Lucent Technologies
Bell Labs Innovations

UCS 1000

R4.6

Maintenance

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Issue 1

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Preventing Toll Fraud

"Toll fraud" is the unauthorized use of your telecommunications system by an unauthorized party (for example, a person who is not a corporate employee, agent, subcontractor, or working on your company's behalf). Be aware that there may be a risk of toll fraud associated with your telecommunications system and that, if toll fraud occurs, it can result in substantial additional charges for your telecommunications services.

Lucent Technologies Fraud Intervention

If you suspect you are being victimized by toll fraud and you need technical support or assistance, call the appropriate BCS National Customer Care Center telephone number. Users of the MERLIN®, PARTNER®, and System 25 products should call 1 800 628-2888. Users of the System 75, System 85, DEFINITY® Generic 1, 2 and 3, and DEFINITY® ECS products should call 1 800 643-2353.

Providing Telecommunication Security

Telecommunications security (of voice, data, and/or video communications) is the prevention of any type of intrusion to (that is, either unauthorized or malicious access to or use of your company's telecommunications equipment) by some party.

Your company's "telecommunications equipment" includes both this Lucent product and any other voice/data/video equipment that could be accessed via this Lucent product (that is, "networked equipment").

An "outside party" is anyone who is not a corporate employee, agent, subcontractor, or working on your company's behalf. Whereas, a "malicious party" is anyone (including someone who may be otherwise authorized) who accesses your telecommunications equipment with either malicious or mischievous intent.

Such intrusions may be either to/through synchronous (time-multiplexed and/or circuit-based) or asynchronous (character-, message-, or packet-based) equipment or interfaces for reasons of:

- Utilization (of capabilities special to the accessed equipment)

- Theft (such as, of intellectual property, financial assets, or toll-facility access)
- Eavesdropping (privacy invasions to humans)
- Mischief (troubling, but apparently innocuous, tampering)
- Harm (such as harmful tampering, data loss or alteration, regardless of motive or intent)

Be aware that there may be a risk of unauthorized intrusions associated with your system and/or its networked equipment. Also realize that, if such an intrusion should occur, it could result in a variety of losses to your company (including, but not limited to, human/data privacy, intellectual property, material assets, financial resources, labor costs, and/or legal costs).

Your Responsibility for Your Company's Telecommunication Security

The final responsibility for securing both this system and its networked equipment rests with you – a Lucent customer's system administrator, your telecommunications peers, and your managers. Base the fulfillment of your responsibility on acquired knowledge and resources from a variety of sources including but not limited to:

- Installation documents
- System administration documents
- Security documents
- Hardware-/software-based security tools

- Shared information between you and your peers
- Telecommunications security experts

To prevent intrusions to your telecommunications equipment, you and your peers should carefully program and configure your:

- Lucent-provided telecommunications systems and their interfaces
- Lucent-provided software applications, as well as their underlying hardware/software platforms and interfaces
- Any other equipment networked to your Lucent products

Lucent Technologies does not warrant that this product or any of its networked equipment is either immune from or will prevent either unauthorized or malicious intrusions. Lucent Technologies will not be responsible for any charges, losses, or damages that result from such intrusions.

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 instructions, 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 15: Personal Computer Statement.

This equipment has been certified to comply with the limits for a Class B computing device, pursuant to Subpart J of Part 15 of FCC Rules. Only peripherals (computing input/output devices, terminals, printers, etc.) certified to comply with the Class B limits may be attached to this computer. Operation with noncertified peripherals is likely to result in interference to radio and television reception.

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. For the CWB2/CYD2, this number is AS5USA-27438-XD-E; registration for the CWB10/CYD10 is pending at the time of this publication.

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

Industry Canada (IC) Interference Information

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

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 Industrie Canada.

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Documents can also be ordered from the Customer Information Centre in Malmesbury, England.

Voice	44 1666 83-2900	FAX	44 1666 83-2213

For additional documents, refer to the section in “About This Document” entitled “Related Resources.”

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Warranty

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

European Union Declaration of Conformity

The “CE” mark affixed to the equipment means that it conforms to the below directives. Lucent Technologies Business Communications Systems declares that XXX 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

Comments

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

Acknowledgment

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

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About This Book

Overview

This book, *UCS 1000 R4.6 Maintenance*, 585-313-154, contains information for component replacement procedures, base system software installation procedures, and installing optional feature software associated with the UCS 1000 R4.6 and its hardware. 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 technicians
- System administrators

A secondary audience includes field support personnel

We assume that the primary users of this book have completed the UCS 1000 R4.6 hardware installation and maintenance training course, see Training on page xxviii.

Release History

This document is the first release for the UCS 1000 R4.6. The previous release of this product was UCS 1000 R4.2.

Updates to the Product

The following Web site displays any updates or exceptions to the product that have occurred after the publication of this document:
http://glsdocs.lucent.com

How to Use This Book

This book contains the following sections:

- Chapter 1, Getting Inside the UCS 1000 R4.6 — Provides the correct procedures for accessing the internal components of the system.
- Chapter 2, Installing or Replacing Circuit Cards — Provides general steps and procedures necessary to ensure that circuit cards are installed correctly and their resource options are set correctly.

- Chapter 3, Replacing the Hard Disk Drive Assembly — Provides information to identify a failed hard disk drive and to ensure that hard disk drives are installed in the proper manner.
- Chapter 4, Replacing Other Components — Provides information to ensure that correct procedures are used to replace internal components of the system.
- Chapter 5, Installing Base System Software — Provides the information necessary to reload the operating system on a UCS 1000 R4.6 that has experienced a disk failure.
- Chapter 6, Installing the UCS 1000 R4.6 Software — Provides details of the installation procedures for the UCS 1000 R4.6 software.
- Chapter 7, Installing the Optional Feature Software — Provides the information necessary to reload the optional feature software on a system which has experienced a disk failure.
- Chapter 8, Installing ORACLE Packages — Describes the procedures to install each optional ORACLE package.
- Chapter 9, Installing LSPS II Optional Software Packages — Provides information for installing the LSPS II optional software packages after the LSPS II circuit card is installed.
- Appendix A, Component Ordering Numbers — Provides ordering numbers for replaceable components.

- Appendix B, How to Build a System — Starting with a UCS 1000 R4.6 shell, which has only the power supply and the backplanes, this appendix provides a checklist for having to build a system from scratch.
- Appendix C, Disaster Recovery Checklists — Provides a checklist to follow for disaster recovery in the unlikely event a disaster occurs.
- Glossary —Defines the terms, abbreviations, and acronyms used in system documentation.
- Index — Alphabetically lists the principal subjects covered in the book.

Training

For information on UCS 1000 R4.6 training, check the Lucent Message Institute web site at: **http://www.octel.com/octelu/index.html**

Conventions Used in This Book

Understanding the typography and other conventions used is this book is necessary to interpret the information.

Note: Any screens shown in this book are examples only. The screens you see on your system may be similar, but not exactly the same in all cases.

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 the **ENTER** key on the keyboard. 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 system displays menus, screens, and windows. Menus (Figure 1) present options from which you can choose to view another menu, or a screen or window. Screens and windows both show (Figure 2 on page xxxi and Figure 3 on page xxxii) and request (Figure 4 on page xxxii and Figure 5 on page xxxiii) system information.

Figure 1. Example of UCS 1000 R4.6 Menu

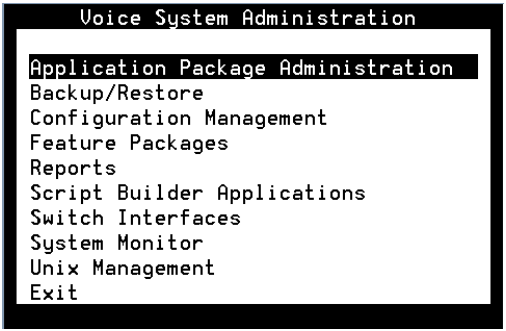


Figure 2. Example of a UCS 1000 R4.6 Screen Showing Information

```
UnixWare Installation              Primary Hard Disk Partitioning

In order to install the UCS 1000 R4.6, you should reserve a
UNIX system partition (a portion of your hard disk's space)
containing 100% of the space on your primary hard disk. 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 partitions(s).

The UNIX system partition that you intend to use on the primary
hard disk must be at lease 4200 MBs and labeled "ACTIVE."

Press 'ENTER' to continue
```

Figure 3. Example of a UCS 1000 R4.6 Window Showing Information

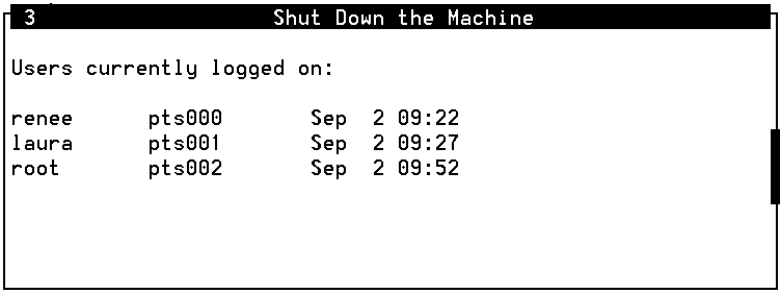


Figure 4. Screen Requesting Information

```
UNIX System Installation                          Set Slice Sizes

Please select whether you would like the recommended slice
sizes or would like to customize the slice sizes.

Your choices are:
1. Recommended Slice Sizes
2. Customize Slice Sizes

Press '1' or '2' followed by 'ENTER': 1
```

Figure 5. Example of a UCS 1000 R4.6 Window Requesting Information

Keyboard and Telephone Keypad Representations

- Keys that you press on your terminal or PC are represented as small, capitalized **BOLD** text. 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 small, capitalized **BOLD** text separated by the **+** sign. 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 small, capitalized **BOLD** text followed by the function or value of that key enclosed in parentheses. For example, an instruction to press function key 2 is shown as

  Press **F2** (Choices).

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

  Press **1** to record a message.

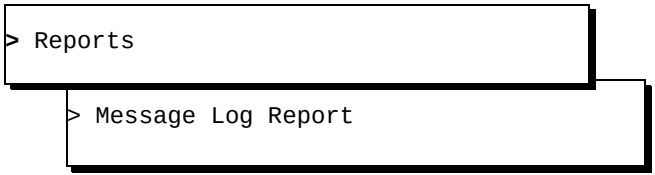
Screen Displays

- System messages, field names, and prompts that appear on the screen are shown in `type-writer text`, as shown in the following examples:
  - Enter the number of ports to be dedicated to outbound traffic in the `Maximum Simultaneous Ports` field.
  - Enter **y** in the `Message Transfer?` field.
  - The system displays the following message:

    ```
    Installation in progress.
    ```
- The sequence of menu options that you must select to display a specific screen or submenu appears in a series of boxes.

  Example:

  Start at the Voice System Administration menu and select:



In this example, you would access the Voice System Administration menu and select the Reports menu. From the Reports menu, you would then select the Message Log Report window.

Some Screen Simulations

Text in a simulated screen display appears in `type-writer text`.

Example:

```
            QuickStart - Data Recovery Rescue
Copyright(c) 1997-1999 by Enhanced Software Technologies, Inc.
      Serial# 8200-999                          Version: 1.3.17

      +---------+  +---------+  +---------+  +-----------+  +-----------+
      | Backup  |  | Verify  |  | Recover |  | Configure |  | Exit      |
      | System  |  | System  |  | System  |  | QuickStart|  | and Reboot|
      +---------+  +---------+  +---------+  +-----------+  +-----------+
```

Items That May or May Not Appear

Grayed-out type represents optional items that may or may not appear in a given display.

Example:

Once the backup is complete, the system displays a message similar to the following:

```
The Differential UNIX backup is now complete.  Please remove
the tape and label it as "Differential UNIX Backup, created
August 30, 1999."
```

Other Typography

Command Text

- Literal values, 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 proportional italic*** type when they are part of what you must type in, and in italics when they are not part of the command line, for example:

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

- Command options are shown inside square brackets, for example:

  Enter **connect *switchname* [-c] [-b | -w]**

Cross References and Hypertext

Blue, underlined type indicates a cross reference or hypertext link that will take you to another location in the document when you click on it.

Safety and Security Alert Labels

This document 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.

Using the CD-ROM Documentation

Lucent Technologies ships the documentation in electronic form. Using the Adobe Acrobat Reader application, you can read these documents on a Windows PC, on a Sun Solaris workstation, or on an HP-UX workstation. Acrobat Reader displays high-quality, print-like graphics on both UNIX and Windows platforms. It provides scrolling, zoom, and extensive search capabilities, along with online help. A copy of Acrobat Reader is included with the documents.

Setting the Default Magnification

You can set your default magnification by selecting **File | Preferences | General**. We recommend the **Fit Page** option.

Adjusting the Window Size

On HP and Sun workstations, you can control the size of the reader window by using the **-geometry** argument. For example, the command string **acroread -geometry 900x900 mainmenu.pdf** opens the main menu with a window size of 900 pixels square.

Hiding and Displaying Bookmarks

By default, the document appears with bookmarks displayed on the left side of the screen. The bookmarks serve as a hypertext table of contents for the chapter you are viewing. You can control the appearance of bookmarks by selecting **View | Page Only** or **View | Bookmarks and Page.**

Using the Button Bar

The button bar can take you to the book's index, table of contents, main menu, and glossary. It also lets you update your documents. Click the corresponding button to jump to the section you want to read.

Using Hypertext Links

Blue, underlined type indicates a cross reference or hypertext link that will take you to another location in the document when you click on it.

Navigating with Double Arrow Keys

The double right and double left arrows (◄◄ and ►►) at the top of the Acrobat Reader window are the go-back and go-forward functions. The go-back button takes you to the last page you visited prior to the current page. Typically, you use ◄◄ to jump back to the main text from a cross reference or illustration.

Searching for Topics

Acrobat has a sophisticated search capability. From the main menu, select **Tools | Search.** Then choose the **Master Index.**

Displaying Figures

If lines in figures appear broken or absent, increase the magnification. You might also want to print a paper copy of the figure for better resolution.

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To print an entire document, do the following:

Begin

1. From the documentation main menu screen, select one of the print-optimized documents. Print-optimized documents print two-screens to a side, both sides of the sheet on 8.5x11-in or A4 paper.
2. Select **File | Print**.
3. Enter the page range you want to print, or select **All**. Note that the print page range is different from the page numbers on the documents (they print two to a page).
4. The document prints.
5. Close the file. Do not leave this file open while viewing the electronic documents.

End

Printing Part of a Document

To print a single page or a short section, you can print directly from the online version of the document.

Begin

1. Select **File | Print**.
2. Enter the page range you want to print, or select **Current**.

   The document prints, one screen per side, two sides per sheet.

End

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Denver, Colorado 80234

You may also fax your comments to the attention of the Lucent Technologies UCS 1000 R4.6 writing team at (303) 538-1741.

Please mention the name and order number of this book, *UCS 1000 R4.6 System Description*, 585-313-222.

1 Getting Inside the UCS 1000 R4.6

Overview

The purpose of this chapter is to provide the correct procedures for accessing the internal components of the UCS 1000 R4.6 . This chapter describes:

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

Protecting Against Damage from Electrostatic Discharge

CAUTION:
Read this section before unpacking the UCS 1000 R4.6 . 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 6 on page 2).

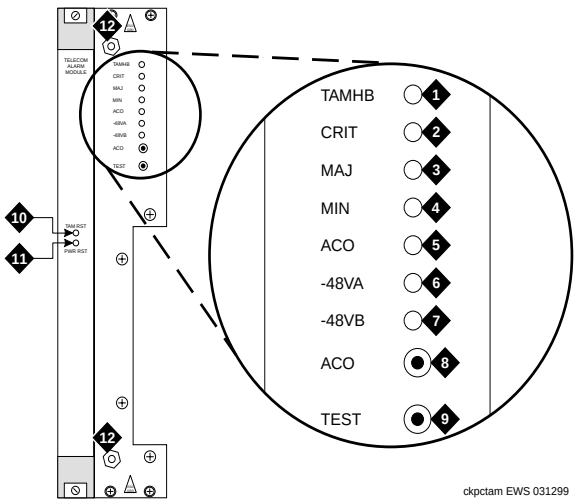
Note: Procedures in this book should be performed by personnel identified in Intended Audiences on page xxv in About This Book.

Figure 6. 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 the ESD jacks on the front (Figure 7 on page 3) or rear of the Telecom Alarm Module (TAM) alarm panel.

Figure 7. TAM and Alarm Panel



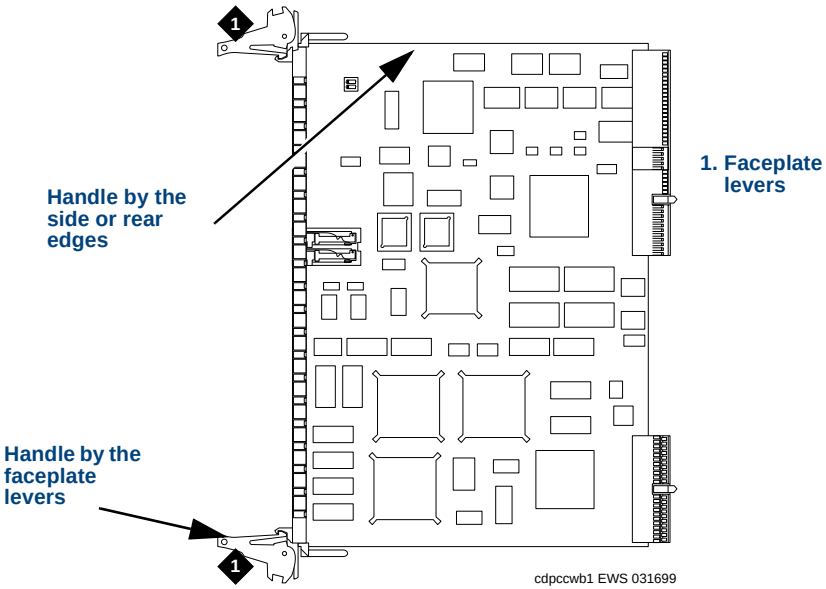
1. TAMHB indicator LED. On for normal operation.
2. Critical alarm indicator. Lights when active.
3. Major alarm indicator. Lights when active.
4. Minor alarm indicator. Lights when active.
5. Alarm cutoff indicator. Lights when an alarm is active.
6. -48VA failure indicator. Lights when a failure occurs.
7. -48VB failure indicator. Lights when a failure occurs.
8. Alarm cutoff button. Silences only the audible portion of an active alarm.
9. Test button for future use.
10. TAM reset button to reset only the TAM circuit card.
11. Power reset button to reset only the power to the TAM circuit card.
12. ESD jacks

- Handle a circuit card by the faceplate or side edges only as shown in Figure 8 on page 5.

- 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 or streaming tape in the same manner as a circuit card.

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

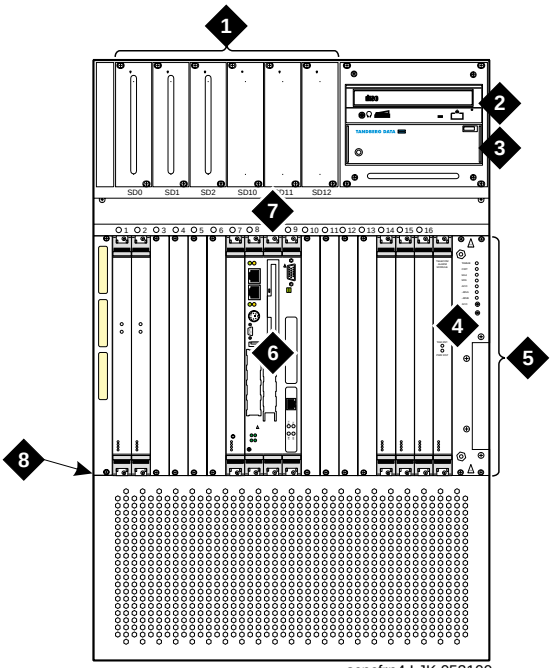
Figure 8. How to Hold a Circuit Card



UCS 1000 R4.6

The UCS 1000 R4.6 (Figure 9 on page 7) has 16-slots and accommodates 14 available CompactPCI slots and 2 slots dedicated to the CPU Complex. In addition, there are two positions on the DC-powered system that are dedicated to the TAM and the TAM Alarm Panel.

Figure 9. DC-Powered UCS 1000 R4.6



1. Hard disk drive positions (media bay)
2. CD-ROM drive position
3. Tape drive position
4. TAM and alarm panel
5. Circuit card area
6. CPU complex
7. Upper fan tray
8. Filter panel with lower fan tray

Removing Power from the DC System

DANGER:

Do not perform any maintenance on this equipment until you have turned off the power using the specified procedure. Failure to observe proper precautions could cause serious injury or death from electric shock.

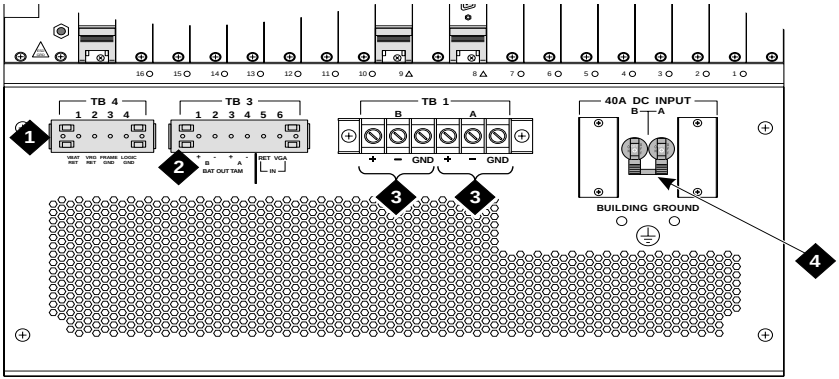
The power supplies, fan trays, and several circuit cards are hot swappable.

CAUTION:

Do not touch the terminals on DC-powered systems! Before you remove or install the lower rear power panel on a DC-powered system, you must disconnect the incoming power at the source. In many cases, this may be a circuit breaker for a rack-mount arrangement or a switch on an external power supply. You must verify that your system's power source is off before proceeding.

The DC-powered system requires dedicated circuit breakers. Circuit breaker/power switches are located on the rear of the system at the point labeled "DC Input A 40A and DC Input B 40A" as shown in Figure 10 on page 9.

Figure 10. DC UCS 1000 R4.6 Rear View



scpcbck3 KLC 042199

1. **Four-position terminal strip (do not connect)**
2. **Six-position terminal strip**
3. **Incoming DC power source A and B connection**
4. **DC input A and B power switches**

If only one DC power source is being used, you must implement a bridge connecting the two power leads. Otherwise, a continuous alarm results. For example, if you are using incoming DC power source A, connect the incoming DC power source B by strapping the -A terminal with the -B terminal and the +A terminal with the +B terminal.

To remove power from the DC-powered system:

1. Stop the voice system. See "Administering the Voice System," in "Common System Procedures," in the *UCS 1000 R4.6 System Reference*, 585-313-221, for the procedure.
2. Shut down the system. See “Administering the Operating System,” in “Common System Procedures,” in the *UCS 1000 R4.6 System Reference*, 585-313-221, for the procedure.
3. Place the two circuit breaker/power switches in the off (down) position, as shown in Figure 10 on page 9.

Note: The switches are located on the rear of the system and labeled "DC Input A 40A and DC Input B 40A."

4. Remove power coming from the DC source.

CAUTION:
Before you begin working in the lower rear power panel area, you must disconnect the DC power at the source.

Restoring Power to the DC System

To restore power to the DC-powered system:

1. Restore power from the DC power source.
2. Place the two power switches in the on (up) position, as shown in Figure 10 on page 9.

Note: The switches are located on the rear of the system and labeled "DC Input A 40A and DC Input B 40A."

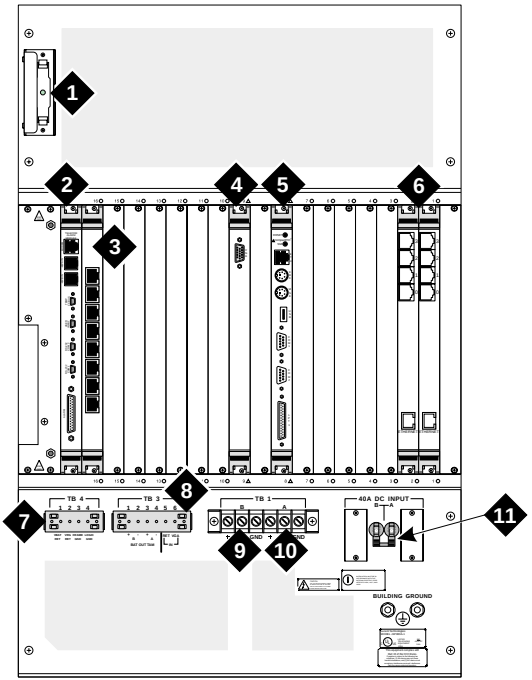
The system automatically reboots. When complete, the system displays the `Console login:` prompt.

Removing the Upper Rear Exhaust Panel

For DC-powered systems, removing the upper rear exhaust panel (Figure 11 on page 12) provides access to items such as:

- The SCA backplane
- The SCSI cables for the CD-ROM and cartridge tape drives
- Power cables for the CD-ROM and cartridge tape drives

Figure 11. DC-Powered System Rear View



scpcbck1 LJK 053100

1. External SCSI terminator
2. TAM rear I/O transition card
3. 8-port asynchronous rear I/O transition card
4. IOB companion rear I/O transition card
5. SBC rear I/O transition card
6. CYD10 rear I/O transition card
7. Four-position terminal strip (do not connect)
8. Six-position terminal strip
9. Incoming DC power source B connection
10. Incoming DC power source A connection
11. DC input A and B power switches

To remove the rear exhaust panel:

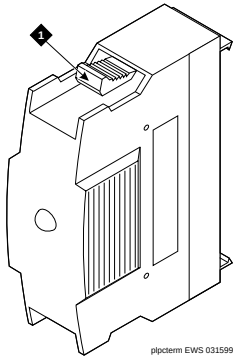
1. Remove the power. See Removing Power from the DC System on page 8 for the procedure.
2. Remove the external SCSI terminator (Figure 12 on page 14) by performing step a through step c.

Note: If necessary, you can remove the terminator guard first by removing the two screws that secure it to the panel.

   a. Squeeze the release levers at the top and bottom of the terminator.
   b. Pull the SCSI terminator from the rear panel.
   c. Once free, allow the terminator to drop into your hand.

3. Remove the screws from each of the four corners of the panel.
4. Pull the panel out and away from the UCS 1000 R4.6 .

Figure 12. SCSI Terminator



1. Release lever

Installing the Upper Rear Exhaust Panel

To install the upper rear exhaust panel:

1. Push the upper part of the panel in place on the rear of the system.
2. Install the four screws onto each corner of the upper rear panel.
3. Reattach the external SCSI terminator.

Note: Reattach the terminator guard if it was removed.

4. Restore power. See Restoring Power to the DC System on page 11 for the procedure.

Removing the Lower Rear Power Panel

CAUTION:

Do not touch the terminals on DC-powered systems! Before you remove or install the lower rear power panel on a DC-powered system, you must disconnect the incoming power at the source. In many cases, this may be a circuit breaker for a rack-mount arrangement or a switch on an external power supply. You must verify that your system's power source is off before proceeding.

DANGER:

Do not perform any maintenance on this equipment until you have turned off the power using the specified procedure. Failure to observe proper precautions could cause serious injury or death from electric shock.

On DC-powered systems (Figure 10 on page 9), items such as the cPCI backplane power cable assemblies (J3 to J2 and J4 to J3) are located behind the lower rear power panel.

The following items are part of the lower rear power panel assembly:

- Terminal blocks
- Power switches

To remove the lower rear power panel area:

1. Remove the power. See Removing Power from the DC System on page 8 for the procedure.
2. Verify that the incoming DC power is turned off at the source.
3. Disconnect the A and B power leads.

Note: The following step is only necessary if the leads are connected to the terminal strips.

4. Remove the terminal guard from the 6-position terminal strip by squeezing the snap tabs at each end and pulling.
5. Remove the TAM power connectors. Loosen the screws from terminals 1, 2, 3, and 4 and remove the connector wires.

Note: These terminals are labeled Bat Out Tam +B, -B, +A, -A.

6. Remove the four screws from each corner of the lower rear panel.
7. Rotate the top of the panel away from the system.
8. Pull the bottom of the panel up and away from the system.
9. Disconnect the P2 power connector from the power backplane. Grasp the connector, push up on the tab on the bottom of the connector, and pull out.

10 Disconnect the P1 power connector from the power backplane. Grasp the connector, push up on the tab on the bottom of the connector, and pull out.

Note: Removing the rear I/O circuit cards or cover panels at slots 15, 16, and 17 will make access easier to the P3 power connector, which is located below slot 17.

11 Disconnect the P3 connector from the cPCI backplane. Grasp the connector, push up on the tab on the bottom of the connector, and pull out.

12 Disconnect the green ground wire from the lower left side of the system.

13 Pull the panel out and away from the system.

Installing the Lower Rear Power Panel

CAUTION:
Before you remove or install the lower rear power panel, you must disconnect the incoming power at its source. In many cases for DC-powered systems, this may be a circuit breaker for a rack-mount arrangement or a switch on an external power supply. You must verify that your system's power source is off before proceeding.

To install the lower rear power panel:

1. Slip the bottom part of the panel onto the chassis.
2. Connect the green ground wire to the lower left side of the system.
3. Insert the P3 connector into the cPCI backplane.
4. Insert the P2 connector into the power backplane.
5. Insert the P1 connector into the power backplane.
6. Push the upper part of the panel in place.
7. Install the four screws onto each corner of the lower rear panel.
8. Connect the TAM power connector wires to terminals 1, 2, 3, and 4 on the six-position terminal strip.

Note: These terminals are labeled Bat Out Tam +B, -B, +A, -A.

9. Snap the six-position terminal guard in place.

Note: Restore the rear I/O circuit cards or cover panels at slots 15, 16, and 17 if needed.

10. Reconnect the A and B power leads.
11. Restore the DC power from the power source.

12 Restore power. See Restoring Power to the DC System on page 11 for the procedure.

2 Installing or Replacing Circuit Cards

Overview

The purpose of this chapter is to ensure that circuit cards are installed correctly and their resource options are set correctly. This chapter describes:

- General procedures for manual like-for-like hot replacement of circuit cards
- Information on installing optional circuit cards
- The correct settings for resource options

General Procedures for Hot Swap

Note: Procedures in this book should be performed by personnel identified in Intended Audiences on page xxv in About This Book.

WARNING:
Observe proper electrostatic discharge (ESD) 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 1, Getting Inside the UCS 1000 R4.6, for detailed electrostatic discharge precautions.

Hot Swap Description

The UCS 1000 R4.6 supports manual like-for-like hot replacement (generally called "hot swap") for these circuit cards:

- Quad T1 (CWB10)
- Quad E1 (CWB11 and CWB12)
- E1/T1 (CWB2)
- SSP (CWB1)
- LSPS II (6UB5)
- 8-port asynchronous

- TAM
- PTTS

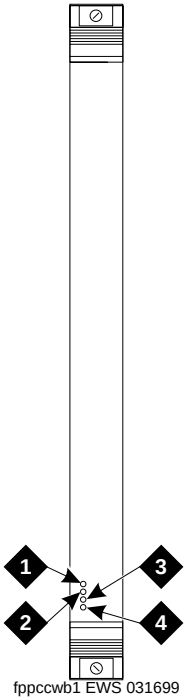
Note: The procedure for hot swapping the PTTS circuit card differs from the procedure for hot swapping other circuit cards. For information on how to hot swap the PTTS circuit card see, The PTTS Circuit Card on page 38.

"Hot swap" means that you can remove and replace these circuit cards while the system remains operational, but you must first remove and detach the circuit card from service.

Note: The blue LED must be lit to remove a circuit card while the system is powered on (except for the TAM and PTTS circuit card, which do not have a blue LED).

Figure 13 on page 23 shows an example of the LED locations on a circuit card faceplate.

Figure 13. Sample of a Circuit Card Faceplate LEDs



1. Red LED lights when broken
2. Yellow LED lights when out of service
3. Green LED lights when active and in service
4. Blue LED lights when ready for hot swap

Table 1 shows how to determine the maintenance state of a circuit card by viewing the LEDs on the faceplate.

Table 1. Circuit Card LED Maintenance State

Circuit Card	LED Lit	State
SSP (CWB1)	Red	Broken
	Yellow	MANOOS, Diagnostics
	Green	INSERV
	Blue	Ready for hot swap
	None (All LEDS are dark)	Broken[1]
E1/T1 (CWB2), Quad T1 (CWB10), Quad E1 (CWB11 and CWB12)	Red	Broken
	Yellow	FOOS, MANOOS, Diagnostics
	Green	INSERV
	Yellow + Green	NETOOS

1 of 3

Table 1. Circuit Card LED Maintenance State

Circuit Card	LED Lit	State
	Blue	Ready for hot swap
	None (All LEDS are dark)	Broken[1]
LSPS II (6UB5)	Red	Broken
	Yellow	MANOOS, Diagnostics
	Green	INSERV
	Blue	Ready for hot swap
	None (All LEDs are dark)	Broken[1]
Equinox (8-port asynchronous)	Red	n/a
	Yellow	n/a
	Green	n/a
	Blue	Ready for hot swap

2 of 3

Table 1. Circuit Card LED Maintenance State

Circuit Card	LED Lit	State
	None (All LEDs are dark)	Not ready for hot swap[1]
TAM	Green[2]	INSERV
PTTS	Green[2]	INSERV

3 of 3

[1] The voice system may also be down causing the LEDs to remain dark.
[2] This circuit card has only a green LED.

Removing Circuit Cards

To remove an LSPS II, SSP, Quad, E1/T1, 8-port asynchronous, or TAM circuit card, or the respective I/O rear transition card:

Note: Rear I/O transition cards must never be installed "live" if their corresponding front I/O is plugged in. Rear I/O transition cards must be installed first-in-last out (FILO) with respect to their associated front card.

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

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

2 Enter **remove card *x*** where *x* is the SSP, E1/T1, Quad, or LSPS II circuit card to be placed in MANOOS. This command is not required for the 8-port asynchronous or TAM circuit card.

Note: If this command fails to place the circuit card in MANOOS (the card remains in or is placed in BROKEN), you can still enter the appropriate **detach** command as described in Step 3. You can enter the **detach** command for a BROKEN circuit card.

3 Do one of the following:

- If you are replacing an SSP, E1/T1, Quad, or LSPS II circuit card, enter **detach card *x*** where *x* is the SSP, E1/T1, Quad, or LSPS II circuit card to be placed into the nonexistent (NONEX) state.
- If you are replacing an 8-port asynchronous circuit card, enter **eqn_detach**.
- If you are replacing a TAM circuit card, enter **tam_detach**.

When the blue LED lights on the faceplate, the circuit card is ready for hot swap and can be removed from the system. The TAM circuit card does not have a blue LED and thus gives no visible indication that the circuit card is ready for hot swap.

Note: For complete information about the **remove**, **detach**, **eqn_detach**, and **tam_detach** commands, see Appendix A, "Summary of Commands" in the *UCS 1000 R4.6 Administration*, 585-313-509.

If the detach command fails or the blue LED does not light, see Table 2 on page 29 for troubleshooting procedures.

Table 2. Troubleshooting the Detach Command

If . . .	Then . . .
If the **detach** command fails . . .	**a** Verify that you entered the correct circuit card number in the **detach command**. The circuit card number is the slot number of the circuit card that you want to remove. **b** Enter the appropriate **detach** command again. **c** If this second **detach** command fails, shutdown the system and replace the circuit card.
If the **detach** command succeeds, but the blue LED does not light . . .	Enter the appropriate **attach** command and then enter the appropriate **detach** command again. For information on the appropriate **attach** command, see Installing Circuit Cards on page 33.

4 Locate the card to be replaced in the system. See Figure 14 on page 31 for typical front panel circuit card locations or Figure 15 on page 32 for rear I/O transition card locations.

5 Disconnect any attached cables, such as those that may be attached to the faceplate. Note the connectivity of each cable, so that you can replace it correctly.

CAUTION:

If you are replacing a rear I/O transition circuit card, you must unplug the front I/O circuit card, before unplugging the rear I/O transition circuit card.

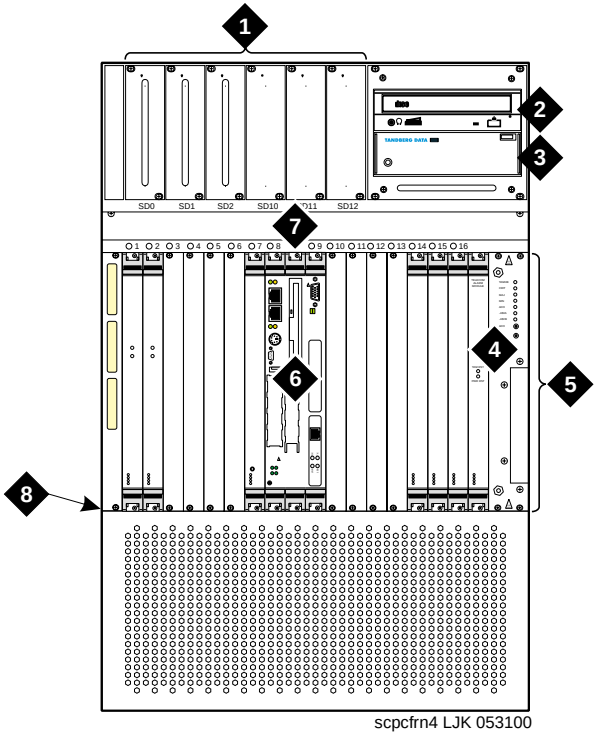
6 Loosen the screws that secure the circuit card to the system. The screws are located at the top and bottom of the faceplate.

7 Unlatch the circuit card from the backplane by gently pushing the faceplate levers outward until the circuit card is released.

8 Remove the circuit card from the backplane slot by gently pulling at the top and bottom corners of the circuit card.

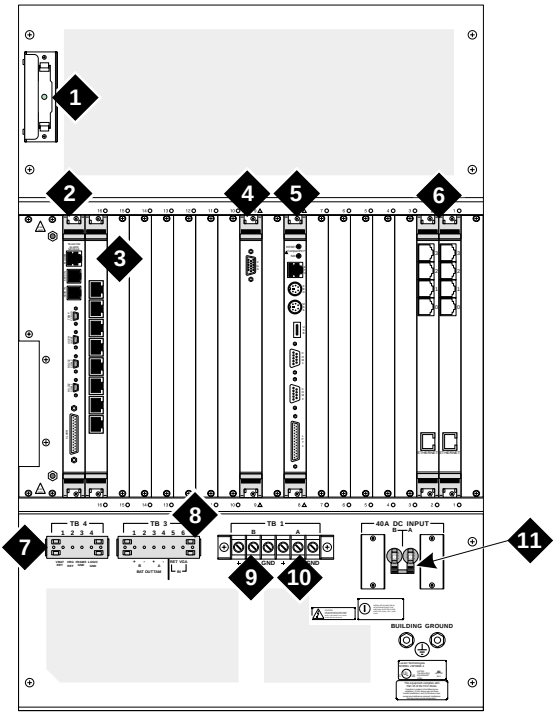
9 Remove the circuit card from the system.

Figure 14. Front View of the UCS 1000 R4.6



1. Hard disk drive positions
2. CD-ROM drive position
3. Tape drive position
4. TAM and alarm panel
5. Circuit card cage area
6. CPU complex
7. Upper fan tray
8. Filter panel with lower fan tray

Figure 15. Rear View of the UCS 1000 R4.6



scpcbck1 LJK 053100

1. External SCSI terminator
2. TAM rear I/O transition card
3. 8-port asynchronous rear I/O transition card
4. IOB companion rear I/O transition card
5. SBC rear I/O transition card
6. CYD10 rear I/O transition card
7. Four-position terminal strip (do not connect)
8. Six-position terminal strip
9. Incoming DC power source B connection
10. Incoming DC power source A connection
11. DC input A and B power switches

Installing Circuit Cards

To install an SSP, E1/T1, Quad, LSPS II, 8-port asynchronous, or TAM circuit card, or the respective I/O rear transition card, use the procedure below.

Note: The Quad, E1/T1, 8-port asynchronous, and TAM circuit cards require a rear I/O transition card.

Note: Rear I/O transition cards must never be installed "live" if their corresponding front I/O is plugged in. Rear I/O transition cards must be installed first-in-last out (FILO) with respect to their associated front card.

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

CAUTION:
Hold the circuit card carefully by the edges and place it on a grounded mat. See Protecting Against Damage from Electrostatic Discharge on page 1 in Chapter 1, Getting Inside the UCS 1000 R4.6," for detailed ESD precautions.

Note: Keep the package and all ESD-protective wrapping. If you must return a card for repair, reusing the replacement unit packaging is necessary to meet the manufacturer's warranty. Be sure to include a description of the failure.

2 Verify circuit card switch and jumper settings to ensure they are set correctly. See the specific instructions, listed later in this chapter, for each type of circuit card being installed.

If you are replacing an existing circuit card, the settings must match the old card.

Note: For new circuit card installations that include an associated rear I/O transition card, the rear I/O transition card must be installed and cabled first.

