Lucent Technologies
Bell Labs Innovations

UCS 1000

R4.2

Maintenance

585-313-126
Comcode 108725896
April 2000
Issue 3

Contents

Copyright and Legal Notices xv

Copyright xv
Acknowledgment xv
Trademarks xvi
Limited Warranty xvii
United States FCC Compliance Information xvii
Canadian Department of Communications Interference Information xviii
Toll Fraud xix

About This Book xxi

Overview xxi
Intended Audiences xxi
How This Book Is Organized xxii
Conventions Used in This Book xxiv
Terminology xxiv
Example of a Window Showing Information xxv
Example of a Window Showing Information xxvi
Example of a Window Requesting Information xxvii
Example of a Screen Requesting Information xxvii

Example of a Menu Showing Information xxviii
Example of Terminal Keys. xxviii
Screen Displays. xxix
Some Screen Simulations. xxxi
Items That May or May Not Appear xxxi
Cross References and Hypertext xxxi
Other Typography xxxii
Command Text xxxii
Safety and Security Alert Labels. xxxiii
Related Resources. xxxiv
Documentation. xxxiv
Updates to the Product xxxiv
System Description xxxiv
Troubleshooting Information xxxiv
Diagnostic Information xxxiv
Common System Procedures xxxiv
Alarm and Log Messages xxxv
Hardware Information xxxv
Software Information. xxxv
Required for the System Maintenance xxxv
Additional Suggested Documentation. xxxv
Additional Reference Documentation xxxvi
Training xxxvi
Using the CD–ROM Documentation xxxvi
Setting the Default Magnification xxxvii

Adjusting the Window Size xxxvii
Hiding and Displaying Bookmarks xxxvii
Using the Button Bar xxxvii
Using Hypertext Links xxxvii
Navigating with Double Arrow Keys xxxvii
Searching for Topics xxxviii
Displaying Figures xxxviii
Printing the Documentation xxxviii
How to Comment on This Book xl

1 Getting Inside the UCS 1000 R4.2 1

Overview 1
Protecting Against Damage from Electrostatic Discharge 2
UCS 1000 R4.2 6
Removing Power from the DC System 7
Restoring Power to the DC System 10
Removing the Upper Rear Exhaust Panel 10
Installing the Upper Rear Exhaust Panel 13
Removing the Lower Rear Power Panel 14
Installing the Lower Rear Power Panel 16

2 Installing or Replacing Circuit Cards 18

Overview 18

General Procedures for Hot Swap 18
Hot Swap Description 19
Slot Assignments for Replacing Circuit Cards 23
Removing Circuit Cards 23
Installing Circuit Cards 28
Applying the CLEI Label 32
Moving E1/T1 Circuit Cards 35
Optional Circuit Cards 39
E1/T1 Circuit Card Settings 41
Switch and Jumper Settings 41
Verifying E1/T1Switch Settings 41
Verifying E1/T1 Jumper Settings 45
TNV-1 Keying for the E1/T1 Circuit Card 47
Front Panel Key Positions for E1/T1 47
Verifying the Front Panel Key Positions for the E1/T1 Slot 48
Installing the E1/T1 Circuit Card Driver 51
SSP Circuit Card Settings 51
Description 51
Front Panel Keying 51
LSPS II Circuit Card 54
Description 54
Front Panel Keying 54
8-Port Asynchronous Circuit Card 56
Description 56

SELV Keying for the 8-Port Asynchronous Circuit Card 59
Front Panel Keying 59
Verifying the Front Panel Key Positions 59
The TAM 62
Description 62
Upgrade Kits 64
TAM-Initiated Alarms 65
TAM Temperature Sensors 66
CPU Complex 69
Description 69
SBC Connections 71
IOB Connections 71
Setting the Resource Options 72
Removing the CPU Complex 76
Installing the CPU Complex 78
The LAN PMC 80
Description 80
Connecting the LAN PMC 81
Removing the LAN PMC 83
Installing the LAN Driver 84
Verifying the LAN PMC Connection 84
RAID PMC Module 85
Installing the RAID Controller PMC 85
Removing the RAID Controller PMC 86

Video Controller Module 86
Removing the Video Controller Module 86
Installing the Video Controller Module 87
Verifying CMOS Parameter Settings 87
Verifying CPU CMOS Parameter Settings 87
Verifying RAID Controller BIOS and Configuration Options 106

3 Replacing the Hard Disk Drive Assembly 109

Overview 109
Identifying a Failed Hard Disk Drive 111
Performing a Hard Disk Drive Hot Swap 112
Removing a Hard Disk Drive 112
Installing a Hard Disk Drive 114
Performing a Manual Rebuild of a RAID Array 115
Adding a New Hard Disk Drive to a RAID System 117
Adding a New Hard Drive 117
Updating the Disk Array Configuration 118
Defining the Logical System Drive 122
Creating Additional Storage for Speech 125
Adding a System Drive for Speech 125

4 Replacing Other Components 128

Overview 128

Removing the SCA Backplane 129
Installing the SCA Backplane 132
Removing the CD-ROM/Cartridge Tape Drive Mounting Unit 133
Removing the CD-ROM Drive 136
Removing the Cartridge Tape Drive 137
Installing the Cartridge Tape Drive 138
Installing the CD-ROM Drive 140
Installing the CD-ROM/Cartridge Tape Drive Mounting Unit 142
Replacing the TAM Alarm Panel 143
Removing the Alarm Panel 143
Installing the Alarm Panel 146
Replacing Cables 147
Replacing the TAM Alarm Panel Cable 147
Removing the TAM Alarm Panel Cable 147
Installing the Alarm Panel Cable 148
Replacing the Power Cables 148
Removing the CD-ROM Drive and Cartridge Tape Drive Power Supply Cable 148
Installing CD-ROM Drive and Cartridge Tape Drive Power Supply Cable . . 150
Replacing the SCSI Cable 151
Removing the SCSI Cable 151
Installing the SCSI Cable 153

Replacing a Fan Tray 154
Description 154
Replacing a Fan Tray 154
Replacing the Filter 158
Replacing the Filter 158
Replacing the Power Supply 160
Replacing the Temperature Sensors 164
Description 164
Replacing the Air Inlet Temperature Sensor 164
Replacing the Air Outlet Temperature Sensor 165

5 Installing Base System Software 167

Overview 167
Installing Base System Software 168
Configuring the RAID System 168
Verifying the BIOS 168
Verifying RAID Hardware Parameters 169
Verifying the Physical Parameters 172
Verifying the SCSI Transfer Parameters (Channel 0) 173
Verifying the Startup Parameters 174
Configuring the Array 176
Defining the Logical System Drive 180
Beginning the UnixWare Installation 185

Installing UnixWare . . . 185
Setting Up the UnixWare Environment . . . 190
Initializing the Hard Disk Drives . . . 199
Customizing Disk Partitions . . . 199
Selecting Customized Slice Sizes . . . 211
Selecting the Recommended Disk Partitions . . . 218
Recommended Disk Partitions . . . 218
Installing the UCS 1000 R4.2 Image . . . 219
Selecting the Recommended Slice Sizes . . . 219
Installing the LAN PMC Driver . . . 222
Setting Up the Monitor . . . 228
Initializing the Mouse. . . . 234
Testing the Mouse . . . 237

6 Installing the UCS 1000 R4.2 Software 239

Overview . . . 239
Notes on Reinstalling the Base Software Set . . . 240
Installing the Base Software Set . . . 241

7 Installing the Optional Feature Software 244

Overview . . . 244
Installing All Packages . . . 245

Installing the ASP Driver 246
Installing the Call Bridge Application Package 248
Installing the Call Classification Analysis Package 249
Installing the CDH Stub Package 252
Installing the Data Collection Toolkit 253
Installing the Dial Pulse Recognition Package 255
Installing the E1 CAS Interface Package 257
Installing the 8-Port Asynchronous Circuit Card Driver 258
Installing the FlexWord Speech Recognition Package 261
Installing FlexWord Recognition - Base 261
Installing FlexWord Recognition - U.S. English 263
Installing the LAN PMC Driver 266
Installing the NGFax Feature Package 267
Installing the Primary Rate Interface Packages 268
Installing the ISDN Primary Rate Interface Package 269
Installing the Advanced Primary Rate Interface Package 271
Installing the Nortel ISDN PRI Package 273
Installing the T1 E&M Package 274
Installing the Text-To-Speech Package 276
Installing the WholeWord Recognition Packages 278
Installing the WholeWord Recognition Base Package 278
Installing the WholeWord Recognition Language Package 280

Installing the Feature Test Script Package . . . 281
Installing the SNMP Emanate Agent Package . . . 285
Removing Software Packages . . . 287
Using the Command Line . . . 287
Using the Administration Screens . . . 288

8 Installing ORACLE Packages 291

Overview . . . 291
Installing the ORACLE Base Software Packages . . . 292
Installing the ORACLE Pro*C Software Package . . . 298
Installing the ORACLE Development Packages . . . 300
Installation Requirements . . . 300
ORACLE Tools CD . . . 301
Installing the ORACLE Developer 2000 Toolkit . . . 301
Post-installation Setup . . . 311
Completing the Installation . . . 312

9 Installing LSPS II Optional Software Packages 313

Overview . . . 313
LSPS II Software Packages . . . 314
Installing the LSPS II Optional Software Packages . . . 315

A Component Ordering Numbers **318**

Component Ordering Numbers 318

B How to Build a System **324**

Checklist for Building a System 324

Assignment Rules 324

Checklist 328

C Disaster Recovery Checklists **330**

Disaster Recovery Checklists 330

Software Reloading with Existing HDDs 331

Checklist for UCS 1000 R4.2 with All New HDDs 332

Checklist for Systems with New HDD0 333

Checklist for Systems with a New HDD 334

Glossary **336**

Index **409**

Copyright and Legal Notices

Copyright

Acknowledgment

This document was prepared by the Global Learning Solutions organization of the BCS division of Lucent Technologies. Offices are located in Denver CO, Columbus OH, Middletown NJ, and Basking Ridge NJ, USA.

Trademarks

DEFINITY, AUDIX, CONVERSANT, elemedia, SABLIME, Talkbak, Terranova, WaveLAN, MERLIN, and MERLIN LEGEND are registered trademarks and 4ESS, 5ESS, Intuity, OneMeeting, OneVision, PacketStar, PathStar, ProLogix, Lucent, Lucent Technologies, and the Lucent Technologies logo are trademarks of Lucent Technologies. Pentium is a registered trademark of Intel Corporation. Microsoft, Windows, and Windows NT are registered trademarks and Video for Windows is a trademark of Microsoft Corporation. UNIX is a registered trademark of UNIX System Laboratories, Inc., a wholly-owned subsidiary of Novell, Inc. X Window System is a trademark and product of the Massachusetts Institute of Technology. Hewlett-Packard and HP are registered trademarks of the Hewlett-Packard corporation. Sun, Sun Microsystems, Sun Workstation, and Solaris (computer and peripherals) are registered trademarks and Solaris (operating system utilities) and Java are trademarks of Sun Microsystems, Inc. Adobe, Acrobat, Acrobat Capture, Distiller, Acrobat Exchange, Adobe Type Manager, PostScript are trademarks of Adobe Systems, Inc. Other product and brand names are trademarks of their respective owners. QuickStart is a trademark of the Enhanced Software Technologies, Corporation. CompactPCI is a trademark of PCI Industrial Manufacturers Group (PICMG).

Limited Warranty

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

Lucent Technologies has determined that use of this electronic data delivery system cannot cause harm to an end user's computing system and will not assume any responsibility for problems that may arise with a user's computer system while accessing the data in these document.

Every effort has been made to make sure that this document is complete and accurate at the time of release, but information is subject to change.

United States FCC Compliance Information

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.

Canadian Department of Communications Interference Information

This digital apparatus does not exceed the Class A limits for radio noise emissions set out in the radio interference regulations of the Canadian Department of Communications. Le Présent Appareil Nomérique n'émet pas de bruits radioélectriques dépassant les limites applicables aux appareils numériques de la class A préscrites dans le reglement sur le brouillage radioélectrique édicté par le ministére des Communications du Canada.

Toll Fraud

Toll fraud is the unauthorized use of your telecommunications system by an unauthorized party, for example, persons other than your company's employees, agents, subcontractors, or persons working on your company's behalf. Note that there may be a risk of toll fraud associated with your telecommunications system and, if toll fraud occurs, it can result in substantial additional charges for your telecommunications services. You and your system manager are responsible for the security of your system and for preventing unauthorized use. You are also responsible for reading all installation, instruction, and system administration documents provided with this product in order to fully understand the features that can introduce risk of toll fraud and the steps that can be taken to reduce that risk. Lucent Technologies does not warrant that this product is immune from or will prevent unauthorized use of common-carrier telecommunication services or facilities accessed through or connected to it. Lucent Technologies will not be responsible for any charges that result from such unauthorized use. If you suspect that you are being victimized by toll fraud and you need technical support or assistance, call Technical Service Center Toll Fraud Intervention Hotline at 1 800 643-2353.

About This Book

Overview

This book, *UCS 1000 R4.2 Maintenance*, 585-313-126, contains information for component replacement procedures, base system software installation procedures, and installing optional feature software associated with the UCS 1000 R4.2 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 R4.2 hardware installation and maintenance training course, see Training on page xxxvi.

How This Book Is Organized

This book contains the following sections:

- Chapter 1, Getting Inside the UCS 1000 R4.2 — 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 R4.2 that has experienced a disk failure.
- Chapter 6, Installing the UCS 1000 R4.2 Software — Provides details of the installation procedures for the UCS 1000 R4.2 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 R4.2 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.

Conventions Used in This Book

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

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 “type” 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

  Type **y** to continue.

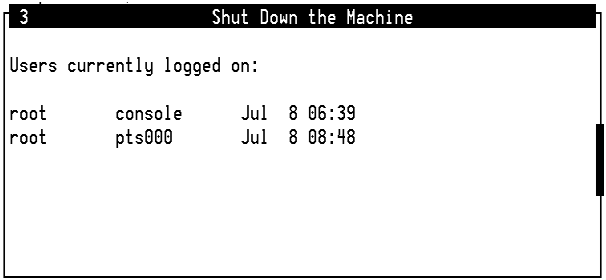
- The word “select” means to move the cursor to the desired menu item and then press **ENTER**. For example, an instruction to move the cursor to the start test option on the Network Loop-Around Test screen and then press **ENTER** is shown as

  Select **Start Test.**

- The system displays *windows, screens, and menus* (Figure 1 through Figure 4 on page xxvii). Windows and screens both show and request system information. Menus (Figure 5 on page xxviii) present options from which you can choose to view another menu, or a screen or window

