Compaq Deskpro Workstation 300

Hardware Reference Guide

COMPAQ

COMPAQ

Deskpro Workstation 300

Hardware Reference Guide

Notice

The following words and symbols mark special messages throughout this guide:

> ⚠ **WARNING:** Text set off in this manner indicates that failure to follow directions could result in bodily harm or loss of life.

> △ **CAUTION:** Text set off in this manner indicates that failure to follow directions could result in damage to equipment or loss of information.

Compaq Deskpro Workstation 300

Hardware Reference Guide

First Edition (October 2000)
Part Number 212399-001

Compaq Computer Corporation

CONTENTS

appendix A
Specifications

appendix B
Hard Drive Installation

appendix C
Battery Replacement

appendix D
Security Lock Provisions

appendix E
Electrostatic Discharge

appendix F
Routine Computer Care and Shipping Preparation

chapter *1*

PRODUCT FEATURES

Standard Configuration Features

The Compaq *Deskpro*™ Workstation 300 is a minitower system that can be easily converted to a desktop. Features may vary depending on your model. For a complete listing of the hardware and software installed in your workstation, run Compaq Diagnostics for Windows or the INSPECT utility (available on some models). Instructions for using these utilities are provided in the Troubleshooting Guide.

Front Panel Components
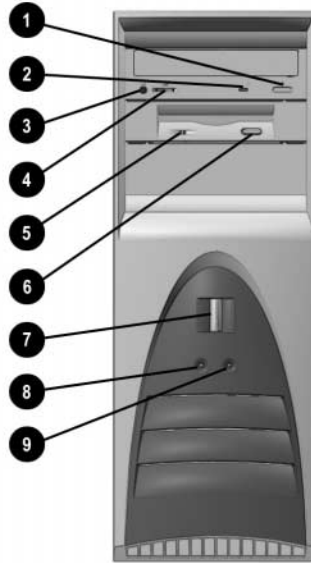
Front panel components

❶	CD-ROM eject button
❷	CD-ROM drive activity light
❸	CD-ROM headphone jack
❹	CD-ROM volume
❺	Diskette drive activity light
❻	Diskette eject button
❼	Power button
❽	Power-on light
❾	Hard drive activity light

Rear Panel Components
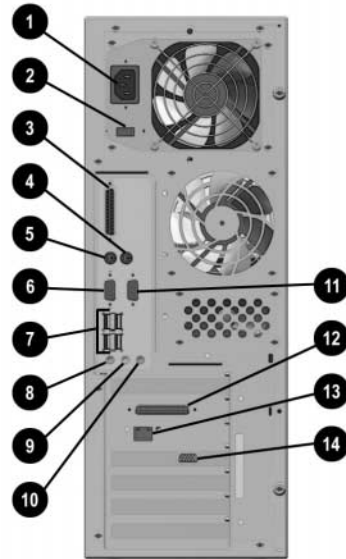
Rear panel components

❶ Power cord connector
❷ Voltage select switch
❸ Parallel connector
❹ Mouse connector
❺ Keyboard connector
❻ Serial connector (Serial A)
❼ Four universal serial bus (USB) connectors

❽ Microphone connector
❾ Headphone/Line out connector*
❿ Line-in audio connector
⓫ Serial connector (Serial B)
⓬ External SCSI connector (on select models)
⓭ Network Interface Card (NIC) connector
⓮ VGA (AGP) video connector

✎ *Your workstation has integrated audio with premium internal speaker and digital speaker support. Digital speakers must be Sound Blaster PCI 128 compatible. An adapter is required. Speakers and adapter are not available as a Compaq option.

I/O Panel Components
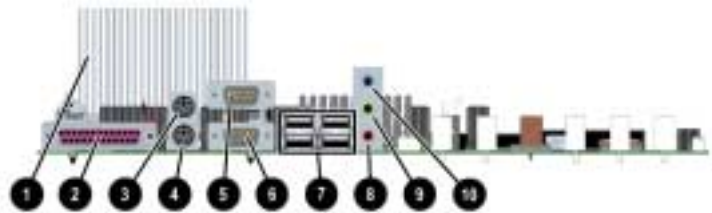
I/O panel components

❶	Heatsink
❷	Parallel connector
❸	Mouse connector
❹	Keyboard connector
❺	Serial connector (Serial B)
❻	Serial connector (Serial A)
❼	Four universal serial bus (USB) connectors
❽	Microphone connector
❾	Headphone/Line out connector*
❿	Line-in audio connector

✎　　　　*Your workstation has integrated audio with premium internal speaker and digital speaker support. Digital speakers must be Sound Blaster PCI 128 compatible. An adapter is required. Speakers and adapter are not available as a Compaq option.

System Board Components

System board components

❶	Secondary IDE connector	⓭	SOS connector
❷	Power switch and LED connector	⓮	AGP expansion socket
❸	Primary IDE connector	⓯	Five PCI expansion sockets
❹	Power button LED	⓰	Audio auxiliary
❺	CMOS reset button	⓱	CD audio connector
❻	Diskette drive connector	⓲	System fan connector
❼	PS-ON / 5V-AUX LED	⓳	Memory controller hub (MCH)
❽	Battery	⓴	Power supply connector (P3)
❾	Speaker connector	㉑	Processor
❿	3.3V-AUX LED	㉒	Channel B RIMM sockets
⓫	System ROM	㉓	Channel A RIMM sockets
⓬	Password enabler jumper	㉔	Power supply connector

Changing from a Minitower to a Desktop Configuration

To change from a minitower to a desktop configuration:

1. Shut down the operating system properly, then turn off the workstation and any external devices.

2. Disconnect the power cord from the grounded AC outlet then disconnect the network cable and any external devices from the system.

3. Remove the workstation access panel. See "Removing the Workstation Access Panel" in Chapter 2.

4. Remove the front bezel. See to "Removing the Front Bezel" in Chapter 2.

5. Disconnect all power and data cables from the drives in the 5.25-inch drive bay.

6. To release a drive from the 5.25-inch drive bay, slide the drivelock as shown. Carefully push the drive from the back of the unit until the drive casing can be grasped.

Releasing the drives with the drivelock

> ⚠ **CAUTION:** Do not hold the face plate while removing a drive. Only hold a drive by its casing.

7. While holding the drive casing, gently pull the drive out of the drive bay.

> ⚠ **CAUTION:** When removing a drive, do not pull the drive from the front of the drive bay. To prevent damage to the drive bezel, push the drive from the rear for removal from the front of the drive bay.

8. After placing the workstation in the desktop position, gently slide the drives back into the bay.
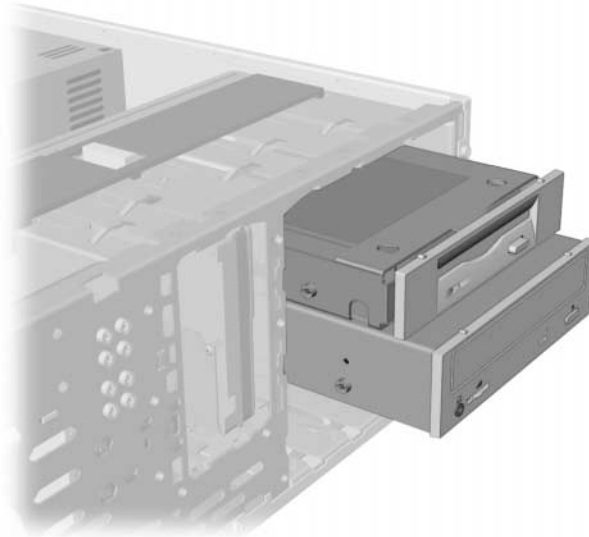
Installing the drives

> ⚠ **CAUTION:** The use of unnecessary force when installing the drive may result in damage to the drive.