3 Install the rear I/O transition card.

CAUTION:

Be sure you install a rear I/O transition card correctly. Misalignment of a rear I/O transition card can cause connector pins to bend. One cause of misalignment is to allow the bottom part of the card to lead the top part of the card while inserting. To install a rear I/O transition card correctly, insert the rear I/O transition card evenly into the slot. Keep the faceplate vertical and guide the card by applying greater pressure to the top of the faceplate until the card fully engages the backplane connector. For example, a right-handed person would apply pressure to the top of the faceplate with the right hand and guide the bottom of the faceplate with the left hand.

a Apply pressure to the top and bottom of the rear I/O transition card until it engages the backplane

b Secure the rear I/O transition card to the system by tightening the screws located at the top and bottom of the faceplate.

c Make any applicable cable connections to the rear I/O transition card.

CAUTION:
Do not force a circuit card into a slot. Forcing a circuit card into a slot will damage the circuit card and/or the backplane.

Note: See the Caution on page 59 if you are installing a rear I/O transition card for a Quad circuit card (CWB10, CWB11, CWB12) or an E1/T1 (CWB2) circuit card. See the Caution on page 78 if you are installing a rear I/O transition card for the TAM circuit card.

4 Verify the front panel slot keying on the system. The front panel circuit card slot number corresponds to the slot number of its associated rear I/O transition card (if applicable).

Ensure the slot being keyed matches the type of circuit card being installed. See the specific instructions, listed later in this chapter, for each type of circuit card being installed then continue with Step 5.

WARNING:
Do not remove the front panel keying mechanism or attempt to defeat its purpose. Doing so may damage the equipment and cause injury to service personnel.

5 Holding the circuit card by its faceplate and the diagonal corner, slide the card into the backplane connector.

6 Apply even pressure to the top and bottom of the circuit card until it engages the backplane.

The blue LED should go dark. If it does not, verify that the circuit card is inserted correctly. The TAM circuit card does not have a blue LED.

CAUTION:
If the circuit card does not engage the backplane with gentle pressure, verify that the circuit card and the front panel are properly keyed for the type of circuit card you are installing. See TNV-1 Keying for Quad or E1/T1 Circuit Cards on page 59 and SELV Keying for 8-Port Asynchronous and PTTS Circuit Cards on page 78 for more information.

7 Secure the circuit card into position by gently pushing the faceplate levers into their locked position and tightening the screws located at the top and bottom of the faceplate.

8 Attach all cables to the new card. Make sure these cables are attached to their proper terminations.

9 Do one of the following:

~ If you are replacing an SSP, E1/T1, Quad, or LSPS II circuit card enter **attach card *x*** where *x* is the SSP, E1/T1, Quad, PTTS, or LSPS II circuit card number just inserted into the system.

~ If you are replacing an 8-port asynchronous card, enter **eqn_attach**.

~ If you are replacing a TAM circuit card, enter **tam_attach**.

Note: For complete information about the **attach**, **restore**, **eqn_attach**, and **tam_attach** commands, see Appendix A, "Summary of Commands" in the *UCS 1000 R4.6 Administration*, 585-313-509.

If the circuit card fails to attach:

a Verify that you installed the circuit card in the correct slot and enter the **attach** command again. (Be sure you are entering the correct circuit card number in the **attach command**. The circuit card number is the slot number of the circuit card you installed.

b If the card still fails to attach, insert another circuit card and enter the **attach** command again

c If the card still fails to attach, reboot the system.

10 Enter **restore card *x*** where *x* is the SSP, E1/T1, Quad, or LSPS II circuit card to be placed in service (INSERV). This command is not required for the 8-port asynchronous or TAM circuit card.

The PTTS Circuit Card

Removing the Circuit Card

To remove the PTTS circuit card or its respective I/O rear transition card:

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

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

2. Shutdown Windows NT on the PTTS circuit card.
3. Enter **display server**.

   The system displays a list of the PTTS circuit cards in your UCS 1000 R4.6 as well as each PTTS card's name, type, IP address, and slot number.

4. Write down the name and IP address of the card you want to remove. You will need this information when you install the new circuit card.
5. Enter **delServer *name***, where ***name*** is the name of the PTTS circuit card you want to remove.
6. Locate the card to be replaced in the system.

7 Disconnect any attached cables, such as those that may be attached to the faceplate. Note the connectivity of each cable, so that you can replace it correctly.

CAUTION:
If you are replacing a rear I/O transition circuit card, you must unplug the front I/O circuit card, before unplugging the rear I/O transition circuit card.

8 Loosen the screws that secure the circuit card to the system. The screws are located at the top and bottom of the faceplate.

9 Unlatch the circuit card from the backplane by gently pushing the faceplate levers outward until the circuit card is released.

10 Remove the circuit card from the backplane slot by gently pulling at the top and bottom corners of the circuit card.

11 Remove the circuit card from the system.

Installing the Circuit Card

Note: The optional PTTS circuit card requires a rear I/O transition card.

Note: Rear I/O transition cards must never be installed "live" if their corresponding front I/O is plugged in. Rear I/O transition cards must be installed first-in-last out (FILO) with respect to their associated front card.

To install the PTTS circuit card or its respective I/O rear transition card:

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

CAUTION:
Hold the circuit card carefully by the edges and place it on a grounded mat. See Protecting Against Damage from Electrostatic Discharge on page 1 in Chapter 1, Getting Inside the UCS 1000 R4.6," for detailed ESD precautions.

Note: Keep the package and all ESD-protective wrapping. If you must return a card for repair, reusing the replacement unit packaging is necessary to meet the manufacturer's warranty. Be sure to include a description of the failure.

2 Verify that the circuit card's switch settings to ensure they are set correctly. See PTTS Circuit Cards on page 76 for the correct switch settings.

If you are replacing an existing circuit card, the settings must match the old card.

Note: For new circuit card installations, the rear I/O transition card must be installed and cabled first.

3 Install the rear I/O transition card.

CAUTION:
Be sure you install a rear I/O transition card correctly. Misalignment of a rear I/O transition card can cause connector pins to bend. One cause of

misalignment is to allow the bottom part of the card to lead the top part of the card while inserting. To install a rear I/O transition card correctly, insert the rear I/O transition card evenly into the slot. Keep the faceplate vertical and guide the card by applying greater pressure to the top of the faceplate until the card fully engages the backplane connector. For example, a right-handed person would apply pressure to the top of the faceplate with the right hand and guide the bottom of the faceplate with the left hand.

a. Apply pressure to the top and bottom of the rear I/O transition card until it engages the backplane
b. Secure the rear I/O transition card to the system by tightening the screws located at the top and bottom of the faceplate.
c. Make any applicable cable connections to the rear I/O transition card.

CAUTION:
Do not force a circuit card into a slot. Forcing a circuit card into a slot will damage the circuit card and/or the backplane.

Note: See the Caution on page 78 if you are installing a rear I/O transition card for the PTTS circuit card.

4. Verify the front panel slot keying on the system. The front panel circuit card slot number corresponds to the slot number of its associated rear I/O transition card.

Ensure the slot being keyed matches the type of circuit card being installed. For specific instructions, see SELV Keying for 8-Port Asynchronous and PTTS Circuit Cards on page 78 and then continue with Step 5.

WARNING:
Do not remove the front panel keying mechanism or attempt to defeat its purpose. Doing so may damage the equipment and cause injury to service personnel.

5 Holding the new circuit card by its faceplate and the diagonal corner, slide the card into the backplane connector.

6 Apply even pressure to the top and bottom of the circuit card until it engages the backplane.

Note: The green LED on the front of the circuit card should light.

CAUTION:
If the circuit card does not engage the backplane with gentle pressure, verify that the circuit card and the front panel are properly keyed for the type of circuit card you are installing. See SELV Keying for 8-Port Asynchronous and PTTS Circuit Cards on page 78 for more information.

7 Secure the circuit card into position by gently pushing the faceplate levers into their locked position and tightening the screws located at the top and bottom of the faceplate.

8 Attach all cables to the new card. Make sure these cables are attached to their proper terminations.

9 Enter **addServer name=*name* type=*type* addr=*IP address* slot=*slot number***, where

- ***name*** is the name of the PTTS circuit card. You wrote down this name in Step 4 of Removing the Circuit Card on page 38.
- ***type*** is TTS
- ***IP address*** is the IP address of the circuit card. You wrote down this address in Step 4 of Removing the Circuit Card on page 38.
- ***slot number*** is remote

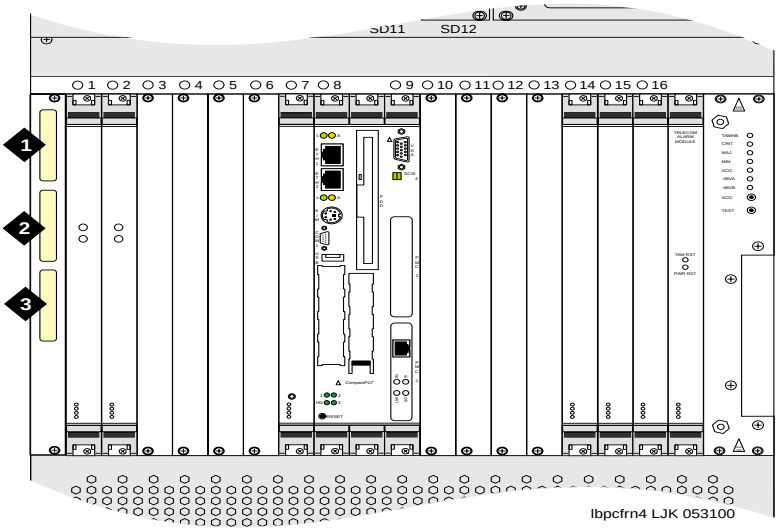
Applying the CLEI Label

You must apply a CLEI label to the system when replacing or installing any of the following components:

- On the front of the system, apply the CLEI labels for the:
  - CPU complex
  - RAID controller PMC
  - LAN PMC
- On the rear of the system, apply CLEI labels for the:
  - CPU rear I/O transition card
  - TAM rear I/O transition card

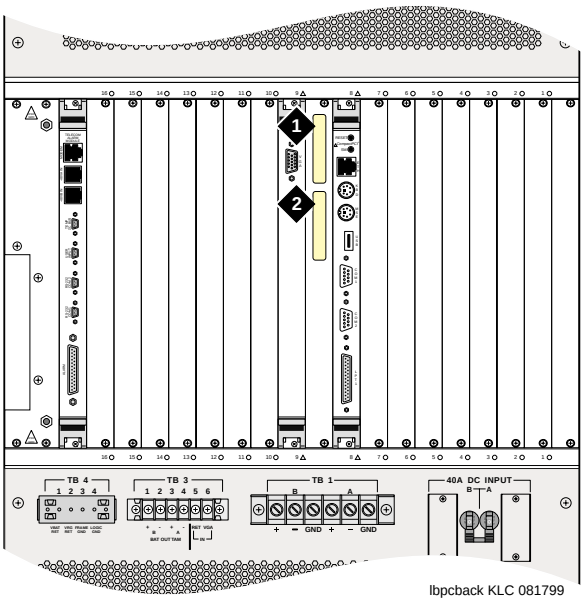
Figure 16 on page 45 shows the positions of the CLEI labels that are to be applied to the front of the system. Figure 17 on page 46 shows the positions of the CLEI labels that are to be applied to the rear of the system.

Figure 16. CLEI Labels — Front of System



1. CLEI label for the CPU complex
2. CLEI label position for the RAID controller PMC
3. CLEI label position for the LAN PMC

Figure 17. CLEI Labels—Rear of System



lbpcback KLC 081799

1. CLEI label for the CPU rear I/O transition card
2. CLEI label for the TAM rear I/O transition card.

Optional Circuit Cards

The optional circuit cards are:

- Quad series:
  - ~ Quad T1 with RJ48C connectors (CWB10)
  - ~ Quad E1 with RJ48C connectors (CWB11)
  - ~ Quad E1 with coaxial connectors (CWB12)
- E1/T1 (CWB2)
- SSP (CWB1)
- LSPS II (6UB5)
- 8-port asynchronous
- PTTS

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

- Switch and jumper settings
- Circuit card slot keying on the front panel
- Other installation requirements that are specific to the particular circuit card you are installing

Note: In general, circuit cards are preset at the factory. However, you should verify the switches and jumpers (resource options) *before* you install the circuit cards. When you set the switches according to the instructions in this chapter, remember that OFF is equivalent to open and ON is equivalent to closed.

Slot Assignments for Installing Circuit Cards

Use the following guidelines when installing or adding circuit cards on an existing system in the field:

- When adding an E1/T1or Quad circuit card in the field, install it in the next available slot to the right of the rightmost E1/T1 or Quad circuit card.
- When installing an 8-port, SSP, or LSPS II (6UB5) circuit card in the field, install it in the rightmost available slot.

  Do not, however, install an LSPS II circuit card in slot 7. If the ambient temperature is elevated, the LSPS II circuit card could shut down. If slot 7 is the only available slot when loading an LSPS II card, move the rightmost E1/T1 or Quad circuit card to slot 7, and then install the LSPS II card in the slot vacated by the E1/T1 or Quad card. For guidelines on moving and re-administering an E1/T1 or Quad card, see Quad Circuit Cards on page 49

Quad Circuit Cards

Each of the Quad digital network-interface circuit cards has four network connections. The CWB10 has four T1 connections, and the CWB11 and CWB12 have four E1 connections. The three Quad circuit cards and their corresponding two rear I/O transition cards are described in Table 3, and shown in Figure 18 on page 50, Figure 19 on page 51, and Figure 20 on page 52.

Table 3. Quad T1 and Quad E1 Circuit Cards

Quad Circuit Card	Rear I/O Transition Card	Description
CWB10	CYD10	T1 mode with RJ48C connectors, 100 Ohm
CWB11	CYD10	E1 mode with RJ48C connectors, 120 Ohm
CWB12	CYD12	E1 mode with coaxial connectors, 75 Ohm

Figure 18. Quad T1 (CWB10) and Quad E1 (CWB11 and CWB12) Circuit Card

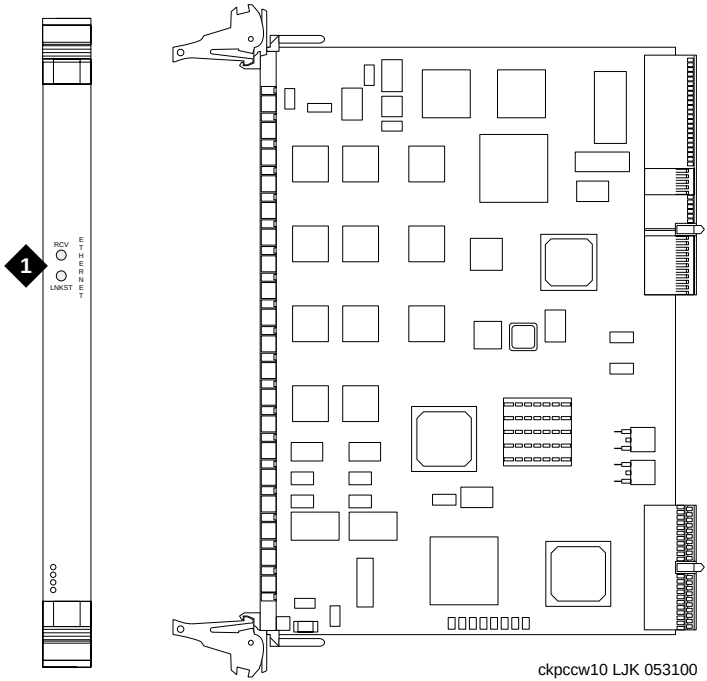
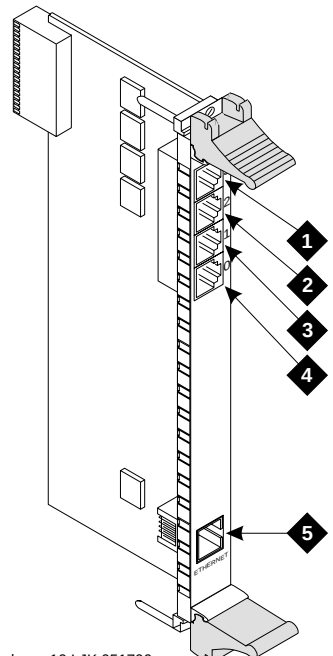
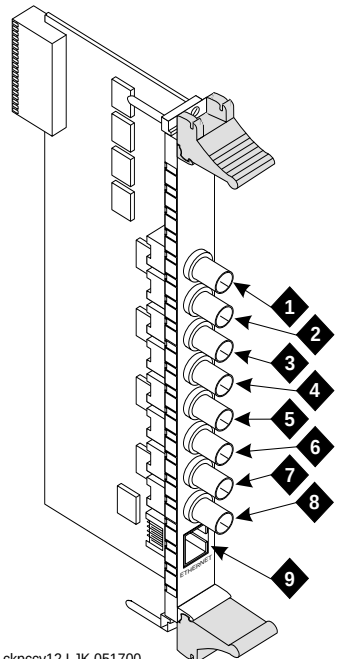


Figure 19. Rear I/O Transition Card (CYD10) for Quad T1 (CWB10) and Quad E1 (CWB11) Circuit Cards



1. E1/T1 port (span 0)
2. E1/T1 port (span 1)
3. E1/T1 port (span 2)
4. E1/T1 port (span 3)
5. Ethernet port

Figure 20. Rear I/O Transition Card (CYD12) for Quad E1 (CWB12) Circuit Card



1. RX connector (signal in, span 0)
2. TX connector (signal out, span 0)
3. RX connector (signal in, span 1)
4. TX connector (signal out, span 1)
5. RX connector (signal in, span 2)
6. TX connector (signal out, span 2)
7. RX connector (signal in, span 3)
8. TX connector (signal out, span 3)
9. Ethernet port

Front Panel Keying

The Quad circuit cards use TNV-1 keying to connect to the UCS 1000 R4.6. For information on how to verify and set TNV-1 keying, see TNV-1 Keying for Quad or E1/T1 Circuit Cards on page 59.

E1/T1 Circuit Cards

The E1/T1 (CWB2) circuit card (Figure 21 on page 54) contains switches, jumpers, and faceplate key positions that you must verify before you install the circuit card in the system.

If installing a new E1/T1 circuit card, you must change the front panel key positions on the system and verify the faceplate key positions on the E1/T1 circuit card before inserting it in the system.

E1/T1 Switch Settings

Verify that the switches for the new E1/T1 circuit card are set properly for your specific operation. Figure 21 on page 54 shows the correct switch setting for T1 operation. Figure 22 on page 55 shows the correct switch setting for E1 operation.

Figure 21. E1/T1 (CWB2) Circuit Card Set for T1 Operation

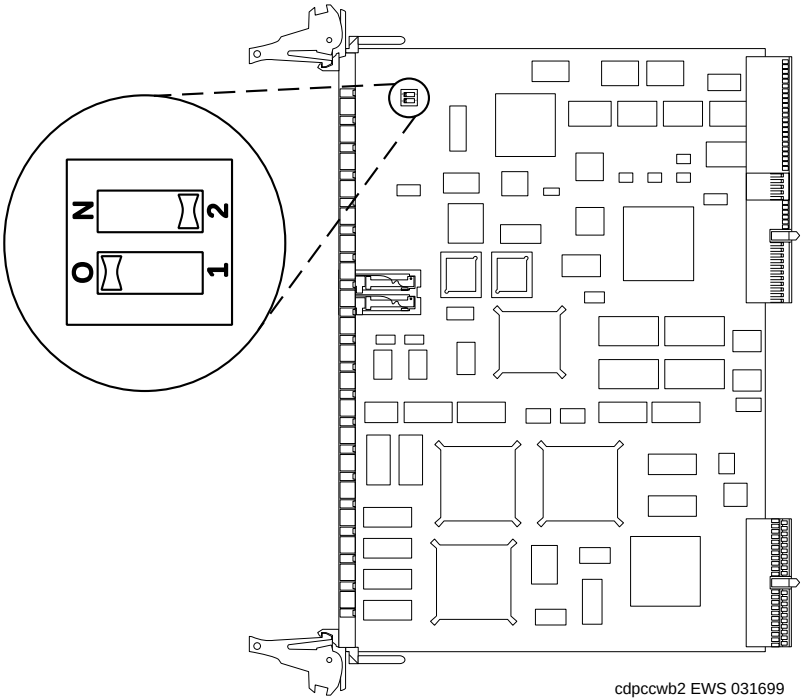
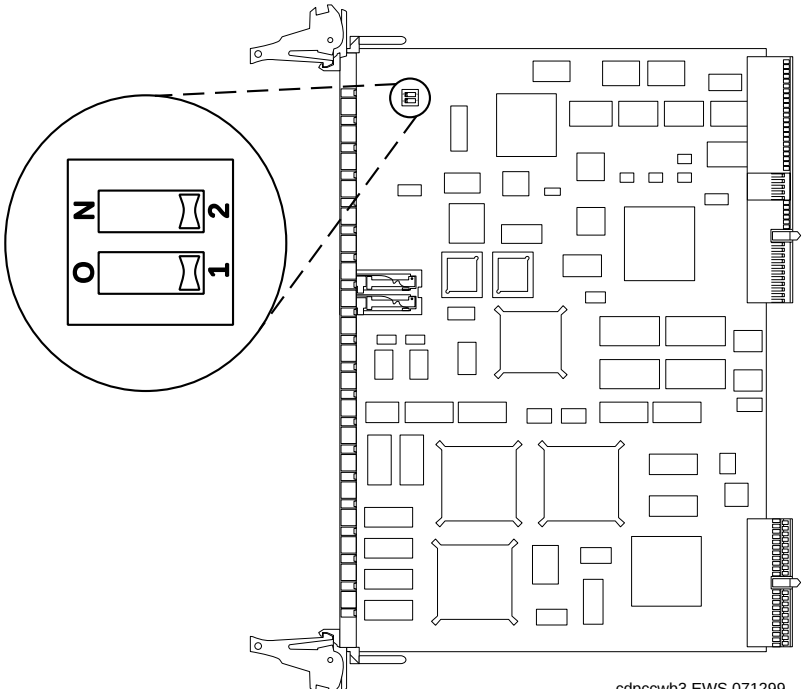


Figure 22. E1/T1 (CWB2) Circuit Card Set for E1 (120-Ohm) Operation



If your system uses 75 ohms, the switch settings should be set to those shown in Figure 23.

Figure 23. E1/T1 (CWB2) Circuit Card Set for E1 (75-ohm) Operation

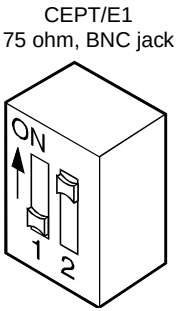
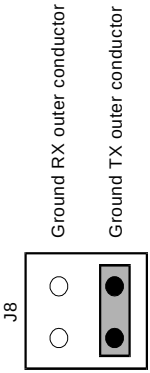


Figure 24 on page 57 shows the jumper settings. The jumpers are located on the CYD2 rear I/O transition card, as shown in Figure 25 on page 58.

Figure 24. E1 Coax Jumper Settings

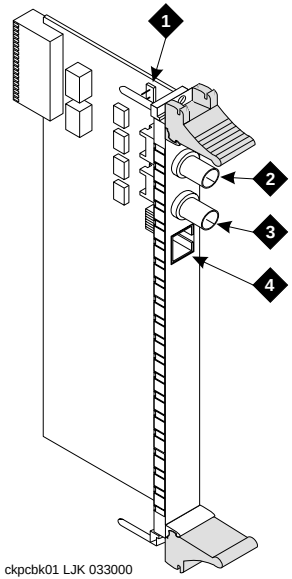


E1/T1 Jumper Settings

Each E1/T1 circuit card has a corresponding rear I/O transition card (CYD2), as shown in Figure 25 on page 58. This card supports rear entry trunk connections. See Appendix C, "Pinouts" in *UCS 1000 R4.6 New System Installation*, 585-313-153, for the 8-pin modular jack pinout information.

For T1 mode, there are no applicable jumpers or switches on the CYD2 rear I/O transition card.

Figure 25. CYD2 Rear I/O Transition Card for the E1/T1 Circuit Card



1. Jumper location
2. RX connector (signal in)
3. TX connector (signal out)
4. 8-pin modular jack

Front Panel Keying

The E1/T1 circuit card uses TNV-1 keying to connect to the UCS 1000 R4.6. For information on how to verify and set TNV-1 keying, see TNV-1 Keying for Quad or E1/T1 Circuit Cards on page 59.

TNV-1 Keying for Quad or E1/T1 Circuit Cards

WARNING:
The Quad and E1/T1 circuit cards are qualified to terminate TNV-1 level voltages only. When installing a new Quad or E1/T1 circuit card, do not connect wet (powered) or unprotected (outside premises wiring) T1 or E1 lines to the rear I/O transition card. Doing so could damage the circuit card or cause harm to service personnel.

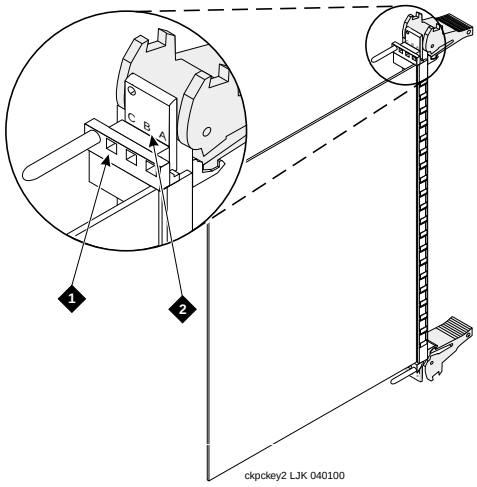
Front Panel Key Positions

The front panel for each circuit card slot on the system is keyed to a default setting at the factory. The factory default setting will not accept a Quad or E1/T1 circuit card.

Therefore, before installing a new Quad or E1/T1 circuit card, you must rekey the front panel key positions on the system and verify the circuit card faceplate key positions.

Note: If you are replacing an circuit card into an existing slot, you only need to verify the circuit card faceplate key positions. See Figure 26 on page 60 for general faceplate key locations.

Figure 26. Sample of Key Locations for a Circuit Card Faceplate



1. Upper faceplate key locations
2. Upper faceplate key lettering

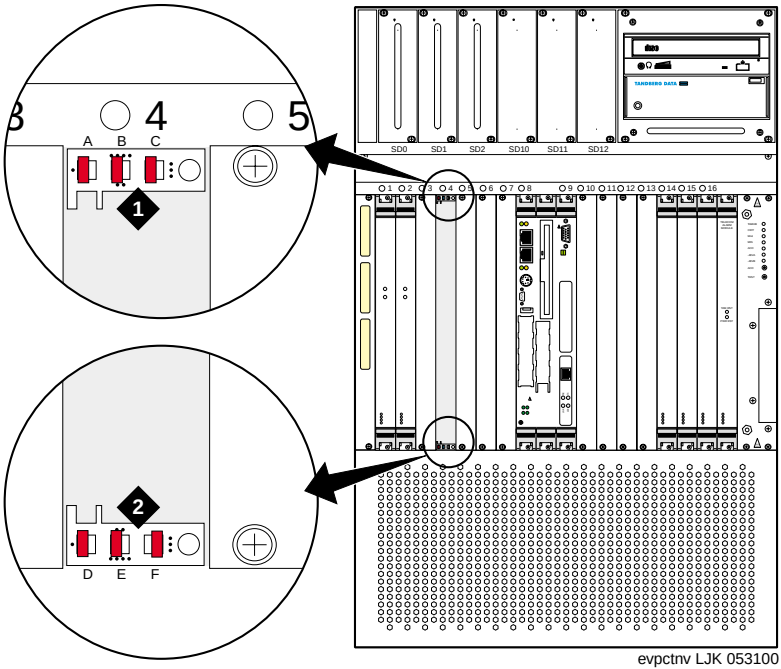
   Keys D, E, and F are located behind the lower faceplate lever.

Front Panel Key Positions for the Slot

The Quad or E1/T1 circuit card slot position in the system must be keyed at the front panel for TNV-1. This means that chambers A through F should look like those shown in Figure 27 on page 61.

The front panel key chambers are located on the front of the circuit card cage area, at the top and bottom for each circuit card position on the system.

Figure 27. Front Panel TNV-1 Keying on the System



1. Key positions for chambers A, B, and C
2. Key positions for chambers D, E, and F

To rekey or to verify that the front panel on the system is properly keyed for the circuit card:

1 If you are replacing an existing circuit card:

   a Remove the old Quad or E1/T1 circuit card from the system if you have not done so already. See Removing Circuit Cards on page 26 for the procedure.

   b Check the front panel keys on the system to verify that they are set as shown in Figure 27 on page 61. Ensure that the front panel slot is the one for which an associated rear I/O transition card has been installed.

WARNING:
Do not remove the front panel keying mechanism or attempt to defeat its purpose. Doing so may damage the equipment and cause injury to service personnel.

2 For a new circuit card installation:

   a Use a small needle-nosed pliers to change the default slot key to a TNV-1 slot as shown in Figure 27 on page 61.

   b Verify the key positions on the Quad or E1/T1 circuit card.

Note: When keyed correctly, the circuit card keys, which are located just behind the faceplate, should complement the front panel key chambers, as shown in Figure 27 on page 61. If not, use a small

needle-nosed pliers to make the keys on the circuit card faceplate complement what is shown in Figure 27 on page 61.

3 When you have verified that the front panel keys are keyed correctly, insert the circuit card. See Installing Circuit Cards on page 33 and resume at Step 5.

Installing the Circuit Card Driver

Quad

The driver for the Quad circuit card is included in the ASP Driver package, which is part of the UCS 1000 R4.6 base software. For more information, see Chapter 6, Installing the UCS 1000 R4.6 Software.

Note: The Quad circuit card also requires the E1/T1 Driver package. This package is also part of the UCS 1000 R4.6 base software.

E1/T1

The driver for the E1/T1 circuit card is the E1/T1 Driver package, which is part of the UCS 1000 R4.6 base software set. For more information, see Chapter 6, Installing the UCS 1000 R4.6 Software.

Moving E1/T1 or Quad Circuit Cards

When adding a new circuit card, you may need to move an E1/T1 or Quad circuit card. See Slot Assignments for Installing Circuit Cards on page 48 for information about which slots can hold which types of circuit cards.

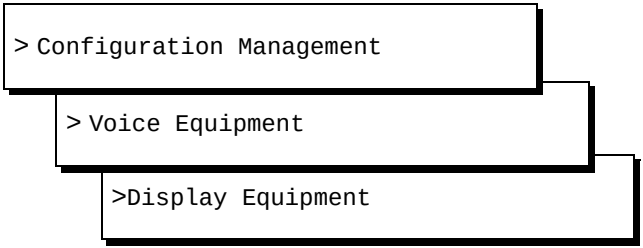
Note: Before installing new circuit cards or moving existing circuit cards, you must stop the voice system and shut down the system. For information on how to perform these procedures, see Chapter 3, "Common System Procedures," in *UCS 1000 R4.6 System Reference*, 585-313-221.

When you move an E1/T1 or Quad circuit card, you must re-administer the appropriate protocol, channel assignments, and equipment groups. Therefore, before removing the E1/T1 or Quad card, display the card assignments for it and record the settings so that you can easily reassign them. Use the **cvis_menu** or the **display card** command. (For more information on the **display card** command, see *UCS 1000 R4.6 Administration*, 585-313-509 *Administration*, 585-313-507, Appendix A, "Summary of Commands.") The following procedure uses the cvis menu system:

1. Record the existing channel and equipment group assignments for the E1/T1 or Quad card. You can use the following procedure. See *UCS 1000 R4.6 Administration*, 585-313-509, Chapter 3, "Voice System Administration," for complete information and sample windows.

a Enter **cvis_menu** to display the Voice System Administration menu.

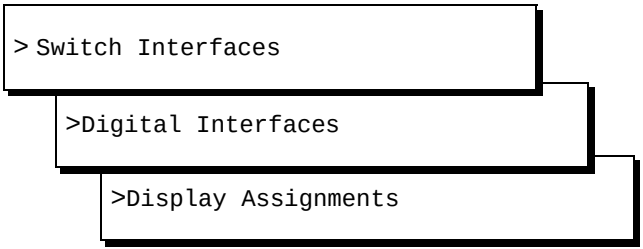
b At the Voice System Administration menu, select the following to display the Display Voice Equipment window:



c On the Display Voice Equipment window, locate the information for the E1/T1 card that is being moved. Write down the information in the **SERVICE-NAME** and **GROUP** fields for that E1/T1 or Quad card.

2 Record the existing protocol assignments for the E1/T1 or Quad circuit card. See *UCS 1000 R4.6 Administration*, 585-313-509, Chapter 4, "Switch Interface Administration," for complete information and sample windows.

a From the Voice System Administration menu, select the following to display the Display Digital Interface Assignments window:



b From the Display Digital Interface Assignments window, locate the spans for the E1/T1 or Quad circuit card and write down the protocol information for the spans.

c Press **F6** to cancel out of the Display Digital Interface Assignments window.

The system displays the Digital Interfaces menu.

d From the Digital interfaces menu, select the protocol assigned to the E1/T1 span or Quad spans.

The system displays the appropriate menu.

e From this menu, select the Display Parameters option.

The system displays the Display Parameters window.

f In the Display Parameters window, enter the E1/T1 or Quad circuit card number and span.

The system displays the parameters for that span.

g Write the parameters down.

3 Move the E1/T1 or Quad circuit card to slot 7. See "Removing a Circuit Card" and "Installing a Circuit Card" in the *UCS 1000 R4.6 Maintenance*, 585-313-154, for instructions.

4 Readminister the E1/T1 or Quad circuit card according to the assignments you recorded. For further instruction and sample windows, see the following chapters in *UCS 1000 R4.6 Administration*, 585-313-509:

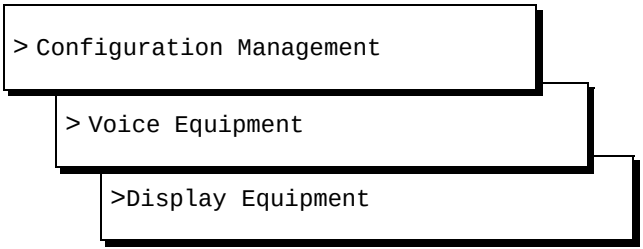
~ Chapter 3, "Voice System Administration"

~ Chapter 4, "Switch Interface Administration

5 Place the circuit card into service by using the menus or the **restore card** command. (For information on the **restore** command, see *UCS 1000 R4.6 Administration*, 585-313-509, Appendix A, "Summary of Commands.")

The following procedure uses the menus. (See *UCS 1000 R4.6 Administration*, 585-313-509, Chapter 3, "Voice System Administration," for complete information and sample windows.)

a At the Voice System Administration menu, select the following to display the Change State of Voice Equipment window:



b On the Change State of Voice Equipment window, complete the fields. In the `New State` field, enter **inserv**

c Save your changes.

SSP Circuit Card

Description

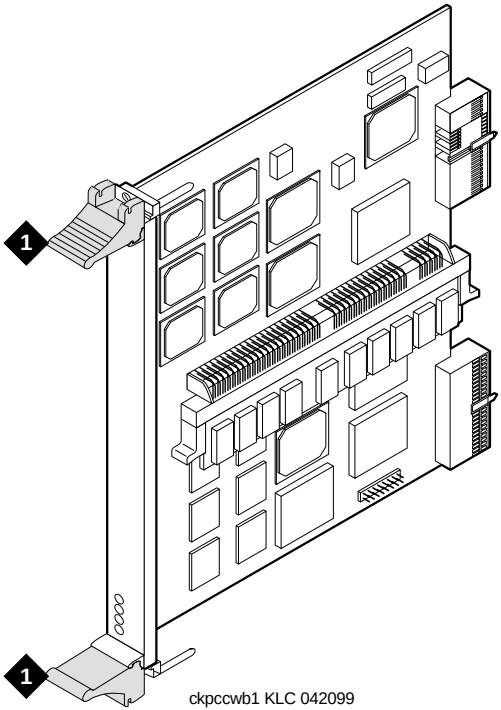
The Speech and Signal Processor (SSP) circuit card (CWB1) (Figure 28 on page 70) is equipped with 32 MB of memory. It requires no switch or jumper settings.

Front Panel Keying

Since the SSP circuit card does not have external connections on its rear I/O transition card, it requires no specific front panel keys. The SSP circuit card can be plugged into any available front panel slot on the system.

Note: The SSP circuit card can be equipped in the same system with LSPS II (6UB5) circuit cards but can not be assigned to perform the same functions. For example, if Text-To-Speech is assigned to an SSP circuit card, the LSPS II circuit card can not also be assigned the Text-To-Speech function.

Figure 28. SSP (CWB1) Circuit Card



1. Faceplate levers

LSPS II Circuit Card

Description

The LSPS II (Lucent Speech Processing Solutions) circuit card (6UB5) is shown in Figure 29 on page 72. It is a high-performance speech processing circuit card that can perform the following functions:

- Text-To-Speech
- WholeWord
- FlexWord
- Play and Code

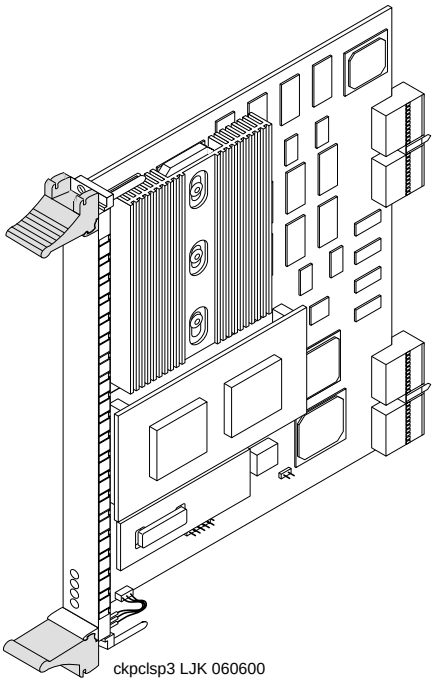
The LSPS II circuit card requires no switch or jumper settings.

Front Panel Keying

Since the LSPS II circuit card does not have external connections on its rear I/O transition card, it requires no specific front panel keys. The LSPS II circuit card can be plugged into any available front panel slot on the system.

Note: The LSPS II circuit card can be equipped in the same system with SSP (CWB1) circuit cards but can not be assigned to perform the same functions. For example, if Text-To-Speech is assigned to an LSPS II circuit card, the SSP circuit card can not also be assigned the Text-To-Speech function.

Figure 29. LSPS II Circuit Card

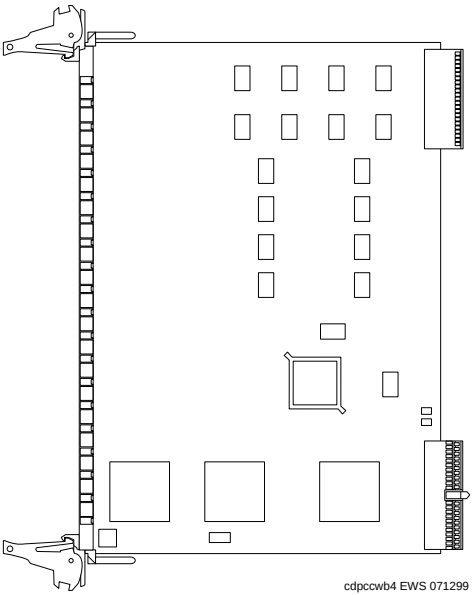


8-Port Asynchronous Circuit Card

Description

The UCS 1000 R4.6 uses an 8-port circuit card for its multiport asynchronous connections (Figure 30).

Figure 30. 8-Port Asynchronous Circuit Card



There are two ways to connect the UCS 1000 R4.6 to a terminal, modem, or other DTE or DCE devices via an asynchronous link:

- Using COM1, an asynchronous port on the rear of the system
- Using the additional asynchronous ports on the optional 8-port circuit card

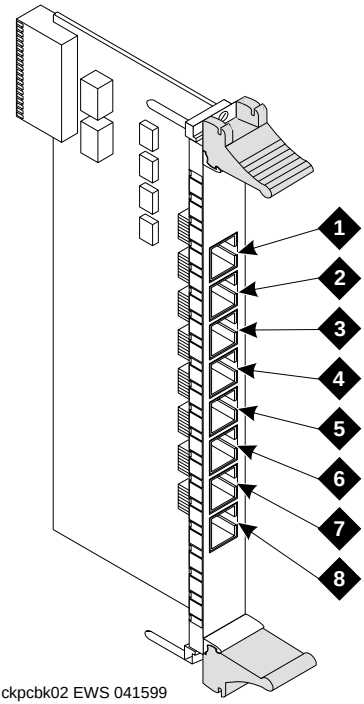
Note: The UCS 1000 R4.6 provides two asynchronous ports, COM1 and COM2. However, the Telecom Alarm Module (TAM) is integrated into COM2 for alarm monitoring and reporting.

The optional 8-port circuit card provides eight additional asynchronous ports for connecting to modems, terminals, or switch integration devices. Each serial port supports data rates up to 920 kilobits per second.

External connections are made on the rear I/O transition card (Figure 31 on page 75).

Follow the instructions provided with the devices you are installing for connection and setup. See Appendix D, "Cable Connectivity," in the *UCS 1000 R4.6 New System Installation*, 585-313-153, to determine how to cable these devices between the system and the switches or other peripherals. See Appendix C, "Pinouts," in the *UCS 1000 R4.6 New System Installation*, 585-313-153, if you need pinout information.

Figure 31. 8-port Asynchronous Rear I/O Transition Card



1. RJ-45 connection point 1
2. RJ-45 connection point 2
3. RJ-45 connection point 3
4. RJ-45 connection point 4
5. RJ-45 connection point 5
6. RJ-45 connection point 6
7. RJ-45 connection point 7
8. RJ-45 connection point 8

Front Panel Keying

The 8-port asynchronous circuit card uses SELV keying to connect to the UCS 1000 R4.6. For information on how to verify and set SELV keying, see SELV Keying for 8-Port Asynchronous and PTTS Circuit Cards on page 78.