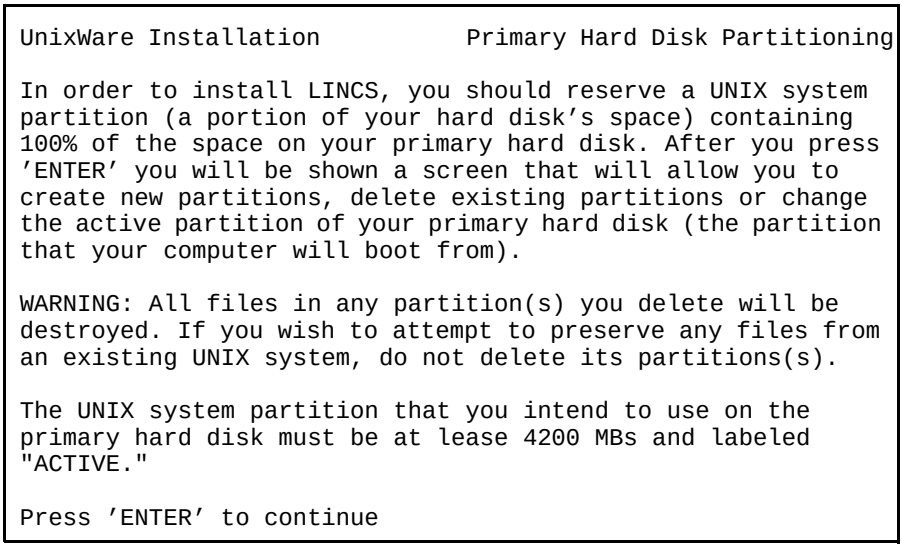
Example of a Window Showing Information

Figure 1. Window Showing Information



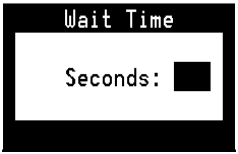
Example of a Window Showing Information

Figure 2. Window Showing Information



Example of a Window Requesting Information

Figure 3. Window Requesting Information



Example of a Screen Requesting 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
```

Example of a Menu Showing Information

Figure 5. Example of a Menu

Example of Terminal Keys

- 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** 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** text followed by the function or value of that key enclosed in parentheses. For example, an instruction to press function key 3 is shown as

  Press **F3** (Choices).

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

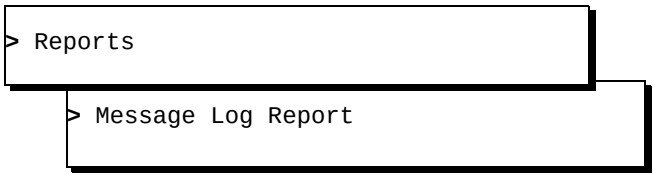
  Press **1** to record a message.

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

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` **April 30, 1999**`."`

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.

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 **pkgadd -d cdrom1 LINCSset** 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 **restore card *card_number***, where *card_number* is the name of number of the circuit card you want to restore to service.

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

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

Safety and Security Alert Labels

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

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

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

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

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

Related Resources

Documentation

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

System Description

A detailed description of all books included in the UCS 1000 R4.2 documentation set is available in *UCS 1000 R4.2 System Description*, 585-313-209. Always refer to the appropriate book for specific information on planning, installing, administering, or maintaining a UCS 1000 R4.2 .

Troubleshooting Information

Basic troubleshooting information is available in “Troubleshooting” in *UCS 1000 R4.2 System Reference*, 585-313-210.

Diagnostic Information

Instructions for conducting diagnostics are available in “Diagnostics” in *UCS 1000 R4.2 System Reference*, 585-313-210.

Common System Procedures

Instructions for conducting common system procedures are available in “Common System Procedures” in *UCS 1000 R4.2 System Reference*, 585-313-210.

Alarm and Log Messages

Instructions for interpreting alarm and log messages are available in “Alarms and Log Messages” in *UCS 1000 R4.2 System Reference*, 585-313-210.

Hardware Information

Instructions for replacing or installing hardware components of the UCS 1000 R4.2 are available in "Getting Inside the UCS 1000 R4.2 ," "Installing or Replacing Circuit Cards," "Replacing the Hard Disk Drive Assembly," and Replacing Other Components," in *UCS 1000 R4.2 Maintenance*, 585-313-126.

Software Information

Instructions for replacing or installing software components of the UCS 1000 R4.2 are available in "Installing Base System Software," Installing the UCS 1000 R4.2 Software," and "Installing the Optional Feature Software" in *UCS 1000 R4.2 Maintenance*, 585-313-126.

Required for the System Maintenance

To repair or alter the configuration of your system, you must have a copy of:

- *UCS 1000 R4.2 Maintenance*, 585-313-126.
- *UCS 1000 R4.2 Administration*, 585-313-507.
- *UCS 1000 R4.2 System Reference*, 585-313-210.

Additional Suggested Documentation

It is suggested that you also obtain and use the following:

- *UCS 1000 R4.2 New System Installation*, 585-313-127.

Additional Reference Documentation

The following documentation will be useful when working with applications:

- *UCS 1000 R4.2 Communication Development*, 585-313-213.
- *UCS 1000 R4.2 Speech Development, Processing, and Recognition*, 585-313-212.
- *UCS 1000 R4.2 Application Development with Advanced Methods*, 585-313-214.

Training

For information on UCS 1000 R4.2 training, check the Lucent Message Institute website at: *http://www.octel.com/octelu/index.html*

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.

Note: If viewing documents online, it is recommended that you use a separate platform and not the UCS 1000 R4.2 .

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

Hypertext-linked text appears in blue, italics, and underlined. These links are shortcuts to other sections or books.

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.

Printing the Documentation

If you would like to read the documentation in paper form rather than on a computer monitor, you can print all or portions of the online screens.

You can also order the printed documents by calling 1-888-582-3688 or visiting the Customer Information Center (CIC) website at: *http://www.lucentdocs.com/cgi-bin/CIC_store.cgi*

Printing an Entire Document

To print an entire document, do the following:

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.

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.

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.

How to Comment on This Book

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

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

Lucent Technologies
GLS Information Development Division
Room 22-2H15
11900 North Pecos Street
Denver, Colorado 80234

You may also fax your comments to the attention of the Lucent Technologies UCS 1000 R4.2 writing team at (303) 538-1741.

Please mention the name and order number of this book, *UCS 1000 R4.2 Maintenance*, 585-313-126.

1 Getting Inside the UCS 1000 R4.2

Overview

The purpose of this chapter is to provide the correct procedures for accessing the internal components of the UCS 1000 R4.2 . 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 R4.2 . 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).

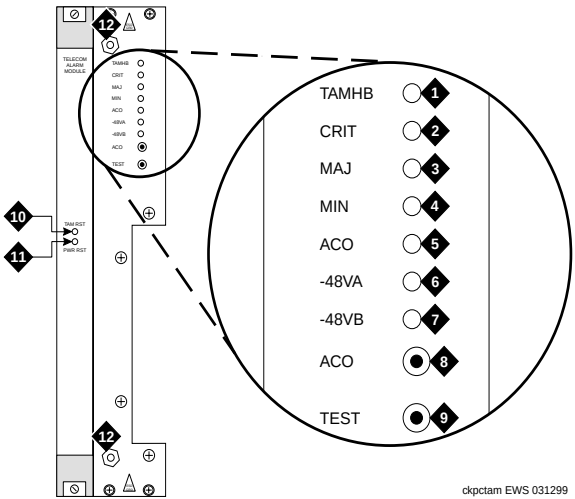
Note: Procedures in this book should be performed by personnel identified in Intended Audiences on page xxi in About This Book.

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) or rear of the Telecom Alarm Module (TAM) alarm panel.

Figure 7. TAM and Alarm Panel

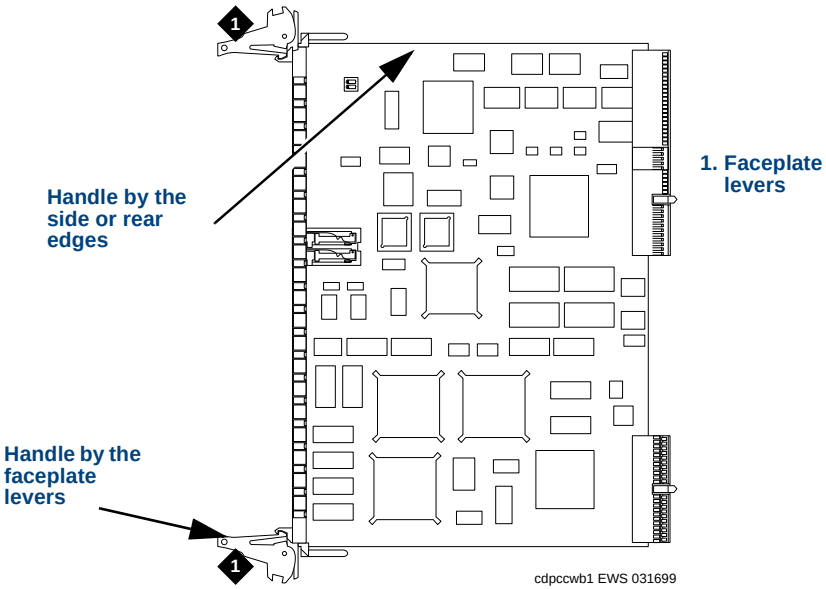


1. **TAMHB indicator LED. On for normal operation.**
2. **Critical alarm indicator. Lights when active.**
3. **Major alarm indicator. Lights when active.**
4. **Minor alarm indicator. Lights when active.**
5. **Alarm cutoff indicator. Lights when an alarm is active.**
6. **-48VA failure indicator. Lights 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.

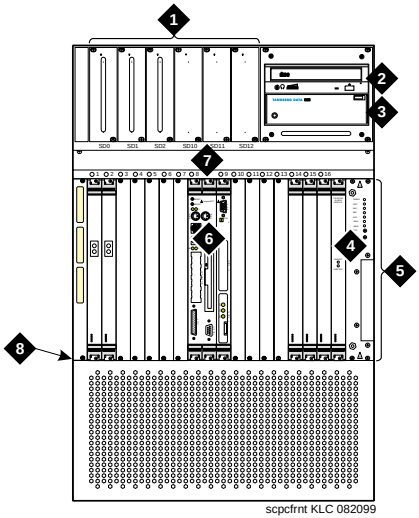
Figure 8. How to Hold a Circuit Card



UCS 1000 R4.2

The UCS 1000 R4.2 (Figure 9) 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 R4.2



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:

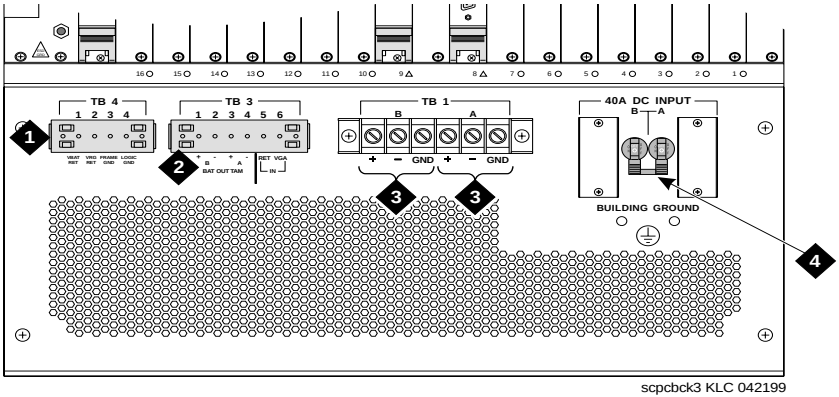
Do not perform any maintenance on this equipment until you have turned off the power using the specified procedure. Failure to observe proper precautions could cause serious injury or death from electric shock.

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 8.

Figure 10. DC UCS 1000 R4.2 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 R4.2 System Reference*, 585-313-210, for the procedure.
2. Shut down the system. See “Administering the Operating System,” in “Common System Procedures,” in the *UCS 1000 R4.2 System Reference*, 585-313-210, for the procedure.
3. Place the two circuit breaker/power switches in the off (down) position, as shown in Figure 10 on page 8.

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 8.

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

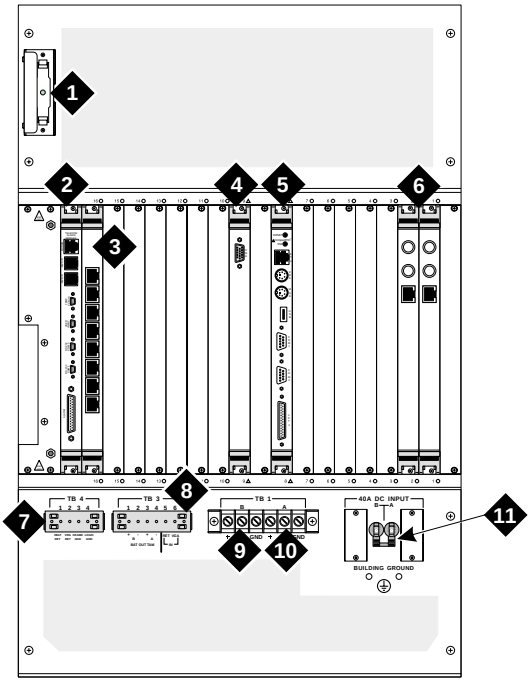
The system automatically reboots. When complete, the system displays the `Console login:` prompt.

Removing the Upper Rear Exhaust Panel

For DC-powered systems, removing the upper rear exhaust panel (Figure 11 on page 11) 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



scpcbckg KLC 082499

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. CYD2 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:

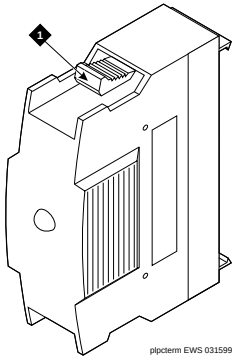
1. Remove the power. See Removing Power from the DC System on page 7 for the procedure.
2. Remove the external SCSI terminator (Figure 12 on page 13) by performing step a through step c.

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 R4.2 .

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 10 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.

For DC-powered systems (Figure 10 on page 8) removing the lower rear power panel provides access to items such as the cPCI backplane power cable assemblies (J3 to J2 and J4 to J3).

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

- Terminal blocks
- Power switches

To access the lower rear power panel area:

1. Remove the power. See Removing Power from the DC System on page 7 for the procedure.
2. Verify that the incoming DC power is turned off at the source.
3. Remove the terminal guard from the 6-position terminal strip by squeezing the snap tabs at each end and pulling.
4. 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.

5. Remove the four screws from each corner of the lower rear panel.
6. Rotate the top of the panel away from the system.
7. Pull the bottom of the panel up and away from the system.
8. 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.

9 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.

10 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.

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

12 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. Restore the DC power from the power source.
11. Restore power. See Restoring Power to the DC System on page 10 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 xxi 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.

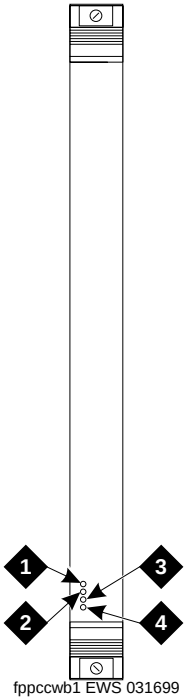
See Protecting Against Damage from Electrostatic Discharge, in Chapter 1, Getting Inside the UCS 1000 R4.2 for detailed electrostatic discharge precautions.

Hot Swap Description

The UCS 1000 R4.2 supports a manual like-for-like hot replacement (generally called "hot swap") for the E1/T1 (CWB2), SSP (CWB1), LSPS II (6UB5), and the 8-port asynchronous circuit cards. This means that the system remains operational but the particular circuit card being replaced must first be removed and/or detached from service.

Figure 13 on page 20 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	Red
SSP (CWB1)	Red	Broken
	Yellow	MANOOS, Diagnostics
	Green	INSERV
	Blue	Ready for hot swap
	Nonoily LEDS are dark)[1]	Broken
E1/T1 (CWB2)	Red	Broken
	Yellow	FOOS, MANOOS, Diagnostics[2]
	Green	INSERV
	Blue	Ready for hot swap
	None (All LEDS are dark)[1]	Broken
LSPS II (6UB5)	Red	Broken

1 of 2

Table 1. Circuit Card LED Maintenance State

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

2 of 2

[1] The voice system may also be down causing the LEDs to remain dark.
[2] NETOOS, when combined with green.

Slot Assignments for Replacing Circuit Cards

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

- When adding an E1/T1 card in the field, install it in the next available slot to the right of the rightmost E1/T1 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 card to slot 7, and then install the LSPS II card in the slot vacated by the E1/T1 card. For guidelines on moving and re-administering an E1/T1 card, see Moving E1/T1 Circuit Cards on page 35

Removing Circuit Cards

To remove an SSP, E1/T1, LSPS II, or 8-port asynchronous circuit card, or the 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.

Note: For complete information about the **remove**, **detach**, **eqn_detach**, and **eqn_attach** commands, see Appendix A, "Summary of Commands" in the *UCS 1000 R4.2 Administration*, 585-313-507.

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

3 Do one of the following:

- ~ If you are replacing an SSP, E1/T1 or LSPS II circuit card, enter **detach card *x*** where *x* is the SSP, E1/T1, 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** .

Note: When the blue LED lights on the faceplate, the circuit card is ready for hot swap and can be removed from the system.

4 Locate the card to be replaced in the system. See Figure 14 on page 26 for front panel circuit card locations or Figure 15 on page 27 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.

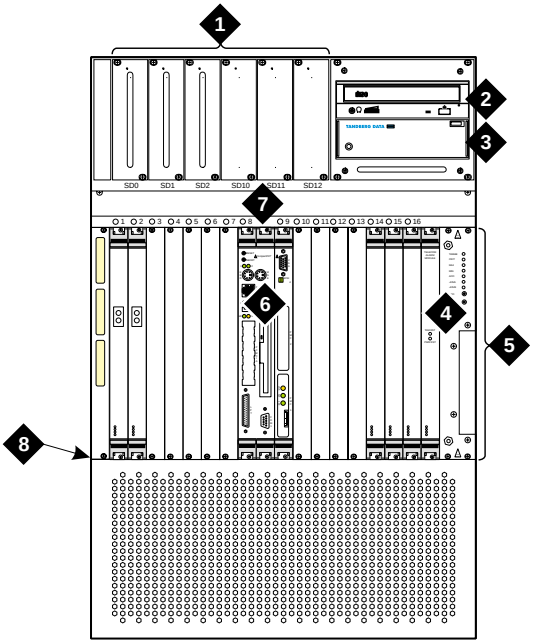
6 Loosen the screws that secure the circuit card to the system. The screws are located at the top and bottom of the faceplate.

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.

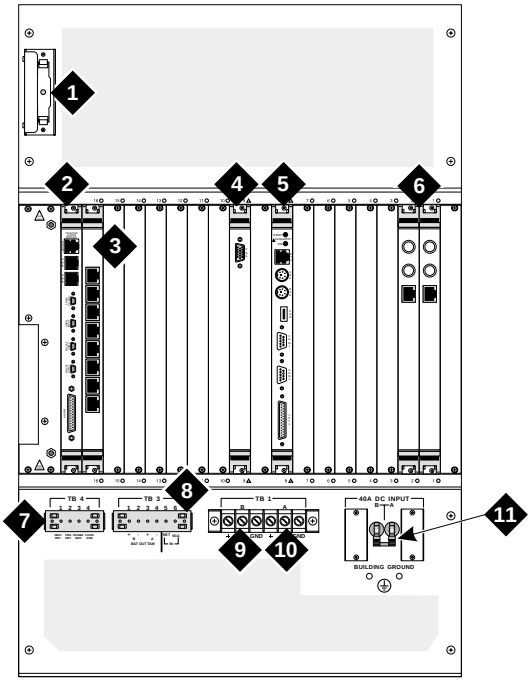
9 Remove the circuit card from the system.

Figure 14. Front View of the UCS 1000 R4.2



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 R4.2



scpcbckg KLC 082499

1. External SCSI terminator
2. TAM rear I/O transition card
3. IOB companion rear I/O transition card
4. SBC rear I/O transition card
5. CYD2 rear I/O transition card
6. Four-position terminal strip (do not connect)
7. Six-position terminal strip
8. Incoming DC power source B connection
9. Incoming DC power source A connection
10. DC input A and B power switches

Installing Circuit Cards

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

Note: The optional E1/T1 and 8-port asynchronous circuit cards require a 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.

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 2 in Chapter 1, Getting Inside the UCS 1000 R4.2 ," 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.

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.

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: 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.

2 Install the rear I/O transition card.

a Apply even 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.

Note: See the Warning on page 47 if you are installing a CYD2 rear I/O transition card and an E1/T1 (CWB2) circuit card.

3 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 4.

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.

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

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

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 the E1/T1 Circuit Card on page 47 and SELV Keying for the 8-Port Asynchronous Circuit Card on page 59 for more information.

6 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.

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

Note: For complete information about the **attach**, **restore**, and **eqn_attach** commands, see Appendix A, "Summary of Commands" in the *UCS 1000 R4.2 Administration*, 585-313-507.

8 Do one of the following:

- ~ If you are replacing an SSP, E1/T1, or LSPS II circuit card enter **attach card *x*** where *x* is the SSP, E1/T1, or LSPS II circuit card number just inserted into the system.
- ~ If you are replacing an 8-port asynchronous card, enter **eqn_attach**.

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

Note: The green LED lights on the front of the circuit card and the blue LED goes dark.

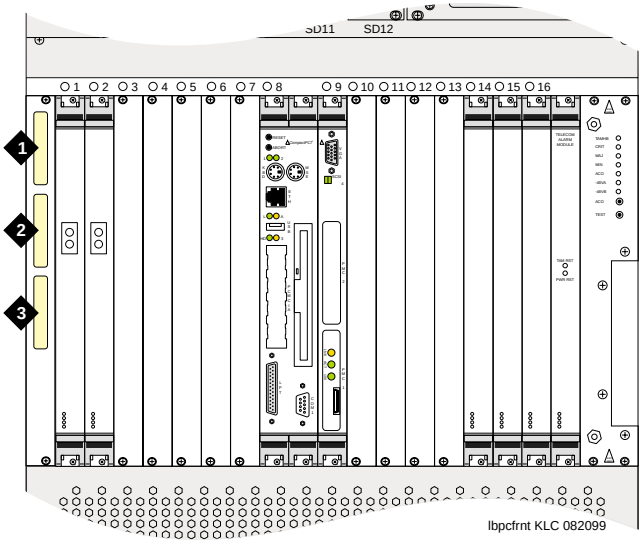
Applying the CLEI Label

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

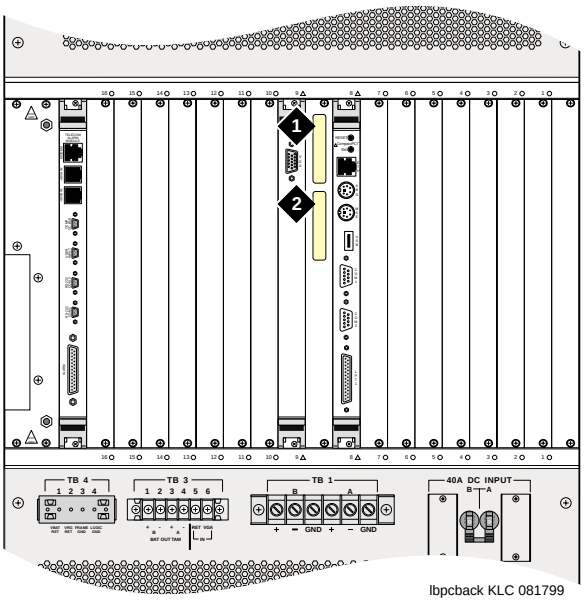
Figure 16 on page 33 shows the positions of the CLEI labels that are to be applied to the front of the system. Figure 17 on page 34 shows the positions of the CLEI labels that are to be applied to the rear of the system.

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



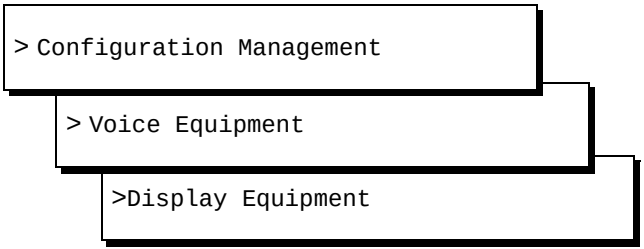
lbpcback KLC 081799

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

Moving E1/T1 Circuit Cards

When you move an E1/T1 circuit card, you must re-administer the appropriate protocol, channel assignments, and equipment groups. Therefore, before removing the E1/T1 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 R4.2 Administration*, 585-313-507 *Administration*, 585-313-507, Appendix A, "Summary of Commands.") The following procedure uses the cvis menu system:

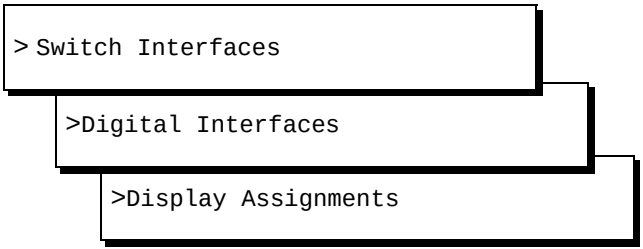
1. Record the existing channel and equipment group assignments for the E1/T1 card. You can use the procedure below. See *UCS 1000 R4.2 Administration*, 585-313-507, Chapter 3, "Voice System Administration," for complete information and sample windows.
   a. Enter **cvis_menu** to display the Voice System 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 card.

2 Record the existing protocol assignments for the E1/T1 card. See *UCS 1000 R4.2 Administration*, 585-313-507, 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 card number for the E1/T1 card and write down the protocol information for it.

c Cancel out of the Display Digital Interface Assignments window to display the Digital Interfaces menu.

d From the Digital interfaces menu, select the menu for the protocol assigned to the E1/T1 card.

e From this menu, select the Display Parameters option to display the Display Parameters window.

f In the Display Parameters window, enter the E1/T1 card number to display the parameters for that card, and write the parameters down.

3 Move the E1/T1 circuit card to slot 7. See "Removing a Circuit Card" and "Installing a Circuit Card" in the *UCS 1000 R4.2 Maintenance*, 585-313-126 *Maintenance*, 585-313-126, for instructions.

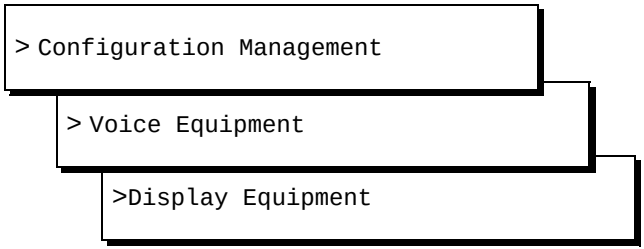
4 Re-administer the E1/T1 circuit card according to the assignments you recorded. For further instruction and sample windows, see the following chapters in *UCS 1000 R4.2 Administration*, 585-313-507 *Administration*, 585-313-507:

- Chapter 3, "Voice System Administration"
- Chapter 4, "Switch Interface Administration

5 Place the circuit card into service using the menus or the **restore card** command. (For information on the **restore** command, see *UCS 1000 R4.2 Administration*, 585-313-507, Appendix A, "Summary of Commands.")

The following procedure uses the menus. (See *UCS 1000 R4.2 Administration*, 585-313-507, 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.

Optional Circuit Cards

The optional circuit cards are:

- E1/T1 (CWB2)
- SSP (CWB1)
- LSPS II (6UB5)
- 8-port asynchronous

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.

E1/T1 Circuit Card Settings

The E1/T1 (CWB2) circuit card (Figure 18 on page 42) 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.

Switch and Jumper Settings

Verifying E1/T1Switch Settings

Verify that the switches for the new E1/T1 circuit card are set properly for your specific operation. Figure 18 on page 42 shows the correct switch setting for T1 operation. Figure 19 on page 43 shows the correct switch setting for E1 operation.

Figure 18. E1/T1 (CWB2) Circuit Card Set for T1 Operation

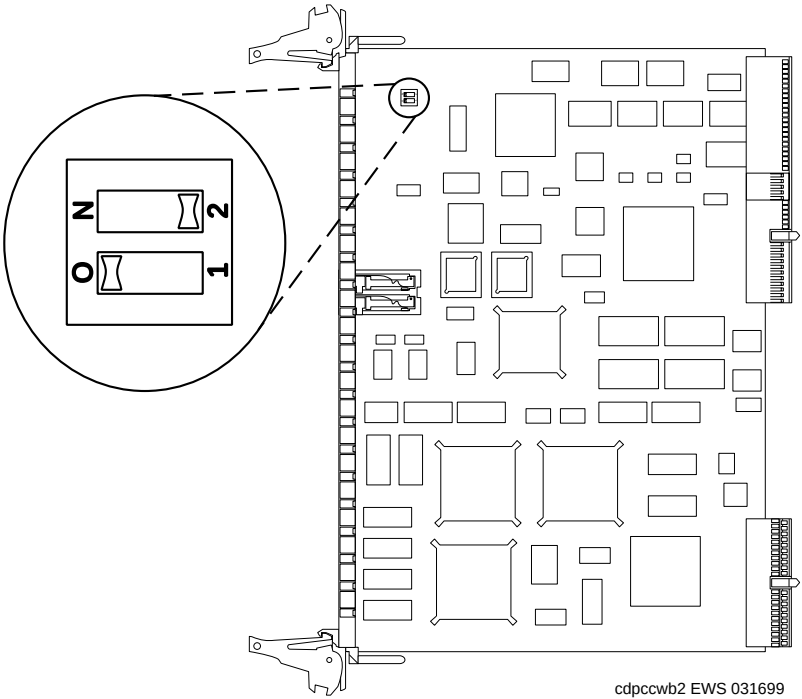
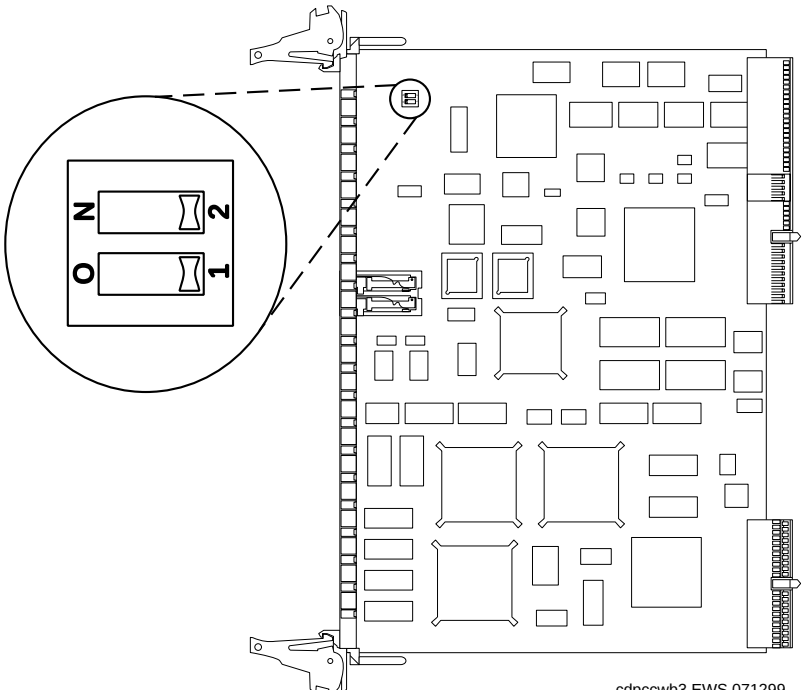


Figure 19. E1/T1 (CWB2) Circuit Card Set for E1 (120-ohm) Operation



If your system uses 75 ohms, the switch settings should be set to those shown in Figure 20.

Figure 20. E1/T1 (CWB2) Circuit Card Set for E1 (75-ohm) Operation

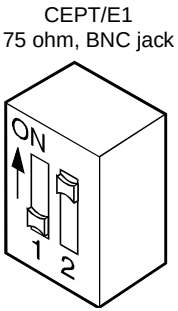
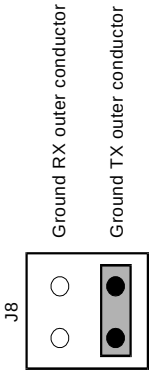


Figure 21 on page 45 shows the jumper settings. The jumpers are located on the CYD2 rear I/O transition card, as shown in Figure 22 on page 46.

Figure 21. E1 Coax Jumper Settings

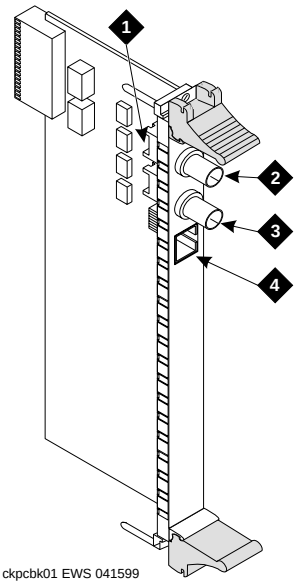


Verifying E1/T1 Jumper Settings

Each E1/T1 circuit card has a corresponding rear I/O transition card (CYD2),as shown in Figure 22 on page 46. This card supports rear entry trunk connections. See Appendix C, "Pinouts" in *UCS 1000 R4.2 New System Installation*, 585-313-127, 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 22. 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

TNV-1 Keying for the E1/T1 Circuit Card

WARNING:
The E1/T1 circuit card is qualified to terminate TNV-1 level voltages only. When installing a new E1/T1 circuit card, do not connect wet (powered) or unprotected (outside premises wiring) T1 or E1 lines to the CYD2 rear I/O transition card. Doing so could damage the circuit card or cause harm to service personnel.

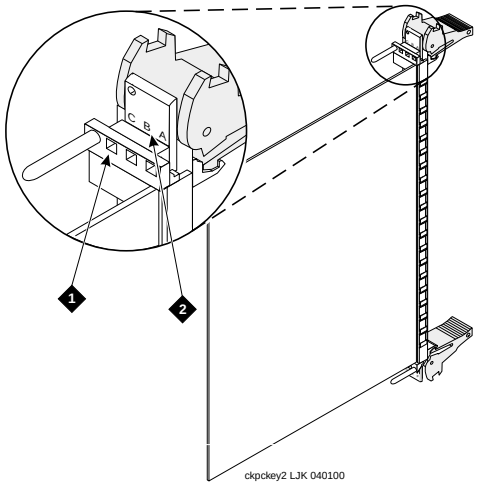
Front Panel Key Positions for E1/T1

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 E1/T1 circuit card.

Therefore, before installing a new 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 E1/T1 circuit card into an existing E1/T1 slot, you only need to verify the circuit card faceplate key positions. See Figure 23 on page 48 for general faceplate key locations.

Figure 23. Sample of Key Locations for a Circuit Card Faceplate



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

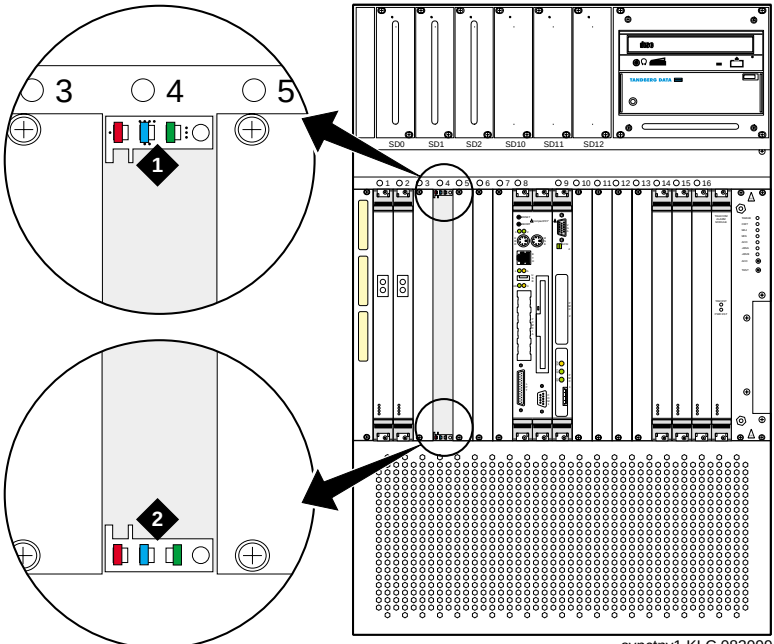
   Keys D, E, and F are located behind the lower faceplate lever.

Verifying the Front Panel Key Positions for the E1/T1 Slot

The 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 24 on page 49.

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 24. 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 E1/T1 circuit card:

1 If you are replacing an existing circuit card:

   a Remove the old E1/T1 circuit card from the system if you have not done so already. See Slot Assignments for Replacing Circuit Cards on page 23 for the procedure.

   b Check the front panel keys on the system to verify that they are set as shown in Figure 24 on page 49. Ensure that the front panel slot is the one for which an associated CYD2 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 24 on page 49.

   b Verify the key positions on the 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 24 on page 49. If not, use a small

needle-nosed pliers to make the keys on the E1/T1 circuit card faceplate complement what is shown in Figure 24 on page 49.

3 When you have verified that the front panel keys are keyed correctly, insert the E1/T1 circuit card. See Installing Circuit Cards on page 28 and resume at step 4.

Installing the E1/T1 Circuit Card Driver

The E1/T1 circuit card driver is part of the UCS 1000 R4.2 base software set. For more information, see Installing the UCS 1000 R4.2 Software on page 239.

SSP Circuit Card Settings

Description

The Speech and Signal Processor (SSP) circuit card (CWB1) (Figure 25 on page 53) is equipped with 32 MB of memory. It requires no switch or jumper settings.

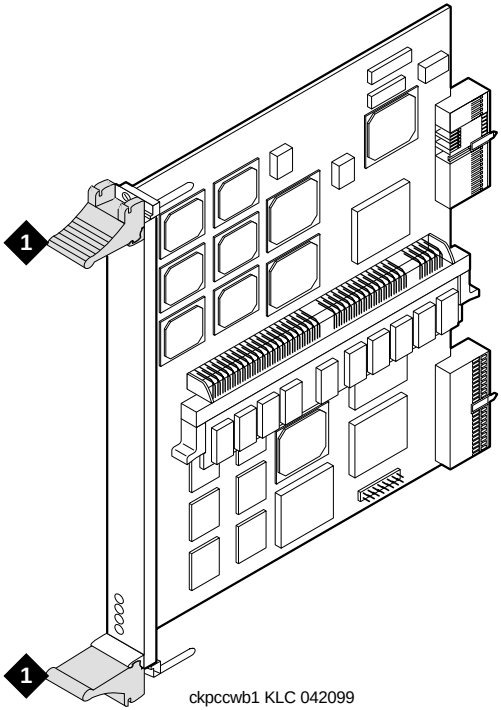
Front Panel Keying

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 25. 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 26 on page 55. It is a high-performance speech processing circuit card that can perform the following functions:

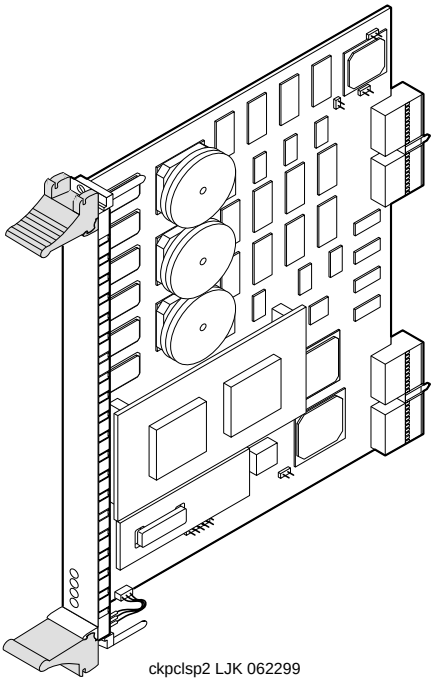
- Text-To-Speech
- WholeWord
- FlexWord
- Play and Code

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 26. LSPS II Circuit Card

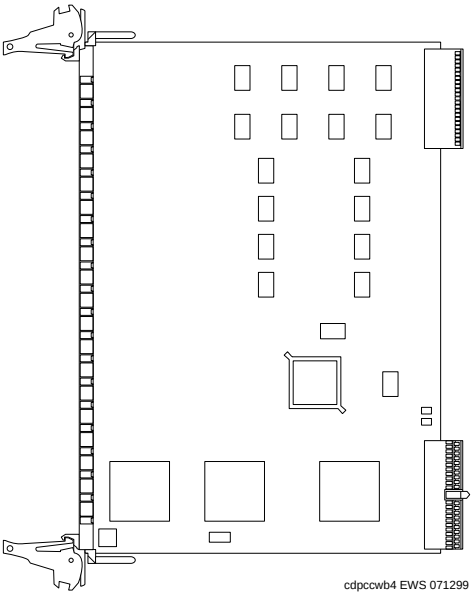


8-Port Asynchronous Circuit Card

Description

The UCS 1000 R4.2 uses an 8-port circuit card for its multiport asynchronous connections (Figure 27).

Figure 27. 8-Port Asynchronous Circuit Card



There are two ways to connect the UCS 1000 R4.2 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

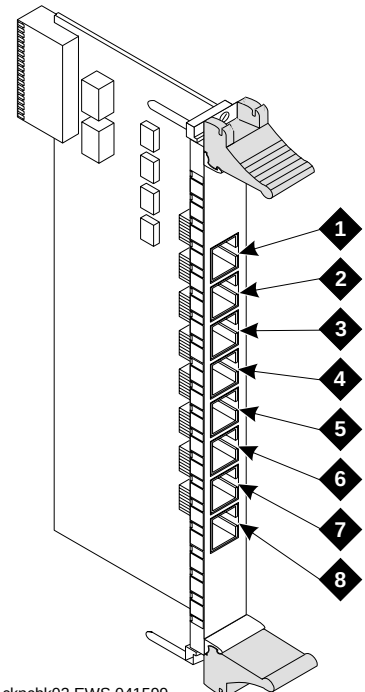
Note: The UCS 1000 R4.2 provides two asynchronous ports, COM1 and COM2. However, the Telecom Alarm Module (TAM) is integrated into COM2 for alarm monitoring and reporting.

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 28 on page 58).

Follow the instructions provided with the devices you are installing for connection and setup. See Appendix D, "Cable Connectivity," in the *UCS 1000 R4.2 New System Installation*, 585-313-127, to determine how to cable these devices between the system and the switches or other peripherals. See Appendix C, "Pinouts," in the *UCS 1000 R4.2 New System Installation*, 585-313-127, if you need pinout information.

Figure 28. 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

SELV Keying for the 8-Port Asynchronous Circuit Card

WARNING:
The 8-port asynchronous circuit card is qualified to terminate SELV level voltages only. When installing a new 8-port asynchronous 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 circuit card.

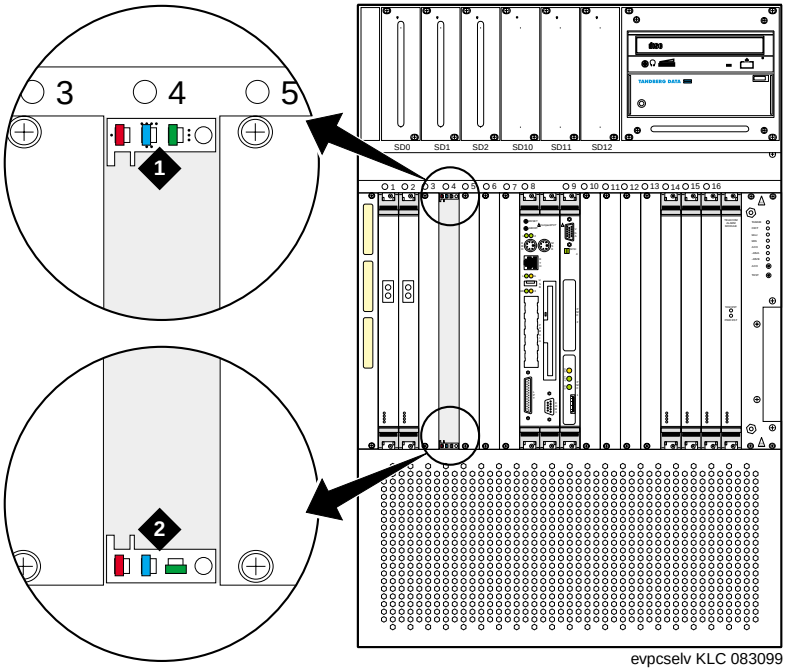
Therefore, before installing a new 8-port asynchronous circuit card, you must rekey the front panel key positions on the system and verify the circuit card faceplate key positions.

Note: If you are replacing an 8-port asynchronous circuit card into an existing slot, you only need to verify the circuit card faceplate key positions. See Figure 23 on page 48 for general faceplate key locations.

Verifying the Front Panel Key Positions

The 8-port asynchronous circuit card slot position in the system must be keyed at the front panel for SELV. This means that chambers A through F should look like those shown in Figure 29 on page 60.

Figure 29. Front Panel SELV Keying on the System



evpcselv KLC 083099

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 8-port asynchronous circuit card:

1 If you are replacing an existing circuit card:

   a Remove the old 8-port asynchronous circuit card from the system if you have not done so already. See Slot Assignments for Replacing Circuit Cards on page 23 for the procedure.

   b Check the front panel keys on the system to verify that they are set as shown in Figure 29 on page 60. 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 small needle-nosed pliers to change the default slot key to a SELV slot as shown in Figure 29 on page 60.

   b Verify the key positions on the 8-port asynchronous 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 29 on page 60. If not, use small needle-nosed pliers to make the keys on the 8-port asynchronous

circuit card faceplate complement what is shown in Figure 29 on page 60.

3 When you have verified that the front panel keys are keyed correctly, insert the 8-port asynchronous circuit card. See Installing Circuit Cards on page 28 and resume at step 4.

The TAM

Description

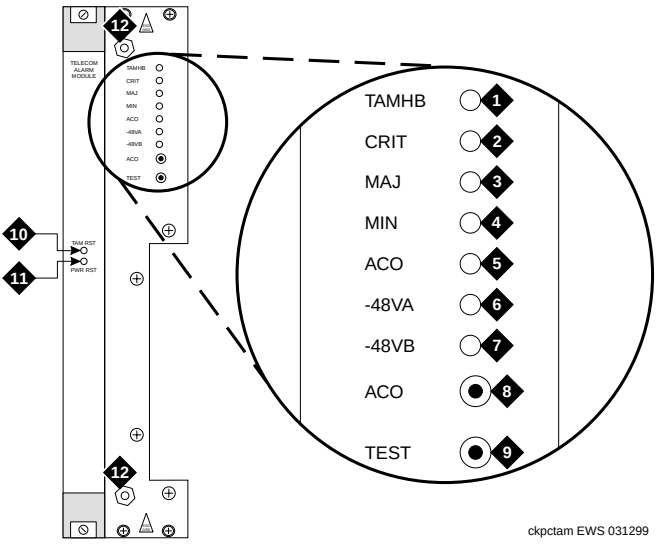
The Telecom Alarm Module (TAM) is shown in Figure 30 on page 63. It is an intelligent alarm module that provides critical, major, and minor alarm indicators. The TAM alarm panel has indicators that display visual alarms reported by the TAM and for alarms generated by system software.

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 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 30. 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

Upgrade Kits

The upgrade kit for the TAM, temperature sensors, and fan trays includes the components shown in the following table, 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 2. 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 3. These alarms are then displayed through indicators on the alarm panel (Figure 30 on page 63).

Table 3. 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 3. 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

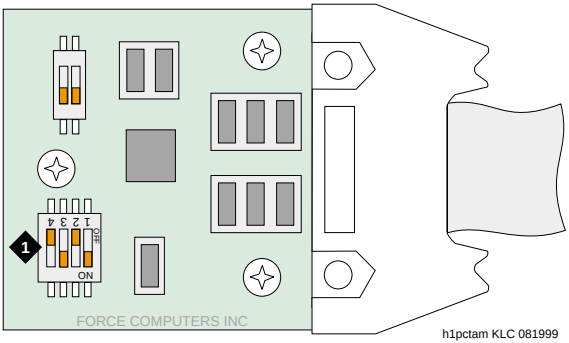
TAM Temperature Sensors

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 31 shows the air inlet temperature sensor.

Figure 31. TAM Temperature Sensor



1. Air inlet S2 switch settings

Table 4 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 4. 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

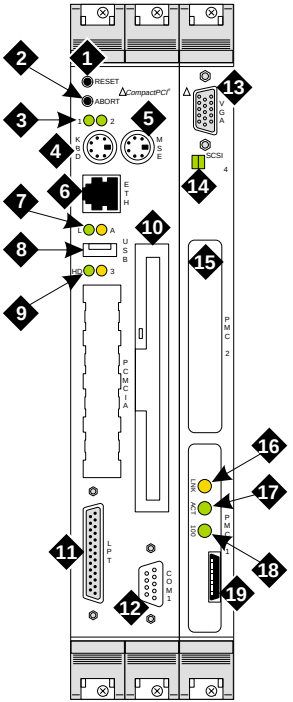
The UCS 1000 R4.2 uses a single board computer (SBC) circuit card and an I/O companion circuit card (IOB). These two circuit cards combine to form the CPU complex (Figure 32 on page 70). There is one CPU complex installed in the system at slot locations 8 and 9 (Figure 14 on page 26).

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.

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 32. CPU Complex Front View



ckpcsbc3 KLC 082099

1. Reset button
2. Abort button
3. BIOS-specific LEDs
4. Keyboard connection
5. Mouse connection
6. Ethernet connection (not used - rear I/O only)
7. Network connection and activity indicator LEDs
8. USB connection
9. Hard disk drive access indicator LED
10. Floppy disk drive
11. LPT connection
12. COM1 connection
13. VGA monitor connection
14. SCSI access indicator LEDs
15. RAID PMC module
16. Network connection LED
17. Network connection activity LED
18. LAN PMC connector

SBC Connections

The SBC is located in slot 8. It consists of a 233-MHz CPU. The following connections are available on the SBC at both the front and rear unless otherwise indicated:

- Keyboard
- Mouse
- Integrated ethernet (rear 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)

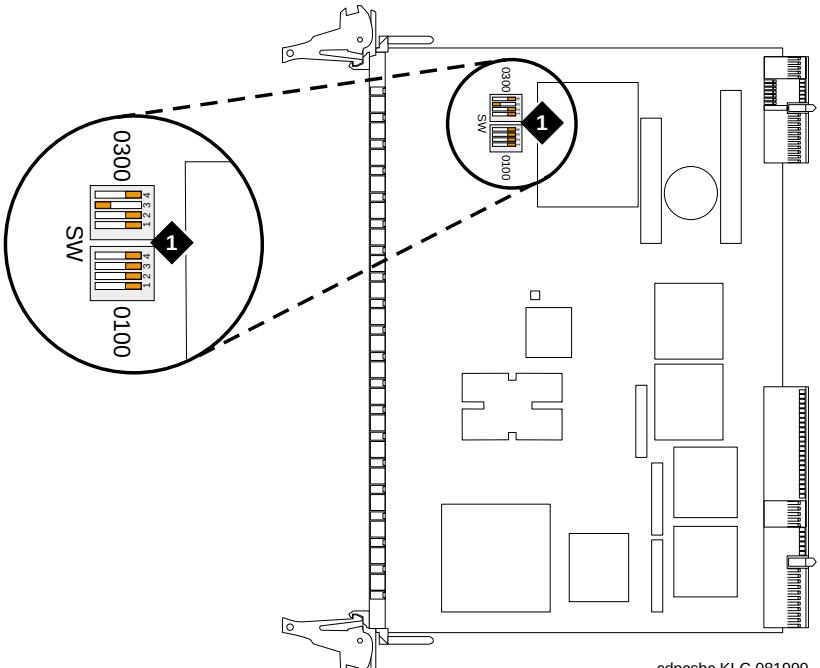
Setting the Resource Options

The resource options for the CPU complex are set by switches. The SBC has two 4-position switches and the IOB has one 4-position switch. The SW0100 and SW0300 switches are located on the inside surface of the SBC circuit card (Figure 33 on page 73). Figure 34 on page 74 shows the SW0100 switch settings and Figure 35 on page 74 shows the settings for the SW0300 switch.

The SW0900 switch is located on the outside surface of the IOB circuit card (Figure 36 on page 75). Figure 37 on page 76 shows the settings for the SW0900 switch.

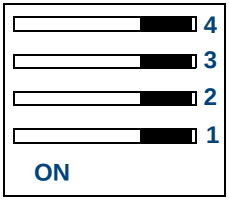
The settings of these switches should be verified before you install a new complex.

Figure 33. SW0100 and SW0300 Switch Locations on the SBC



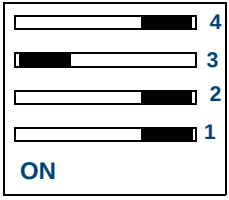
1. SW0100 and SW0300 location

Figure 34. SW0100 Switch Setting for the SBC



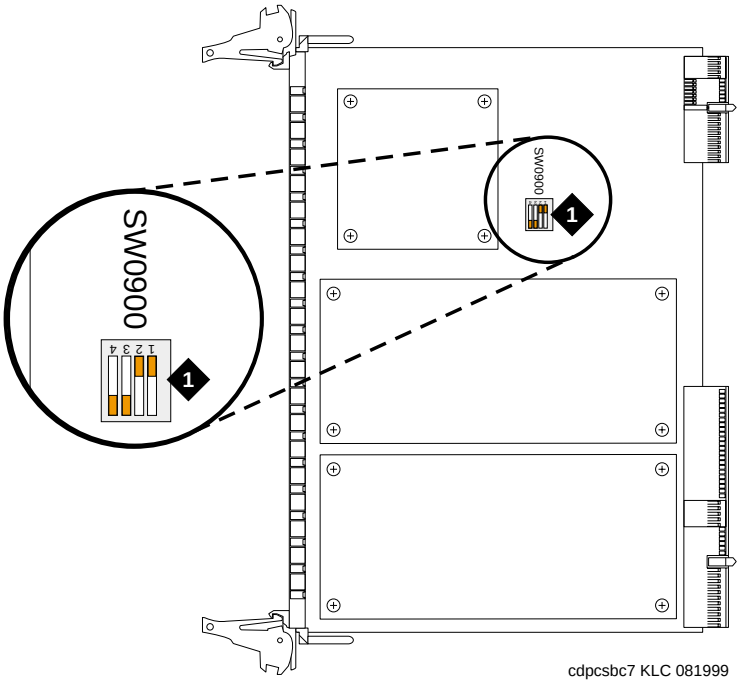
1. The user flash is master of the primary IDE device.
2. Keyboard enabled.
3. Reset key enabled.
4. Abort key enabled.

Figure 35. SW0300 Switch Setting for the SBC



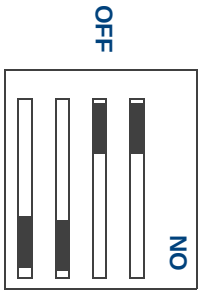
1. BIOS writing enabled
2. Reserved for future use
3. Ethernet connector via CompactPCI connection (rear I/O)
4. BIOS bootblock write protected

Figure 36. SW0900 Switch Location on the IOB



1. SW0100 and SW0300 location

Figure 37. 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 R4.2 . See Removing Power from the DC System on page 7 in Chapter 1, Getting Inside the UCS 1000 R4.2 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 2 in Chapter 1, Getting Inside the UCS 1000 R4.2 for ESD precautions.

1. Do one of the following:
   - If you are replacing the CPU complex, perform Removing the CPU Complex on page 76 and then continue with step 2 of this procedure.
   - If you are installing a new CPU complex, continue with step 5 of this procedure.
2. Remove the LAN PMC from the IOB being replaced. See Removing the LAN PMC on page 83.
3. Remove the video module from the IOB you are replacing. See Removing the Video Controller Module on page 86 for the procedure.
4. Remove the existing RAID PMC from the IOB. See Removing the RAID Controller PMC on page 86 for the procedure.
5. If your system includes the optional LAN PMC, install it now. See Connecting the LAN PMC on page 81 for the procedure.

6 Install the video module. See Installing the Video Controller Module on page 87 for the procedure.

7 Install the RAID PMC. See Installing the RAID Controller PMC on page 85, for the procedure, if required.

8 Gently slide the CPU complex into slots 8 (SBC) and 9 (IOB).

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

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

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

12 Power up the system. See Restoring Power to the DC System in Chapter 1. Getting Inside the UCS 1000 R4.2 for the procedure.

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

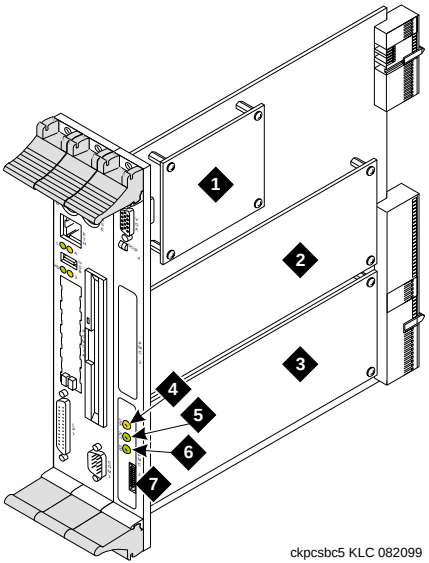
13 Apply any necessary CLEI labels. See Applying the CLEI Label on page 32 for more information.

The LAN PMC

Description

The LAN PMC allows access to a second local area network. The first LAN interface is integrated on the SBC (Figure 32 on page 70). If a LAN PMC is used, it plugs onto the IOB at the PMC1 connector location (Figure 38).

Figure 38. PMC Locations



1. Video controller module connection
2. RAID PMC module
3. LAN PMC module
4. Network connection LED
5. Network connection activity LED
6. LAN PMC connector

Connecting the LAN PMC

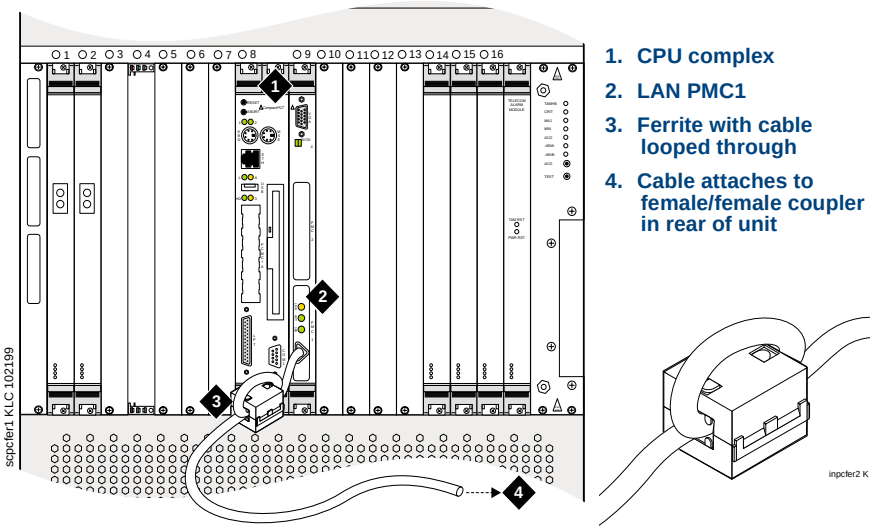
Connecting a 10/100 Mbps LAN PMC involves

- ~ Connecting the LAN PMC
- ~ Installing the LAN Driver
- ~ 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 76 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, as shown in Figure 39.

Figure 39. UCS 1000 R4.2 Front View



1. **CPU complex**
2. **LAN PMC1**
3. **Ferrite with cable looped through**
4. **Cable attaches to female/female coupler in rear of unit**

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 78 for the procedure.

8 Loop the cable through the ferrite as shown in Figure 39 and snap it shut.

Note: The cable length should be 4 inches from the ferrite to the faceplate. If you want, you can thread a cable tie through the ferrite and secure it to the cable trough. Position the cable so that the circuit card in slot 10 still can be removed easily.

9 Apply any necessary CLEI labels. See Applying the CLEI Label on page 32 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 R4.2 .

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 76 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.

Installing the LAN Driver

The LAN PMC driver should already be installed on your system. If you are replacing a new LAN PMC, and you must reinstall the driver, see Installing the LAN PMC Driver on page 222 for the procedure.

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 R4.2 Administration*, 585-313-507, for more information.

3 Use the **ping** command to verify that you have network connectivity. See Appendix A, “Summary of Commands,” in *UCS 1000 R4.2 Administration*, 585-313-507, for more information.

RAID PMC Module

The RAID controller PMC (Figure 38 on page 80) 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 76 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 78 for the procedure.
6. Apply any necessary CLEI labels. See Applying the CLEI Label on page 32 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 76 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.

Video Controller Module

The video controller module (Figure 38 on page 80) is located on the IOB. It provides the access that is required to use a monitor on the UCS 1000 R4.2 .

Removing the Video Controller Module

To remove the video controller module:

1. Remove the CPU complex. See Removing the CPU Complex on page 76 for the procedure.
2. At the VGA position, loosen the four screws holding the video controller module to the IOB.

3 Disconnect the video controller module from the connector at the rear of the IOB.

4 Remove the video controller module.

Installing the Video Controller Module

To install the video controller module:

1 Remove the CPU complex. See Removing the CPU Complex on page 76 for the procedure.

2 Connect the video controller module onto the IOB at the VGA location.

3 Secure the module onto the IOB by tightening the retaining screws.

4 Insert the CPU complex into the system. See Installing the CPU Complex on page 78 for the procedure.

Verifying CMOS Parameter Settings

Verifying CPU 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 R4.2 System Reference*, 585-313-210, for the procedure.
2. During the power-on self test (POST), press **F2**.

   The system displays the following message:

   ```
   Please standby for SETUP Utility...
   ```

   After the POST is complete, the system displays the BIOS Setup Utility main menu.
3. Compare the 233-MHz CPU circuit card settings in the setup utility with the default parameters. These parameters are listed in Table 5 through Table 22 on page 104.

Table 5. 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

1 of 2

Table 5. BIOS Setup Utility Option Settings

Option	Setting
Primary Master	*4 MB*
Primary Slave	None
Secondary Master	None
Secondary Slave	None
System Memory[1]	*(displayed in KB)*
Extended Memory	*(displayed in KB)*

2 of 2

[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 6 on page 90.

Table 6. Primary Master Option Settings

Option	Setting
Type	Auto
Cylinders	123
Heads:	2
Sectors:	32
Maximum Capacity	4MB
Multi–Sector Transfers	Disabled
LBA Mode Control	Enabled
32 Bit I/O	Disabled
Transfer Mode	Fast PIO 1

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 7 on page 91.

Table 7. Advanced Option Settings

Options	Setting
Plug & Play O/S	No
Reset Configuration Data	No
PCI Configuration	
I/O Device Configuration	
Advanced Chipset Control	
Memory Cache	Enabled
Advanced Board Configuration	
POST Options	
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 8.

Table 8. 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 - DFF	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 9 on page 93.

Table 9. 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 10 on page 94.

Table 10. 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** twice to return to Advanced main menu.

14 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 11 on page 95.

Table 11. 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	Auto
Serial Port B	Auto
Parallel Port	Auto
Mode	ECP

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

16 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 12 on page 96.

Table 12. Advanced Chipset Control Option Settings

Option	Setting
ECC/Parity Config	ECC

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

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

The system displays the Advanced Board Configuration submenu. Compare the settings with those listed in Table 13.

Table 13. Advanced Board Configuration Option Settings

Option	Setting
ABORT Switch	Enabled
Initialize Cardbus Controller	Disabled

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

20 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 14 on page 97.

Table 14. POST Options Settings

Option	Setting
Boot without VGA & Keyboard	Enabled
Delay after VGA BIOS	3 seconds
POST Delay	3 seconds
Summary screen	Enabled
POST Errors	Enabled

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

22 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 15 on page 98.

Table 15. Keyboard Features Option Settings

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

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

24 Press the ▶ key to select `Security`.

The system displays the Security main menu. Compare the settings with those listed in Table 16.

Table 16. Security Option Settings

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

1 of 2

Table 16. Security Option Settings

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

2 of 2

25 Press the ▶ key to select `Power`.

The system displays the Power main menu. Compare the settings with those listed in Table 17.

Table 17. Power Option Settings

Option	Setting
Power Savings	Disabled
Standby Timeout	Off
Auto Suspend Timeout	Off

1 of 2

Table 17. Power Option Settings

Option	Setting
Hard Disk Timeout	Disabled
Video Timeout	Disabled
Advanced Options	

2 of 2

26 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 18.

Table 18. Power Advanced Options Settings

Option	Setting
IRQ 1	Disabled
IRQ 3	Disabled
IRQ 4	Disabled
IRQ 5	Disabled
IRQ 6	Disabled

1 of 2

Table 18. Power Advanced Options Settings

Option	Setting
IRQ 7	Disabled
IRQ 8	Disabled
IRQ 9	Disabled
IRQ 10	Disabled
IRQ 11	Disabled
IRQ 12	Disabled
IRQ 13	Disabled
IRQ 14	Disabled
IRQ 15	Disabled
SMI	Disabled
NMI	Disabled

2 of 2

27 Press **ESC**.

28 Press the ▶ key to select `Boot`.

The system displays the Boot main menu. Compare the settings with those listed in Table 19 on page 102.

Table 19. Boot Menu Settings

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

29 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 20 on page 103.

Note: The settings listed for Options 2, 3, and 4 will vary depending on your configuration.

Table 20. Hard Drive Boot Options Settings

Option	Setting
1.	Bootable Add-In Card **Note:** This is the RAID Controller Circuit Card.
2.	Primary Master **Note:** This is the IDE flash disk.

30 Press **ESC**.

The system displays the Boot main menu.

31 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 21 on page 104.

Table 21. Removable Devices Options Settings

Option	Setting
1.	Legacy Floppy Drives

32 Press **ESC**.

The system displays the Boot main menu.

33 Press the ▲ or ▼ key to select `Embedded OpRom Control` and press **ENTER**.

The system displays the Embedded OpRom Control options submenu. Compare the settings with those listed in Table 22.

Table 22. Embedded OpROM Control Options Settings

Option	Setting
Execute SCSI Option ROM:	Disabled

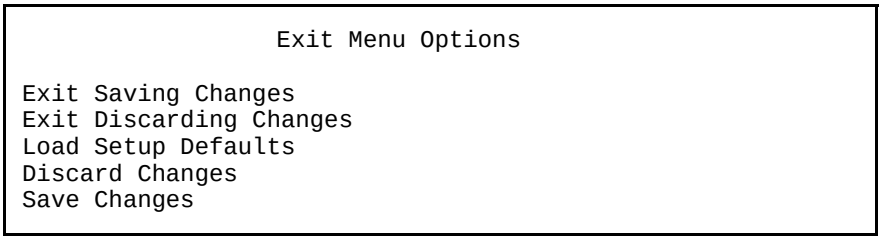
34 Press **ESC**.

The system displays the Boot main menu.

35 Press the ► key to select `Exit`.

The system displays the Exit menu (Figure 40).

Figure 40. Exit Menu Options



36 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.
2. Wait for the Mylex DAC960 BIOS messages to appear.
3. Press **ALT**+**M** when prompted.

   The system displays the DAC960 BIOS options submenu. Compare the settings with those listed in Table 23.

Table 23. AC960 BIOS Options Settings

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

4. Press **ESC** to exit and reboot the system.
5. Wait for the Mylex DAC960 BIOS messages to appear.

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

The system displays the Mylex Configuration Utility.

7 Choose option 09 `Advanced Functions`.

8 Verify that the parameters are set as shown in Table 24

Table 24. RAID Controller BIOS and Configuration Option Setting

Parameters	Option	Setting
Hardware	Automatic Rebuild Management	Enabled
	StorageWorks Fault Management	Disabled
Physical	Rebuild/Add Capacity Rate	10
	Segment Size	8
	Stripe Size	64

1 of 2

Parameters	Option	Setting
SCSI Xfer (Channel 0)	Data Transfer Rate	10 Mhz
	Command Tagging	Enabled
	SCSI Data Bus Width	16 bit
Startup	Spin Up Option	Automatic
	Number of Devices Per Spin	1
	Delay (seconds)	6

2 of 2

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

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

3 Replacing the Hard Disk Drive Assembly

Overview

The UCS 1000 R4.2 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 25.

Table 25. 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 4.5-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 R4.2 System Reference*, 585-313-210 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 6 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 xxi 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 R4.2 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 41 on page 114 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.

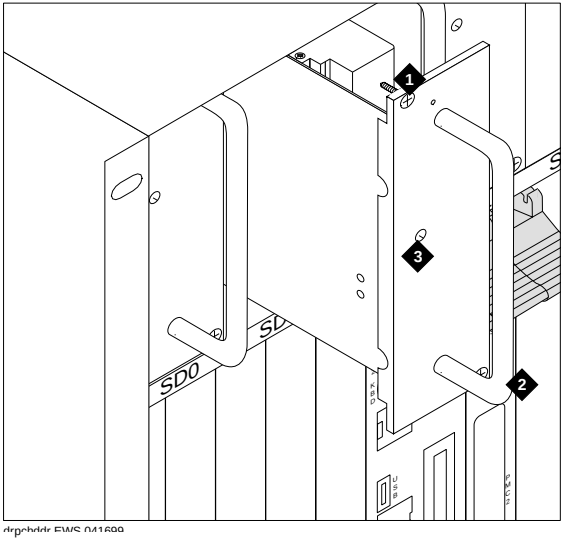
c Wait for about 30 seconds for the drive to spin down.

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 41. 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 112 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.

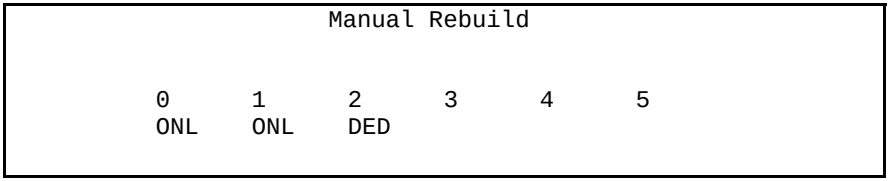
Performing a Manual Rebuild of a RAID Array

To perform a manual rebuild:

1 Enter **rbldsh**

The system displays the Manual Rebuild screen (Figure 42 on page 116).

Figure 42. 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 several minutes, 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 112 for the procedure.

Note: The hard disk drive must be at least 4.5 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 R4.2 System Reference*, 585-313-210, for the procedures.
2. Shut down the system. See “Shutting Down the System,” in “Common System Procedures,” in the *UCS 1000 R4.2 System Reference*, 585-313-210, for the procedures.
3. Install the new or additional hard disk drive. See Installing a Hard Disk Drive on page 114 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 R4.2 System Reference*, 585-313-210, for the procedure

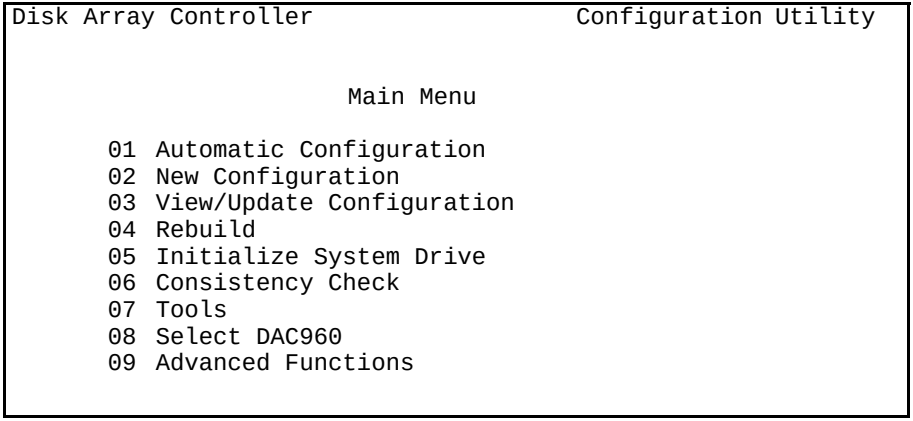
5 Continue immediately with Updating the Disk Array Configuration.

Updating the Disk Array Configuration

To update the disk configuration:

1 During the reboot, press **ALT**+**R** when prompted. The system displays the RAID Controller Main Menu (Figure 43).

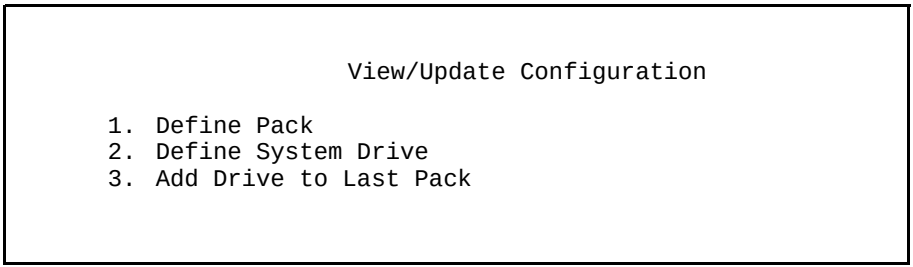
Figure 43. RAID Controller Main Menu



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

The system displays the View/Update Configuration screen (Figure 44).

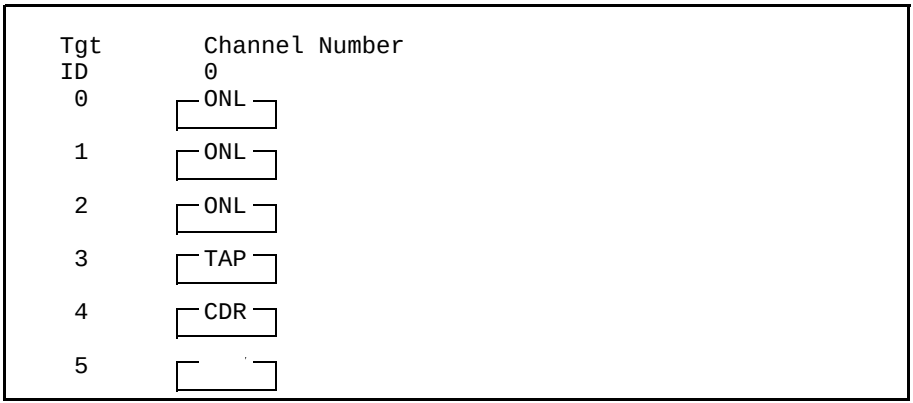
Figure 44. View/Update Configuration Screen



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

The system displays the Add Capacity screen (Figure 45 on page 120). This figure shows an example for a system that is adding a fourth physical hard disk drive.

Figure 45. 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 1 hour to complete for each logical system drive.

7 Press **ENTER**.

The system displays the View/Update Configuration screen (Figure 44 on page 119).

8 Select:

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

The system displays the RAID Level screen (Figure 46 on page 122).

Continue with Defining the Logical System Drive on page 122.

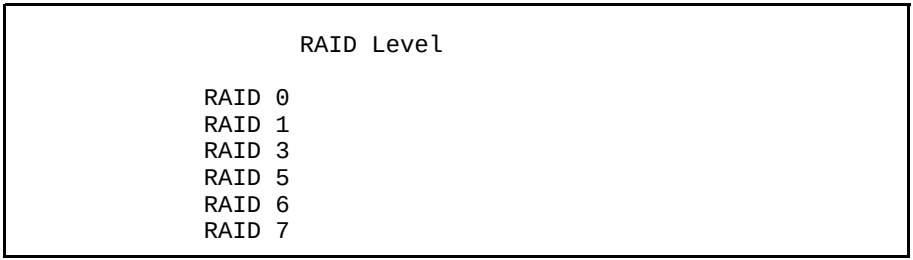
Defining the Logical System Drive

To define the logical system drive:

1 At the RAID Level screen (Figure 46) select `RAID 5`.

The system displays the RAID Level Screen (Figure 46).

Figure 46. 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 #  y
Capacity      z
```

