HP Apollo 9000 Series 400 Workstation
HP-UX
Owner's Guide

Emissions Regulations

Federal Communications Commission (FCC)

The Federal Communications Commission of the U.S. government regulates the radio frequency energy emanated by computing devices through published regulations. These regulations specify the limits of radio frequency emission to protect radio and television reception. All HP Apollo nodes and peripherals have been tested and comply with these limits. The FCC regulations also require that computing devices used in the U.S. display the agency's label and that the related documentation include the following statement.

WARNING: This equipment generates, uses, and may emit radio frequency energy and, if not installed and used in accordance with these instructions, may cause interference to radio communications. It has been tested and found to comply with the limits for a Class A computing device pursuant to Subpart J of Part 15 of FCC Rules, which are designed to provide reasonable protection against such interference when operated in a commercial environment. Operation of this equipment in a residential area is likely to cause interference, in which case the user at his own expense will be required to take whatever measures may be required to correct the interference.

Compliance to these regulations requires the use of shielded cables.

Canadian Department of Communications (DOC)

This digital apparatus does not exceed the Class A limits for radio noise emissions from digital apparatus as set out in the Radio Interference Requirements of the Canadian Department of Communications.

Compliance to these regulations requires the use of shielded cables.

Verband Deutscher Elektrotechniker (VDE)

Herstellerbescheinigung

Hiermit wird bescheinigt, daß der dieses Gerät in Übereinstimmung mit den Bestimmungen der Postverfügung 1046/84 funkentstört ist. Der Deutschen Bundespost wurde das Inverkehrbringen dieser Gerätes angezeigt und die Berechtigung zur Überprufung der Serie auf Einhaltung der Bestimmungen eingeräumt.

Die Einhaltung dieser Grenzwerte schreibt den Gebrauch abgeschirmter Kabel vor.

Hewlett-Packard GmbH

VCCI Class 1 ITE Equipment (A1421)

この装置は，第一種情報装置（商工業地域において使用されるべき情報装置）

で商工業地域での電波障害防止を目的とした情報処理装置等電波障害自主規制

協議会（ＶＣＣＩ）基準に適合しております。

従って，住宅地域またはその隣接した地域で使用すると，ラジオ，テレビジ

ョン受信機等に受信障害を与えることがあります。

取扱説明書に従って正しい取り扱いをして下さい。

ＶＣＣＩ基準に適合する為に、シールドされたケーブル
をご使用下さい。

VCCI Class 2 ITE Equipment (A1630)

この装置は，第二種情報装置（住宅地域又はその隣接した地域において使用されるべき情報装置）で住宅地域での電波障害防止を目的とした情報処理装置等電波障害自主規制協議会（ＶＣＣＩ）基準に適合しております。

しかし，本装置をラジオ，テレビジョン受信機に近接してご使用になると，受信障害の原因となることがあります。

取扱説明書に従って正しい取り扱いをして下さい。

ＶＣＣＩ基準に適合する為に、シールドされたケーブルをご使用下さい．

Emissions Regulations Compliance

Any third-party I/O device installed in HP Apollo system(s) must be in accordance with the requirements set forth in the preceding Emissions Regulations statements. In the event that a third-party noncompliant I/O device is installed, the customer assumes all responsibility and liability arising therefrom.

Compliance to these regulations requires the use of shielded cables.

Electrostatic Discharge (ESD) Precautions

Electrostatic charges can damage the integrated circuits on printed circuit boards. To prevent such damage from occurring, observe the following precautions during board unpacking and installation:

- Stand on a static-free mat.

- Wear a static strap to ensure that any accumulated electrostatic charge will be discharged from your body to ground.

- Connect all equipment together, including the static-free mat, static strap, routing nodes, and peripheral units.

- Keep uninstalled printed circuit boards in their protective antistatic bags.

- Handle printed circuit boards by their edges, once you have removed them from their protective antistatic bags.

Warnings and Cautions

WARNING:

Removing device cover may expose sharp edges in equipment chassis. To avoid injury, use care when installing customer add-on devices.

WARNUNG:

Das Entfernen der Geräteabdeckung legt die scharfen Kanten im Inneren des Gerätes frei. Um Verietzungen zu vermeiden, seien Sie vorsichtig beim Einbau von zusätzlichen Bauteilen, die vom Kunden selber eingebaut werden können.

ADVERTISSEMENT:

Des bords tranchants du châssis de l'équipement peuvent être exposés quand le cache de l'unité n'est pas en place. Pour éviter des blessures, faire très attention lors de l'installation de modules supplémentaires par le client.

WARNING:

To avoid personal injury and to prevent possible equipment damage, ensure that the ac power is off and the ac power cord is disconnected.

WARNUNG:

Um Verietzungen und mögliche Ausrüstungsschäden zu verhindern, muß die Wechselstromquelle ausgeschaltet sein und das Wechselstromzuführungskabel aus der Steckdose entfernt sein.

ADVERTISSEMENT:

Pour éviter les risques de blessures et de dommages au matériel, s'assurer que le système n'est pas sous tension et que le fil d'alimentation électrique c.a. est débranché.

WARNING:

Disconnect power plug from wall outlet or source power before moving or removing the device, or installing add-on components.

WARNUNG:

Entfemen Sie die Stromzuführung von der Steckdose oder der Stromquelle bevor Sie das Gerät bewegen, abbauen, oder zusätzliche Bauteile installieren.

ADVERTISSEMENT:

Débrancher la fiche de las prise de courant ou de la source d'alimentation électrique avant de déplacer ou de retirer l'unité, ou avant d'installer des modules supplémentaires.

Warnings and Cautions

WARNING:

Lifting the 19-inch monitor requires more than one person because the unit weighs more than 40 pounds (18 kilograms).

WARNUNG:

Der-19-inch (48 cm) Bildschirm muß von mehreren Personen angehoben werden, da die Einheit über 40 Pfund (18 kilogramm) wiegt.

ADVERTISSEMENT:

Il faut plus d'une personne pour soulever le moniteur de 48 cm (19 pouces) étant donné qu'il pèse plus de 18 kg.

CAUTION:

Monitor input voltage must be the same as the system's input voltage.

VORSICHT:

Die Bildschirm-Eingangsspannung muß genauso groß sein wie die Eingangsspannung des Systems.

ATTENTION:

La tension d'entreé du moniteur doit être la même que la tension d'entrée du système.

CAUTION:

Do not unplug the monitor video cable while the system unit is powered on.

VORSICHT:

Ziehen Sie nicht das Stromzuführungskabel zum Bildschirm aus der Steckdose, solange das Gerät eingeschaltet ist.

ATTENTION:

Ne pas débrancher le câble vidéo du moniteur pendant que l'unité est alimentée.

Warnings and Cautions

CAUTION:

System power cord must be plugged into an accessible dedicated ac mains receptacle.

VORSICHT:

Das System-Netzanschlußkabel muß an eine zugängliche spezielle Wechselstrom-Hauptzuführungssteckdose angeschlossen werden.

ATTENTION:

Le fil d'alimentation électrique du système doit être branché dans une prise de courant c.a. spécialisée accessible.

CAUTION:

Monitor screen damage will occur if the monitor is left on for extended periods of time with the same image on the screen at high intensity.

VORSICHT:

Bildschirmschaden ist unvermeidlich, falls der Bildschirm über längere Zeit und mit demselben Bild auf dem Schirm bei höher Intensität angeschaltet bleibt.

ATTENTION:

L'écran du moniteur sera endommagé si le moniteur est laissé pendant une période prolongée avec la même image sur l'écran à haute intensité.

Preface

The *HP Apollo 9000 Series 400 HP-UX Owner's Guide* describes how to use your Series 400 workstation with the HP-UX operating system.

We've organized this manual as follows:

Chapter 1	Introduces this guide.
Chapter 2	Describes the Series 400 workstation's controls, connectors, and indicators.
Chapter 3	Describes how to start up your Series 400 workstation.
Chapter 4	Introduces you to the concept of HP-UX partitions and filesets.
Chapter 5	Shows you how to get started with HP-UX.
Chapter 6	Shows you how to operate within HP-UX and its file system.
Chapter 7	Shows you how to use vi.
Chapter 8	Shows you how to perform some HP-UX administrative tasks.
Chapter 9	Shows you what to do if your workstation crashes.

Audience

This guide is intended for use by individuals who may be unfamiliar with either hardware or software aspects of the HP Apollo 9000 Series 400 workstation. After reading this guide, readers will understand the basic hardware and software associated with the HP Apollo 9000 Series 400 workstation to either embark on their own or refer to more detailed manuals.

Related Manuals

- *HP Apollo Series 400 Model 400dl, 400t, 425t Installation Guide* (A1630-90001)
- *HP Apollo Series 400 Model 400s and 433s Installation Guide* (A1421-90001)
- *Installing HP-UX* (98594-90013)
- *A Beginner's Guide to HP-UX* (98594-90006)
- *A Beginner's Guide to Using Shells* (98594-90008)
- *A Beginner's Guide to Text Editing* (98594-90010)
- *HP-UX System Administration Tasks* (98594-90061)
- *HP-UX System Administration Concepts* (98594-90062)
- *The Visual Users Environment User's Guide* (B1171-90002)
- *Installing Peripherals Guide* (B1862-90007)

Problems, Questions, and Suggestions

If you have questions or problems with our hardware, software, or documentation, please contact either your HP Response Center or your local HP representative.

Alternatively, you may use the Reader's Response Form at the back of this manual to submit comments about documentation.

Documentation Conventions

Unless otherwise noted in the text, this manual uses the following symbolic conventions.

literal values	Bold words or characters in formats and command descriptions represent commands or keywords that you must use literally. Pathnames are also in bold. Bold words in text indicate the first use of a new term.
user-supplied values	Italic words or characters in formats and command descriptions represent values that you must supply.
sample user input	In samples, information that the user enters appears in color.
[ ]	Square brackets enclose optional items in formats and command descriptions.
{ }	Braces enclose a list from which you must choose an item in formats and command descriptions.
|	A vertical bar separates items in a list of choices.
< >	Angle brackets enclose the name of a key on the keyboard.
CTRL/Z	The notation CTRL/ followed by the name of a key indicates a control character sequence. Hold down < CTRL > while you press the key.
. . .	Horizontal ellipsis points indicate that you can repeat the preceding item one or more times.
. . .	Vertical ellipsis points mean that irrelevant parts of a figure or example have been omitted.
——— 🔳 ———	This symbol indicates the end of a chapter or part of a manual.

——— 🔳 ———

Contents

Part 1 – Introducing the Series 400 Workstations

Chapter 1   How to Use This Guide

Chapter 2   Controls, Indicators, and Connectors

Part 2 – Getting Started

Chapter 3   Booting Your Series 400 Workstation

Chapter 4   Partitions and Filesets

Chapter 5   Getting Started with HP-UX

Chapter 6   Introducing the File System

Chapter 7   Using a Text Editor

Part 3 — Administrative Tasks

Chapter 8   Administrative Tasks

Chapter 9   Recovering from a System Panic

Glossary

Index

Figures

Tables

Part 1 — Introducing the Series 400 Workstation

Chapter 1
How to Use This Guide

This chapter tells you how to use this owner's guide. This guide provides directions for running HP-UX on the HP Apollo 9000 Series 400 workstation. This chapter describes:

- Which chapters you need to read to use your workstation

- The manuals shipped with your workstation

Using This Guide

This guide tells how to start up your system. Use this guide after you have installed your system, using the *HP Model 400s and 433s Installation Guide* or the *HP Apollo Model 400t, 400dl, 425t Installation Guide*.

This guide is divided into three parts.

Part 1 contains this chapter and general information about your HP Apollo 9000 Series 400 workstation.

Part 2 contains instructions for getting started with HP-UX on your HP Apollo 9000 Series 400 workstation.

Part 3 contains information about administrative tasks related to HP-UX and your HP Apollo 9000 Series 400 workstation.

Figure 1-1 shows the documentation that comes with your Series 400 workstation.
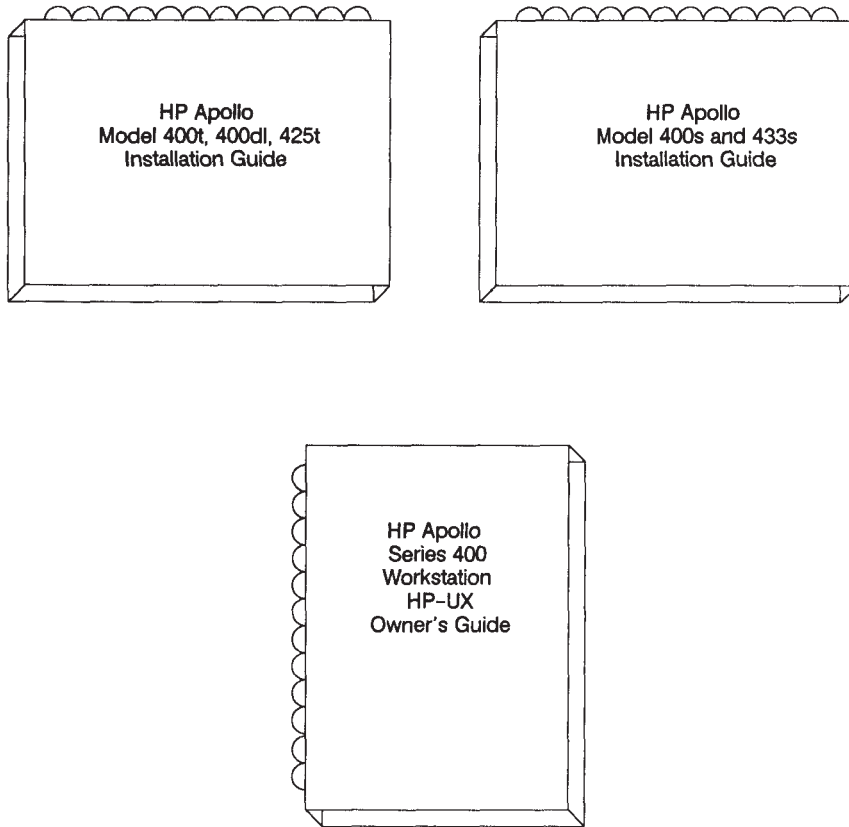
Figure 1-1. HP-UX Documentation for HP Apollo 9000 Series 400 Workstations

Chapter 2
Controls, Indicators, and Connectors

This chapter introduces the Series 400 workstation. It describes the following:

- System unit controls
- System unit LED indicators
- System unit connectors
- Monitor controls

System Unit Controls

Before powering on your system, you should become familiar with the system unit controls.

Figure 2-1 shows the Power, Reset, and Service mode switches. Use the Power switch to power the system unit on and off. The Power switch also controls power to the monitor ac connector when connected to the Model 400dl, 400t, or 425t workstations.

Do not use excessive force when you press the Reset or Service mode switches; you need only press them gently.

Press the Reset switch to restart the workstation (reset the operating system).

You use the Service switch when you boot the workstation. Refer to Chapter 3 for more information about the Service switch.
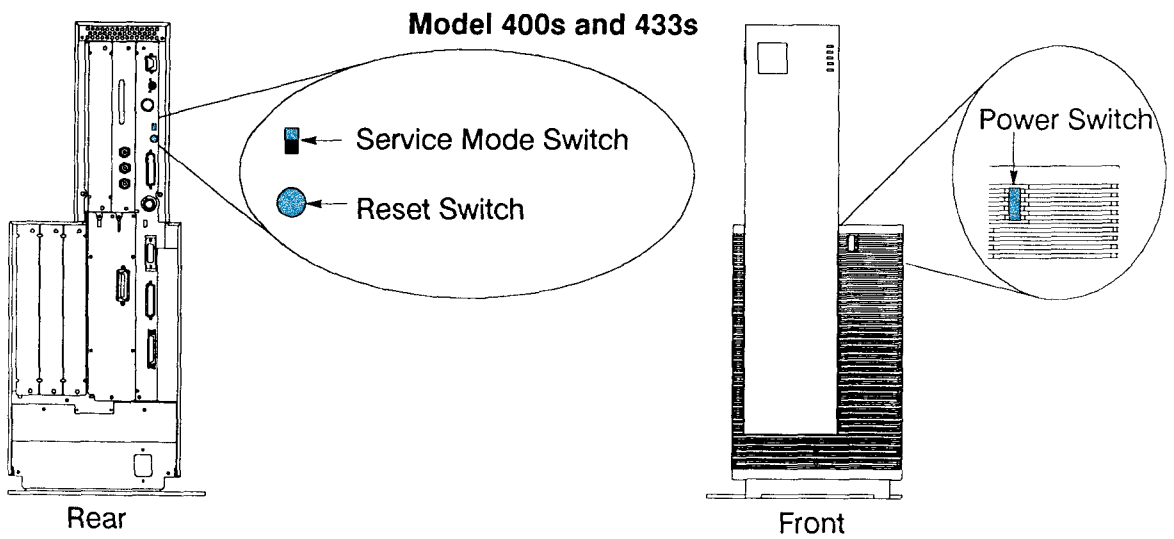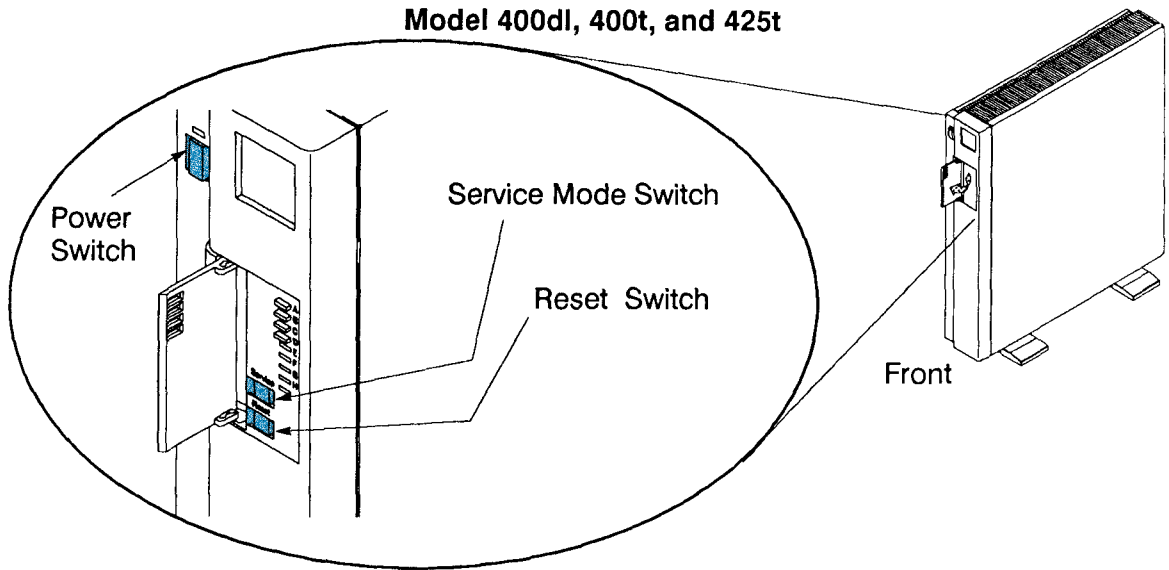
Figure 2-1. System Unit Controls

Understanding the LEDs

There are ten LEDs located on the front of the system unit. The Series 400 workstation has 8 amber LEDs and 2 green LEDs. The green power LED of the Model 400t, 425t, and 400dl is not located with the remaining 9 LEDs. It is located near the power switch. The green power switch of the Models 400s and 433s is the top LED in the pattern of 10 LEDs. It is lighted when the system is powered on.

HP-UX only uses the power LED. The remaining LEDs are used by Domain/OS for troubleshooting and indicating various operating system and network activities.