✎ Always place the diskette drive in the bay nearest the top of the chassis (bay 3) in the desktop configuration to ensure proper drive clearance and access. When all of the drives are properly inserted, the drivelock will secure the drives in place.

9. Reconnect the power and data cables to the drives as labeled.

10. Remove the subpanel ❶ as described in "Removing the Bezel
    Blank" in Chapter 2, and reposition the subpanel ❷ with the bezel
    blank in the proper orientation for the desktop configuration.

⚠ **CAUTION:** Hold the subpanel straight when you pull it away from the
front bezel. Pulling the subpanel away at an angle could damage the
pins that align it within the front bezel.
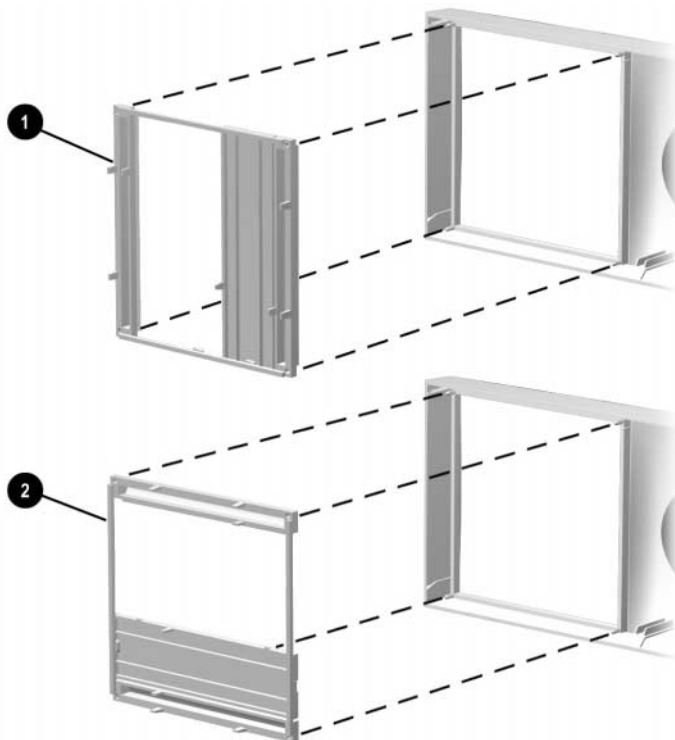
Changing from a minitower to a desktop configuration

✎ When converting from a minitower to a desktop orientation,
use the replacement subpanel that was shipped with your
workstation to ensure that the Compaq logo is properly
oriented.

11. Replace the subpanel, front bezel, and the workstation access
    panel. Be sure that the subpanel and front bezel align properly with
    the alignment tabs.

12. Reconnect the power cord to the grounded AC outlet, then
    reconnect the network cable and any external devices to the
    system.

Changing from a Desktop to a Minitower Configuration

To change from a desktop to a minitower configuration:

1. Shut down the operating system properly, then turn off the workstation and any external devices.

2. Disconnect the power cord from the grounded AC outlet then disconnect the network cable and any external devices from the system.

3. Remove the workstation access panel. See to "Removing the Workstation Access Panel" in Chapter 2.

4. Remove the front bezel. See to "Removing the Front Bezel" in Chapter 2.

5. Disconnect all power and data cables from the drives in the 5.25-inch drive bay.

6. To release a drive from the 5.25-inch drive bay, press the drivelock as shown.
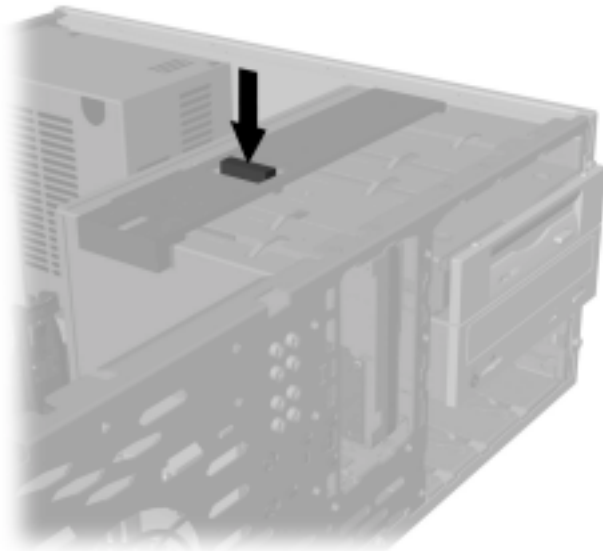
Releasing the drives with the drivelock

7. While pressing the drivelock button, push from the back of the drives until the drive casing can be grasped.

8. While holding the drive casing, pull the drives out of the drive bay.

9. After placing the workstation in the minitower position, gently slide the drives back into the bay.

Installing the drives

⚠ **CAUTION:** The use of unnecessary force when installing the drives may damage the drives.

✎ Always place the 3.5-inch, high-density diskette drive in the third bay from the top (bay 3) in the minitower configuration for proper clearance within the chassis. When the drives are properly inserted, the drivelock will secure them.

10. Reconnect the power and data cables to the drives as labeled.

11. Remove the subpanel ❶ as described in "Removing the Bezel Blank" in Chapter 2, and reposition the subpanel ❷ with the bezel blank in the proper orientation for the minitower configuration.

⚠ **CAUTION:** Hold the subpanel straight when you pull it away from the front bezel. Pulling the subpanel away at an angle could damage the pins that align it within the front bezel.
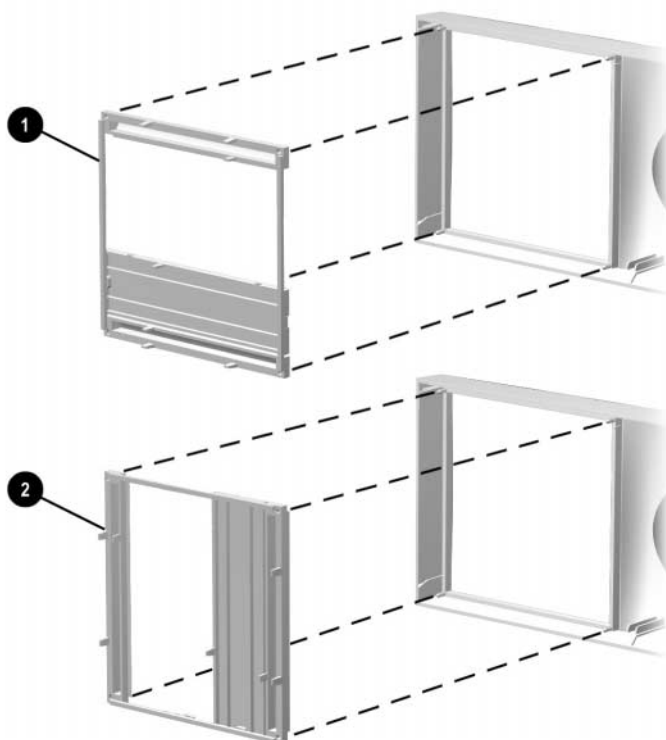
Changing from a desktop to a minitower configuration

✎ When converting from a desktop to a minitower orientation, use the replacement subpanel that is shipped with your workstation to ensure that the Compaq logo is properly oriented.