PTTS Circuit Cards

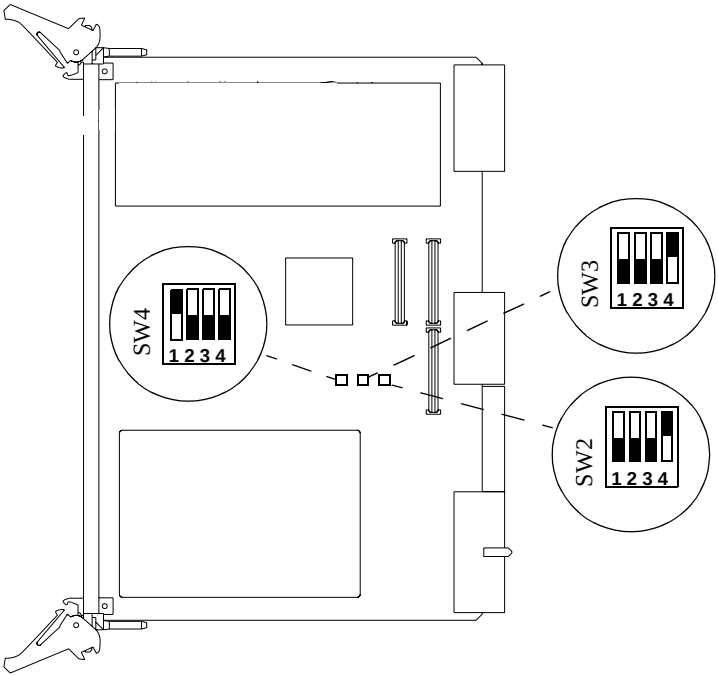
The PTTS circuit card contains switches and faceplate key positions that you must verify before you install the circuit card in the system.

If installing a new PTTS circuit card, you must change the front panel key positions on the system and verify the faceplate key positions on the PTTS circuit card before inserting it in the system.

PTTS Switch Settings

Verify that the switches for the new PTTS circuit card are set properly for your specific operation. Figure 32 on page 77 shows the correct switch settings.

Figure 32.Locations of SW2, SW3, and SW4 Switches on the PTTS Circuit Card



Front Panel Keying

The PTTS circuit card uses SELV keying to connect to the UCS 1000 R4.6. For information on how to verify and set SELV keying, see SELV Keying for 8-Port Asynchronous and PTTS Circuit Cards on page 78.

SELV Keying for 8-Port Asynchronous and PTTS Circuit Cards

WARNING:
The 8-port asynchronous and PTTS circuit cards are qualified to terminate SELV level voltages only. When installing a new 8-port asynchronous or PTTS circuit card, do not connect wet (powered) or unprotected (outside premises wiring) to the rear I/O transition card. Doing so could damage the circuit card or cause harm to service personnel.

Front Panel Keying

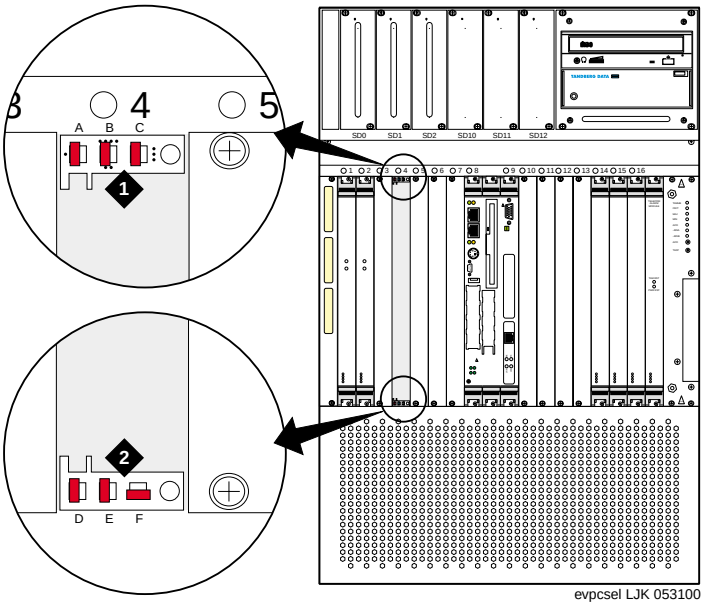
The front panel for each circuit card slot on the system is keyed to a default setting at the factory. The factory default setting will not accept an 8-port asynchronous or PTTS circuit card.

Therefore, before installing a new 8-port asynchronous or PTTS circuit card, you must rekey the front panel key positions on the system and verify the circuit card faceplate key positions.

Note: If you are replacing an 8-port asynchronous or PTTS circuit card into an existing slot, you need only to verify the circuit card

faceplate key positions. See Figure 33 on page 79 for general locations of the front panel keys.

Figure 33. Location of Front Panel Keys

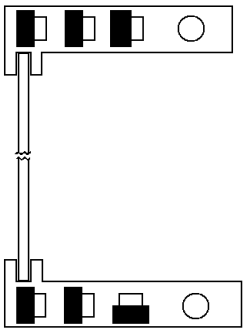


1. Location of key chamber A, B, and C
2. Location of key chambers D, E, and F

8-Port Asynchronous Key Positions

The front panel slot for the 8-port asynchronous circuit card must be keyed as shown in Figure 34.

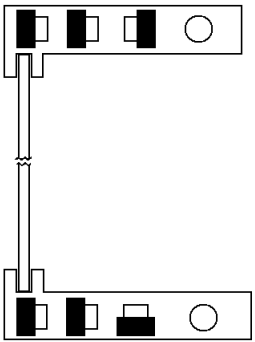
Figure 34. SELV Keying for the 8-Port Asynchronous Circuit Card



PTTS Key Positions

The front panel slot for the PTTS circuit card must be keyed as shown in Figure 35.

Figure 35. SELV Keying for the PTTS Circuit Card



Verifying the Front Panel Key Positions

To rekey or to verify that the front panel on the system is properly keyed for the 8-port asynchronous or PTTS circuit card:

1. If you are replacing an existing circuit card:
   a. Remove the old circuit card from the system if you have not done so already. See Removing Circuit Cards on page 26 for the procedure.

b Check the front panel keys on the system to verify that they are set as shown in Figure 33 on page 79. Ensure that the front panel slot is the one for which an associated rear I/O transition card has been installed.

WARNING:
Do not remove the front panel keying mechanism or attempt to defeat its purpose. Doing so may damage the equipment and cause injury to service personnel.

2 If you are installing a new circuit card:

a Use small needle-nosed pliers to change the default slot key to a SELV slot as shown in Figure 33 on page 79.

b Verify the key positions on the circuit card.

Note: When keyed correctly, the circuit card keys, which are located just behind the faceplate, should complement the front panel key chambers as shown in Figure 33 on page 79. If not, use small needle-nosed pliers to make the keys on the circuit card faceplate complement what is shown in Figure 33 on page 79.

3 When you have verified that the front panel keys are keyed correctly, insert the circuit card. See Installing Circuit Cards on page 33 and resume at Step 5.

The TAM

Description

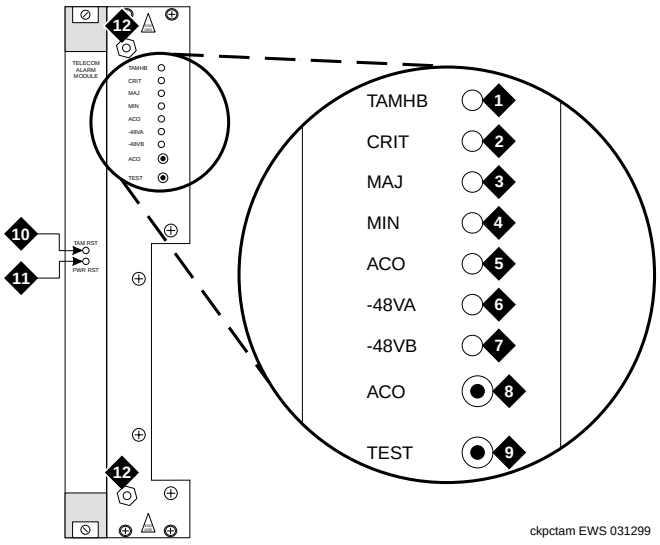
The Telecom Alarm Module (TAM) is shown in Figure 36 on page 84. It is an intelligent alarm module that provides critical, major, and minor alarm indicators. The TAM alarm panel has indicators that display visual alarms reported by the TAM and for alarms generated by system software.

The TAM is dedicated to slot 17, front and rear. Do not plug any other type of circuit card into this dedicated slot.

The TAM also connects to COM2 by internal wiring.

CAUTION:
Do not connect any device to COM2. It is dedicated to the TAM. Any external connection will interrupt the watchdog timer communication to the CPU and cause a system reboot.

Figure 36. Telecom Alarm Module



1. TAM status: Green for normal operation; red for fault
2. Critical alarm indicator, lights when active.
3. Major alarm indicator, lights when active
4. Minor alarm indicator, lights when active
5. Alarm cutoff indicator, lights when an alarm is active
6. -48VA failure indicator, lights when a failure occurs
7. -48VB failure indicator, lights when a failure occurs
8. Alarm cutoff button, silences only the audible of an active alarm
9. Test button, lights all LEDs when pressed
10. TAM reset button (reset for the TAM circuit card only)
11. Power restore button
12. ESD jacks

The display_tam Command

You can use the **display_tam** command to display the sensors monitored by the TAM unit. Also, if the view of the LEDs on the TAM alarm panel is obstructed, you can use this command to display whether an LED is lit. See *UCS 1000 R4.6 Administration*, 585-313-509 for more information on this command.

Upgrade Kits

The upgrade kit for the TAM, temperature sensors, and fan trays includes the components shown in Table 4, with current order numbers. Upgraded versions of the components in this table became standard on the system in February 2000.

The order number for the kit is 601963630.

Note that the new components in the upgrade kit cannot be mixed with earlier version of the same components.

Table 4. Upgrade Kit Components

Component	Order Number
TAM	408224368
TAM rear I/O transition card	408224376
Temperature sensor card	408295418
Fan tray assembly, lower	408279339
Fan tray assembly, upper	408279305

TAM-Initiated Alarms

The TAM monitors the resources listed in Table 5. These alarms are then displayed through indicators on the alarm panel (Figure 36 on page 84).

Table 5. Alarms Initiated by the TAM

Alarm Resource	Alarm Indication	Reason
Temperature	Major	The temperature sensor has exceeded its first high-temperature threshold.
	Critical	The temperature sensor has exceeded its second high-temperature threshold.
Voltages	Critical	The low or high of an input or output voltage threshold has been exceeded.

1 of 2

Table 5. Alarms Initiated by the TAM

Alarm Resource	Alarm Indication	Reason
Power supplies	Major	A failure in one of the power supplies occurred.
Fan tray status	Major	A failure in the upper or lower fan tray occurred.
Watchdog timer	Critical	The watchdog timer expired. **CAUTION:** The TAM will reboot the system

2 of 2

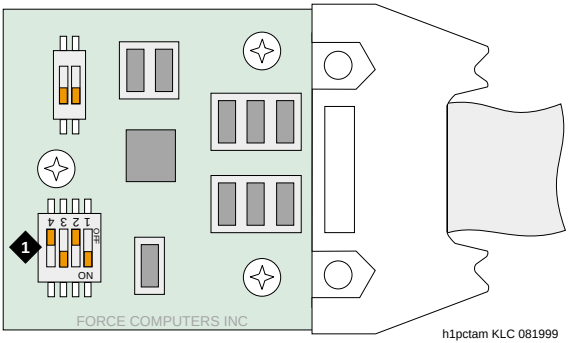
TAM Temperature Sensors

The system is equipped with two temperature sensors.

- Air inlet sensor – located behind the lower front panel, just under the circuit card area.
- Air outlet sensor – located at the rear upper exhaust area on the top panel.

Figure 37 shows the air inlet temperature sensor.

Figure 37. TAM Temperature Sensor



1. Air inlet S2 switch settings

Table 6 lists the S2 switch settings for the inlet and outlet air sensor. When replacing a sensor, verify that the S2 switches on the new sensor are properly set. See Replacing the Temperature Sensors in Chapter 4, Replacing Other Components for replacement procedures.

Table 6. Temperature Sensor S2 Switch Settings

Sensor	S2-4	S2-1	S2-2	S3-1
Air outlet	Either on or off	On	Off	Off
Air inlet	Either on or off	On	Off	On

CPU Complex

Description

The UCS 1000 R4.6 uses a single board computer (SBC) circuit card and an I/O companion circuit card (IOB). These two circuit cards combine to form the CPU complex (Figure 38 on page 91). There is one CPU complex installed in the system at slot locations 8 and 9 (Figure 14 on page 31).

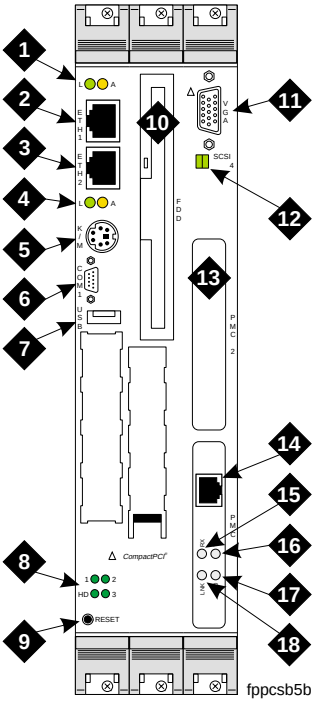
If there is an indication of a problem with either the single board computer (SBC) circuit card or the I/O companion circuit card (IOB), you must replace the entire CPU complex. Do not attempt to repair or replace a component on the SBC or the IOB.

Note: Unlike some other circuit cards in the UCS 1000 R4.6, the CPU complex is *not* hot swappable. You must power down the system before removing the CPU complex.

CAUTION:

There is a danger of explosion if the battery on the CPU complex is incorrectly replaced. This battery is not a field-replaceable item. If it fails, replace the entire CPU complex and return the old CPU complex to Lucent for repair.

Figure 38. CPU Complex Front View



fppcsb5b LJK 053100

1. Network connection and activity indicator LEDs
2. Ethernet connection 1
3. Ethernet connection 2
4. Network connection and activity indicator LEDs
5. Mouse/Keyboard connection
6. COM1 connection
7. USB connection
8. Hard disk drive access indicator LED
9. Reset switch push button
10. Diskette drive
11. VGA monitor connection
12. SCSI access indicator LEDs
13. RAID controller PMC
14. Ethernet connection 3
15. Network connection activity (receiving) LED
16. Network connection activity (transmitting) LED
17. 100Mbps LAN activity LED
18. Network connection LED

SBC Connections

The SBC is located in slot 8. It consists of a 500-MHz CPU. The following connections are available on the SBC at both the front and rear unless otherwise indicated:

- Keyboard
- Mouse
- Integrated ethernet 1 (rear only)
- Integrated ethernet 2 (front only)
- Diskette drive (front only)
- COM1
- Line parallel port (LPT)
- COM2

CAUTION:
Do not connect to COM2. It is dedicated to the TAM. Any external connection will interrupt the watchdog timer communication to the CPU and cause a system reboot.

IOB Connections

The IOB companion is located in slot 9. The following are available on the IOB:

- VGA monitor
- PMC modules (LAN, RAID)

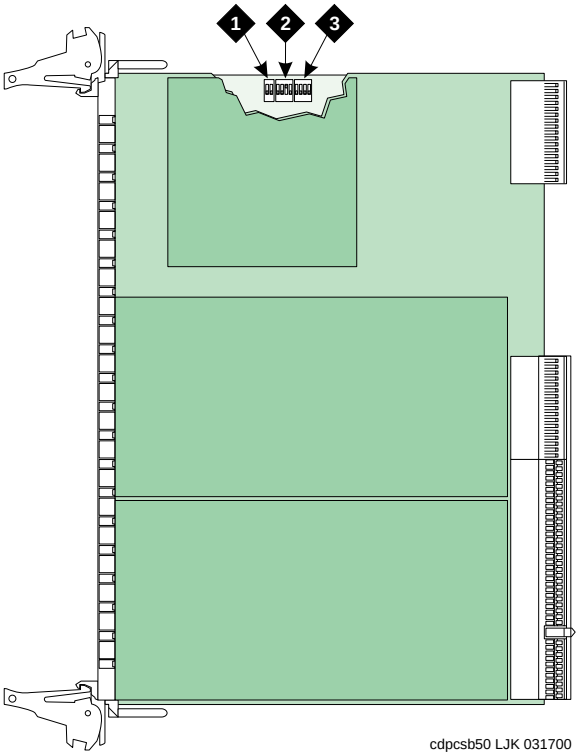
Setting the Resource Options

The configuration options for the CPU complex are set by switches. The SBC has two 4-position switches and one 2-position switch and the IOB has one 4-position switch. The SW1, SW2, and SW3 switches are located on the inside surface (between the 2 board "sandwich" at the top edge) of the SBC circuit card (Figure 39 on page 94). Figure 40 on page 95 through Figure 42 on page 96 show the SW1, SW2 and SW3 switch settings.

The SW0900 switch is located on the outside surface of the IOB circuit card, (Figure 43 on page 97). Figure 44 on page 98 shows the settings for the SW0900 switch.

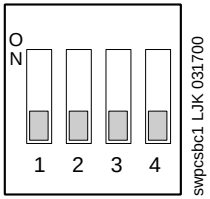
The settings of these switches should be verified before you install a new complex.

Figure 39. SW1, SW2 and SW3 Switch Locations on the SBC



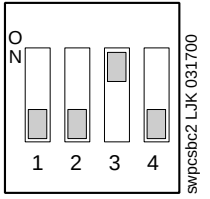
1. SW3 location
2. SW2 location
3. SW1 location

Figure 40. SW1 Switch Setting for the SBC



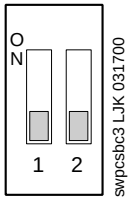
1. The user flash is master of the primary IDE device.
2. Keyboard enabled.
3. Reset key enabled.
4. Abort key enabled.

Figure 41. SW2 Switch Setting for the SBC



1. BIOS writing enabled
2. Reserved for future use
3. Ethernet 1 connector via CompactPCI connection (rear I/O) (Note: Ethernet 2 connector is on the front panel only)
4. BIOS bootblock write protected

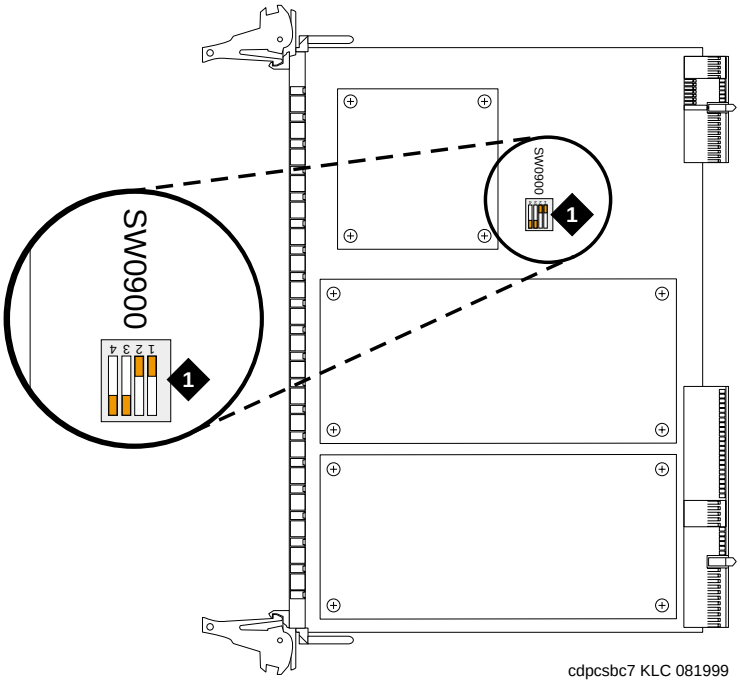
Figure 42. SW3 Switch Setting for the SBC



1. 12V monitoring disabled

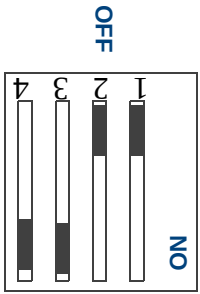
2. FPGA download via on-board flash

Figure 43. SW0900 Switch Location on the IOB



1. SW0900 location

Figure 44. SW0900 Switch Settings for the IOB



1. Reserved for future use
2. Reserved for future use
3. SCSI termination enable lower 8-bit termination
4. SCSI termination enable upper 8-bit termination

Removing the CPU Complex

To remove the CPU complex:

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

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

2 Remove power from the UCS 1000 R4.6. See Removing Power from the DC System on page 8 in Chapter 1, Getting Inside the UCS 1000 R4.6 for the procedures.

3 Locate the complex to be replaced within the circuit card area. Disconnect any attached cables that may be externally connected to the complex. Note the connectivity of each cable so that you can replace it correctly.

4 Loosen the screws that secure the complex to the system. The screws are located at the top and bottom of the faceplate.

5 Unlatch the complex from the backplane by gently pushing the faceplate levers outward (away from the center of the circuit card) until the circuit card is released.

6 Remove the complex from the slot by gently pulling at the top and bottom corners of the complex.

Note: The CPU complex connects to slots 8 and 9. You must install the replacement complex in the same location.

7 Remove the complex from the system.

Installing the CPU Complex

To install or replace the CPU complex:

CAUTION:
Hold the replacement complex carefully by the edges and place it on a grounded mat. See Protecting Against Damage from Electrostatic Discharge on page 1 in Chapter 1, Getting Inside the UCS 1000 R4.6 for ESD precautions.

1. Do one of the following:
   - If you are replacing the CPU complex, perform Removing the CPU Complex on page 98 and then continue with Step 2 of this procedure.
   - If you are installing a new CPU complex, continue with Step 4 of this procedure.
2. Remove the LAN PMC from the IOB being replaced. See Removing the LAN PMC on page 104.
3. Remove the existing RAID PMC from the IOB. See Removing the RAID Controller PMC on page 106 for the procedure.
4. If your system includes the optional LAN PMC, install it now. See Connecting the LAN PMC on page 102 for the procedure.
5. Install the RAID PMC. See Installing the RAID Controller PMC on page 105, for the procedure, if required.
6. Gently slide the CPU complex into slots 8 (SBC) and 9 (IOB).

7 Apply even pressure to the top and bottom of the CPU complex until it is locked into the backplane.

8 Secure the complex into position by gently pushing the faceplate levers into their locked position and tightening the screws.

9 Attach all cables that you removed from other cards. Make sure that these cables are attached to their proper terminations.

10 Power up the system. See Restoring Power to the DC System in Chapter 1. Getting Inside the UCS 1000 R4.6 for the procedure.

The system automatically reboots and displays the `Console login:` prompt.

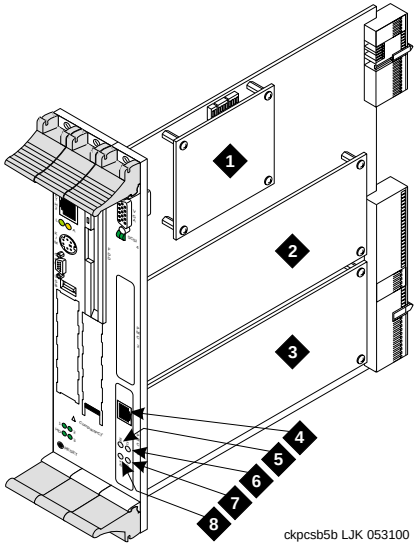
11 Apply any necessary CLEI labels. See Applying the CLEI Label on page 44 for more information.

The LAN PMC

Description

The LAN PMC allows access to a third local area network. The first two LAN interfaces are integrated on the SBC (Figure 38 on page 91). If a LAN PMC is used, it plugs onto the IOB at the PMC1 connector location (Figure 45 on page 102).

Figure 45. PMC Locations



1 Video controller module connection
2 RAID PMC module
3 LAN PMC module
4 Ethernet port
5 Network connection activity (receiving) LED
6 Network connection activity (transmitting) LED
7 100Mbps LAN activity LED
8 Network connection LED

Connecting the LAN PMC

Connecting a 10/100 Mbps LAN PMC involves

- ~ Connecting the LAN PMC
- ~ Setting Up a New LAN PMC
- ~ Verifying the LAN PMC Connection

To connect a 10/100 Mbps LAN PMC:

1. Remove the CPU complex. See Removing the CPU Complex on page 98 for the procedure. Be sure and note that this procedure requires that you remove power from the system.
2. Remove the four screws and standoffs on the LAN PMC as shipped.
3. If the LAN PMC is supplied with a cable that is permanently attached to the faceplate of the LAN PMC, thread the cable through the IOB faceplate, from the inside to the outside, at the PMC1 location.
4. Insert the LAN PMC into the IOB faceplate at the PMC1 location.
5. Connect the LAN PMC onto the IOB connectors.
6. Attach the LAN PMC onto the IOB standoffs using the two screws that accompanied the LAN PMC.

Note: Extra screws and standoffs are provided with the LAN PMC that are not used.

7. Insert the CPU complex. See Installing the CPU Complex on page 100 for the procedure.

Note: Position the cable so that the circuit card in slot 10 still can be removed easily.

8. Apply any necessary CLEI labels. See Applying the CLEI Label on page 44 for more information.

Removing the LAN PMC

To remove an existing LAN PMC:

1. Remove power. See "Removing Power from the DC System" in Chapter 1, Getting Inside the UCS 1000 R4.6.
2. At the rear of the unit, disconnect the LAN PMC cable at the female/female coupler.
3. Remove the cable tie and ferrite from the cable, and save the ferrite as a spare part.
4. Remove the CPU complex. See Removing the CPU Complex on page 98 for the procedure.
5. At the PMC1 position, loosen the two screws on the rear of the LAN PMC that hold it to the IOB.
6. Remove the screws from the standoffs that secure the LAN PMC to the IOB.
7. Disconnect the LAN PMC from the IOB connectors.
8. Remove the LAN PMC from the IOB faceplate at the PMC1 location.

Setting Up a New LAN PMC

For information on setting up the new LAN PMC, see Setting Up the LAN Connection in Chapter 5, Installing Base System Software.

Verifying the LAN PMC Connection

To set the 10/100 Mbps LAN PMC connection:

1. Enter **/etc/inet/rc.restart**
2. Check the message log report for TCP/IP or LAN adapter errors. See Chapter 7, “Peripheral Administration,” *UCS 1000 R4.6 Administration*, 585-313-509, for more information.
3. Use the **ping** command to verify that you have network connectivity. See Appendix A, “Summary of Commands,” in *UCS 1000 R4.6 Administration*, 585-313-509, for more information.

RAID PMC Module

The RAID controller PMC (Figure 45 on page 102) is located on the IOB at the PMC2 position.

Installing the RAID Controller PMC

To install the RAID controller PMC:

1. Remove the CPU complex. See Removing the CPU Complex on page 98 for the procedure.
2. Insert the RAID controller PMC onto the IOB faceplate at the PMC2 location.
3. Connect the RAID controller PMC onto the IOB connectors.

4 Attach the RAID controller PMC onto the IOB standoffs using the two screws that accompanied the RAID controller PMC.

Note: Extra screws and standoffs are provided with the RAID controller PMC that are not used.

5 Insert the CPU complex. See Installing the CPU Complex on page 100 for the procedure.

6 Apply any necessary CLEI labels. See Applying the CLEI Label on page 44 for more information.

Removing the RAID Controller PMC

To remove an existing RAID controller PMC:

1 Remove the CPU complex. See Removing the CPU Complex on page 98 for the procedure.

2 At the PMC2 position, loosen the four screws holding the RAID controller PMC to the IOB.

3 Remove the screws from the standoffs that secure the RAID controller PMC to the IOB.

4 Disconnect the RAID controller PMC from the IOB connectors.

5 Remove the RAID controller PMC from the IOB faceplate at the PMC2 location.

Verifying CMOS Parameter Settings

To verify the CMOS parameter settings:

CAUTION:
Do not change the settings if there is a mismatch. Contact your local technical support representative for assistance.

1. Reboot the system. See “Rebooting the System,” in “Common System Procedures,” in the *UCS 1000 R4.6 System Reference*, 585-313-221, for the procedure.
2. During the power-on self test (POST), press **F2**.

   The system displays the following message:

   ```
   Entering SETUP...
   ```

   After the POST is complete, the system displays the BIOS Setup Utility main menu.
3. Compare the 500-MHz CPU circuit card settings in the setup utility with the default parameters. These parameters are listed in Table 7 on page 108 through Table 26 on page 125.

Table 7. BIOS Setup Utility Option Settings

Option	Setting
System Time	*(current time)*
System Date	*(current date)*
Legacy Diskette A	1.44 MB 3 1/2"
Legacy Diskette B	Disabled
Primary Master	*IDE Removable*
Primary Slave	None
Secondary Master	None
Secondary Slave	None
System Memory[1]	*(displayed in KB)*
Extended Memory	*(displayed in KB)*

[1] The Power On Self Test fails if the system memory or extended memory is incorrect.

4 Press the ▲ or ▼ key to select `Primary Master` and press **ENTER**.

The system displays the Primary Master submenu. Compare the settings with those listed in Table 8.

Table 8. Primary Master Option Settings

Option	Setting
Type	Auto
Cylinders	490
Heads:	2
Sectors:	32
Maximum Capacity	16MB
Multi–Sector Transfers	Disabled
LBA Mode Control	Disabled
32 Bit I/O	Disabled
Transfer Mode	Fast PIO 1
Ultra DMA Mode	Disabled

5 Press **ESC**.

The system displays the BIOS Setup Utility main menu.

6 Press the ► key to select `Advanced`.

The system displays the Advanced main menu. Compare the settings with those listed in Table 9.

Table 9. Advanced Option Settings

Options	Setting
Installed O/S	Other
Reset Configuration Data	No
PCI Configuration	
I/O Device Configuration	
Advanced Chipset Control	
Cache Memory	
POST Options	
Console Redirection	
Keyboard Features	

7 Press the ▲ or ▼ key to select `PCI Configuration` and press **ENTER**.

The system displays the PCI Configuration submenu.

8 Press the ▲ or ▼ key to select `PCI/PNP ISA UMB Region Exclusion` and press **ENTER**.

The system displays the PCI/PNP ISA UMB Region Exclusion screen. Compare the settings with those listed in Table 10.

Table 10. PCI/PNP ISA UMB Region Exclusion Option Settings

Option	Setting
C800 - CBFF	Available
CC00 - CFFF	Available
D000 - D3FF	Available
D400 - D7FF	Available
D800 - DBFF	Available
DC00 - DFFF	Available

9 Press **ESC**.

The system displays the PCI Configuration submenu.

10 Press the ▲ or ▼ key to select `PCI/PNP ISA IRQ Resource Exclusion` and press **ENTER**.

The system displays the PCI/PNP ISA IRQ Resource Exclusion screen. Compare the settings with those listed in Table 11.

Table 11. PCI/PNP ISA IRQ Resource Exclusion Option Settings

Option	Setting
IRQ 3	Available
IRQ 4	Available
IRQ 5	Available
IRQ 7	Available
IRQ 9	Available
IRQ 10	Available
IRQ 11	Available
IRQ 15	Available

11 Press **ESC**.

The system displays the PCI Configuration submenu.

12 Press the ▲ or ▼ key to select `PCI IRQ Routing Control` and press **ENTER**.

The system displays the PCI IRQ Routing Control screen. Compare the settings with those listed in Table 12.

Table 12. PCI IRQ Routing Control Option Settings

Option	Setting
PCI IRQ line 1	Auto Select
PCI IRQ line 2	Auto Select
PCI IRQ line 3	Auto Select
PCI IRQ line 4	Auto Select

13 Press **ESC** to return to Advanced main menu.

14 Press the ▲ or ▼ key to select `Special IRQ Routing` and press **ENTER**.

The system displays the Special IRQ Routine submenu. Compare the settings with those listed in Table 13

Table 13. Special IRQ Routing

Option	Setting
Special IRQ Routing	All Standard
CPCI EnumA/EnumB IRQ	Disabled
Special CPCI IRQ Routing	Disabled
PCI RST# on Warm Boot	Enabled

15 Press **ESC** twice to return to the Advanced main menu.

16 Press the ▲ or ▼ key to select `I/O Device Configuration` and press **ENTER**.

The system displays the I/O Device Configuration submenu. Compare the settings with those listed in Table 14 on page 115.

Table 14. I/O Device Configuration Option Settings

Option	Setting
Local Bus IDE Adapter	Primary
Large Disk Access Mode	Other
Floppy Disk Controller	Enabled
PS/2 Mouse	Auto Detect
Serial Port A Base IO Address Interrupt	Enabled 3F8 IRQ4
Serial Port B	Auto
Parallel Port Mode	Auto ECP

17 Press **ESC** to return to Advanced main menu.

18 Press the ▲ or ▼ key to select `Advanced Chipset Control` and press **ENTER**.

The system displays the Advanced Chipset Control submenu. Compare the settings with those listed in Table 15 on page 116.

Table 15. Advanced Chipset Control Option Settings

Option	Setting
ECC Configuration	ECC Scrub
SERR Signal Condition	Multiple Bit

19 Press **ESC** to return to Advanced main menu.

20 Press the ▲ or ▼ key to select `Cache Memory` and press **ENTER**.

The system displays the Cache Memory submenu. Compare the settings with those listed in Table 16.

Table 16. Cache Memory Option Settings

Option	Setting
Memory Cache	Enabled
Cache System BIOS Area	Write Protect
Cache Video BIOS Area	Write Protect

1 of 2

Table 16. Cache Memory Option Settings

Option	Setting
Cache 0-512K	Write Back
Cache 512K - 640K	Write Back
Cache Extended Memory Area	Write Back
	2 of 2

21 Press **ESC** to return to Advanced main menu.

22 Press the ▲ or ▼ key to select `POST Options` and press **ENTER**.

The system displays the POST Options submenu. Compare the settings with those listed in Table 17.

Table 17. POST Options Settings

Option	Setting
Boot without VGA & Keyboard	Enabled
Summary Screen	Enabled
Quick Boot Mode	Disabled
POST Delay	3 seconds
	1 of 2

Table 17. POST Options Settings

Option	Setting
POST Errors	Disabled
Setup Prompt	Enabled
Execute SCSI Option ROM	Disabled (for RAID systems)

2 of 2

23 Press **ESC** to return to Advanced main menu.

24 Press the ▲ or ▼ key to select `Console Redirection` and press **ENTER**.

The system displays the Console Redirection submenu. Compare the settings with those listed in Table 18 on page 118.

Table 18. Console Redirection Options Settings

Option	Setting
COM Port Address	3F8/IRQ 4
Console connection	Via modem
Console Type	PC ANSI

1 of 2

Table 18. Console Redirection Options Settings

Option	Setting
Baud Rate	38.4K
Flow Control	CTS/RTS
Disable Before Boot	No
Tell the Modem to Ignore DTR[1]	No
Initialize modem string[1]	S0=1&K3&D2
Commands to Ignore DTR[1]	&Q5&D0

2 of 2

[1] Appears with BIOS r1.0.7 or higher.

25 Press **ESC** to return to Advanced main menu

26 Press the ▲ or ▼ key to select `Keyboard Features` and press **ENTER**.

The system displays the Keyboard Features submenu. Compare the settings with those listed in Table 19 on page 120.

Table 19. Keyboard Features Option Settings

Option	Setting
Numlock	Auto
Key Click	Disabled
Keyboard auto–repeat rate	30/sec
Keyboard auto–repeat delay	1/2 sec

27 Press **ESC** to return to Advanced main menu.

28 Press the ▶ key to select `Security`.

The system displays the Security main menu. Compare the settings with those listed in Table 20.

Table 20. Security Option Settings

Option	Setting
Supervisor Password Is	Clear
User Password Is	Clear
Set Supervisor Password	Enter

1 of 2

Table 20. Security Option Settings

Option	Setting
Set User Password	Enter
Password on boot	Disabled
Fixed disk boot sector	Normal
Diskette access	Supervisor

2 of 2

29 Press the ▶ key to select `Power`.

The system displays the Power main menu. Compare the settings with those listed in Table 21.

Table 21. Power Option Settings

Option	Setting
Power Savings	Disabled
Standby Timeout	Off

1 of 2

Table 21. Power Option Settings

Option	Setting
Auto Suspend Timeout	Off
Hard Disk Timeout	Disabled
Advanced Options	

2 of 2

30 Press the ▲ or ▼ key to select `Advanced Options` and press **ENTER**.

The system displays the Power Advanced Options submenu. Compare the settings with those listed in Table 22.

Table 22. Power Advanced Options Settings

Option	Setting
IDE Drive 0 Monitoring	Disabled
IDE Drive 1 Monitoring	Disabled
IDE Drive 2 Monitoring	Disabled
IDE Drive 3 Monitoring	Disabled
PCI Bus Monitoring	Disabled

31 Press **ESC**.

32 Press the ► key to select `Boot`.

The system displays the Boot main menu. Compare the settings with those listed in Table 23.

Table 23. Boot Menu Settings

Option	Settings
1.	Diskette Drive
2.	Hard Drive
3.	Removable Devices
4.	ATAPI CD-ROM Drive
Hard Drive	
Removable Devices	
Removable Format	

33 Press the ▲ or ▼ key to select `Hard Drive` (under option) and press **ENTER**.

The system displays the Hard Drive boot options submenu. Compare the settings with those listed in Table 24.

Note: The optionally equipped settings will vary depending on your configuration.

Table 24. RAID Hard Drive Boot Options Settings

Option	Setting
1.	Bootable Add-In Card
2.	SunDisk SDTB - 128-(PM)[1]

[1] This is the flash IDE disk. This name may not match that displayed on your system.

34 Press **ESC**.

The system displays the Boot main menu.

35 Press the ▲ or ▼ key to select `Removable Devices` and press **ENTER**.

The system displays the Removable Devices options submenu. Compare the settings with those listed in Table 25.

Table 25. Removable Devices Options Settings

Option	Setting
1.	Legacy Floppy Drives

36 Press **ESC**.

The system displays the Boot main menu.

37 Press the ▲ or ▼ key to select `Removable Format` and press **ENTER**.

The system displays the Removable Format options submenu. Compare the settings with those listed in Table 26.

Table 26. Removable Format Options Settings

Option	Setting
SunDisk SDTB-128-(PM)	Fixed Disk

38 Press **ESC**.

The system displays the Boot main menu.

39 Press the ► key to select `Exit`.

The system displays the Exit menu (Figure 46).

Figure 46. Exit Menu Options

```
                    Exit Menu Options

Exit Saving Changes
Exit Discarding Changes
Load Setup Defaults
Discard Changes
Save Changes
```

40 Press the ▲ or ▼ key to select `Exit Discarding Changes` and press **ENTER**.

Note: If you made changes to any setting, select `Exit Saving Changes` before pressing **ENTER**.

The system automatically reboots and displays the `Console Login:` prompt.

Verifying RAID Controller BIOS and Configuration Options

To verify the RAID controller BIOS and configuration options:

1. Reboot the system. See “Rebooting the System,” in “Common System Procedures,” in the *UCS 1000 R4.6 System Reference*, 585-313-221, for the procedure.
2. Wait for the Mylex DAC960 BIOS messages to appear.
3. Press **CTRL**+**M** when prompted.

   The system displays the DAC960 BIOS options submenu. Compare the settings with those listed in Table 27.

Table 27. DAC960 BIOS Options Settings

Option
BIOS enabled
CD-ROM boot disabled
2-GB drive geometry

4. Press **ESC** to exit and reboot the system.

5 Wait for the Mylex DAC960 BIOS messages to appear.

6 Press **CTRL**+**R** when prompted.

The system displays the Mylex Disk Array Controller Configuration Utility.

7 Choose option 09 `Advanced Functions` and press **ENTER.**

8 Verify that the parameters are set as shown in Table 28.

Table 28. RAID Controller BIOS and Configuration Option Settings

Parameters	Option	Setting
Hardware	Automatic Rebuild Management	Enabled
	StorageWorks Fault Management (TM)	Disabled

1 of 3

Table 28. RAID Controller BIOS and Configuration Option Settings

Parameters	Option	Setting
Physical	Rebuild/Add Capacity Rate	10
	Segment Size (KB)	8
	Stripe Size (KB)	64
SCSI Xfr (Channel 0)	Data Transfer Rate	10 Mhz **Note:** Do not set faster than 10 MHz.
	Command Tagging	Enabled
	SCSI Data Bus Width	16 bit

2 of 3

Table 28. RAID Controller BIOS and Configuration Option Settings

Parameters	Option	Setting
Startup	Spin Up Option	Automatic
	Number of Devices Per Spin	1
	Delay (seconds)	6

3 of 3

9 Press **ESC** to return to the main menu.

10 Press **ESC** to exit the Mylex Configuration Utility.

11 System displays message reminding you to save configuration and asks if you want to exit the Configuration Utility. Press **YES** to exit.

3 Replacing the Hard Disk Drive Assembly

Overview

The UCS 1000 R4.6 is a RAID system. This means that three or more physical hard disk drives are logically tied to each other to form a RAID array (also referred to as a *pack*). Typically, the RAID array is logically partitioned into two logical system drives.

Each logical system drive uses part of all the equipped physical drives. The operational system software is abstracted from the physical drives and is only aware of the logical system drives. The system software sees the RAID array's system drive 0 as the first hard disk drive. The system remains fully functional in case of a single physical hard disk drive failure.

Note: In the unlikely event that a second physical hard disk drive fails before the first physical drive is replaced, all system drives will go offline, causing the system to crash.