Figure 2-2 shows the workstations' LEDs.
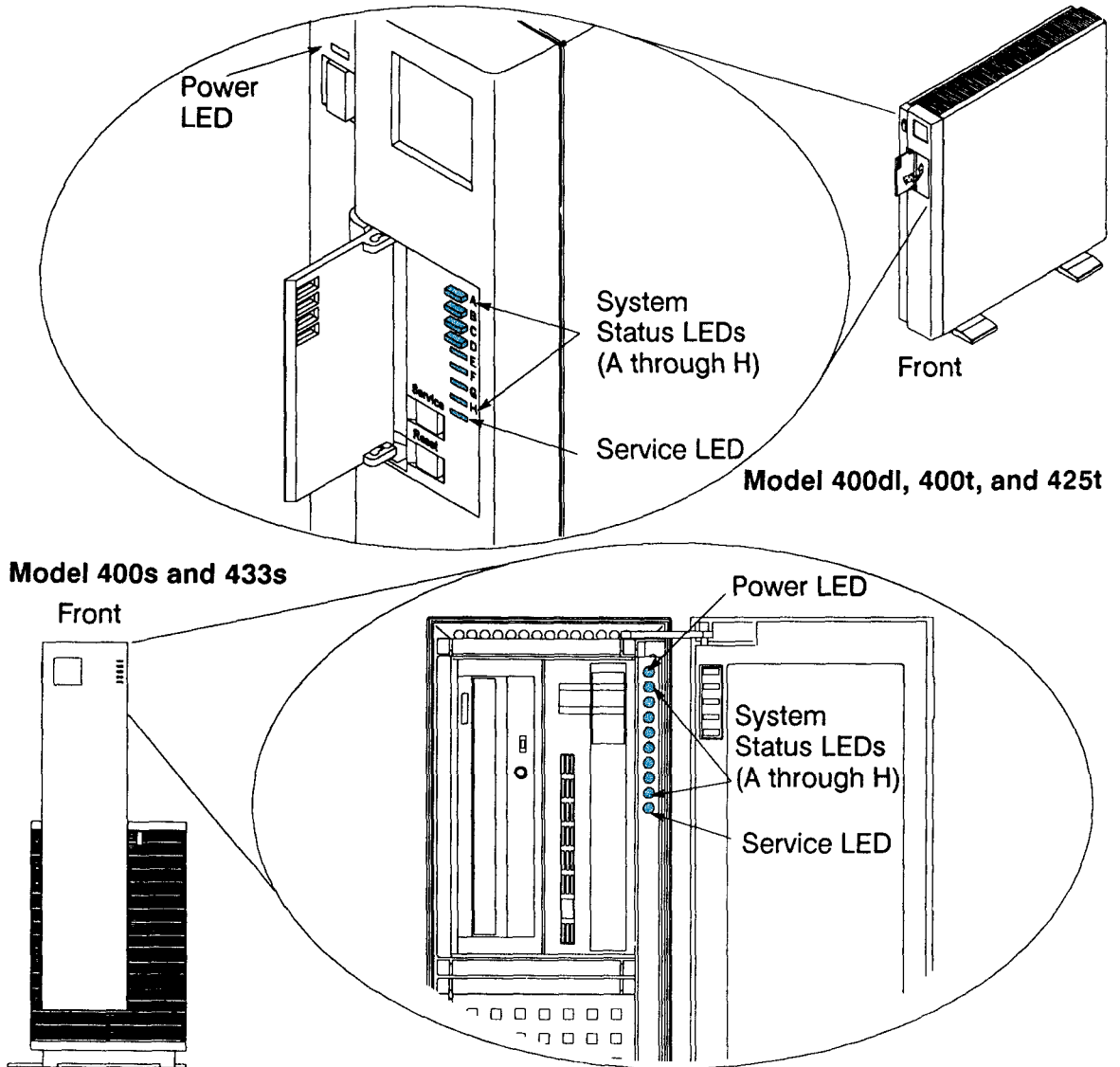
Figure 2-2. Front Panel LEDs

System Unit Rear Panel Connectors

This section describes the connectors on the system unit's rear panel. They are:

- Graphics Board Connector

- SCSI Connector (not available on Model 400dl)

- Parallel I/O Connector (not available on Model 400dl)

- DOMAIN Keyboard Connector (not used with workstations running HP-UX)

- Monitor ac Connector (available only on Models 400dl, 400t, and 425t)

- Token Ring Network Connector for Apollo Token Ring Network or IBM 802.5 Token Ring Network (not available on Model 400dl, and not used with workstations running HP-UX)

- Audio Connector (not used with workstations running Domain/OS)

- RS-232 Connector

- 802.3 Network Connectors (ThinLAN and AUI)

- System ac Connector

- HP-IB Connector (not available on Model 400dl, and not used with workstations running Domain/OS)

- HP-HIL Connector (not used with workstations running Domain/OS)

See Figure 2-3 for the locations of these connectors on the rear panel of the Model 400dl, 400t, and 425t workstations.

Graphics Board Connector(s)

Token Ring Network
Connector

SPKR (Audio) Connector

SCSI Connector

KYBD (HP–HIL) Connector

Parallel Connector

RS–232 Connector

LAN Connector

DOMAIN KYBD Connector

LAN AUI Connector

Monitor ac Connector

System Unit ac Connector
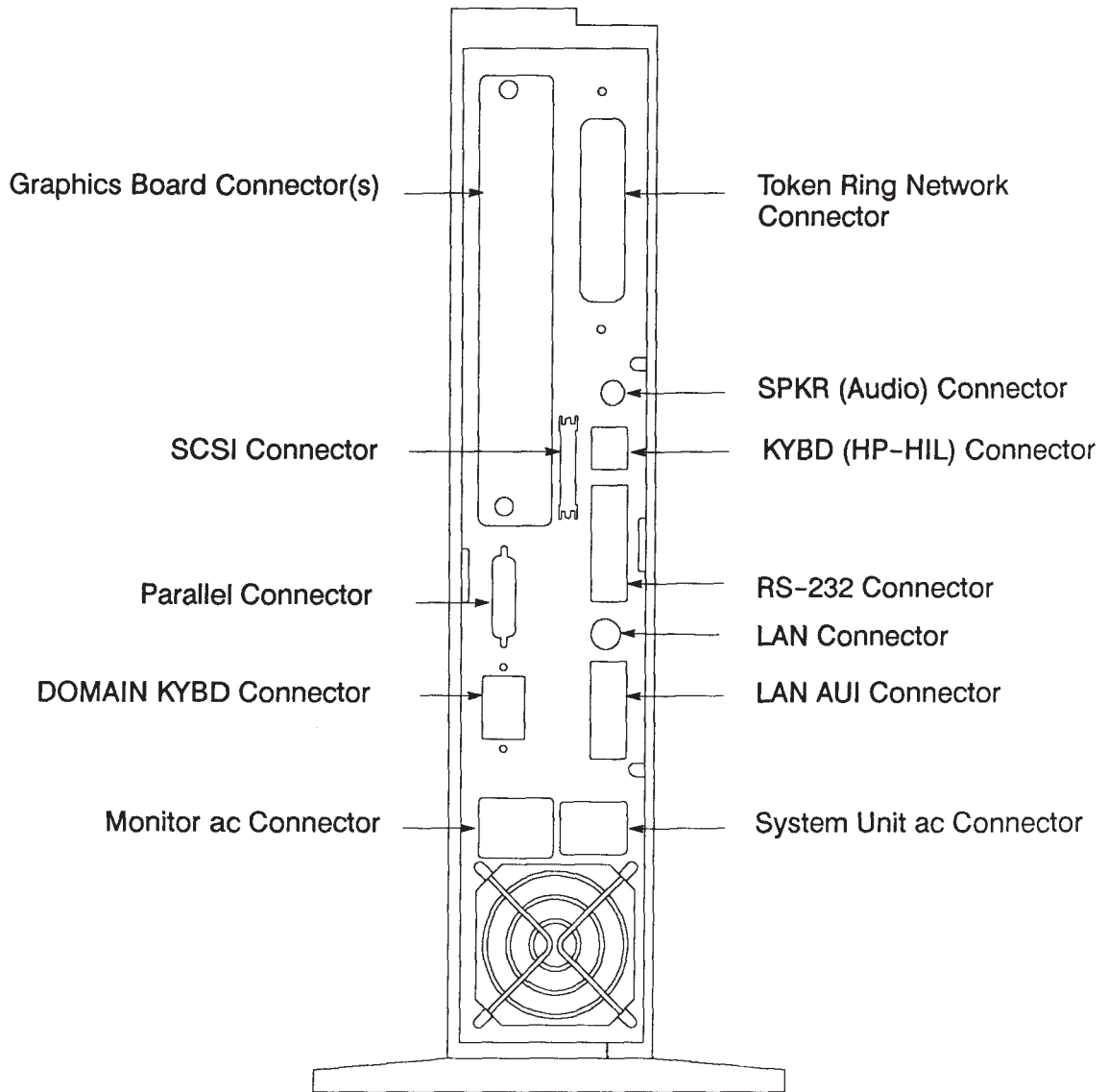
Figure 2-3. Model 400dl, 400t, and 425t Workstations Rear Panel Connectors

There are two different card cages available for the model 400s and 433s workstations. One card cage contains four optional slots, which can be used for four ISA boards (including Token Ring Network boards). The other card cage contains three optional slots, which can be used for three DIO II boards.

Figure 2-4 shows the rear panel connectors on the Model 400s and 433s workstations with the four optional ISA slots.
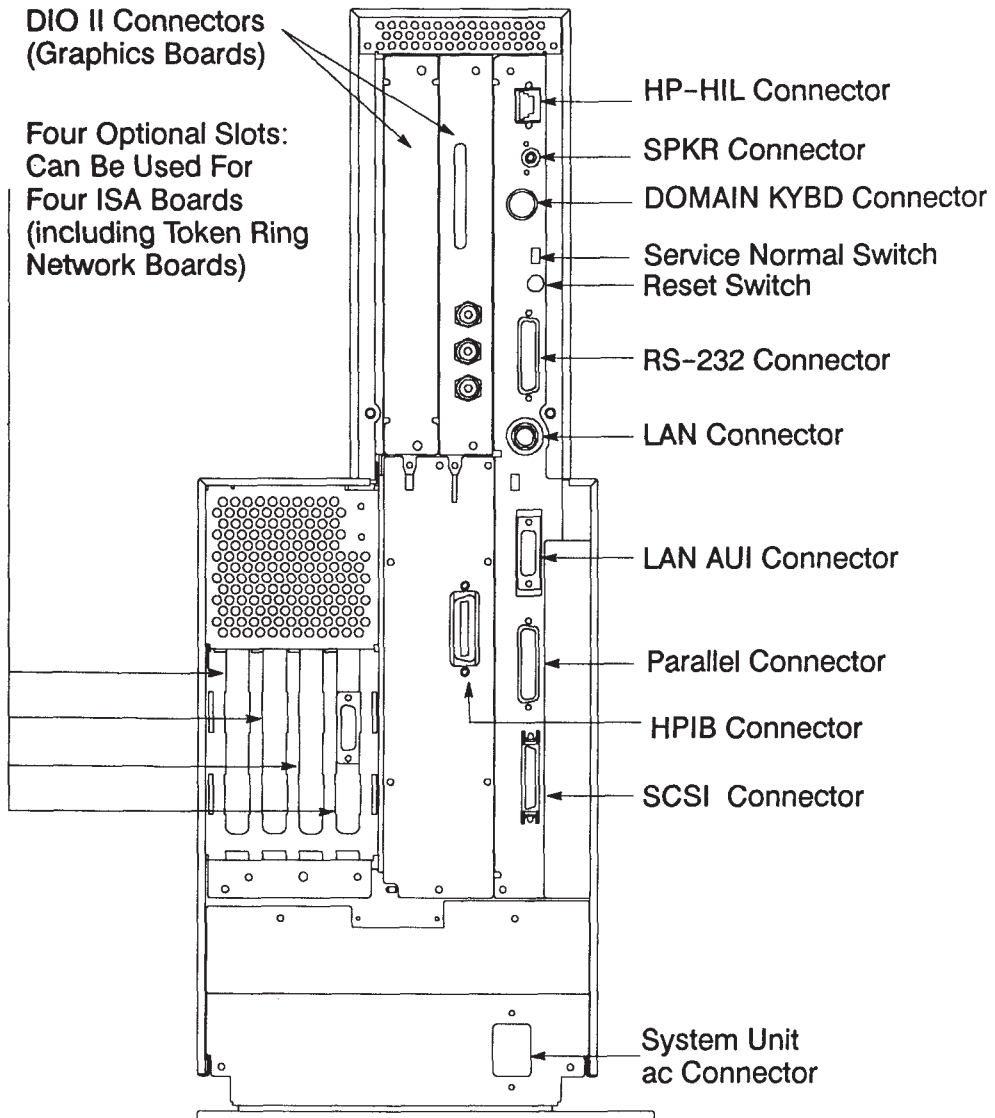
Figure 2-4. Model 400s and 433s Workstations Rear Panel Connectors
(4-Slot ISA Card Cage)

See figure 2-5 for the locations of the rear panel connectors on the Model 400s and 433s workstations with the three optional DIO II boards.

DIO II Connectors
(Graphics Boards)

HP-HIL Connector

SPKR Connector

DOMAIN KYBD Connector

Three Optional Slots:
can be used for three
DIO II boards

Service Mode Switch
Reset Switch

RS-232 Connector

LAN Connector

LAN AUI Connector

Parallel Connector

HPIB Connector

SCSI Connector

System Unit ac Connector
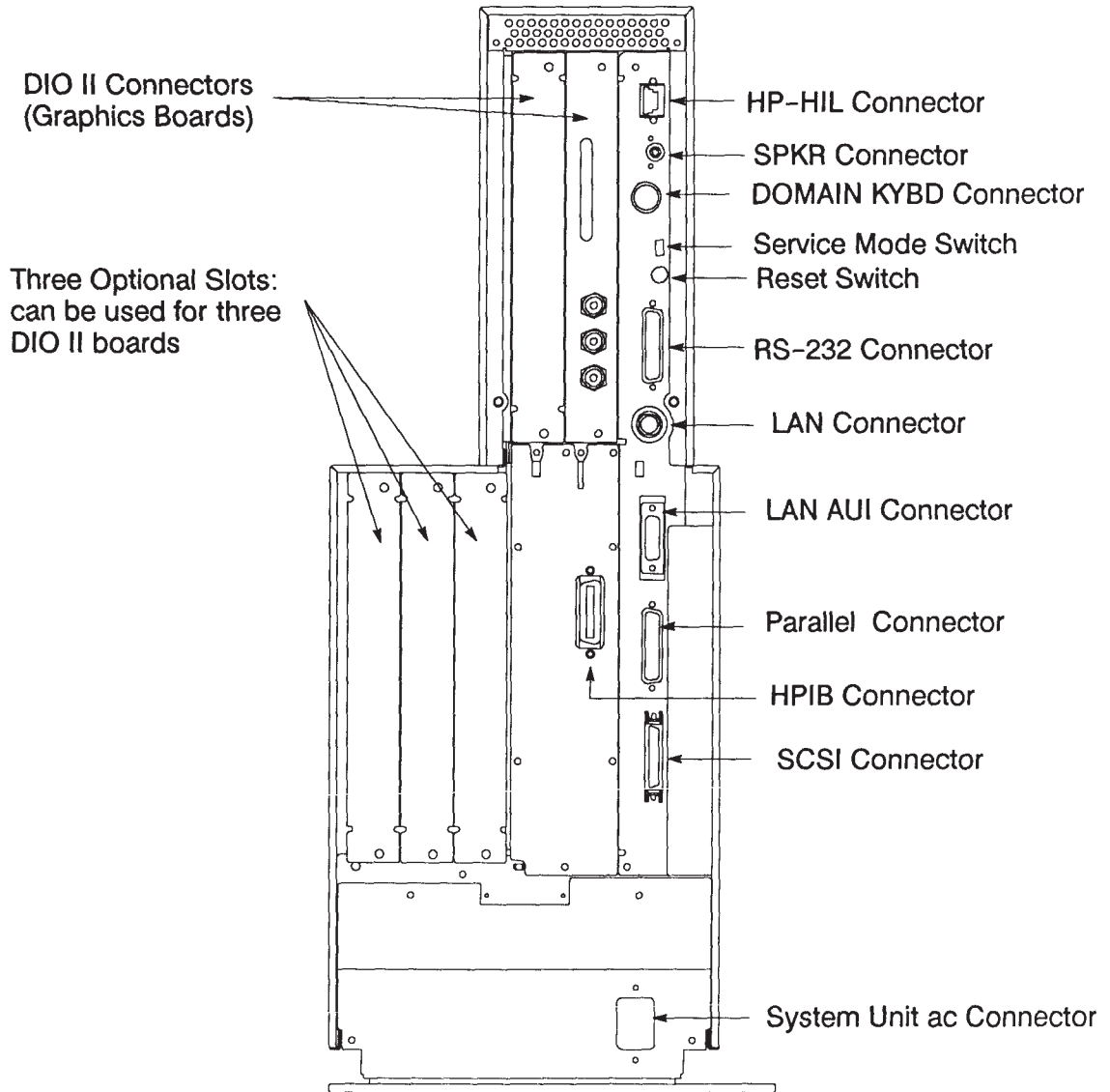
Figure 2-5. Model 400s and 433s Workstations Rear Panel Connectors
(3-Slot DIO II Card Cage)

Keyboard Connectors

Figure 2-6 shows the HP-HIL keyboard connectors on the Series 400 workstations.
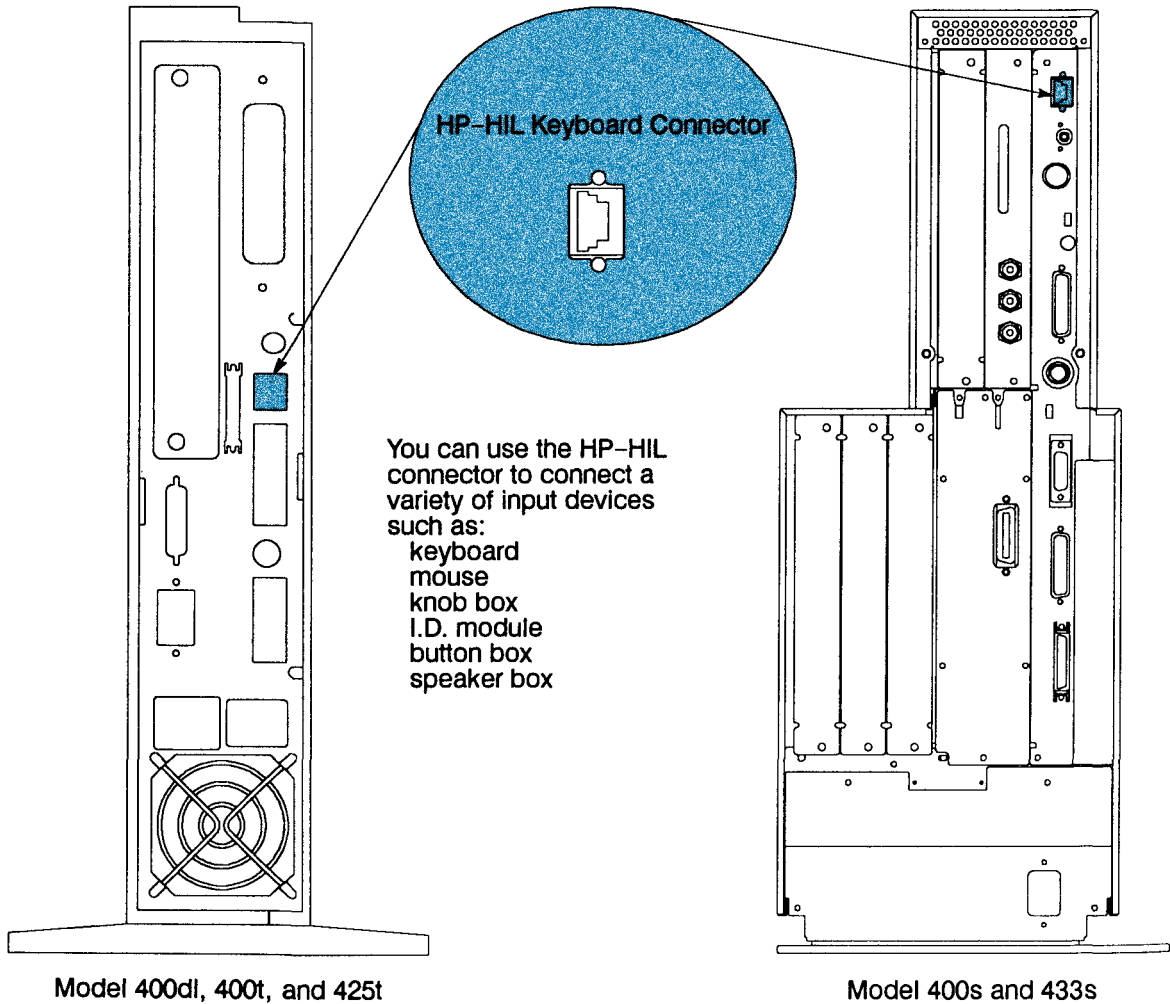
Figure 2-6. HP-HIL Keyboard Connector

Parallel I/O Connectors

Figure 2-7 shows the parallel I/O connectors on the Series 400 workstations.
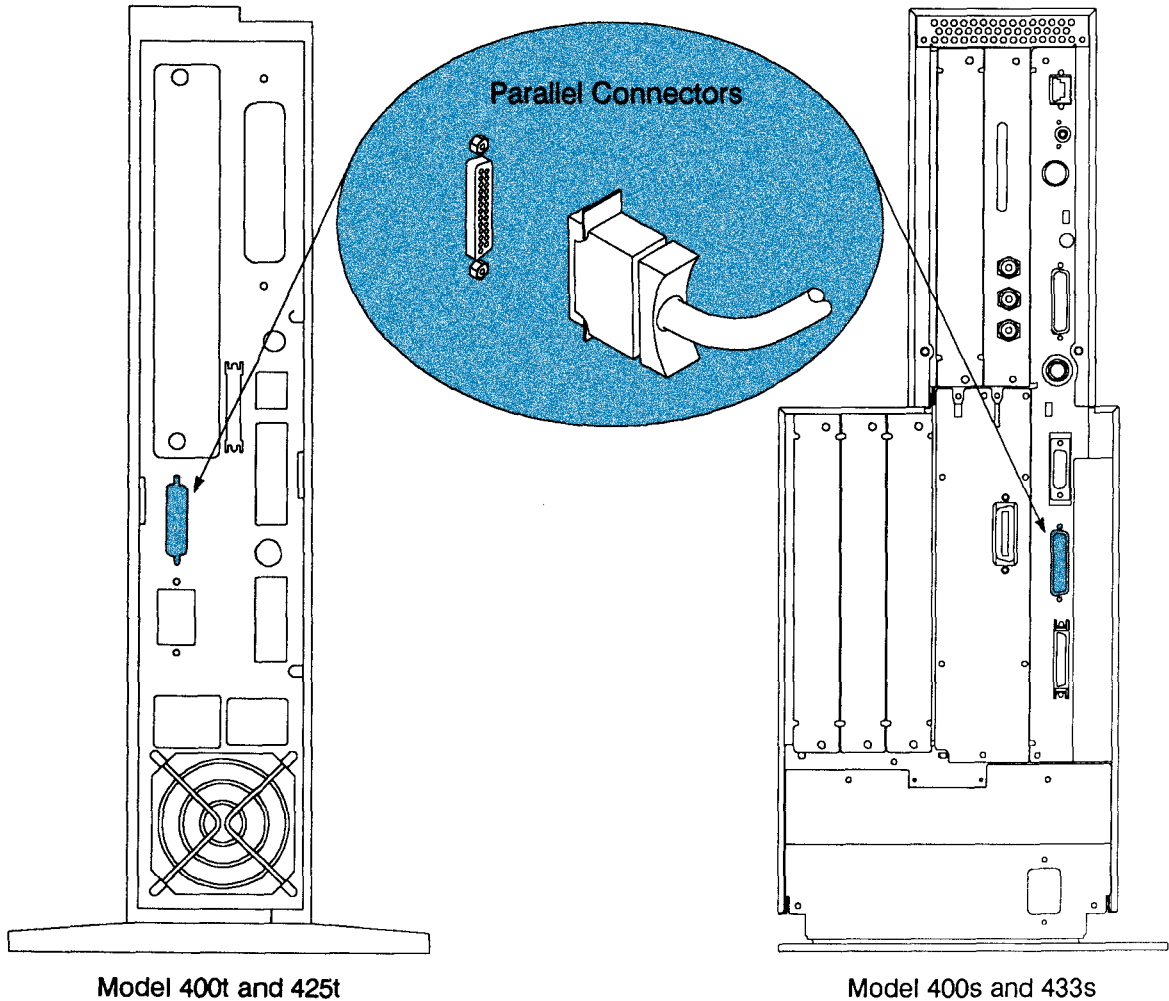
Figure 2-7. Parallel I/O Connector

SCSI Connectors

Figure 2-8 shows the SCSI connector on the Series 400 workstations.