12. Replace the subpanel, front bezel, and workstation access panel. Be sure that the subpanel and front bezel align properly with the alignment tabs.

13. Reconnect the power cord to the grounded AC outlet, then reconnect the network cable and any external devices to the system.

Keyboard

Your workstation ships with an Easy Access Keyboard. The following figure identifies the location of keyboard lights and special function keys.
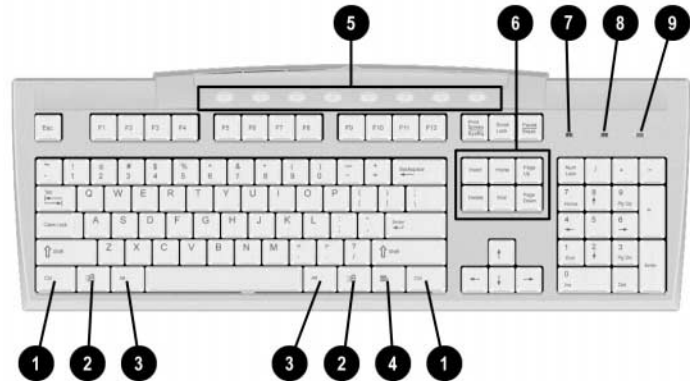
Easy Access Keyboard components

Ref	Component	Function
❶	Ctrl key	Used in combination with another key; its effect depends on the application software you are using.
❷	Windows Logo key*	Used to open the Start menu in Microsoft Windows 95. Used in combination with other keys to perform other functions. (See "Windows Logo Key" later in this section.)
❸	Alt key	Used in combination with another key; its effect depends on the application software you are using.
❹	Application key*	Used (like the right mouse button) to open pop-up menus in a Microsoft Office application. May perform other functions in other software applications.
❺	Easy Access keys	Provides quick and easy access to favorite Web sites, applications, and services.
❻	Editing keys	Includes the following: Insert, Home, Page Up, Delete, End, and Page Down. **NOTE:** Holding down Ctrl and Alt while pressing Delete allows you to restart your computer.
❼	Num Lock light	Indicates whether the Num Lock feature is on or off.
❽	Caps Lock light	Indicates whether the Caps Lock feature is on or off.
❾	Scroll Lock light	Indicates whether the Scroll Lock feature is on or off.

*Keys available in select geographic regions.

Easy Access Software

Your Easy Access Keyboard Buttons are programmed to default assignments. The preinstalled Easy Access Software allows you to reprogram the Easy Access Buttons to reflect your personal preferences. The buttons can be reprogrammed to any program or service of your choice or to any Web site (URL).

Reprogramming the Easy Access Buttons

The Easy Access Keyboard icon is located on the Windows desktop Status bar. Refer to the Readme-user.txt file for instructions on reprogramming the Easy Access Buttons.

Locking and Unlocking the Easy Access Buttons

The System Administrator can lock and unlock the Easy Access Buttons. Once locked, the buttons can only be reprogramed by modifying the .bcf file. For administrative privileges, which require control of the Easy Access Button destinations, refer to the Readme-admin.txt file.

Easy Access Paper Icon Insert

The paper icon insert functions as a visual aid in identifying the programmed destination of each Easy Access Button. Whenever an Easy Access Button is reprogrammed, use the Paper Insert Template document to select and print an icon that reflects the new button assignment. To create a new paper icon insert document, refer to the Paper Insert Template.doc file.

✎ To properly align, the spacing around the icons may require adjustment.

Windows Logo Key

Use the Windows Logo key in combination with other keys to perform certain functions in Windows 2000 Professional and Windows NT Workstation 4.0.

Windows logo key + **F1**	Displays a pop-up menu for the selected object
Windows logo key + **Tab**	Activates the next Taskbar button
Windows logo key + **E**	Launches Explore My Computer
Windows logo key + **F**	Launches Find Document
Windows logo key + **Ctrl** + **F**	Launches Find Computer
Windows logo key + **M**	Minimizes all open applications
Shift + Windows logo key + **M**	Undoes Minimize All
Windows logo key + **R**	Displays Run dialog box

Special Mouse Functions

Most software applications support the use of a mouse. The functions assigned to each mouse button depend on the software application you are using.

Serial Number Location

Each computer has a unique serial number located on the corner of the computer access panel and on the rear panel of the computer. Keep this number available when contacting Compaq customer service.

chapter 2

HARDWARE UPGRADES

This chapter explains how to remove the workstation access panel and the front bezel. It also explains how to install the following hardware:

■ Memory

■ Drives

■ Expansion boards

✎ Compaq recommends that you finish the setup procedures for the preinstalled software before you install any optional hardware or third-party devices that were not included with your workstation.

Installation Sequence

Follow this sequence of steps to ensure the proper installation of any optional equipment. Before you begin, observe the following precautions:

> ⚠ **WARNING:** To reduce the risk of personal injury from hot surfaces, allow the internal system components to cool before touching them.

> ⚠ **WARNING:** To reduce the risk of electrical shock, fire, or damage to the equipment, do not plug telecommunications/telephone connectors into the network interface controller (NIC) receptacles.

> △ **CAUTION:** Static electricity can damage the electronic components of the workstation or optional equipment. Before beginning these procedures, ensure that you are discharged of static electricity by briefly touching a grounded metal object.

1. Turn off the workstation and disconnect the power cord from the grounded AC outlet.

2. Disconnect the keyboard, monitor, network cable, and other external equipment connected to the workstation.

3. Open the workstation by removing its workstation access panel. See "Removing the Workstation Access Panel" in this chapter for instructions.

4. If you are installing or removing drives in the front bays, see "Removing the Front Bezel" in this chapter for instructions.

5. Install any optional equipment, such as memory, additional drives, expansion boards, processors, or batteries. See the appropriate sections in this chapter or the appendixes for installation instructions. Also refer to the documentation provided with the optional equipment.

6. Replace the front bezel and the workstation access panel, if necessary.

7. Reconnect the keyboard, monitor, network cable, and other external devices.

8. Plug the power cord into a grounded AC outlet.

9. Turn on the monitor, workstation, and any external devices you installed.

10. Reconfigure the workstation, if necessary.

11. Test the workstation (optional) using the TEST utility.

Removing the Workstation Access Panel

To remove the workstation access panel:

1. Shut down the operating system properly, then turn off the workstation and any external devices.

2. Disconnect the power cord from the grounded AC outlet.

3. To remove the workstation access panel, loosen the two thumbscrews as shown in the following illustration.

Loosening the two thumbscrews and removing the workstation access panel

✎ When replacing the workstation access panel, be sure to tighten both thumbscrews.