The RAID system also supports the ability to "hot swap" a physical drive. This means that a failed physical hard disk drive can be removed and replaced without shutting down the system.

A system drive can be in one of the three states defined in Table 29.

Table 29. States of the System Drives

State	Definition	Comment
OnLine	In the normal operating state	Any single physical drive can fail and the system continues to operate normally
Critical	One of the physical drives has failed	If a second drive fails, the system will crash. However, the system drive is still operating normally from the operating system's perspective. This is sometimes called a *degraded mode*.
OffLine	Two or more physical drives have failed	The system drive can no longer provide service to the operating system. **Note:** At this state, the system will not boot.

The purpose of this chapter is to ensure that hard disk drives are installed in the proper manner. It includes procedures for:

- Identifying a failed hard disk drive in a RAID system
- Performing hot swap replacement of a hard disk drive

- Preparing the system software for a new hard disk drive
- Initializing a hard disk drive in a RAID system

Identifying a Failed Hard Disk Drive

A system configured with the RAID optional feature is initially configured with at least three 18-GB disk drives. Before a hard disk drive can be replaced, you must identify which drive failed. This section details how to identify a failed hard disk drive in a RAID system.

To identify a failed hard disk drive, verify the following:

1. The system displays the following message:

   `The SCSI device at address [chn#0:tgt#x] is DEAD` where x is the SCSI device ID number. An alarm is generated and an event is logged in the event log. If you can not view the console message, you can view the file **/etc/log/gamevlog.log** to identify the failed drive. See Chapter 4, "Alarms and Log Messages," in the *UCS 1000 R4.6 System Reference*, 585-313-221 for more information.

2. Each disk activity LED intermittently lights green when that disk is accessed and active. Typically, the LED for the failed hard disk drive remains off.

Performing a Hard Disk Drive Hot Swap

The following procedures describe how to hot swap (that is, remove and install) a hard disk drive in the system. Figure 9 on page 7 shows the positions of the hard disk drives for the system.

Procedures in this book should be performed by personnel identified in Intended Audiences on page xxv in About This Book.

Note: If a system is started with a failed drive in place, and then the failed drive is removed and replaced with a new drive, the system must be started again or the new drive will not rebuild successfully.

WARNING:
Observe proper electrostatic discharge precautions when you handle computer components. Wear an antistatic wrist strap that touches your bare skin and connect the strap cable to an earth ground. See Protecting Against Damage from Electrostatic Discharge in Chapter 1, Getting Inside the UCS 1000 R4.6 for detailed ESD precautions.

Removing a Hard Disk Drive

To remove a hard disk drive in a system:

1. Verify that the replacement equipment is on site and appears to be in usable condition, with no obvious shipping damage.
2. Use a grounded ESD wrist strap to protect the equipment from damage.

3 Remove the appropriate hard disk drive according to the following procedure. Note that when you remove a failed drive, you should allow at least 60 seconds to elapse before inserting the new drive. If you do not, the system might not detect the new drive.

Note: Figure 47 on page 136 shows the location of the hard disk drives and associated hardware.

a Loosen the two screws located at the top and bottom of the hard drive faceplate.

b Grab the carrier assembly handle and gently pull the drive out of the system about 1 inch, or just enough to break electrical contact with the SCA backplane.

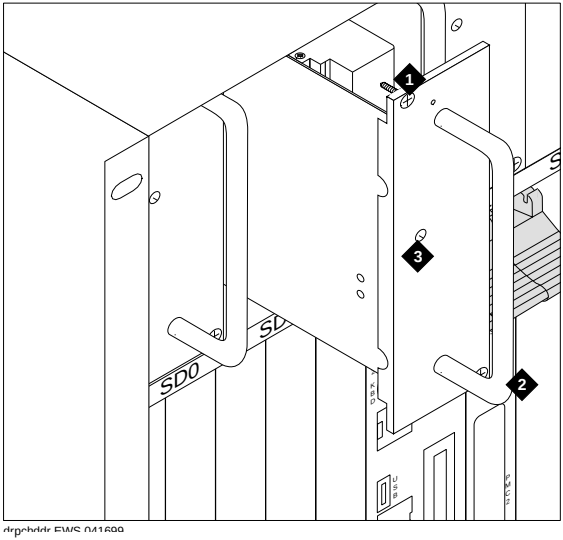
c Wait for about 30 seconds for the drive to spin down.

d Remove the drive completely from the system.

4 Place the defective hard disk drive on an ESD-protected surface.

5 Wait 60 seconds before inserting the new drive.

Figure 47. Hard Disk Drive



1. Retaining screw
2. Pull handle
3. Activity indicator LED

Installing a Hard Disk Drive

Use the following procedure to install a hard disk drive in the system.

1 Wait 60 seconds after removing a drive before inserting the new drive.

2 Align the hard disk drive carrier assembly with the top and bottom guides in the appropriate slot in the system.

Note: Be careful because the guides for the drive can be easily missed.

3 Gently slide the hard disk drive assembly in the system.

Note: Insert the drive gradually to allow time for the drive connector to align with the mating backplane connector.

4 Tighten the two retaining screws to secure the drive to the system.

The system displays the following message:

```
Rebuild in progress. Please wait.
```

Note: If the system does not initiate an automatic rebuild of the array within 5 minutes, remove the drive according to the instructions in Removing a Hard Disk Drive on page 134 and repeat this procedure.

If the system does not automatically rebuild the array after you have re-inserted the drive, you must perform a manual rebuild.

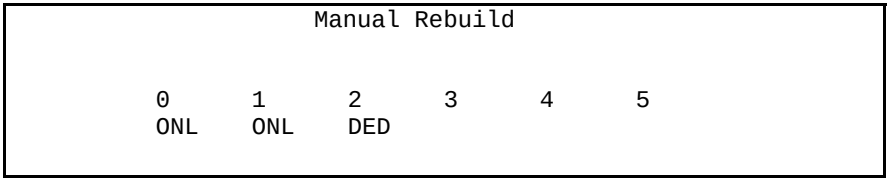
Performing a Manual Rebuild of a RAID Array

To perform a manual rebuild:

1 Enter **rbldsh**

The system displays the Manual Rebuild screen (Figure 48 on page 138).

Figure 48. Sample Manual Rebuild Screen for a Three-Disk System



2 Press the ◄ or ► key to move to the drive marked DED.

The system displays the following message:

```
Do you want to format?
    Yes
    No
```

3 Select no and press **ENTER**.

The system displays the following message:

```
Do you want to rebuild?
    Yes
    No
```

4 Select yes and press **ENTER**.

The system displays several progress messages. After an hour or more, the system displays the following message:

```
Rebuild complete. Press ENTER to exit rebuild screen.
```

5 Press **ENTER**.

Adding a New Hard Disk Drive to a RAID System

This section details the procedures for adding a physical hard disk drive to provide additional storage for your system. If you are replacing an existing drive, see Performing a Hard Disk Drive Hot Swap on page 134 for the procedure.

Note: The hard disk drive must be at least 18 GB.

Note: This procedure takes approximately 1 hour per logical system drive to complete.

Adding a New Hard Drive

To add a physical hard disk drive to a system with the RAID optional feature:

1. Perform a system backup. See “Backing Up the System,” in “Common System Procedures,” in the *UCS 1000 R4.6 System Reference*, 585-313-221, for the procedures.
2. Shut down the system. See “Shutting Down the System,” in “Common System Procedures,” in the *UCS 1000 R4.6 System Reference*, 585-313-221, for the procedures.
3. Install the new or additional hard disk drive. See Installing a Hard Disk Drive on page 136 for the procedure.

   Continue with step 4 in this procedure once the new drive is secured in the system.

4 Reboot the system. See "Rebooting the System" in "Common System Procedures" in the *UCS 1000 R4.6 System Reference*, 585-313-221, for the procedure

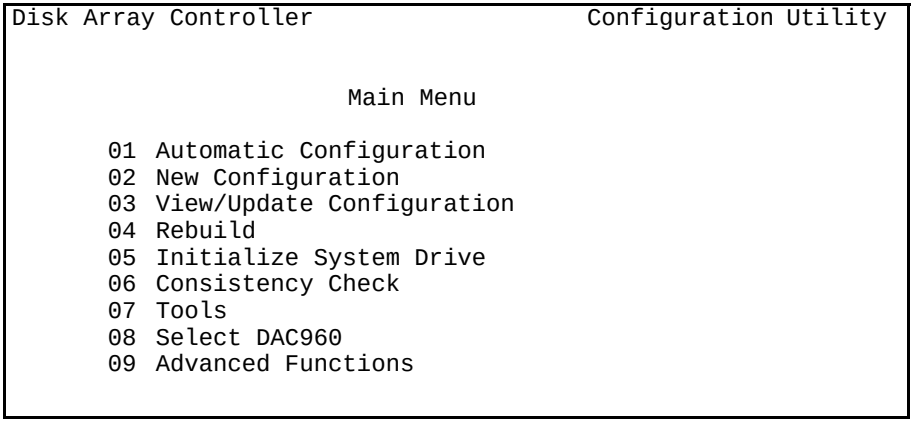
5 Continue immediately with Updating the Disk Array Configuration.

Updating the Disk Array Configuration

To update the disk configuration:

1 During the reboot, press **CTRL**+**R** when prompted. The system displays the RAID Controller Main Menu (Figure 49).

Figure 49. RAID Controller Main Menu



2 Press the ▼ key to select `View/Update Configuration` and press **ENTER**.

The system displays the View/Update Configuration screen (Figure 50).

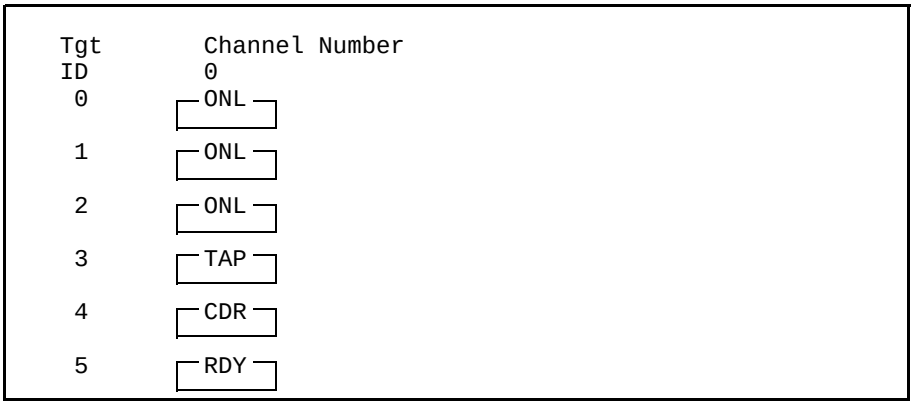
Figure 50. View/Update Configuration Screen

```
                    View/Update Configuration

    1. Define Pack
    2. Define System Drive
    3. Add Drive to Last Pack
```

3 Select `Add Drive to Last Pack` and press **ENTER**.

The system displays the Add Capacity screen (Figure 51 on page 142). This figure shows an example for a system that is adding a fourth physical hard disk drive.

Figure 51. Add Capacity Menu



4 Select the drive to be added.

The new drive is marked as either RDY or SBY.

5 Press **ENTER**.

The system displays the following message:

```
!!WARNING: This process is irreversible.
    Do you want to proceed?
      No
      Yes
```

6 Select `yes` and press **ENTER**.

The system displays the following message while also displaying a continuous status on each logical system drive:

```
Data migration in progress.

Data migration process completed successfully.
Press any key to continue.
```

This process takes approximately 2-3 hour to complete for each logical system drive.

7 Press **ENTER**.

The system displays the View/Update Configuration screen (Figure 50 on page 141).

8 Select:

```
>Define System Drive
    >Create System Drive
```

The system displays the RAID Level screen (Figure 52 on page 144).

Continue with Defining the Logical System Drive on page 144.

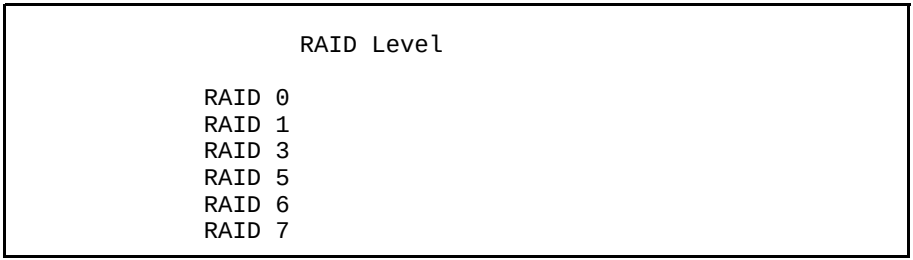
Defining the Logical System Drive

To define the logical system drive:

1 At the RAID Level screen (Figure 52) select `RAID 5`.

The system displays the RAID Level Screen (Figure 52).

Figure 52. RAID Level Screen



The system displays a pop-up box for entering the size for the new system drive.

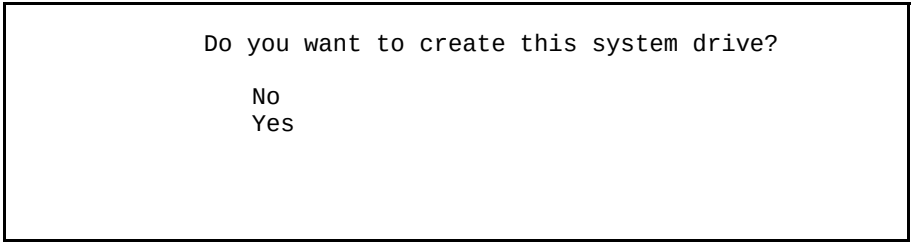
2 Press **ENTER** to accept the default.

The system displays a summary for the new system drive in a message similar to the following, where *x* is the system drive number, *y* is the RAID level number, and *z* is the drive capacity:

```
System Drive #x
RAID Level #  5
Capacity      z
```

The system then displays the Create System Drive Screen (Figure 53).

Figure 53. Create System Drive Screen



3 Select YES.

The system creates the logical system drive.

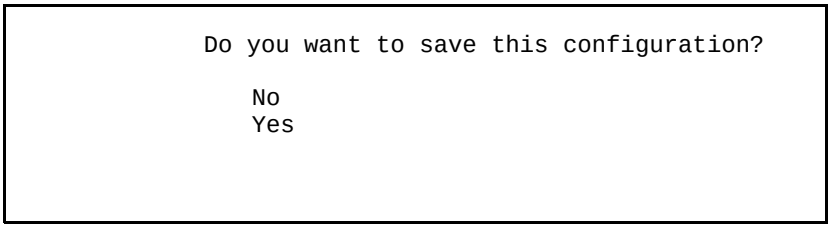
Verify that Write Mode for all system drives indicates WRITE THRU.

4 Press **ESC** twice.

5 Press **ESC**.

The system displays the Save Configuration screen (Figure 54 on page 146).

Figure 54. Save Configuration Screen



6 Select YES.

The system displays the following message, where *x* is the logical system drive number or numbers that are now available to your system:

```
System drive x is available for immediate use. Press any key
to continue.
```

7 Press **ENTER**.

The system displays the RAID Controller Main Menu (Figure 49 on page 140).

8 Press **ESC**.

The system displays the following message:

```
Do you really want to exit configuration?
      No
      Yes
```

9 Select Yes and press **ENTER**.

10 Reboot the system. See “Rebooting the System,” in “Common System Procedures,” in the *UCS 1000 R4.6 System Reference*, 585-313-221, for the procedure.

11 Continue with Creating Additional Storage for Speech.

Creating Additional Storage for Speech

Once you create a new system drive, you must add the disk to the system before you can use the added space for speech storage.

Note: Be sure to create a file system that is large enough to accommodate your speech and voice needs. Once the size of a file system is created, it can not be changed.

Adding a System Drive for Speech

To add a system drive for speech:

1 Complete the procedures in Adding a New Hard Disk Drive to a RAID System on page 139.

2 Log in as root.

3 Enter **/mtce/bin/diskadd *c0b0t0dx*** where *x* is the logical system drive identification number of the new logical drive created as a result of adding the physical hard disk drive.

The system displays the following message:

```
Using device name c0b0t0d1
Do you wish to continue hit [y/n], and then hit Enter
```

4 Type **y** and press **ENTER**.

The system displays the UNIX prompt.

5 Determine the number of disk blocks to allocate for the speech filesystem.

Note: Be sure to create enough space to accommodate present and future needs.

6 Enter **mtce/bin/createfs -D *drive number blocks* /home3 8192** where *drive number* is the identification number entered in step 3 and *blocks* is the number of 512-byte blocks of information you need.

The system displays the following message, where **1** is the logical system drive identification number of the new logical drive created as a result of adding the physical hard disk drive and previously entered:

```
Using disk id 1
DEVICE c0b0t0d1s10
Created /home3 filesystem with type vxfs
Mounted /home3 filesystem
```

When the system prompt returns, an entry is automatically added to **/etc/vfstab** for the home3 volume, and the file system is mounted.

You have completed this procedure.

4 Replacing Other Components

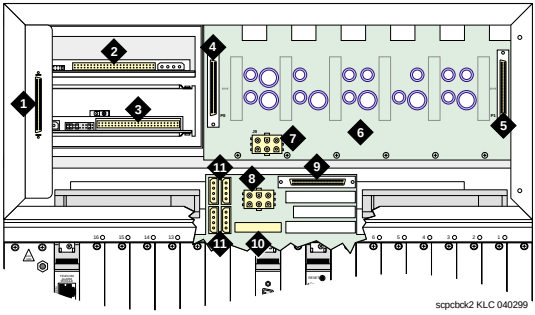
Overview

The purpose of this chapter is to ensure that correct procedures are used to replace internal components of the UCS 1000 R4.6. This chapter describes the procedures for the following:

Removing the SCA Backplane

The Single Connector Architecture (SCA) backplane (Figure 55) is at the upper rear of the UCS 1000 R4.6.

Figure 55. SCA Backplane



1. External SCSI connector
2. CD-ROM drive SCSI connection
3. Tape drive SCSI connection
4. SCA SCSI connection to the CD-ROM
5. SCA SCSI from the cPCI backplane
6. SCA backplane
7. SCA backplane power connection
8. cPCI backplane power connection
9. cPCI backplane SCSI connection
10. Thermal sensor connection
11. Power connections to the CD-ROM and cartridge tape drives

To remove the SCA backplane:

WARNING:
Observe proper electrostatic discharge precautions when you handle computer components. Wear an antistatic wrist strap that touches your bare skin and connect the strap cable to an earth ground. See Protecting Against Damage from Electrostatic Discharge in Chapter 1, Getting Inside the UCS 1000 R4.6 for more information.

Note: Procedures in this book should be performed by personnel identified in Intended Audiences on page xxv in About This Book.

1. Verify that the replacement equipment is on site and appears to be in usable condition with no obvious shipping damage.
2. Remove the incoming power. See Removing Power from the DC System on page 8 in Chapter 1, Getting Inside the UCS 1000 R4.6 for the procedure.
3. Remove the hard disk drives. See "Removing a Hard Disk Drive" on page -134 in Chapter 3, Replacing the Hard Disk Drive Assembly for the procedure.
4. Remove the upper rear exhaust panel. See Removing the Upper Rear Exhaust Panel on page 11 in Chapter 1, Getting Inside the UCS 1000 R4.6 .

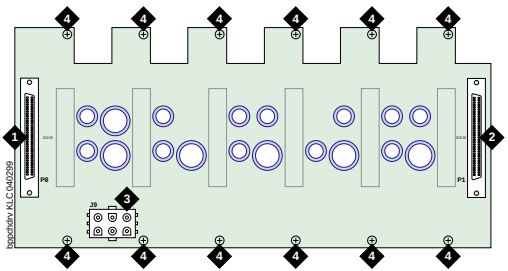
5 Disconnect the power cable connector (labeled P9) from the SCA backplane (Figure 55 on page 150).

6 Disconnect the two SCSI cables from the SCA backplane (Figure 55 on page 150).

7 Remove the screws at the top and bottom of the disk (Figure 56) area that secure the SCA backplane.

Note: The SCA backplane screws are not captive screws. Be careful that they do not drop into the system.

Figure 56. SCA Backplane Screw Locations



1. SCA SCSI connection to the CD-ROM
2. SCA SCSI from cPCI backplane
3. cPCI backplane power connection
4. Removable screws

8 Gently pull out the SCA backplane.

Installing the SCA Backplane

To install the SCA backplane:

1. Gently insert the new SCA backplane into the UCS 1000 R4.6.
2. Secure the SCA backplane with the screws that you removed earlier (Figure 56 on page 152).
3. Connect the power cable that you disconnected in step 5 of Removing the SCA Backplane to the SCA backplane (Figure 55 on page 150).
4. Connect the two SCSI cables that you disconnected in step 6 of Removing the SCA Backplane to the SCA backplane (Figure 55 on page 150).
5. Replace the hard disk drives. See Installing a Hard Disk Drive on page 136 in Chapter 3, Replacing the Hard Disk Drive Assembly for the procedure.
6. Replace the upper rear exhaust panel. See Installing the Upper Rear Exhaust Panel on page 14 in Chapter 1, Getting Inside the UCS 1000 R4.6 for the procedure.
7. Apply power to the UCS 1000 R4.6. See Restoring Power to the DC System on page 11 in Chapter 1, Getting Inside the UCS 1000 R4.6 for the procedure.

Removing the CD-ROM/Cartridge Tape Drive Mounting Unit

The CD-ROM and cartridge tape drives (Figure 57 on page 156) are located at the upper right corner on the front of the UCS 1000 R4.6. See Figure 9 on page 7 for the location. These drives are contained within a single peripheral mounting unit.

To remove the CD-ROM/cartridge tape drive mounting unit:

1. Verify that the replacement part is on site and appears to be in usable condition with no obvious shipping damage.
2. Remove the incoming power. See Removing Power from the DC System on page 8 in Chapter 1, Getting Inside the UCS 1000 R4.6 for the procedure.
3. Remove the upper rear exhaust panel. See Removing the Upper Rear Exhaust Panel on page 11 in Chapter 1, Getting Inside the UCS 1000 R4.6 for the procedure.
4. Unplug the power cables from the rear of the CD-ROM and cartridge tape drives. See Removing the CD-ROM Drive and Cartridge Tape Drive Power Supply Cable on page 169, step 3 and step 4 for the procedure.
5. Unplug the SCSI cable connections from the rear of the CD-ROM and cartridge tape drives (Figure 63 on page 173).

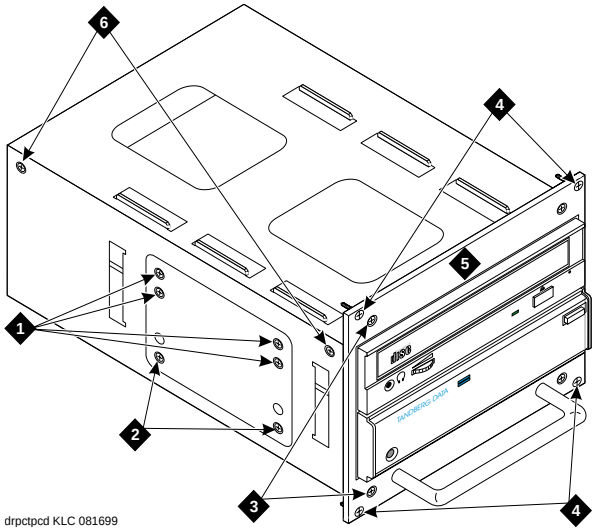
Note: The SCSI cable has an adapter attached to it that allows it to connect to the cartridge tape drive and the CD-ROM drive. Make sure that the adapter remains attached to the SCSI cable.

6 Loosen the four retaining screws from the faceplate of the CD-ROM/cartridge tape drive mounting unit (Figure 57 on page 156).

Note: It is not necessary to remove or loosen the four flathead screws on the faceplate.

7 Grab the handle on the lower part of the faceplate and pull the CD-ROM/cartridge tape drive unit out of the system (Figure 57 on page 156).

Figure 57. CD-ROM/Cartridge Tape Drive Mounting Unit



1. CD-ROM drive mounting screws
2. Cartridge tape drive mounting screws
3. CD-ROM/cartridge tape drive mounting unit faceplate flathead screws
4. CD-ROM/cartridge tape drive mounting unit retaining screws
5. CD-ROM/cartridge tape drive mounting unit faceplate with pull handle on lower part
6. CD-ROM/cartridge tape drive mounting unit housing flathead screws.

Removing the CD-ROM Drive

To remove the CD-ROM drive from the mounting unit:

1. Verify that the replacement part is on site and appears to be in usable condition with no obvious shipping damage.
2. Remove the mounting unit. See Removing the CD-ROM/Cartridge Tape Drive Mounting Unit on page 154 for the procedure.
3. Remove the eight screws, four on each side of the mounting unit, that secure the CD-ROM drive to the housing unit.

Note: Keep these screws. Using any of the other screws associated with the UCS 1000 R4.6 can damage the threads in the drive mounting hardware.

4. Gently slide the CD-ROM drive out of the mounting unit.

Note: The CD-ROM fits snugly in the housing unit. It may be necessary to loosen the faceplate and housing flathead screws on both sides of the mounting unit (Figure 57 on page 156) to remove the CD-ROM drive.

Removing the Cartridge Tape Drive

To remove the tape drive from the mounting unit:

1. Verify that the replacement part is on site and appears to be in usable condition with no obvious shipping damage.
2. Remove the mounting unit. See Removing the CD-ROM/Cartridge Tape Drive Mounting Unit on page 154 for the procedure.
3. Remove the four screws, two on each side of the mounting unit, that secure the tape drive to the unit.

Note: Keep these screws. Using any of the other screws associated with the system can damage the threads in the drive mounting hardware.

4. Gently slide the tape drive out of the mounting unit.

Note: The cartridge tape drive fits snugly in the housing unit. It may be necessary to loosen the faceplate and housing flathead screws on one side of the mounting unit (Figure 57 on page 156) to remove the cartridge tape drive.

Installing the Cartridge Tape Drive

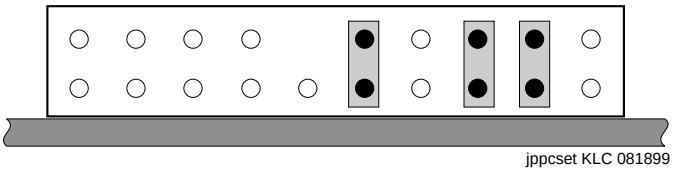
To install the cartridge tape drive in the mounting unit:

1 Remove the new cartridge tape 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.

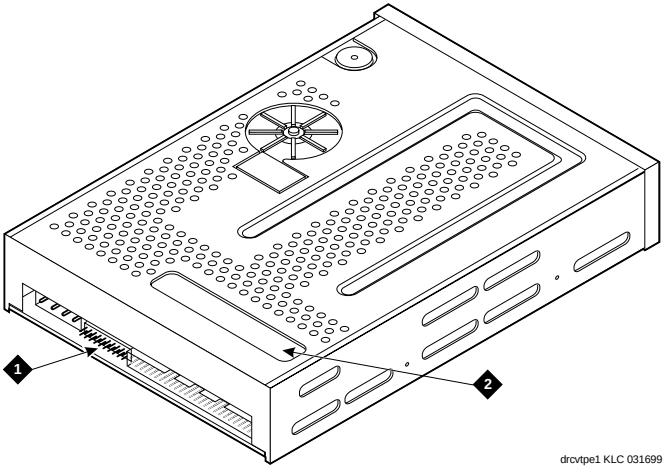
2 Verify that the settings shown in Figure 58 are correct for SCSI ID 3.

Figure 58. Jumper Settings for the Cartridge Tape Drive (comcode: 408097418)



3 Remove the terminating resistors (Figure 59 on page 160).

Figure 59. Cartridge Tape Drive



1. Jumpers
2. Terminating resistors

4 Gently slide the new drive into the mounting unit.

5 Secure the new drive to the mounting unit. Use the four screws you removed earlier to secure the drive to the mounting unit.

6 Retighten the housing screws if they were loosened to remove the tape drive.

7 Retighten the faceplate screws if they were loosened to remove the tape drive.

Installing the CD-ROM Drive

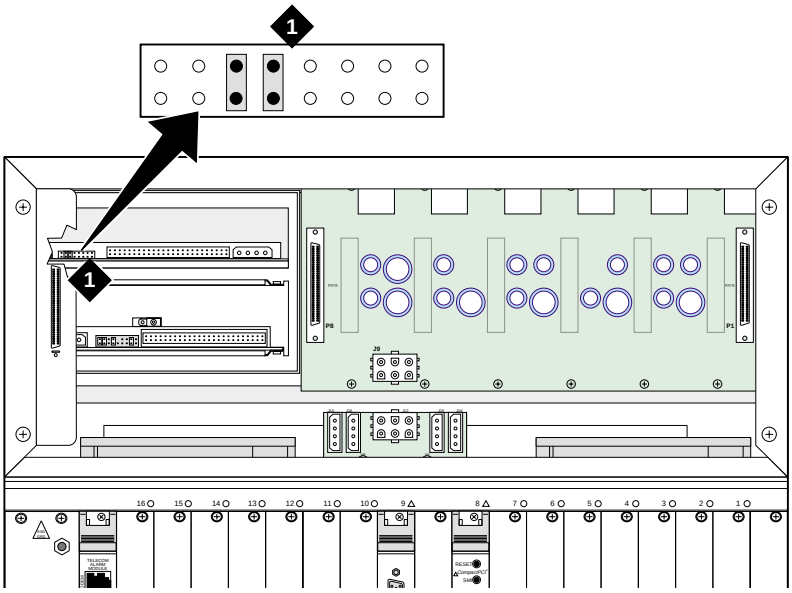
To install the CD-ROM drive in the mounting unit:

1 Remove the new CD-ROM 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 Verify that the settings shown in Figure 60 on page 162 are correct for SCSI ID 4.

Figure 60. Jumper Settings for the CD-ROM Drive (comcode: 408377166)



1. Jumper locations for the CD-ROM drive (SCSI ID 4)

3 Gently slide the new drive into the mounting unit.

4 Secure the new drive to the peripheral housing unit. Use the eight screws you removed earlier to secure the drive to the mounting unit.

5 Retighten the housing screws if they were loosened to remove the CD-ROM drive.

6 Retighten the faceplate screws if they were loosened to remove the CD-ROM drive.

Installing the CD-ROM/Cartridge Tape Drive Mounting Unit

To install the CD-ROM/cartridge tape drive mounting unit in the system:

1 Align the CD-ROM/cartridge tape drive mounting unit with the top and bottom guides on the front of the system.

2 Gently slide the housing unit into the system.

Note: If the unit does not slide in completely, tilt the front of the unit down slightly and push the unit in completely.

3 Retighten the four retaining screws (Figure 57 on page 156) on the faceplate of the CD-ROM/cartridge tape drive peripheral mounting unit to secure it to the system.

4 Attach the SCSI cables to the rear of the CD-ROM/cartridge tape drive mounting unit (Figure 63 on page 173).

5 Attach the power cables to the rear of the CD-ROM/cartridge tape drive housing unit. See Removing the CD-ROM Drive and Cartridge Tape Drive Power Supply Cable on page 169, step 3 and step 4 for the procedure.

6 Restore the incoming power. See Restoring Power to the DC System on page 11 in Chapter 1, Getting Inside the UCS 1000 R4.6 for the procedure.

Replacing the TAM Alarm Panel

Removing the Alarm Panel

To remove the alarm panel:

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

2 Remove the incoming power. See Removing Power from the DC System on page 8 in Chapter 1, Getting Inside the UCS 1000 R4.6 for the procedure.

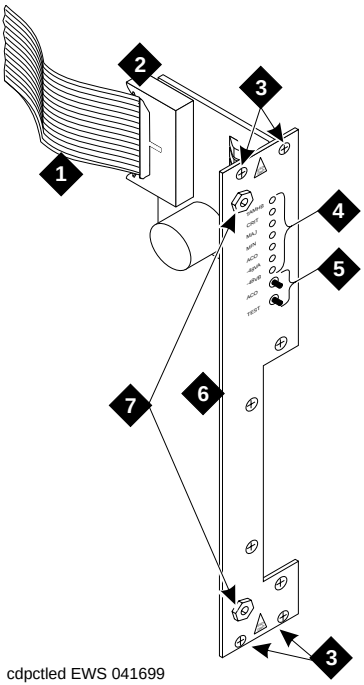
3 Remove the TAM circuit card. See Removing Circuit Cards on page 26 in Chapter 2, Installing or Replacing Circuit Cards for the procedure.

Note: Removing adjacent circuit cards or slot covers provides additional room for movement.

4 Remove the alarm cable from the rear of the TAM alarm panel assembly (Figure 61 on page 166).

5 Remove the alarm panel by removing the eight screws that secure it to the UCS 1000 R4.6 (Figure 61 on page 166).

Figure 61. TAM Alarm Panel and Cable



cdpctled EWS 041699

1. TAM alarm cable
2. Alarm cable connector
3. Retaining screws
4. Alarm indicator LEDs
5. Alarm cutoff and reset buttons
6. TAM alarm panel assembly
7. ESD jacks

Installing the Alarm Panel

To install the alarm panel:

1. Attach the alarm panel to the UCS 1000 R4.6 (Figure 61 on page 166). Use the eight screws that you removed earlier.
2. Connect the loose end of the alarm cable to the TAM alarm panel assembly (Figure 61 on page 166).

Note: The other end of the alarm cable connects to the backplane.

3. Replace any circuit cards or slot covers that you removed to provide additional room for movement. See Installing Circuit Cards on page 33 in Chapter 2, Installing or Replacing Circuit Cards for the procedure.
4. Replace the TAM. See Installing Circuit Cards on page 33 in Chapter 2, Installing or Replacing Circuit Cards for the procedure.
5. Restore the incoming power. See Restoring Power to the DC System on page 11 in Chapter 1, Getting Inside the UCS 1000 R4.6 for the procedure.

Replacing Cables

Replacing the TAM Alarm Panel Cable

WARNING:
Observe proper electrostatic discharge precautions when you handle computer components. Wear an antistatic wrist strap that touches your bare skin and connect the strap cable to an earth ground. See Protecting Against Damage from Electrostatic Discharge, in Chapter 1, Getting Inside the UCS 1000 R4.6 for detailed electrostatic discharge precautions.

Removing the TAM Alarm Panel Cable

To remove the alarm panel cable:

1. Verify that the replacement cable is on site and appears to be in usable condition, with no obvious shipping damage.
2. Remove the TAM alarm panel. See To remove the alarm panel: on page 164 for the procedure.
3. Remove the alarm cable from the cPCI backplane.

Installing the Alarm Panel Cable

To install the alarm panel cable:

1. Verify that the replacement cable is on site and appears to be in usable condition, with no obvious shipping damage.
2. Connect the new alarm cable to the cPCI backplane (Figure 61 on page 166).
3. Install the alarm panel. See Installing the Alarm Panel on page 167 for the procedure.

Replacing the Power Cables

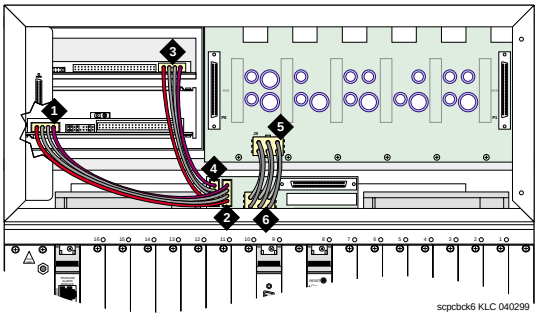
The UCS 1000 R4.6 has cables that supply power to the:

- Cartridge tape drive
- CD-ROM drive
- SCA backplane
- cPCI backplane

Removing the CD-ROM Drive and Cartridge Tape Drive Power Supply Cable

The power supply cables for the cartridge tape drive and CD-ROM drive connect to the power supply on the cPCI backplane from both the cartridge tape drive and CD-ROM drive (Figure 62 on page 170).

Figure 62. CD-ROM Drive and Cartridge Tape Drive Power Connections



1. Cartridge tape drive power connection
2. cPCI backplane power connection to the cartridge tape drive
3. CD-ROM drive power connection
4. cPCI backplane power connection to the CD-ROM drive
5. SCA backplane power connection
6. cPCI backplane power connection to the SCA backplane

To remove the cartridge tape and CD-ROM drive power supply cable:

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

2 Remove the incoming power. See Removing Power from the DC System on page 8 in Chapter 1, Getting Inside the UCS 1000 R4.6 for the procedure.

3 Remove the upper rear exhaust panel. See Removing the Upper Rear Exhaust Panel on page 11 in Chapter 1, Getting Inside the UCS 1000 R4.6 for the procedure.

4 Remove the power supply cable from the back of the cartridge tape drive or the CD-ROM drive (Figure 62 on page 170).

5 Remove the other end of the cartridge tape or CD-ROM drive power supply cable from the backplane.

Note: The cartridge tape drive power cable connects to the cPCI backplane at connector location labeled J14. The CD-ROM drive power cable connects to the cPCI backplane at connector location J13.

6 Remove the cartridge tape drive or CD-ROM drive power supply cable from the system.

Installing CD-ROM Drive and Cartridge Tape Drive Power Supply Cable

To install the power cable for the cartridge tape drive and CD-ROM drive:

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

2 Attach the power cable for the cartridge tape drive or CD-ROM drive to the backplane.

3 Attach the power cable to the back of the cartridge tape drive or CD-ROM drive (Figure 62 on page 170).

Note: The tape drive power cable connects to the cPCI backplane at connector location labeled J14.The CD-ROM drive power cable connects to the cPCI backplane at connector location J13.

4 Reinstall the upper rear exhaust panel. See Installing the Upper Rear Exhaust Panel for the procedure.

5 Apply power to the system. See Restoring Power to the DC System on page 11 in Chapter 1, Getting Inside the UCS 1000 R4.6 for the procedure.

Replacing the SCSI Cable

The SCSI cable is a ribbon cable that connects the SCA backplane, the cartridge tape drive, and the CD-ROM drive to the external SCSI connector.

Removing the SCSI Cable

To remove the SCSI cable:

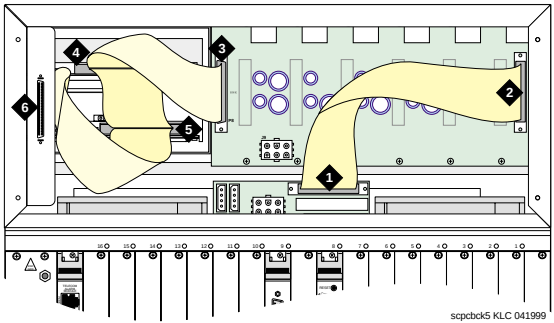
1 Verify that the replacement cable is on site and appears to be in usable condition, with no obvious shipping damage.

2 Remove the incoming power. See Removing Power from the DC System on page 8 in Chapter 1, Getting Inside the UCS 1000 R4.6 for the procedure.

3 Remove the upper rear exhaust panel. See Removing the Upper Rear Exhaust Panel on page 11 for the procedure.

4 Remove the SCSI cable from the back of the SCA backplane (Figure 63).

Figure 63. SCA SCSI Backplane Connections



1. cPCI backplane SCSI connection
2. SCA SCSI connection from the cPCI backplane
3. SCA SCSI connection to the CD-ROM
4. CD-ROM drive SCSI connection
5. Cartridge tape drive SCSI connection
6. External SCSI connector

5 Remove the SCSI cable from the back of the CD-ROM drive (Figure 63).

6 Remove the SCSI cable from the back of the cartridge tape drive (Figure 63).

Note: Ensure that the 50-68 pin adapters remain attached to the CD-ROM and tape drive.

7 Remove the SCSI cable and external terminator connector from the system by removing the two screws and the top and bottom of the external connector (Figure 63 on page 173).

Installing the SCSI Cable

To install the SCSI cable:

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

2 Attach the SCSI cable and external terminator connector to the system by installing the two screws in the top and bottom of the external connector (Figure 63 on page 173).

3 Attach the SCSI cable to the back of the cartridge tape drive (Figure 63 on page 173).

4 Attach the SCSI cable to the back of the CD-ROM drive (Figure 63 on page 173).

5 Attach the SCSI cable to the back of the SCA backplane (Figure 63 on page 173).

6 Replace the rear exhaust panel. See Installing the Upper Rear Exhaust Panel on page 14 for the procedures.

7 Apply power to the UCS 1000 R4.6. See Restoring Power to the DC System on page 11 in Chapter 1, Getting Inside the UCS 1000 R4.6 for the procedure.

Replacing a Fan Tray

Description

The UCS 1000 R4.6 contains eight fans that provide forced-air cooling for the unit. The lower fan unit contains three fans that are located just above the power supplies (Figure 64 on page 177). The upper fan unit has five fans that are located just below the hard disk drives. If a fan is defective, the associated fan fault LED will be lit. A major alarm is indicated by the TAM. This alarm will clear only after the fan tray is replaced.

Replacing a Fan Tray

The fan trays can be hot-swapped. This means that the tray can be replaced without removing power from or turning down the system.

CAUTION:
Do not leave the UCS 1000 R4.6 powered up for any length of time without a fan tray installed and fully operational.

To replace a fan tray:

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

Note: There are three fans in the lower tray and five fans in the upper tray.

2. If you are replacing the lower fan tray, swing the cable trough up and out of the way to the locked position.

3 Loosen the screws on the fan tray (Figure 64 on page 177).

Note: The screws are located on the front of the upper fan tray and behind the top edge of the lower front panel for the lower fan tray.

