Field Reloading Single Disk Systems

Table D-3.   Checklist for Field Reloading Single Disk Systems

3	Task	Source
	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. ⚠️ **WARNING:** *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.*	
	Shutdown the system if the system is responding to commands. ➡ **NOTE:** If the system is not responding to commands, then continue with the procedures in this checklist.	"Shutting Down the Lucent Intuity System" in Chapter 3, "Common System Procedures"
	Leave Hard Disk Drive 0 connected to the SCSI bus.	
	Verify the CMOS settings.	"Verifying the CMOS Settings" in Chapter 7, "Replacing Other Components"
	Verify the SCSI host adapter settings.	""SCSI Controller Circuit Card" in Chapter 5, "Replacing or Installing Circuit Cards"
	Low level format the hard disk drive.	"Performing a Low-Level Format" in Chapter 6, "Replacing the Hard Disk Drive"
	Install UnixWare.	"Installing UnixWare" in Chapter 8, "Installing Base System Software"

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Table D-3. Checklist for Field Reloading Single Disk Systems

3	Task	Source
	Install the INTUNIX+e update package.	"Installing the INTUNIX+e Software" in Chapter 8, "Installing Base System Software"
	Install the INTUITY™ AUDIX® software.	"Installing the Platform Software" in Chapter 8, "Installing Base System Software"
	Install the switch interface software package.	"Installing the Switch Interface Software Packages" in Chapter 8, "Installing Base System Software"
	Install the INTUITY AUDIX Voice Messaging System software.	"Installing the Intuity AUDIX Voice Messaging System" in Chapter 9, "Installing Lucent™ Intuity™ System Software"
	Install the Lucent INTUITY System Default Announcement set and/or Optional Language Package Announcement sets software.	"Installing the Lucent Intuity System Default Announcement Set and/or Optional Language Package Announcement Sets" in Chapter 9, "Installing Lucent™ Intuity™ System Software"
	Load RFU Software Update cartridge tape if any. Contact the remote maintenance center for the identity of the current RFU.	Chapter 11, "Installing an RFU"
	Install the Lodging software package, if used.	"Installing Intuity Lodging Software Packages" in Chapter 10, "Installing the Optional Feature Software"
	Install the UNIX Multi-User software package, if used.	"Installing UNIX Multi-User Software" in Chapter 10, "Installing the Optional Feature Software"

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Table D-3.   Checklist for Field Reloading Single Disk Systems

3	Task	Source
	Install the Enhanced List Administration package, if used.	"Installing the Enhanced List Administration Package" in Chapter 10, "Installing the Optional Feature Software"
	Reboot the system.	"Rebooting the System" in Chapter 3, "Common System Procedures"
	Configure the LAN circuit card.	"Configuring the LAN Circuit Card" in Chapter 5, "Replacing or Installing Circuit Cards"
	Restore the system from the backup tape(s) (attended and nightly).	"Restoring Backups" in Chapter 3, "Common System Procedures"
	View the features option screen to verify that all of the customer features purchased are activated. Contact your remote maintenance center if there are any discrepancies.	
	Check the system date and time.	"Verifying the Date and Time" in Chapter 3, "Common System Procedures"
	Place test calls to the system to verify installation.	
	Perform alarm origination test or ask your remote maintenance center to dial in to ensure that they can connect.	

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Checklist for Installing Systems with All New Disks

Table D-4. Checklist for Installing Systems with All New Disks

✓	Task	Source
	Locate the most recent full attended backup tape. You will also need to use the nightly unattended backup tape which should be located in the cartridge tape drive. ⚠️ **WARNING:** *The attended backup tape contains subscriber data. If you do not have the attended backup tape, the 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.*	
	Replace Hard Disk Drive 0.	"Replacing Hard Disk Drive 0" in Chapter 6, "Replacing the Hard Disk Drive"
	Replace Hard Disk Drive 1, if used.	"Replacing Hard Disk Drive 1" in Chapter 6, "Replacing the Hard Disk Drive"
	Verify the CMOS settings.	"Verifying the CMOS Settings" in Chapter 7, "Replacing Other Components"
	Verify the SCSI host adapter settings.	"SCSI Controller Circuit Card" in Chapter 5, "Replacing or Installing Circuit Cards"
	Low level format the hard disk drive.	"Performing a Low-Level Format" in Chapter 6, "Replacing the Hard Disk Drive"
	Install UnixWare.	"Installing UnixWare" in Chapter 8, "Installing Base System Software"