NOTICE: HP Apollo provides maintenance and support for SCSI devices that have been qualified and sold by HP Apollo. HP Apollo does not provide maintenance for SCSI devices not sold by HP Apollo. For a list of SCSI devices that are sold by HP Apollo, contact your sales representative.
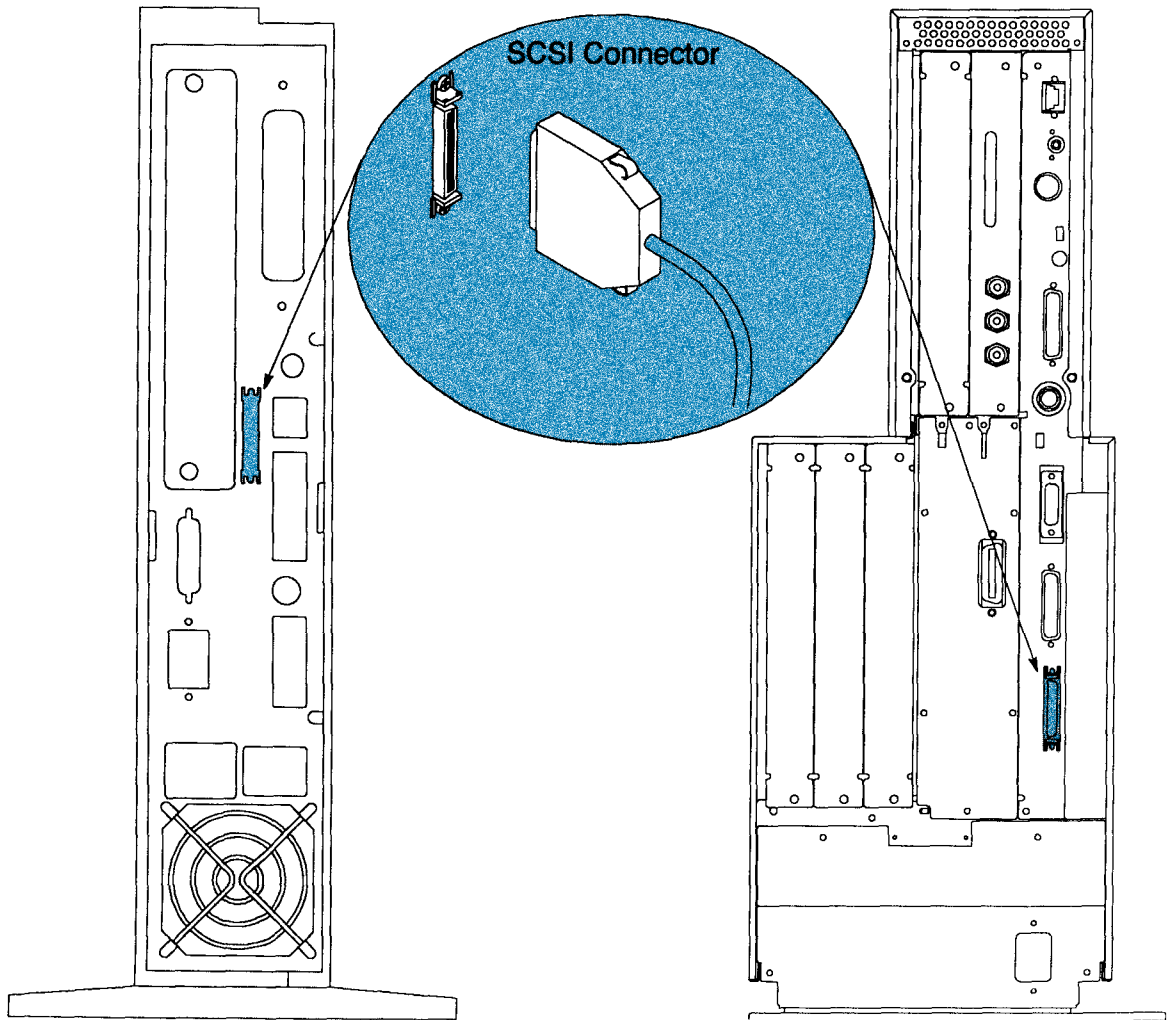
Figure 2-8. SCSI Connector

Keep in mind that 6 meters (19.6 feet) is the maximum length of SCSI cabling that can be used with your Series 400 workstation. Table 2-1 is a shows the external SCSI cables that are available for use with Series 400 workstations running HP-UX.

Table 2-1. SCSI Cables for Series 400 Workstations and Their SCSI Peripherals

Connecting From: **To:**	**Series 400:** **Model 400t** **Model 425t** **Model 400s** **Model 433s**	**SCSI Device:** **AADDESTC** See Note 1	**SCSI Device:** **C2212A (with options)** **C2213A (with options)** **C1700A** **C1701A** **7980S (xc)** **C1512A**
SCSI Device: **AADDESTC** See Note 1	**Use Cable:** K2288 – 0.9 meters (3 feet) K2287 – 1.5 meters (5 feet)	**Use Cable:** K2207 – 0.4 meters (1.3 feet) K2208 – 0.9 meters (3 feet) K2209 – 1.5 meters (5 feet) K2210 – 2.6 meters (8.5 feet) K2211 – 3.0 meters (10 feet)	**Use Cable:** K2284 – 0.9 meters (3 feet) K2283 – 1.5 meter (5 feet)
SCSI Device: **C2212A (with options)** **C2213A (with options)** **C1700A** **C1701A** **7980S (xc)** **C1512A**	**Use Cable:** K2286 – 0.9 meters (3 feet) K2285 – 1.5 meters (5 feet)	**Use Cable:** K2284 – 0.9 meters (3 feet) K2283 – 1.5 meters (5 feet)	**Use Cable:** 92222A – 0.5 meters (1.6 feet) 92222B – 1 meter (3.2 feet)
Note 1	Refer to the HP Apollo Products Price Guide for the specific Country Kit code number suffix.		

With the information from Table 2-1 use Table 2-2 to determine the total SCSI cabling used for your workstation and its SCSI peripheral storage devices.

Table 2-2. Series 400 SCSI Device Cabling Configurations

SCSI Device Drives	Cable Lengths Internal meters (feet)	External meters (feet)
Model 400t and 425t — all internal SCSI drives (if present)	0.6 (2)	N/A
Model 400s and 433s — all internal SCSI drives (if present)	1.6 (5.5)	N/A
AADDESTC See Note 1 and Note 2	0.6 (2)	_____
C1700A See Note 3	0.6 (2)	_____
C1701A See Note 3	0.15 (0.6)	_____
C1512A See Note 3	0.9 (3)	_____
7980S (XC) See Note 3	0.0 (0.0)	_____
C2212A See Note 3	0.9 (3)	_____
C2213A See Note 3	0.9 (3)	_____
Internal + External not to exceed Total of 6 meters (19.6 feet)	Subtotals: _____ + _____ Total = [ ]	

Note	Meaning
1	Refer to the HP Apollo Products Price Guide for the specific Country Kit code number suffix.
2	Ships with one external cable K2209 (1.5 meters – 5 feet)
3	Ships without external cable. Cable must be ordered as separate item.

802.3 Network Connectors

Figure 2-9 shows the LAN and AUI LAN connectors for the 802.3 (ETHERNET) network on the Series 400 workstations. Which connector you use depends on the type of cabling used at your location.
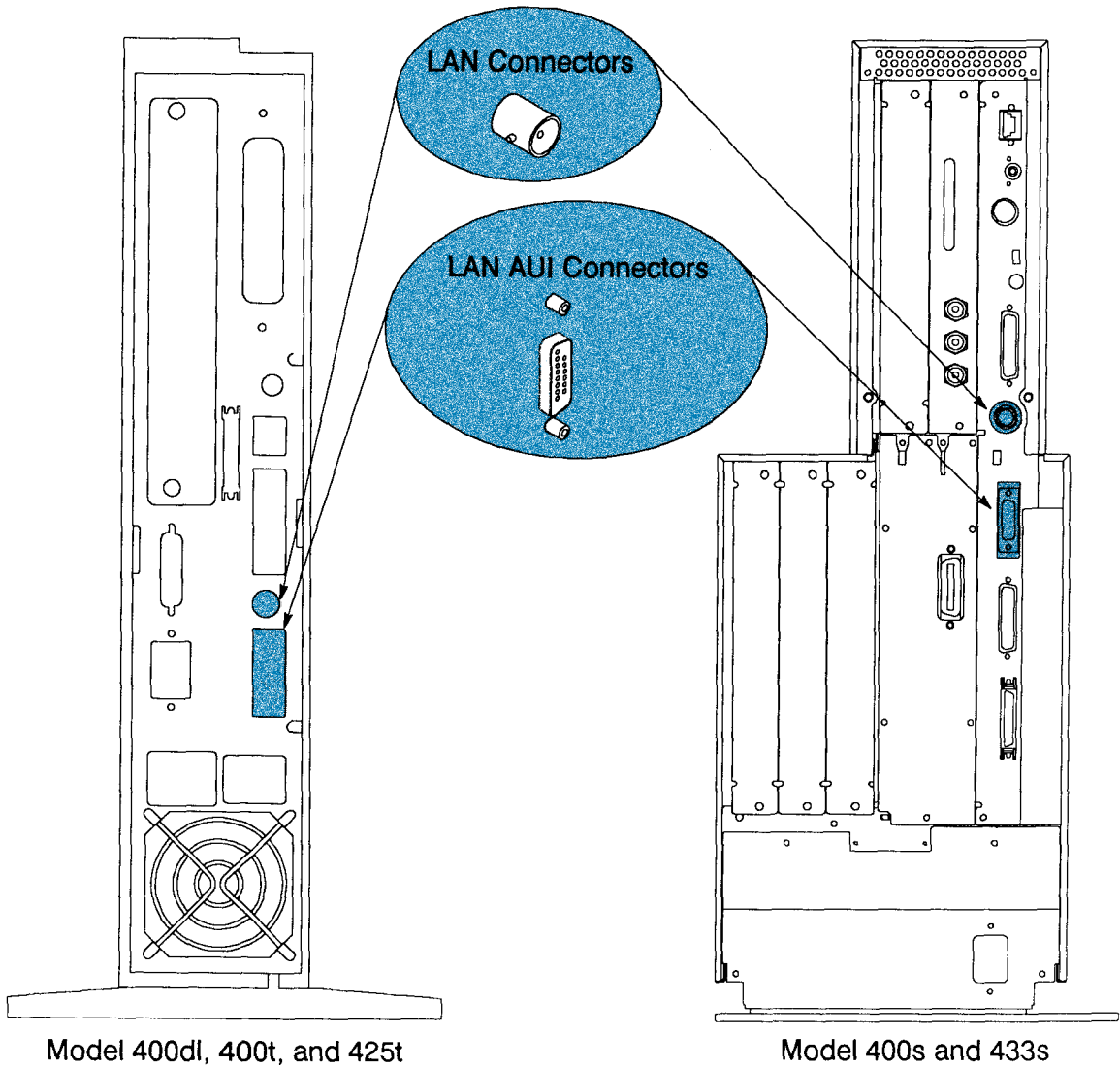
Figure 2-9. 802.3 Network Connectors

RS-232 Serial Input/Output Connectors

You can attach a variety of peripheral devices to the RS-232 port on the workstation. These peripheral devices include printers, plotters, modems, and scanners. Consult the documentation that accompanies each peripheral device for specific information concerning its use.
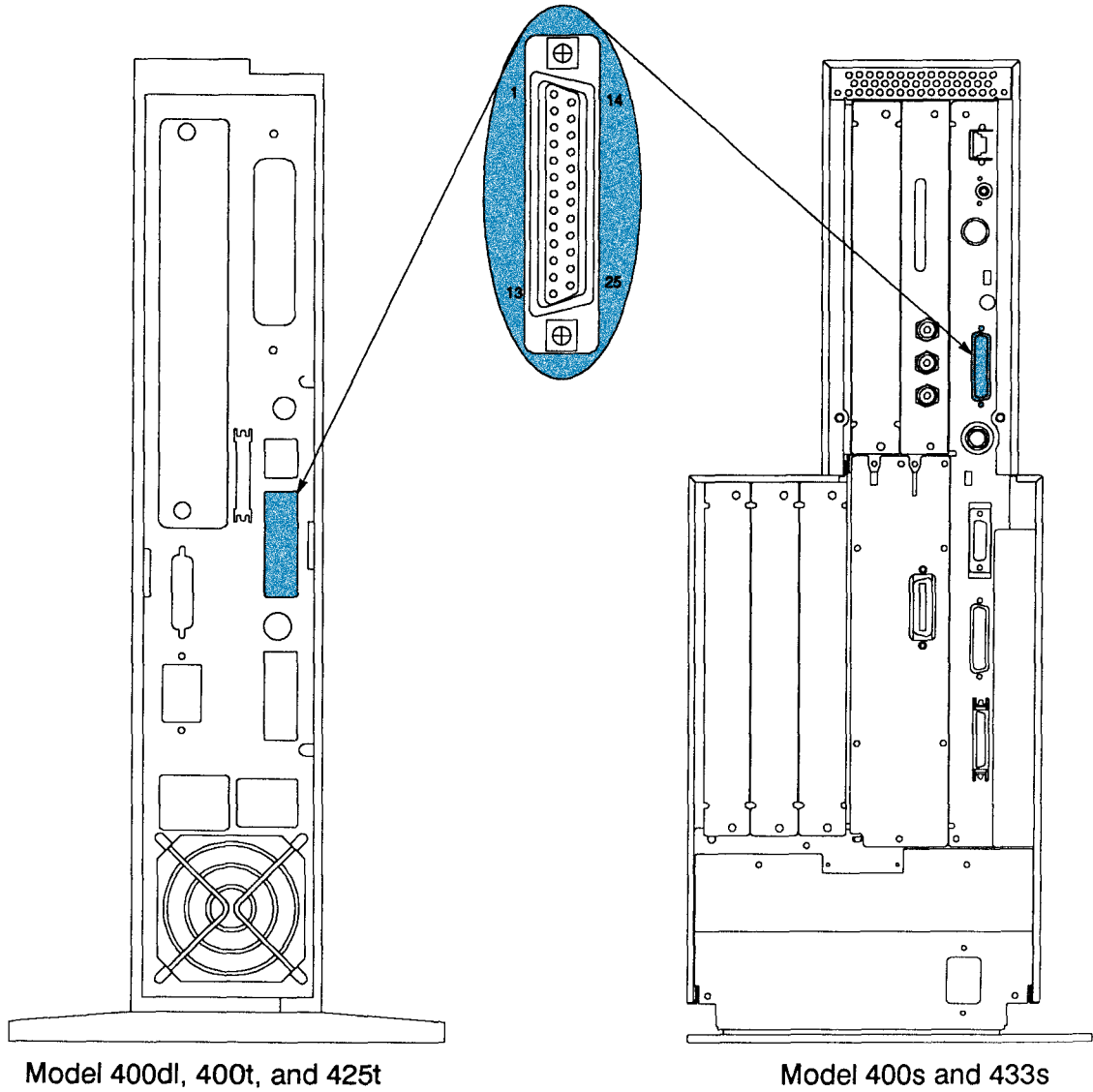
Figure 2-10. RS-232 Connectors

HP-IB Connector

Figure 2-11 shows the HP-IB connector on Series 400 workstations. HP-IB (IEEE-488) supports a variety of devices sold by HP and others including the following:

- Printers
- Plotters
- Mass storage
- Instrumentation
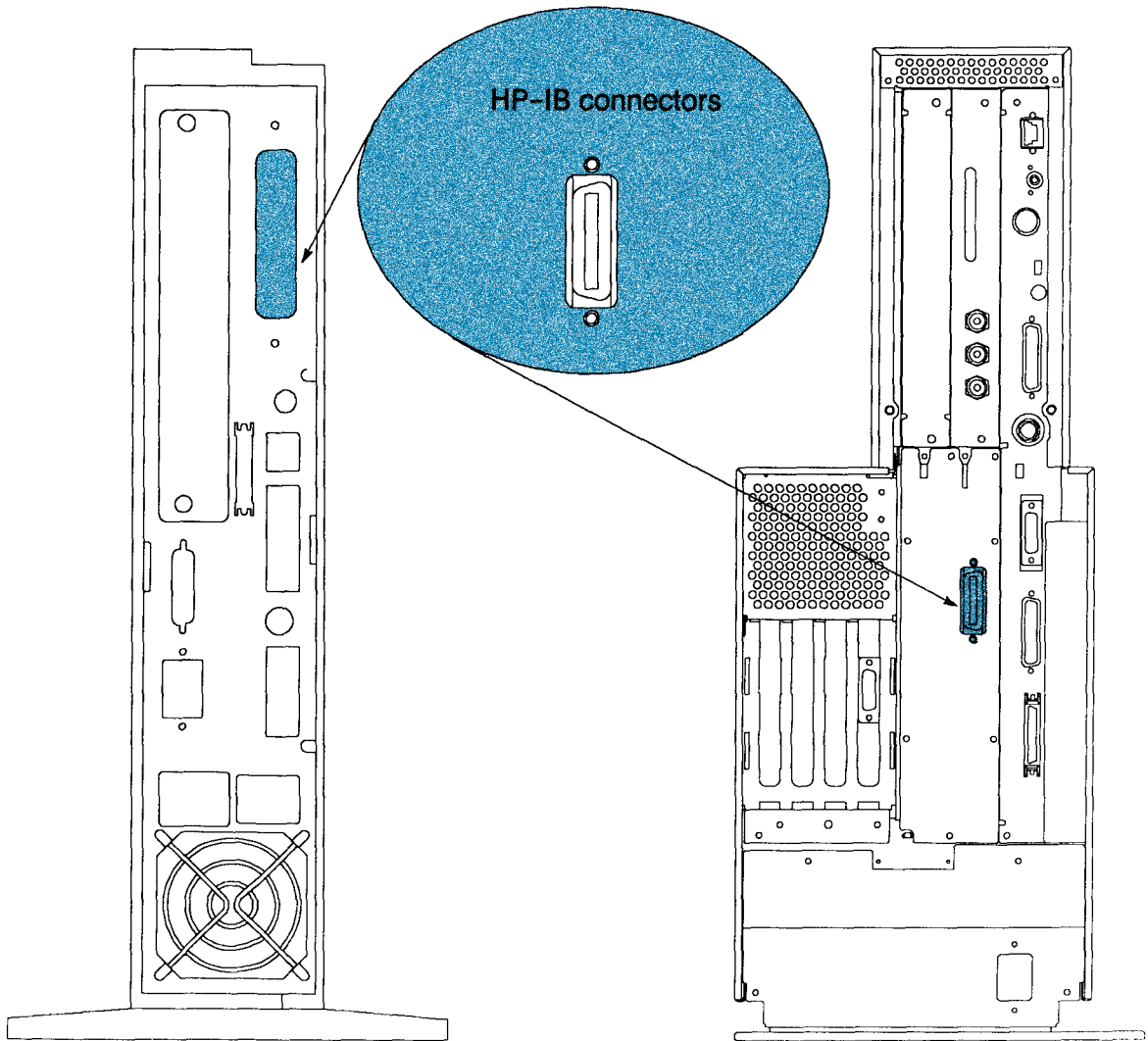
Figure 2-11. HP-IB Connectors

SPKR Connectors

SPKR connectors

You can connect a speaker box to the SPKR connector. The speaker box can be programmed to produce audio.