The system then displays the Create System Drive Screen (Figure 47).

Figure 47. Create System Drive Screen

```
        Do you want to create this system drive?

           No
           Yes
```

3 Select YES.

The system creates the logical system drive.

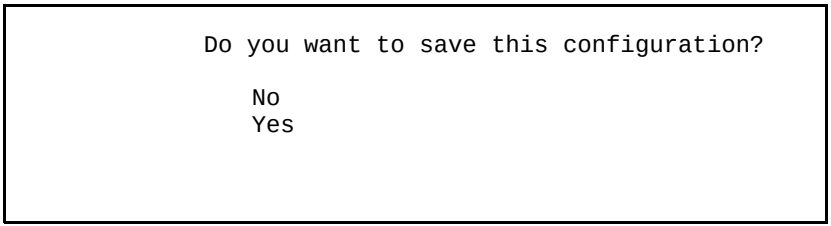
Verify that Write Mode for all system drives indicates WRITE THRU.

4 Press **ESC** twice.

5 Press **ESC**.

The system displays the Save Configuration screen (Figure 48 on page 124).

Figure 48. 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 43 on page 118).

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 R4.2 System Reference*, 585-313-210, 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

Note: Unixware 7.1.3 limits the size of any file system to 2 GB. In order to fully use the entire 4.5-GB disk space, you must create at least three file systems.

To add a system drive for speech:

1 Complete the procedures in Adding a New Hard Disk Drive to a RAID System on page 117.

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

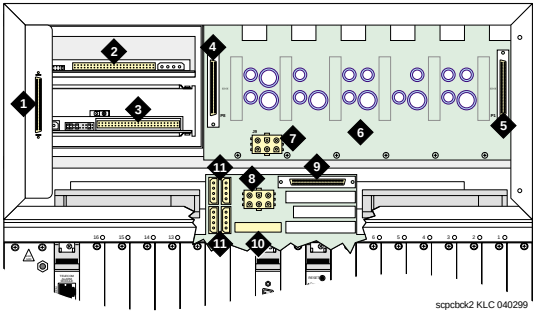
The purpose of this chapter is to ensure that correct procedures are used to replace internal components of the UCS 1000 R4.2 . This chapter describes the procedures for the following:

- Removing the SCA Backplane on page 129
- Installing the SCA Backplane on page 132
- Removing the CD-ROM/Cartridge Tape Drive Mounting Unit on page 133
- Installing the CD-ROM/Cartridge Tape Drive Mounting Unit on page 142
- Replacing the TAM Alarm Panel on page 143
- Replacing Cables on page 147
- Replacing a Fan Tray on page 154
- Replacing the Filter on page 158
- Replacing the Power Supply on page 160

Removing the SCA Backplane

The Single Connector Architecture (SCA) backplane (Figure 49) is at the upper rear of the UCS 1000 R4.2 .

Figure 49. 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 R4.2 for more information.

Note: Procedures in this book should be performed by personnel identified in Intended Audiences on page xxi 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 7 in Chapter 1, Getting Inside the UCS 1000 R4.2 for the procedure.
3. Remove the hard disk drives. See "Removing a Hard Disk Drive" on page -112 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 10 in Chapter 1, Getting Inside the UCS 1000 R4.2 .

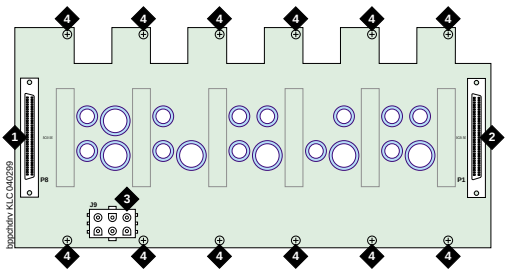
5 Disconnect the power cable connector (labeled P9) from the SCA backplane (Figure 49 on page 129).

6 Disconnect the SCSI cable from the SCA backplane (Figure 49 on page 129).

7 Remove the screws at the top and bottom of the disk (Figure 50) 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 50. 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 R4.2 .
2. Secure the SCA backplane with the screws that you removed earlier (Figure 50 on page 131).
3. Connect the power cable that you disconnected in step 5 of Removing the SCA Backplane to the SCA backplane (Figure 49 on page 129).
4. Connect the SCSI cable that you disconnected in step 6 of Removing the SCA Backplane to the SCA backplane (Figure 49 on page 129).
5. Replace the hard disk drives. See Installing a Hard Disk Drive on page 114 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 13 in Chapter 1, Getting Inside the UCS 1000 R4.2 for the procedure.
7. Apply power to the UCS 1000 R4.2 . See Restoring Power to the DC System on page 10 in Chapter 1, Getting Inside the UCS 1000 R4.2 for the procedure.

Removing the CD-ROM/Cartridge Tape Drive Mounting Unit

The CD-ROM and cartridge tape drives (Figure 51 on page 135) are located at the upper right corner on the front of the UCS 1000 R4.2 . See Figure 9 on page 6 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 7 in Chapter 1, Getting Inside the UCS 1000 R4.2 for the procedure.
3. Remove the upper rear exhaust panel. See Removing the Upper Rear Exhaust Panel on page 10 in Chapter 1, Getting Inside the UCS 1000 R4.2 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 148, 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 57 on page 152).

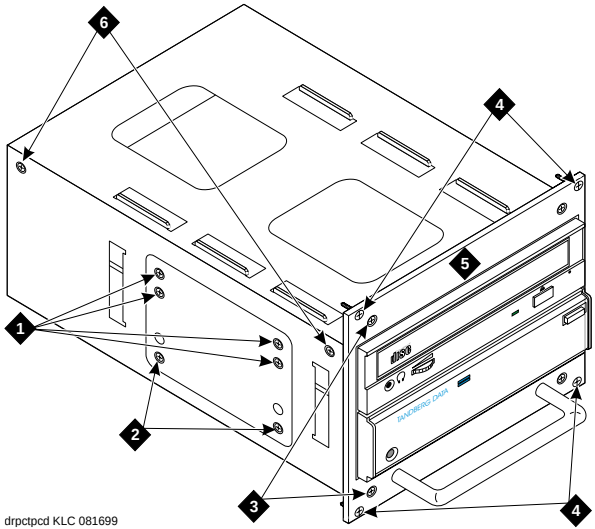
Note: The SCSI cable has an adapter attached to it that allows it to connect to the cartridge tape drive and the CD-ROM drive. Make sure that the adapter remains attached to the SCSI cable.

6 Loosen the four retaining screws from the faceplate of the CD-ROM/cartridge tape drive mounting unit (Figure 51 on page 135).

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 51 on page 135).

Figure 51. 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 133 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 R4.2 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 51 on page 135) 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 133 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 51 on page 135) to remove the cartridge tape drive.

Installing the Cartridge Tape Drive

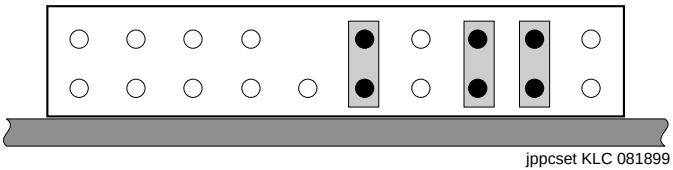
To install the cartridge tape drive in the mounting unit:

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.

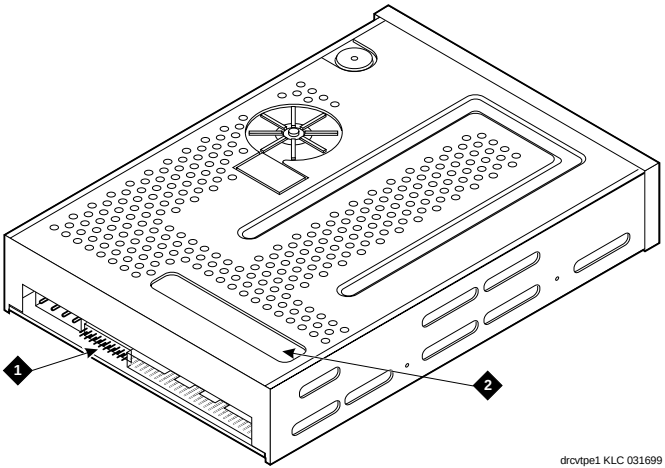
2 Verify that the settings shown in Figure 52 are correct for SCSI ID 3.

Figure 52. Jumper Settings for the Cartridge Tape Drive (comcode: 408097418)



3 Remove the terminating resistors (Figure 53 on page 139).

Figure 53. 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

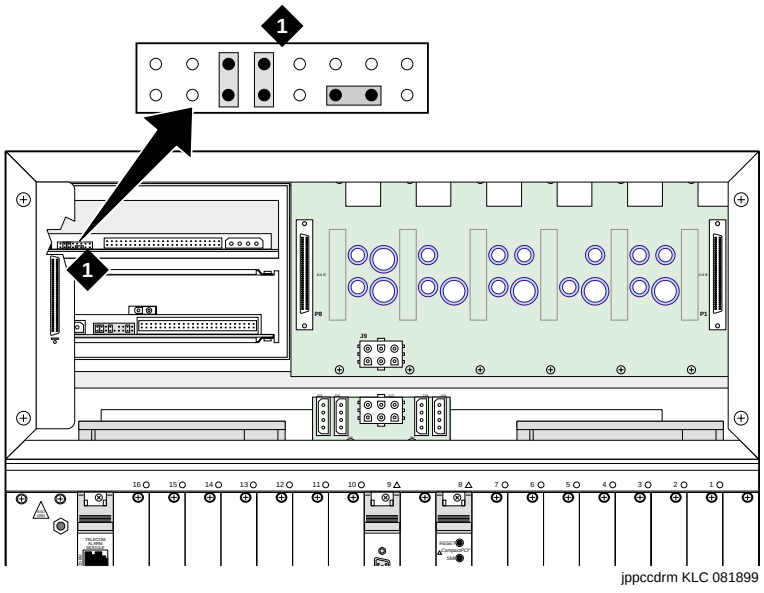
To install the CD-ROM drive in the mounting unit:

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 54 on page 141 are correct for SCSI ID 4.

Figure 54. Jumper Settings for the CD-ROM Drive (comcode: 408069714)



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 51 on page 135) 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 57 on page 152).

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 148, step 3 and step 4 for the procedure.

6 Restore the incoming power. See Restoring Power to the DC System on page 10 in Chapter 1, Getting Inside the UCS 1000 R4.2 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 7 in Chapter 1, Getting Inside the UCS 1000 R4.2 for the procedure.

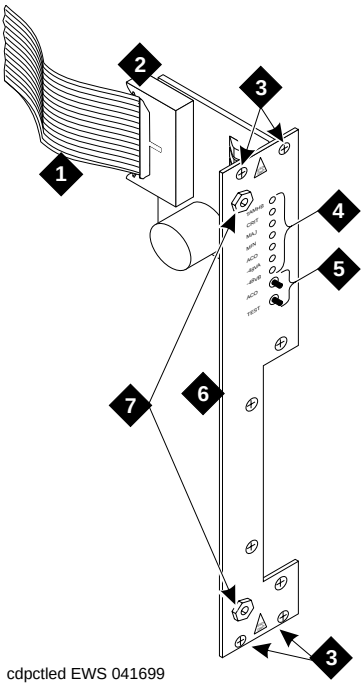
3 Remove the TAM circuit card. See Slot Assignments for Replacing Circuit Cards on page 23 in Chapter 2, Installing or Replacing Circuit Cards for the procedure.

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 55 on page 145).

5 Remove the alarm panel by removing the eight screws that secure it to the UCS 1000 R4.2 (Figure 55 on page 145).

Figure 55. 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 R4.2 (Figure 55 on page 145). Use the eight screws that you removed earlier.
2. Connect the loose end of the alarm cable to the TAM alarm panel assembly (Figure 55 on page 145).

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 28 in Chapter 2, Installing or Replacing Circuit Cards for the procedure.
4. Replace the TAM. See Installing Circuit Cards on page 28 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 10 in Chapter 1, Getting Inside the UCS 1000 R4.2 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 R4.2 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 143 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 55 on page 145).
3. Install the alarm panel. See Installing the Alarm Panel on page 146 for the procedure.