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Table D-4. Checklist for Installing Systems with All New Disks

✓	Task	Source
	Install the INTUNIX+e update package.	"Installing the INTUNIX+e Software" in Chapter 8, "Installing Base System Software"
	Install the AUDIX software.	"Installing the Platform Software" in Chapter 8, "Installing Base System Software"
	Install the switch interface software package.	"Installing the Switch Interface Software Packages" in Chapter 8, "Installing Base System Software"
	Install the Lucent INTUITY AUDIX Voice Messaging System software.	"Installing the Intuity AUDIX Voice Messaging System" in Chapter 9, "Installing Lucent™ Intuity™ System Software"
	Install the Lucent INTUITY System Default Announcement set and/or Optional Language Package Announcement sets software.	"Installing the Lucent Intuity System Default Announcement Set and/or Optional Language Package Announcement Sets" in Chapter 9, "Installing Lucent™ Intuity™ System Software"
	Load RFU Software Update cartridge tape if any. Contact the remote maintenance center for the identity of the current RFU.	Chapter 11, "Installing an RFU"
	Install the Lodging software package, if used.	"Installing Intuity Lodging Software Packages" in Chapter 10, "Installing the Optional Feature Software"
	Install the UNIX Multi-User software package, if used.	"Installing UNIX Multi-User Software" in Chapter 10, "Installing the Optional Feature Software"

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Table D-4.   **Checklist for Installing Systems with All New Disks**

✓	**Task**	**Source**
	Install the Enhanced List Administration package, if used.	"Installing the Enhanced List Administration Package" in Chapter 10, ''Installing the Optional Feature Software''
	Reboot the system.	"Rebooting the System" in Chapter 3, ''Common System Procedures''
	Configure the LAN circuit card.	"Configuring the LAN Circuit Card" in Chapter 5, ''Replacing or Installing Circuit Cards''
	Complete the software procedures to add Hard Disk Drive 1, if used.	"Adding a Hard Disk Drive" in Chapter 6, ''Replacing the Hard Disk Drive''
	Restore the system from the backup tape(s) beginning with the oldest first (attended and nightly).	"Restoring Backups" in Chapter 3, ''Common System Procedures''
	View the features option screen to verify that all of the customer features purchased are activated Contact your remote maintenance center if there are any discrepancies.	
	Check the system date and time.	"Verifying the Date and Time" in Chapter 3, ''Common System Procedures''
	Place test calls to the system to verify installation.	
	Perform alarm origination test or ask your remote maintenance center to dial in to ensure that they can connect.	

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Checklist for Systems with New Hard Disk Drive 0 and Existing Hard Disk Drive 1

Table D-5.   **Checklist for Systems with New Hard Disk Drive 0 and Existing Hard Disk Drive 1**

✓	Task	Source
	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. **⚠ WARNING:** *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.*	
	Shutdown the system if the system is responding to commands. **➡ NOTE:** If the system is not responding to commands, then continue with the procedures in this checklist.	"Shutting Down the Lucent Intuity System" in Chapter 3, "Common System Procedures"
	Remove Hard Disk Drive 0.	"Hard Disk Drive 0 Removal" in Chapter 6, "Replacing the Hard Disk Drive"
	Remove Hard Disk Drive 1.	"Hard Disk Drive 1 Removal" in Chapter 6, "Replacing the Hard Disk Drive"
	Configure both Hard Disk Drive 1 and the new Hard Disk Drive 0.	"Reconfiguring Both Hard Disk Drives" in Chapter 6, "Replacing the Hard Disk Drive"
	Place the reconfigured Hard Disk Drive 1 in the slot reserved for Hard Disk Drive 0.	"Hard Disk Drive 0 Installation" in Chapter 6, "Replacing the Hard Disk Drive"