Model 400t and 425t   Model 400s and 433s
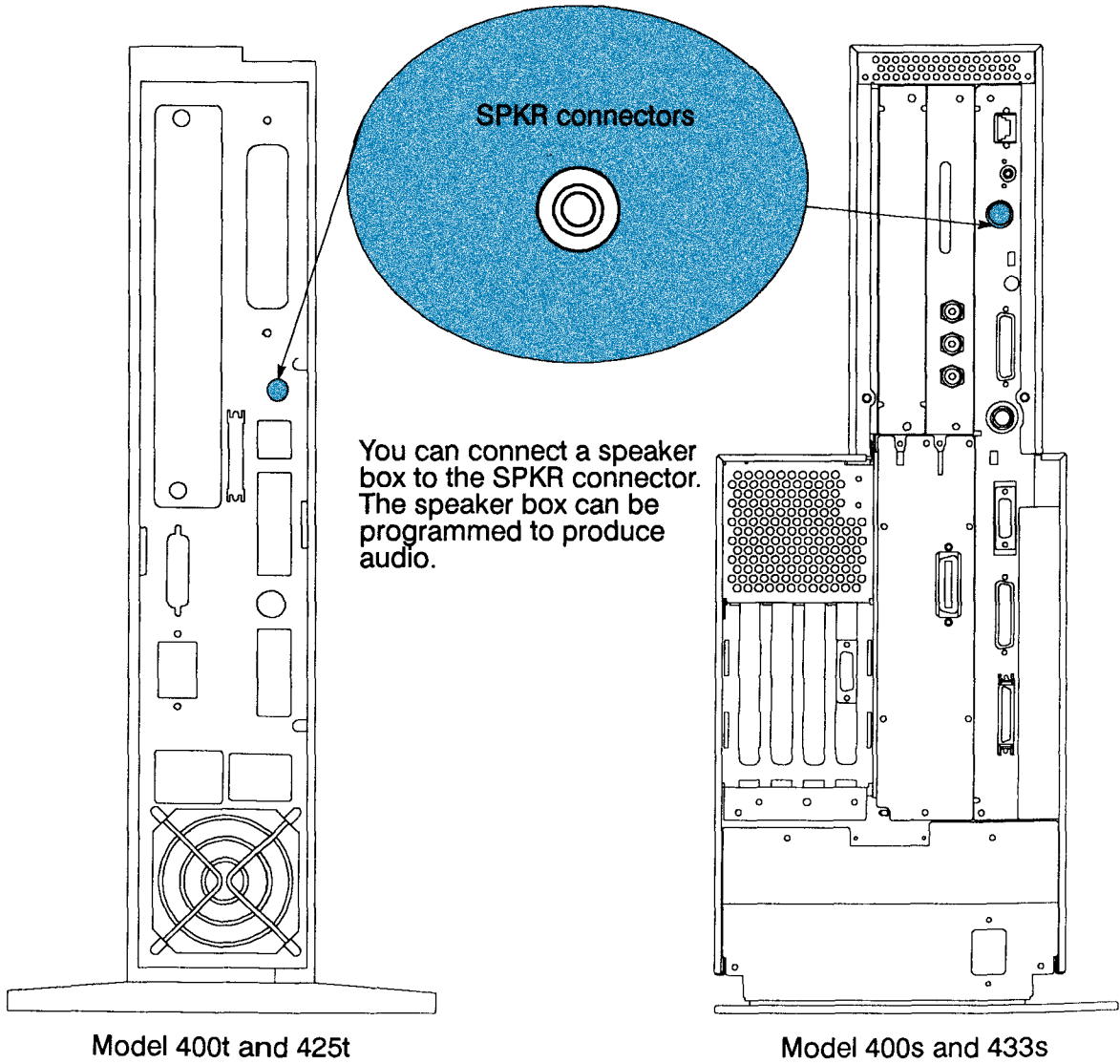
Figure 2-12. SPKR Connectors

ac Connectors

Figure 2-13 shows the ac connectors on Series 400 workstations.

There is no monitor ac connector on the Model 400s or 433s workstation. Monitors used with the Model 400s or 433s workstation have their own connection to the ac power source.
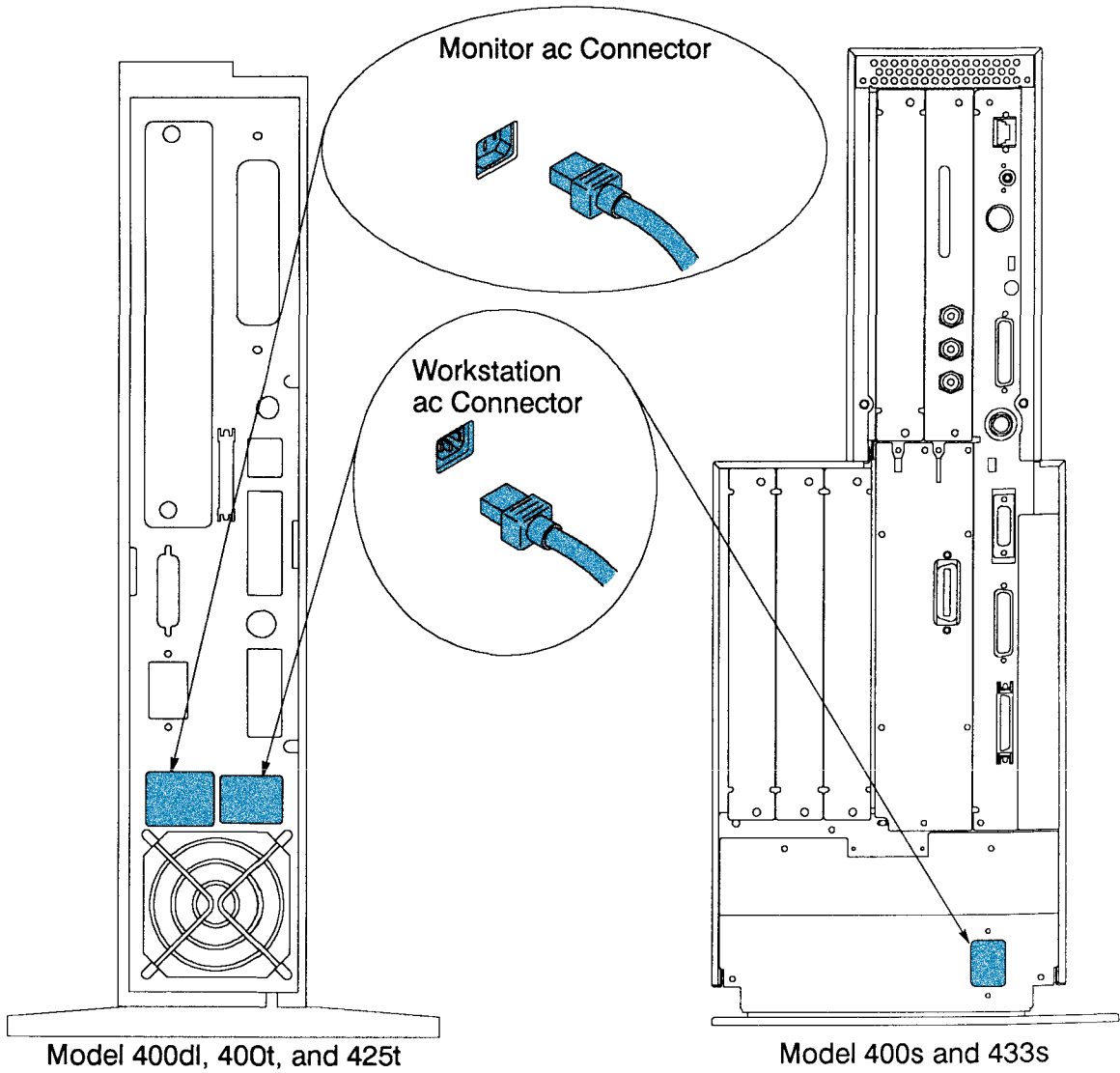
Figure 2-13. ac Connectors

Graphics Connectors

Figure 2-14 shows the graphics connectors on Series 400 workstations

Model 400dl, 400t, and 425t

Model 400s and 433s
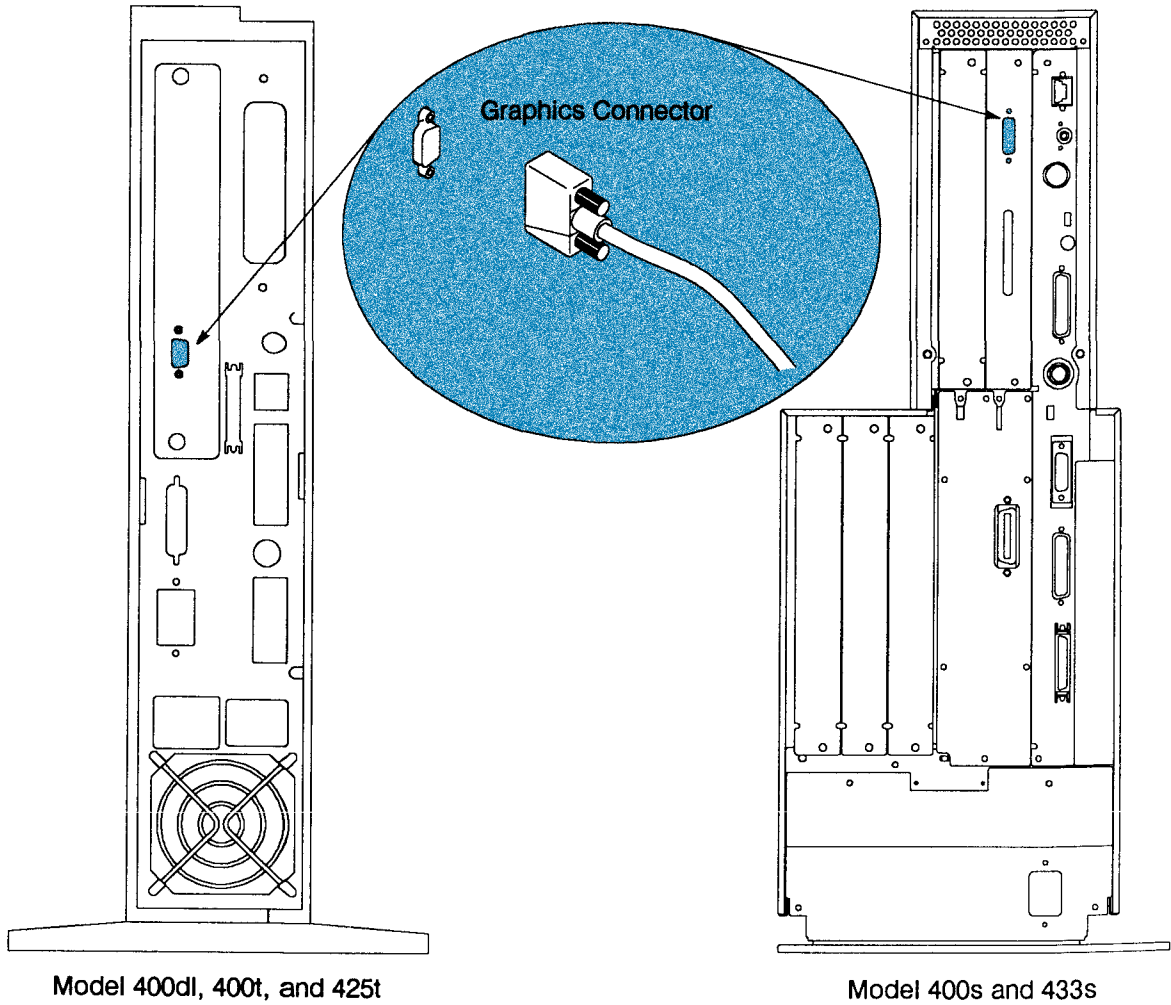
Figure 2-14. Graphics Connectors

Monitor Controls, Connectors, and Indicators

Before using the monitor, you should become familiar with its controls, connectors, and indicators.

The Power-On LED, when lit, indicates that the monitor has ac power applied.

For monitors connected to the Model 400dl, 400t, or 425t workstation, use the workstation's Power switch to power the monitor on or off. If you leave the monitor Power switch in the ON position, the monitor is automatically powered on or off when you power the system unit on or off (the monitor ac cable is plugged into the system unit.)

For monitors connected to the Model 400s or 433s workstation, use the monitor's Power switch to power the monitor on or off independently. The Model 400s and 433s system unit Power switch does not control power to the monitor.

- Use the Brightness control to adjust the brightness of the display.

- Use the Contrast control to adjust the light-to-dark and dark-to-light contrast of the display.

- Use the Static Convergence Controls to adjust the horizontal and vertical stability of the display.

The following figures illustrate Series 400 workstation monitors.

Figure 2-15 shows the 19-inch color monitor.

Figure 2-16 shows the 19-inch monochrome monitor.

Figure 2-17 shows the 16-inch color monitor.

Front 19-inch Color Monitor

Power-On LED

V STAT   H STAT   V CFNT

Brightness
Control

Static Convergence
Controls

Contrast
Control

Power
Switch

Rear 19-inch Color Monitor

RGB Cable
Connectors

Power
Connector
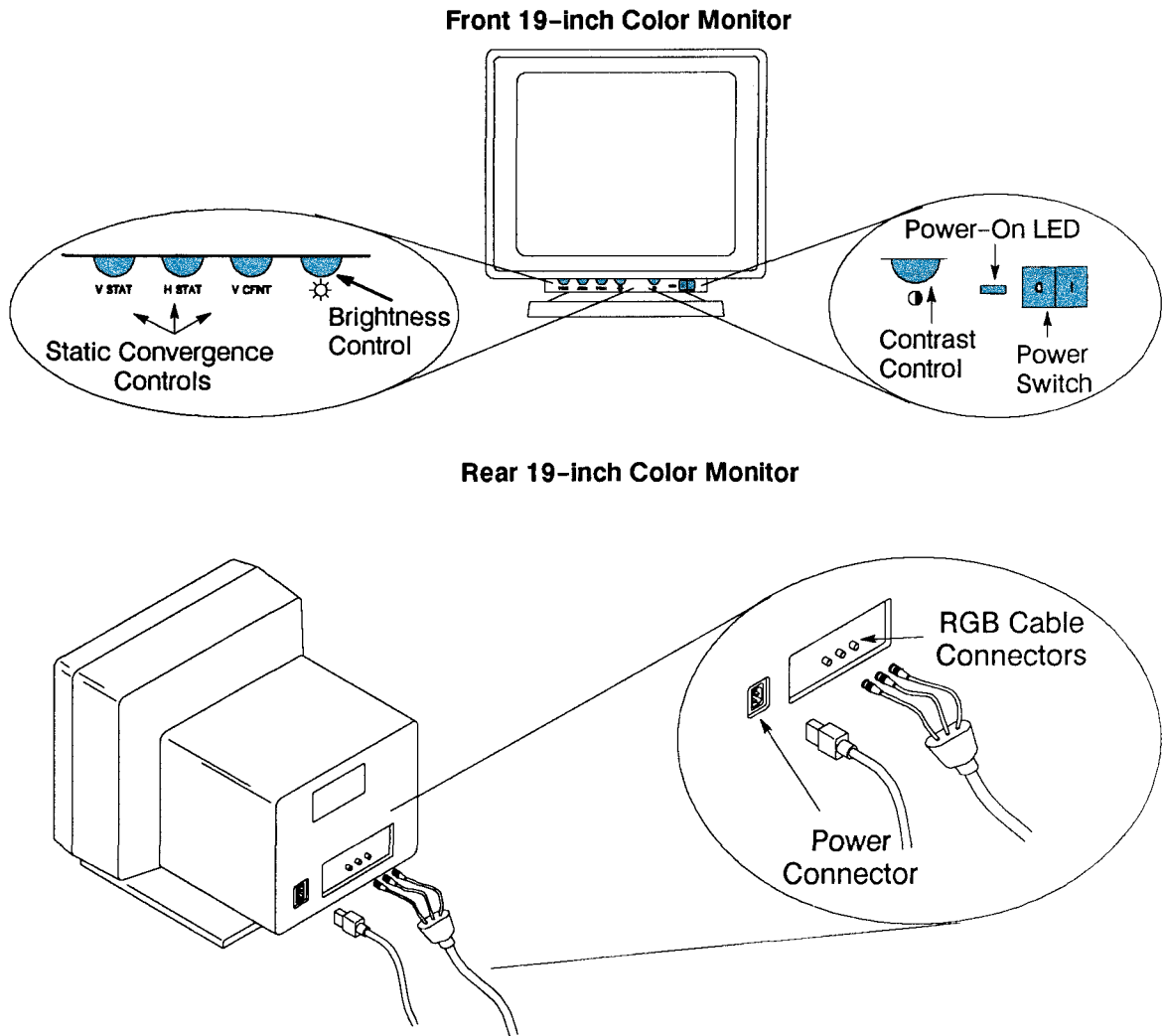
Figure 2-15. 19-Inch Color Monitor Controls, Indicators, and Connectors

19-Inch Monochrome Monitor (Front)

Contrast Control
Brightness Control
Power Switch

Power-On LED

19-Inch Monochrome Monitor (Rear)

Video Connector
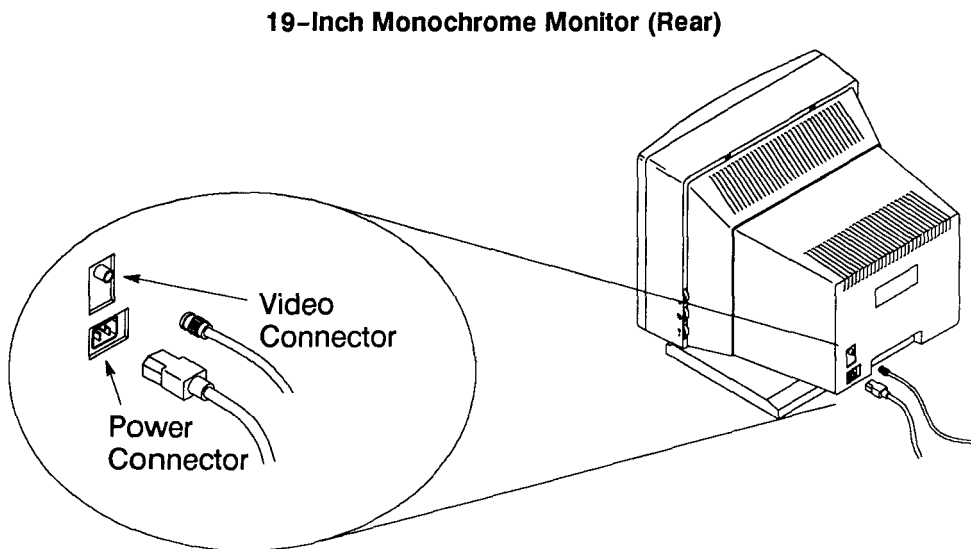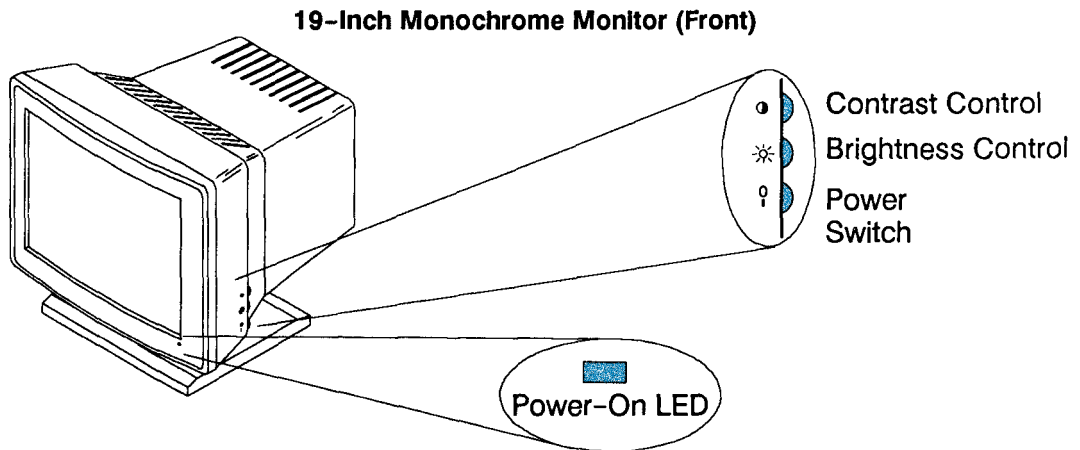
Power Connector

Figure 2-16. 19-Inch Monochrome Monitor Controls, Indicators, and Connectors

16-Inch Color Monitor (Front)