4 If you are replacing the lower fan tray, remove the lower filter panel.

5 Slide the fan tray out of the system.

6 Immediately insert a new fan tray into the system.

7 If you are replacing the upper fan tray, tighten the screws on the fan tray to secure it to the system.

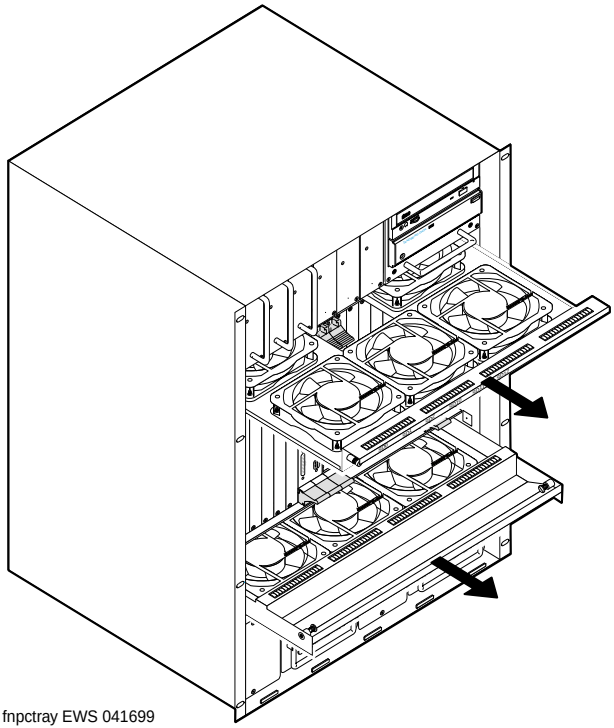
8 Replace the lower filter panel.

9 Secure the lower front panel and lower fan tray to the system by tightening the screws.

10 If you are replacing the lower fan tray, return the cable trough to its original position.

11 Verify that the fans are working by observing the CPU complex.

Figure 64. Fan Tray Locations



fnpctray EWS 041699

Replacing the Filter

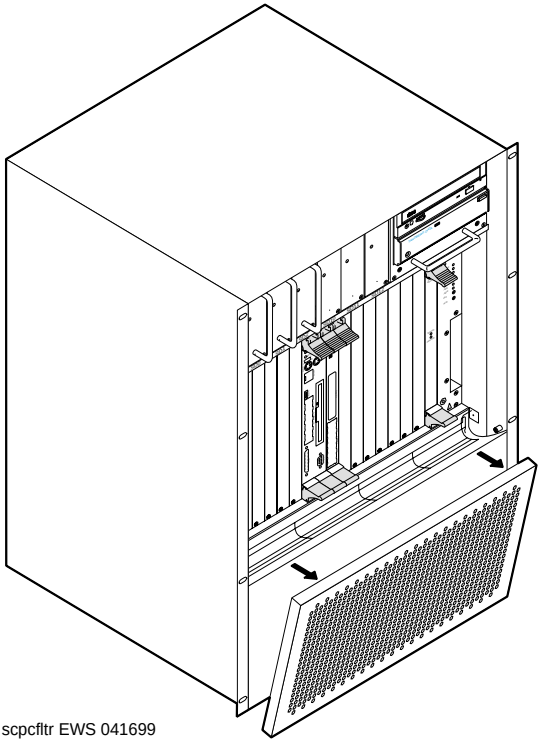
The UCS 1000 R4.6 is equipped with one filter, which is located behind the lower front panel (Figure 65 on page 179). The filter should be checked at least once a month to determine its condition.

Replacing the Filter

To replace the filter:

1. Verify that the replacement filter is on site and appears to be in usable condition, with no obvious shipping damage.
2. Swing the cable trough up and out of the way to the locked position.
3. Loosen the two screws behind the top edge of the lower front panel.
4. Remove the lower front panel (Figure 65 on page 179).
5. Detach the old filter from the panel.
6. Insert the replacement filter inside the lower front panel.
7. Secure the lower front panel to the system by tightening the screws.
8. Return the cable trough to its original position.

Figure 65. The Filter Panel



scpcfltr EWS 041699

Lower filter is located inside the panel.

Replacing the Power Supply

The UCS 1000 R4.6 is equipped with two power supplies. These power supplies are located at the bottom of the system behind the lower front panel. They operate in a load-share mode and can be hot swapped. This means the power supply can be replaced without removing power from or turning down the system.

The power supplies attach to a backplane in the UCS 1000 R4.6 using a male connector and a backplane receptacle.

There are no manual adjustments necessary to prepare the power supply for the incoming voltage.

Note: Ensure that the connector pins are straight before installing the replacement power supply.

CAUTION:
Do not operate the UCS 1000 R4.6 without both power supplies. A power supply alarm fault occurs when a power supply is removed.

To replace a power supply:

1. Verify that the replacement equipment is on site and appears to be in usable condition, with no obvious shipping damage.
2. Swing the cable trough up and out of the way to the locked position.

3 Loosen the two screws behind the top edge of the lower front panel.

4 Remove the lower front panel.

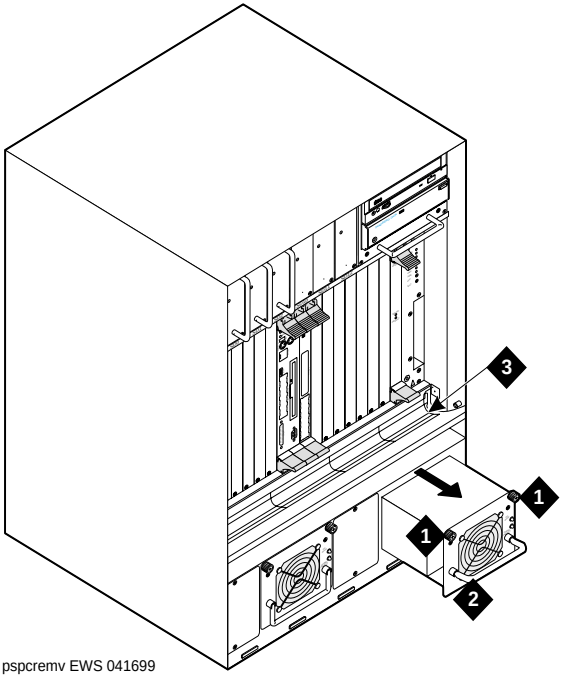
Note: The indicator LEDs on a defective power supply will be out (dark).

5 Loosen the two captive thumbscrews that hold the power supply to the system (Figure 66 on page 182).

6 Grasp the power supply pull handle and pull the power supply from the system (Figure 66 on page 182).

CAUTION:
The power supply is heavy. Hold on to the bottom edge of the power supply while pulling it from the system to avoid equipment damage or personal injury.

Figure 66. Removing a Power Supply



pspcremv EWS 041699

1. Captive screws
2. Pull handle
3. Cable trough

7 Place the power supply to the side.

CAUTION:

It is important that the defective power supply be returned in the same condition as it was when in the system. If the power supply is damaged during removal, packaging, or shipping, adequate failure analysis can not be conducted.

8 Align the replacement power supply with the slot in the system.

9 Slide the power supply into the system until it locks.

10 Apply pressure to ensure that the power supply is seated properly.

11 Tighten the two captive thumbscrews on the power supply.

Note: Use a screwdriver to ensure that the thumbscrews are tight enough to properly seat the power supply.

12 Make sure the status indicator LEDs on the power supply are on.

13 Secure the lower front panel to the system by tightening the screws.

14 Return the cable trough to its original position.

Replacing the Temperature Sensors

Description

The UCS 1000 R4.6 comes equipped with two temperature sensors. The air inlet temperature sensor is located behind the lower front filter panel, just under the lower fan tray. The air outlet temperature sensor is located at the rear upper exhaust area on the top panel.

Replacing the Air Inlet Temperature Sensor

To replace the air inlet temperature sensor:

1. Verify that the replacement sensor is on site and appears to be in usable condition, with no obvious shipping damage.
2. Verify that the S2 switch settings match those listed in Table 6 on page 89 of Chapter 2, Installing or Replacing Circuit Cards.
3. Remove the incoming power. See Removing Power from the DC System on page 8 in Chapter 1, Getting Inside the UCS 1000 R4.6 for the procedure.
4. Remove the lower filter panel (Figure 65 on page 179).
5. Remove the lower fan tray (Figure 64 on page 177).
6. Remove the inlet temperature sensor from its standoffs by holding opposite edges between thumb and forefinger and rocking the sensor.

Note: Do not pry the sensor from its standoffs.

7. Disconnect the TAM temperature sensor cable from the air inlet sensor.

8 Attach the TAM temperature sensor cable to the new sensor.

9 Attach the new sensor to its standoffs by doing the following:

   a Hold opposite edges of the sensor between thumb and forefinger.

   b Align the three holes in the sensor with the three standoffs.

   c Firmly push the sensor onto the standoffs until it locks in place.

10 Check that the sensor is locked in place by gently pulling the sensor away from the standoffs. The sensor should not move.

11 Replace the lower fan tray and the lower filter panel.

12 Restore the incoming power. See Restoring Power to the DC System on page 11 in Chapter 1, Getting Inside the UCS 1000 R4.6 for the procedure.

Replacing the Air Outlet Temperature Sensor

To replace the air outlet temperature sensor:

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

2 Verify that the S2 switch settings match those listed in Table 6 on page 89 of Chapter 2, Installing or Replacing Circuit Cards .

3 Remove the incoming power. See Removing Power from the DC System on page 8 in Chapter 1, Getting Inside the UCS 1000 R4.6 for the procedure.

4. Remove the upper rear exhaust panel. See Removing the Upper Rear Exhaust Panel on page 11 in Chapter 1, Getting Inside the UCS 1000 R4.6 for the procedure.
5. Remove the outlet temperature sensor from its standoffs by holding opposite edges between thumb and forefinger and rocking the sensor.

Note: Do not pry the sensor from its standoffs.

6. Disconnect the TAM temperature sensor cable from the outlet sensor.
7. Attach the TAM temperature sensor cable to the new sensor.
8. Attach the new sensor to its standoffs by doing the following:
   a. Hold opposite edges of the sensor between thumb and forefinger.
   b. Align the three holes in the sensor with the three standoffs.
   c. Firmly push the sensor onto the standoff until it locks in place.
9. Check that the sensor is locked in place by gently pulling the sensor away from the standoffs. The sensor should not move.
10. Replace the upper rear exhaust panel. See Installing the Upper Rear Exhaust Panel on page 14 in Chapter 1, Getting Inside the UCS 1000 R4.6 for the procedure.
11. Restore the incoming power. See Restoring Power to the DC System on page 11 in Chapter 1, Getting Inside the UCS 1000 R4.6 for the procedure.

5 Installing Base System Software

Overview

This chapter describes the installation procedures for the UnixWare operating system software.The purpose of this chapter is to provide the information necessary to reload the operating system on a system that has experienced a disk failure. Use this chapter in conjunction with Appendix C, Disaster Recovery Checklists.

Note: The installer must have the root password to complete these procedures.

Configuring the RAID System

Note: These procedures must be performed *before* performing the procedures for Installing UnixWare on page 205.

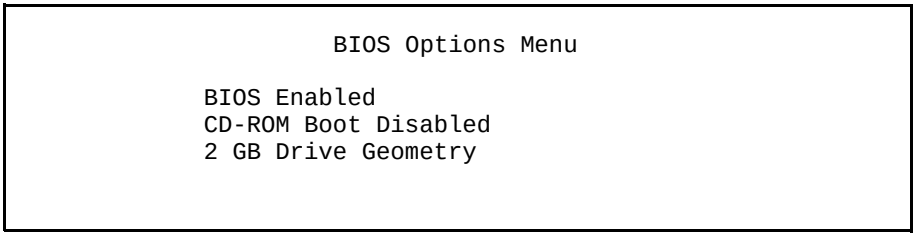
Verifying the BIOS

To verify the BIOS options:

1. Power up the system.
2. After the power-on self test (POST) is complete but before the system boots, press **CTRL**+**M** when prompted.

   The system displays the BIOS Options Menu (Figure 67).

Figure 67. BIOS Options Menu



3 Verify that the first three lines appear as follows:

- `BIOS Enabled`
- `CD-ROM Boot Disabled`
- `2 GB Drive Geometry`

4 Press the ▲ key or the ▼ key to highlight the appropriate field and then press **ENTER** to change it.

If you changed any of the fields, complete Step 1 through Step 3 again.

5 Press **ESC** to exit and reboot the system.

6 Continue with Verifying RAID Hardware Parameters.

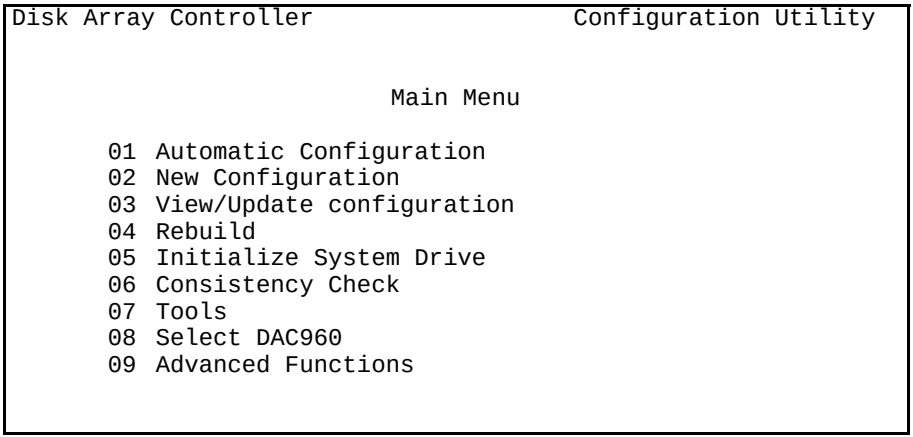
Verifying RAID Hardware Parameters

To verify the RAID system drive:

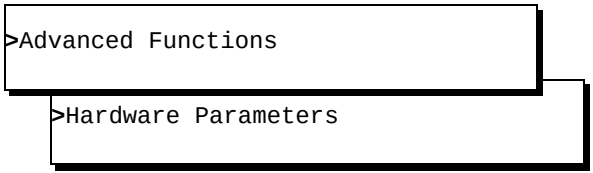
1 During the reboot, press **CTRL**+**R** when prompted.

The system displays the RAID Controller Main Menu (Figure 68 on page 190).

Figure 68. RAID Controller Main Menu

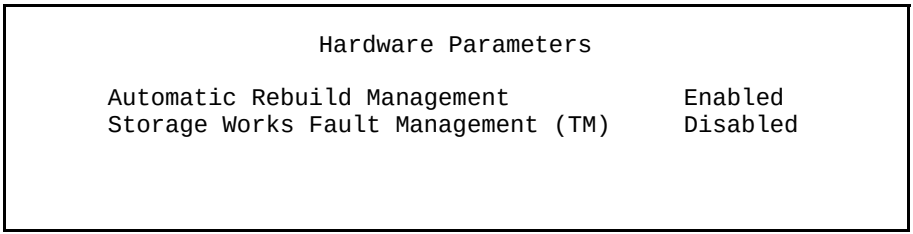


2 Select:



The system displays the Hardware Parameters screen (Figure 69).

Figure 69. Hardware Parameters Screen



3 Verify that the settings displayed on the screen match those in Figure 69.

4 If a setting differs, press the ▲ key or the ▼ key to highlight the appropriate field and then press **ENTER** to change it.

5 Press **ESC**.

The system displays the Edit/View Parameters Menu (Figure 70 on page 192).

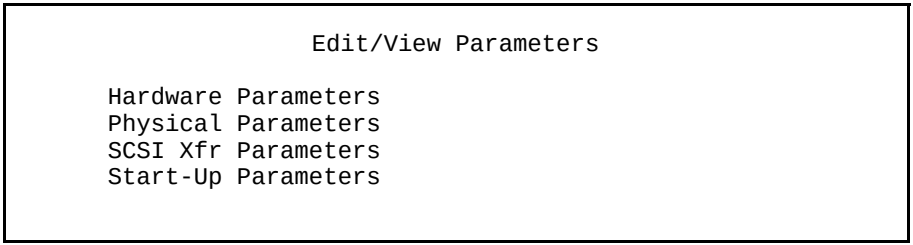
6 Continue with Verifying the Physical Parameters.

Verifying the Physical Parameters

To verify the physical parameters:

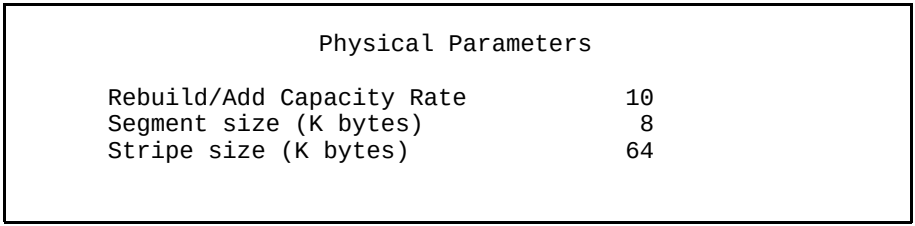
1 From the Edit/View Parameters Menu (Figure 70) select `Physical Parameters`.

Figure 70. Edit/View Parameters Menu



The system displays the Physical Parameters screen (Figure 71).

Figure 71. Physical Parameters Screen



2 Verify that the settings displayed on the screen match those in Figure 71.

3 If a setting differs, press the ▲ key or the ▼ key to highlight the appropriate field and then press **ENTER** to change it.

4 Press **ESC**.

The system displays the Edit/View Parameters Menu (Figure 70 on page 192).

5 Continue with Verifying the SCSI Transfer Parameters (Channel 0).

Verifying the SCSI Transfer Parameters (Channel 0)

To verify the SCSI transfer parameters:

1 From the Edit/View Parameters Menu, select `SCSI Xfr Parameters`.

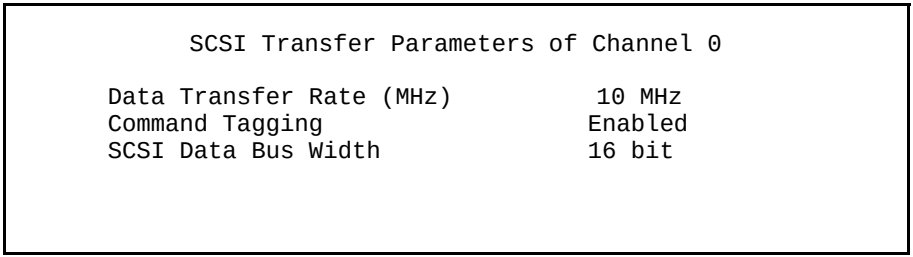
The system displays the following message:

```
Enter Channel #
```

2 Enter **0**

The system displays the SCSI Transfer Parameters screen (Figure 72).

Figure 72. SCSI Transfer Parameters Screen



3 Verify that the settings displayed on the screen match those in Figure 72 on page 194.

4 If a setting differs, press the ▲ key or the ▼ key to highlight the appropriate field and then press **ENTER** to change it.

5 Press **ESC**.

The system displays the Advanced Functions Menu (Figure 70 on page 192).

6 Continue with Verifying the Startup Parameters.

Verifying the Startup Parameters

To verify the startup parameters:

1. From the Edit/View Parameters Menu select `Startup Parameters`.

   The system displays the Startup Parameters screen (Figure 73).

Figure 73. Startup Parameters Screen

```
                    Startup Parameters

      Spin Up Option                    Automatic
      Number of Devices Per Spin        1
      Delay (seconds)                   6
```

2. Verify that the settings displayed on the screen match those in Figure 73.
3. If a setting differs, press the ▲ key or the ▼ key to highlight the appropriate field and then press **ENTER** to change it.
4. Press **ESC**.

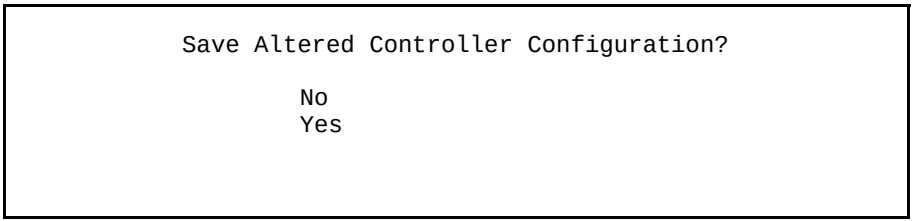
   The system displays the Edit/View Parameters Menu (Figure 70 on page 192).

5. Press **ESC**.

If you did not make changes, the system displays the RAID Controller Main Menu (Figure 68 on page 190).

If you made changes, the system displays the Save Controller Configuration screen (Figure 74).

Figure 74. Save Controller Configuration Screen



a Select `yes`.

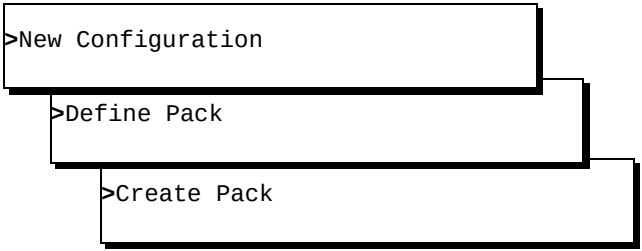
The system displays the RAID Controller Main Menu (Figure 68 on page 190).

Continue with Configuring the Array on page 197.

Configuring the Array

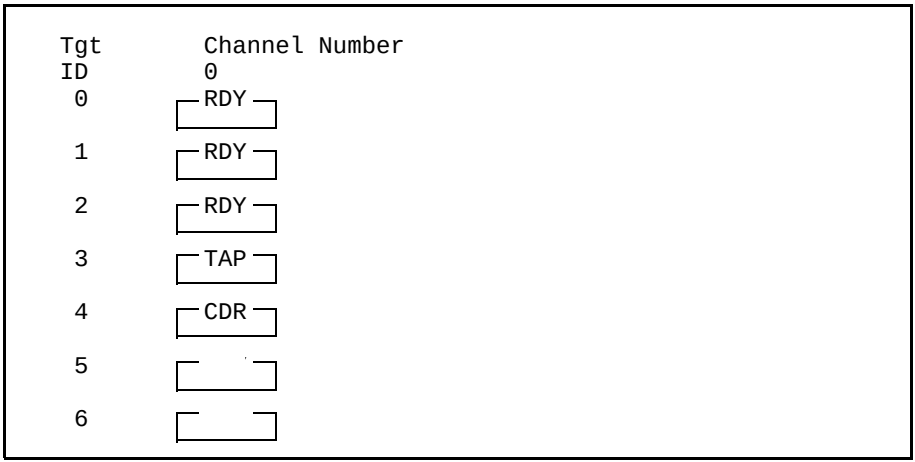
To configure the disk array:

1 From the RAID Controller Main Menu (Figure 68 on page 190) select:



The system displays the Channel Ready screen. The sample screen (Figure 75 on page 198) shows an example where all six physical hard disk drives are installed.

Figure 75. Channel Ready Screen

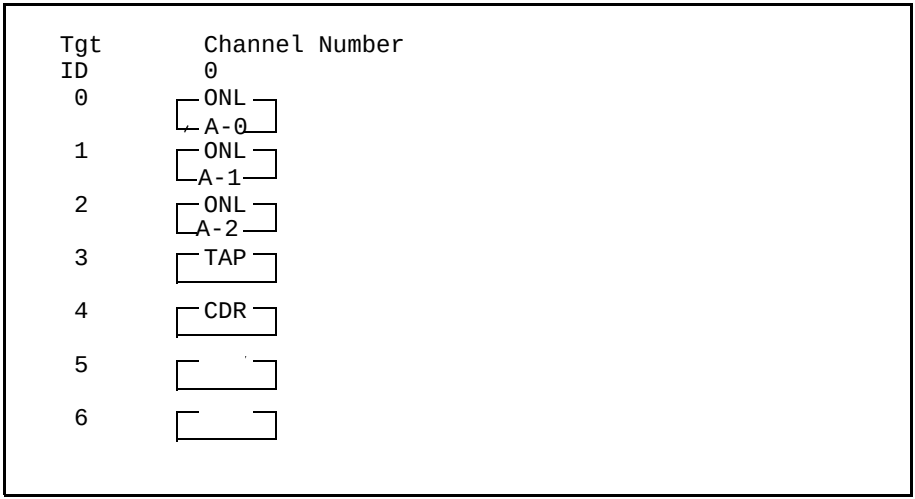


2 Press **ENTER** for all hard disk drives marked as RDY. This places the drives in the pack.

Note: The system does not allow the CDR and TAP to be placed in a pack.

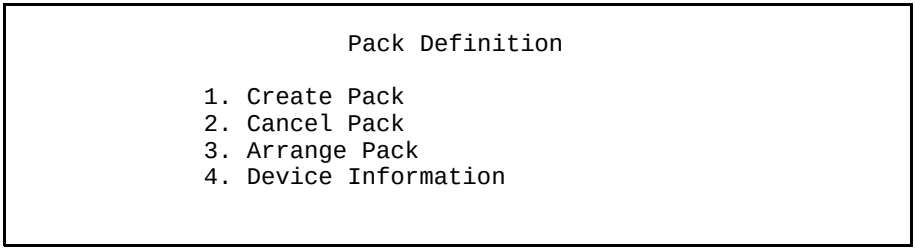
The system displays the Channel Ready screen and shows the drives on line with their pack assignment (Figure 76).

Figure 76. Channel Ready Screen



The system then displays the Pack Definition Menu (Figure 77).

Figure 77. Pack Definition Menu

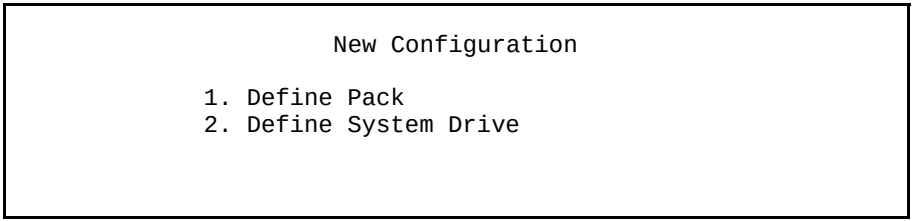


3 Select `Arrange Pack`.

4 Press **ENTER**.

The system then displays the New Configuration Menu (Figure 78).

Figure 78. New Configuration Menu



5 Continue with Defining the Logical System Drive on page 201.

Defining the Logical System Drive

To define the logical system drive:

1 From the New Configuration Menu (Figure 78 on page 200) select:

```
>Define System Drive
    >Create System Drive
```

The system displays the RAID Level Screen (Figure 79).

Figure 79. RAID Level Screen

```
                    RAID Level

          RAID 0
          RAID 1
          RAID 3
          RAID 5
          RAID 6
          RAID 7
```

2 Select `RAID 5`.

The system displays a pop-up box for entering the size for the new system drive.

3 Accept the default size displayed in the pop-up box.

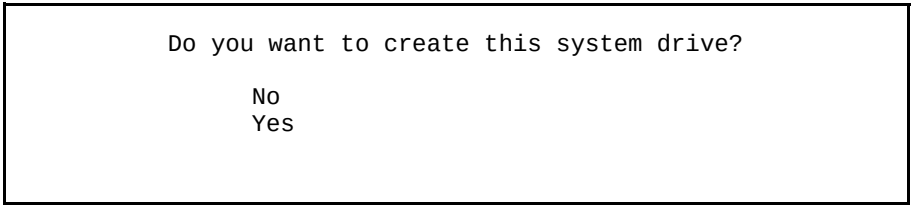
The system displays a summary for the new system drive in a message similar to the following, where *x* is the drive capacity:

```
System Drive #0
RAID Level #  5
Capacity      x
```

The system then displays the Create System Drive screen (Figure 80).

Note: Once the value is accepted, the system subtracts the amount needed for the RAID overhead and displays the actual size of logical system drive 0. This procedure assigns all available space to the system drive 0.

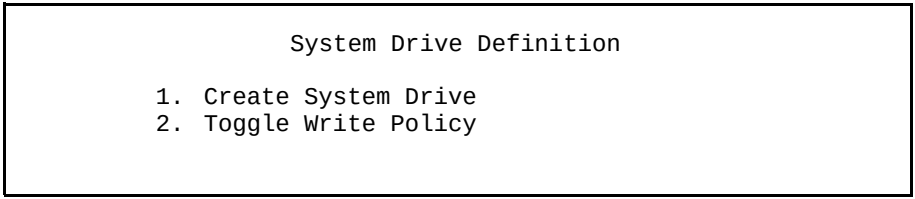
Figure 80. Create System Drive Screen



4 Select YES.

The system creates logical system drive 0 and then displays the System Drive Definition Menu (Figure 81).

Figure 81. System Drive Definition Menu

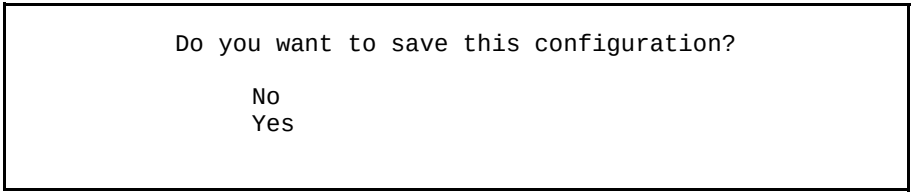


5 Press **ESC**.

6 Press **ESC**.

The system displays the Save Configuration screen (Figure 82).

Figure 82. Save Configuration Screen



7 Select YES.

The system displays the following message, where *x* is the logical system drive number or numbers that are available to your system:

```
System drive 0 is available for immediate use. Press any key
to continue.
```

8 Press **ENTER**.

The system displays the RAID Controller Main Menu (Figure 68 on page 190) and the following message:

```
Remember to save your configuration to a floppy disk before
exiting. Do you really want to exit Configuration Utility?

   Yes
   No
```

9 Select Yes

The system automatically reboots.

10 Continue with Installing UnixWare.

Installing UnixWare

Note: Installing the UnixWare operating system unmounts file systems. 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.

Loading UnixWare

To load UnixWare:

1. Insert the diskette labeled “Unixware 7.1 Boot Floppy 1” into the diskette drive.
2. Boot the system by following the appropriate instruction in Table 30.

Table 30. Initial Boot

If . . .	Then . . .
you are starting from the DOS prompt	press **CONTROL**+ **ALT** + **DELETE**
the system is off	turn it on by using the power switch on the back of the system
the system is on	reboot the system. See “Rebooting the System,” in “Common System Procedures,” in the *UCS 1000 R4.6 System Reference*, 585-313-221

The system displays the SCO trademark screen as it begins to load the base system software. When the first boot floppy is loaded, the system displays the following message:

```
Insert the second floppy and press ENTER
```

3 Remove the diskette labeled “UnixWare 7.1 Boot Floppy 1” from the diskette drive.

4 Insert the diskette labeled “UnixWare 7.1 Boot Floppy 2” into the diskette drive.

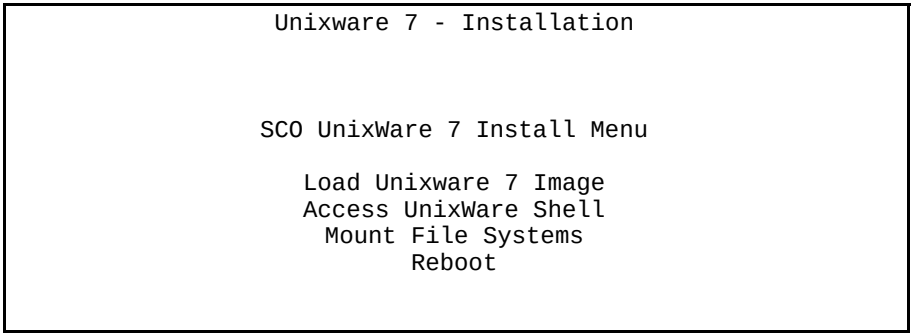
5 Press **ENTER**.

The system displays the following message:

```
Reading the second boot floppy.
```

After several minutes, the system displays the SCO Unixware 7 Install Menu (Figure 83).

Figure 83. Introduction Screen



6 Select `Load UnixWare 7 Image` and then press **ENTER**.

Use the ▼ and ▲ keys on your keyboard to move through the menu items.

The system displays the Insert Diskette 3 screen (Figure 84 on page 208).

Figure 84. Insert Diskette 3 Screen

```
UnixWare Installation                          Insert Diskette 3


              Please Remove Diskette 2 of 3.
              Insert Diskette 3 of 3 and press <Enter>.



Your choices are:

1. The diskette has been installed in the drive.
2. Go back to the previous menu.

Press '1' or '2' followed by <Enter>: 1
```

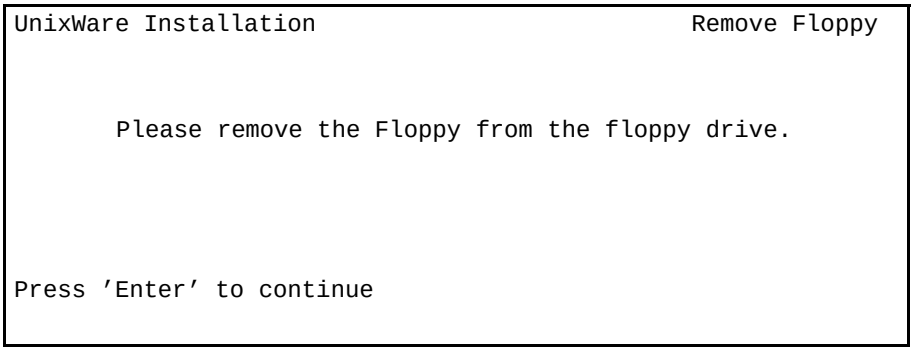
7 Remove the diskette labeled “UnixWare 7.1 Boot Floppy 2” from the diskette drive.

8 Insert the diskette labeled "UnixWare 7.1 Boot Floppy 3" into the diskette drive.

9 Press **ENTER**.

After several minutes, the system displays the Remove Floppy screen (Figure 85 on page 209).

Figure 85. Remove Floppy Screen



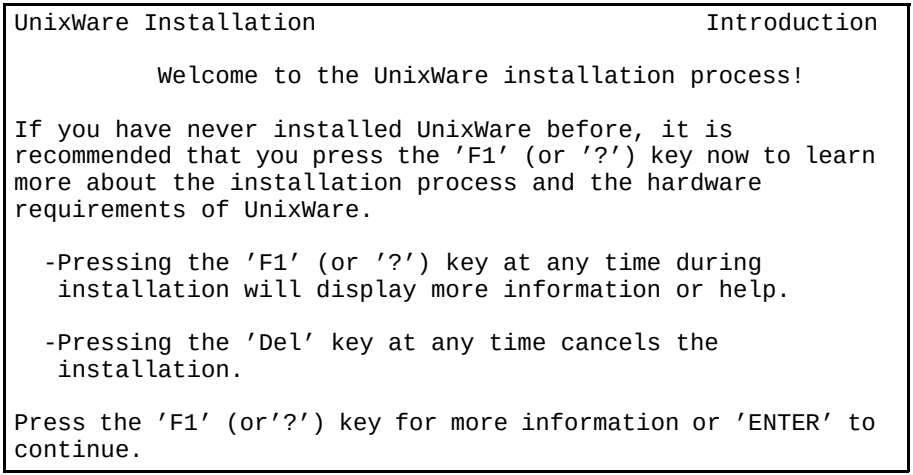
10 Remove the diskette labeled "UnixWare 7.1 Boot Floppy 3" from the diskette drive.

Note: Unixware automatically detects the host bust adapter for the system on which you are installing and loads the appropriate drivers. Unixware cannot be installed on 486 systems.

11 Press **ENTER**.

The system displays the Introduction screen (Figure 86 on page 210).

Figure 86. Introduction Screen



CAUTION:

If you use the **DELETE** key to stop the UnixWare installation at any time during this process, you must then restart the software installation process at Step 6.

12 Continue with the next procedure, Setting Up the UnixWare Environment on page 211.

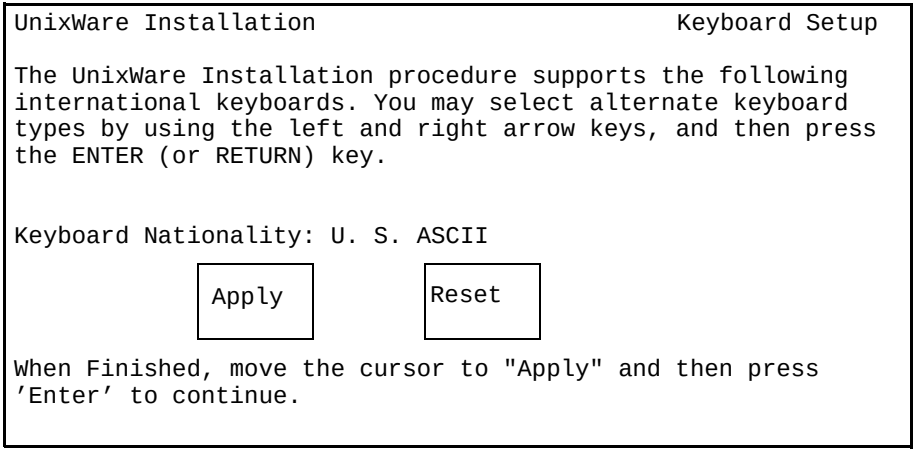
Setting Up the UnixWare Environment

To set up the UnixWare environment:

1 Starting at the Introduction Screen, press **ENTER**.

The system displays the Keyboard Setup screen (Figure 87).

Figure 87. Keyboard Setup Screen



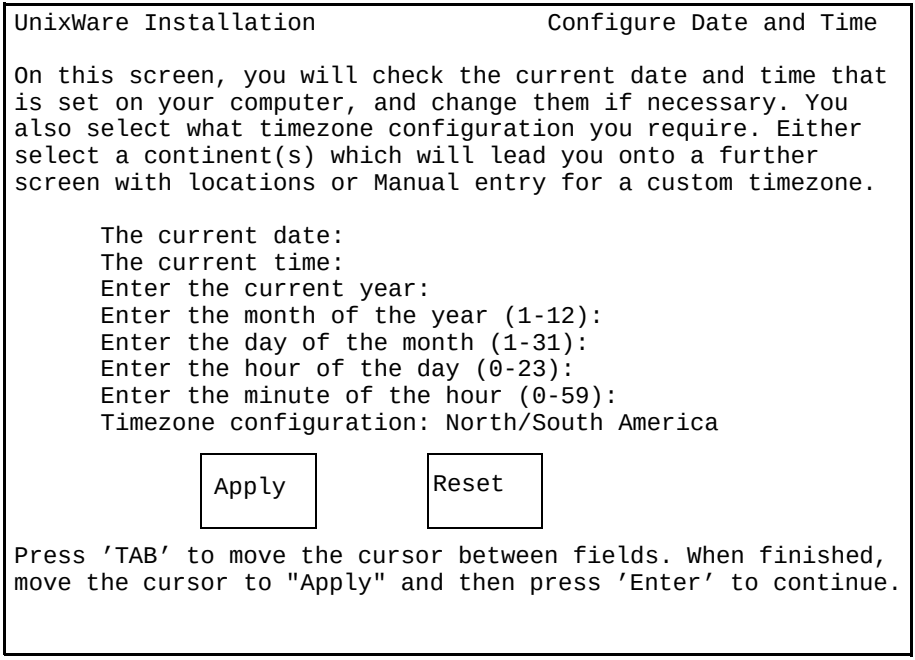
2 Select `U.S. ASCII`.

Press the ◄ and ► keys on your keyboard to move through the field selections.

3 Press **TAB** to move to the Apply field and then press **ENTER**.

The system displays the Configure Date and Time screen (Figure 88).

Figure 88. Configure Date and Time Screen



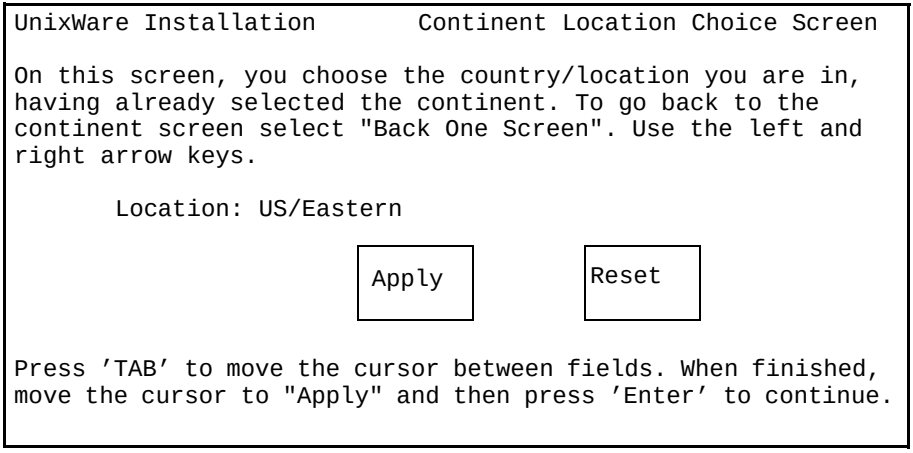
4 Enter the appropriate data for each field.

Use **TAB** to move to the next field.

5 Press **TAB** to move to the `Apply` field and then press then **ENTER**.

The system displays the Continent Location Choice screen (Figure 89).