Replacing the Power Cables

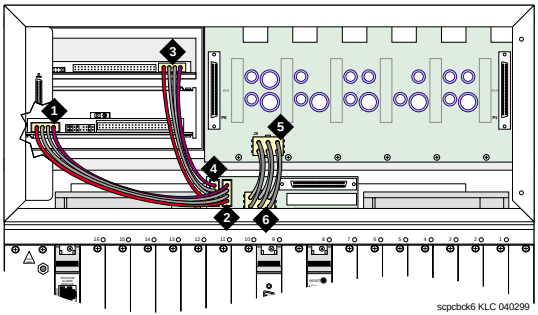
The UCS 1000 R4.2 has cables that supply power to the:

- 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 56 on page 149).

Figure 56. 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 7 in Chapter 1, Getting Inside the UCS 1000 R4.2 for the procedure.

3 Remove the upper rear exhaust panel. See Removing the Upper Rear Exhaust Panel on page 10 in Chapter 1, Getting Inside the UCS 1000 R4.2 for the procedure.

4 Remove the power supply cable from the back of the cartridge tape drive or the CD-ROM drive (Figure 56 on page 149).

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 56 on page 149).

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 10 in Chapter 1, Getting Inside the UCS 1000 R4.2 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:

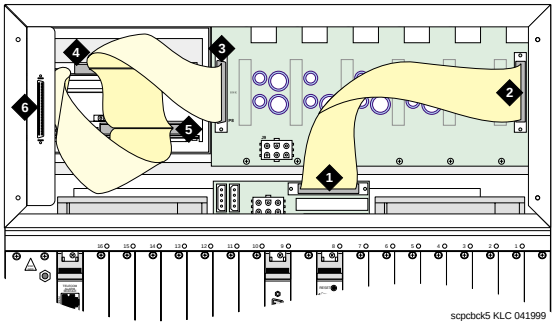
1 Verify that the replacement cable is on site and appears to be in usable condition, with no obvious shipping damage.

2 Remove the incoming power. See Removing Power from the DC System on page 7 in Chapter 1, Getting Inside the UCS 1000 R4.2 for the procedure.

3 Remove the upper rear exhaust panel. See Removing the Upper Rear Exhaust Panel on page 10 for the procedure.

4 Remove the SCSI cable from the back of the SCA backplane (Figure 57).

Figure 57. 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 57).

6 Remove the SCSI cable from the back of the cartridge tape drive (Figure 57).

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 57).

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 57 on page 152).

3 Attach the SCSI cable to the back of the cartridge tape drive (Figure 57 on page 152).

4 Attach the SCSI cable to the back of the CD-ROM drive (Figure 57 on page 152).

5 Attach the SCSI cable to the back of the SCA backplane (Figure 57 on page 152).

6 Replace the rear exhaust panel. See Installing the Upper Rear Exhaust Panel on page 13 for the procedures.

7 Apply power to the UCS 1000 R4.2 . See Restoring Power to the DC System on page 10 in Chapter 1, Getting Inside the UCS 1000 R4.2 for the procedure.

Replacing a Fan Tray

Description

The UCS 1000 R4.2 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 58 on page 157). 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 that 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:
If your system has a sticker on the fan trays that reads, "Do Not Hot Swap," you must remove incoming power before you can replace the tray. Perform step 1 through step 3 of Removing Power from the DC System on page 7 in Chapter 1, Getting Inside the UCS 1000 R4.2.

CAUTION:
Do not leave the UCS 1000 R4.2 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.

Note: At the factory, the cable trough is secured with a cable tie for shipment. This cable tie is located immediately to the left of slot 1; if it is still present, remove it.

3 Loosen the screws on the fan tray (Figure 58 on page 157).

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 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 Tighten the screws on the fan tray to secure it to the system.

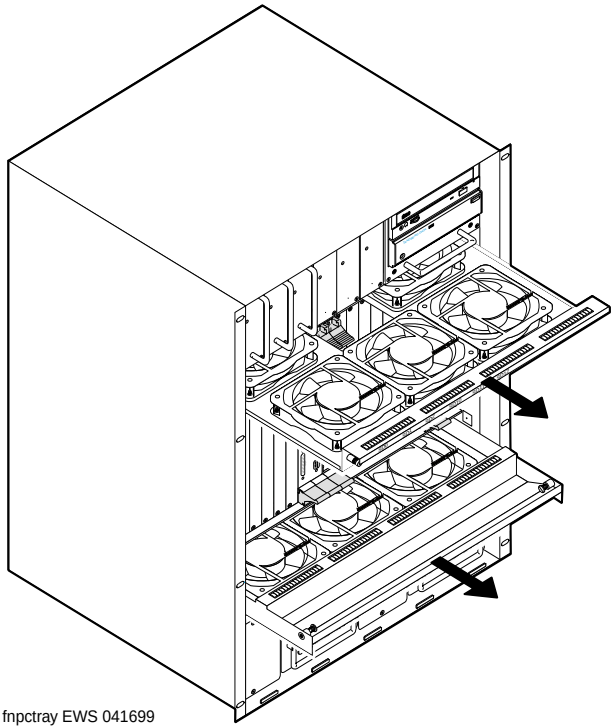
8 If you are replacing the lower fan tray, return the cable trough to its original position.

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

10 Verify that the fans are working by observing the alarm panel (Figure 55 on page 145).

11 Restore power if necessary. See Restoring Power to the DC System on page 10 in Chapter 1, Getting Inside the UCS 1000 R4.2 for the procedure.

Figure 58. Fan Tray Locations



fnpctray EWS 041699

Replacing the Filter

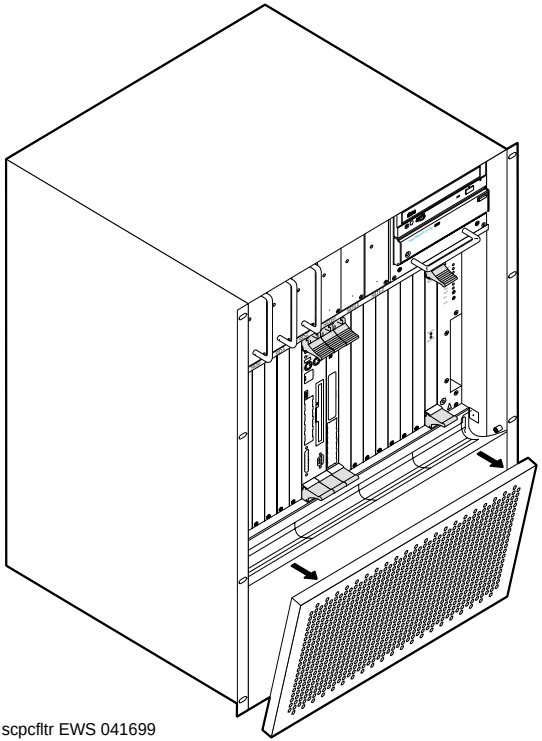
The UCS 1000 R4.2 is equipped with one filter, which is located behind the lower front panel (Figure 59 on page 159). The filter should be checked at least once a month to determine its condition.

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 59 on page 159).
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 59. The Filter Panel



scpcfltr EWS 041699

Lower filter is located inside the panel.

Replacing the Power Supply

The UCS 1000 R4.2 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 R4.2 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 R4.2 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.

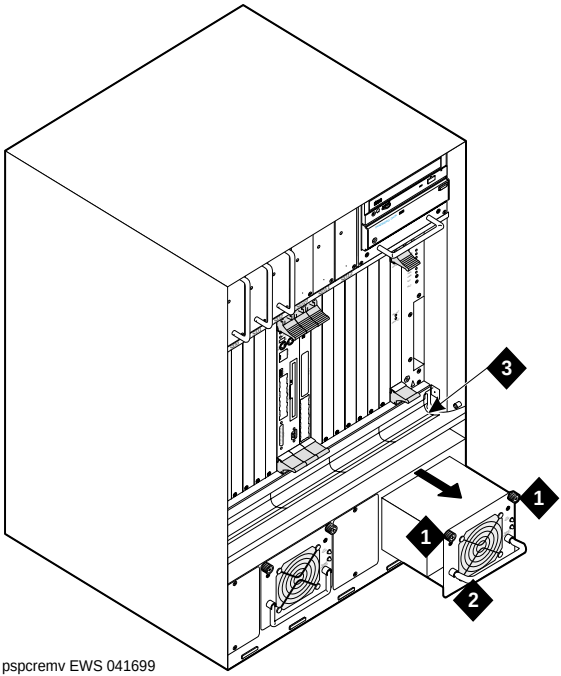
Note: The indicator LEDs on a defective power supply will be out (dark).

5 Loosen the two captive thumbscrews that hold the power supply to the system (Figure 60 on page 162).

6 Grasp the power supply pull handle and pull the power supply from the system (Figure 60 on page 162).

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 60. Removing a Power Supply



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 R4.2 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 4 on page 68 of Chapter 2, Installing or Replacing Circuit Cards.
3. Remove the incoming power. See Removing Power from the DC System on page 7 in Chapter 1, Getting Inside the UCS 1000 R4.2 for the procedure.
4. Remove the lower filter panel (Figure 59 on page 159).
5. Remove the lower fan tray (Figure 58 on page 157).
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 10 in Chapter 1, Getting Inside the UCS 1000 R4.2 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 4 on page 68 of Chapter 2, Installing or Replacing Circuit Cards .

3 Remove the incoming power. See Removing Power from the DC System on page 7 in Chapter 1, Getting Inside the UCS 1000 R4.2 for the procedure.

4 Remove the upper rear exhaust panel. See Removing the Upper Rear Exhaust Panel on page 10 in Chapter 1, Getting Inside the UCS 1000 R4.2 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 13 in Chapter 1, Getting Inside the UCS 1000 R4.2 for the procedure.

11 Restore the incoming power. See Restoring Power to the DC System on page 10 in Chapter 1, Getting Inside the UCS 1000 R4.2 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.

Installing Base System Software

Configuring the RAID System

Note: If your system has the RAID optional feature, these procedures must be performed *before* performing the procedures for Beginning the UnixWare Installation on page 185.

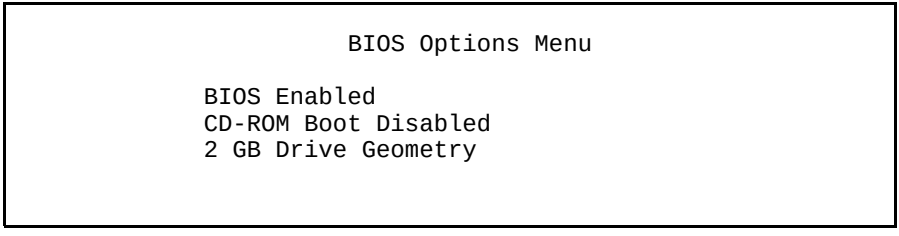
Verifying the BIOS

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 **ALT**+**M** when prompted.

   The system displays the BIOS Options Menu (Figure 61).

Figure 61. 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 **ALT**+**R** when prompted.

The system displays the RAID Controller Main Menu (Figure 62 on page 170).

Figure 62. RAID Controller Main Menu

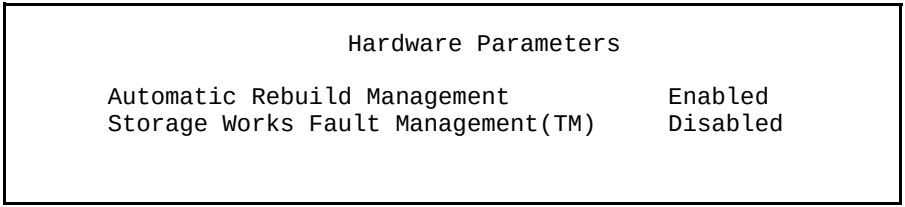
```
Disk Array Controller                          Configuration Utility


                          Main Menu

        01  Automatic Configuration
        02  New Configuration
        03  View/Update configuration
        04  Rebuild
        05  Initialize System Drive
        06  Consistency Check
        07  Tools
        08  Select DAC960
        09  Advanced Functions
```

2 Select:

```
>Advanced Functions
    >Hardware Parameters
```

The system displays the Hardware Parameters screen (Figure 63).

Figure 63. Hardware Parameters Screen



3 Verify that the settings displayed on the screen match those in Figure 63.

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 64 on page 172).

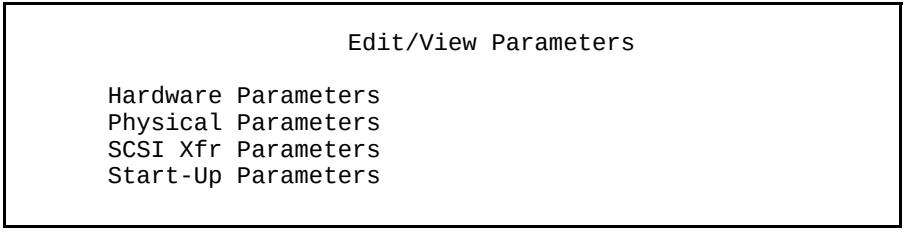
6 Continue with Verifying the Physical Parameters.

Verifying the Physical Parameters

To verify the physical parameters:

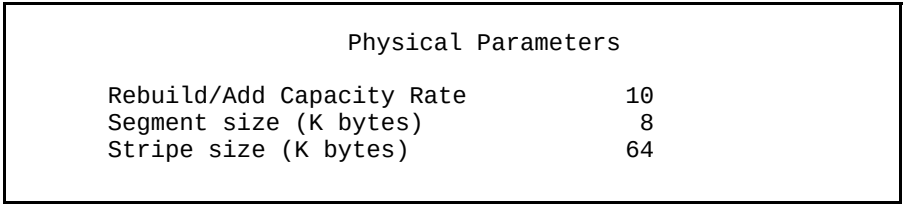
1 From the Edit/View Parameters Menu (Figure 64) select `Physical Parameters`.

Figure 64. Edit/View Parameters Menu



The system displays the Physical Parameters screen (Figure 65).

Figure 65. Physical Parameters Screen



2 Verify that the settings displayed on the screen match those in Figure 65.

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 64 on page 172).

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 66).

Figure 66. SCSI Transfer Parameters Screen

```
        SCSI Transfer Parameters of Channel 0

   Data Transfer Rate (MHz)          10 MHz
   Command Tagging                  Enabled
   SCSI Data Bus Width              16 bit
```

3 Verify that the settings displayed on the screen match those in Figure 66 on page 173.

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 64 on page 172).

6 Continue with Verifying the Startup Parameters.

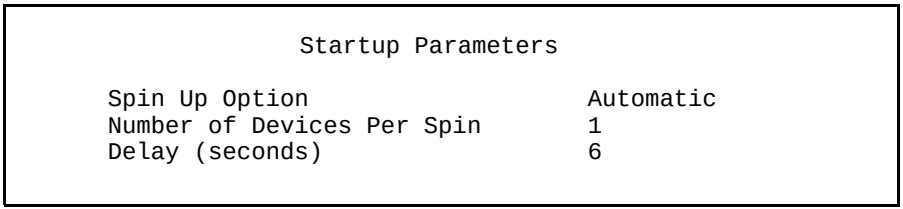
Verifying the Startup Parameters

To verify the startup parameters:

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

The system displays the Startup Parameters screen (Figure 67).

Figure 67. Startup Parameters Screen



2 Verify that the settings displayed on the screen match those in Figure 67.

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**.

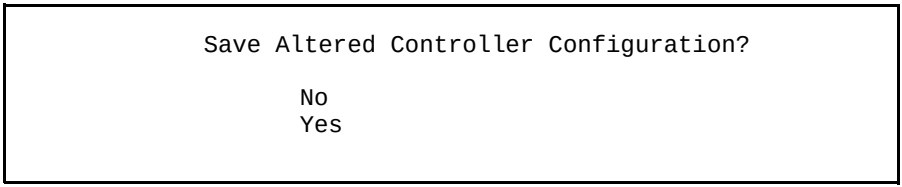
The system displays the Edit/View Parameters Menu (Figure 64 on page 172).

5 Press **ESC**.

If you did not make changes, the system displays the RAID Controller Main Menu (Figure 62 on page 170).

If you made changes, the system displays the Save Controller Configuration screen (Figure 68).

Figure 68. Save Controller Configuration Screen



a Select `yes`.

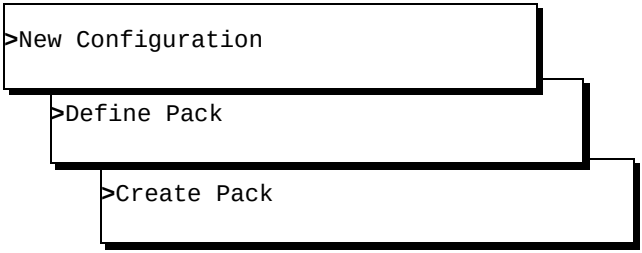
The system displays the RAID Controller Main Menu (Figure 62 on page 170).

Continue with Configuring the Array on page 176.

Configuring the Array

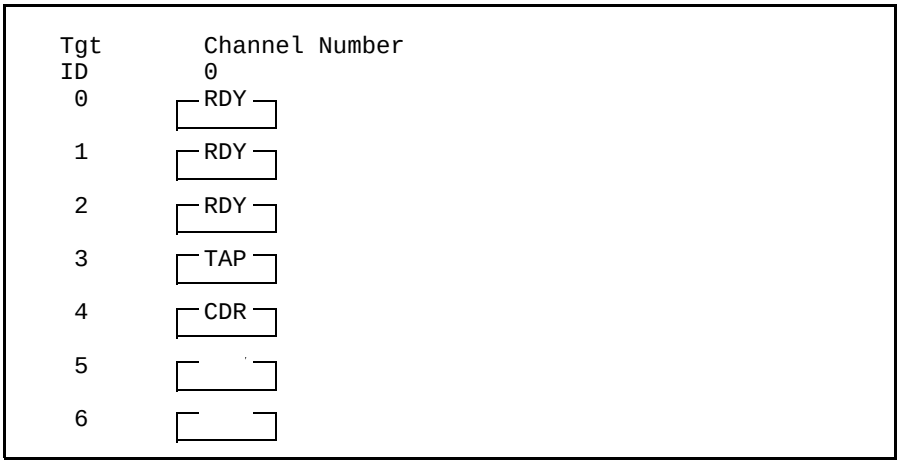
To configure the disk array:

1 From the RAID Controller Main Menu (Figure 62 on page 170) select:



The system displays the Channel Ready screen. The sample screen (Figure 69 on page 177) shows an example where all six physical hard disk drives are installed.

Figure 69. Channel Ready Screen

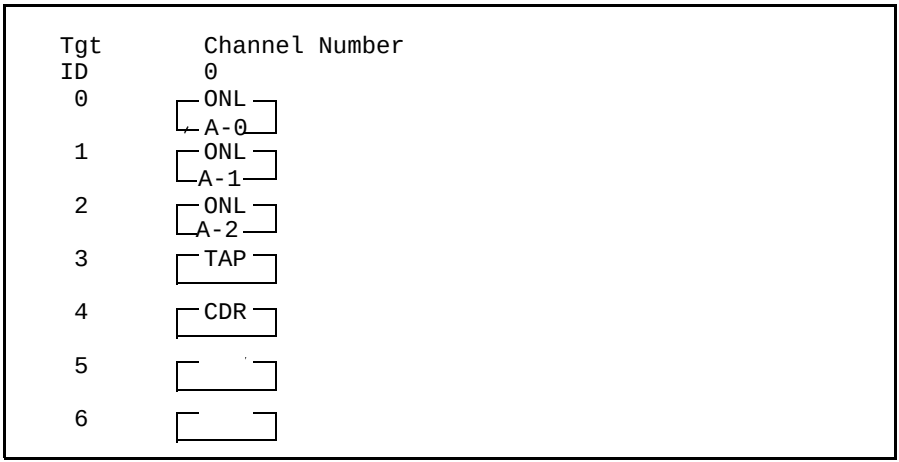


2 Press **ENTER** for all hard disk drives marked as RDY. This places the drives in the pack.

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 70).

Figure 70. Channel Ready Screen



The system then displays the Pack Definition Menu (Figure 71).

Figure 71. Pack Definition Menu

```
                Pack Definition

          1. Create Pack
          2. Cancel Pack
          3. Arrange Pack
          4. Device Information
```

3 Select `Arrange Pack`.

4 Press **ENTER**.

The system then displays the New Configuration Menu (Figure 72).

Figure 72. New Configuration Menu

```
                New Configuration

          1. Define Pack
          2. Define System Drive
```

5 Continue with Defining the Logical System Drive on page 180.

Defining the Logical System Drive

To define the logical system drive:

1 From the New Configuration Menu (Figure 72 on page 179) select:

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

The system displays the RAID Level Screen (Figure 73).

Figure 73. 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 Enter the size from Table 26 that corresponds to the number of physical drives in your system. For example, if your system has a total of six physical drives, enter 5400.

Table 26. Hard Disk Drive Capacity

Number of Physical Hard Drives	Size of New System Drive (MB)
3	6750
4	6000
5	5625
6	5400

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

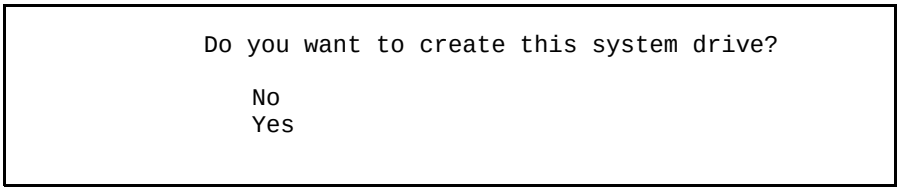
```
System Drive #0
RAID Level #  5
Capacity      x
```

The system then displays the Create System Drive screen (Figure 74 on page 182).

Note: Once the value is entered, the system subtracts the amount needed for the RAID overhead and displays the actual size of

logical system drive 0. The remaining physical drive space is available for logical system drive 1. The size for system drive 0 should be equal to or slightly larger than 4500 MB after RAID 5.

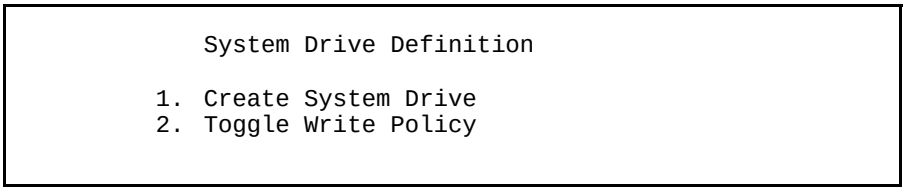
Figure 74. Create System Drive Screen



4 Select YES.

The system creates logical system drive 0 and then displays the System Drive Definition Menu (Figure 75).

Figure 75. System Drive Definition Menu



5 Select: `Create System Drive.`

The system displays the RAID Level screen (Figure 73 on page 180).

6 Select `RAID 5`.

7 Press **ENTER** to accept the default size.

The system displays the Create System Drive screen (Figure 74 on page 182).

8 Select `YES` to create system drive 1.

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 #1
RAID Level #  5
Capacity      x
```

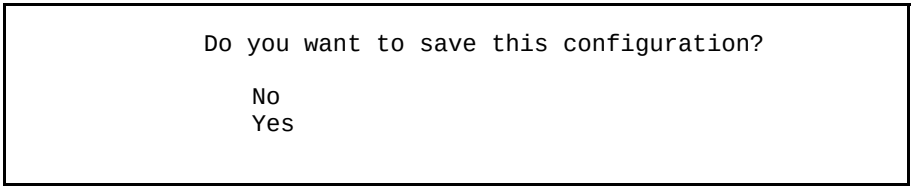
The system then displays the System Drive Definition Menu (Figure 75 on page 182).

9 Press **ESC**.

10 Press **ESC**.

The system displays the Save Configuration screen (Figure 76).

Figure 76. Save Configuration Screen



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

12 Press **ENTER**.

The system displays the RAID Controller Main Menu (Figure 62 on page 170) 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
```

13 Select Yes

The system automatically reboots.

14 Continue with Beginning the UnixWare Installation.

Beginning the UnixWare Installation

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.

Installing UnixWare

To load UnixWare:

1 Insert the diskette labeled “Intuity UnixWare 2.1.3 Boot Floppy 1” into the diskette drive.

2 Boot the system. Follow the appropriate instruction in Table 27.

Table 27. Initial Boot

If . . .	Then . . .
you are starting from the DOS prompt	enter **CONTROL**+ **ALT** + **DELETE**
the system is off	turn it on using the power switch on the back of the UCS 1000 R4.2 .
the system is on	reboot the system. See “Rebooting the System,” in “Common System Procedures,” in the *UCS 1000 R4.2 System Reference*, 585-313-210, for the procedure

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 “Intuity UnixWare 2.1.3 Boot Floppy 1” from the diskette drive.

4 Insert the diskette labeled “Intuity UnixWare 2.1.3 Boot Floppy 2” into the diskette drive.

5 Press **ENTER**.

The system displays the following message:

```
Please wait while the system software drivers are loaded.
```

After several minutes the system displays the SCO UnixWare 2.1 Menu (Figure 77).

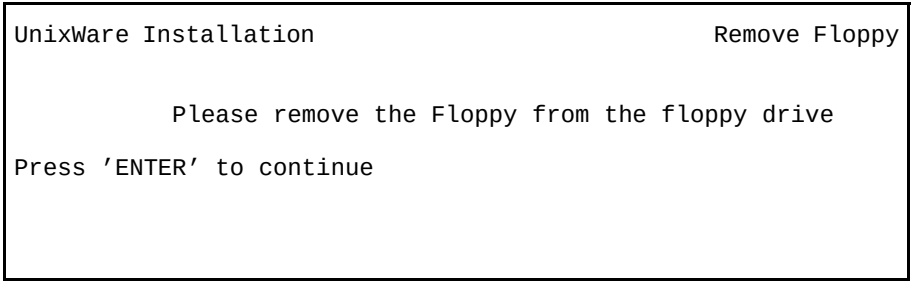
Figure 77. UnixWare Menu

```
SCO UnixWare 2.1 Menu

             Install/Upgrade UnixWare 2.1
             Access UnixWare Shell
             Reboot

Use up/down arrow keys and ENTER to select; F1 for help
```

6 Press the ▼ key to select `Install/Upgrade UnixWare 2.1` and then press **ENTER**.

The system displays the Remove Floppy screen (Figure 78).