16-Inch Color Monitor (Rear)
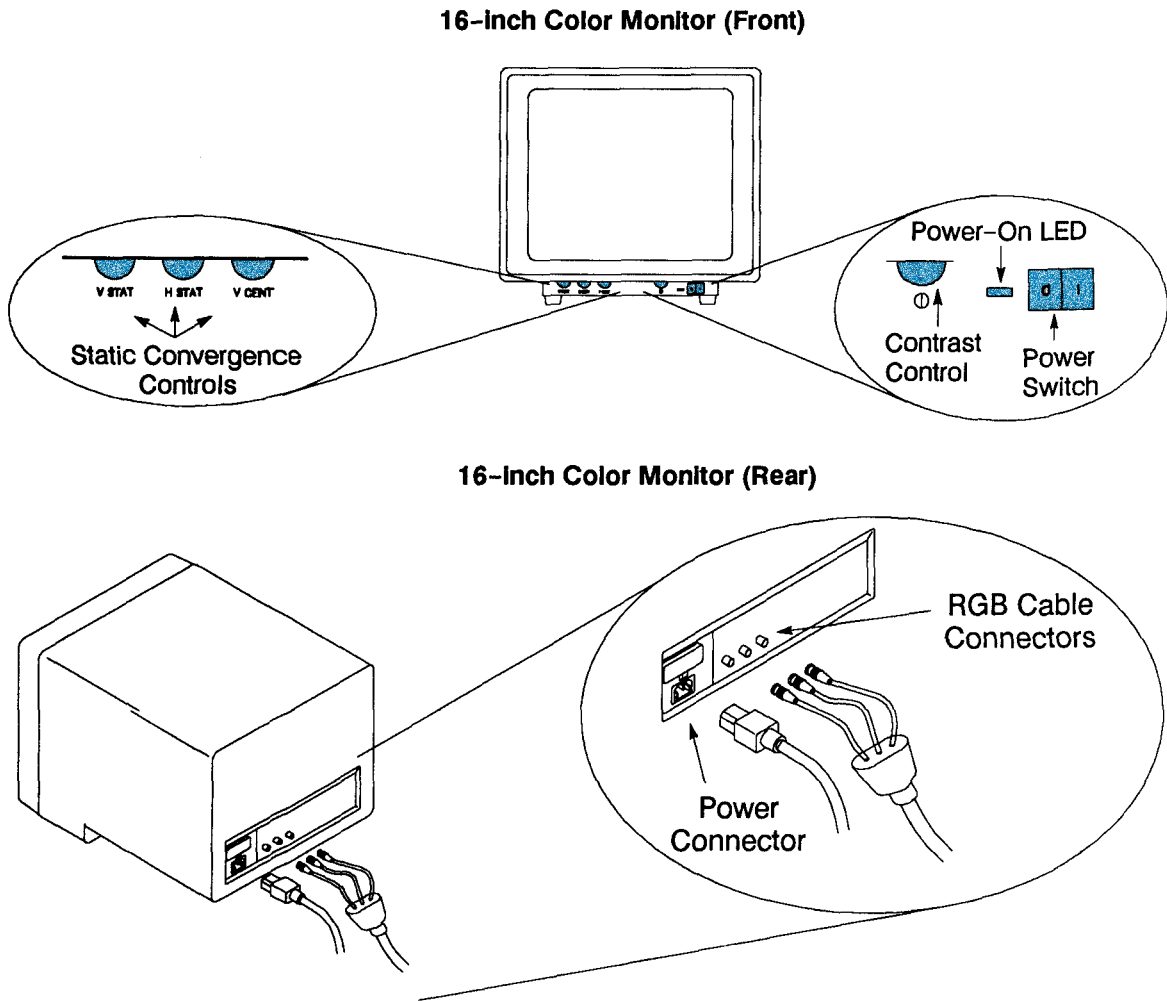
Figure 2-17. 16-Inch Color Monitor Controls, Indicators, and Connectors

Part 2 — Getting Started

Chapter 3
Booting Your Series 400 Workstation

If your Series 400 workstation has a pre-installed operating system, it is already configured to boot your operating system. If you are installing an operating system on your Series 400 workstation or if it does not appear to be properly configured, refer to "Booting" in this chapter.

Booting

After you power up your Series 400 workstation, you will see one of the following:

- Power-up display

- The Main Configuration menu

- Remote console at xxx
  After the beeps, type **L < Return >** to use monitor as console.

- A blank screen

- An EEPROM error message

Refer to Table 3-1 to determine the appropriate action.

NOTICE: If you experience problems, call your designated service representative.

Table 3-1. Power-up Screens for HP-UX

If you see...	You need to...
Power-up display	Wait for the system to complete booting
Power-up display without the operating system listing	Install HP-UX
Main Configuration Menu	Proceed to "Configuring the Boot ROM"
Remote console at *xxx*...	Type **L < Return >** 5 to 15 seconds after seeing the message

A blank screen	1. Set the Service/Normal switch to Normal
	
	2. Press **< Return >**
	
	3a. If you see a blank screen:
	    type **R < Return >**
	
	3b. If you don't see a blank screen:
	
	  1. Type **CF < Return >**
	
	  2. Proceed to "Configuring the Boot ROM"

An EEPROM error message	Call your designated service representative

NOTICE: All keyboard entries need to be uppercase.

Configuring the Boot ROM

The boot ROM has three configurable areas:

- Boot mode

- I/O interfaces

- Auto System Select mode

All three areas are explained in further detail in the following sections.

Boot Mode Selection

The boot mode selection defines whether an "HP-UX Compatible" or "Domain Compatible" operating system can boot. You must set the boot mode to match the type of operating system you are going to boot (HP-UX or Domain/OS). You set the boot mode from the Boot Mode Selection menu.

If you have not booted the system before, the Configuration Control menu will automatically appear (Figure 3-1). Select Boot Mode Selection by typing **2 < Return >** and you will see the Boot Mode Selection menu (Figure 3-2).

If you have booted the system before, type **C < Return >** after the HP-HIL.keyboard message appears on the screen. The Configuration Control menu appears (Figure 3-1). Select Boot Mode Selection by typing **2 < Return >** and you will see the Boot Mode Selection menu (Figure 3-2).

If you experience problems, call your designated service representative.

```
Configuration Control

Keys Mode Class
    ----------------------------
1   I/O Configuration

2   Boot Mode Selection

A   Abort without changes
    ----------------------------
    Type [key] RETURN ?
```

Figure 3-1. Configuration Control Menu

```
    Boot Mode Selection
Keys Mode                Status
    ----------------------------
1   Domain Compatible
2   HP-UX Compatible
3   Undefined            P

C   Clear temporary
E   Execute
    ----------------------------
    Type [key] RETURN ?
```

Figure 3-2. Boot Mode Selection Menu

NOTICE: All keyboard entries need to be uppercase.

Select HP-UX Compatible by typing **2 < Return >** if you will boot an HP-UX compatible operating system.

After you select a boot mode, you see the prompt shown in Figure 3-3.

If you want to save the boot mode selection, select Permanent (P). If you save it, the boot mode is remembered when you cycle the system's power and you will not have to reset the boot mode.

If you don't want to save the boot mode selection, select Temporary (T). If you don't save it, the boot mode is forgotten when you power off and you must reset it when you power on the system.

For example, if you normally boot HP-UX, you select HP-UX Compatible as the permanent boot mode. However, if you need to boot Domain occasionally, you temporarily select Domain Compatible. Therefore, Domain/OS will boot this time and HP-UX Compatible operating systems can boot afterwards.

You type **E < Return >** to exit the menu, save your menu selections, and boot the operating system.

```
                 .
                 .
                 .
      Type [key] RETURN ?

      2   HP-UX Compatible
         Temporary or Permanent
      Type T or P RETURN ?
```

Figure 3-3. Select Temporary or Permanent Boot Mode

Notice: If you experience problems, call your designated service repre-
sentative.

I/O Interfaces

The I/O interfaces determine the communication path between the CPU and the I/O devices. Your Series 400 workstation already has default values set for the interfaces as shown in Table 3-2. Your Series 400 workstation will function properly with these settings. However, you may have a special need that requires you to change them.

If you want to change the default settings, refer to *Installing Peripherals (Vols. 1 and 2)*.

Table 3-2. Built-in Interface Default Configurations

Interface	Configuration Function	Default	Options
Optional HP-IB	Select Code (cannot be changed)	7	None
	System Controller	Yes	No
RS-232	Select Code	9	0 to 31
	Remote/Local		
	system unit shipped with keyboard	Local	Remote
	system unit shipped without keyboard	Remote	Local
	Interrupt Level	3	3 to 6
SCSI	Modem Enable	Yes	No
	Select Code	14	0 to 31
	Interrupt Level	3	3 to 6
	Bus Address	7	0 to 7
Thin/AUI LAN	Parity	Yes	No
	Select Code	21	0 to 31
HP Parallel	Interrupt Level	5	3 to 6
	Select Code	12	0 to 31
	Interrupt Level	3	3 to 6

Auto System Select Mode

The auto system select mode only works if you select HP-UX Compatible for your system's boot mode.

The Auto System Select mode determines how an operating system is selected for booting. You can select the auto system select mode to either scan for an operating system to boot or boot a selected operating system. When you see the Configuration Control menu, select Auto System Selection by typing **2 < Return >** and you see the Auto System Select menu as shown in Figure 3-4.

```
      Auto System Select
Keys Option              Status
-----------------------------
  1  Scan for System        Y
  2  Select a System        N
  3  Store System Selection N

  E  Execute
-----------------------------
Type [key] RETURN ?
```

Figure 3-4. Auto System Select Menu

Scan for System

The Scan for System selection searches mass storage devices for an operating system to boot. The first mass storage device found with an HP-UX Compatible operating system on it boots. Mass storage devices are searched by the priority shown in Table 3-3.

Set the Store System Selection mode to store the boot path of the operating system that you just selected by typing **3 < Return >**, if you wish to automatically boot that system in the future. The stored operating system is automatically booted in all future boots, until you change your selection.

Table 3-3. Mass Storage Search Priorities

Priority Level	Device	Select Code	Bus Address	Unit Number
1	SCSI	0-31	7-5	0
2	HP-IB	0-31	7-5	0
3	SRM	14	N/A	N/A
4	LAN	21	N/A	N/A
5	Bubble RAM	30	N/A	N/A
6	EEPROM	N/A	N/A	0
7	SCSI	0-31	4-0	0
8	HP-IB	0-31	4-0	0
9	SRM	Other than 14	N/A	N/A
10	LAN	Other than 21	N/A	N/A
11	Bubble RAM	Other than 30	N/A	N/A
12	EEPROM	Other than 0	N/A	0

Selected System

The Selected System mode provides you with the opportunity to select a mass stor-age device to boot from. A list of mass storage devices appears in the upper-right of your screen. You enter the two or three character sequence to the left of the mass storage definition and press **< Return >** to select the operating system you wish to boot. For example, type **1H < Return >**.

Set the Store System Selection mode to store the boot path of the operating system that you just selected by typing **3 < Return >** , if you wish to automatically boot that system in the future. The stored operating system is automatically booted in all future boots, until you change your selection.

————— 🔡 —————

Chapter 4
Partitions and Filesets

This chapter introduces partitions and filesets, since you need to answer questions about them while you install HP-UX.

Partitions

HP-UX is divided into twelve logical areas. Each of these areas provides a task that you may wish to perform, such as networking. These areas are called partitions. HP-UX logical partitions should not be confused with the physical partitions on a disk. Figure 4-1 shows the partitions that can be selected to create HP-UX.
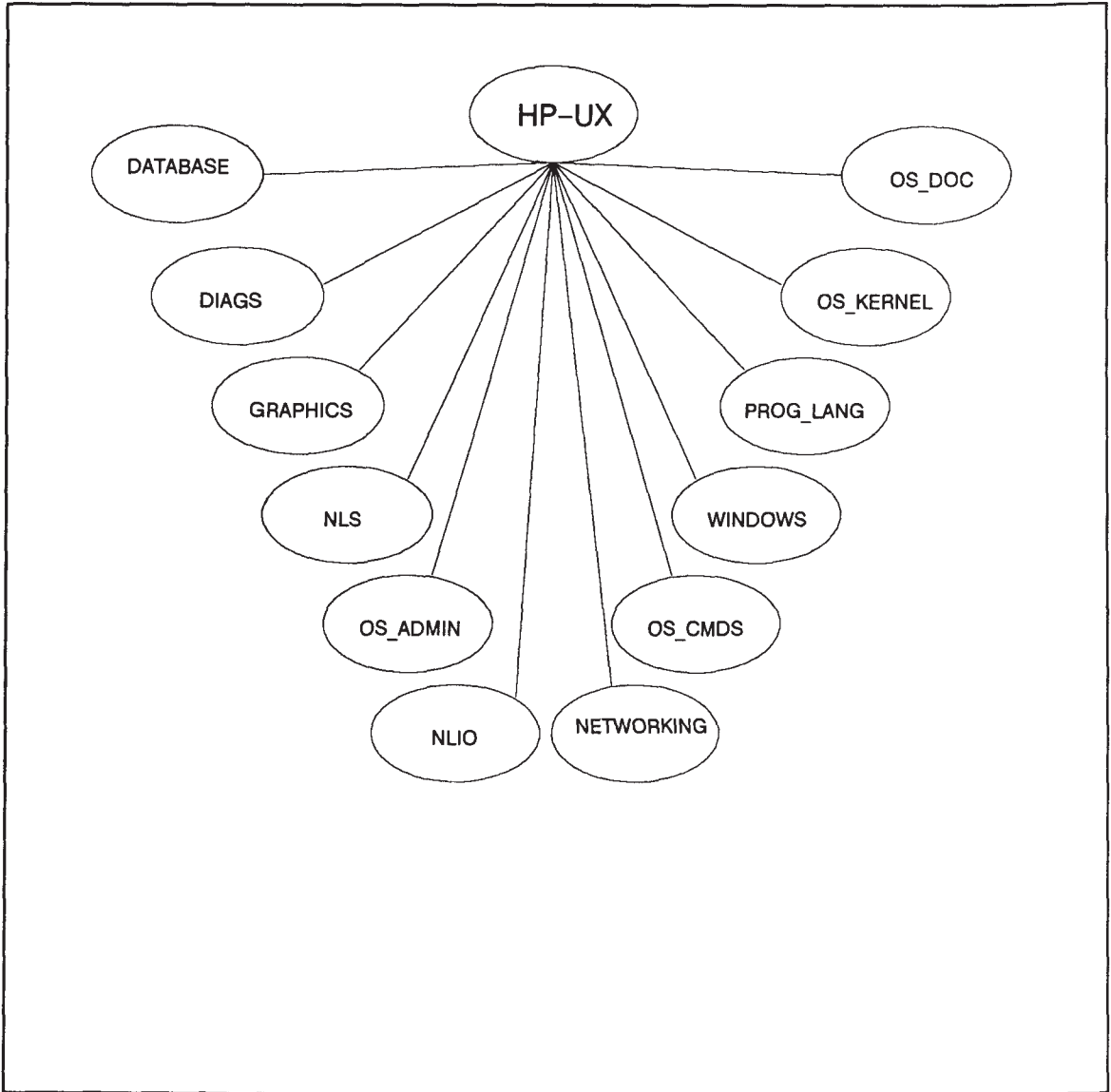
Figure 4-1. Partitions

Filesets

Partitions are divided into logical areas known as filesets. Filesets are the tools you select to perform the task. Partitions can be considered the "whats" and the filesets the "hows." For example, within the networking partition there are filesets, or tools, called ARPA.38 and NFS_INCL.38 which provide ARPA and NFS functionality, respectively. Both provide networking capability; the "what." However, each tool provides networking differently, the "how." These filesets contain all of the files required to provide the ARPA and NFS functionality.

The partitions and filesets, or tasks and tools, you choose during the menu driven installation depend on the operating system functionality you want to have.

Installing HP-UX

Install HP-UX according to the instructions in *Installing HP-UX*.

——— ⊞ ———

Chapter 5
Getting Started with HP-UX

You should have already installed your new Series 400 workstation following the instructions in your *HP Apollo Model 400t, 400dl, 425t Installation Guide* or your *HP Apollo Model 400s and 433s Installation Guide* and booted it following the instructions in Chapter 4.

If your Series 400 workstation has pre-installed HP-UX, it will boot a menu driven windows environment and you should refer to chapters 2 and 3 of *The Visual Users Environment User's Guide* for information about getting started with HP-UX within the visual users environment (VUE).

This chapter tells you how to get started with HP-UX. It covers the following topics:

- Logging in
- Logging out

Logging In

Logging in allows you to start working with the computer; for example, you can run an application such as a computer-aided design program. Once you log in, you see a command line prompt which is a special symbol or word that indicates HP-UX is running and waiting for your next command. You see a prompt when HP-UX completes executing any command you enter. During the login sequence the prompts will indicate what you need to enter. Respond to the prompts, as explained in the following sections, and press **< Return >**. After you successfully log in, the prompt remains the same. Typical prompts include "%", "$", and "#".

After the workstation boots, you see a screen similar to Figure 5-1 displaying a "login:" prompt.

If you don't see this screen, press **< Return >** . If you still don't see this screen, consult your system administrator or refer to *HP-UX System Administration Concepts*.
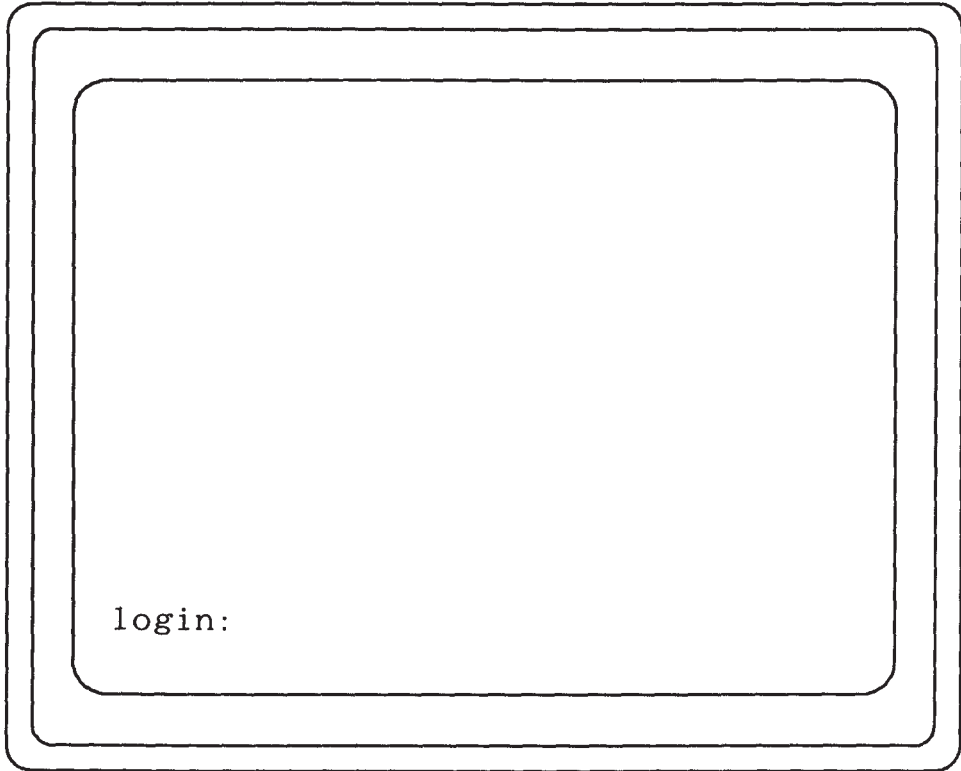
Figure 5-1. Login Screen

Login

Respond to the "login:" prompt by entering your username. If you type in the user-name **alice**, you see a screen similar to Figure 5-2.

You must identify yourself to HP-UX by entering your username at the login prompt. Ask your system administrator to assign you a username.

If you are the system administrator, you already have a username, **root**. But you should also create a new user account for yourself to use when you are not doing system administrative tasks. Refer to "Creating New User Accounts" for more in-formation.

If you make a typing mistake, press **< Return >**. If the **"Password:"** prompt dis-plays, then press **< Return >** again. The "login:" prompt will return after display-ing error messages. You cannot use **< Back space >** to correct typing mistakes while you log in, you may use either the "#" or "@" keys as backspace keys. Then, re-enter your username.
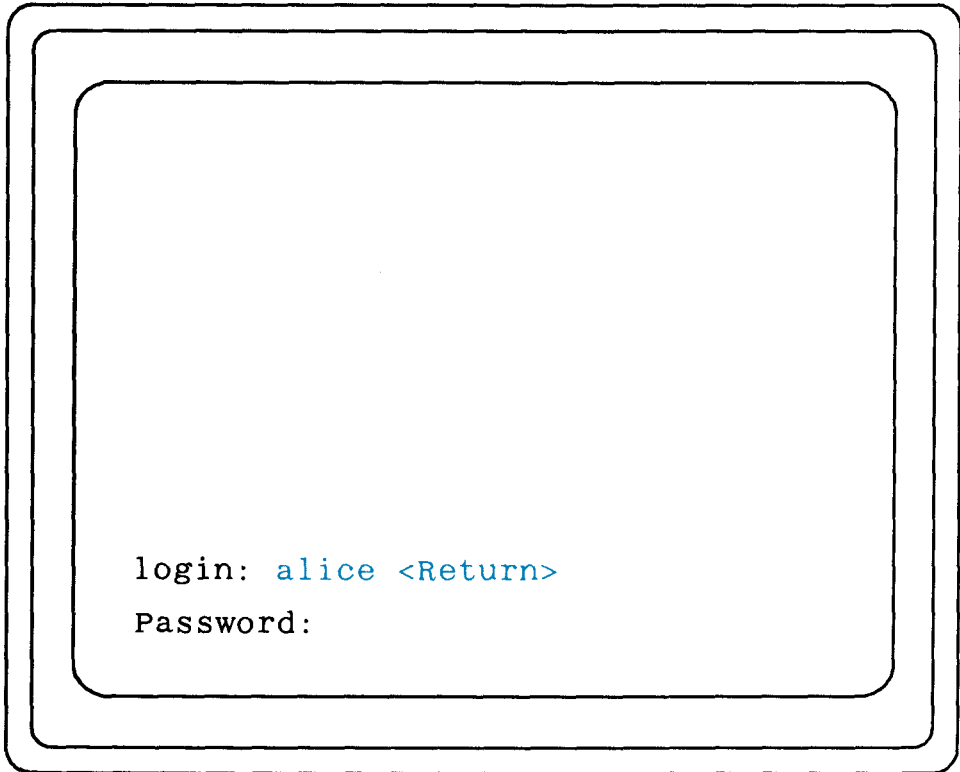
Figure 5-2. Enter Your Username

Password

HP-UX prompts you for a password if your site requires one. Respond to the password prompt by entering your password. If you enter the correct password, you will see a screen similar to Figure 5-3. If this is the first time you have logged in and you do not see a screen similar to Figure 5-3, refer to "Creating, Changing or Setting Your Password."