Figure 89. Continent Location Choice Screen



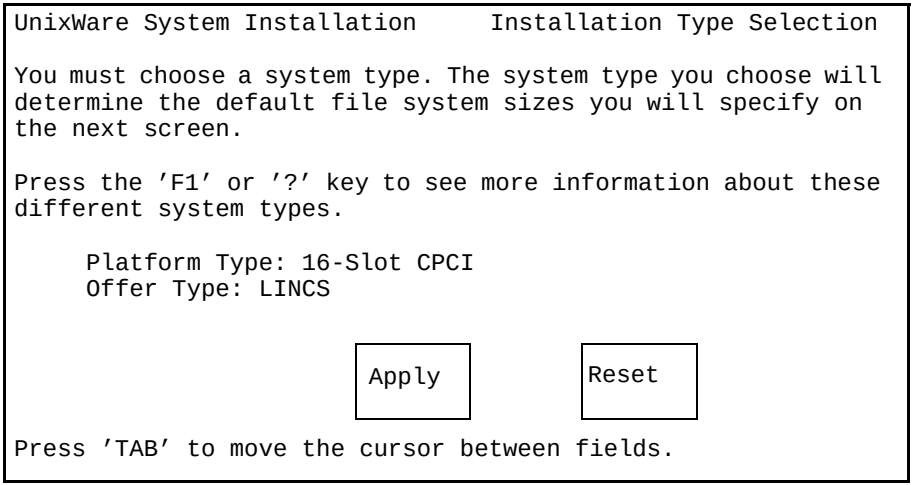
6 Select the appropriate location.

Use the ◄ and ► keys on your keyboard to move through the field selections.

7 Press **TAB** to move to the `Apply` field and then press **ENTER**.

The system displays the Installation Type Selection screen (Figure 90).

Figure 90. Installation Type Selection Screen



8 Select the appropriate data for each field as specified in Table 31.

Use the ◄ and ► keys on your keyboard to move through the field selections. Use **TAB** to move to the next field.

Table 31. Entries for the Installation Type Selection Screen

Field	Setting
`Platform Type:`	16-Slot CPCI
`Offer Type:`	LINCS

9 Press **TAB** to move to the Apply field and then press **ENTER**.

The system displays the LINCS Installation Type screen (Figure 91).

Figure 91. LINCS Installation Type Screen

```
Unix System Installation                    LINCS Installation Type


You must select whether you are performing a new installation
which configures both disk 0 and disk 1 (if installed), or are
restoring a system from a previously created mkimage.


Your choices are:

1. New Installation

2. Restore from a mkimage


Press a number between 1 and 2 followed by 'Enter': 1
```

10 Enter 1 and then press **Enter**.

Note: If you are restoring a system from a mkimage tape, use the procedures in Chapter 3, "Common System Procedures," in *UCS 1000 R4.6 System Reference*, 585-313-221.

The system displays the Set Disk Partitions menu (Figure 92).

Figure 92. Set Disk Partition Menu

```
Unix System Installation                    Set Disk Partitions

Please select whether you would like the recommended disk
partitions or would like to customize the disk partitions.

The recommended disk partitions are 100% UNIX partitions for
all the disks on the system.

WARNING:  PROCEEDING PAST THIS SCREEN MAY DESTROY ALL THE
          DATA CURRENTLY ON THE DISKS!

Your choices are:
1. Recommended Disk Partitions (100% UNIX partitions)
2. Customize Disk Partitions

Press '1' or '2' followed by 'ENTER': 1
```

11 Continue with the appropriate instruction from Table 32.

Table 32. Set Disk Partition Options

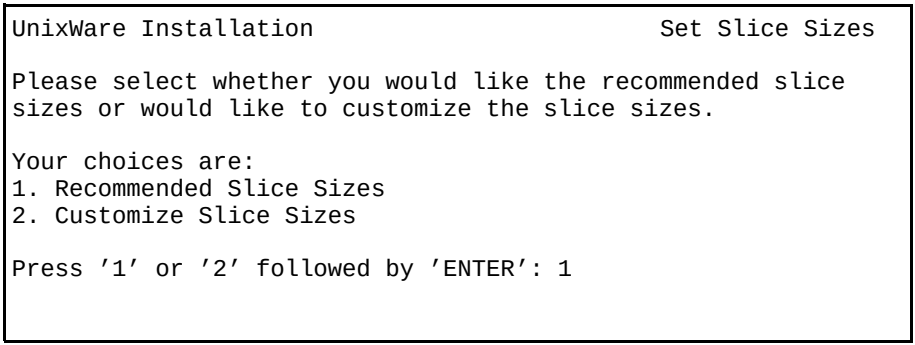
If you choose	Enter	Then proceed to
1 Recommended Disk Partition	1	Selecting the Recommended Disk Partitions on page 218
2 Customize Disk Partitions	2	Customizing Disk Partitions on page 220

Setting Disk Partitions

Selecting the Recommended Disk Partitions

If you chose `1. Recommended Disk Partitions` from the Set Disk Partition screen (Figure 92 on page 217), the system displays the Set Slice Sizes screen (Figure 93 on page 219).

Figure 93. Set Slice Sizes Screen



Continue with the steps in Table 33.

Table 33. Set Slice Size Options

If you choose . . .	Enter . . .	Then continue with . . .
1 Recommended Slice Sizes	1	Installing the LINCS Image
2 Customize Slice Sizes	2	Customizing Slice Sizes on page 230

Customizing Disk Partitions

If you chose `2.Customize Disk Partitions` from the Set Disk Partitions menu, the system displays the Primary Hard Disk Partitioning screen (Figure 94).

Figure 94. Primary Hard Disk Partitioning Screen

```
UnixWare Installation          Primary Hard Disk Partitioning

In order to install LINCS, you should reserve an UNIX system
partition (a portion of your hard disk's space) containing
100% of the space on your primary hard disk.
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 partitions(s).

The UNIX system partition that you intend to use on the
primary hard disk must be at least 2000 MBs, and labeled
"ACTIVE."

Press 'ENTER' to continue
```

To partition the hard disk drives:

1. Starting at the Primary Hard Disk Partitioning screen, press **ENTER**.

The system displays the Hard Disk Partition - Disk 1 screen (Figure 95).

Figure 95. Hard Disk Partition - Disk 1 Screen

```
UnixWare Installation        Hard Disk Partitioning - Disk 1



          Total disk size is 17500 cylinders (35000.0MB)

 Partition  Status   Type   Start  End  Length  %   Approx MB
     1      Active   Unix     0   17499 17500  100  34999.98
                     System


 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: 3
```

2 Enter **2**

The system displays the Delete A Partition screen (Figure 96).

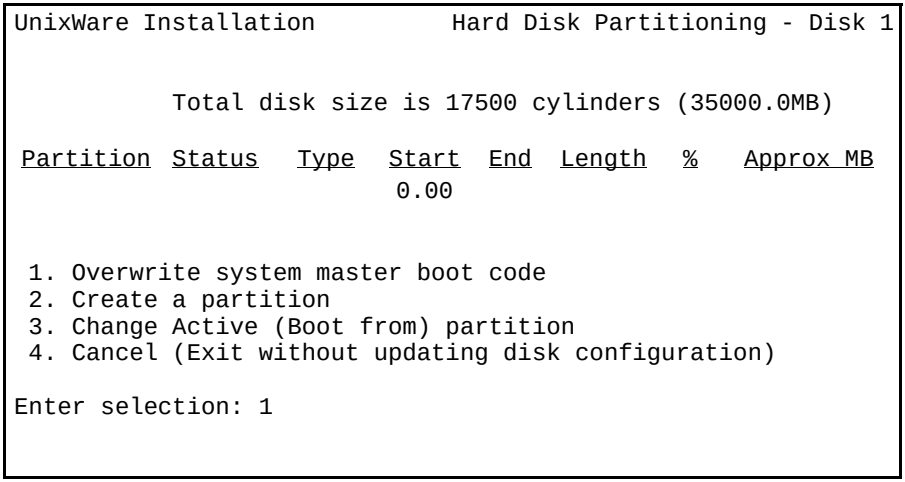
Figure 96. Delete A Partition Screen

```
UnixWare Installation                          Delete A Partition



          Total disk size is 17500 cylinders (35000.0MB)

 Partition  Status   Type   Start  End   Length   %    Approx MB
     1      Active   Unix     0   17499  17500   100   34999.98
                    System


Warning: Deleting a partition removes all of the files on the
partition.


1. Partition 1

Enter the number of the partition to delete: 1
```

3 Press **ENTER**.

The system displays the Hard Disk Partitioning-Disk 1 screen (Figure 97).

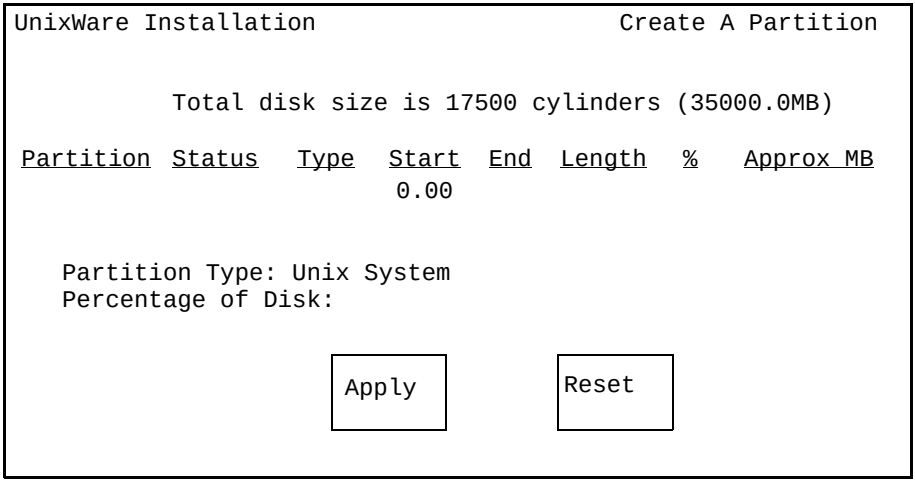
Figure 97. Hard Disk Partitioning-Disk 1 Screen



4 Enter 2 and then press **ENTER**.

The system displays the Create a Partition screen (Figure 98).

Figure 98. Create a Partition Screen



5 Enter the appropriate data for each field as specified in Table 34

Use the ◄ and ► keys on your keyboard to move through the field selections. Use **TAB** to move to the next field.

Table 34. Create a Partition Screen Entries

Field	Setting
`Partition type`	UNIX System
`Percentage of Disk`	100

6 Press **TAB** to move to the `Apply` field and then press **ENTER**.

The system displays the Hard Disk Partitioning - Disk 1 screen (Figure 99).

Figure 99. Hard Disk Partitioning - Disk 1 Screen

```
UnixWare Installation                Hard Disk Partitioning - Disk 1


          Total disk size is 17500 cylinders (35000.0MB)

                                   Cylinders
Partition Status   Type   Start  End  Length      %       Approx MB
    1      Unix  System 0 17499 17500   100   34999.984375    0.00


 1. Overwrite system master boot code
 2. Change Active (Boot from) partition
 3. Delete a partition
 4. Cancel (Exit without updating disk configuration)

Enter selection: 1
```

7 Enter **2** and then press **ENTER**.

The system displays the Change Active Partition screen (Figure 100).

Figure 100. Change Active Partition Screen

```
UnixWare Installation                          Change Active Partition

          Total disk size is 17500 cylinders (35000.0MB)

                                    Cylinders
Partition Status   Type    Start   End  Length      %       Approx MB
    1      Unix  System 0 17499 17500   100   34999.984375    0.00


1. Partition 1

Enter the number of partition you want to boot from: 1
```

8 Press **ENTER**.

The system displays the Hard Disk Partitioning - Disk 1 screen (Figure 101).

Figure 101. Hard Disk Partitioning - Disk 1 Screen

```
UnixWare Installation              Hard Disk Partition - Disk 1


           Total disk size is 17500 cylinders (35000.0MB)

                                      Cylinders
 Partition  Status   Type   Start   End   Length   %    Approx MB
     1      Active   Unix     0    17499  17500   100   34999.98
                    System


  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: 3
```

9 Enter **3** and then press **ENTER**.

The system displays the Set Slice Sizes screen (Figure 102).

Figure 102. Set Slice Sizes Screen

```
UNIX System Installation                          Set Slice Sizes

Please select whether you would like the recommended slice
sizes or would like to customize the slice sizes.

Your choices are:
1. Recommended Slice Sizes
2. Customize Slice Sizes

Press '1' or '2' followed by 'ENTER': 1
```

10 Continue with the appropriate steps in Table 35.

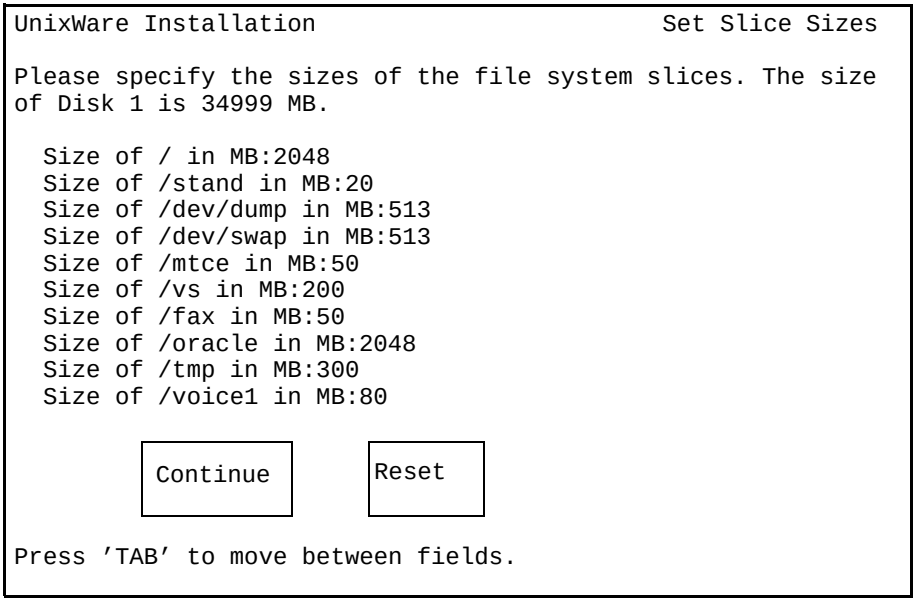
Table 35. Set Slice Size Options

If you choose . . .	Enter . . .	Then continue with . . .
1 Recommended Slice Sizes	**1**	Installing the LINCS Image on page 235
2 Customize Slice Sizes	**2**	Customizing Slice Sizes on page 230

Customizing Slice Sizes

If you chose `1.Customize Slice Sizes` from the Set Slice Sizes screen (Figure 102 on page 229), the system displays page 1 of the Set Up File Systems on Disk(s) screen (Figure 103 on page 230).

Figure 103. Set Up File Systems on Disk(s) Screen, Page 1



To set the slice sizes:

1 On page 1 of the Set Up File Systems on Disk(s) screen, enter the appropriate number of megabytes of space needed for each slice as specified in Table 36

   Use **TAB** to move to the next field.

Note: The sizes listed in Table 36 are the recommended default sizes. If you are loading a system using a mkimage tape, use the sizes on the tape label. If there are no sizes, use the recommended size from Table 36.

Table 36. Recommended Default Space Requirements for the UCS 1000 Server

Slice	Space Requirements (MB)
/	2048
/stand	20
/dev/dump	513
/dev/swap	513
/mtce	50
/vs	200

1 of 2

Table 36. Recommended Default Space Requirements for the UCS 1000 Server

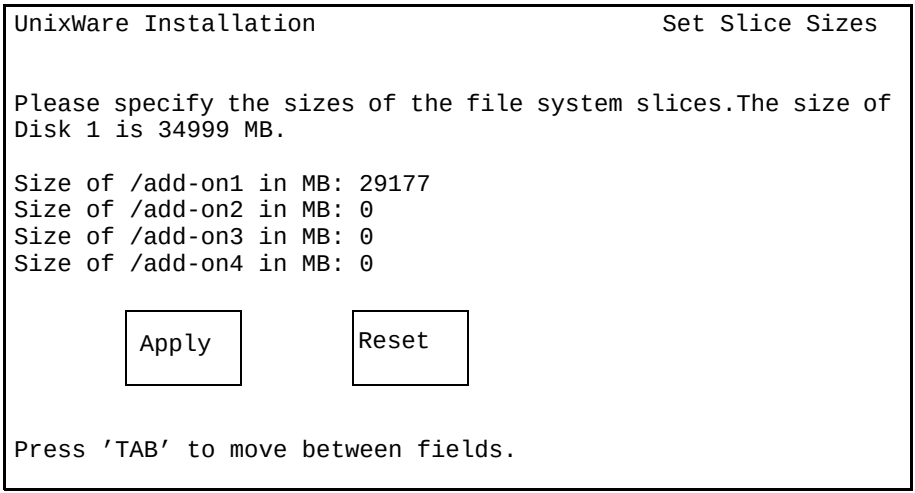
Slice	Space Requirements (MB)
/fax	50
/oracle	2048
/tmp	300
/voice1	80
/add-on1	29,177

2 of 2

2 After you complete the last field on the screen, press **TAB** to move to the `Continue` field and then press **ENTER**.

The system displays page 2 of the Set Up File Systems on Disk(s) screen (Figure 104).

Figure 104. Set Up File Systems on Disk(s) Screen, Page 2



3 On page 2 of the Set Up File Systems on Disk(s) screen, enter the appropriate number of megabytes of space needed for each slice as specified in Table 36.

Use **TAB** to move to the next field.

4 After you complete the last field on the screen, press **TAB** to move to the `Apply` field and then press **ENTER**.

The system displays the LINCS Device Type menu, Figure 105.

Figure 105. LINCS Device Type Screen

```
UnixWare Installation                          LINCS Device Type

Please select the device you wish to install from.

Your choices are:
1. CD-ROM
2. Tape

Press a number between 1 and 2 followed by 'ENTER': 1
```

5 Continue with Installing the LINCS Image on page 235.

Installing the LINCS Image

To install the LINCS Image:

1 Starting on the LINCS Device Type screen (Figure 105 on page 234), press **ENTER**.

The system displays the LINCS CD-ROM screen, (Figure 106).

Figure 106. LINCS CD-ROM Screen

```
UnixWare Installation                                LINCS CD-ROM

Please insert the LINCS CD-ROM into the CD-ROM drive and press
'ENTER'.

Your choices are:
1. The CD-ROM has been inserted in the CD-ROM drive
2. Go back to previous menu

Press '1' or '2' followed by 'ENTER': 1
```

2 Insert the CD labeled "Unixware 7.1.1 Image for LINCS 2.0" into the CD-ROM drive and then press **ENTER**.

The system verifies that the CD-ROM is inserted correctly and then displays the Continue Installation screen (Figure 107).

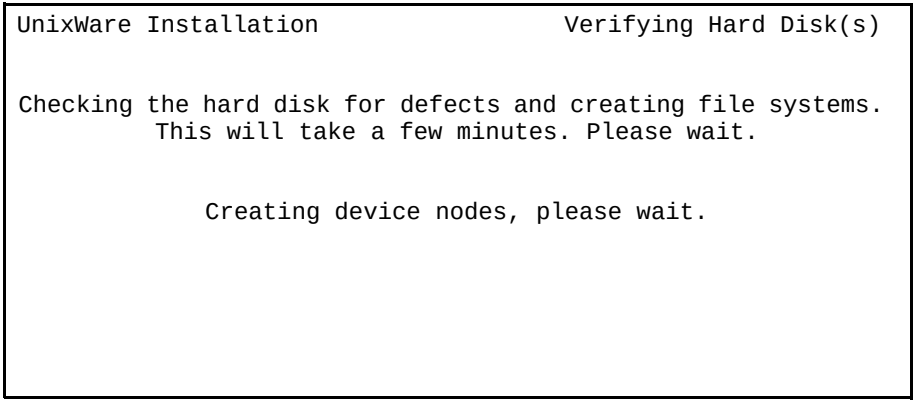
Figure 107. Continue Installation Screen

```
UnixWare Installation                    Continue Installation

The LINCS CD-ROM has been inserted correctly.

Next the hard disk will be checked for defects and the file
systems will be created. Then the LINCS Image will be copied
to the hard disk and the system will be rebooted.

Do not remove the LINCS CD-ROM until prompted to do so.

This will take at least one hour. Please wait.


Press 'Enter' to continue.
```

3 Press **ENTER**.

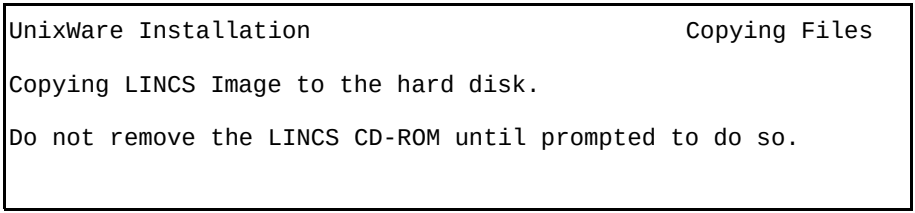
The system displays the Verifying Hard Disk(s) screen, Figure 108.

Figure 108. Verifying Hard Disk(s) Screen



After approximately 10 minutes, the system displays the Copying Files screen (Figure 109).

Figure 109. Copying Files Screen

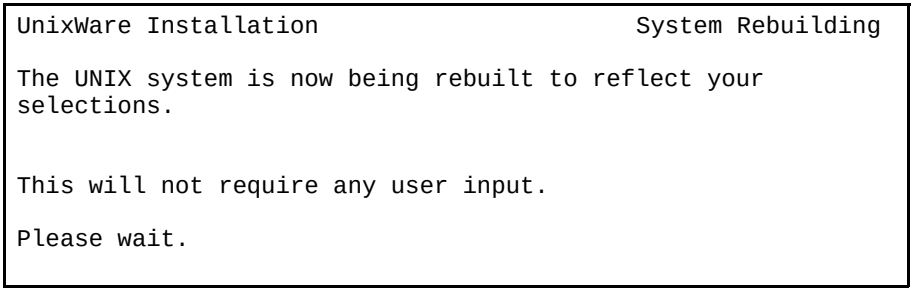


Note: If you are loading the LINCS image from tape, you will see a screen prompting you to remove the tape from the tape drive.

After approximately 20 minutes, the system displays the Rebuilding UNIX screen, Figure 110 on page 239.

Note: If you have just completed the Configuring the Array on page 197 procedure on a RAID system, the time intervals may be significantly longer. Total UNIX load time may be closer to 2 hours instead of 30 minutes.

Figure 110. Rebuilding UNIX Screen



The system automatically reboots and displays the `Console Login:` prompt.

The procedure is now complete and the LINCS base system software is installed. Continue with Setting Up the LAN Connection on page 244 or Initializing the Mouse on page 240.

Initializing the Mouse

To initialize the mouse:

1 Type **mouseadmin** at the system prompt and then press **ENTER**.

The system displays the Mouse Main Menu (Figure 111).

Figure 111. Mouse Main Menu

```
Mouse Configuration Program

Select one of the following:

   D) Display configuration
   A) Autoconfigure mouse (PS2/serial mice only)
   B) Add a bus mouse
   P) Add a PS2 mouse
   S) Add a serial mouse
   N) Set number of mouse buttons
   E) Exit

Enter selection:
```

2 Enter **p** and then press **ENTER**.

The system displays the following message:

```
Enter the display terminal that will be using the mouse, or
strike the ENTER key to return to the main menu.

Display terminal (i.e. console, s0vt00, etc.):
```

3 Enter **console** and then press **ENTER**.

The system displays the following message:

```
Enter the device that the mouse will be attached to, or
strike the ENTER key to return to the main menu.

Mouse device (i.e. m320):
```

4 Enter **m320** and then press **ENTER**.

The system displays the Mouse Main Menu (Figure 112).

Figure 112. Mouse Main Menu

```
Mouse Configuration Program

Select one of the following:

   D) Display configuration
   A) Autoconfigure mouse (PS2/serial mice only)
   B) Add a bus mouse
   P) Add a PS2 mouse
   S) Add a serial mouse
   N) Set number of mouse buttons
   T) Test your mouse configuration
   R) Remove a mouse
   E) Exit

Enter selection:
```

5 Continue with Testing the Mouse.

Testing the Mouse

To test the mouse:

1 Type **mouseadmin** at the system prompt and then press **ENTER**.

The system displays the Mouse Main Menu (Figure 112).

2 Enter **t** and then press **ENTER**.

The system displays the following message:

```
Please try using your mouse when the next
screen appears.

Strike the ENTER key when ready:
```

3 Press **ENTER**.

The system displays the following message:

```
Press a mouse button to stop test.
Test will be cancelled automatically in 15 seconds.
```

4 After a few seconds, click a mouse button.

The system displays the Mouse Main Menu, Figure 112 on page 242.

5 Type **e** and then press **ENTER**.

You have now installed all the required software for your UnixWare operating system.

Setting Up the LAN Connection

To set up the LAN connection:

1. From the network administrator, determine the following:
   - ~ The machine IP address
   - ~ The machine node name
   - ~ The system name
2. If you are not already logged in as root, do so now.
3. Enter **uname -S *name*** where *name* is the machine node name.

   The system displays the following message:

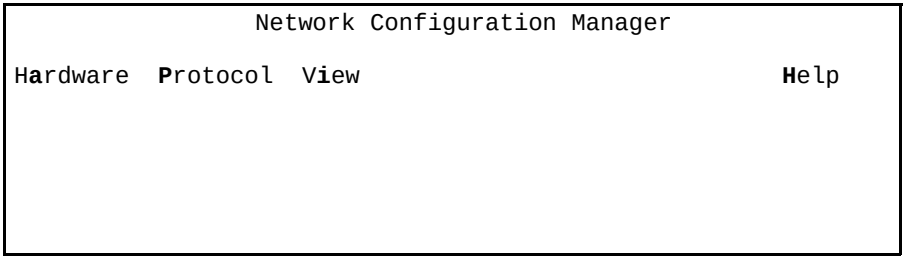
   ```
   WARNING: Changing will affect the system's feature license.
   The feature provided by these license will be unavailable.
   Please refer to System User documentation for more
   information.

   Do you really want to change the system's node name? [y/n] y
   ```

4. Press **ENTER**.
5. Use the vi editor to add the machine node name and IP address to the *etc/hosts* file.
6. Enter **netcfg**.

7 The system will display the Network Configuration Manager screen (Figure 113).

Use arrow keys on your keyboard and **Tab** to navigate around the screen.

Figure 113. Network Configuration Manager Screen



8 Press **Tab** to place the cursor on `Hardware`.

9 Press the ▼ arrow key.

The system displays the Hardware menu.

10 From the Hardware menu, use the ▼ key to select `Add new LAN adapter` and then press **ENTER**.

The system displays the Add New LAN Adapter screen (Figure 114).

Figure 114. Add New LAN Adapter Screen

```
                    Add New LAN Adapter

*Ethernet-Force Computers Intel 21143 Drive (2.00)-PCI Slot 0
 Ethernet-Force Computers Intel 21143 Drive (2.00)-PCI Slot 0


Continue  Cancel    Help
```

11 Use the ▼ key to select the LAN adapter you want to set up.

Note: You must set up the LAN adapter for Ethernet 1 and Ethernet 2 and, if installed, the LAN PMC.

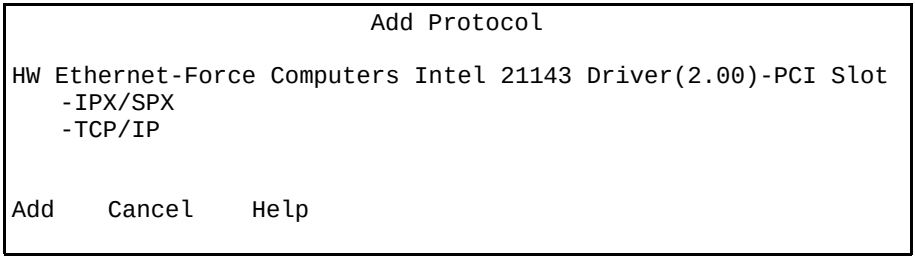
12 Press **Tab** to place the cursor on `Continue` and then press **ENTER**.

The system displays the following message at the bottom of the Add New LAN Adapter screen:

`Please wait while Network drivers are added.`

When it finishes adding the network drivers, the system displays the Add Protocol screen (Figure 115 on page 247).

Figure 115. Add Protocol Screen



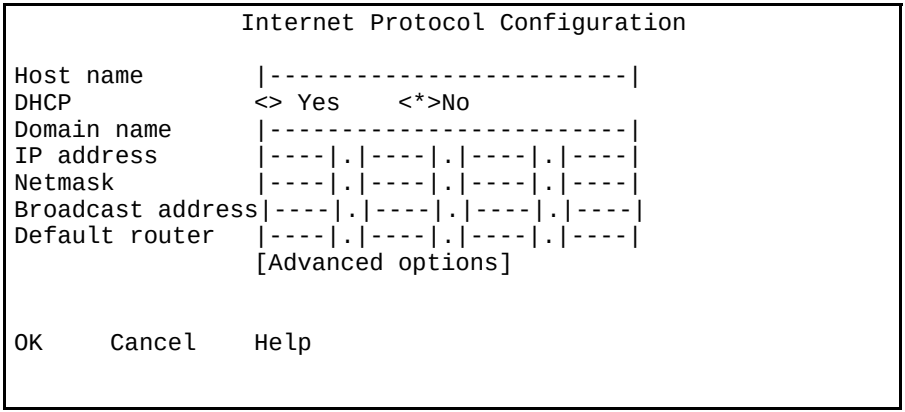
13 Use the ▼ arrow key to select `TCP/IP`.

14 Press **Tab** to place the cursor on `Add` and then press **ENTER**.

The system displays the Internet Protocol Configuration screen (Figure 116 on page 248). The host name you defined Step 3 appears in the `Host name` field. Disregard the `DHCP client` and `Domain name` fields.

Use the ▲ and ▼ keys on your keyboard to move between the fields.

Figure 116. Internet Protocol Configuration Screen



15 Enter the IP address.

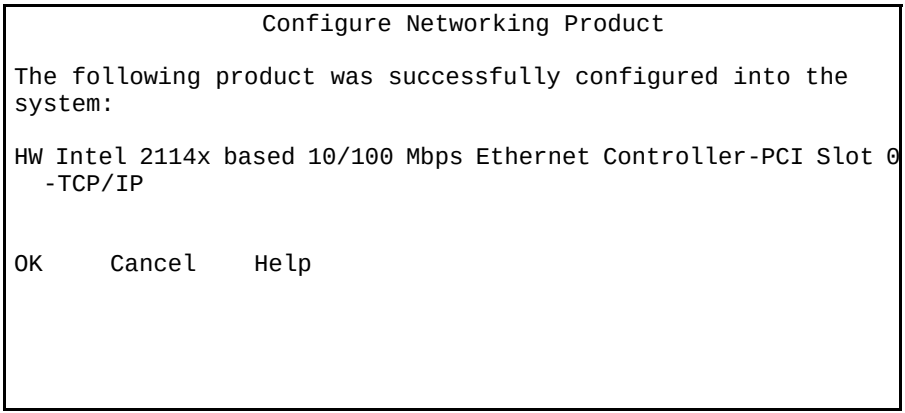
The system enters the appropriate information in the `Netmask` and `Broadcast address` fields.

16 Enter the default router number.

17 Press **Tab** to place the cursor on `OK` and then press **ENTER**.

18 The system displays the Configure Networking Product screen with a confirmation message similar to one appearing in Figure 117.

Figure 117. Configure Networking Product Screen



19 Press **Tab** to place the cursor on OK and then press **ENTER**.

20 The system displays the Network Configuration Manager screen (Figure 113 on page 245).

The adapter you configured and TCP/IP will be listed on the screen.

21 Press the ▼ key.

The system displays the Hardware menu.

22 From the Hardware menu, select `Exit` and then press **ENTER**.

The system displays the Unix prompt.

Setting Up the Monitor

To set up the monitor and use the graphical user interfaces (GUI) with the video controller card installed in your system:

1 Log in as root.

The system displays the system prompt.

2 Enter **/usr/X/bin/gsetvideo.**

The system displays the Video Configuration screen. Use **TAB** to move between the screen's panels, and use the ▲ and ▼ keys on your keyboard to move through the menu selections.

3 Select `[Add Adapter]` and then press **ENTER**.

The system displays the Video Adapter Configuration menu.

4 Select the video adapter installed on your system and then press **ENTER**. The video adapter installed is the default selection.

The system displays the Add Adapter menu.

5 Select [Monitor] and then press **ENTER**.

The system displays the Monitor Configuration menu.

6 Select the monitor attached to your system and then press **ENTER**.

The system displays the Add Adapter menu.

7 Select [Resolution] and then press **ENTER**.

The system displays the Resolution Configuration menu.

8 Select the appropriate resolution for your monitor.

9 Select [Test] and then press **ENTER**.

The system displays the following message:

```
When you select the 'Continue' button below, a test pattern
will be displayed. If the pattern and the text appear normal
then the new video board settings may be used. If not, then
you should choose a different resolution and test it.

                        *Warning*

If you have selected settings that are incompatible with your
hardware (e.g. you selected the wrong video adapter), you
might not be able to read the display after ending the test
or you may lose the ability to reset the display to a normal
state.
```

```
If you cannot read your display after ending the test, press
the <Ctrl><Alt><Backspace> keys at the same time to exit the
X server. If you still cannot read your display, you must
reboot your computer to reset the display. Be sure to warn
any users logged into your system before rebooting.

Press 'Continue' to begin the test.
```

10 Select `[Continue]` and then press **ENTER**.

If the system displays a bright, multicolored graphic, the resolution you selected is appropriate for your monitor.

If the system does not display this graphic, the resolution you selected is not compatible with your monitor, and you must select a different resolution. If you do not select a compatible resolution, your monitor could be permanently damaged.

After completing the test, the system displays the Resolution Configuration screen.

11 If the test pattern displayed correctly, select `[Ok]` and then press **ENTER**. If the test pattern did not display correctly, select a different resolution and repeat Step 9 through Step 10.

The system displays the Add Adapter menu.

12 Select [Ok] and then press **ENTER**.

The system displays the Video Configuration screen.

13 Select [Ok] and then press **ENTER**.

The system displays the Unix prompt.

6 Installing the UCS 1000 R4.6 Software

Overview

This chapter contains installation procedures for the UCS 1000 R4.6 software. Its purpose is to provide the information necessary to reload the system after a disk failure.

All of the packages included in the UCS 1000 R4.6 base software set are required for the operation of the system. The base software set includes:

- Utilities Package
- Runtime Processing Package
- Maintenance Package
- Logger/Alerter Package
- AUDIX Logger Package
- Administration Screens Package
- Backup/Restore Utilities
- Transaction State Machine Package
- License Modification Package

- E1/T1 Board Driver
- EEPROM760 driver
- Unix Management Screens Package
- Telecom Alarms Package
- Lucent Integrated Network Call Server Tuning
- Global Array Manager
- Hardware RAID Integration
- ASP Driver

Note on Reinstalling the Base Software Set

If you need to reinstall the base software set, you must first remove the eeprom package that currently exists on your system. If you install the eeprom package over itself, the eeprom package will fail. If this happens, use the **pkgrm eeprom760** command to remove the eeprom package and the **pkgadd *options* eeprom760** command to reinstall it.

Installing the Base Software Set

Use the following procedure to install the UCS 1000 R4.6 base software set.

1. Log in as root.
2. Insert the CD-ROM labeled "LINCS Base CD" into the CD-ROM drive.
3. Enter **pkgadd -d cdrom1 LINCSset**

   The system displays the following message:

```
Insert CD into SCSI CD-Rom 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 CD.

PROCESSING:
Set: Lucent Integrated Network Call Server Set (LINCSset)
from <cdrom1>

Lucent Integrated Network Call Server Set
(i586) 4.6-2
Using </> as the package base directory.

Do you want to run the default set installation?
```

5 Enter **y**

The system automatically installs each package listed in Overview on page 254. After approximately 20 minutes the system displays the following message:

```
Processing of packages for set <LINCSset> is completed.

***IMPORTANT NOTICE***
If installation of all desired packages is
complete, the machine should be rebooted in order
```

```
to ensure sane operation. Execute the shutdown
command with the appropriate options.
```

The system then displays the UNIX prompt.

6 If you are not going to install additional optional feature software, reboot the system. See “Rebooting the System,” in “Common System Procedures,” in the *UCS 1000 R4.6 System Reference*, 585-313-221, for the procedure.

7 Installing the Optional Feature Software

Overview

The purpose of this chapter is to provide the information necessary to reload the optional feature software on a system.

This chapter describes the procedures to install all the software that was not included as part of the base software. This software is called *optional* software since it is not required for the basic system to function.

Optional software is contained on the CD-ROM labeled "LINCS Base CD".

Note: You will not necessarily install all of the packages for which procedures are provided in this chapter, nor will you necessarily install them in the order documented. Packages that are order-specific are identified as such.

For information on installing optional software packages for the LSPS II circuit card, see Chapter 9, Installing LSPS II Optional Software Packages. For information on installing the Proxy Text-to-Speech software, see Chapter 2, "PTTS Installation and Removal," of *Proxy Text-to-Speech (PTTS) User Guide*, 585-350-115.

This chapter also describes the general procedure for removing software packages.

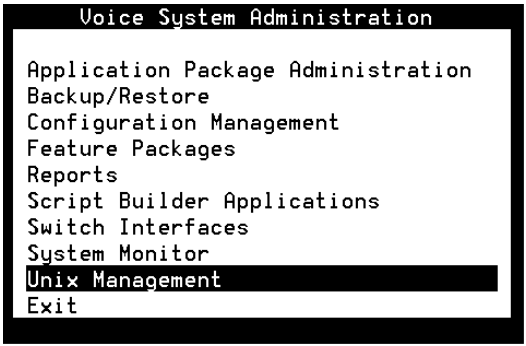
Note: All of the procedures in this chapter must be performed with root permission.

Using the Unix Management Screens to Install Software Packages

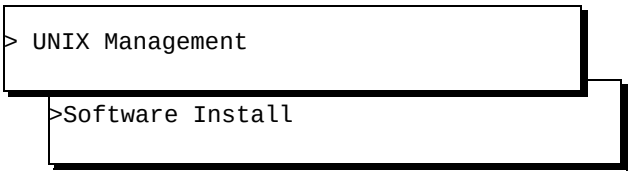
To load software a software package using the UCS 1000 R4.6 system screens:

1. Access the Voice System Administration menu (Figure 118 on page 260) by entering **cvis_menu**.

Figure 118. Voice System Administration Menu

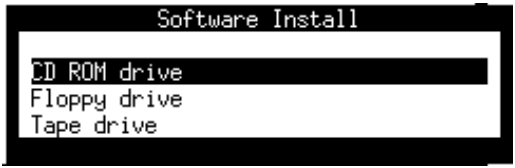


2 Select:



The system displays the Software Install menu (Figure 119 on page 261).

Figure 119. Software Install Menu



3 Select the appropriate media.

4 Continue with the following procedures for the optional feature packages.

Note: When installing optional feature packages from media other than the CD-ROM labeled "LINCS Base CD," you do not need to enter the **pkgadd** command as described in the following procedures. The system will list the packages available on the media and display the following message:

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

From the list of available packages, select the package you want to install and then press **ENTER**. After you press **ENTER**, the installation procedure for the package is identical to the procedure described in this chapter.

When installing optional feature packages from the CD-ROM labeled "LINCS Base CD," you must enter the **pkgadd** command as described in the following procedures.

Installing All Packages

To install all of the optional feature software packages:

1. If you are not already logged in as root, do so now.
2. Insert the CD-ROM labeled, "LINCS Base CD" into the CD-ROM drive.
3. At the UNIX prompt, enter **pkgadd -d cdrom1**.

   The system will list the packages available on the media and display the following message:

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

4. Press **ENTER**.

   The system displays the following message:

   ```
   Insert CD into SCSI CD-Rom Drive 1.
   Type [go] when ready,
   or [q] to quit:  (default:  go)
   ```

5. Press **ENTER**.

The system displays the following message:

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

The system installs each software package you specified in the **pkgadd** command. After the last package is successfully installed, the system displays the UNIX prompt.

6 If you are finished installing the optional feature software, remove the CD-ROM labeled “LINCS Base CD” from the CD-ROM drive.

7 Reboot the system. See “Rebooting the System,” in “Common System Procedures,” in the *UCS 1000 R4.6 System Reference*, 585-313-221, for the procedure.

Installing the Call Bridge Application Package

To install the Call Bridge Application optional feature package:

1 If you are not already logged in as root, do so now.

2 Insert the CD-ROM labeled “LINCS Base CD” into the CD-ROM drive.

3 At the UNIX prompt, enter **pkgadd -d cdrom1 xferdip**

The system displays the following message:

```
Insert CD into SCSI CD-Rom 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 CD.
```

```
PROCESSING:
Package: INTUITY Call Bridge Application Package (xferdip)
from <CD-ROM>
```

```
INTUITY Call Bridge Application Package
(i486) 4.6
Using </> as the package base directory.
Lucent Technologies Inc.
```

The system displays a series of status messages and then the following message:

```
Installation of INTUITY Call Bridge Application Package
(xferdip) was successful.
```

The system displays the UNIX prompt.

5 If you are finished installing the optional feature software, remove the CD-ROM labeled “LINCS Base CD” from the CD-ROM drive.

6 Reboot the system. See “Rebooting the System,” in “Common System Procedures,” in the *UCS 1000 R4.6 System Reference*, 585-313-221, for the procedure.

Installing the Call Classification Analysis Package

Note: If you are installing this package and feature_tst is already installed on your system, once you have finished installing all other packages desired, you must remove feature_tst and reinstall it in order to select the CCA test.

To install the CCA optional feature package:

1 Insert the CD-ROM labeled “LINCS Base CD” into the CD-ROM drive.

2 At the UNIX prompt, enter **pkgadd -d cdrom1 cca**

The system displays the following message:

```
Insert CD into SCSI CD-Rom Drive 1.
Type [go] when ready,
or [q] to quit:  (default:  go)
```

3 Press **ENTER**.

The system displays the following message:

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

```
PROCESSING:
Package: INTUITY Call Classification Analysis Package (cca)
from <CD-ROM>

INTUITY Call Classification Analysis Package
(i486) 4.6
Using </> as the package base directory.
Lucent Technologies Inc.
```

The system displays a series of status messages and then the following message:

```
Installation of INTUITY Call Classification Analysis Package
(cca) was successful.
```

The system then displays the UNIX prompt.