Removing the Front Bezel

To remove the front bezel:

1. Shut down the operating system properly, then turn off the workstation and any external devices.

2. Disconnect the power cord from the grounded AC outlet.

3. Remove the workstation access panel. See "Removing the Workstation Access Panel" in this chapter.

4. Push in on the two front bezel release tabs ❶, then rotate the front bezel ❷ away from the chassis to release it.
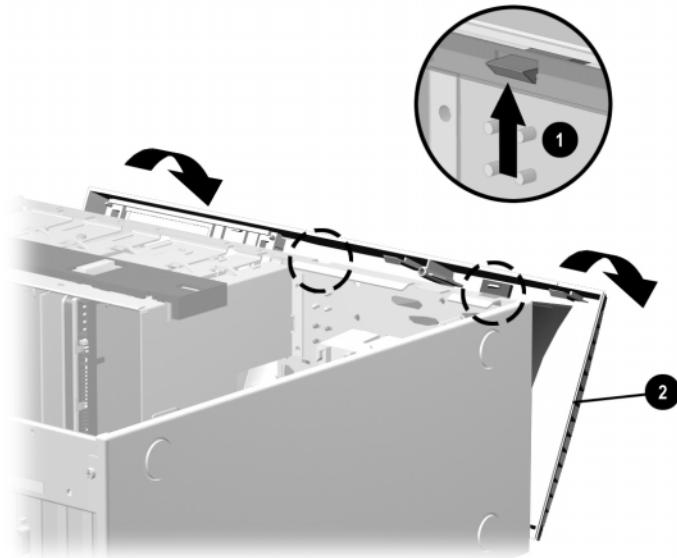
Pressing the two front bezel release tabs to remove the front bezel

✎ When replacing the front bezel, ensure that the bottom hinge points are properly placed in the chassis before rotating the front bezel back into its original position.

Installing Additional Memory

The Compaq Deskpro Workstation 300 supports Error Checking and Correcting (ECC) Direct Rambus inline memory modules (RIMMs). Additional RIMMs are available to upgrade the memory. A maximum of 32 count Direct RDRAM devices is supported on each Direct Rambus memory channel. Continuity RIMMs (CRIMMs) must populate any empty sockets.

Installing and Removing RIMMs

RIMM Socket Locations

Your workstation supports a total of four RIMM sockets on two Direct RDRAM channels. A maximum of 32 Direct RDRAM devices is supported per channel.

The four RIMM sockets are numbered XMM1 and XMM2 (Channel A) and XMM3 and XMM4 (Channel B).
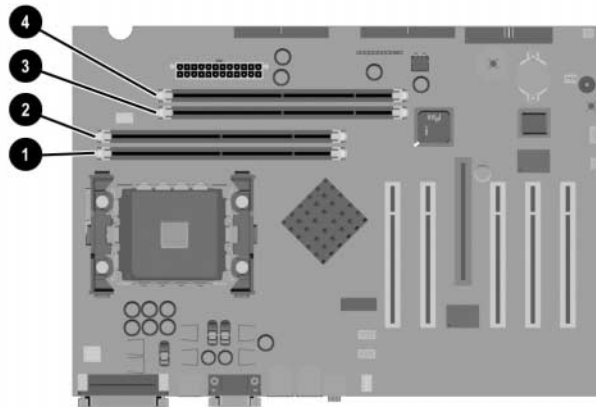
Location of RIMM sockets

❶	RIMM Socket XMM3, Channel B
❷	RIMM Socket XMM4, Channel B
❸	RIMM Socket XMM1, Channel A
❹	RIMM Socket XMM2, Channel A

Guidelines for RIMM Installation

Follow the guidelines listed below when installing RIMMs:

■ RIMMs must be installed correctly. Be sure to match the two key sockets on the RIMM with the tabs on the RIMM socket. Push the RIMM down into the RIMM socket, ensuring that it is fully inserted and properly seated and that the retaining arms are locked in place.

■ CRIMMs must be installed in all empty RIMM sockets. Remove the CRIMMs when you want to populate the sockets with RIMMs. For examples of the correct configuration sequence, see "Installing RIMMs" in this chapter.

■ Install RIMMs in pairs across both memory channels. Each RIMM socket populated with a RIMM or CRIMM on Channel A must be populated with an identical RIMM or CRIMM on Channel B. For examples of the correct configuration sequence, see "Installing RIMMS" in this chapter.

■ Do not exceed 32-count Direct RDRAM devices on each Direct Rambus memory channel. A label on the RIMM will indicate the number and speed of Direct RDRAM devices on the RIMM.

✎ You cannot remove or add Direct RDRAMs to a RIMM because the Direct RDRAMs are soldered on and encased by another material.

■ Do not mix RIMMs with different memory speeds. Performance will reflect the slowest speed RIMM.

⚠ **CAUTION:** Static electricity can damage the electronic components of the workstation or optional boards. Before beginning these procedures, ensure that you are discharged of static electricity by briefly touching a grounded metal object.

⚠ **CAUTION:** Your workstation will not function if the above guidelines are not followed when installing RIMMs.

⚠ **CAUTION:** When handling a memory module, do not touch any of the contacts. Doing so can damage the module.

Installing RIMMs

When installing RIMMs, you must use the configurations in the following table.

RIMM Installation Configurations

	Memory Channel A		Memory Channel B	
Possible Configuration	RIMM Socket XMM1	RIMM Socket XMM2	RIMM Socket XMM3	RIMM Socket XMM4
1	RIMM	CRIMM	RIMM	CRIMM
2	RIMM	RIMM	RIMM	RIMM

WARNING: To reduce the risk of personal injury when replacing or removing RIMMs, allow the module being removed from the RIMM socket sufficient time to cool. RIMM temperatures can reach 212°F (100°C).

CAUTION: When handling a RIMM, do not touch any of the contacts. Doing so may damage the module.

CAUTION: Static electricity can damage the electronic components of the workstation or option boards. Before beginning these procedures, ensure that you are discharged of static electricity by briefly touching a grounded metal object.

Before installing additional RIMMs, read "Guidelines for RIMM Installation" in this chapter.

✎ CRIMMs must be installed in all unpopulated RIMM sockets.

To install a memory module:

1. Turn off the workstation and any external devices, then disconnect the power cord from the grounded AC outlet.

   On a power-managed system, the power cord must be disconnected from the grounded AC outlet.

2. Remove the workstation access panel and locate the RIMM sockets.

   ⚠ **CAUTION:** Be sure to follow the correct configuration guidelines to your respective memory board, or your system will not function.

3. Refer to the following illustration to install a RIMM module.
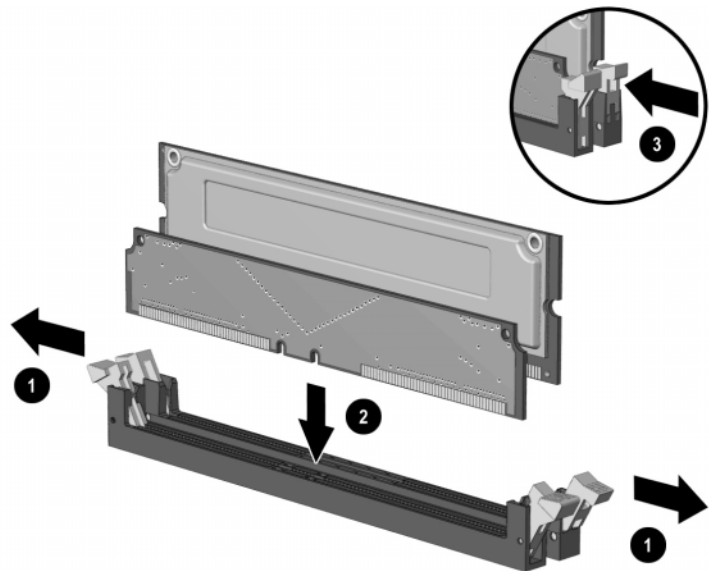
Installing a RIMM module

4. Reassemble the workstation.

Removing RIMMs

To remove a memory module from a RIMM socket, reverse the procedures in the previous section.