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Table D-5.   Checklist for Systems with New Hard Disk Drive 0 and Existing Hard Disk Drive 1

✓	Task	Source
	Place the new Hard Disk Drive 0 in the slot reserved for Hard Disk Drive 1.	"Hard Disk Drive 1 Installation" in Chapter 6, "Replacing the Hard Disk Drive"
	Initialize the new Hard Disk Drive 0.	"Initializing the New Hard Disk Drive 0" in Chapter 6, "Replacing the Hard Disk Drive"
	Restore both hard disk drive SCSI IDs.	"Restoring the SCSI IDs" in Chapter 6, "Replacing the Hard Disk Drive"
	Reboot the system.	"Rebooting the System" in Chapter 3, "Common System Procedures"
	View the features option screen to verify that all of the customer features purchased are activated. Contact your remote maintenance center if there are any discrepancies.	
	Check the system date and time.	"Verifying the Date and Time" in Chapter 3, "Common System Procedures"
	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.	

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Checklist for Systems with Existing Hard Disk Drive 0 and New Hard Disk Drive 1

Table D-6.   Checklist for Systems with Existing Hard Disk Drive 0 and New Hard Disk Drive 1

✓	Task	Source
	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. **⚠ WARNING:** *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.*	
	Shutdown the system if the system is responding to commands. **➡ NOTE:** If the system is not responding to commands, then continue with the procedures in this checklist.	"Shutting Down the Lucent Intuity System" in Chapter 3, "Common System Procedures"
	Remove Hard Disk Drive 1.	"Hard Disk Drive 1 Removal" in Chapter 6, "Replacing the Hard Disk Drive"
	Install the new Hard Disk Drive 1.	"Hard Disk Drive 1 Installation" in Chapter 6, "Replacing the Hard Disk Drive"
	Initialize the new Hard Disk Drive 1.	"Initializing the New Hard Disk Drive 1" in Chapter 6, "Replacing the Hard Disk Drive"
	Reboot the system.	"Rebooting the System" in Chapter 3, "Common System Procedures"

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Table D-6. Checklist for Systems with Existing Hard Disk Drive 0 and New Hard Disk Drive 1

✓	Task	Source
	View the features option screen to verify that all of the customer features purchased are activated. Contact your remote maintenance center if there are any discrepancies.	
	Check the system date and time.	"Verifying the Date and Time" in Chapter 3, "Common System Procedures"
	Place test calls to the system to verify installation.	
	Perform alarm origination test or ask your remote maintenance center to dial in to ensure that they can connect.	

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Checklist for Field Reloading a Lodging Only System

Table D-7. Checklist for Field Reloading a Lodging Only Systems

3	Task	Source
	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. ⚠ **WARNING:** *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.*	
	Shutdown the system if the system is responding to commands. ⇒ **NOTE:** If the system is not responding to commands, then continue with the procedures in this checklist.	"Shutting Down the Lucent Intuity System" in Chapter 3, "Common System Procedures"
	Leave Hard Disk Drive 0 connected to the SCSI bus.	
	Verify the CMOS settings.	"Verifying the CMOS Settings" in Chapter 7, "Replacing Other Components"
	Verify the SCSI host adapter settings.	"SCSI Controller Circuit Card" in Chapter 5, "Replacing or Installing Circuit Cards"
	Low level format the hard disk drive.	"Performing a Low-Level Format" in Chapter 6, "Replacing the Hard Disk Drive"
	Install UnixWare.	"Installing UnixWare" in Chapter 8, "Installing Base System Software"

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Table D-7. Checklist for Field Reloading a Lodging Only Systems