NOTICE: Your password is not displayed on the screen in order to en-
sure its secrecy. If you make a typing mistake, press
< Return > and the "login:" prompt will return after display-
ing error messages. Now, re-enter your username.

Refer to "Creating, Changing or Setting Your Password" for more information re-garding passwords.

```
login: alice
Password:



TERM = (hp)
```
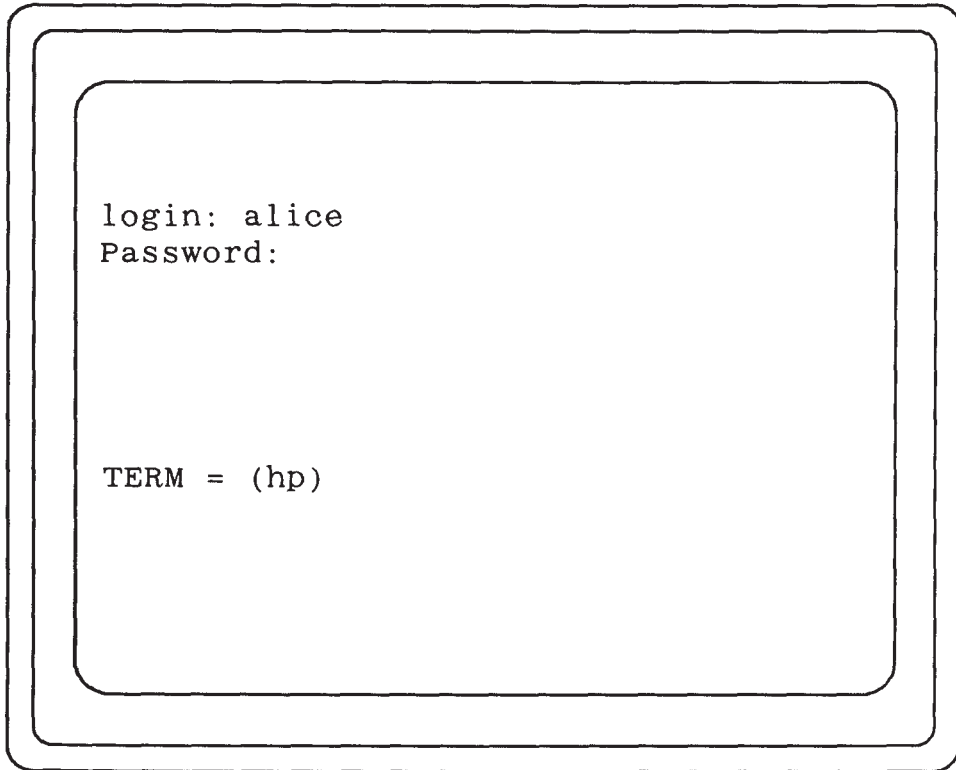
Figure 5-3. Copyright Screen

TERM = (hp)

Respond to this prompt by entering the terminal type.

Every monitor has a terminal type by which HP-UX identifies it. The "TERM = (hp) " prompt appears after the "login:" prompt, or after the "Password:" prompt if you need to use a password.

See Table 5-1 to find the correct response to use for your terminal type.

Refer to "Modifying Your Environment" for information on how to configure your environment to automatically recognize your terminal type or correct it if it becomes corrupted. The tset command will generate a new "TERM = (hp)" prompt and you can change your terminal type for the this session of HP-UX. If you choose to modify your environment, the change will remain from session to session; however, if you use tset, it will be lost when you log out.

Table 5-1. Select a Terminal Type

Supported Video Card or Product	Term = (hp)	Monitor
HP A1096A	300h	98774A
HP A1416A	98550	98754A 98789A
HP 98705A/B/C	98705	98754A 98789A
HP 98735A/6A/6B	98735	98754A 98789A

Figure 5-4 demonstrates an example that assumes an HP A1416A video card. In this example, the response to "TERM = (hp)" is **98550**. If your monitor does not appear to be functioning properly, make sure that you have one of the configurations described in Table 5-1. If you do, then call your local representative.

If you have successfully completed all of the previous steps, HP-UX recognizes you as a valid user and you are logged in. You see a screen with a prompt on it, as shown in Figure 5-4 (the prompt may not be "$").

Refer to *A Beginner's Guide to HP-UX* for more information about the login process.

```
TERM = (hp) 98550 <Return>
 $
```
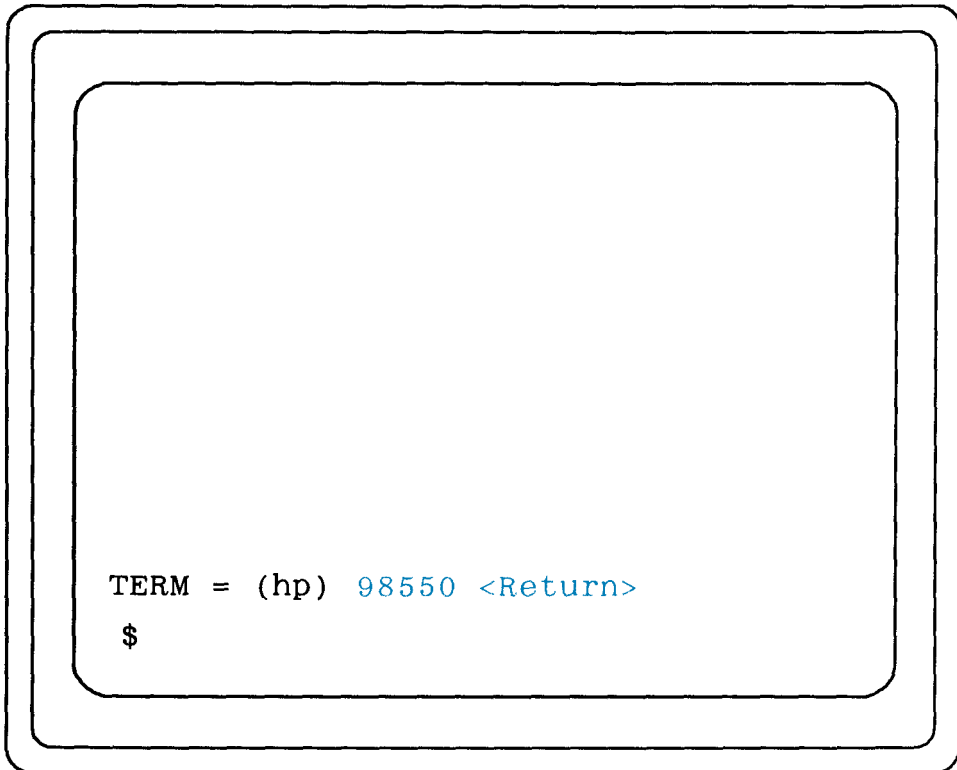
Figure 5-4. Select a Terminal Type

Logging Out

This section steps through the logout sequence.

Logging out ends a working session with HP-UX. Perform the logout sequence when you want to stop working with the computer. When you are logged out the screen displays a "login:" prompt to show that your HP-UX session is over.

There are two commands used to log out:

- **exit < Return >** (shown in Figure 5-5)

- **CTRL/D**

    CTRL/D does not work on all systems. If **CTRL/D** does not work, you will see the message:

Use "exit" to log out.

When you successfully log out, you see the screen shown in Figure 5-6.

Refer to *A Beginner's Guide to HP-UX* for more information about logging out.

NOTICE: The system identification scripts, **/bin/hp9000s300**, will return true (0) for a 9000/400. There is no **/bin/hp9000s400**. You can replace these scripts, if you need to. The uname command also behaves incorrectly, telling you the machine is a 9000/375. In addition, if you make use of commands such as **#ifdef hp9000s300** you will see similar results. To compile code for a 9000/400 the **#ifdef** for hp9000s300 must be defined.
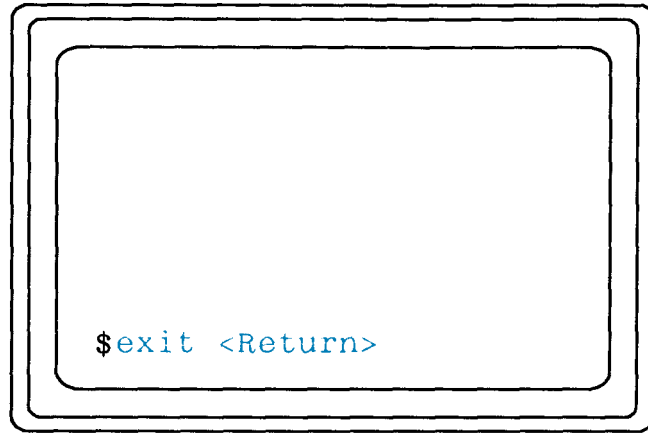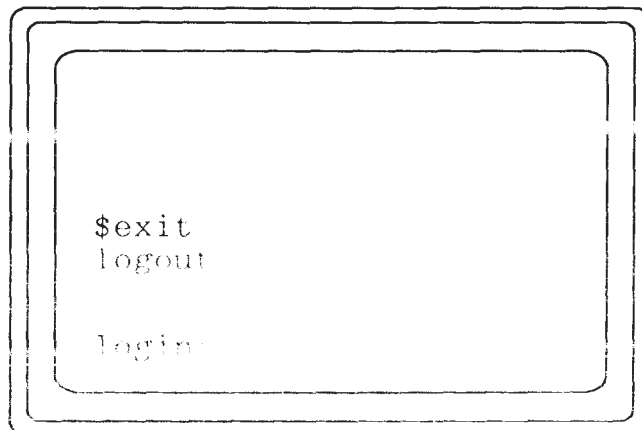
Figure 5-5. Logging Out

Figure 5-6. Log Out Screen

Chapter 6
Introducing the File System

This chapter introduces files, directories, file systems, HP-UX reference manuals, and some basic file system commands.

A file is a logical grouping of text and data, such as a memo or a program. A directory is a collection of files. How directories and files are stored and organized defines a file system.

After reading this section you will understand the following:

- How to read and use HP-UX reference manuals
- Pathnames
- Creating new directories
- Changing directories
- Listing the files in a directory
- Viewing a file
- Removing files and directories
- Copying and renaming files
- Printing files

How to Read and Use HP-UX Reference Manuals

This section outlines the various sections of HP-UX reference manuals and manual pages. After reading this section you should understand the content and organization of the manual set and how to interpret a manual page.

Manual Organization

Following is a brief description of the HP-UX reference manual sections you typically use:

- Section 1   User Commands
- Section 1M   System Administration Commands
- Section 2   System Calls
- Section 3   Subroutines and Subroutine Libraries
- Section 4   File Formats
- Section 9   Glossary

"User Commands" describes programs that are usually invoked directly by users. Commands are listed alphabetically.

"System Administrative Commands" describes commands used for system maintenance pertaining to system administrator and super-user tasks. Commands are listed alphabetically.

"System Calls" describes HP-UX kernel entries. System calls are listed alphabetically.

"Subroutines and Subroutine Libraries" describes subroutines that exist in various system libraries.

"File Formats" documents the structure of various types of files.
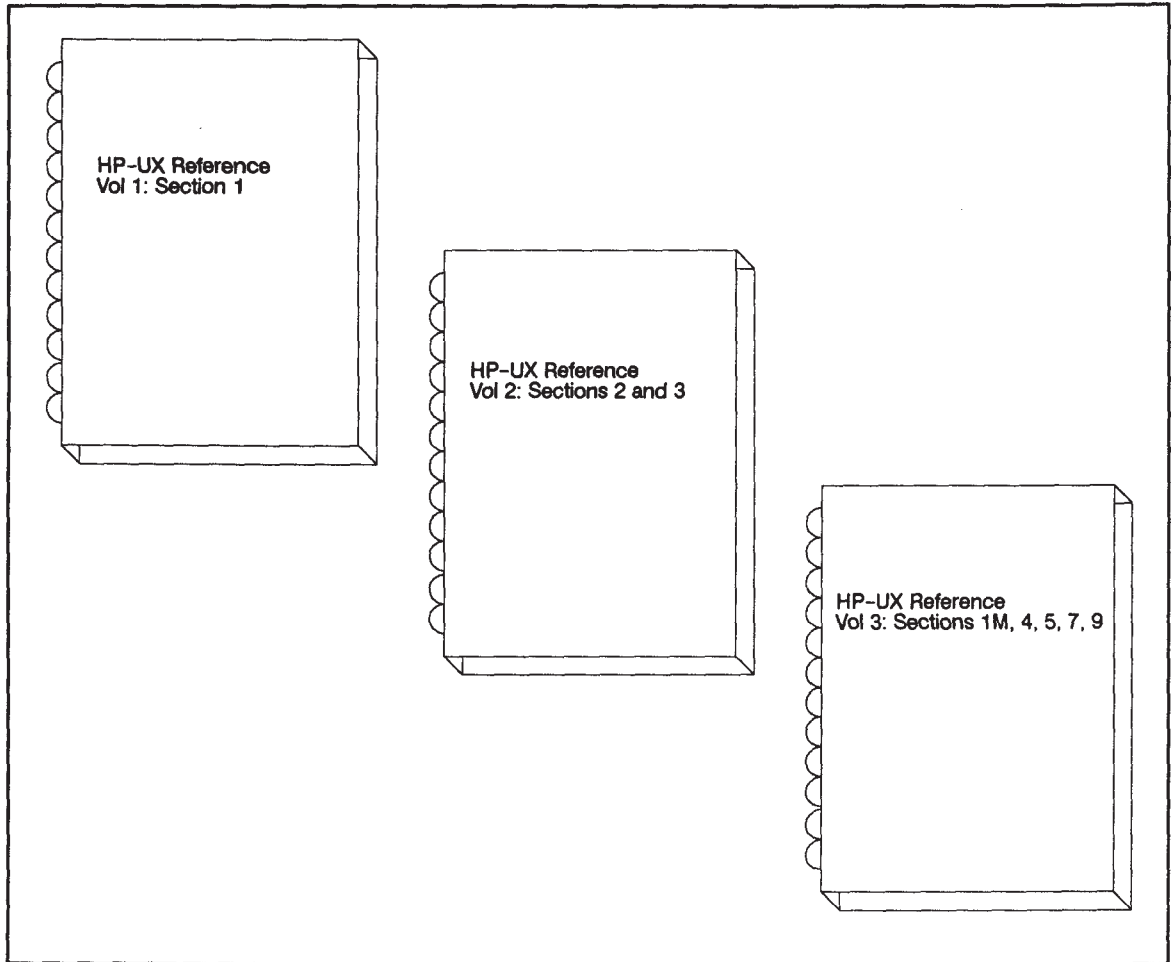
Figure 6-1. HP-UX Reference Manuals

Interpreting a Manual Page

All manual entries follow an established topic format, but not all topics are included in each entry. This section introduces the following topics:

- NAME
- SYNOPSIS
- DESCRIPTION
- EXAMPLES
- WARNINGS

NAME gives the name(s) of the command and briefly tells you what it does.

SYNOPSIS shows you the format of what to type to execute the command.

DESCRIPTION discusses what the command does in detail and introduces the options associated with the command.

EXAMPLES shows examples of typical command entries.

WARNINGS discusses problems that may occur using the command.

Following, is an abbreviated version of the manual page for the **l**s command. Refer to *ls(1)* in *HP-UX Reference Vol. 1* for a complete list of the options associated with **l**s.

LS(1)   **LS(1)**

NAME

    ls - list contents of directories

SYNOPSIS

    ls [-abcdfgilmnopqrstuxACFHLRl][names]

DESCRIPTION

 For each directory argument, **ls** lists the contents of the directory ...

  Options

    There are numerous options:

    -a List all entries; usually entries whose names begin with a period (.) are not listed.

    -b Force printing of non-graphic characters to be in the octal \ddd notation.

<div align="center">.</div>
<div align="center">.</div>
<div align="center">.</div>

EXAMPLES

    The following command prints a long listing of all the files (including the file sizes) in the current working directory. The file most recently modified (the youngest) is listed first, then the next youngest file, and so forth, to the oldest. Files beginning with a **.** are also printed.

      ls -alst

WARNINGS

    The option setting based on whether the output is a teletype is undesirable as **ls -s** is much different than **ls -s | lpr**. On the other hand, not using this setting would make old shell scripts that used ls almost inevitably fail.

Pathnames

A pathname locates a file or directory within a file system. For example, the pathname **/budget/fy1990/march/capital** refers to a file or directory in the directory **march**, which is in the directory **fy1990**, which is in the directory **budget**.

Root is the first directory created within a file system and all files and directories originate from it. The file system has a tree structure as shown in Figure 6-2. Each level below root can have many entries of files and directories; Figure 6-2 shows only two files or directories at each level. You must cover the complete path between the directory you are at and the directory or file you wish to refer to or you must refer to the target directory or file from the root directory. Each level between "here" and "there" must be accounted for.

An absolute pathname is a path originating from the root directory; it answers the question "how do I get there from root?"

A relative pathname is a path originating from your current working directory; it answers the question "how do I get there from here?" Use a relative path when you are describing a file that is in the subdirectory of your current working directory. Use an absolute path when you are describing a file that is more easily described in terms of the "root" directory.

A parent directory is the directory preceding the directory of interest; its name immediately precedes the directory of interest in the pathname. For example, **annual** is the parent of **monthly**; likewise, **budget** is the parent of **annual** in the following pathname:

/budget/annual/monthly

Parent directories can also be referred to by ". ." . For example, if your current working directory is **monthly**, ". ." is the same as **annual**. Current working directories can similarly be referred to as " . ". Figure 6-2 demonstrates the use of ". ." and " . ", and relative and absolute pathnames.

If your current working directory is:

/united_states/states/iowa

```
                                           / root
                                          /|
                            (  united_states  )
                                    / \
                          [ states ]   [ rivers ]
                            /  \
                    [ iowa ]    [ idaho ]
                      /
              [ cities ]
```

Then you can you can do the following:

Relative:	**Absolute:**
Change your working directory to **cities**	
cd cities	cd /united_states/states/iowa/cities
Change your working directory to **united_states**	
cd ../..	cd /united_states
Change your working directory to **rivers**	
cd ../../rivers	cd /united_states/rivers
Copy **idaho** to your working directory	
cp ../idaho .	cp /united_states/states/idaho

Figure 6-2. Pathnames

Creating New Directories

The **mkdir** command creates a new directory. The parent directory should already exist prior to executing the **mkdir** command. You need to have write permission on the parent directory to use the **mkdir** command. If you need to change file access permissions on the directory refer to *chmod*(1) in *HP-UX Reference Vol. 1* for more information about changing permissions.