Installing Additional Drives

This section provides a description of the drive bay components. It alos provides instructions for removing a bezel blank and how to install or remove a drive.

Drive Bay Components

Your workstation supports up to five drive bays. Drive bays ❶ through ❸ are located on the front of the workstation. Bays ❹ and ❺ are located inside the workstation. The drives support various drive configurations.

✎ Drive bay numbers are stamped on the chassis, behind the front bezel.

Minitower Drive Bay Positions
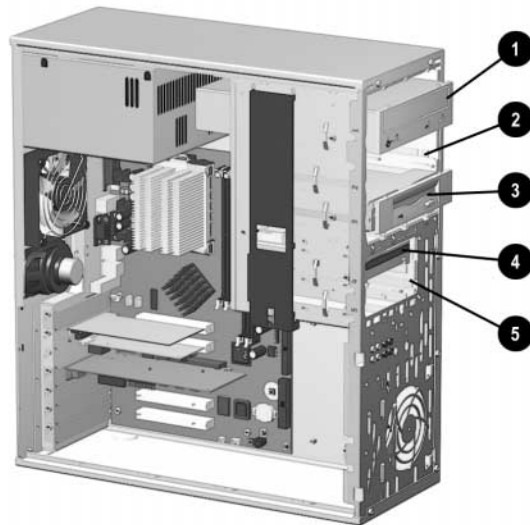
Identifying minitower drive bay components

❶   Bay 1—5.25-inch, half-height bay for optional drive

❷   Bay 2—5.25-inch, half-height bay for optional drive

❸   Bay 3—3.5-inch, high-density diskette drive mounted in the 5.25-inch, one-third height bay

❹   Bay 4—3.5-inch, one-third height bay for hard drive

❺   Bay 5—3.5-inch, one-third height bay for hard drive

Desktop Drive Bay Positions
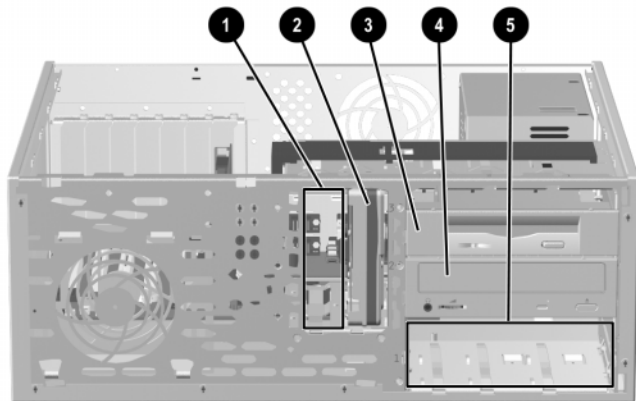
Identifying desktop drive bay components

❶   Bay 5—3.5-inch, one-third height bay for hard drive

❷   Bay 4—3.5-inch, one-third height bay for hard drive

❸   Bay 3—3.5-inch, high-density diskette drive mounted in the 5.25-inch, one-third height bay

❹   Bay 1—5.25-inch, half-height bay for optional drive

❺   Bay 2—5.25-inch, half-height bay for optional drive

Preparing for Drive Installation

Remove the drive bezel blank before installing any removable media storage device, such as a tape drive, CD-ROM or DVD-ROM drive, or diskette drive, in these bay locations.

Removing the Bezel Blank

To remove the bezel blank:

1. Shut down the operating system properly, then turn off the workstation and any external devices.

2. Disconnect the power cord from the grounded AC outlet.

3. Remove the workstation access panel. See "Removing the Workstation Access Panel" in this chapter.

4. Remove the front bezel. See "Removing the Front Bezel" in this chapter.

5. Gently pull the subpanel, with the bezel blank still secured, away from the front bezel. Remove the bezel blank from the subpanel.

> ⚠ **CAUTION:** Hold the subpanel straight when you pull it away from the front bezel. Pulling the subpanel away at an angle could damage the pins that align it within the front bezel.
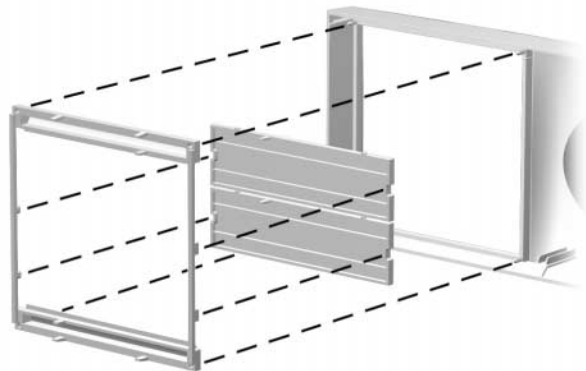
Removing the bezel blank from the subpanel

✎ When replacing the subpanel, ensure that the aligning pins are properly oriented.

When converting from a minitower to a desktop orientation, use the replacement subpanel that is shipped with your workstation to ensure that the Compaq logo is properly oriented.

Installing a Drive

The following sections provide instructions for installing a hard drive in a 3.5-inch drive bay and in a 5.25-inch drive bay.

Installing a Hard Drive into a 3.5-inch Drive Bay

✎ Compaq does not support mixing Ultra ATA and SCSI hard drives in the same system. If you are replacing a hard drive in bay 4 or bay 5, the replacement drive should be of the same type as the drive being removed.

To install a hard drive in a 3.5-inch drive bay:

1. Turn off the workstation and disconnect the power cord from the grounded AC outlet.

2. Remove the Workstation access panel. See "Removing the Workstation Access Panel" in this chapter.

3. Remove the front bezel. See "Removing the Front Bezel" in this chapter.

4. To install a hard drive into a 3.5-inch bay, see the following two illustrations.
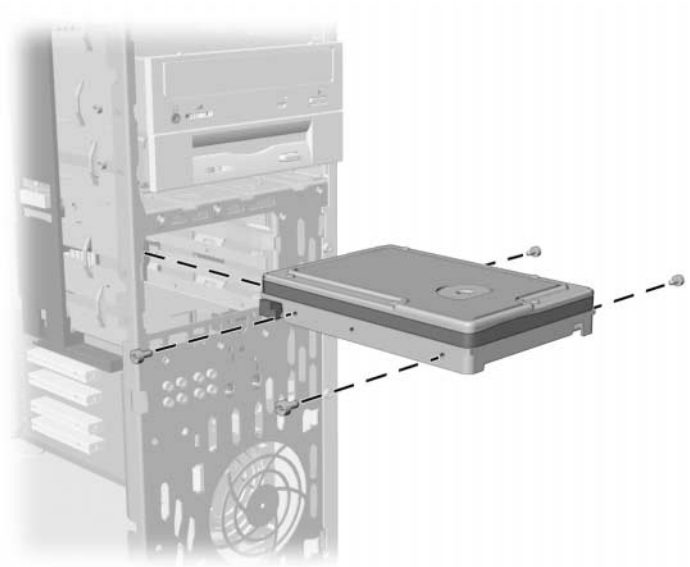
Installing a hard drive into a 3.5-inch hard drive bay

Connecting the signal cable and power cable

5. Connect the opposite end of the cables to the appropriate system board connectors. To locate the appropriate drive connectors, see "System Board Components" in Chapter 1.