Figure 78. Remove Floppy Screen

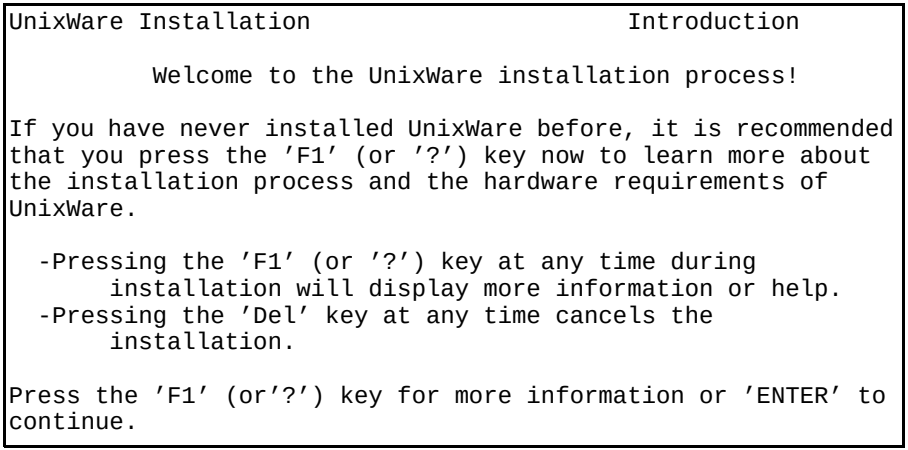


7 Remove the diskette labeled “Intuity UnixWare 2.1.3 Boot Floppy 2” from the diskette drive.

8 Press **ENTER**.

The system displays the Introduction screen (Figure 79).

Figure 79. 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 1.

9 Continue with the next procedure,Setting Up the UnixWare Environment on page 190.

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 80).

Figure 80. Keyboard Setup Screen

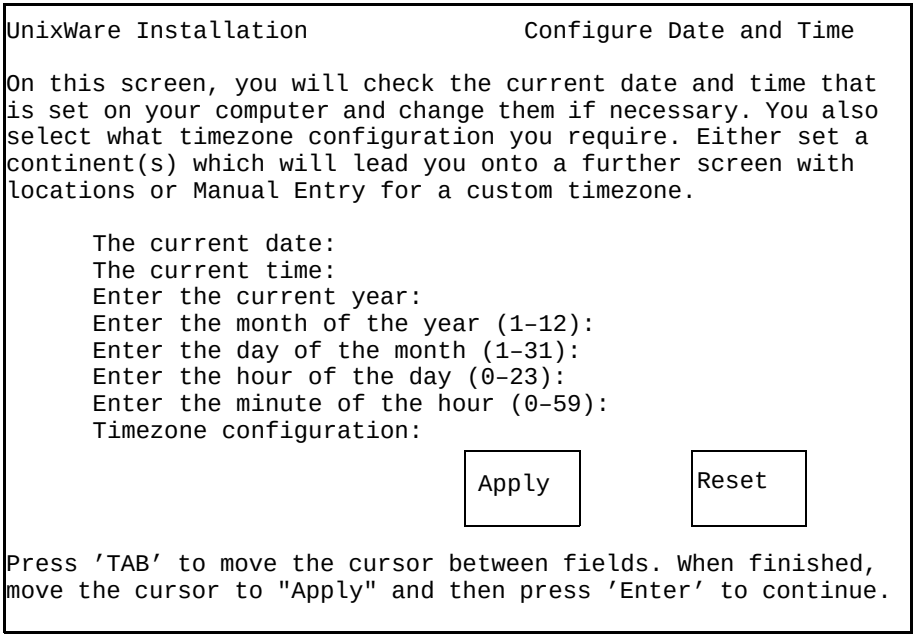
```
UnixWare Installation                    Keyboard Setup

The UnixWare Installation procedure supports the following
international keyboards. You may select alternate keyboard
types by using the left and right arrow keys and then press
the ENTER (or RETURN) key.

Keyboard Nationality: U. S. ASCII

                              Apply          Reset

When finished, move the cursor to "Apply" and then press
'Enter' to continue.
```

2 Press the ◄ and ► keys on your keyboard to move through the field selections and select `U.S. ASCII`.

3 Press **TAB** to move to the `Apply` field and then press **ENTER**.

The system displays the Configure Date and Time screen (Figure 81).

Figure 81. Configure Date and Time Screen



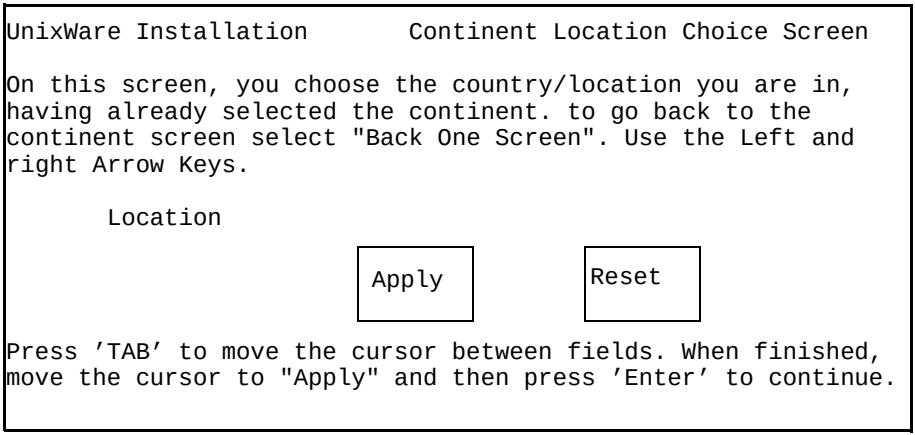
4 Use the ◄ and ► keys on your keyboard to move through the field selections. Use **TAB** to move to the next field.

5 Select the appropriate data for each field.

6 Press **TAB** to move to the Apply field and press **ENTER**.

The system displays the Continent Location Choice screen (Figure 82).

Figure 82. Continent Location Choice Screen



7 Use the ◄ and ► keys on your keyboard to move through the field selections.

8 Select the appropriate data for each field.

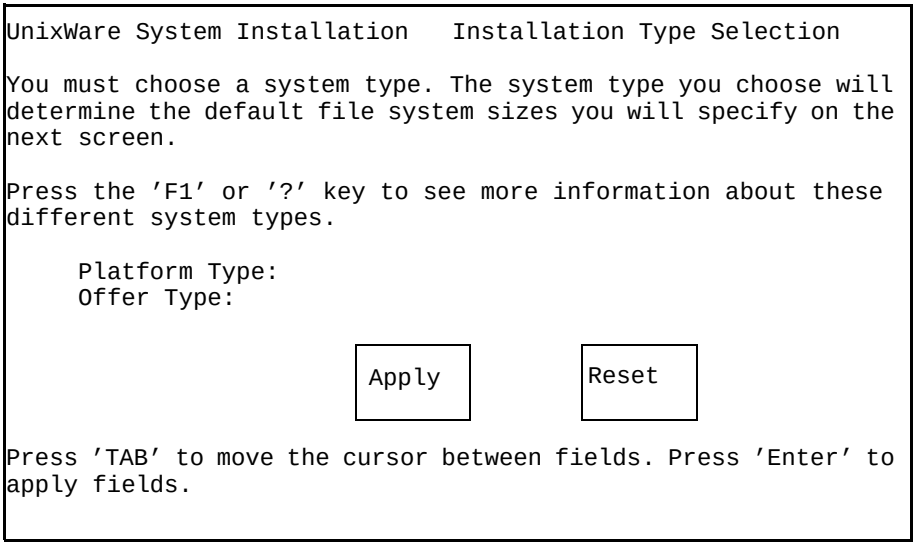
9 Press **TAB** to move to the Apply field and press **ENTER**.

The system displays the Installation Type Selection screen (Figure 83 on page 194). Use the data listed in Table 28 to enter in the appropriate fields for either RAID or non-RAID systems on the Installation Type Selection screen and the CPU Configuration screen (Figure 84 on page 195).

Table 28. Installation Type Selection Screen Entries

Field	Non-RAID Setting	RAID Setting
`Platform type:`	16-Slot CPCI system	16-Slot CPCI system
`Offer type:`	LINCS	LINCS
`CPU Configuration:`	Pentium/SCSI/Non-RAID	Pentium/SCSI/RAID

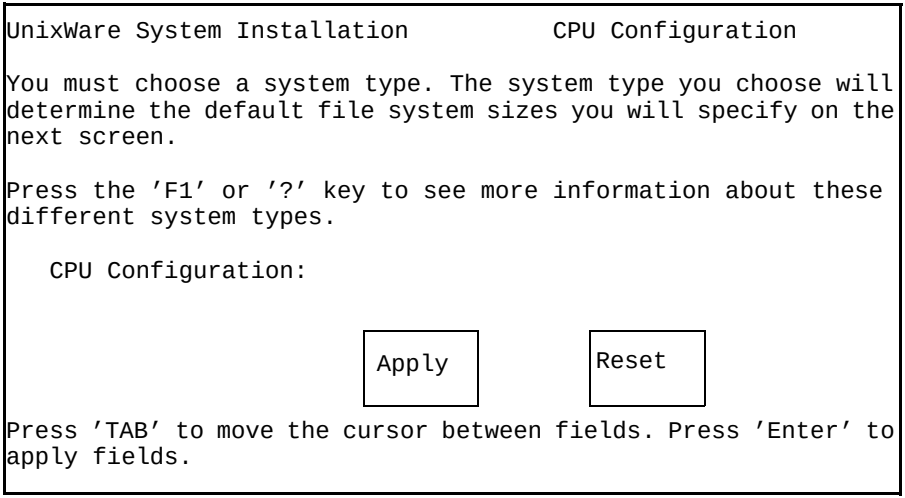
Figure 83. Installation Type Selection Screen



10 Use the ◄ and ► keys on your keyboard to move through the field selections. Use **TAB** to move to the next field.

The system then displays the CPU Configuration screen (Figure 84).

Figure 84. CPU Configuration Screen



11 Use the ◄ and ► keys on your keyboard to move through the field selections. Use **TAB** to move to the next field.

12 Press **TAB** to move to the `Apply` field and press **ENTER**.

The system displays the Install Type screen (Figure 85).

Figure 85. Install Type Screen

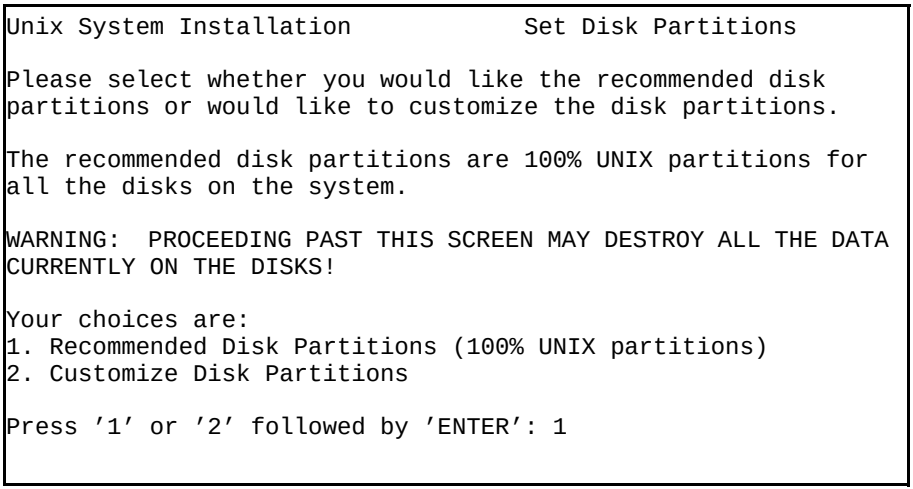
```
Unix System Installation                    LINCS Install Type



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 mkimage
```

13 Enter **1**

Note: If you are restoring a system from a mkimage tape, use the procedures in Chapter 3, "Common System Procedures," in *UCS 1000 R4.2 System Reference*, 585-313-210.

The system displays the Set Disk Partitions menu (Figure 86).

Figure 86. Set Disk Partition Menu



14 Continue with the appropriate instruction from Table 29.

Table 29. Set Disk Partition Options

If you choose	Enter	Then proceed to
1. Recommended Disk Partition (100% UNIX Partitions)	**1**	Selecting the Recommended Disk Partitions on page 218
2. Customize Disk Partitions	**2**	Initializing the Hard Disk Drives on page 199

Initializing the Hard Disk Drives

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 87).

Figure 87. Primary Hard Disk Partitioning Screen

```
UnixWare Installation    Primary Hard Disk Partitioning

In order to install LINCS, 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
```

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 88).

Figure 88. Delete Partition-Disk 1 Screen

```
UnixWare Installation       Hard Disk Partition - Disk 1

           Total disk size is 4340 cylinders (4340.0MB)

Partition  Status   Type    Start    End    Length    %   Approx MB
  1         Active Unix     0.00    4339   4340     100    4339.98
                   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:
```

2 Enter **2**

The system displays the Delete A Partition screen (Figure 89).

Figure 89. Delete A Partition Screen

```
UnixWare Installation                    Delete A Partition

           Total disk size is 4340 cylinders (4340.0MB)

Partition  Status  Type   Start    End    Length    %  Approx MB
  1         Active Unix   0.00    4339   4340     100    4339.98
                   System


 1. Partition 1

Enter the number of partition to delete: 1
```

3 Press **ENTER**.

The system displays the Hard Disk Partitioning-Disk 1 screen (Figure 90).

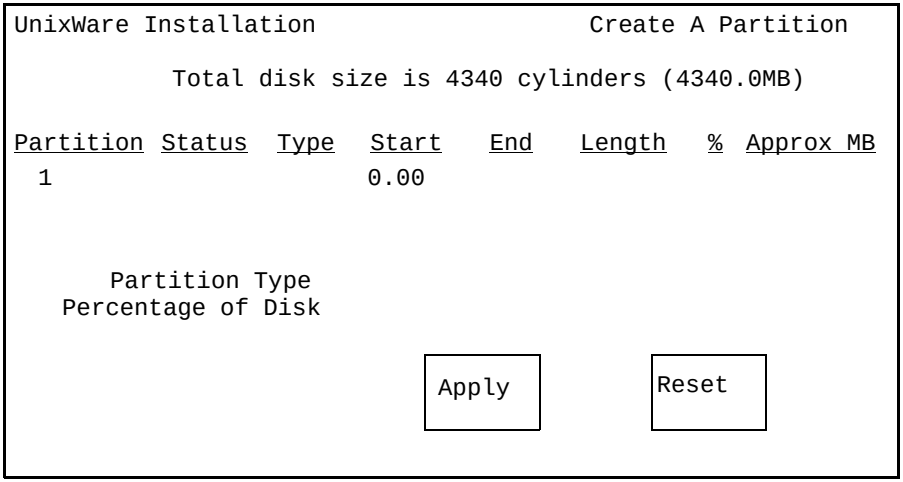
Figure 90. Hard Disk Partitioning-Disk 1 Screen 1

```
UnixWare Installation       Hard Disk Partition - Disk 1

           Total disk size is 4340 cylinders (4340.0MB)

Partition Status  Type   Start    End    Length   %  Approx MB
  1                      0.00



 1. Overwrite system master boot code
 2. Create a partition
 3. Exit (Update disk configuration and exit)
 4. Cancel (Exit without updating disk configuration)

Enter selection:
```

4 Enter **2**

The system displays the Create a Partition screen (Figure 91).

Figure 91. Create a Partition Screen



5 Use the ◄ and ► keys on your keyboard to move through the field selections. Use **TAB** to move to the next field.

6 Select the appropriate data for each field as specified in Table 30.

Table 30. Create a Partition Screen Entries

Field	Setting
`Partition type`	UNIX System
`Percentage of Disk`	100

7 Press **TAB** to move to the `Apply` field and press **ENTER**.

The system displays the Hard Disk Partitioning-Disk 1 screen (Figure 92).

Figure 92. Hard Disk Partitioning-Disk 1 Screen

```
UnixWare Installation      Hard Disk Partitioning - Disk 1

           Total disk size is 4340 cylinders (4340.0MB)

                                    Cylinders
Partition  Status   Type    Start    End    Length    %  Approx MB
  1         Unix   System  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:
```

8 Press **ENTER**.

The system displays the Hard Disk Partitioning-Disk 1 screen (Figure 92).

9 Enter **2**

The system displays the Change Active Partition screen (Figure 93).

Figure 93. Change Active Partition Screen

```
UnixWare Installation                Change Active Partition

           Total disk size is 4340 cylinders (4340.0MB)


Partition  Status   Type    Start    End    Length    %  Approx MB
  1          Unix   System  0.00

 1. Partition 1

Enter the number of partition you want to boot from:
```

10 Press **ENTER**.

The system displays the Hard Disk Partitioning-Disk 1 screen (Figure 94).

Figure 94. Hard Disk Partitioning-Disk 1 Screen

```
UnixWare Installation      Hard Disk Partition - Disk 1

           Total disk size is 4340 cylinders (4340.0MB)

                                    Cylinders
Partition  Status   Type    Start    End    Length    %   Approx MB
  1         Active Unix     0.00    4339   4340     100    4339.98
                   System


 1. Do not 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:

System master boot code will be overwritten
```

11 Enter **3**

The system displays the Secondary Hard Disk Partitioning screen (Figure 95).

Figure 95. Secondary Hard Disk Partitioning

```
UnixWare Installation       Second Hard Disk Partitioning

In order to install LINCS, you should reserve a UNIX system
partition (a portion of your hard disk's space) containing 100%
of the space on your secondary 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 secondary 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
secondary hard disk must be at least 40 MBs and labeled
"ACTIVE.'

Press 'ENTER'to continue
```

12 Press **ENTER**.

The system displays the Hard Disk Partitioning-Disk 2 screen (Figure 96).

Figure 96. Hard Disk Partitioning-Disk 2 Screen

```
UnixWare Installation       Hard Disk Partition - Disk 2

           Total disk size is 4340 cylinders (4340.0MB)

                                    Cylinders
Partition  Status   Type    Start    End    Length    %   Approx MB
  1         Active Unix     0.00    4339   4340     100    4339.98
                   System


 1. Do not 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:

System master boot code will be overwritten
```

13 Enter **3**

The system displays the Set Slice Sizes selection menu (Figure 97).

Figure 97. Set Slice Sizes Menu

```
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
```

14 Continue with the appropriate instruction in Table 31.

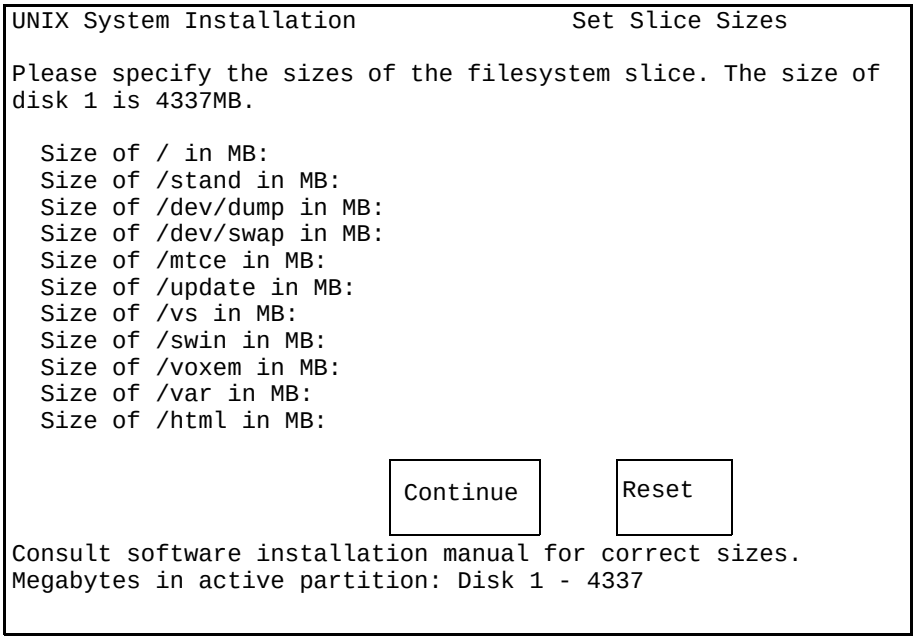
Table 31. Set Slice Size Options

If you choose. . .	Enter . . .	Then continue with. . .
1. Recommended Slice Sizes	**1**	Installing the UCS 1000 R4.2 Image on page 219
2. Customize Slice Sizes	**2**	Selecting Customized Slice Sizes on page 211

Selecting Customized Slice Sizes

If you chose `2.Customize Slice Sizes` from the Set Slice Sizes Menu (Figure 97 on page 210), the system displays page 1 of the UnixWare Installation Set Custom Slice Sizes screen (Figure 98 on page 212).

Figure 98. Set Custom Slice Sizes Screen, Page 1



To set the slice sizes:

1 On page 1 of the Set Slice Sizes screen, enter the appropriate number of megabytes of space needed for each slice as specified in Table 32. Use the ◄ and ► keys on your keyboard to move through the field selections. Use **TAB** to move to the next field.

Note: The sizes listed in Table 32 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 32.

Table 32. Recommended Default Space Requirements for the UCS 1000 R4.2

Slice	Space Requirements (MB)
/	900
/stand	20
/dev/dump	129 (memory size + 1[1])
/dev/swap	257 ([2 x memory size] + 1 = size[2])
/mtce	50
/update	0
/vs	200

1 of 3

Table 32. Recommended Default Space Requirements for the UCS 1000 R4.2

Slice	Space Requirements (MB)
/swin	0
/voxem	0
/var	0
/html	0
/vm	0
/ldap	0
/VM	0
/netw	0
/voice1	500
/oracle	700
/tmp	200
/backup1	0
/backup2	0

2 of 3

Table 32. Recommended Default Space Requirements for the UCS 1000 R4.2

Slice	Space Requirements (MB)
/add-on1	1541 **Note:** This number may vary.
/add-on2	0
/add-on3	0

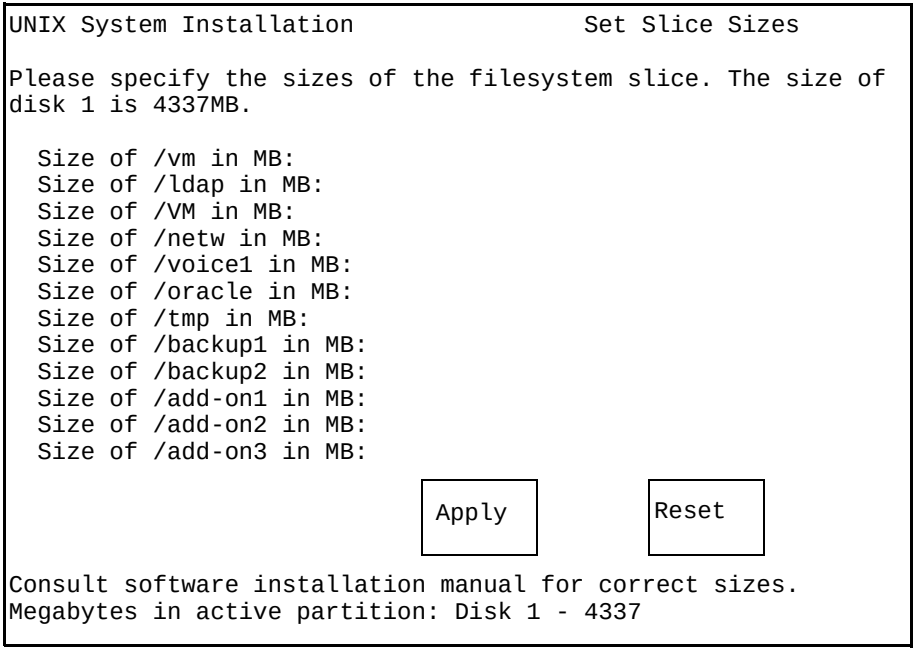
3 of 3

[1] For LINCS0, /dev/dump = 128 + 1.
[2] For LINCS0, /dev/swap = 256 + 1.

2 After you complete the last field on the screen, press **TAB** to move to the `Continue` field and press **ENTER**.

The system displays page 2 of the UnixWare Installation Set Custom Slice Sizes screen (Figure 99).

Figure 99. Set Custom Slice Sizes Screen, Page 2



3 Use the ◄ and ► keys on your keyboard to move through the field selections. 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 press **ENTER**.

The system displays the Device Type menu (Figure 100).

Figure 100. Device Type Menu

```
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 UCS 1000 R4.2 Image on page 219

Selecting the Recommended Disk Partitions

Recommended Disk Partitions

If you chose `1. Recommended Disk Partitions`, from the Set Slice Sizes Menu (Figure 97 on page 210), the system displays the Set Slice Sizes screen (Figure 101).

1. Type **1** and press **ENTER.**

   The system displays the Device Type Menu (Figure 100 on page 217).

2. Continue with Installing the UCS 1000 R4.2 Image.

Figure 101. Set Slice Sizes

```
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
```

Installing the UCS 1000 R4.2 Image

Selecting the Recommended Slice Sizes

As a result of choosing Recommended Slice Sizes from the Set Disk Partitions menu or after completing the customize slice sizes, the system displays the Device Type screen (Figure 100 on page 217)

To install the UCS 1000 R4.2 Image:

1. From the Device Type screen (Figure 100 on page 217), press **ENTER**.

   The system displays the Insert CD-ROM screen (Figure 102).

Figure 102. CD-ROM Screen

```
UnixWare Installation                Insert 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 "LINCS Base" into the CD-ROM drive and then press **ENTER**.