Refer to *mkdir*(1) in *HP-UX Reference Vol. 1* for more information about **mkdir**.
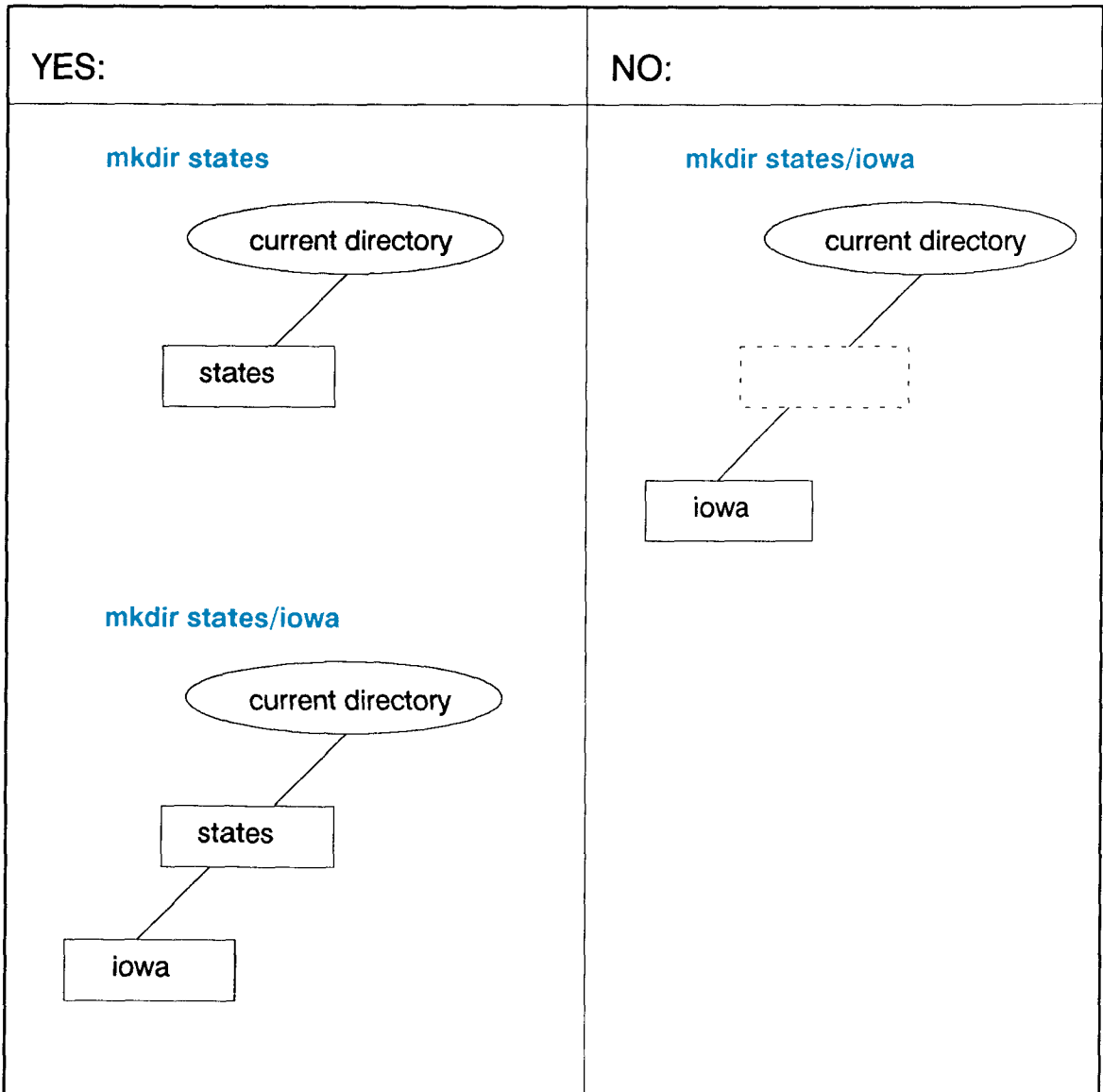
Figure 6-3. How to Create New Directories

Changing Current Directories

The **cd** command changes your current directory. You can specify the destination pathname as an argument to **cd**. If you use a relative pathname you must account for all directories in the path. If you don't specify a destination, then your home directory becomes your current directory. Your home directory is the directory you log in to. To find out what your home directory is, check the file called **/etc/password** and look at your entry; it should look like the following:

username:coded password:file permission:group information:your name:home directory:log in shell

Refer to *A Beginner's Guide to HP-UX*, "Working With Files" for more information about these and other files system commands.

If your current working directory is:

/united_states/states/iowa

root

united_states

states   rivers

iowa   idaho

cities

Then you can do the following:

cd cities (changes your current directory to **cities**)

cd /united_states/states/idaho (changes your current directory to **idaho**)

cd ../idaho (changes your current directory to **idaho**)

cd idaho (error because you did not specify a complete pathname)

Figure 6-4. How to Change Directories

Listing the Files in a Directory

The **ls** command lists the contents of a directory. If you don't specify a directory name, it lists the contents of the current directory. The output shows both files and subdirectories intermixed in a single alphabetical list.

Refer to *ls(1)* in *HP-UX Reference Vol. 1* for a complete list of the options for the **ls** command.

To list all of the files in your current directory, enter

ls -a

Viewing a File

The **more** command allows you to view an existing file one screen at a time. At the bottom of each screen **more** displays the percentage of the file that has been displayed. Press the spacebar to advance to the next screen. Enter **q** when you want to stop reading the file.

Refer to *more(1)* in *HP-UX Reference Vol. 1* for a complete list of the options associated with more.

For example, to see 12 more lines of the file cities, enter:

more -12 cities

Removing Files and Directories

The **rm** command deletes one or more entries from a directory.

The **rmdir** command deletes an empty directory.

Figure 6-5 demonstrates how to remove all entries in a directory and the directory itself.

If you try to delete a file or directory and get the message "Permission denied," you do not have the proper file access permission to delete the file or directory. Try to change the file permissions; refer to *chmod*(1) in *HP-UX Reference Vol. 1*. If you cannot change the permissions yourself, contact your system administrator.

Refer to *rm*(1) in *HP-UX Reference Vol. 1* for a complete list of the options associated with **rm** and **rmdir**.

BEFORE:

rm −r states

AFTER:

rm −r states

united_states

united_states

current directory   states

iowa   idaho

cities
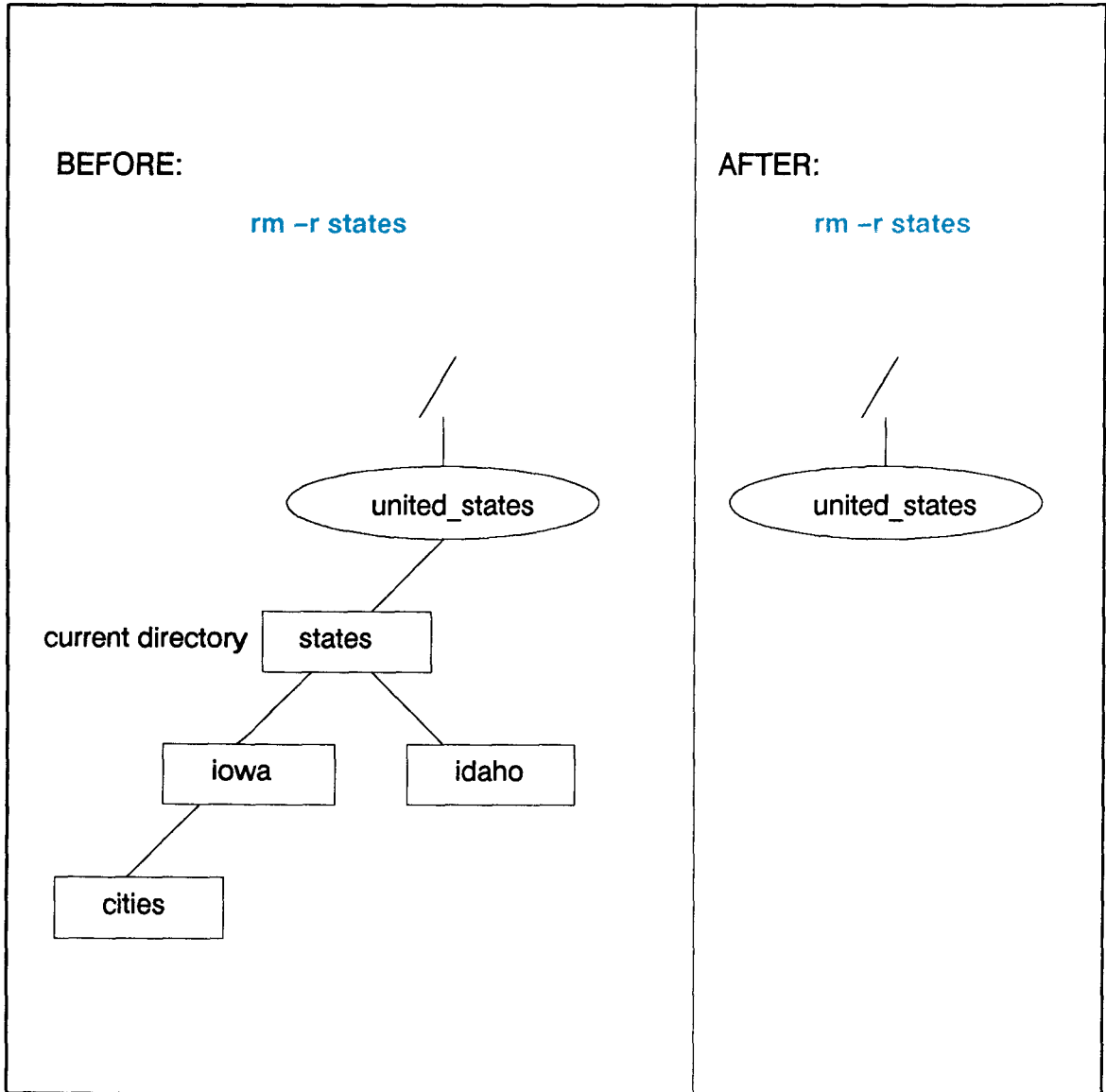
Figure 6-5. Removing Files and Directories

Copying and Renaming Files

The **cp** command copies an existing file into a new one. The command **cp** takes two arguments, both are either filenames or pathnames to files. First, give the name of the file you want to copy, followed by the name of the new file, **cp** *oldfile newfile*. For example, **cp games/bridge hobbies/bridge**.

The **mv** command moves an existing file into a new one. The command **mv** takes two arguments, both are either filenames or pathnames to files. First, give the name of the file you want to move, followed by the name of the new file, **mv** *file1 file2*. For example, **mv games/bridge hobbies/bridge**.

The **mv** and **cp** commands do not perform the same function. Figure 6-6 displays the subtle but significant difference. The **cp** command produces a duplicate file, maintaining the original file. The **mv** command also produces a duplicate file; however, it removes the original file.

If you try to copy or move a file and get the message "Permission denied," you may not have the correct file access permission to copy or move the file. Check the file access permissions with the **ll** command. If necessary, try to change the file access permissions; refer to *chmod*(1) in HP-UX Reference Vol. 1 for more information about understanding and changing file access permissions. If you cannot change the file access permissions yourself, contact your system administrator.
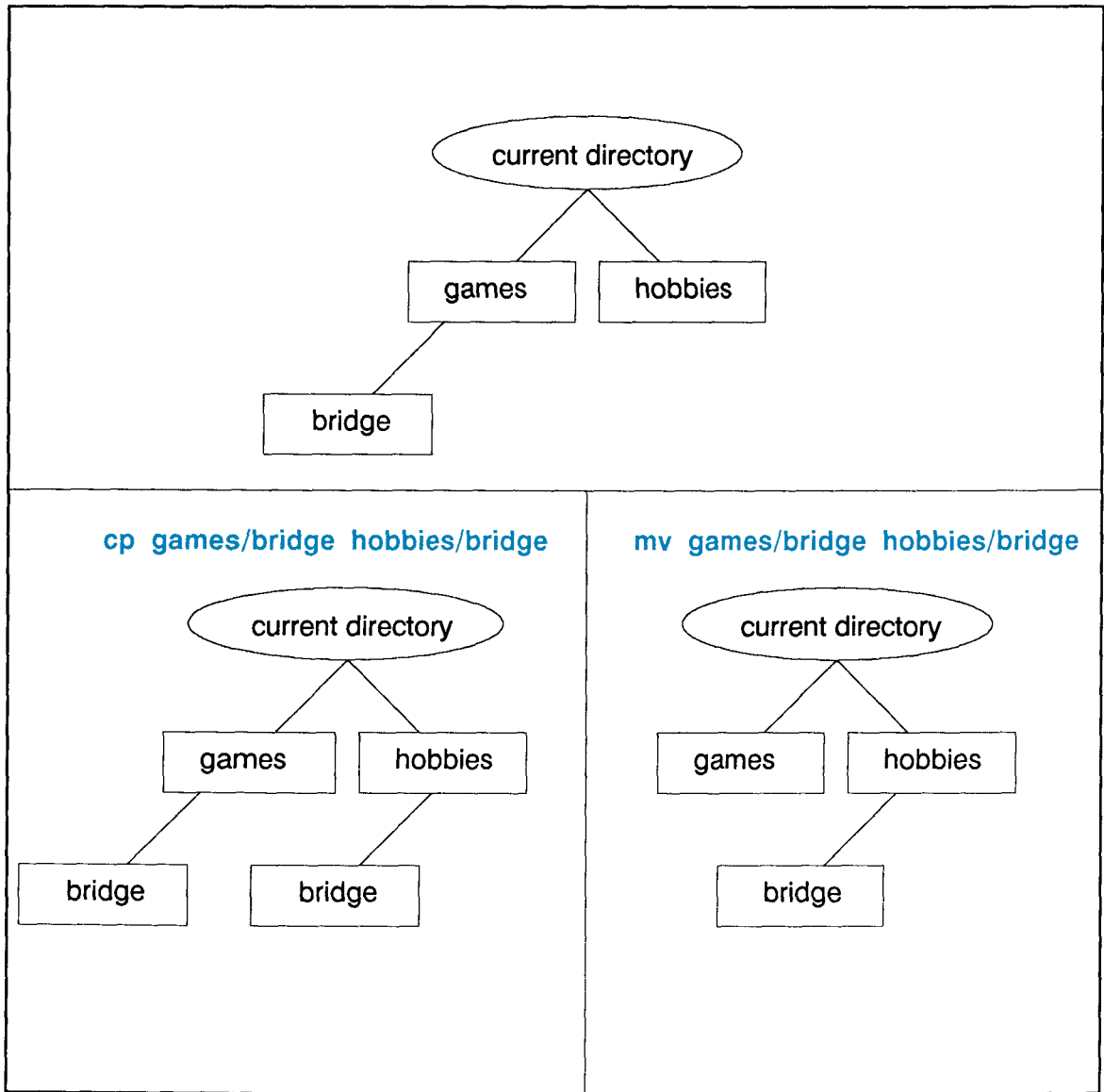
Figure 6-6. Copying and Renaming Files

Printing Files

Use the **lp** command to send files to a printer. After you enter the **lp** command, you see a request ID displayed. You use this ID to identify your request if you need to cancel your **lp** request with the **cancel** *req_id* command as shown in Figure 6-7.

Refer to *lp(1)* in *HP-UX Reference Vol. 1* for a complete list of the options associated with **lp** and *cancel(1)* for information on **cancel**.

For example, to print three copies of a file, enter:

lp -n3 *filename*

```
$lp report
 request id is lp-100
$cancel lp-100
 lp-100 cancelled
$
```

Figure 6-7. Cancelling a Printer Request

Chapter 7
Using a Text Editor

This chapter introduces you to a text editor called vi. Vi is an interactive text editor which enables you to view and alter text files within your file system. It allows you to create, delete, and edit files. This section introduces the basics of operating vi:

- Starting vi
- Selecting editing functions
- Performing editing functions
- Saving your work
- Leaving vi

Starting vi

Start vi by entering the command **vi** *filename* at the prompt, where *filename* is the name of the file that you wish to either create, view, or alter. If a file called *filename* already exists, the first screen of the file will be displayed, as shown in Figure 7-1. If the file does not exist, it is created and you see a screen like Figure 7-2.

```
This is an example of what an
existing file might look like.
~
~
~
~
~
~
~

existing file 2 lines, 58
characters
```
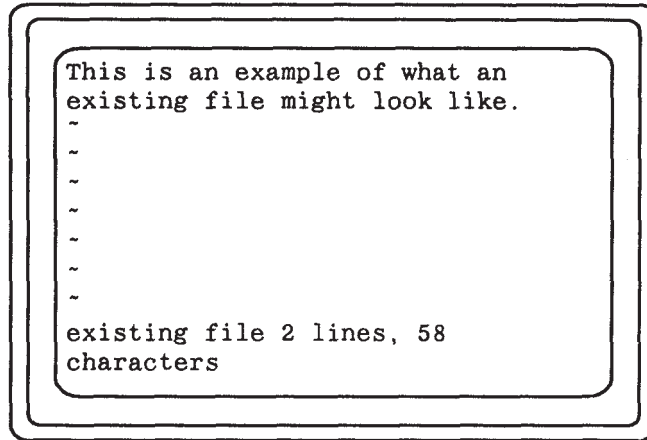
Figure 7-1. Displaying an Existing File

```
_
~
~
~
~
~
~
~
~

monthly_report [New File]
```
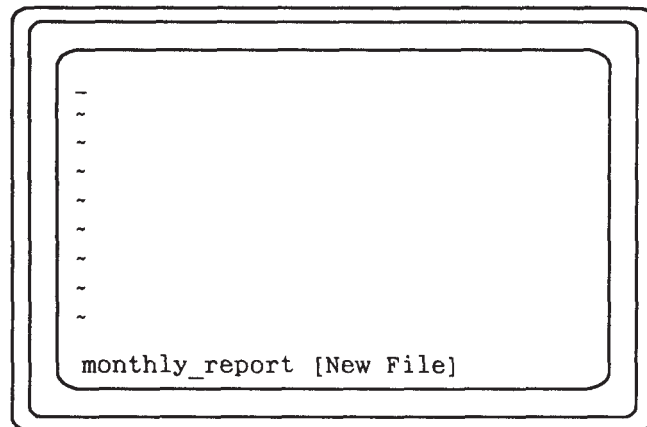
Figure 7-2. Creating a New File

Selecting Editing Functions

You select all editing functions from command mode. Your selection determines what you can do to the text.

The basic editing functions you need to know to use vi are shown in Table 7-1 and explained in "Performing Editing Functions."

Table 7-1. Basic Editing Functions

To...	In command mode enter...
Insert text.	`i`
Append text.	`a`
Delete a character.	`x`

Performing Editing Functions

Once you start vi, you are either in command or text mode. Press the **< ESC >** key to ensure that your file is in command mode so that can execute any of the following commands:

- The insert command:
  Places your file in text mode and enters whatever you type preceding the cursor. Everything after the cursor will be moved to the right.

- The append command:
  Places your file in text mode and enters whatever you type after the cursor. Everything after the cursor will be moved to the right.

- The delete command:
  Deletes the character that is highlighted by the cursor. This command does not put your document in text mode.

If the command expects you to type something after entering your command to complete the operation, you are placed in text mode; otherwise, you remain in command mode.

Each command from command mode allows you to perform only that function within text mode. For example, if you place your file in text mode via the append command, then you may only perform append functions. Your file must be placed in command mode and returned text mode via the insert command before you can insert text.

Figure 7-3 shows the overall operation of vi.
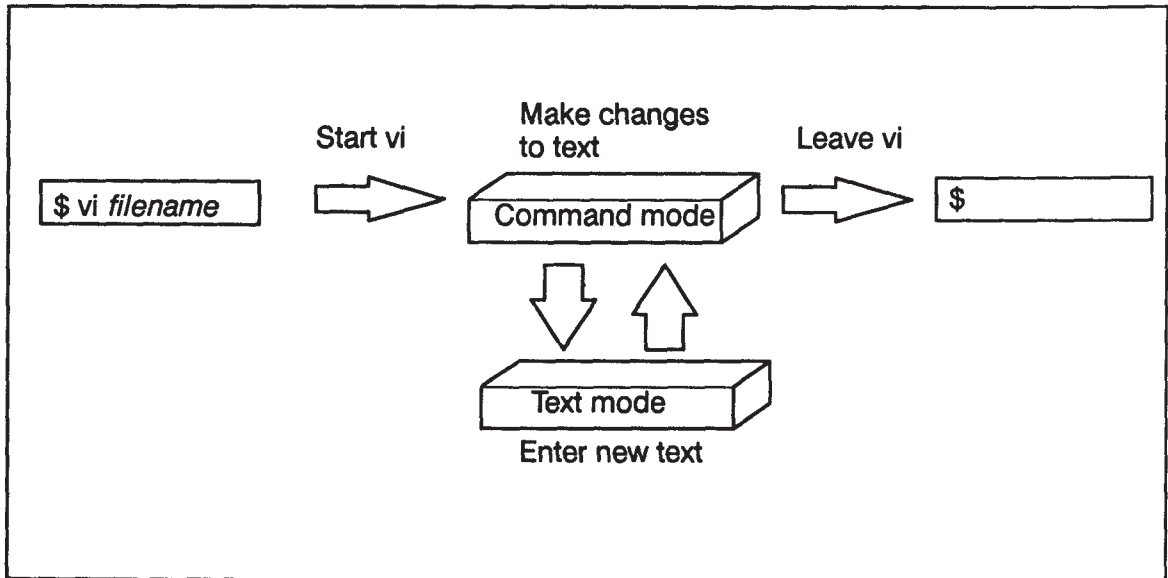
Figure 7-3. Operating in vi

Positioning the Cursor

You may have noticed that the editing functions are performed relative to cursor position. For example, you can make text changes before, after, or at the cursor location. Many commands exist within vi that provide cursor movement and placement. This section introduces the basic cursor commands.

Some keyboards have arrow keys labeled < Prev > and < Next >. The < Prev > key will move the cursor to the last screen displayed on the page and < Next > moves the cursor to the page that will be displayed next. The arrow keys move the cursor in the indicated direction.