3	Task	Source
	Install the INTUNIX+e update package.	"Installing the INTUNIX+e Software" in Chapter 8, "Installing Base System Software"
	Install the platform software.	"Installing the Platform Software" in Chapter 8, "Installing Base System Software"
	Install the switch interface software package.	"Installing the Switch Interface Software Packages" in Chapter 8, "Installing Base System Software"
	Load RFU Software Update cartridge tape if any. Contact the remote maintenance center for the identity of the current RFU.	Chapter 11, "Installing an RFU"
	Install the Lodging software package.	"Installing Intuity Lodging Software Packages" in Chapter 10, "Installing the Optional Feature Software"
	Install the optional Lodging language packages.	"Installing Intuity Lodging Software Packages" in Chapter 10, "Installing the Optional Feature Software"
	Install the UNIX Multi-User software package, if used.	"Installing UNIX Multi-User Software" in Chapter 10, "Installing the Optional Feature Software"
	Reboot the system.	"Rebooting the System" in Chapter 3, "Common System Procedures"
	Restore the system from the backup tape(s) (attended and nightly).	"Restoring Backups" in Chapter 3, "Common System Procedures"
	Place test calls to the system to verify installation.	
	Perform alarm origination test or ask your remote maintenance center to dial in to ensure that they can connect.	

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MAP/5P Platform Alarms

E

Overview

This appendix contains alarms specific to the MAP/5P hardware platform. These alarms will appear on the console during a system reboot.

NOTE:

These alarms are not generated by the Lucent™ INTUITY™ system and will not be documented in the Lucent INTUITY alarm logs.

Purpose

The purpose of this appendix is to provide the service technician with information relating to the platform alarms generated by the MAP/5P.

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Platform Alarms

Table E-1 lists the alarms associated with the MAP/5P as well as possible repair actions.

Table E-1. Platform Alarms

Alarm Message	Repair Action
CMOS Battery Error	Replace the battery. See "CMOS Battery Replacement" in Chapter 7, "Replacing Other Components".
CMOS Checksum Error	1. Replace the battery. See "CMOS Battery Replacement" in Chapter 7, "Replacing Other Components".
	2. If Step 1 does not work, run setup by pressing **|** or **b+a+^**
Display Card Mismatch	Run setup by pressing **|** or **b+a+^**
Diskette Drive Controller Error or Not Installed	Check the diskette cable connections. See "Diskette Drive Replacement" in Chapter 7, "Replacing Other Components".
Diskette Drive Error	Diskette may be defective. If the diskette is good, replace the diskette drive. See "Diskette Drive Replacement" in Chapter 7, "Replacing Other Components".
Diskette Drive A Type Mismatch	Run setup by pressing **|** or **b+a+^** and select the proper drive type.
Diskette Drive B Type Mismatch	Run setup by pressing **|** or **b+a+^** and select the proper drive type.
Equipment Configuration Error.	Check the memory configuration.
Hard disk Controller Error	Run setup by pressing **|** or **b+a+^**
Hard disk 0 Error	Check all cable connections. Replace Hard Disk Drive 0. See "Recovering from a Hard Disk Drive 0 Failure" in Chapter 6, "Replacing the Hard Disk Drive".
Hard disk 1 Error	Check all cable connections. Replace Hard Disk Drive 1. See "Recovering from a Hard Disk Drive 1 Failure" in Chapter 6, "Replacing the Hard Disk Drive".
Keyboard Error or No Keyboard Connected	Check and connect the keyboard to the MAP/5P.
Keyboard Interface Error	Replace the keyboard.

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Table E-1. Platform Alarms

Alarm Message	Repair Action
Memory Error at: MMMM:SSSS:OOO (W:XXXX, R:YYYY) where: M is MB, S is Segment, O is Offset, X/Y are write/read pattern	Replace the SIMMs. See "Memory Replacement" in Chapter 7, ''Replacing Other Components''.
CPU Clock Mismatch	1. Run setup by pressing **|** or **b+a+^** and check the CPU clock setting. 2. If the clock setting is correct, reboot the system. 3. If the error persists, contact the remote maintenance service center.
Onboard Serial Port 1 Conflict	Run setup by pressing **|** or **b+a+^** and disable the port.
Onboard Serial Port 2 Conflict	Run setup by pressing **|** or **b+a+^** and disable the port.
Onboard Parallel Port Conflict	Run setup by pressing **|** or **b+a+^** and disable the port.
Pointing Device Error	Check the connections on the mouse.
Pointing Device Interface error	Replace the mouse.
Press | key to continue or b+a+^ for setup.	Press **|** or **b+a+^** to enter setup.
Real Time Clock Error	Replace the battery. See "CMOS Battery Replacement" in Chapter 7, ''Replacing Other Components''.