The system verifies that the CD-ROM is inserted correctly then displays the Continue Installation screen (Figure 103).

Figure 103. 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
```

Note: The process will take at least an hour.

3 Press **ENTER**.

The system displays a continuous status screen while checking the hard disks for defects and creating file systems.

The system then displays the Copying Files screen (Figure 104).

Figure 104. Copying Files Screen

After several minutes the system displays the following message:

```
Please remove the CD-ROM from the drive.

Press 'ENTER' to continue.
```

4 Press **ENTER**.

The system displays the following message:

```
The UNIX System is now being rebuilt to reflect your
selections. This will not require any user input.

Please wait
```

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

The procedure is now complete and the base system software is installed. Continue with Installing the LAN PMC Driver on page 222 or Setting Up the Monitor on page 228.

Installing the LAN PMC Driver

To install the LAN driver:

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 **setuname -n *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 Enter **setuname -s *name*** where *name* is the system name.

6 Enter **pkgadd -d /var/spool/pkg d21x**

The system displays the readme information and then the following message:

```
Read text again (default: n) [yes,no,?]
```

7 Press **ENTER**.

The system displays the following message:

```
Continue with installation (default = y) {yes,no,?}
```

8 Press **ENTER**.

The system displays the following message:

```
These are the device(s) available on your system:
1      d21x_0
Type the number of device(s) to be configured with inet
[?,??,quit]:
```

9 Press **ENTER**.

The system displays the following message:

```
Please enter the IP hostname for device d21x_0
(default:hostname):
```

10 Enter the machine node name identified in step 3.

The system displays the following message:

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

11 Enter the IP address.

The system displays the following message:

```
Configure <host name> with default Ethernet ifonfig options?
Info message is long. (yes,no,ClassC Berkeley, etc.)
```

12 Enter **ClassC**

The system displays the following message:

```
Installation of DEC21143 Ethernet(d21x) was successful.
```

13 Do one of the following"

- If you are using dual LAN, continue with step 14.
- If you are not using dual LAN, continue with step 22.

14 For dual LAN systems, use the vi editor to edit **/etc/confnet.d/netdrivers**

15 Add **d21x_1 inet** to the end of the **netdrivers** file.

16 Write and exit the **netdrivers** file.

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

The system displays the following message:

```
These are the device(s) available on your system:
1      d21x_0
2      d21x_1
Type the number of device(s) to be configured with inet
[?,??,quit]:
```

18 Enter **2** for the second LAN.

The system displays the following message:

```
Please enter the IP hostname for device d21x_1
(default:hostname):
```

19 Enter a name, other than the host name, that is unique for your secondary interface.

The system displays the following message:

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

20 Enter the secondary IP address.

The system displays the following message:

```
Configure <host name> with default Ethernet ifonfig options?
Info message is long. (yes,no,ClassC Berkeley, etc.)
```

21 Enter **ClassC**

The system displays the following message:

```
Installation of DEC21143 Ethernet(d21x) was successful.
```

22 Enter **cd /etc/net**

23 Use the vi editor and enter the machine node name to the **hosts** file in each of the following directories:

- ticlts
- ticots
- ticotsord

Note: The machine node name must be entered two times on the same line, separated by a tab.

24 Enter **cd /etc/confnet.d/inet**

25 Use the vi editor to verify the contents of the **interface** file.

26 Verify that the **interface** file contains the following lines, where *a.b.c* are the first three parts of your machine IP address.

Note: For single LAN, only the first line will be displayed.
For a dual LAN, both lines will be displayed.

d21x:0::/dev/d21x_0:netmask 0xffffff00 broadcast *a.b.c.*255 -trailers
d21x:1::/dev/d21x_1:netmask 0xffffff00 broadcast *a.b.c.*255 -trailers

For example, IP address 135.7.50.201 would be changed to 135.7.50.255.

27 Copy the **hosts** files that contains all the IP addresses of your machine and of the machines to which you want to connect into the **/etc/inet/** directory.

28 Enter **cd /etc/inet**

29 Use the vi editor to edit the **config** file.

30 Change the following line:

```
###4c:/usr/sbin/route::n:add default default_router 1
```

to this:

4c:/usr/sbin/route::y:add default *a.b.c.*254 1

where *a.b.c* are the first three parts of your machine IP address. For example, IP address 135.7.50.201 would be changed to 135.7.50.254 1.

31 Write and exit the file.

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/lib/display/setvideomode**

   The system displays a menu listing the different video chipset options.

3. Enter **3**

   This is the number corresponding to the video controller circuit card installed on your system.

   The system displays a menu listing monitor mode numbers for video resolution.

4. Enter **13**

Note: The mode number corresponds to the video controller circuit card installed on your system. The resolution must be 640 x 480 and the color must be 256.

The system displays the following message:

```
Video RAM: 2048K
Do you want to change this value? (y/n) [n]:
```

5 Press **ENTER**.

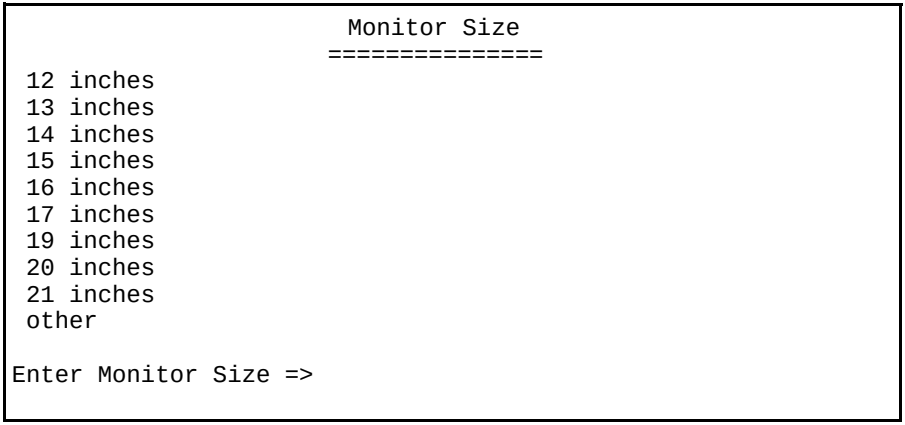
The system displays the following message:

```
Default Monitor Size, 17 inches(y/n) [y]:
```

6 Enter **n**

The system displays the Monitor Size screen (Figure 105).

Figure 105. Monitor Size Screen



7 Enter **14**

The system displays the Monitor Test screen (Figure 106). The screen displayed by your system will be similar to but not exactly the same as this example.

Figure 106. Monitor Test Screen

```
You have selected the following

VENDOR.....................: Generic s3 Virge-VS
CHIPSET....................: VIRGE-VX
VIDEO RAM..................: 2048K
MONITOR....................: MULTISYNC 60 Hz
RESOLUTION.................: 640x480
COLORS.....................: 256

Do you want to test this mode? (y/n) [y]:
```

8 Press **ENTER**.

The system displays the Test Pattern screen (Figure 107).

Figure 107. Test Pattern Screen

```
  A TEST PATTERN WILL BE DRAWN ON YOUR SCREEN. AFTER A FEW
SECONDS, YOU WILL RETURN TO THIS SCREEN. IF THE PATTERN
DOESN'T LOOK RIGHT, YOU CANNOT USE THIS MODE. YOU SHOULD TRY
ANOTHER MODE. IF THE PATTERN IS NOT EVEN STABLE, PRESS 'DEL'
IMMEDIATELY TO AVOID DAMAGE TO YOUR HARDWARE.

Do you want to continue (y/n) [y]:
```

9 Press **ENTER**.

After the test pattern is drawn, the system displays the following message:

```
Do you want to try the test again? (y/n) [n]:
```

10 Press **ENTER** to stop the test.

The system displays the following message:

```
Accept(y), Quit(q), Try another mode(anykey):
```

11 Enter **y** to accept the setup.

The system displays the Current Selection screen (Figure 108).

Figure 108. Current Selection Screen

```
Current Selection:

        ENTRY.........................: Generic s3 Virge-VX
        RESOLUTION....................: 640x480
        VISUAL........................: PseudoColor
        MONITOR.......................: MULTISYNC 60Hz
```

Initializing the Mouse

To initialize the mouse:

1 Type **mouseadmin** at the system prompt and press **ENTER**.

The system displays the Mouse Main Menu (Figure 109).

Figure 109. Mouse Main Menu

```
  There are no mice assigned.

  Select one of the following:

     B) Bus mouse add
     P) PS2 mouse add
     S) Serial mouse add
     T) Test your mouse configuration
     U) Update mouse configuration and quit
     E) Exit (no update)

Enter selection:
```

2 Do one of the following:

- If you are not installing a mouse, enter **e**
- If you are installing a mouse, enter **s**

The system displays the following message:

```
There are no mice assigned.

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 Type **console** and 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., tty00, tty01):
```

4 Enter the appropriate data for the serial port your mouse is connected to as listed in Table 33 on page 236.

CAUTION:
Do not assign the mouse to COM2. COM2 is dedicated to the TAM.

Table 33. Serial Mouse Installation Entries

Serial Port Connection	Screen Entry
COM1 port	TTY00
COM2 port	TTY01

5 Press **ENTER**.

The system displays the following message:

```
Is your mouse configured to Mouse Systems
(MSC compatible) mode? [y or n]:
```

6 Type **y** and press **ENTER**.

Note: If you are administering the Agiler serial mouse, type **n** and press **ENTER**.

The system displays the Mouse Main Menu, (Figure 110). TTY00 reflects the port you selected in step 4.

Figure 110. Mouse Main Menu

```
The following terminals have mice assigned:

     Display Terminal                              Mouse Device
     Console                                 Serial Mouse on TTY00


     Select one of the following:
        B) Bus mouse add
        P) PS2 mouse add
        S) Serial mouse add
        T) Test your mouse configuration
        U) Update mouse configuration and quit
        E) Exit (no update)

Enter selection:
```

7 Enter **u**

8 Continue with Testing the Mouse.

Testing the Mouse

To test the mouse:

1 Type **mouseadmin** at the system prompt and press **ENTER**.

The system displays the Mouse Main Menu (Figure 110).

2 Enter **t**

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.
```

The system displays the Mouse Main Menu.

4 Type **e** and press **ENTER**.

You have now installed all the required software for your UnixWare operating system.

6 Installing the UCS 1000 R4.2 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

- T1/E1 Board Driver
- EEPROM driver
- Unix Management Screens Package
- Telecom Alarms Package
- Lucent Integrated Network Call Server Tuning
- Global Array Manager
- Hardware RAID Integration

Notes on Reinstalling the Base Software Set

Note the following conditions when reinstalling the UCS 1000 R4.6 software:

- The EEPROM Driver package (eeprom) is one of the UCS 1000 R4.6 base software packages. If you need to reinstall these base packages, 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, you can remove the eeprom package and reinstall it, using the **pkgrm eeprom** and **pkgadd eeprom** commands.
- The VCHANS (virtual channels) parameter is incremented each time the LINCS Set software is installed over itself. The maximum limit for the VCHANS parameter is 96. Error messages will occur if the parameter reaches its maximum, which could happen if the parameter is set to a

number near the maximum and the LINCS set software is reinstalled enough times. (Note that the VCHANS parameter must be set to at least 1 if the background play manager is enabled.)

The VCHANs parameter can be edited in the **/vs/data/irAPI.rc** file.

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) 4.0-3
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 239. 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 not installing additional optional packages, enter **shutdown -i6 -g0 -y**

When the boot is complete, the system displays the `Console Login:` prompt and then the following message:

```
TERM=[AT386]?
```

7 Press **ENTER**.

7 Installing the Optional Feature Software

Overview

This purpose of this chapter is to provide the information necessary to reload the optional feature software on a system that has experienced a disk failure.

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.

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.

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 *pkgname pkgname*** where *pkgname* is the name of the software package that you want to install. Separate the name of each software package with a space.

   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.
   ```

   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.

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 R4.2 System Reference*, 585-313-210, for the procedure.

Installing the ASP Driver

To install the ASP circuit card driver:

1 Stop the voice system. See “Administering the Voice System,” in “Common System Procedures,” in the *UCS 1000 R4.2 System Reference*, 585-313-210, 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 asp**

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: INTUITY ASP Driver Package (asp) from <cdrom1>

INTUITY ASP Driver Package
(i486) 4.0-3
Using </> as the package base directory.
```

If you did not stop the voice system, the system then 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 you did stop the voice system, the system continues and displays the following message:

```
The UNIX Operating System kernel will be rebuilt to include
your configuration changes during the next system reboot.

Installation of INTUITY ASP Driver Package (asp) 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 R4.2 System Reference*, 585-313-210, 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:
Set: INTUITY Call Bridge Application Package (xferdip) from
<CD-ROM>

INTUITY Call Bridge Application Package
(i486) 4.0-3
Using </> as the package base directory.
Lucent Technologies Inc.

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 R4.2 System Reference*, 585-313-210, 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. Make sure that the ASP driver is installed by entering **pkginfo | pg.**
2. Do one of the following:
   - ~ If the ASP driver is installed, there will be a line similar to the following:

     ```
     intuity   asp      INTUITY ASP Driver Package
     ```

     Continue with step 3.
   - ~ If the ASP driver is not installed, install it now. See Installing the ASP Driver on page 246 for the procedure.
3. Insert the CD-ROM labeled “LINCS Base CD” into the CD-ROM drive.
4. 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)
   ```
5. Press **ENTER**.

   The system displays the following message:

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

   PROCESSING:
   Set: INTUITY Call Classification Analysis Package (cca) from
   <CD-ROM>
   ```

```
INTUITY Call Classification Analysis Package
(i486) 4.0-3
Using </> as the package base directory.
Lucent Technologies Inc.
```

The system displays several status messages and then the following message:

```
Installation of INTUITY Call Classification Analysis Package
(cca) 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 CD-ROM from the drive.

7 Reboot the system. See “Rebooting the System,” in “Common System Procedures,” in the *UCS 1000 R4.2 System Reference*, 585-313-210, for the procedure.

For more information on this feature package, see *UCS 1000 R4.2 Communication Development*, 585-313-213.

Installing the CDH Stub Package

Note: You must install the CDH Stub optional software package if you are not installing ORACLE.

To install the CDH Stub 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 cdhstub**

   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:
Set: INTUITY CDH Stub Package (cdhstub) from <cdrom1>

INTUITY CDH Stub Package
(i486) 4.0-3
Using </> as the package base directory.
Lucent Technologies Inc.
```

The system then displays several status messages and then the following message:

```
Installation of INTUITY CDH Stub Package (cdhstub) 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 R4.2 System Reference*, 585-313-210, for the procedure.

For more information on this feature package, see “Backing Up the System,” in “Common System Procedures,” in the *UCS 1000 R4.2 System Reference*, 585-313-210, for the procedure.

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:
Set: INTUITY Data Collection Toolkit (dctoolkit) from
<cdrom1>

INTUITY Data Collection Toolkit
(i486) 4.0-3
Using </> as the package base directory.
Lucent Technologies Inc.
```

The system displays several 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 R4.2 System Reference*, 585-313-210, 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.

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:
Set: INTUITY Dial-Pulse Recognition Package (dpr) from
<cdrom1>

INTUITY Dial-Pulse Recognition Package
(i486) 4.0-3
Using </> as the package base directory.
Lucent Technologies Inc.
```

The system displays several status messages and then the following message:

```
Installation of INTUITY Dial-Pulse Recognition Package (dpr)
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 R4.2 System Reference*, 585-313-210, 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:
   Set: INTUITY E1 CAS R2 MFC Interface Package - Mexico (r2mex)
   from <cdrom1>

   INTUITY E1 CAS R2 MFC Interface Package - Mexico
   (i486) 4.0-3
   Using </> as the package base directory.
   Lucent Technologies Inc.
   ```

The system displays several 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 R4.2 System Reference*, 585-313-210, for the procedure.

For more information on this feature package, see “Backing Up the System,” in “Common System Procedures,” in the *UCS 1000 R4.2 System Reference*, 585-313-210, 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:
Set: Equinox SST Loadable STREAMS Device
Driver(EISA/ISA/MCA/PCI) (eqn) from <cdrom1>

Equinox SST Loadable STREAMS Device Driver(EISA/ISA/MCA/PCI)
(i486) 4.0-3
Using </> as the package base directory.
Lucent Technologies Inc.
```

The system displays several status messages and then the following message:

```
Please enter the system type. ISA/PCI?
```

5 Enter **PCI**

The system displays the following message:

```
Installing for pci bus system.
```

The system displays the following message:

```
The unix kernel will be rebuilt to include your
configuration changes during the next system reboot.
A system rebuild has been requested when the system is
shutdown. System tunables have been modified.
Please request a reboot using the “init 6” command to use the
driver.
If you desire the default set of port monitors and port
services to be installed, execute “/etc/equportsetup” after
the system has rebooted.
Installation of Equinox SST Loadable STREAMS Device Driver
(EISA/ISA/MCA/PCI) (eqn) 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 R4.2 System Reference*, 585-313-210, for the procedure.

Installing the FlexWord Speech Recognition Package

Installing the FlexWord™ Speech Recognition Package requires installing the following packages in the order shown:

- ASP Driver package. See Installing the ASP Driver on page 246 for the procedure.
- FlexWord Recognition - Base. See Installing FlexWord Recognition - Base for the procedure.
- FlexWord Recognition - U.S. English. See Installing FlexWord Recognition - U.S. English on page 263 for the procedure.

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 R4.2 System Reference*, 585-313-210, for the procedure.
2. Ensure that the ASP Driver package has been installed.
3. Insert the CD-ROM labeled “LINCS Base CD” into the CD-ROM drive.
4. 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)
```

5 Press **ENTER**.

Note: If you did not stop the voice system, the system displays the following message at this point:

```
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.
```

The system exits the package installation.

If the voice system was stopped, the system continues and displays the following message:

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

PROCESSING:
Set: INTUITY FlexWord Recognition - Base (flexrecog) from
<cdrom1>

INTUITY FlexWord Recognition - Base
(i486) 4.0-3
Using </> as the package base directory.
```

The system displays several status messages and then the following message:

```
Installation of INTUITY FlexWord Recognition - Base
(flexrecog) was successful.
```

The system then displays the UNIX prompt.

6. If you are finished installing the optional feature software, remove the CD labeled "LINCS Base CD" from the CD-ROM from the drive.
7. Reboot the system. See “Rebooting the System,” in “Common System Procedures,” in the ,*UCS 1000 R4.2 System Reference*, 585-313-210, for the procedure.

Installing FlexWord Recognition - U.S. English

To install the FlexWord Recognition - U.S. English optional feature package:

1. Stop the voice system. See “Administering the Voice System,” in “Common System Procedures,” in the *UCS 1000 R4.2 System Reference*, 585-313-210, for the procedure.
2. Ensure that the ASP Driver package is installed.
3. Ensure the FlexWord Recognition - Base package is installed.
4. Insert the CD-ROM labeled “LINCS Base CD” into the CD-ROM drive.

5 At the UNIX prompt, enter **pkgadd -d cdrom1 usflex**

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**.

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.

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 did stop the voice system, the system continues and displays the following message:

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

PROCESSING:
Set: INTUITY FlexWord Recognition - US English (usflex) from
<cdrom1>
```

```
INTUITY FlexWord Recognition - US English
(i486) 4.0-3
Using </> as the package base directory.
```

```
READY TO PROCESS:
The system displays several status messages and then the
following message:
```

```
Installation of INTUITY FlexWord Recognition - US English
(usflex) 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 R4.2 System Reference*, 585-313-210, for the procedure.

For more information on this feature package, see *UCS 1000 R4.2 Speech Development, Processing, and Recognition*, 585-313-212.

1 Insert the CD-ROM labeled “LINCS Base CD” into the CD-ROM drive.

2 At the UNIX prompt, enter **pkgadd -d cdrom1**

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.
```

4.0-3The system then displays the UNIX prompt.

4 If you are finished installing the optional feature software, reboot the system. See “Rebooting the System,” in “Common System Procedures,” in the *UCS 1000 R4.2 System Reference*, 585-313-210, for the procedure.

Installing the LAN PMC Driver

See Installing the LAN PMC Driver on page 222 in Chapter 5, Installing Base System Software .

Installing the NGFax Feature Package

Note: This feature requires that you 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:
   Set: INTUITY Next Generation FAX Interface Package (csfax)
   from <cdrom1>

   INTUITY Next Generation FAX Interface Package
   (i486) 4.0-3
   Using </> as the package base directory.
   Lucent Technologies Inc.
   ```

The system displays several 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 R4.2 System Reference*, 585-313-210 for the procedure.

For more information on this feature package, see “Backing Up the System,” in “Common System Procedures,” in the *UCS 1000 R4.2 System Reference*, 585-313-210, 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:
   Set: INTUITY ISDN Primary Rate Interface Package (pri) from
   <cdrom1>

   INTUITY ISDN Primary Rate Interface Package
   (i486) 4.0-3
   Using </> as the package base directory.
   Lucent Technologies Inc.
   ```

   The system displays several 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 several 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 R4.2 System Reference*, 585-313-210, for the procedure.

For more information on this feature, see: Chapter 3, “Digital Telephony Interfaces,” of *UCS 1000 R4.2 Communication Development*, 585-313-213, and Chapter 6, “Switch Interfaces,” of *UCS 1000 R4.2 Administration*, 585-313-507.

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:
Set: INTUITY Advanced PRI Package (npri) from <cdrom1>

INTUITY Advanced PRI Package
(i486) 4.0-3
Using </> as the package base directory.
Lucent Technologies Inc.
```

The system displays several 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 R4.2 System Reference*, 585-313-210, for the procedure.

Installing the Nortel ISDN PRI Package

To install the Nortel ISDN PRI 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 nortelpri**

   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: INTUITY Nortel ISDN PRI Package (nortelpri) from
   <cdrom1>

   INTUITY Nortel ISDN PRI Package
   (i486) 4.0-3
   Using </> as the package base directory.
   Lucent Technologies Inc.
   ```

The system displays several status messages and then the following message:

```
Installation of INTUITY Nortel ISDN PRI Package (nortelpri)
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 R4.2 System Reference*, 585-313-210, for the procedure.

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 Ensure that the T1 driver 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 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)
```

5 Press **ENTER**.

The system displays the following message:

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

PROCESSING:
Set: INTUITY T1 E&M Interface Package (t1em) from <cdrom1>

INTUITY T1 E&M Interface Package
(i486) 4.0-3
Using </> as the package base directory.
Lucent Technologies Inc.
```

The system displays several 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.

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 R4.2 System Reference*, 585-313-210, for the procedure.

Installing the Text-To-Speech Package

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:
Set: INTUITY Text To Speech Package (tts) from <cdrom1>

INTUITY Text To Speech Package
(i486) 4.0-3
Using </> as the package base directory.
Lucent Technologies Inc.
```

The system displays several 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 R4.2 System Reference*, 585-313-210, for the procedure.

For more information on this feature package, see *UCS 1000 R4.2 Speech Development, Processing, and Recognition*, 585-313-212.

Installing the WholeWord Recognition Packages

The WholeWord recognition packages include the *WholeWord Recognition - Base* and the *WholeWord Recognition - Language.*

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:
Set: INTUITY WholeWord Recognition - Base (asr) from
<cdrom1>

INTUITY WholeWord Recognition - Base
(i486) 4.0-3
Using </> as the package base directory.
Lucent Technologies Inc.
```

The system displays several 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 Whole/Word 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 CD-ROM drive.
3. At the UNIX prompt, enter **pkgadd -d cdrom1 usrecog**

   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: INTUITY WholeWord Recognition - US English (usrecog)
   from <cdrom1>

   INTUITY WholeWord Recognition - US English
   (i486) 4.0-3
   Using </> as the package base directory.
   Lucent Technologies Inc.
   ```

The system displays several status messages and then the following message:

```
Installation of INTUITY WholeWord Recognition - US English
(usrecog) 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 R4.2 System Reference*, 585-313-210, for the procedure.

For more information on this feature package, see *UCS 1000 R4.2 Speech Development, Processing, and Recognition*, 585-313-212.

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:

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:
Set: INTUITY Feature Test Script Package (ftst) from
<cdrom1>

INTUITY Feature Test Script Package
(i486) 4.0-3

Using </> as the package base directory.
Lucent Technologies Inc.
```

The system displays several 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 several status messages and then the following messages:

```
Installing feature_tst application scripts.

Adding phrases to talkfile2.

The feature test script is now installed.

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 R4.2 System Reference*, 585-313-210, 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:
Set: INTUITY SNMP Emanate Agent (snmp) from <cdrom1>
```

```
INTUITY SNMP Emanate Agent Package
(i486) 4.0-3
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 R4.2 System Reference*, 585-313-210, 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 Application software, 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 R4.2 Administration*, 585-313-507, 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:

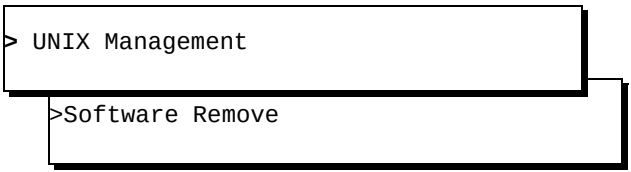
After you have removed packages from a UnixWare system, you *must* reboot the system before reinstalling packages. You can remove more than one package before rebooting, but you must reboot before reinstalling any packages.

Using the Administration Screens

Note: Your system must have the Unix Management Screens Package installed in order to use this procedure.

To remove software using the administration screens:

1 Starting at the Voice System Administration menu, select:



The system displays the Software Remove screen (Figure 111) which lists the software installed on the system.