The most commonly used method to move the cursor is to use the h, j, k, and l keys, since they are the home keys on the keyboard for the right hand. The keys perform the functions shown in Figure 7-4.
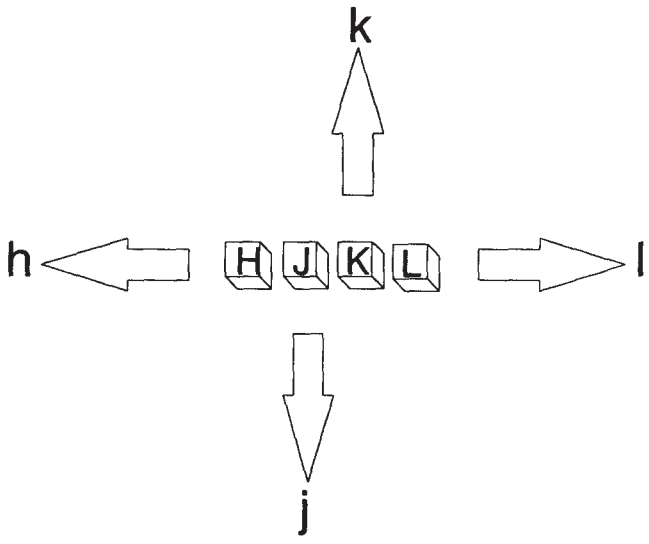
Key	Moves the Cursor
h	left
j	down
k	up
l	right

Figure 7-4. Positioning the Cursor

Leaving Text Mode

Press the **< ESC >** key to leave text mode and enter command mode.
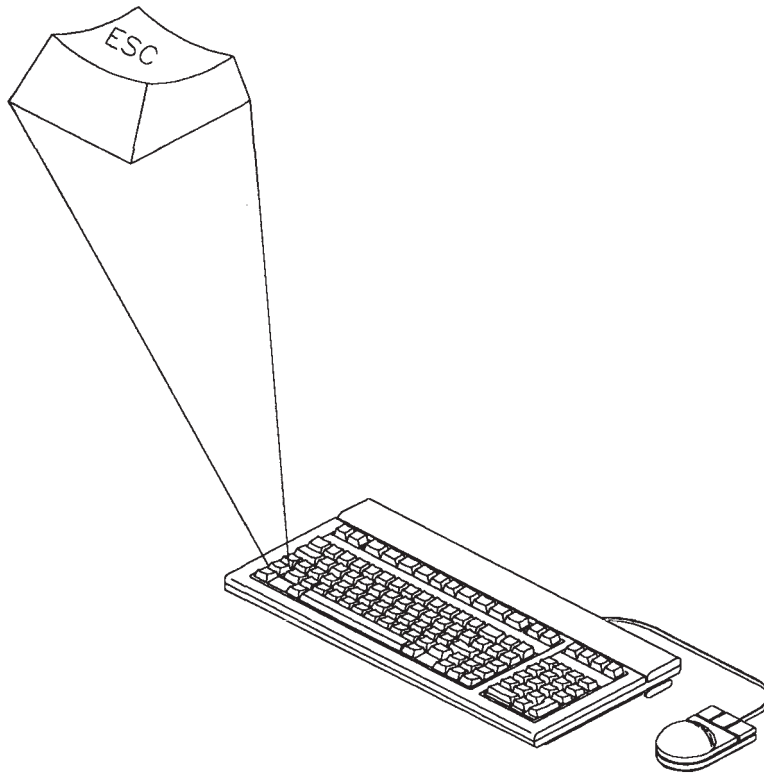
Figure 7-5. Leaving Text Mode

Saving Your Work

You can save your work with or without quitting vi. Your document must be in command mode for you to be able to use the following commands to save your work. Press the **< ESC >** key to ensure that your document is in command mode.

- **ZZ**

- **:wq**

- **:w!** *filename*

Both the **ZZ** and **:wq** commands save your file and leave vi. You execute fewer keystrokes by using the **ZZ** command.

Use the **:w!** *filename* command to save your work without leaving vi. Omitting *filename* from the **:w!** *filename* command saves the current file with the same name.

Leaving vi

You can quit vi and save your work. You can also quit vi without saving your work. Your document must be in command mode for you to be able to use the following commands to leave vi. Press the **< ESC >** key to ensure that your document is in command mode.

- **ZZ**

- **:wq**

- **:q!**

Both the **ZZ** and **:wq** commands save your file and leave vi. You execute fewer keystrokes by using the **ZZ** command.

The **q!** command causes your document to leave vi **without** saving your changes.

Refer to *A Beginner's Guide to Text Editing* for more detailed information about vi.

Part 3 — *Administrative Tasks*

Chapter 8
Administrative Tasks

This chapter is primarily intended for system administrators, but experienced users who have root privileges may also find this information useful. This chapter introduces the following administrative tasks:

- Creating new user accounts

- Creating, changing, or setting new passwords

- Modifying your environment

- Shutting down

- Troubleshooting

Creating New User Accounts

You can create new user accounts via command line or menu driven processes. The command line process requires a solid understanding of HP-UX and can be overwhelming for a new user. The fast and easy process is to use the System Administration Manager (SAM) to create new user accounts. SAM is a menu-driven process that is easier to use than creating a new account via the command line process. You can use SAM to perform most system administrative tasks.

Refer to *HP-UX System Administration Tasks* for information on how to add new user accounts from the command line and SAM.

Creating, Changing, or Setting Your Password

This section shows you how to develop a valid password and how to change an existing password or set a new password.

Creating a New Password

Passwords must meet the following criteria:

- The password must contain 6 to 8 characters, inclusive.
- At least two of the characters must be letters.
- At least one character must either a numeral or special character.

The following are examples of passwords:

- foo-bar
- $money$
- Number_9
- @rophy

Initial Password

You may or may not have a password already assigned to you when you log in for the first time. It is also possible that you will not be required to use a password. However, if you are required to use one and it has already been assigned, you might wish to change it. Likewise, if you are not required to use one or it has not already been set for you, you may wish to create one.

Changing or Setting Your New Password

The **passwd** command changes your password. Enter the **passwd** command and it will tell you what information it needs to continue. The process will be like that in Figure 8-1 or Figure 8-2, depending on whether you are changing an existing password or creating a new password.

For further information concerning passwords, refer to *A Beginner's Guide to HP-UX*.

8-2
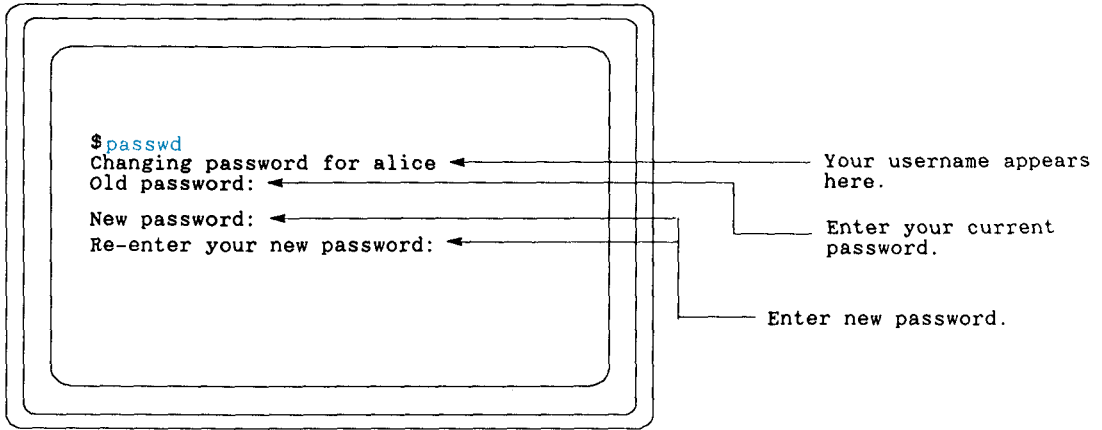
Figure 8-1. Changing Your Password
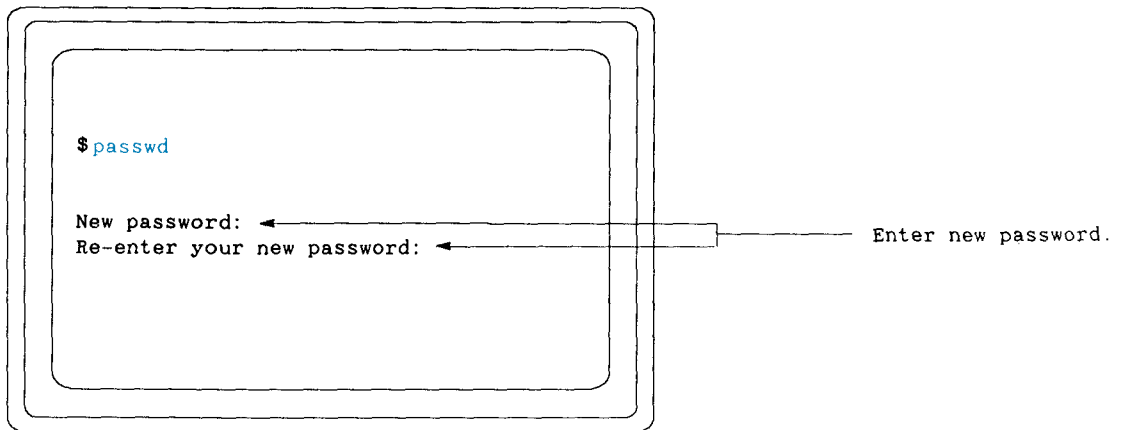
Figure 8-2. Creating a New Password

Modifying Your Environment

Your environment consists of the various options and features that affect how HP-UX and your programs respond to you. As you become familiar with your environment, you may wish to customize it. *A Beginner's Guide to Using Shells* provides extensive information on how to customize your environment. It explains the various environment variables that you can modify and provides shell specific information.

Shutting Down

This section tells you how to shut down any workstation that is running HP-UX. Generally, you shut down a workstation if you need to perform an operation that requires the workstation to be powered off, such as adding a new graphics card, or rebooting the system.

NOTICE: In an HP-UX cluster, cluster clients need only log off; however, the shutdown process works better if you turn the cluster clients off. Do not shut down the server from a cluster client; shut down the server directly.
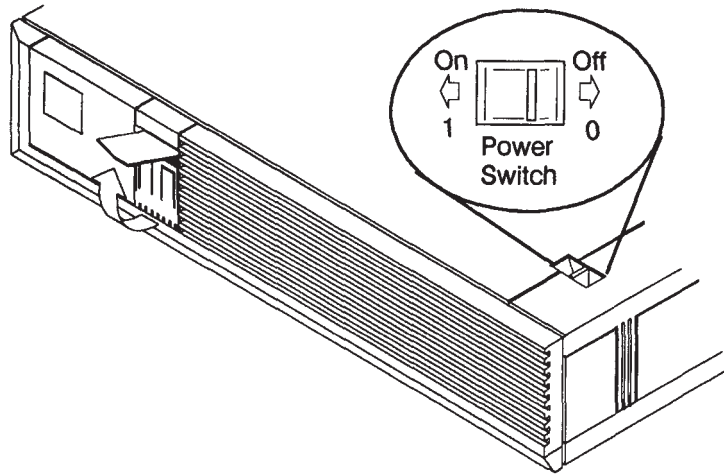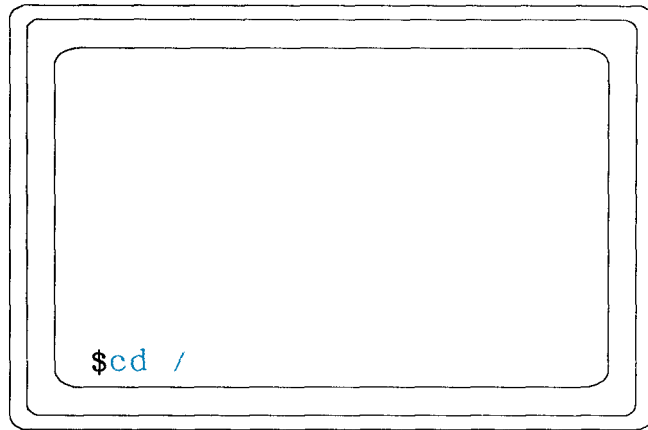
Figure 8-3. Shut down

CAUTION: Do not shut down a workstation by turning it off until the message "halted" appears on the screen. Improperly shutting down the workstation can corrupt the filesystem.

Perform the following to shut down your workstation:
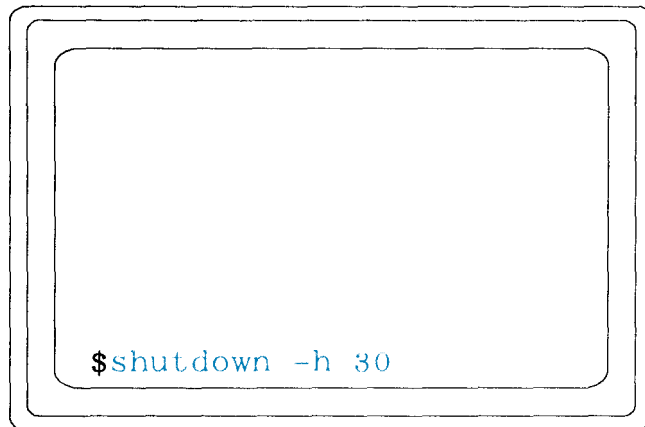
1. Log in as root user.

2. Change to the root directory as shown in Figure 8-4.

3. Enter the command: **shutdown -h** *XX* as shown in Figure 8-5.

    XX is the grace period, in seconds, until active processes are terminated. Usually, 30 seconds to a minute is sufficient.

Figure 8-4. Change to Root Directory

Figure 8-5. Enter the **shutdown** *Command*

Figure 8-6 shows an example where active processes will shut down in 30 seconds.

```
$shutdown -h 30

SHUTDOWN PROGRAM
DATE
Broadcast message from root(console) DATE TIME
SYSTEM BEING BROUGHT DOWN NOW!!!
Do you want to continue?(y or n)
```

Figure 8-6. Shutdown Set for 30 Seconds

If you answer **y** (yes) to the prompt in Figure 8-6, then you will see a screen simi-
lar to Figure 8-7. The login sequence starts. This login allows **root** to perform the
shutdown.

If you answer **n** (no) to the prompt in Figure 8-6, you see a prompt.

```
All currently running processes will now be killed.
Audit subsystems being turned off, if active.
All subsystems in /etc/mnttab will now be unmounted.

***SYSCON CHANGED TO /dev/console***
Wait for transition to run-level S

INIT: New run level: S

INIT: SINGLE USER MODE
```
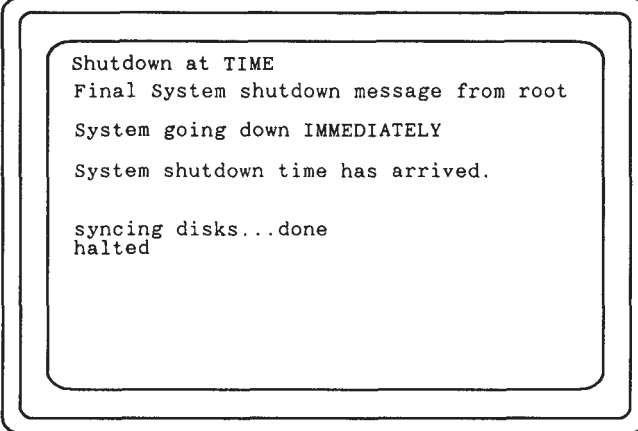
Figure 8-7. Continuing with the Shutdown

The shutdown process is complete when the message "halted" appears on the screen as shown in Figure 8-8.

Refer to the *HP-UX System Administration Tasks* for more details.

```
Shutdown at TIME
Final System shutdown message from root

System going down IMMEDIATELY

System shutdown time has arrived.


syncing disks...done
halted
```

Figure 8-8. System Halted Screen

Troubleshooting HP-UX

The *Troubleshooting HP-UX Systems Error Diagnosis and Recovery* provides methods for defining and isolating problems and possible solutions for the following categories of problems:

- Line printer spooling
- File system
- Disk space
- Terminals
- Boot-up
- HP-UX cluster

Chapter 9
Recovering from a System Panic

Most problems are dealt with by implementing some combination of avoidance, detection, prevention, and recovery. If you are reading this chapter, it is because any avoidance or prevention measures have failed and a problem has been detected. This chapter introduces recovery techniques and suggests efforts to minimize the effects of a panic.

Panics

A panic means that the computer halted because HP-UX was asked to do something that it did not understand. Panics are rare and are not necessarily catastrophic. The cause may be due to something like a Local Area Network (LAN) cable being unplugged and the solution is to plug it in and reboot your system.

The basic steps to recover from a panic are:

- Write down the panic message
- Categorize the panic type
- Correct the problem

Record the Panic Message

Write down the message that is displayed on the screen. You may need to refer to it later.

Categorize the Panic

A panic can be categorized into one of the following:

- Hardware failure
- File system problem
- LAN communication problem
- Other

The wording of the panic message that you wrote down directs you to the appropriate category.

Corrective Process

Once you have categorized the panic, you are ready to begin correcting the problem. In general, correcting the problem entails performing the category specific recovery and rebooting as shown in Table 9-1.

Once you have successfully rebooted your system you may want to perform more frequent backups until you are confident that your system functions properly. Read the section titled "Minimizing the Effects of a Panic" to understand how to design and perform backups.

Table 9-1. Correcting a Panic

Category	Corrective Process
Hardware	If the failure appears to be associated with the peripheral:
	Check the integrity of the cable connections.
	Ensure that the peripheral is online.
	If the failure appears to be associated with the System Processing Unit or the above did not correct the problem, call your designated service representative.
	You may refer to *Troubleshooting HP-UX Systems Error Diagnosis and Recovery* for more information.
File System	Run the file system checker (**fsck**) to correct the problem. Follow the directions that **fsck** gives and use the **-n** option with any subsequent reboots required by **fsck**.
	Refer to *Troubleshooting HP-UX Systems Error Diagnosis and Recovery*.
LAN	Ensure the integrity of all LAN connections; including taps in any AUI cable. Check for proper 50 ohm terminations at both ends of the LAN.
	Follow the directions that **fsck** gives and use the **-n** option with any subsequent reboots required by **fsck**.
	Refer to *Troubleshooting HP-UX Systems Error Diagnosis and Recovery*.
Other	Reboot.
	Refer to *Troubleshooting HP-UX Systems Error Diagnosis and Recovery*.

Minimizing the Effects of a Panic

Performing timely and adequate backups and implementing a good restore process will minimize the effects of a panic. The worst scenario for recovery is reinstalling HP-UX and restoring any lost files. Therefore, a meaningful backup would minimize the adverse affects of even the worst panic.

How frequently you backup your system and the type of backup you perform depends on how much and what type of data you can afford to lose. You need to consider the following topics when selecting a backup and restore process:

- Schedules

- Media

- Commands

The three topics are not independent and you need to understand how each will affect your backup and restore process prior to implementing a process.

Schedule

You need to decide how often various files need to be updated. Some backups are event driven; you update when something significant occurs, others are time driven; you update working directories once a week or some other fixed time interval.

Media

You need to understand the size of the files on your system that you intend to backup, since the size of the backup media must exceed the size of the file system you wish to back up.

You should also understand the time factors associated with the backup media that you select. For example, flexible disks are slower than optical disks. However, if your system is quite small, using an optical disk may not make sense.

Commands

Since the features of commands vary, you need to understand them in detail. Refer to the entries for the commands in the *HP-UX Reference* manuals. You have the option of performing backups either manually or automatically. However, once again, you need to understand the ramifications in detail. Automatic backups may prove to be more restrictive.

HP-UX System Administrative Tasks is an excellent source of information about designing a backup and restore process for your system.

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Glossary

application

A program used to perform a particular task, usually interactively, such as computer-aided design, text editing, or accounting.

backup

A copy of all or part of the file system.

boot

The process of running the program in ROM that brings in the operating system and runs it. *See also* boot ROM.

boot ROM

A program residing in ROM (Read-Only Memory) that executes each time the computer is powered up. It is designed to bring the operating system into the computer and start it.

cluster

A group of workstations connected via a LAN. One computer, the cluster server, performs as a file-system server for the cluster clients.

cluster client

A cluster node that does not have a local HP-UX file system. Its file system resides on the cluster server.

cluster server

> The cluster node which acts as a file system server for all the cluster nodes in an HP-UX cluster.

command interpreter

> A program which reads lines of text from standard input (typed at the keyboard or read from a file), and interprets them as requests to execute other programs. An HP-UX command interpreter is called a shell.

cpu

> The part of a computer that interprets and executes instructions.

environment

> The set of defined shell variables that define the conditions under which your commands run. These conditions can include your terminal characteristics, home directory, and default search path.

file access permissions

> Every file in the file hierarchy has a set of access permissions. These permissions are used in determining whether a process can perform a requested operation on the file (such as opening a file for writing).

home directory

> The directory name given by the value of the shell variable HOME. This is the directory where the user starts after logging in.

kernel

> The part of the HP-UX operating system that is responsible for managing the computer's resources.

Local Area Network

> The systems and clusters which share data, hardware, and software resources via Networking Services software.

operating system

> This is the entire HP-UX system, including the kernel and all HP-UX commands. *See also* kernel.

shell

> An HP-UX command interpreter. *See also* command interpreter.

shutdown

The process of taking the system from multi-user state to system administration state.

system call

Invocation of a kernel process by a user program.

working directory

This is the directory in which relative path name searches begin. It is also called the current directory, or the current working directory.

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Index

Numbers

Reader's Response

Please take a few minutes to send us the information we need to revise and improve our manuals from your point of view.

Document Title: *HP Apollo 9000 Series 400 Workstation HP-UX Owner's Guide*
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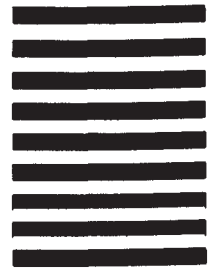|	Excellent	Average	Poor		
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