6. Reassemble the workstation.

Installing a Hard Drive into a 5.25-Inch Drive Bay

To install a 3.5-inch hard drive into a half-height, 5.25-inch drive bay, the drive must be housed in an adapter. To install the drive and adapter:

1. Turn off the workstation and any external drives. Disconnect the power cord from the grounded AC outlet. Then remove the workstation access panel. See "Removing the Workstation Access Panel" in this chapter.

2. Remove the front bezel. See "Removing the Front Bezel" in this chapter.

3. To secure the drive to the adapter install the four screws into the drive as shown in the following illustration.

4. Install the guide screws into the hard drive adapter.

5. Install the adapter in the drive bay by sliding it into the front of the drive cage. The drivelock automatically secures the adapter when the drivelock snaps into place.

Aligning the guide screws and installing a 3.5-inch drive

Connecting the signal and power cables

6. Connect the opposite end of the cables to the appropriate system board connectors. To locate the appropriate drive connectors, see "System Board Components" in Chapter 1.

7. Reassemble the workstation.

Removing a Drive

✎ Compaq does not support mixing Ultra ATA and SCSI hard drives in the same system. If you are replacing a hard drive in bay 4 or bay 5, the replacement drive should be of the same type as the drive being removed.
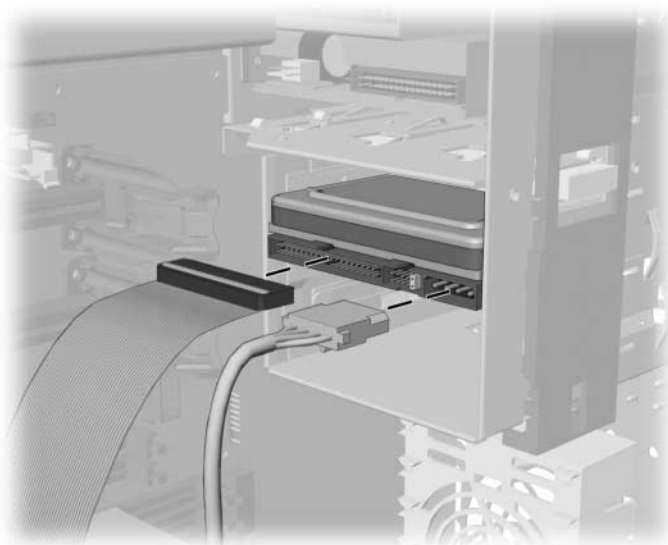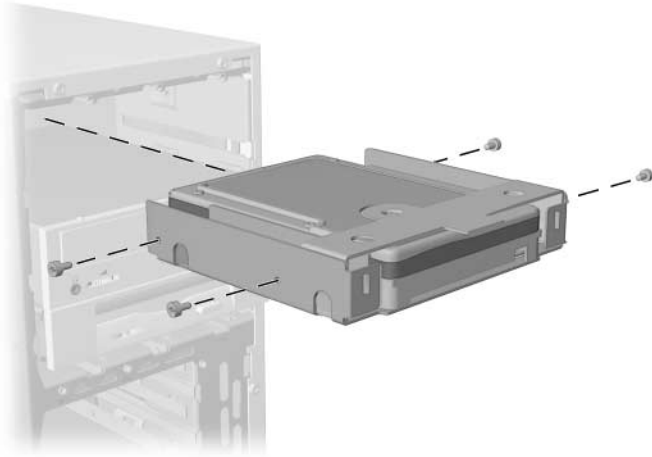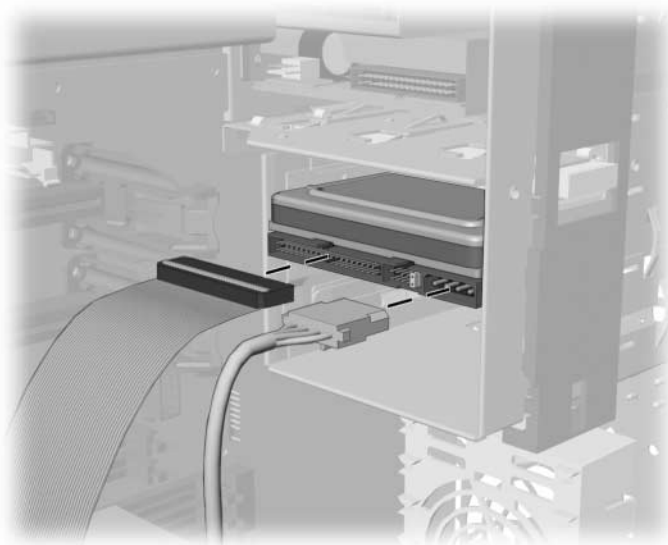
1. Shut down the operating system properly, then turn off the workstation and any external devices.

2. Remove the workstation access panel. See "Removing the Workstation Access Panel" in this chapter.

3. Remove the front bezel. See "Removing the Front Bezel" in this chapter.

4. Disconnect the drive power and signal cables and, if it is a CD-ROM drive, disconnect the audio connector.

5. Release the drivelock.

❏ If the drive is in the minitower position, slide the drivelock to unlock the drive in the drive bay.
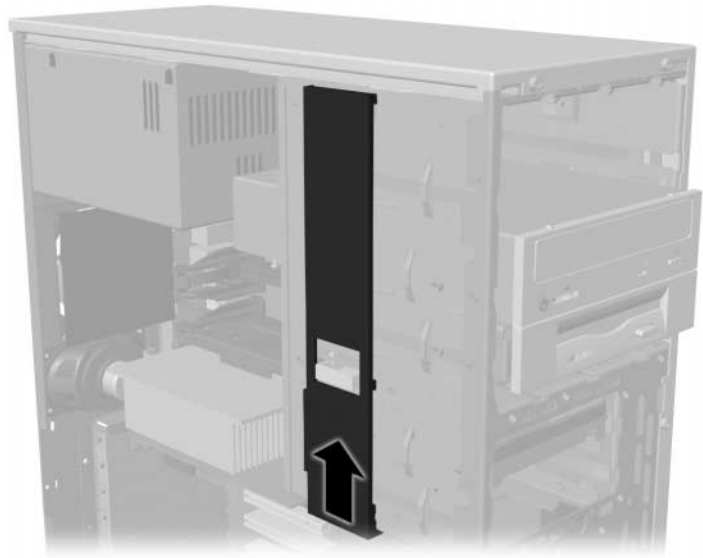
Releasing the drives with the drivelock

❏ If the drive is in the desktop position, press the drivelock button to unlock the drive.
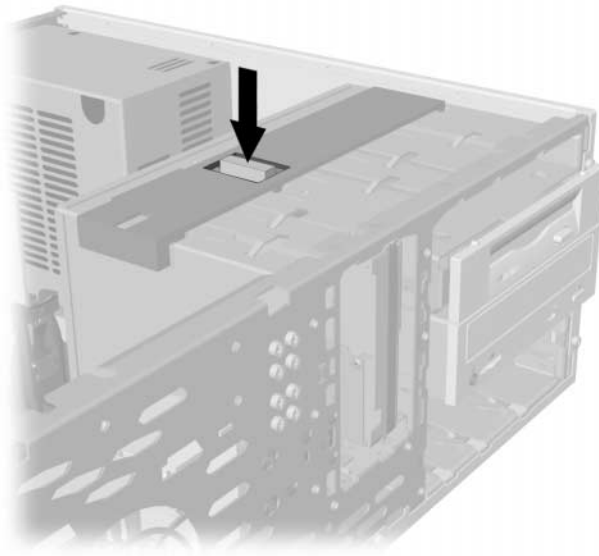
Releasing the drives with the drivelock button

6. While releasing the drivelock, push from the back of the drives until the drive casing can be grasped from the front of the workstation.