4 If you are finished installing the optional feature software, remove the CD-ROM labeled "LINCS Base CD" from CD-ROM from the drive.

5 Reboot the system. See “Rebooting the System,” in “Common System Procedures,” in the *UCS 1000 R4.6 System Reference*, 585-313-221, for the procedure.

For more information on this feature package, see *UCS 1000 R4.6 Communication Development*, 585-313-224.

Installing the Data Collection Toolkit

To install the Data Collection Toolkit optional feature package:

1. If you are not already logged in as root, do so now.
2. Insert the CD-ROM labeled “LINCS Base CD” into the CD-ROM drive.
3. At the UNIX prompt, enter **pkgadd -d cdrom1 dctoolkit**

   The system displays the following message:

   ```
   Insert CD into SCSI CD-Rom 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 CD.

   PROCESSING:
   Package: INTUITY Data Collection Toolkit (dctoolkit) from
   <cdrom1>

   INTUITY Data Collection Toolkit
   (i486) 4.6
   Using </> as the package base directory.
   Lucent Technologies Inc.
   ```

The system displays a series of status messages and then the following message:

```
Installation of INTUITY Data Collection Toolkit (dctoolkit)
was successful.
```

The system then displays the UNIX prompt.

5 If you are finished installing the optional feature software, remove the CD-ROM labeled “LINCS Base CD” from the CD-ROM drive.

6 Reboot the system. See “Rebooting the System,” in “Common System Procedures,” in the *UCS 1000 R4.6 System Reference*, 585-313-221, for the procedure.

Installing the Dial Pulse Recognition Package

To install the Dial Pulse Recognition optional feature package:

1 If you are not already logged in as root, do so now.

2 Insert the CD-ROM labeled “LINCS Base CD” into the CD-ROM drive.

Note: If you have dpr assigned to any SSP card, the voice system must be running when you install the dpr package.

3 At the UNIX prompt, enter **pkgadd -d cdrom1 dpr**

The system displays the following message:

```
Insert CD into SCSI CD-Rom 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 CD.

PROCESSING:
Package: INTUITY Dial-Pulse Recognition Package (dpr) from
<cdrom1>

INTUITY Dial-Pulse Recognition Package
(i486) 4.6
Using </> as the package base directory.
Lucent Technologies Inc.
```

The system displays a series of status messages and then the following message:

```
This package contains the standard dpr and the
Brazilian dpr. Install standard dpr unless you are in
Brazil or have been told that you need the Brazilian
dpr feature.

To switch versions, simply reinstall the package and
select the desired version. If you have dpr assigned
to any SSP card, you will also need to restart the
```

```
voice system. Do you want to install the standard dpr
or the Brazilian dpr? [s/b]
```

5 Enter **s** or **b** as appropriate and then press **ENTER**.

The system displays the following message:

```
The dpr package you just installed is the <standard or Brazilian>
version. To check the version, run the command "pkginfo -l
dpr". Be sure to restart the voice system if dpr has been
assigned to any SSP card.

Installation of INTUITY Dial-Pulse Recognition Package (dpr)
was successful.
```

The system then displays the UNIX prompt.

6 If you are finished installing the optional feature software, remove the CD-ROM labeled “LINCS Base CD” from the CD-ROM drive.

7 Reboot the system. See “Rebooting the System,” in “Common System Procedures,” in the *UCS 1000 R4.6 System Reference*, 585-313-221, for the procedure.

Installing the E1 CAS Interface Package

To install the E1 CAS Interface optional feature package:

1. Insert the CD-ROM labeled “LINCS Base CD” into the CD-ROM drive.
2. At the UNIX prompt, enter **pkgadd -d cdrom1 r2mex**

   The system displays the following message:

   ```
   Insert CD into SCSI CD-Rom Drive 1.
   Type [go] when ready,
   or [q] to quit:  (default:  go)
   ```

3. Press **ENTER**.

   The system displays the following message:

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

   PROCESSING:
   Package: INTUITY E1 CAS R2 MFC Interface Package - Mexico
   (r2mex) from <cdrom1>

   INTUITY E1 CAS R2 MFC Interface Package - Mexico
   (i486) 4.6
   Using </> as the package base directory.
   Lucent Technologies Inc.
   ```

The system displays a series of status messages and then the following message:

```
Installation of INTUITY E1 CAS Package (r2mex) was
successful.
```

The system then displays the UNIX prompt.

4. If you are finished installing the optional feature software, remove the CD-ROM labeled “LINCS Base CD” from the CD-ROM drive.
5. Reboot the system. See “Rebooting the System,” in “Common System Procedures,” in the *UCS 1000 R4.6 System Reference*, 585-313-221, for the procedure.

   For more information on this feature package, see “Backing Up the System,” in “Common System Procedures,” in the *UCS 1000 R4.6 System Reference*, 585-313-221, for the procedure.

Installing the 8-Port Asynchronous Circuit Card Driver

To install the 8-port asynchronous circuit card driver:

1. If you are not already logged in as root, do so now.
2. Insert the CD-ROM labeled “LINCS Base CD” into the CD-ROM drive.
3. At the UNIX prompt, enter **pkgadd -d cdrom1 eqn**

The system displays the following message:

```
Insert CD into SCSI CD-Rom 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 CD.

PROCESSING:
Package: Equinox SST Loadable STREAMS Device
Driver(EISA/ISA/MCA/PCI/CPCI) (eqn) from <cdrom1>

Equinox SST Loadable STREAMS Device
Driver(EISA/ISA/MCA/PCI/CPCI)
(i386) 3.42b
Using </> as the package base directory.
Lucent Technologies Inc.
```

The system displays a series of status messages and then the following message:

```
Are you installing PCI/CPCI boards only? [Y,n]?
```

5 Enter **y**.

The system displays a series of status messages and then the following message:

```
Should the default set of port monitors/services be
installed [Y/n]?
```

6 Enter **n**.

The system displays the following message:

```
Default set of port monitors and port services NOT
installed.
You may add them at a later time by using the command
/etc/eqnportsetup.
Installation of Equinox SST Loadable STREAMS Device Driver
(EISA/ISA/MCA/PCI/CPCI) (eqn) was successful.
```

The system then displays the UNIX prompt.

7 If you are finished installing the optional feature software, remove the CD-ROM labeled “LINCS Base CD” from the CD-ROM drive.

8 Reboot the system. See “Rebooting the System,” in “Common System Procedures,” in the *UCS 1000 R4.6 System Reference*, 585-313-221, for the procedure.

Installing the FlexWord Speech Recognition Package

Installing the FlexWord™ Speech Recognition Package requires installing the following packages in the order shown:

- FlexWord Recognition - Base. See Installing FlexWord Recognition - Base for the procedure.
- FlexWord Recognition - U.S. English. See Installing FlexWord Recognition on page 277 for the procedure.

Note: The FlexWord software packages are for the SSP circuit card only. For information about software packages for the LSPS II circuit card, see Chapter 9, Installing LSPS II Optional Software Packages.

Installing FlexWord Recognition - Base

To install the FlexWord Recognition - Base optional feature package:

1. Stop the voice system. See “Administering the Voice System,” in “Common System Procedures,” in the *UCS 1000 R4.6 System Reference*, 585-313-221, for the procedure.
2. Insert the CD-ROM labeled “LINCS Base CD” into the CD-ROM drive.
3. At the UNIX prompt, enter **pkgadd -d cdrom1 flexrecog**

The system displays the following message:

```
Insert CD into SCSI CD-Rom Drive 1.
Type [go] when ready,
or [q] to quit:  (default:  go)
```

4 Press **ENTER**.

Note: If you did *not* stop the voice system, the system displays the following message and exits the package installation:

```
The voice system is currently running and must be
stopped in order to install this package.

Please perform a stop_vs and then try again.
```

If the voice system was stopped, the system displays the following message:

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

PROCESSING:
Package: INTUITY FlexWord Recognition - Base (flexrecog)
from <cdrom1>

INTUITY FlexWord Recognition - Base
(i486) 4.6
Using </> as the package base directory.
```

The system displays a series of status messages and then the following message:

```
Installation of INTUITY FlexWord Recognition - Base
(flexrecog) was successful.
```

The system then displays the UNIX prompt.

5 If you are finished installing the optional feature software, remove the CD labeled "LINCS Base CD" from the CD-ROM from the drive.

6 Reboot the system. See “Rebooting the System,” in “Common System Procedures,” in the,*UCS 1000 R4.6 System Reference*, 585-313-221, for the procedure.

Installing FlexWord Recognition

To install the FlexWord Recognition optional feature package:

1 Stop the voice system. See “Administering the Voice System,” in “Common System Procedures,” in the *UCS 1000 R4.6 System Reference*, 585-313-221, for the procedure.

2 Ensure that the FlexWord Recognition - Base package is installed.

3 Insert the CD-ROM labeled "LINCS Base CD" into the CD-ROM drive.

4 At the UNIX prompt, enter **pkgadd -d cdrom1 <*package*>**

Enter the appropriate package for your language:

- **ukflex** for U.K. English
- **usflex** for U.S. English

The system displays the following message:

```
Insert CD into SCSI CD-Rom Drive 1.
Type [go] when ready,
or [q] to quit: (default: go)
```

5 Press **ENTER**.

Note: If you did *not* stop the voice system, the system displays the following message and exits the installation package:

```
The voice system is currently running and must be
stopped in order to install this package.

Please perform a stop_vs and then try again.
```

If you stopped the voice system, the system displays a message similar to the following:

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

PROCESSING:
Package: INTUITY FlexWord Recognition - US English (usflex)
from <cdrom1>
```

```
INTUITY FlexWord Recognition - US English
(i486) 4.6
Using </> as the package base directory.
```

The package name displayed in the message will match the package you entered in Step 4.

The system displays a series of status messages and then a message similar to the following:

```
Installation of INTUITY FlexWord Recognition - US English
(usflex) was successful.
```

The package name displayed in the message will match the package you entered in Step 4.

The system then displays the UNIX prompt.

6 If you are finished installing the optional feature software, remove the CD-ROM labeled "FlexWord Recognition - ***<language>***" from the CD-ROM drive.

7 Reboot the system. See “Rebooting the System,” in “Common System Procedures,” in the *UCS 1000 R4.6 System Reference*, 585-313-221, for the procedure.

For more information on this feature package, see *UCS 1000 R4.6 Speech Development, Processing, and Recognition*, 585-313-223.

Installing the NGFax Feature Package

Note: To use this feature, you must have at least one SSP (CWB1) circuit card installed in the system.

To install the NGFax optional feature package:

1. Insert the CD-ROM labeled “LINCS Base CD” into the CD-ROM drive.
2. At the UNIX prompt, enter **pkgadd -d cdrom1 csfax**

   The system displays the following message:

   ```
   Insert CD into SCSI CD-Rom Drive 1.
   Type [go] when ready,
   or [q] to quit:  (default:  go)
   ```

3. Press **ENTER**.

   The system displays the following message:

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

   PROCESSING:
   Package: INTUITY Next Generation FAX Interface Package
   (csfax) from <cdrom1>

   INTUITY Next Generation FAX Interface Package
   (i486) 4.6
   Using </> as the package base directory.
   Lucent Technologies Inc.
   ```

The system displays a series of status messages and then the following message:

```
Installation of INTUITY Next Generation FAX Package (csfax)
was successful.
```

The system then displays the UNIX prompt.

4 If you are finished installing the optional feature software, remove the CD-ROM labeled “LINCS Base CD” from the CD-ROM drive.

5 Reboot the system. See “Rebooting the System,” in “Common System Procedures,” in the *UCS 1000 R4.6 System Reference*, 585-313-221 for the procedure.

For more information on this feature package, see “Backing Up the System,” in “Common System Procedures,” in the *UCS 1000 R4.6 System Reference*, 585-313-221, for the procedure.

Installing the Primary Rate Interface Packages

The primary rate interface packages include:

- ISDN primary rate interface
- Advanced primary rate interface (restricted availability)

The ISDN primary rate interface package must be installed first.

Installing the ISDN Primary Rate Interface Package

To install the ISDN Primary Rate Interface optional feature package:

1. If you are not already logged in as root, do so now.
2. Insert the CD-ROM labeled “LINCS Base CD” into the CD-ROM drive.
3. At the UNIX prompt, enter **pkgadd -d cdrom1 pri**

   The system displays the following message:

   ```
   Insert CD into SCSI CD-Rom 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 CD.

   PROCESSING:
   Package: INTUITY ISDN Primary Rate Interface Package (pri)
   from <cdrom1>

   INTUITY ISDN Primary Rate Interface Package
   (i486) 4.6
   Using </> as the package base directory.
   Lucent Technologies Inc.
   ```

   The system displays a series of status messages and then the following message:

```
The UNIX  kernel will be rebuilt now. This will take some
time. Please wait.

The UNIX kernel has been rebuilt.

RM PROFILE_SIZE has been changed.
Reboot before attempting to use this PRI package.
```

The system displays another series of status messages and then the following message:

```
This concludes the steps required to install the 'ISDN
Primary Rate Interface' feature. However, additional steps
are required to activate the feature. Consult the INTUITY VIS
Operations guide for the steps required. Administration must
also be done at the connecting end (PBX, ACD, or other
switch) to properly configure the T1 or E1 channels.

Installation of INTUITY ISDN Primary Rate Interface Package
(pri) was successful.
```

The system then displays the UNIX prompt.

5 If you are finished installing the optional feature software, remove the CD-ROM labeled "LINCS Base CD" from the CD-ROM drive.

6 Reboot the system. See “Rebooting the System,” in “Common System Procedures,” in the *UCS 1000 R4.6 System Reference*, 585-313-221, for the procedure.

For more information on this feature, see: Chapter 3, “Digital Telephony Interfaces,” of *UCS 1000 R4.6 Communication Development*, 585-313-224, and Chapter 6, “Switch Interfaces,” of *UCS 1000 R4.6 Administration*, 585-313-509.

Installing the Advanced Primary Rate Interface Package

To install the Advanced Primary Rate Interface optional feature package:

1. If you are not already logged in as root, do so now.
2. Insert the CD-ROM labeled “LINCS Base CD” into the CD-ROM drive.
3. At the UNIX prompt, enter **pkgadd -d cdrom1 npri**

   The system displays the following message:

   ```
   Insert CD into SCSI CD-Rom 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 CD.

   PROCESSING:
   Package: INTUITY Advanced PRI Package (npri) from <cdrom1>

   INTUITY Advanced PRI Package
   (i486) 4.6
   ```

```
Using </> as the package base directory.
Lucent Technologies Inc.
```

The system displays a series of status messages and then the following message:

```
This concludes the steps required to install the ‘Advanced
PRI’ feature.

Installation of INTUITY Advanced PRI Package (npri) was
successful.
```

The system then displays the UNIX prompt.

5 If you are finished installing the optional feature software, remove the CD-ROM labeled "LINCS Base CD" from the CD-ROM drive.

6 Reboot the system. See “Rebooting the System,” in “Common System Procedures,” in the *UCS 1000 R4.6 System Reference*, 585-313-221, for the procedure.

Installing the Proxy Text-to-Speech Packages

For information on installing the Proxy Text-to-Speech software, see Chapter 2, "PTTS Installation and Removal," of *Proxy Text-to-Speech (PTTS) User Guide*, 585-350-115.

Installing the T1 E&M Package

To install the T1 E&M optional feature package:

1. If you are not already logged in as root, do so now.
2. Insert the CD-ROM labeled “LINCS Base CD” into the CD-ROM drive.
3. At the UNIX prompt, enter **pkgadd -d cdrom1 t1em**

   The system displays the following message:

   ```
   Insert CD into SCSI CD-Rom 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 CD.

   PROCESSING:
   Package: INTUITY T1 E&M Interface Package (t1em) from
   <cdrom1>

   INTUITY T1 E&M Interface Package
   (i486) 4.6
   Using </> as the package base directory.
   Lucent Technologies Inc.
   ```

The system displays a series of status messages and then the following message:

```
This concludes the steps required to install the 'T1 E&M
Interface Package' feature. However, additional steps are
required to activate the feature. Consult the INTUITY VIS
Operations guide for the steps required. Administration must
also be done at the connecting end (PBX, ACD, or other
switch) to properly configure the T1 channels.

Installation of INTUITY T1 E&M Interface Package (t1em) was
successful.
```

The system then displays the UNIX prompt.

5 If you are finished installing the optional feature software, remove the CD-ROM labeled "LINCS Base CD" from the CD-ROM drive.

6 Reboot the system. See “Rebooting the System,” in “Common System Procedures,” in the *UCS 1000 R4.6 System Reference*, 585-313-221, for the procedure.

Installing the Text-To-Speech Package

Note: The Text-To-Speech software package is for the SSP circuit card only. For information about software packages for the LSPS II circuit card, see Chapter 9, Installing LSPS II Optional Software Packages.

Note: If you are installing the TTS package and feature_tst is already installed on your system, once you have finished installing all other packages desired, you must remove feature_tst and reinstall it in order to select the TTS test.

To install the TTS optional feature package:

1. If you are not already logged in as root, do so now.
2. Insert the CD-ROM labeled “LINCS Base CD” into the CD-ROM drive.
3. At the UNIX prompt, enter **pkgadd -d cdrom1 tts**

   The system displays the following message:

   ```
   Insert CD into SCSI CD-Rom 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 CD.

PROCESSING:
Package: INTUITY Text To Speech Package (tts) from <cdrom1>

INTUITY Text To Speech Package
(i486) 4.6
Using </> as the package base directory.
Lucent Technologies Inc.
```

The system displays a series of status messages and then the following message:

```
Installation of INTUITY Text To Speech Package (tts) was
successful.
```

The system then displays the UNIX prompt.

5 If you are finished installing the optional feature software, remove the CD labeled “LINCS Base CD” from the CD-ROM drive.

6 Reboot the system. See “Rebooting the System,” in “Common System Procedures,” in the *UCS 1000 R4.6 System Reference*, 585-313-221, for the procedure.

For more information on this feature package, see *UCS 1000 R4.6 Speech Development, Processing, and Recognition*, 585-313-223.

Installing the WholeWord Recognition Packages

The WholeWord recognition packages include the *WholeWord Recognition - Base* and the *WholeWord Recognition - Language.*

Note: The WholeWord software packages are for the SSP circuit card only. For information about software packages for the LSPS II circuit card, see Chapter 9, Installing LSPS II Optional Software Packages.

Installing the WholeWord Recognition Base Package

Note: If you are installing the WholeWord Recognition - Base package and feature_tst is already installed on your system, once you have finished installing all other packages desired, you must remove feature_tst and reinstall it in order to select the ASR test.

To install the WholeWord Recognition - Base optional feature package:

1. If you are not already logged in as root, do so now.
2. Insert the CD-ROM labeled “LINCS Base CD” into the CD-ROM drive.
3. At the UNIX prompt, enter **pkgadd -d cdrom1 asr**

   The system displays the following message:

```
Insert CD into SCSI CD-Rom 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 CD.

PROCESSING:
Package: INTUITY WholeWord Recognition - Base (asr) from
<cdrom1>

INTUITY WholeWord Recognition - Base
(i486) 4.6
Using </> as the package base directory.
Lucent Technologies Inc.
```

The system displays a series of status messages and then the following message:

```
Installation of INTUITY WholeWord Recognition - Base (asr)
was successful.
```

The system displays the UNIX prompt.

5 Continue with Installing the WholeWord Recognition Language Package.

Installing the WholeWord Recognition Language Package

To install the Wholeword Recognition Language optional feature package:

1 If you are not already logged in as root, do so now.

2 Insert the CD-ROM labeled “LINCS Base CD” into the diskette drive.

3 At the UNIX prompt, enter **pkgadd -d cdrom1 *<package>***

Enter the appropriate package for your language:

- **ukrecog** for U.K. English
- **usrecog** for U.S. English

The system displays the following message:

```
Insert CD into SCSI CD-Rom Drive 1.
Type [go] when ready,
or [q] to quit: (default: go)
```

4 Press **ENTER**.

The system displays a message similar to the following:

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

PROCESSING:
Package: INTUITY WholeWord Recognition - US English
(usrecog) from <diskette1>

INTUITY WholeWord Recognition - US English
(i486) 4.6
Using </> as the package base directory.
Lucent Technologies Inc.
```

The package name displayed in the message will match the package name on the diskette.

The system displays a series of status messages and then a message similar to the following:

```
Installation of INTUITY WholeWord Recognition - US English
(usrecog) was successful.
```

The package name displayed in the message will match the package name on the diskette.

The system then displays the UNIX prompt.

5 If you are finished installing the optional feature software, remove the diskette labeled "WholeWord Recognition - ***<language>***" from the diskette drive.

6 Reboot the system. See “Rebooting the System,” in “Common System Procedures,” in the *UCS 1000 R4.6 System Reference*, 585-313-221, for the procedure.

For more information on this feature package, see *UCS 1000 R4.6 Speech Development, Processing, and Recognition*, 585-313-223.

Installing the Feature Test Script Package

Note: Install the Feature Test Script optional feature package *only after* all the other optional feature packages have been installed:

Note: The tests contained in this package test only for the SSP feature packages and the play and code functions on the Quad circuit card. The tests do not test the LSPS feature packages.

To install the Feature Test Script optional feature package:

1. Insert the CD-ROM labeled “LINCS Base CD” into the CD-ROM drive.
2. At the UNIX prompt, enter **pkgadd -d cdrom1 ftst**

   The system displays the following message:

   ```
   Insert CD into SCSI CD-Rom Drive 1.
   Type [go] when ready,
   or [q] to quit:  (default:  go)
   ```

3. Press **ENTER**.

   The system displays the following message:

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

   PROCESSING:
   Package: INTUITY Feature Test Script Package (ftst) from
   <cdrom1>

   INTUITY Feature Test Script Package
   (i486) 4.6

   Using </> as the package base directory.
   Lucent Technologies Inc.
   ```

   The system displays a series of status messages and then the following message:

   ```
   Do you want to include the Speech Recognition Test? (y/n)
   ```

4. Enter **y**

The system displays the following message:

```
Do you want to include the Simple CCA test? (y/n)
```

Note: If you answer **y** and that package has not been installed on your system, you are given an opportunity to cancel the installation. The following is an example for Full CCA:

```
Displaypkg shows that Full CCA is not installed.
You will not be able to test Full CCA with this script.
Type q to quit or return to continue.
```

5 Enter **y**

The system displays the following message:

```
Do you want to include the Full CCA test? (y/n)
```

6 Enter **y**

The system displays the following message:

```
Do you want to include the Playback and Coding test? (y/n)
```

7 Enter **y**

The system displays the following message:

```
Do you want to include the Chantst test? (y/n)
```

8 Enter **y**

The system displays the following message:

```
Do you want to include the Transfer Test test? (y/n)
```

9 Enter **y**

The system displays the following message:

```
Do you want to include the Text to Speech test? (y/n)
```

10 Enter **y**

The system displays the following message:

```
Do you want to include the Dial Pulse Recognition test? (y/n)
```

11 Enter **y**

The system displays another series of status messages and then the following messages:

```
Installation of INTUITY Feature Test Script Package (ftst)
was successful.
```

The system then displays the UNIX prompt.

12 If you are finished installing the optional feature software, remove the CD-ROM labeled "LINCS Base CD" from the CD-ROM drive.

13 Reboot the system. See “Rebooting the System,” in “Common System Procedures,” in the *UCS 1000 R4.6 System Reference*, 585-313-221, for the procedure.

Installing the SNMP Emanate Agent Package

To install the SNMP Emanate Agent optional feature package:

1. If you are not already logged in as root, do so now.
2. Insert the CD-ROM labeled “LINCS Base CD” into the CD-ROM drive.
3. At the UNIX prompt, enter **pkgadd -d cdrom1 snmp**

   The system displays the following message:

   ```
   Insert CD into SCSI CD-Rom 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 CD.

   PROCESSING:
   Package: INTUITY SNMP Emanate Agent (snmp) from <cdrom1>

   INTUITY SNMP Emanate Agent Package
   (i486) 4.6
   Using </> as the package base directory.
   Lucent Technologies Inc.
   ```

The system displays several status messages and then the following message:

```
Installation of INTUITY SNMP Emanate Agent Package (snmp)
was successful.
```

The system then displays the UNIX prompt.

5 If you are finished installing the optional feature software, remove the CD-ROM labeled “LINCS Base CD” from the CD-ROM drive.

6 Reboot the system. See “Rebooting the System,” in “Common System Procedures,” in the *UCS 1000 R4.6 System Reference*, 585-313-221, for the procedure.

Removing Software Packages

There are some important issues you need to be aware of when removing software from your system:

- If you are finished installing the optional feature software, remove all services, functions, or card assignments before removing any software packages.
- When removing the software packages, you are asked if you want to remove speech file systems. Answer **no** to this prompt.

- During an initial installation of the Base ORACLE RDBMS package, a user called “oracle” is created. This user is not removed when the Base ORACLE RDBMS package is removed. Once all the base and add-on ORACLE packages have been removed, if you want to remove the “oracle” user, do so through **SYSADM**. See Appendix A, “System Administration Features,” in *UCS 1000 R4.6 Administration*, 585-313-509, for more information.

Software packages can be removed using the command line or by using the administration screens.

Using the Command Line

To remove software packages using the command line:

1. Enter **pkgrm**
2. At the prompt, enter the number (as it appears on the screen) beside the package you want to remove.
3. Repeat Step 2 for each package you want to remove.

CAUTION:

After you have removed packages from a UnixWare system, you *must* reboot the system before reinstalling packages. You can remove more than one package before rebooting, but you must reboot before reinstalling any packages.

Using the Administration Screens

To remove software using the administration screens:

1 Starting at the Voice System Administration menu, select:

```
> UNIX Management
    >Software Remove
```

The system displays the Software Remove screen (Figure 120) which lists the software installed on the system.

Figure 120. Software Remove Screen

```
1 BASEdoc     UnixWare Documentation
              (IA32) 7.1.1

2 BASEman     UnixWare Manual Pages
              (IA32) 7.1.1

3 DLPI        BUILT IN TO NETWORK INTERFACE CARD SUPPORT,
              CANNOT BE REMOVED


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

2 Locate the package you want to remove.

3 Note the number of the package given in the first column.

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 number of the package.

The system displays the name and version number for the package selected.

6 Enter **y**

The system removes the package.

Note: If the system displays any messages warning of dependencies, enter **y** again to continue with the software removal.

7 Press **ENTER**.

8 Installing ORACLE Packages

Overview

Many systems using the UCS 1000 R4.6 will require database management software. The ORACLE Relational Database Management System (RDBMS) 8 software package allows a user to establish and maintain a local ORACLE RDBMS on the system.

The base ORACLE software comes on its own CD-ROM. You can also purchase the ORACLE development tools, which are delivered on an additional CD-ROM.

Base ORACLE Software

The base ORACLE software is delivered on the ORACLE 8i Enterprise Edition CD-ROM. (The ORACLE Integration package is delivered on the LINCS Base CD-ROM.) These packages are required for the operation of the ORACLE database on the UCS 1000 R4.6 system.

The ORACLE 8i Enterprise Edition CD-ROM also includes other ORACLE software packages. These additional packages are not required for the operation of the ORACLE database on the UCS 1000 R4.6 system and thus may not be covered under the same licensing agreement. Customers must purchase additional licenses directly from ORACLE if they want to use these

packages. Note also that these packages are not certified for use with the UCS 1000 R4.6 system and thus are not supported by Lucent Technologies. Furthermore, customers must be aware that the use of these uncertified packages could exceed the resources of the UCS 1000 R4.6 system or adversely compete with other voice system features for resources.

Table 37 lists the contents of the ORACLE 8i Enterprise Edition CD-ROM and identifies licensing requirements for each package.

Table 37. Contents of the ORACLE 8i Enterprise Edition CD-ROM

Package Name	Licensed for UCS 1000 R4.6 ?
ORACLE 8i Server	
~ ORACLE 8i Enterprise Edition	Yes
ORACLE Utilities	
~ SQL*Plus	Yes
~ ORACLE Jserver Enterprise Edition	No
~ ORACLE interMedia	Yes
~ ORACLE Spatial	No
~ ORACLE Time Series	No

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Table 37. Contents of the ORACLE 8i Enterprise Edition CD-ROM

~ ORACLE Visual Information Retrieval	No
~ ORACLE Advanced Security Export Edition	No
~ ORACLE Partitioning	No
~ ORACLE Programmer	Yes
ORACLE 8i Client	
~ ORACLE Advanced Security	No
~ ORACLE Programmer	Yes
~ ORACLE interMedia Client	Yes
~ ORACLE Visual Information Retrieval Client	No

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ORACLE Development Tools

In addition to the ORACLE RDBMS package, you can purchase the following optional ORACLE development tools:

- Developer
- Reports
- Procedure Builder

These optional ORACLE development tools are delivered on the ORACLE Developer 2000 CD-ROM

Installation and Removal Information

For detailed installation and removal information, see the ORACLE documentation.

Installing the ORACLE Base Software Packages

The ORACLE base software packages include:

- Base ORACLE RDBMS 8
- ORACLE 8 Integration Package
- NET8 for ORACLE 8

Note: To install the ORACLE base software set, you must attach and initialize a PS2 mouse. See Initializing the Mouse on page 240.

To install the ORACLE base software set:

1. Log in as root.
2. Insert the CD-ROM labeled "LINCS Base CD" into the CD-ROM drive.
3. Start X-Windows by entering **startx** and then pressing **ENTER**.

   The system opens a window.

4 In the window, enter **TERM=xterm** and then press **ENTER**.

The system displays the Unix prompt.

5 Enter **pkgadd -d cdrom1 oraint** and then press **ENTER**.

The system displays the following message:

```
Insert CD into SCSI CD-Rom Drive 1.
Type [go] when ready,
or [q] to quit: (default: go)
```

6 Press **ENTER**.

The system displays the following messages:

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

PROCESSING:
Set: ORACLE 8i RDBMS Integration Package (oraint) from
<cdrom1>

ORACLE 8i RDBMS Integration Package
(i486) V8.0
Using </> as the package base directory.
Lucent Technologies Inc.

The voice system is currently running and must be stopped in
order to install this package. Is it OK to STOP the Voice
System?
```

7 Enter **y** and then press **ENTER**.

The system displays the following message:

```
Enter Oracle home directory[/oracle]:
```

8 Enter a pathname or press **ENTER** to accept the default.

The system displays the following message:

```
You have selected the following as Oracle Home :/oracle
If this is correct enter (Y/y,n/N): [Y]
```

If you entered a different pathname, the pathname that you entered appears in place of `:/oracle`.

9 Press **ENTER**.

The system displays a series of messages and then the following messages:

```
Adding oinstall group
Adding dba group
Adding oracle login
Enter password for oracle:
New password:
```

10 Enter a new password for Oracle and then press **ENTER**.

The system displays the following message:

```
Re-enter new password:
```

11 Re-type the new password and then press **ENTER**.

The system displays a series of messages and then the following message:

```
Please insert the Oracle 8i installation cd in cdrom1.
Hit the return key once the light on the CD drive is off
[Enter].
```

12 Remove the CD-ROM labeled "LINCS Base CD" from the CD-ROM drive.

13 Insert the CD-ROM labeled "Oracle 8i Enterprise Edition" into the CD-ROM drive and then press **ENTER**.

The system displays the following message:

```
One moment please.
The CD was successfully mounted
Oracle 8i Install C was successfully mounted
```

The system displays several more messages and then the following message:

```
Oracle8i will be installed now . . . . . .
This will take 60 to 90 minutes depending on the CPU speed
and memory
No progress of the installation will be shown other than
installer output.
```

The system continues to display several status messages as it installs the base ORACLE. When the installation is complete, the system displays the following message:

```
Installation of Oracle 8i RDBMS Integration Package (oraint)
was successful.
```

14 Close X-Windows:

a Click the left mouse button on the desktop.

b Select "Quit Pwm" from the menu.

15 Reboot the system by entering **shutdown -i6 -g0 -y**.

For more information on this feature, see Chapter 2, “Digital Telephony Interfaces,” of *UCS 1000 R4.6 Communication Development*, 585-313-224, and Chapter 4, “Switch Interface Administration,” of *UCS 1000 R4.6 Administration*, 585-313-509.

Installing the ORACLE Development Packages

CAUTION:

The ORACLE Developer 2000 tools CD-ROM contains more ORACLE products than those listed. However, customers must NOT install products that are not listed. Some of the products are already included in the various system packages, while other products are not authorized to be used by the customers. A violation of the recommendation may result into the corruption of the system software configuration and may be illegal usage of the ORACLE software.

Installation Requirements

Use the procedures in this section to install the ORACLE development packages.

The basic requirements for installing ORACLE add-on packages are as follows:

- Base ORACLE RDBMS 8 package is installed.
- The voice system and ORACLE database are stopped during the installation. (You can stop the database by entering **ior s.**)

Installing the ORACLE Developer 2000 Toolkit

To install the ORACLE Developer 2000 toolkit:

Note: To select a response other than the screen default, use the **TAB** key to highlight the selection, and then press **ENTER**.

1. Insert the CD labeled "ORACLE Developer 6.0.0.0 for SCO UnixWare" into the CD-ROM drive.
2. Log in as root if you have not already done so.

Note: You must have root privileges to mount or unmount the CD-ROM. Be sure to unmount the CD-ROM before removing it from the drive.

3. Enter the following commands in the sequence below:

   mkdir /cdrom

   chmod 777 /cdrom

The system creates an empty CD-ROM directory (the "mount point directory") for mounting the CD-ROM drive and sets the permissions to make it accessible by all users.

4 Enter the following command:

mount -F cdfs -oro <*device_name*> /cdrom

where ***device_name*** is the block device name for your CD-ROM drive, for example, /dev/dsk/c0t6d0p0.

5 Exit the root account by entering **exit**.

6 Log in as oracle user.

7 Change to the /cdrom/orainst directory by entering the following command:

cd /cdrom/orainst

8 Start the installer by entering one of the following commands:

- For character mode, enter **./orainst /c**
- For Motif mode, enter **./orainst /m**

9 If you are using the Motif mode, set the display to your current workstation by entering one of the following set of commands:

- For the Bourne or Korn shells, enter:

  DISPLAY=<*machine name*>:0.0

  export DISPLAY

  xhost +

- For the C shell:

  setenv DISPLAY <*machine name*>:0.0

  host +

9 Installing LSPS II Optional Software Packages

Overview

On new systems, all software packages are loaded and installed at the factory. However, if you are installing an LSPS II (6UB5) circuit card in an existing system, you will also need to install the LSPS II optional software packages.

This chapter provides the detailed information for installing the LSPS II optional software packages after the LSPS II circuit card is installed.

LSPS II Software Packages

Table 38 lists the LSPS II software feature packages that are installed during this procedure:

Table 38. Software Packages in the LSPS Set

Package Name	Description
cslsps	LSPS II Integration Package
asrenna	LSPS Automatic Speech Recognition for North American English
lspsapi	Low-level LSPS API
lspsrte	LSPS Speech RealTime Environment (RTE)
lspssdk	LSPS Software Development Kit
lspssp	LSPS Speech Driver
lspsutil	LSPS diagnostics
ttsenna	LSPS Text-To-Speech Module for North American English

Installing the LSPS II Optional Software Packages

Use the following procedure to install the LSPS II optional software packages:

Note: If you reinstall the LSPS II optional software packages (specifically, the LSPS II Integration package (cslsps)), it is possible that you will have to recreate your assignments for the four grammar files. For details, see "Designing a Grammar" in *UCS 1000 R4.6 Speech Development, Processing, and Recognition*, 585-313-223, Chapter 8, "Recognizing FlexWord Speech Input on the LSPS II".

1. Ensure that an LSPS II circuit card is installed in the system.
2. Log in as root.
3. Insert the CD-ROM labeled “LINCS Base CD” into the CD-ROM drive.
4. Enter **pkgadd -d cdrom1 LSPSset**

   The system displays the following message:

```
Insert CD into SCSI CD-Rom Drive 1.
Type [go] when ready,
or [q] to quit:  (default:  go)
```

5 Press **ENTER**.

The system displays the following message:

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

PROCESSING:
Set: LSPS Set (LSPSset) from <cdrom1>

LSPS set
(i586) LSPS0
Using </> as the package base directory.

Do you want to run default set installation? (default: y)
```

6 Press **ENTER**.

The system displays the several status messages indicating that the installation of each package listed in Table 38 on page 314 completed successfully.

The system then displays the following message:

```
##Executing set postinstall script.