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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.

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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.

ASP
advanced signal processor

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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*.

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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 b*asic 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*.

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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.

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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 accouting system*.

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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.*

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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.

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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 DATA-PHONE 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*.

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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.

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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 ⏺ ⏺ Ⓝ 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.

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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*.

ELA
Enhanced-List Application

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.

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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 $\boxed{\#}$.

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.

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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*.

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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.

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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 file-systems; 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 pro-vides 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 mes-sage that contains multiple media types; specifically, voice, fax, text, or file attachments (software files, such as a word processing or spreadsheet file).

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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.

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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*.

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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.

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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-vera.

modular
> A term that describes equipment made of plug-in units that can be added together to make the system larger, improve its capabilities, or expand its size.

modular processor data module (MPDM)
> A data device that converts RS-232C or RS-449 protocol signals to digital communications protocol (DCP) used by System 75/85, Generic1, and Generic 3 switches. MPDMs 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*.

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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.

NPA
See *numbering plan area*.

NT
Networking application identifier. See *application identifier*.

Numbering plan area
Formal name for 3-digit telephone area codes in North America. Within an area code, no two telephone lines may have the same 7-digit phone number. The code is often designated as NXX, to indicate the three digits.

O

off-hook
See *switch hook*.

on-hook
See *switch hook*.

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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)*.

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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 ②️ 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)*.

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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*.

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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 ⁅✱⁆ ⁅R⁆ (Restart) command. This feature is especially useful for long-distance calls or for users who want to access the Lucent INTUITY system when all the ports are busy. 2. The reinitialization of certain software, for example, *restarting* the messaging system.

restore
  The process of recovering lost or damaged files by retrieving them from available back-up tapes, floppy diskette, or another disk device.

retention time
  The amount of time messages are saved on disk before being automatically deleted from a user's mailbox.

reusable upgrade kit (RUK)
  A package shipped to the customer's site prior to an upgrade that contains materials the technician needs to complete the installation. This package includes an A/B switch box, a keyboard, a 25-foot coaxial cable, two T adapters, and terminations to a LAN circuit card. It remains the property of 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.

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ringer equivalence number (REN)
A number required in the United States for registering your telephone equipment with a service pro-
vider.

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 per-
formed. 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*.

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simplified message service interface (SMSI)
Type of data link connection to an integrated 1A ESS or 5ESS switch in the Lucent INTUITY system.

simplified message desk interface (SMDI)
Also known as station message desk interface. Type of data link from the central office that contains information and instructions for the Lucent INTUITY system. With SMDI, the caller need not re-enter the called number once the call terminates to the Lucent INTUITY system. See also *simplified message service interface*.

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.

SMDI
See *station message desk interface*.

SMDR
See *station message detail recording*.

SMSI
See *simplified message service interface*.

SP
signal processor

SSP
scalable signal processor

station message desk interface (SMDI
See *simplified message desk 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.

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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.

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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*.

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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.

TTS

Text-to-Speech

U

UCD

See *uniform call distribution.*

Undelete

An INTUITY AUDIX feature that allows users to restore the last message deleted by pressing $\boxed{*}$ $\boxed{U}$.

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 $\boxed{*}$ $\boxed{*}$ $\boxed{H}$ (Hold) command. If the message is in the new category, message-waiting indication remains active (for example, the message-waiting lamp remains lit).

UPS

See *uninterruptable power supply.*

U. S. 123

An alternate announcement set in U. S. English whose prompts use numbers, not letters, to identify telephone keypad presses. For example, a prompt might say, "*Press star three,"* instead of, *"Press star D*."

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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*.

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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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