7. While holding the drive casing, pull the drives out of the drive bay.

8. Store the drives in antistatic packaging.

9. Reassemble the workstation.

Installing and Removing an Expansion Board

This section provides instructions for installing and removing PCI and AGP expansion boards.

✎ For product documentation related to your graphics controller, refer to the Workstation Reference Library CD included with your workstation.

Identifying the PCI and AGP Expansion Sockets

This workstation contains five PCI sockets and one AGP socket. The following illustration identifies the physical locations of these sockets.
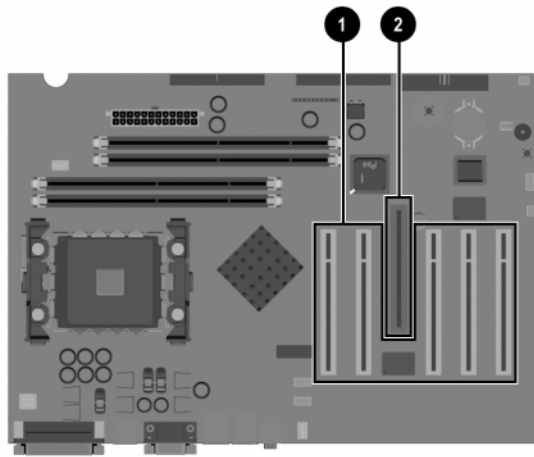
Identifying PCI and AGP expansion sockets

❶ Five PCI expansion sockets

❷ One AGP expansion socket

Installing an Expansion Board

To install an expansion board:

1. Turn off the workstation and disconnect the power cord from the grounded AC outlet.

2. Remove the workstation access panel and locate the correct vacant slot in the workstation chassis.

3. Remove the screw securing the expansion slot cover, then remove the slot cover, as illustrated.
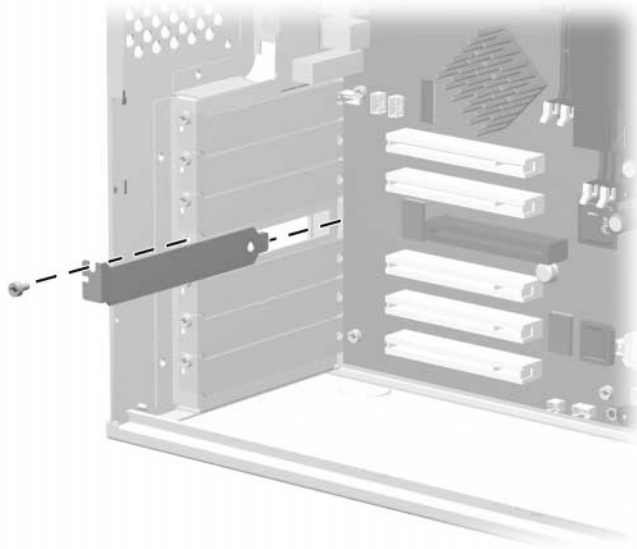
Removing the screw and expansion slot cover

4. Slide the expansion board into the expansion socket and press the board firmly into place.

   When installing an expansion board, press firmly on the board so that the whole connector seats properly in the expansion board socket.

✎ If installing an AGP expansion board, the board must have an ATX bracket.
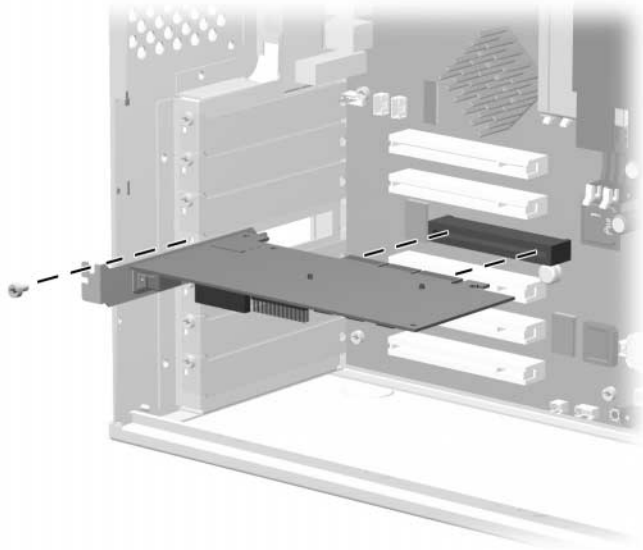
Installing an expansion board

5. Replace the screw to secure the board in the expansion socket.

6. Reassemble the workstation.

Removing an Expansion Board

To remove an expansion board, reverse the steps in the previous section. When reversing these steps:

■ Be sure to store the board in antistatic packaging.

■ Install an expansion slot cover to close the open slot.

appendix A

SPECIFICATIONS

Compaq Deskpro Workstation 300		
Component	**U.S.**	**Metric**
Minitower Dimensions		
Height	17.65 in.	44.83 cm
Width	6.60 in.	16.76 cm
Depth	17.11 in.	43.46 cm
Desktop Dimensions		
Height	6.60 in.	16.76 cm
Width	17.65 in.	44.83 cm
Depth	17.11 in.	43.46 cm
Approximate Weight	26 lb	12 kg
Power Supply		
Operating Voltage Range	90-132 VAC	180-264 VAC
Rated Voltage Range	100-127 VAC	200-240 VAC
Rated Line Frequency	50-60 Hz	50-60 Hz
Temperature		
Operating	50° to 95°F	10° to 35°C
Shipping	-4° to 140°F	-20° to 60°C
Humidity (noncondensing)		
Operating	20% to 80%	
Nonoperating	10% to 90%	
Maximum Altitude (unpressurized)		
Operating	10,000 ft	3,048 m
Nonoperating	30,000 ft	9,144 m
Power Output	265 W	265 W
Rated Input Current (maximum)		
200 W	7.5 A	3.75 A
Heat Dissipation (maximum)		
Maximum	1390 Btu/hr	350 kg-cal/hr
Nominal	690 Btu/hr	175 kg-cal/hr

appendix **B**

HARD DRIVE INSTALLATION

Using the Cable-Select Feature with Ultra ATA Devices

Select models of the Compaq Deskpro Workstation 300 have an internal IDE Ultra ATA hard drive preinstalled. The configuration of the drives employs a cable-select feature that identifies the drives as device 0 (primary drive) or device 1 (secondary drive).

The system board determines which drive is device 0 or device 1, based on the way the drives are connected to the special drive cable. The device 0 drive is the drive connected to the short segment of the drive cable (or the connector closest to the system board); the device 1 drive is the drive connected to the long segment of the drive cable.

Compaq hard drives ship with jumpers preset to cable-select mode; therefore, no jumper setting changes on the existing or optional drives are required. If you purchase a third-party hard drive, refer to the documentation included with the kit to ensure proper installation and configuration of cables.