Processing of packages for set <LSPSset> is completed.
```

7 Enter **pkginfo -l LSPSset | pg**

The system displays status information of the LSPS software packages. For each package listed in Table 38 on page 314, verify that the `STATUS` line displays `completely installed`.

8 If you are finished installing the optional feature software, remove the CD-ROM labeled “LINCS Base CD” from the CD-ROM drive.

9 Reboot the system. See “Rebooting the System,” in “Common System Procedures,” in the *UCS 1000 R4.6 System Reference*, 585-313-221, for the procedure.

Component Ordering Numbers

Table 39 contains a description of replaceable components and their associated ordering number.

Table 39. Component Ordering Numbers

Basic Component Description	Order Number
Assembly, Remote Alarm Panel	408097426
Assembly, DC Power Panel with Power Filter	408288686
Backplane, SCA, 6-Slot (Disk Drives)	408348928
Board Assembly, Mid-Plane, RAID	408228252
Board Assembly, Temperature Sensor, TAM (early version)	408118206
Board Assembly, Temperature Sensor, TAM	408295418

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Table 39. Component Ordering Numbers

Basic Component Description	Order Number
Cable Assembly, Alarm Panel to CPCI Backplane (J8), Signal	408097442
Cable Assy, CPCI Backplane (J3) to DC Power Backplane (J2)	408118230
Cable Assy, CPCI Backplane (J4) to DC Power Backplane (J3)	408118255
Cable assy, E1/T1 75ft M/F Modular (Twisted Pair)	407613975
Cable assy, E1/T1 25ft M/F Modular (Twisted Pair)	407613983
Cable assy, E1/T1 M/M Crossover Adapter (Twisted Pair)	407617968
Cable Assy, Power, CPCI Backplane to CD ROM/Tape Drive	408118263
Cable Assy, Power, CPCI Backplane to SCA Backplane	408118271

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Table 39. Component Ordering Numbers

Basic Component Description	Order Number
Cable Assy, RAID/SCSI CPCI Backplane to SCA Backplane	408118289
Cable Assy, SCSI, SCA Backplane to CD ROM/Tape Drive/External SCSI connector	408118297
Cable Assembly, TAM, Power, -48VA	
Cable Assembly, TAM, Power, -48VB	408097434
Cable Assembly, TAM Temperature Sensors, 3 Connectors	408154920
Cable Assembly, V.35, TM/cSerial Card	408360584
Cable Assembly, "Y," Keyboard/Mouse PS/2 Splitter	408373645
Cable Assembly, "Y," Keyboard/Mouse Splitter (Reversed Keyboard and Mouse Legs)	408407633
CD ROM Drive, SCSI (Toshiba 40X)	408069714
CD ROM Drive, SCSI (Plextor 40X)	408377166

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Table 39. Component Ordering Numbers

Basic Component Description	Order Number
Chassis, DC w/o disk drives and CPCI cards – used for sparing	408145787
Circuit Pack, 8-Port Asynchronous Interface	408194868
Circuit Pack, 8-Port Asynchronous Interface Rear I/O	408194876
Circuit Pack, Companion IO Rear IO	408154904
Circuit Pack, CPU Rear IO	408154912
Circuit Pack, E1/T1 (CWB2)	108134529
Circuit Pack, E1/T1 Rear IO (CYD2)	108271966
Circuit Pack, Quad T1 (CWB10)	108546672
Circuit Pack, Quad E1, twisted pair (CWB11)	108546680
Circuit Pack, Quad E1, coax (CWB12)	108546698
Circuit Pack, Quad E1/T1 Rear I/O, twisted pair (CYD10)	108546771
Circuit Pack, Quad E1 Rear I/O, coax (CYD12)	108546797

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Table 39. Component Ordering Numbers

Basic Component Description	Order Number
Circuit Pack, Intelligent Signaling Gateway, CPU, Pentium II 333 MHz	601965437
Circuit Pack, LSPS II (6UB5)	108334475
Circuit Pack, SBC/Companion IO Complex	408097483
Circuit Pack, SBC/Companion IO Complex	408321461
Circuit Pack, SBC/Companion IO Complex, Pentium III 500 MHz	408348936
Circuit Pack, SSP, w/32MB (CWB1)	108006149
Circuit Pack, Telecom Alarm Module (early version)	408097459
Circuit Pack, Telecom Alarm Module, Rear IO (early version)	408097467
Circuit Pack, Telecom Alarm Module	408224368
Circuit Pack, Telecom Alarm Module, Rear IO	408224376
Circuit Pack, TM/cSerial, Network Interface, Rear IO	408318541

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Table 39. Component Ordering Numbers

Basic Component Description	Order Number
Circuit Pack, TM/cSpan E1, Network Interface, Rear IO	408318582
Circuit Pack, TM/cSpan T1, Network Interface, Rear IO	408318574
Circuit Pack, TTS Server, CPU, Pentium III 500 MHz	601965395
Circuit Pack, TTS Server, CPU, Pentium III 500 MHz, Rear IO	408316974
Disk Drive Assembly, SCSI, 4.5GB	408099547
Disk Drive Assembly, SCSI, 18GB	408295384
Fan Tray Assembly, Lower (early version)	408099554
Fan Tray Assembly, Upper (early version)	408099562
Fan Tray Assembly, Lower	408279339
Fan Tray Assembly, Upper	408279305
Filter, Power Supplies Air Intake	408065068

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Table 39. Component Ordering Numbers

Basic Component Description	Order Number
Keyboard, 104-Key	408112142
Kit, Maintenance, 16 – Slot CPCI DC Server, RAID	408212777
Module, Ethernet LAN, 10/100 MB	408097491
Module, Ethernet LAN, 10/100 MB, RJ45	408416899
Module, RAID Controller	408067486
Module, Video Controller	408067452
Monitor, Color, 14 inch, Tatung	408112209
Mouse, 2-Button, Logitech	408112134
Mouse, 2-Button, Logitech	408397115
Panel, Blank, CPCI Card Cage w/Captive Screws	408145811
Panel, Blank, Disk Drive w/Captive Screws	408145753
Power Supply, DC	408063659
Power Supply, DC with Filter	408295467

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Table 39. Component Ordering Numbers

Basic Component Description	Order Number
TAM Upgrade Kit	601963630
Tape, Blank, 4GB	408215903
Tape Drive, SCSI, 4GB	408097418
Terminator, SCSI, 68-Pin, Clip-On	408119196

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B How to Build a System

Checklist for Building a System

This appendix contains a checklist for building a system. It is assumed that you are starting with a UCS 1000 R4.6 shell that has only the power supply and the backplanes.

Note: Typically, systems are not sold as described above. This appendix would most likely be used when replacing a system in the field (for example, a system with a failed backplane). In that case, the technician would move the existing hard disk drives to the new system and the CPU complex, CPU rear I/O, Companion rear I/O cards, CD-ROM and tape drive would be returned to the factory.

Assignment Rules

If you are building a system from scratch, Table 40 on page 327 contains assignment rules for installing circuit cards into the system.

Table 40. Circuit Card Assignments

Circuit Card Type	System Assignment	Comments
CPU Complex	Slot 8 and slot 9 Rear I/O locations contain the transition cards for connections.	Fixed slots for the CPU complex only.
TAM	Slot 17 Rear I/O location contains the transition card for external connections.	Fixed slot for the TAM only.
8-Port* Asynchronous	Slot 16 Rear I/O location contains the transition card for external connections.	Optional circuit card. Install this optional card first. Fixed slot for the Equinox 8-port asynchronous circuit card.

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Table 40. Circuit Card Assignments

Circuit Card Type	System Assignment	Comments
CWB2 (E1/T1) CWB10 (Quad T1) CWB11 (Quad E1) CWB12 (Quad E1)	Install first E1/T1 or Quad into slot 1, then in available slots from left to right. Rear I/O locations contain the transition cards for external connections.	Subsequent installations count forward (for example, 2, 3, etc.). For a full configuration with no SSP circuit cards and a total of eight, nine, ten, or eleven LSPS II and 8-port circuit cards, the last E1/T1 or Quad card is installed in slot 7.

2 of 4

Table 40. Circuit Card Assignments

Circuit Card Type	System Assignment	Comments
6UB5 (LSPS II)	Install first LSPS II in the rightmost available slot, either slot 16 or slot 15, then in available slots from right to left, skipping slot 7. Rear I/O location is blank with a cover over the slot.	**Do not install in slot 7**. If the ambient temperature is elevated, the circuit card could shut down. Subsequent installations count backward (for example, 15, 14, etc.).

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Table 40. Circuit Card Assignments

Circuit Card Type	System Assignment	Comments
CWB1 (SSP)	For systems that have LSPS II cards limited to slots 16 through 10: Install first SSP card in the slot to the immediate left of the last LSPS II card, then in available slots from right to left. For systems that have an LSPS II card in slot 6: Install first SSP card in slot 7, then in available slots to the immediate left of the last LSPS II. Install from right to left. Rear I/O locations are blank with a cover over each slot.	Subsequent installations count backward (for example, 5, 4, etc.).
PTTS	Any available slot.	Optional circuit card.

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* A CWB1, CWB2, or a 6UB5 may be assigned to slot 16 only if your system does not use an 8-port asynchronous circuit card and slots 15 through 1 are full.

Checklist

Table 41 contains a checklist for building a system. It is assumed that you are starting with a UCS 1000 R4.6 shell that has only the power supply and the backplanes.

Table 41. System Building Checklist

Task	Description	Comments	Refer to	Done
1	Acquire all of the components necessary to build your system.		Appendix A, Component Ordering Numbers	
2	Determine the slot and bay locations for the equipment.			
3	Install the hard disk drive(s).		Chapter 3, Replacing the Hard Disk Drive Assembly	
4	Install the circuit cards.		Chapter 2, Installing or Replacing Circuit Cards	
5	Apply power to the unit.		Chapter 1, Getting Inside the UCS 1000 R4.6	

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Table 41. System Building Checklist

Task	Description	Comments	Refer to	Done
6	Install the base system software.		Chapter 5, Installing Base System Software	
7	Install the UCS 1000 R4.6 software.		Chapter 6, Installing the UCS 1000 R4.6 Software	
8	Install the optional feature software.		Chapter 7, Installing the Optional Feature Software; Chapter 8, Installing ORACLE Packages; Chapter 9, Installing LSPS II Optional Software Packages	

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C Disaster Recovery Checklists

Disaster Recovery Checklists

Use the checklists in this appendix with the procedures in Chapter 6, Installing the UCS 1000 R4.6 Software . The following checklists are included in this section:

Software Reloading with Existing HDDs

The procedures in this checklist below, Table 42, should be conducted when your UCS 1000 R4.6 experiences a software disaster. This checklist should not be used if hard disk drives are being replaced.

Table 42. Software Reloading Checklist

✓	Task	Reference Documentation
	Locate the most recent backup tape.	
	Shutdown the UCS 1000 R4.6 .	"Shut Down the System," in "Common System Procedures," in the *UCS 1000 R4.6 System Reference*, 585-313-221.
	Leave all hard disks connected to the SCSI bus.	
	Restore the system using the **mkimage** backup tape.	"Restore the System," in "Common System Procedures," in the *UCS 1000 R4.6 System Reference*, 585-313-221.

Checklist for UCS 1000 R4.6 with All New HDDs

The procedures in this checklist below, Table 43, should be conducted when you are replacing both hard disk drives on your UCS 1000 R4.6 .

Note: No provisions for recovering existing file system are included. This checklist should not be used if either hard disk drive has been previously used.

Table 43. All New Hard Disk Drive Checklist

✓	Task	Reference Documentation
	Locate the most recent **mkimage** backup tape.	
	Replace the hard disk(s).	Performing a Hard Disk Drive Hot Swap on page 134 in Chapter 3, Replacing the Hard Disk Drive Assembly .
	Restore the system using the **mkimage** backup tape.	"Restore the System," in "Common System Procedures," in the *UCS 1000 R4.6 System Reference*, 585-313-221.

Checklist for Systems with New HDD0

The procedures in this checklist, Table 44, should be conducted on a two-disk system in which Hard Disk Drive 0 has failed. This checklist should not be used if another hard disk drive has also failed.

Table 44. New Hard Disk Drive 0 Checklist

✓	Task	Reference Documentation
	Locate the most recent **mkimage** backup tape.	
	Replace the hard disk drive.	Performing a Hard Disk Drive Hot Swap on page 134 in Chapter 3, Replacing the Hard Disk Drive Assembly .
	Restore the system using the **mkimage** backup tape.	“Restore the System,” in “Common System Procedures,” in the *UCS 1000 R4.6 System Reference*, 585-313-221.

Checklist for Systems with a New HDD

The procedures in this checklist, Table 45, should be conducted on a two disk system in which a hard disk drive, other than HDD 0 has failed.

Table 45. New Hard Disk Drive Checklist

✓	Task	Reference Documentation
	Locate the most recent **mkimage** backup tape.	
	Replace the hard disk drive.	Performing a Hard Disk Drive Hot Swap on page 134 in Chapter 3, Replacing the Hard Disk Drive Assembly.
	Remove, for replacement, the old hard disk drive.	Performing a Hard Disk Drive Hot Swap on page 134 in Chapter 3, Replacing the Hard Disk Drive Assembly.
	Add the new hard disk drive.	Adding a New Hard Disk Drive to a RAID System on page 139 in Chapter 3, Replacing the Hard Disk Drive Assembly.

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Table 45. New Hard Disk Drive Checklist

✓	Task	Reference Documentation
	Initialize the new hard disk drive drive using the **mkimage** backup tape.	“Restore the System,” in “Common System Procedures,” in the *UCS 1000 R4.6 System Reference*, 585-313-221.

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Numerics

23B+D

23 bearer (communication) and 1 data (signaling) channel on a T1 PRI circuit card.

30B+D

30 bearer (communication) and 1 data (signaling) channel (plus framing channel 0) on an E1 PRI circuit card.

47B+D

47 bearer (communication) and 1 data (signaling) channel on two T1 PRI circuit cards.

4ESS®

A large Lucent central office switch used to route calls through the telephone network.

5ESS®

A Lucent electronic switching machine used to route calls through the telephone network or private branch exchange.

A

AC

alternating current

ACD

automatic call distributor

AD

application dispatch

AD-API

application dispatch application programming interface

adaptive differential pulse code modulation

A means of encoding analog voice signals into digital signals by adaptively predicting future encoded voice signals. This adaptive modulation method reduces the number of bits required to encode voice. See also PTTS.

adjunct products

Products (for example, the Adjunct/Switch Application Interface) that the system administers via cut-through access to the inherent management capabilities of the product itself; this is in opposition to the ability of the system to administer the switch directly.

ADPCM

adaptive differential pulse code modulation

ADU

asynchronous data unit

advanced speech recognition

A speech recognition ability that allows the system to understand WholeWord and FlexWord™ inputs from callers.

affiliate

A business organization that Lucent controls or with which Lucent is in partnership.

AGL

application generation language

ALERT

System alerter process

alerter

A system process that responds to patterns of events logged by the “logdaemon” process.

American National Standards Institute

(ANSI) A private non-profit organization that develops and publishes voluntary standards for various industries in the United States.

American Standard Code for Information Interchange

A standard code for data representation that represents alphanumeric characters as binary numbers. The code includes 128 upper- and lowercase letters, numerals, and special characters. Each alphanumeric and special character has an ASCII code (binary) equivalent that is 1 byte long.

analog

An analog signal, such as voice or music, that varies in a continuous manner. An analog signal may be contrasted with a digital signal, which represents only discrete states.

ANI

automatic number identification

ANSI

American National Standards Institute

announcement

A message the system plays to the caller to provide information. The caller is not asked to give a response. Compare to prompt.

API

Application programming interface

application

The automated transaction (interactions) among the caller, the voice response system, and any databases or host computers required for your business.

application administration

The component of the system that provides access to the applications currently available on your system and helps you to manage and administer them.

application verification

A process in which the system verifies that all the components needed by an application are complete.

ASCII

American Standard Code for Information Interchange

ASI

analog switch integration

ASR

advanced speech recognition

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 by time. Compare to synchronous communication.

asynchronous data unit

An electronic communications device that allows computer systems to communicate over asynchronous lines more than 50 feet (15 m) in length.

automatic call distributor

That part of a telephone system that recognizes and answers incoming calls and completes these calls based on a set of instructions contained in a database. The ACD can send the call to an operator or group of operators as soon as the operator has completed a previous call or after the system has played a message to the caller.

automatic number identification

A method of identifying the calling party by automatically receiving a string of digits that identifies the calling station of a particular customer.

B

back up

The preservation of the information in a file in a different location, so that the data is not lost in the event of hardware or system failure.

backing up an application

Using a utility that makes an archive copy of a completed application or an interim copy of an application in progress. The back-up copy can be restored to the system if the on-line version is damaged, or if you make revisions and want to go back to the previous version.

barge-in

A capability provided by WholeWord and FlexWord speech recognition and Dial Pulse Recognition (DPR) that allows callers to speak or enter their responses during the prompt and have those responses recognized (similar to the Speak with Interrupt capability). See also echo cancellation.

batch file

A file containing one or more lines, each of which is a command executable by the UNIX shell.

BB

bulletin board

blind transfer protocol

A protocol in which a call is completed as soon as the extension is dialed, without having to wait to see if the telephone is busy or if the caller answered.

bps

bits per second

BRDG

call bridging process

bridging

The process of connecting one telephone network connection to another over the system TDM bus. Bridging decreases the processing load on the system since an active bridge does not require speech processing, database access, host activity, etc., for the transaction.

bundle

In the context of the Enhanced File Transfer package, this term is used to denote a single file, a group of files (package), or a combination of both.

byte

A unit of storage in the computer. On many systems, a byte is 8 bits (binary digits), which is the equivalent of one character of text.

C

call classification analysis

A process that enables application designers to use information available within the system to classify the disposition of originated and transferred calls. CCA is an optional feature package.

call data event

A parameter that specifies a list of variables that are appended to a call data record at the end of each call.

call data handler process

A software process that accumulates generic call statistics and application events.

called party number

The number dialed by the person making a telephone call. Telephone switching equipment can use this number to selectively route an incoming call to a particular department or agent.

caller

The party who calls for a service, gets connected to the system, and interacts with it. As the system can also make outbound calls for service, the caller can also be the person who responds to those outbound calls.

call flow

See transaction.

call progress tones

Standard telephony sounds that indicate the status of the call. These sounds include busy, fast busy, ringback, reorder, etc.

card cage

An area within a 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 can be removed from the system and stored as a backup, or used on another system.

CAS

channel associated signalling

caution

An admonishment or advisory statement used in the system documentation to alert the user to the possibility of a service interruption or a loss of data.

CCA

call classification analysis

CDH

call data handler process

CELP

code excited linear prediction

central office

An office or location in which large telecommunication devices such as telephone switches and network access facilities are maintained. These locations follow strict installation and operation requirements.

central processing unit

See processor.

CGEN

Voice system general message class

channel

See port.

channel associated signaling

A type of signaling that can be used on E1 circuit cards. It occurs on channel 16.

circuit card upgrade

A new circuit card that replaces an existing card in the platform. Usually the replacement is an updated version of the original circuit card to replace technology made obsolete by industry trends or a new system release.

cluster controller

A bisynchronous interface that provides a means of handling remote communication processing.

CO

central office

code excited linear prediction

A means of encoding analog voice signals into digital signals that provides excellent quality with use of minimum disk space.

command

An instruction or request the user issues to the system software to make the system perform a particular function. An entire command consists of the command name and options.

configuration

The arrangement of the software and hardware of a computer system or network. The system configuration includes either a standard or custom processor, peripheral equipment (for example, printers and modems), and software applications. Configuration also refers to the way the switch network is set up; that is, the types of products that are in the network and how those products communicate.

configuration management

The component of the system that allows you to manage the current configuration of voice channels, host sessions, and database connections, assign scripts to run on specific voice channels or host sessions, assign functionality to SSP and E1/T1 circuit cards, and perform various maintenance functions.

connect and disconnect (C and D) tones

DTMF tones that inform the system when the attendant has been connected (C) and when the caller has been disconnected (D).

connected digits

A sequence of digits that the system can process as a group, rather than requiring the caller to enter the digits one at a time.

controller circuit card

A circuit card used on a computer system that controls its basic functionality and makes the system operational. These circuit cards are used to control magnetic peripherals, video monitors, and basic system communications.

copying an application

A utility in which information from a source application is directed into the destination application.

coresidency

The ability of two products or services to operate and interact with each other on a single hardware platform.

CPE

customer provided equipment or customer premise equipment

CPN

called party number

CPT

call progress tones

CPU

central processing unit

CPU Complex

The processor for the UCS 1000 R4.6 consisting of a single-board computing circuit card and an I/O companion board (SBC/IOB). The CPU complex is also used in other compactPCI platforms.

crash

An interactive utility for examining the operating system core and for determining if system parameters are being exceeded.

CSU

channel service unit

custom speech

Unique words or phrases to be used in system voice prompts that Lucent Technologies custom records on a per-customer basis.

custom vocabulary

A specialized package of unique words or phrases created on a per-customer basis and used by WholeWord or FlexWord speech recognition.

CVS

converse vector step

D

danger

An admonishment or advisory statement used in system documentation to alert the user to the possibility of personal injury or death.

data interface process

A software process that communicates with Script Builder applications.

database

A structured set of files, records, or tables.

database field

A field used to extract values from a local database and form the structure upon which a database is built.

database record

The information in a database for a person, product, event, etc. The database record is made up of individual fields for each information item.

database table

A structure, made up of columns and rows, that holds information in a database. Database tables provide a means of storing information that changes too often to "hard-code," or store permanently, in the transaction outline.

dB

decibel

DB

database

DBC

database checking process

DBMS

database management system

DC

direct current

DCE

data communications equipment

DCP

digital communications protocol

debug

The process of locating and correcting errors in computer programs; also referred to as troubleshooting.

default

The way a computer performs a task in the absence of other instructions.

default owner

The owner of a channel when no process takes ownership of that channel. The default owner holds all idle, in-service channels. In terms of the IRAPI, this is typically the Application Dispatch process.

diagnose

The process of performing diagnostics on a bus or on Tip/Ring, E1/T1, or SSP circuit cards.

dial ahead

The ability to collect and process touch-tone inputs in sequence, even when they are received before the prompts.

dial pulse recognition

A method of recognizing caller pulse inputs from a rotary telephone.

dialed number identification service

A service that allows incoming calls to contain information about the telephone number for which it is destined.

dial through

A capability provided by touch-tone and dial pulse recognition that allows callers to enter their responses during the prompt and have those responses recognized (similar to the Speak with Interrupt capability). See also barge-in and echo cancellation.

DIO

disk input and output process

DIP

data interface process

directory

A type of file used to group and organize other files or directories.

DMA

direct memory address

DNIS

dialed number identification service

DPR

dial pulse recognition

DSP

digital signal processor

DTE

data terminal equipment

DTMF

dual tone multi-frequency

DTR

data terminal ready

dual tone multi-frequency

A touch-tone sound that is an audio signal including two different frequencies. *DTMF feedback* is the process of the “switch” providing this information to the system. *DTMF muting* is the process of ignoring these tones (which might be simulated by human speech) when they are not needed for the application.

dump space

An area of the disk that is fixed in size and should equal the amount of RAM on the system. The operating system “dumps” an image of core memory when the system crashes. The dump can be fetched after rebooting to help in analyzing the cause of the crash.

E

E&M

Ear and Mouth

E1 / T1

Digital telephony interfaces, commonly called *trunks*. E1 is an international standard at 2.048 Mbps. T1 is a North American standard at 1.544 Mbps.

Ear and Mouth

A common T1 trunking protocol for connection between two “switches.”

EBCDIC

Extended Binary Coded Decimal Interexchange Code

echo cancellation

The process of making the channel quiet enough so that the system can hear and recognize WholeWord, FlexWord, and dial pulse inputs during the prompt. See also barge-in.

editor system

A system that allows speech phrases to be displayed and edited by a user.

EIA

Electronic Industries Association

EISA

Extended Industry Standard Architecture

EMI

electromagnetic interference

Enhanced Basic Speech

Pre-recorded speech available from Lucent Technologies in several languages. Sometimes called standard speech.

error message

A message on the screen indicating that something is wrong with a possible suggestion of how to correct it.

ESD

electrostatic discharge

ESS

electronic switching system

EST

Enhanced Software Technologies, Inc.

ET

error tracker

ETSI

European Telecommunications Standards Institute

Ethernet

A name for a local area network that follows IEEE standard 802.3. Supported implementations are 10BaseT and/or 100BaseT.

European Telecommunications Standards Institute

(ETSI) The European counterpart to ANSI (American National Standards Institute). Develops and publishes telecommunications standards.

event

The notification given to an application when some condition occurs that is generally not encountered in normal operation.

EXTA

external alarms feature message class

external actions

Specific predefined system tasks that Script Builder can call or *invoke* to interact with other products or services. When an external action is invoked, the systems displays a form that provides choices in each field for the application developer to select. Examples are Call_Bridge, Make_Call, SP_Allocate, SR_Prompt, etc. In Voice@Work, external actions are treated as external functions.

external functions

Specific predefined (or customer-created) system tasks that Voice@Work or Script Builder can call or *invoke* to interact with other products or services. The function allows the application developer to enter the argument(s) for the function to act on. Examples are concat, getarg, length, substring, etc. See also external actions.

F

FCC

Federal Communications Commission

FDD

floppy disk drive

feature

A function or capability of a product or an application within the system.

feature package

An optional package that may contain both hardware and software resources to provide additional functionality to a standard system.

feature_tst script package

A standard system software program that allows a user to perform self-tests of critical hardware and software functionality.

FEP

front end processor

field

See database field.

FIFO

first-in-first-out processing order

file

A collection of data treated as a basic unit of storage.

file transfer

An option that allows you to transfer files interactively or directly to and from UNIX using the file transfer system (FTS).

filename

Alphabetic characters used to identify a particular file.

FlexWord speech recognition

A type of speech recognition based on subword technology that recognizes phonemes or parts of words in a specific language. See also subword technology.

foos

facility out-of-service state

FTS

file transfer process message class

function key

A key, labeled F1 through F8, on your keyboard to which the system software gives special properties for manipulating the user interface.

G

GEN

PRISM logger and alerter general message class

grammar

The inputs that a recognizer can match (identify) from a caller.

GUI

graphical user interface

H

hard disk drive

A high-capacity data storage/retrieval device that is located inside a computer platform. 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, etc., are all hardware.

hardware upgrade

Replacement of one or more fundamental platform hardware components (for example, the CPU or hard disk drive), while the existing platform and other existing optional circuit cards remain.

HDD

hard disk drive

hwoos

hardware out-of-service state

Hz

Hertz

IBM

International Business Machines

iCk or ICK

The system integrity checking process.

ID

identification

IDE

integrated disk electronics

idle channel

A channel that either has no owner or is owned by its default owner and is onhook.

IE

information element

IEEE

Institute of Electrical and Electronic Engineers

IND$FILE

The standard SNA file transfer utility that runs as an application under CICS, TSO, and CMS. IND$FILE is independent of link-level protocols such as BISYNC and SDLC.

independent software vendor

A company that has an agreement with Lucent Technologies to develop software to work with the system to provide additional features required by customers.

indexed table

A table that, unlike a nonindexed table, can be searched via a field name that has been indexed.

industry standard architecture

A PC bus standard that allows processors and other circuit cards to communicate with each other.

INIT

voice system initialization message class

initialize

To start up the system for the first time.

inserv

in-service state

Integrated Services Digital Network

A network that provides end-to-end digital connectivity to support a wide range of voice and data services.

intelligent CCA

Monitoring the line after dialing is complete to determine whether a busy, reorder (fast busy), or other failure has been encountered. It also recognizes when the extension is answered or if the extension is not answered after a specified number of rings. The monitoring capabilities are dependent on the network interface circuit card and protocol used.

interface

The access point of a system. With respect to the system, the interface is designed to provide you with easy access to the software capabilities.

interrupt

The termination of voice and/or telephony functions when some condition occurs.

Intuity Response Application Programming Interface

A library of commands that provide a standard development interface for voice-telephony applications.

IOB

I/O companion card to the SBC. This is part of the CPU Complex.

IPC

interprocess communication

IPC

intelligent ports card (IPC-900)

IRAPI

Intuity Response Application Programming Interface

IRQ

interrupt request

ISA

industry standard architecture

ISDN

Integrated Services Digital Network

ISV

independent software vendor

ITAC

International Technical Assistance Center

K

Kbps

kilobytes per second

Kbyte

kilobyte

keyboard mapping

In emulation mode, this feature enables the keyboard to send 3270 keyboard codes to the host according to a configuration table set up during installation.

keyword spotting

A capability provided by WholeWord speech recognition that allows the system to recognize a single word in the middle of an entire phrase spoken by a caller in response to a prompt.

L

LAN

local area network

LDB

local database

LED

light-emitting diode

library states

The state information about channel activities maintained by the IRAPI.

LIFO

last-in-first-out processing order

line side E1

A digital method of interfacing a system to a PBX or “switch” using E1-related hardware and software.

line side T1

A digital method of interfacing a system to a PBX or “switch” using T1-related hardware and software.

listfile

An ASCII catalog that lists the contents of one or more talkfiles. Each application script is typically associated with a separate listfile. The listfile maps speech phrase strings used by application scripts into speech phrase numbers.

local area network

A data communications network in a limited geographical area. The LAN provides communications between computers and peripherals.

local database

A database residing on the system.

LOG

System logger process message class

logical unit

A type of SNA Network Addressable Unit.

logdaemon

A UNIX system information and error logging process.

logger

See logdaemon.

logging on/off

Entering or exiting the system software.

LSE1

line side E1

LSPS II

Lucent speech processing solutions II circuit card (6UB5)

LST1

line side T1

LU

logical unit

Lucent speech processing solutions II circuit card (6UB5)

A high-performance speech processing circuit card capable of simultaneous support for various speech technologies. In addition to the basic speech-processing features, The LSPS II circuit card provides enhanced Text-to-Speech capabilities and subword recognition for large vocabularies.

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.

main screen

The system screen from which you are able to enter either the System Administration or Voice System Administration menu.

maintenance process

A software process that runs temporary diagnostics and maintains the state of circuit cards and channels.

manoos

manually out-of-service state

masked event

An event that an application can ignore (that is, the application can request not to be informed of the event).

master

A circuit card that provides clock information to the TDM bus.

Mbps

megabits per second

MByte

megabyte

megabyte

A unit of memory equal to 1,048,576 bytes (1024 x 1024). It is often rounded to one million.

menu

Options presented to a user on a computer screen or with voice prompts.

MF

multifrequency

MHz

megahertz

ms

millisecond

msec

millisecond

MS-DOS

A personal computer disk operating system developed by the Microsoft Corporation.

MTC

maintenance process

multifrequency

Dual tone digit signalling (similar to DTMF), used for trunk addressing between network switches or by network operators.

multithreaded application

A single process/application that controls several channels. Each thread of the application is managed explicitly. Typically this means state information for each thread is maintained and the state of the application on each channel is tracked.

N

NCP

Network Control Program

NEBS

Network Equipment Building Standards

NEMA

National Electrical Manufacturers Association

netoos

network out-of-service state

non-facility associated signalling

NFS

network file sharing

NM-API

Network Management - Application Programming Interface

NMVT

network management vector transport

nonex

nonexistent state

nonindexed table

A table that can be searched only in a sequential manner and not via a field name.

nonmasked event

An event that must be sent to the application. Generally, an event is nonmaskable if the application would likely encounter state transition errors by trying to it.

null value

An entry containing no value. A field containing a null value is normally displayed as blank and is different from a field containing a value of zero.

O

OEM

original equipment manufacturer

on-line help

Messages or information that appear on the user's screen when a function key (usually F1) is pressed.

option

An argument used in a command line to modify program output by modifying the execution of a command. When you do not specify any options, the command executes according to its default options.

ORACLE

A company that produces relational database management software. It is also used as a generic term that identifies a database residing on a local or remote system that is created and maintained using an ORACLE RDBMS product.

P

PBX

private branch exchange

PC

personal computer

PCB

printed circuit board

PCI

peripheral component interconnect

PCI Mezzanine Card

A PCI module, such as a LAN or RAID controller, that connects to the CPU Complex IOB companion card.

PCM

PTTS

PEC

price element code

peripheral (device)

Equipment such as printers or terminals that is in addition to the basic processor.

peripheral component interconnect

A newer, higher speed PC bus that is gradually displacing ISA for many components.

permanent process

A process that starts and initializes itself before it is needed by a caller.

phoneme

A single basic sound of a particular spoken language. For example, the English language contains 40 phonemes that represent all basic sounds used with the language. The English word “one” can be represented with three phonemes, “w” - “uh” - “n.” Phonemes vary between languages because of guttural and nasal inflections and syllable constructs.

phrase filtering (screening)

The rejection of unrecognized speech. The WholeWord and FlexWord speech recognition packages can be programmed to reprompt the caller if the system does not recognize a spoken response.

phrase tag

A string of up to 50 characters that identifies the contents of a speech phrase used by an application script.

platform migration

See platform upgrade.

platform upgrade

The process of replacing the existing platform with a new platform.

pluggable

A term usually used with speech technologies, in particular standard speech, to indicate that a basic algorithmic technique has been implemented to accept one or more sets of parameters that tailors the algorithm to perform in one or more languages.

PMC

PCI Mezzanine Card

poll

A message sent from a central controller to an individual station on a multipoint network inviting that station to send if it has any traffic.

polling

A network arrangement whereby a central computer asks each remote location whether it wants to send information. This arrangement enables each user or remote data terminal to transmit and receive information on shared facilities.

port

A connection or link between two devices that allows information to travel to a desired location. See telephone network connection.

PRA

Primary Rate Access

Primary Rate Access

The ETSI equivalent of ISDN PRI (Primary Rate Interface).

PRI

Primary Rate Interface

Primary Rate Interface

An ISDN term for connections over E1 or T1 facilities that are usually treated as trunks.

private branch exchange

A private switching system, either manual or automatic, usually serving an organization, such as a business or government agency, and usually located on the customer's premises.

processor

In system documentation, the computer on which UnixWare and system software runs. In general, the part of the computer system that processes the data. Also known as the central processing unit.

prompt

A message played to a caller that gives the caller a choice of selections in a menu and asks for a response. Compare to ANSI.

Proxy Text-to-Speech

The capability to do Text-to-Speech processing using one or more auxiliary computers that are connected to the system in a client/server configuration. PTTS is an alternative to the standard Text-to-Speech feature and is used in applications where the demand is very high or where a language is needed that is not supported on the speech processing circuit cards.

pseudo driver

A driver that does not control any hardware.

PSTN

public switch telephone network

PTTS

Proxy Text-to-Speech

pulse code modulation

A digital modulation method of encoding voice signals into digital signals. See also adaptive differential pulse code modulation.

Q

Quad circuit card (CWB10, CWB11, or CWB12)

A series of three digital network-interface circuit cards, each of which can be configured to support up to four E1 or T1 connections (or spans):

- Quad T1 (CWB10, with CYD10 rear I/O transition card, RJ48C connectors)
- Quad E1 (CWB11, with CYD10 rear I/O transition card, RJ48C connectors)
- Quad E1 (CWB12, with CYD12 rear I/O transition card, coaxial connectors)

R

RAID

redundant array of independent disks

RAID Array

An assembly of disk drives configured to provide some level of RAID functionality

RAM

random access memory

RDMBS

ORACLE relational database management system

RECOG

speech recognition feature message class

recognition type

The type of input the recognizer can understand. Available types include touch-tone, dial pulse, and Advanced Speech Recognition (ASR), which includes WholeWord and FlexWord speech recognition.

recognizer

The part of the system that compares caller input to a grammar in order to correctly match (identify) the caller input.

record

See database record.

recovery

The process of using copies of the system software to reconstruct files that have been lost or damaged. See also restore.

remote database

Information stored on a system other than your current system that can be accessed by your current system.

REN

ringer equivalence number

reports administration

The component of a system that provides access to system reports, including call classification, call data detail, call data summary, message log, and traffic reports.

restore

The process of recovering lost or damaged files by retrieving them from available back-up tapes or from another disk device. See also “recovery.”

restore application

A utility that replaces a damaged application or restores an older version of an application.

reuse

The concept of using a component from a source system in a target system after a software upgrade or platform migration.

RFS

remote file sharing

RM

resource manager

roll back

To cancel changes to a database since the point at which changes were last committed.

rollback segment

A portion of the database that records actions that should be undone under certain circumstances. Rollback segments are used to provide transaction rollback, read consistency, and recovery.

RTS

request to send

S

SCA

single connector architecture

SBC

A single-board computing circuit card used in the UCS 1000 R4.6. It is part of the CPU complex.

screen pop

A method of delivering a screen of information to a telephone operator at the same time a telephone call is delivered. This is accomplished by a complex chain of tasks that include identifying the calling party number, using that information to access a local or remote ORACLE database, and pulling a “form” full of information from the database using an ORACLE database utility package.

script

The set of instructions for the system to follow during a transaction.

Script Builder

An optional software package that provides a menu-oriented interface designed to assist in the development of custom voice response applications on the system (see also Voice@Work).

SCSI

small computer system interface

SDN

software defined network

shared database table

A database table that is used in more than one application.

shared speech

Speech that is a part of more than one application.

shared speech pools

A parameter that allows the user of a voice application to share speech components with other applications.

SID

station identification

single-threaded application

An application that runs on a single voice channel.

slave

A circuit card that depends on the TDM bus for clock information.

SLIP

serial line interface protocol

small computer system interface

A disk drive control technology in which a single SCSI adapter circuit card plugged into a PC slot is capable of controlling as many as seven different hard disks, optical disks, tape drives, etc.

SNA

systems network architecture

SNMP

simple network management protocol

software

The set or sets of programs that instruct the computer hardware to perform a task or series of tasks — for example, UnixWare software and the system software.

software upgrade

The installation of a new version of software in which the existing platform and circuit cards are retained.

source system

The system from which you are upgrading (that is, your system as it exists *before* you upgrade).

span

A network-interface connection on an E1/T1 (CWB2), Quad T1(CWB10) or Quad E1 (CWB11 and CWB12) circuit card. Each Quad circuit card has from one to four spans (0, 1, 2, 3). An E1/T1 circuit card has one span (0).

speech and signal processor circuit card (CWB1)

A high-performance signal processing circuit card capable of simultaneous support for various speech technologies.

speech energy

The amount of energy in an audio signal. Literally translated, it is the output level of the sound in every phonetic utterance.

speech envelope

The linear representation of voltage on a line. It reflects the sound wave amplitude at different intervals of time. This envelope can be plotted on a graph to represent the oscillation of an audio signal between the positive and negative extremes.

speech file

A file containing an encoded speech phrase.

speech filesystem

A collection of several talkfiles. The filesystem is organized into 16-Kbyte blocks for efficient management and retrieval of talkfiles.

speech modeling

The process of creating WholeWord speech recognition algorithms by collecting thousands of different speech samples of a single word and comparing them all to obtain a statistical average of the word. This average is then used by a WholeWord speech recognition program to recognize a single spoken word.

speech space

An area that contains all digitized speech used for playback in the applications loaded on the system.

speech phrase

A continuous speech segment encoded into a digital string.

speech recognition

The ability of the system to understand input from callers.

SPIP

signal processor interface process

SPPLIB

speech processing library

SQL

structured query language

SR

speech recognition

SSP

speech and signal processor circuit card (CWB1)

standard speech

The speech package available in several languages containing simple words and phrases produced by Lucent Technologies for use with the system. This package includes digits, numbers, days of the week, and months, each spoken with initial, medial, and falling inflection. The speech is in digitized files stored on the hard disk to be used in voice prompts and messages to the caller. This feature is also called Enhanced Basic Speech.

standard vocabulary

A standard package of simple word speech models provided by Lucent Technologies and used for WholeWord speech recognition. These phrases include the digits “zero” through “nine,” “yes,” “no,” and “oh,” or the equivalent words in a specific local language.

string

A contiguous sequence of characters treated as a unit. Strings are normally bounded by white spaces, tabs, or a character designated as a separator. A string value is a specified group of characters symbolized by a variable.

structured query language

A standard data programming language used with data storage and data query applications.

subword technology

A method of speech recognition used in FlexWord recognition that recognizes phonemes or parts of words. Compare to WholeWord speech recognition.

switch

A software and hardware device that controls and directs voice and data traffic. A customer-based switch is known as a private branch exchange.

switch hook

The device at the top of most telephones that is depressed when the handset is resting in the cradle (in other words, is *on hook*). The device is raised when the handset is picked up (in other words, 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 interface administration

The component of the system that enables you to define the interaction between the system and switches by allowing you to establish and modify switch interface parameters and protocol options for both analog and digital interfaces.

switch network

Two or more interconnected telephone switching systems.

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. Compare to asynchronous communication.

SYS

UNIX system calls message class

sysgen

system generation

system administrator

The person assigned the responsibility of monitoring all system software processing, performing daily system operations and preventive maintenance, and troubleshooting errors as required.

system architecture

The manner in which the system software is structured.

system message

An event or alarm generated by either the system or end-user process.

system monitor

A component of the system that tests to verify that each incoming telephone line and its associated Tip/Ring or T1 circuit card is functional. Through the “System Monitor” component, you are able to see displays of the Voice Channel and Host Session Monitors.

T

T1

A digital transmission link with a capacity of 1.544 Mbps.

table

See database table.

talkfile

An ASCII file that contains the speech phrase tags and phrase tag numbers for all the phrases of a specific application. The speech phrases are organized and stored in groups. Each talkfile can contain up to 65,535 phrases, and the speech filesystem can contain multiple talkfiles.

talkoff

The process of a caller interrupting a prompt, so the prompt message stops playing.

TAM

telecom alarm module

target system

The system to which you are upgrading (that is, your system as you expect it to exist *after* you upgrade).

TAS

transaction assembler script

TCP/IP

transmission control protocol/internet protocol

TDM

time division multiplexing

telecom alarm module

An intelligent alarm module that provides critical, major, and minor alarm indicators.

telephone network connection

The point at which a telephone network connection terminates on a system. Supported telephone connections are Tip/Ring, T1, and E1.

Text-to-Speech

An optional feature that allows an application to play US English speech directly from ASCII text by converting that text to synthesized speech. The text can be used for prompts or for text retrieved from a database or host, and can be spoken in an application with prerecorded speech.

ThickNet

A 10-mm (10BASE5) coaxial cable used to provide interLAN communications.

ThinNet

A 5-mm (10BASE2) coaxial cable used to provide interLAN communications.

time-division multiplex

A method of serving a number of simultaneous channels 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

Analog telecommunications using four-wire media.

token ring

A ring type of local area network that allows any station in the network to communicate with any other station.

trace

A command that can be used to monitor the execution of a script.

traffic

The flow of information or messages through a communications network for voice, data, or audio services.

transaction

The interactions (exchanges) between the caller and the voice response system. A transaction can involve one or more telephone network connections and voice responses from the system. It can also involve one or more of the system optional features, such as speech recognition, 3270 host interface, FAX Actions, etc.

transaction assembler script

The computer program code that controls the application operating on the voice response system. The code can be produced from Voice@Work, Script Builder, or by writing directly in TAS code.

transaction state machine process

A multi-channel IRAPI application that runs applications controlled by TAS script code.

transient process

A process that is created dynamically only when needed.

troubleshooting

The process of locating and correcting errors in computer programs. This process is also referred to as debugging.

TSO

time share operation

TSM

transaction state machine process

TTS

Text-to-Speech

TWIP

T1 interface process

U

UCS

Unified Communications Server

UK

United Kingdom

US

United States of America

UNIX Operating System

A multiuser, multitasking computer operating system originally developed by Lucent Technologies.

UNIX shell

The command language that provides a user interface to the UNIX operating system.

upgrade scenario

The particular combination of current hardware, software, application and target hardware, software, applications, etc.

usability

A measurement of how easy an application is for callers to use. The measurement is made by making observations and by asking questions. An application should have high usability to be successful.

USOC

universal service ordering code

UVL

unified voice library

V

VDC

video display controller

vi editor

A screen editor used to create and change electronic files.

virtual channel

A channel that is not associated with an interface to the telephone network (Tip/Ring, T1, LSE1/LST1, or PRI). Virtual channels are intended to run “data-only” applications which do not interact with callers but may interact with DIPs. Voice or network functions (for example, coding or playing speech, call answer, origination, or transfer) will not work on a virtual channel. Virtual channel applications can be initiated only by a “virtual seizure” request to TSM from a DIP.

vocabulary

A collection of words that the system is able to recognize using either WholeWord or FlexWord speech recognition.

vocabulary activation

The set of active vocabularies that define the words and wordlists known to the FlexWord recognizer.

vocabulary loading

The process of copying the vocabulary from the system where it was developed and adding it to the target system.

Voice@Work

An optional software package that provides a graphical interface to assist in development of voice response applications on the system (see also Script Builder).

voice channel

A channel that is associated with an interface to the telephone network (T1, E1, or PRI). Any system application can run on a voice channel. Voice channel applications can be initiated by being assigned to particular voice channels or dialed numbers to handle incoming calls or by a “soft seizure” request to TSM from a DIP or the **soft_szr** command.

voice processing co-marketer

A company licensed to purchase voice processing equipment to market and sell based on their own marketing strategies.

voice response output process

A software process that transfers digitized speech between system hardware (for example, Tip/Ring and SSP circuit cards) and data storage devices (for example, hard disk, etc.)

voice response unit

A computer connected to a telephone network that can play messages to callers, recognize caller inputs, access and update a databases, and transfer and monitor calls.

voice system administration

The means by which you are able to administer both voice-related aspects of the system.

VPC

voice processing co-marketer

VROP

voice response output process

VRU

voice response unit

W

warning

An admonishment or advisory statement used in system documentation to alert the user to the possibility of equipment damage.

watchdog timer

An timer that activates a TAM alarm when CPU activity is not received within the 30-second threshold.

WholeWord speech recognition

An optional feature package based on whole-word technology that can recognize the numbers one through zero, “yes”, and “no” (the key words). This feature is reliable, regardless of the individual speaker. This feature can identify the key words when spoken in phrases with other words. A string of key words, called *connected digits*,

can be recognized. During the prompt announcement, the caller can speak or use touch tones (or dial pulses, if available). See also whole-word technology.

whole-word technology

The ability to recognize an entire word, rather than just the phoneme or a part of a word. Compare to “subword technology.”

wink signal

An interruption of current to a busy lamp indicating that there is a line on hold.

word

A unique utterance understood by the recognizer.

wordlist

A set of words available for FlexWord recognition by an application during a Prompt & Collect action step.

word spotting

The ability to search through extraneous speech during a recognition.

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