Figure 111. Software Remove Screen

```
                    Software Remove Screen

The following packages are available:

    1. LINCSset     INTUITY LINCSset
                    (i486) 4.0-3
    2. asynchost    INTUITY CSG Asynchronous Host Toolkit
                                    (i486) 4.0-3
    3. dpr          INTUITY Dial-Pulse Recognition Package
                                    (i486) 4.0-3

... 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

ORACLE provides many packages, referred to as *ORACLE add-on* packages, that are not required to support UCS 1000 R4.2 operation. This section describes the procedures to install those packages. Each ORACLE CD-ROM and its contents is listed in Table 34:

Table 34. ORACLE Packaging

ORACLE Base CD-ROM	ORACLE Tools CD	ORACLE Pro*C CD
ora7base	ORACLE 7 Developer 2000 includes: • ORACLE Forms • ORACLE Reports	pro*c
ora7int		
ora7sql		

For detailed installation and removal information, see the *ORACLE7 for Intel UNIX SVR4 (iABI) Installation & Configuration Guide*.

Installing the ORACLE Base Software Packages

The ORACLE base software packages include:

- Intuity Base ORACLE RDBMS 7.3.2
- Intuity ORACLE 7 Integration Package
- Intuity SQL*NET TCP/IP V2 for ORACLE 7.3.2

To install the ORACLE base software set:

1. Log in as root.
2. Insert the CD-ROM labeled “LINCS ORACLE Base” into the CD-ROM drive.
3. Enter **pkgadd -d cdrom1 ORAset**

   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 Call Server Base Oracle Set (ORAset)
from <cdrom1>

Lucent Integrated Call Server Base Oracle Set
(i586) 4.0-3
Using </> as the package base directory.

Do you want to run the default set installation? (default: y)
```

5 Do one of the following:

- If you are accepting the default set installation, continue with step 16.
- If your system requires other than the default set installation, continue with step 6.

6 Enter **n**

The system displays the following message:

```
Do you want default installation for ora7base? (default:y)
```

7 Do one of the following:

- If you want the ora7base default, continue with step 9.
- If you do not want the ora7base default, enter **n** and continue with this step.

  The system displays the following message:

  ```
  The voice system is currently running and must be stopped
  in order to install this package. Is it OK to STOP the
  Voice System?
  ```

8 Enter **y**

The system displays the following message:

```
The Oracle RDBMS is currently running and must be stopped in
order to install this package. Is it OK to STOP Oracle RDBMS?
```

9 Enter **y**

The system displays the following message:

```
The default name for the user database file is
/oracle/dbs/user01A.dbf

Enter a new name or strike [ENTER] to accept the default.
```

10 Enter a new pathname or press **ENTER**.

The system displays the following message:

```
The default name for the first redo log file is
/oracle/dbs/log01A.dbf

Enter a new name or strike [ENTER] to accept the default.
```

11 Enter a new pathname or press **ENTER**.

The system displays the following message:

```
The default name for the second redo log file is
/oracle/dbs/log02A.dbf

Enter a new name or strike ENTER to accept the default.
```

12 Enter a new pathname or press **ENTER**.

The system displays the following message:

```
The default name for the third redo log file is
/oracle/dbs/log03A.dbf

Enter a new name or strike[ ENTER] to accept the default.
```

13 Enter a new pathname or press **ENTER**.

The system displays the following message:

```
The default size for the data base is 136800 (512 byte)
blocks. It is very important that you size your database
```

```
correctly. Refer to 'Filesystem - Oracle' in the 'Software
Installation' guide for database sizing information.

How many blocks do you want in your database? [ 136,800].
```

14 Enter the number of blocks you want in your database or press **ENTER**.

The system displays the following message:

```
The default size for each of the redo log files is 8000 [512
bytes] blocks.

How many blocks do you want in each of the redo log files?
[default: 8000]?
```

15 Enter the number of blocks you want in your redo log files or press **ENTER**.

The system displays the following message:

```
Installing Lucent Integrated Call Server Base Oracle Set as
<ORAset>
Enter password for Oracle:
```

16 Enter the ORACLE password.

The system displays the following message:

```
New password:
```

17 Enter a new password for ORACLE.

The system displays the following message:

```
Re-enter new password:
```

18 Re-enter the new password.

19 Press **ENTER**.

The system displays a series of messages similar to the following:

```
Lucent Technologies Inc.
## Processing package information.
## Processing system information.
## Processing package discrepancies
## Verifying disk space requirements.

Installing Intuity Base ORACLE RDBMS 7.3.2 as <ora7base>

## Executing preinstall script.
```

The system continues to display status messages as it installs the base ORACLE. After approximately 45 minutes the system displays the following message:

```
Processing of packages for <ORAset> is completed.
```

20 Do one of the following:

- ~ If you are installing the ORACLE Pro*C package, continue with Installing the ORACLE Pro*C Software Package on page 298.
- ~ If you are not instaling the ORACLE Pro*C package, continue with step 21.

21 Enter **shutdown -i6 -g0 -y**

For more information on this feature, see *UCS 1000 R4.2 Administration*, 585-313-507.

Installing the ORACLE Pro*C Software Package

To install the ORACLE Pro*C package:

1 Insert the CD-ROM labeled “LINCS ORACLE Pro*C” into the CD-ROM drive.

2 At the UNIX prompt, enter **pkgadd -d cdrom1 proc**

The system displays the following message:

```
Insert CD into SCSI CD-Rom Drive 1.
Type [go] when ready,
or [q] to quit:  (default:  go)
```

The system displays the following message:

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

PROCESSING:
Set: INTUITY ORACLE 7 Pro*C Package (proc) from <cdrom1>

INTUITY ORACLE 7 Pro*C Package
(i586) 4.0-3
Using </> as the package base directory.
Lucent Technologies Inc.
```

The system displays several status messages and then the following message:

```
Installation of Intuity ORACLE 7 Pro*C Package
(proc) was successful.
```

3 Reboot the system. See “Rebooting the System,” in “Common System Procedures,” in the *UCS 1000 R4.2 System Reference*, 585-313-210, for the procedure.

Installing the ORACLE Development Packages

CAUTION:
The ORACLE Tools CD-ROM contains more ORACLE products than those listed. However, UCS 1000 R4.2 customers must NOT install products that are not listed. Some of the products are already included in the various UCS 1000 R4.2 packages, while other products are not authorized to be used by the UCS 1000 R4.2 customers. A violation of the recommendation may result into the corruption of the UCS 1000 R4.2 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:

- Intuity Base ORACLE RDBMS 7.3.2 package is installed.
- The voice system and ORACLE database are stopped during the installation. (You can stop the database by entering **ior s.**)

Note: These procedures take approximately 1 hour to complete and must be completed in the order outlined in this document.

ORACLE Tools CD

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 " LINCS ORACLE Tools" into the CD-ROM drive.
2. Log in as root if you have not already done so.
3. Enter the following commands in the sequence below:

   mount -F cdfs -r -o fperm=777 /dev/cdrom/c* /mnt
   su -l oracle
   cd /mnt/orainst
   mkdir /oracle/tmplink
   ./start.sh

   The system displays the following message:

   ```
   The installer requires a temporary working directory (your
   oracle_link directory) which will contain installer and
   documentation files and symbolic links.

   Please enter your oracle_link directory.
   ```

4 Enter **/oracle/tmplink**

The system displays the following message:

```
Linking files. This will take a few minutes.
Linking /mnt to /oracle/tmplink

You may go to the orainst subdirectory or your oracle_link
directory and run the installer and documentation viewer.
```

5 Enter **cd /oracle/tmplink/orainst**

6 Enter **./orainst**

The system displays a welcome screen.

7 Press **ENTER**.

The system displays the following message:

```
Select the Installer Activity
```

8 Select `Install, Upgrade, or De-install Software.`

9 Press **ENTER**.

The system displays the following message:

```
Select the Installer option
```

10 Select `Install New Product.`

11 Press **ENTER**.

The system displays the following message:

```
Enter mount point for your software installation.
```

12 Enter **/oracle**

The system displays the following message:

```
Complete $ORACLE_HOME location:

/oracle/app/oracle/product/7.3.2
```

13 Press **ENTER** at the confirmation message.

The system displays the following message:

```
Confirm (or change):

ORACLE_BASE: /oracle/app/oracle
ORACLE_HOME: /oracle/app/oracle/product/7.3.2
```

14 Press **ENTER**.

The system displays the following message:

```
Do you want to create DB objects also?
```

15 Select `No`.

The system displays a logging and status screen to indicate the log file location.

16 Press **ENTER**.

The system displays the README.FIRST file.

17 Press **ENTER**.

The system displays the following message:

```
Skip README

(  ) Do Not display README file in future
(o) Continue to display the README file in future
```

18 Press **TAB**, the ▼ key, and the **SPACEBAR** to select `Continue to display the README file in the future.`

19 Press **ENTER**.

The system displays the following message:

```
Select one of the following:

(o) Install from CD-ROM
( ) Install from staging area
```

20 Press **TAB**, the ▲ key, and the **SPACEBAR** to select `Install from CD-ROM.`

21 Press **ENTER**.

The system displays the following message:

```
Enter the pathname of the $ORACLE_LINK directory

/oracle/app/oracle/product/7.3.2/stage
```

22 Enter **/oracle/tmplink**

The system displays the following message:

```
Select the native language to be installed:
```

23 Press **TAB**, the ▼ key, and the **SPACEBAR** to select `American/English`.

24 Press **ENTER**.

The system displays the following message:

```
The /oracle/app/oracle/product/7.3.2/orainst/root.sh file
already exists. Select one of the following actions:

( ) Append root-related actions to this file
(o) Create new root.sh file
```

25 Press **TAB**, the ▲ key, and the **SPACEBAR** to select `Create new root.sh file`.

26 Press **ENTER**.

The system displays the following message:

```
Enter the pathname where the existing root.sh file will be
saved.
/oracle/app/oracle/product/7.3.2/orainst/root.sh0
```

27 Press **ENTER**.

The system displays the following message:

```
Post-installation steps that need to be run by root will be
written to
/oracle/app/oracle/product/7.3.2/orainst/root.sh
```

28 Press **ENTER**.

The system displays the following message:

```
Install online help for:

(o) All Product Being Installed
( ) Products of Your Choice
( ) No Products
```

29 Press **TAB**, the ▲ key, and the **SPACEBAR** to select `All Products Being Installed.`

30 Press **ENTER**.

The system displays the following message:

```
Do you want to install UNIX-specific documentation?
```

31 Select `Yes`.

The system displays the following message:

```
Install product documentation from the product documentation
CD-ROM for:

(o) All Product Being Installed
( ) Products of Your Choice
( ) No Products
```

32 Select `All Products Being Installed`.

The system displays the following message:

```
Enter the pathname for your $ORACLE_DOC directory

/oracle/app/oracle/doc
```

33 Press **ENTER** to select the default pathname.

The system displays the Software Asset Manager screen.

34 Use the ▼ key to select and the **Spacebar** to highlight the following products:

- ORACLE FORMS 4.5.7.12
- ORACLE Reports 2.5.5.4.0

35 Press **TAB** to select `Install`, and then press **ENTER**.

The system displays the following message:

```
Would you like to install the PL/SQL Procedure Builder demos?
(Note: this will take up 5120 bytes of disk space).
```

36 Select `Yes`.

The system displays the following message:

```
Please enter the directory where the X-Windows libraries
(libxt.a, libX11.a) may be found:
```

37 Enter **/usr/X/lib**

The system displays the following message:

```
Please enter the directory where the MOTIF library (libXm.a)
is located:
```

38 Enter **/usr/X/lib**

The system displays the following message:

```
Would you like to install the ORACLE Graphics 2.5 demos?
(Note: this will take up 4405248 bytes of disk space).
```

39 Select `No.`

The system displays the following message:

```
Select one or more user interfaces for Oracle Forms...

(x) Character Mode Interface
( ) Motif Bitmapped Interface
```

40 Select `Character Mode Interface.`

The system displays the following message:

```
Would you like to install the ORACLE Forms demos?
(Note: this will take up 7963648 bytes of disk space).
```

41 Select `Yes.`

The system displays the following message:

```
Select one or more user interfaces for Oracle Reports 2.5...

(x) Character Mode Interface
( ) Motif Bitmapped Interface
```

42 Select `Character Mode Interface`.

The system displays the following message:

```
Would you like to install the ORACLE Reports 2.5 demos?
(Note: this will take up 27224064 bytes of disk space).
```

43 Select `Yes`.

The system displays a continuous status screen during the installation. After approximately 30 minutes, the system displays an installer completed confirmation message.

44 Select `OK`.

The system displays the Software Asset Manager screen.

45 Press **TAB** seven (7) times to highlight `Exit`.

46 Press **ENTER**.

The system displays the following message:

```
Are you sure you want to exit the Oracle Installer?
                    No     Yes
```

47 Select `yes`.

48 Press **ENTER**.

49 If finished loading the software, remove the CD labeled "LINCS ORACLE Tools" from the CD-ROM drive.

Post-installation Setup

To perform the post-installation setup:

1. At the UNIX system prompt, enter **su - root**
2. Enter the root password.
3. Enter **cd /oracle/app/oracle/product/7.3.2/orainst**
4. Enter **./root.sh**

   The system displays the following message:

   ```
   The following environment variables are set as

   ORACLE_OWNER= oracle
   ORACLE_HOME=  /oracle
   ORACLE_SID=   A

   Are these settings correct (Y/N)? [Y}
   ```

5. Press **ENTER**.

   The system displays the following message:

   ```
   Enter the full pathname of the local bin directory
   [/usr/bin]:
   ```

6. Press **ENTER**.

   The procedure is complete when the UNIX system prompt is returned.

Completing the Installation

To complete the installation:

1 Enter the following commands to complete installation of the ORACLE development packages:

cd /oracle
rm -r /oracle/tmplink
umount /mnt

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.

Note: If an LSPS II circuit card is not installed before installing the LSPS II optional software packages, the system generates LSPSIP001 and LSPSIP007 alarms. These alarms cause no harm and can be ignored.

LSPS II Software Packages

Table 35 lists the LSPS II software feature packages that are installed during this procedure:

Table 35. 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 R4.2 Speech Development, Processing, and Recognition*, 585-313-212, 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 35 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 35 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 R4.2 System Reference*, 585-313-210, for the procedure.

Component Ordering Numbers

Table 36 contains a description of replaceable components and their associated ordering number.

Table 36. Component Ordering Numbers

Basic Component Description	Order Number
Assembly, Remote Alarm Panel	408097426
Assembly, DC Power Panel	408146991
Backplane, SCA, 6-Slot (Disk Drives)	408118214
Board Assembly, Mid-Plane, RAID	408228252
Board Assembly, Temperature Sensor, TAM (early version)	408118206
Board Assembly, Temperature Sensor, TAM	408295418
Cable Assembly, TAM, Power, -48V	408097434

1 of 5

Table 36. Component Ordering Numbers

Basic Component Description	Order Number
Cable Assembly, Alarm Panel to CPCI Backplane (J8), Signal	408097442
Cable Assembly, TAM Temp Sens, 3 Connectors	408154920
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

2 of 5

Table 36. 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
CD ROM Drive, SCSI	408069714
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, LSPS II (6UB5)	108334475

3 of 5

Table 36. Component Ordering Numbers

Basic Component Description	Order Number
Circuit Pack, SBC/Companion IO Complex	408097483
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
Disk Drive Assembly, SCSI, 4.5GB	408099547
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
Keyboard, 104-Key	408112142

4 of 5

Table 36. Component Ordering Numbers

Basic Component Description	Order Number
Kit, Maintenance, 16 – Slot CPCI DC Server, RAID	408212777
Module, Ethernet LAN, 10/100 MB	408097491
Module, RAID Controller	408067486
Module, Video Controller	408067452
Monitor, Color, 14 inch, Tatung	407926518
Mouse, 2-Button, Logitech	408112134
Panel, Blank, CPCI Card Cage w/Captive Screws	408145811
Panel, Blank, Disk Drive w/Captive Screws	408145753
Power Supply, DC	408063659
TAM Upgrade Kit	601963630
Tape, Blank, 4GB	408215903
Tape Drive, SCSI, 4GB	408097418
Terminator, SCSI, 68-Pin, Clip-On	408119196

5 of 5

Component Ordering Numbers

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 R4.2 shell that has only the power supply and the backplanes.

Assignment Rules

If you are building a system from scratch, Table 37 on page 325 contains assignment rules for installing circuit cards into the system.

Table 37. 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.
		1 of 3

Table 37. Circuit Card Assignments

Circuit Card Type	System Assignment	Comments
CWB2 (E1/T1)	Install first E1/T1 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 card is installed in slot 7.
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.).
		2 of 3

Table 37. 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.).
		3 of 3

* 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 38 contains a checklist for building a system. It is assumed that you are starting with a UCS 1000 R4.2 shell that has only the power supply and the backplanes.

Table 38. 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 R4.2	

1 of 2

Table 38. 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 R4.2 software.		Chapter 6, Installing the UCS 1000 R4.2 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	
				2 of 2

C Disaster Recovery Checklists

Disaster Recovery Checklists

Use the checklists in this appendix with the procedures in Chapter 6, Installing the UCS 1000 R4.2 Software . The following checklists are included in this section:

- Software Reloading with Existing HDDs on page 331
- Checklist for UCS 1000 R4.2 with All New HDDs on page 332
- Checklist for Systems with New HDD0 on page 333
- Checklist for Systems with a New HDD on page 334

Software Reloading with Existing HDDs

The procedures in this checklist below, Table 39, should be conducted when your UCS 1000 R4.2 experiences a software disaster. This checklist should not be used if hard disk drives are being replaced.

Table 39. Software Reloading Checklist

✓	Task	Reference Documentation
	Locate the most recent backup tape.	
	Shutdown the UCS 1000 R4.2 .	"Shut Down the System," in "Common System Procedures," in the *UCS 1000 R4.2 System Reference*, 585-313-210.
	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 R4.2 System Reference*, 585-313-210.

Checklist for UCS 1000 R4.2 with All New HDDs

The procedures in this checklist below, Table 40, should be conducted when you are replacing both hard disk drives on your UCS 1000 R4.2 .

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 40. 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 112 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 R4.2 System Reference*, 585-313-210.

Checklist for Systems with New HDD0

The procedures in this checklist, Table 41, 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 41. 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 112 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 R4.2 System Reference*, 585-313-210.

Checklist for Systems with a New HDD

The procedures in this checklist, Table 42, should be conducted on a two disk system in which a hard disk drive, other than HDD 0 has failed.

Table 42. 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 112 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 112 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 117 in Chapter 3, Replacing the Hard Disk Drive Assembly.
		1 of 2

Table 42. 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 R4.2 System Reference*, 585-313-210.
		2 of 2

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 pulse code modulation.

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 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

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 R4.2 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

Ethernet

A name for a local area network that follows IEEE standard 802.3. Supported implementations are 10BaseT and/or 100BaseT.

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.

multichannel application

A single process/application that controls several channels. Each channel of the application is managed explicitly. Typically this means state information for each channel 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

pulse code modulation

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.

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 announcement.

pseudo driver

A driver that does not control any hardware.

PSTN

public switch telephone network

pulse code modulation

A digital modulation method of encoding voice signals into digital signals. See also adaptive differential pulse code modulation.

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 UCS 1000 R4.2 . 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).

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.

Index

Numerals

8-port asynchronous circuit card
  connections 57

A

Acrobat Reader
  adjusting the window size xxxvii
  hiding and displaying bookmarks xxxvii
  navigating xxxvii
  printing from xxxviii
  searching xxxviii
  setting the default magnification xxxvii
alarms
  initiated by telecom alarm module 65
asynchronous SuperSerial circuit cards
  installing the driver 258
asynchronous, see circuit cards

B

backplanes
  SCA
    screw locations 131
    view 129
base software set
  installing 241
base system software
  configuring RAID 168
  installing 168
BIOS 168

C

cables
  replacing 147
    installing the CD-ROM/cartridge tape power cable 150
    installing the SCSI cable 153
    power cables 148
    removing the CD-ROM/cartridge tape

power cable 148
removing the SCSI cable 151
SCSI cable 151
TAM alarm panel 147
call bridge application
installing the package 248
call classification analysis
installing the package 249
checklists
building a system 324
recovery 330
circuit card handling 4
circuit cards
8-port asynchronous
front panel key positions 59
front panel key positions (SELV) 59
asynchronous
front panel key positions 59
E1/T1
front panel key positions 47
front panel key positions (TNV-1) 48
general description 41
rear I/O transition (CYD2) 46
switch setting for E1, 120 ohm 43
switch setting for E1, 75ohm 44
switch setting for T1 42
switch settings 41
verifying front panel key positions 48
general location view 26
general procedures 18
hot swap 19
I/0 companion (IOB), see CPU complex
installing caution 29
isntall procedures 28
Lucent Speech Processing Solutions (LSPS)

54
Lucent Speech Processor Solutions (LSPS)
front panel key positions 54
rear I/O 28
remove procedures 23
SELV keying 30, 59
view 60
settings for optional 39
single board computing (SBC), see CPU complex
speech and signal processor (SSP) 51
TNV-1 keying 30, 47
view
8-port asynchronous 56
speech and signal processor (SSP) 53
CLEI labels
applying 32
rear locations 34
CMOS, see CPU complex
COM1 asynchronous port 57
CPU complex
CMOS parameter settings 87
I/O companion (IOB) 69
installing procedures 78
IOB connections 71
LAN PMC 80
connecting procedures 81
removing procedures 83
verifying connection procedures 84
RAID PMC 85
connecting procedures 85
removing procedures 86
removing procedures 76
resource options 72
SBC connections 71
video controller module 86
connecting procedures 87
removing procedures 86
view 70, 80
CWB2, see E1/T1 circuit cards
CYD2, see E1/T1 circuit cards

D

data collection toolkit
installing the package 253

description 51, 54
dial pulse recognition
installing the package 255
documentation
purchasing printed copies xxxviii
drivers
installing the ASP driver 246
installing the asynchronous SuperSerial circuit card 258
installing the E1/T1 circuit card 51
installing the LAN PMC 84
installing the LAN PMC driver 222
drives
cartridge tape
installing procedures 138
jumper settings 138
removing procedures 137
view 139
CD-ROM
installing procedures 140
jumper settings 141
removing procedures 136
CD-ROM/cartridge tape
removing the mounting unit 133
CD-ROM/cartridge tape mounting unit
view 135
hard disks
adding a new drive 117
creating additional storage 125
identifying failures 111
performing a hot swap 112
performing manual rebuild 115
removing 112
states 110
logical system 109
RAID 109

E

E1/T1 circuit cards
installing the driver 51

E1/T1 keying, see circuit cards

electronic documentation, printing xxxviii

electrostatic discharge (ESD)
- protecting against damage from 2
- warning symbol 2

ESD, see electrostatic discharge

F

fan tray
- location 154
- replacing procedures 154

fans, see fan tray

Feature Test Script
- installing the package 281

filters
- description 158
- location 158
- replacing procedures 158

FlexWord speech recognition
- installing the base package 261
- installing the US English package 263

H

hot swap
- definition 19
- installing a circuit card 28
- removing a circuit card 23

I

installing the base software 241

IOB, see CPU complex

L

LAN PMC
- installing the driver 84

LAN PMC, see CPU complex

LINCS image
- installing 219

LINCSset, see base software set

lower rear exhaust panel
- cautions 14
- installing procedures 16
- removing procedures 15

LSPS II software packages
definition 314
installing 315
LSPS, see circuit cards
Lucent Speech Processor Solutions (LSPS)
keying, see circuit cards

M

monitor
setting up 228
setvideomode command 228
mouse
initializing 234
mouseadmin command 234

O

ORACLE development
installing the packages 300
ORACLE software set
description 291
installing pro*c 298
installing the base 292

P

power
removing DC power procedures 9
removing DC power warnings 7
restoring DC power procedures 10
power supplies
connections 8
location 160
removing procedures 160
restoring 10
primary rateiInterface
installing the package 268

R

RAID
configuring the array 176
configuring the software 168
defining logical system drive 180
verifying the BIOS 168
verifying the hardware parameters 169
verifying the physical parameters 172
verifying the SCSI transfer parameters 173
verifying the startup parameters 174
RAID PMC, see CPU complex

removing software packages 287

S

SBC, see CPU complex

SELV keying, see circuit cards

sensors, see temperature sensors

setvideomode command 228

single connector architecture (SCA), see backplanes

SNMP Emanate Agent
installing the package 285

software packages
optional feature
installing call bridge 248
installing call classification analysis 249
installing cdh stub 252
installing data collection toolkit 253
installing dial pulse recognition 255
installing feature test 281
installing FlexWord speech 261
installing Nortel ISDN primary rate interface 273
installing primary rate interface 268
installing Text-to-Speech 276
installing the ASP driver 246
installing the LAN PMC driver 222
installing WholeWord recognition 278
removing 287

SSP, see circuit cards

T

TAM, see telecom alarm module

telecom alarm module (TAM) 3
COM2 caution 62
description 62
initiated alarms 65
view 63

telecom alarm panel
cable view 145
installing procedures 146
installing the cable 148
removing the cable 147

temperature sensors
description 164
replacing the outlet sensor 165

Text-to-Speech (TTS)
installing the package 276
TNV-1 keying, see circuit cards
TTS, see Text-to-Speech

U

UnixWare
beginning the installation 185
setting up the environment 190
customize disk partitions 199
customize slice sizes 211
initializing hard disk drives 199
installing LINCS image 219
recommended disk partitions 218
updates to the product
http://glsdocs.lucent.com xxxiv
upper rear exhaust panel
description 10
installing procedures 13
removing procedures 12

W

WholeWord speech recognition
installing the packages 278