✎   If installing a second device on the primary controller, you must use an 80 conductor Ultra ATA cable for optimal performance. This cable is standard on select models.

Guidelines for Installing Ultra ATA IDE Devices

When installing additional IDE drives, follow these guidelines:

■ For optimal performance, connect hard drives to the primary controller. Connect expansion devices, such as IDE CD-ROM drives, tape drives, and diskette drives, to the secondary controller.

■ Install either a third-height or a half-height drive into a half-height bay.

■ Install guide screws to ensure that the drive lines up correctly in the drive cage. Compaq has provided extra guide screws, which are installed in the front of the workstation chassis behind the front bezel. Some options use M3 metric hardware. Compaq-supplied metric screws are black.

SCSI Devices

This section contains information relating to SCSI device guidelines and installation.

Guidelines for Using SCSI Devices

When installing and operating SCSI devices, you must follow these guidelines:

■ A single Ultra SCSI, Ultra-Wide SCSI, Wide Ultra2 SCSI, or Wide-Ultra160 SCSI controller allows you to daisy-chain up to 15 additional SCSI devices. Including the controller, that equals 16 total SCSI devices.

■ If 2 SCSI controllers are present, each connected to separate system board SCSI connector, each controller may have 7 SCSI devices attached. This configuration yields a total of 16 SCSI devices on the system.

■ Each SCSI controller requires a unique SCSI ID (0-7 or 8-15) for each SCSI device installed. The controller identifies a SCSI device by its SCSI ID number rather than by its location. Moving a SCSI device from one position to another on the SCSI chain does not affect communication between the controller and the device. The reserved and available SCSI ID numbers for SCSI devices are the following:

❏ 0–reserved for the primary hard drive

❏ 7–reserved for the controller

❏ 1 through 6 and 8 through 15 – available for all other SCSI devices

■ If only one SCSI hard drive is used, it should be installed in the lowest numbered bay (bay 1).

■ Every SCSI chain or circuit must be terminated (closed) at both ends. Some system boards have both ends of the SCSI cable connected to, and terminated by, the system board. Termination can be accomplished through one of the following methods:

❏ Using a cable with a built-in terminator.

❏ Using a cable with a terminating resistor plug in the last connector.

❏ Connecting a SCSI device with its termination enabled into the last connector.

❏ Connecting an external SCSI device with its termination enabled to the external SCSI connector on the rear panel of the computer.

■ Turn on all external SCSI devices before turning on the power to the computer. This enables the SCSI controller to recognize the external devices.

■ All SCSI hard drives must be either internal or external, but never both. The system accommodates a combination of other internal and external SCSI devices, such as tape and CD-ROM drives.

■ Compaq does not recommend mixing different width SCSI devices on the same SCSI chain or on the same SCSI controller. Mixing devices of different widths on the same chain or controller will always result in a data transfer rate of the slowest machine in that chain. It is acceptable to mix Wide-Ultra2 and Wide-Ultra160 SCSI devices, but do not mix Narrow devices with any devices other than Narrow devices.

For additional information about optional SCSI devices, refer to the documentation included with the device or contact your Compaq authorized dealer, reseller, or service provider.

> **CAUTION:** Do not route cables near the air intake to the power supply. Cables routed in this manner can block airflow to the power supply, causing it to overheat.

Guidelines for Installing SCSI Devices

Compaq does not support mixing Ultra ATA and SCSI hard drives in the same system.

On a Compaq Deskpro Workstation 300 for which you are replacing a hard drive in bay 4 or 5, the replacement drive should be the same type as the drive being removed. If you are replacing the Ultra ATA hard drive with a SCSI hard drive, you will need a SCSI device option kit and the SCSI controller option kit. The controller option kit contains the SCSI controller and a cable that supports multiple SCSI devices.

Before installing a SCSI device on any workstation:

■ Verify the SCSI ID of the drive and, if necessary, set the SCSI ID to a unique number. See "Guidelines for Using SCSI Devices" in this appendix or refer to the documentation included with the device.

■ Determine if the device requires termination to be enabled or disabled. Set the termination if necessary. See "Using a SCSI Cable" in this appendix or refer to the documentation included with the device.

SCSI Cables

You can install mass storage SCSI devices in the front drive bays of your workstation.

Using a SCSI Cable

Select models of the Compaq Deskpro Workstation 300 ship with a multimode SCSI cable that supports LVD or single-ended devices. (UATA models do not ship with a SCSI cable). The cable accommodates up to three SCSI devices in the front drive bay area. Some Compaq Deskpro Workstation 300 models ship with an internal SCSI drive preinstalled in the front drive bay area. You can add additional high-performance SCSI drives using the external SCSI connector located on the rear panel of the workstation.
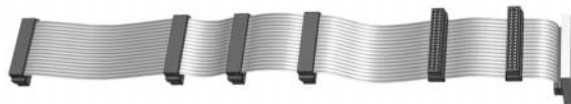
Five-device SCSI cable with terminator

The cable that shipped with your workstation may look different than the one illustrated (a five-device cable).

✎ If you are installing a narrow SCSI device, you will need to attach a 68-pin to 50-pin SCSI adapter.

For additional information about installing optional SCSI devices, refer to the documentation included with the device option kit, or contact your Compaq authorized dealer, reseller, or service provider.

Using SCSI*Select* with SCSI Devices

The Wide-Ultra160 SCSI host adapter includes the SCSI*Select* utility to configure the host adapter and to run SCSI disk utilities. To run the SCSI*Select* utility:

■ In POST Messages Enabled mode: Press **Ctrl+A** when the Press <Ctrl><A> for SCSI*Select* Utility message appears during POST.

■ In POST Messages Disabled mode: When the Compaq logo screen appears, press any key to exit the logo screen. Immediately after exiting the logo screen, press **Ctrl+A** to access the SCSI*Select* utility.

A menu appears with the following options:

■ Configure/View Host Adapter Settings

❏ SCSI Bus Interface Definitions

– Host Adapter SCSI ID

– SCSI Parity Checking

– Host Adapter SCSI Termination

❏ Additional Options

– Boot Device Options

– SCSI Device Configuration

– Advanced Configuration Options

■ SCSI Disk Utilities

Lists all SCSI devices and SCSI ID numbers

✎ For information about configuring POST message display status, refer to the *Computer Setup* guide.

appendix C

BATTERY REPLACEMENT

Procedure for Replacing the Battery

The battery that comes with your computer provides power to the real-time clock and has a lifetime of about three years. When replacing the battery, use an equivalent 3-volt lithium coin cell battery.

⚠ **WARNING:** Your computer contains an internal lithium manganese dioxide, vanadium pentoxide, or alkaline battery or battery pack. There is a risk of fire and burns if the battery pack is not handled properly. To reduce the risk of personal injury:

Do not attempt to recharge the battery.

Do not expose to temperatures higher than 60°C (140ºF).

Do not disassemble, crush, puncture, short external contacts, or dispose of in fire or water.

Replace only with the Compaq spare designated for this product.

Batteries, battery packs, and accumulators should not be disposed of together with the general household waste. To forward them to recycling or proper disposal, please use the public collection system or return them to Compaq, your authorized partners, or their agents.

To replace the battery:

1. Shut down the operating system properly, turn off the computer and any external devices, disconnect the power cord from the electrical outlet, and remove the computer cover or access panel.
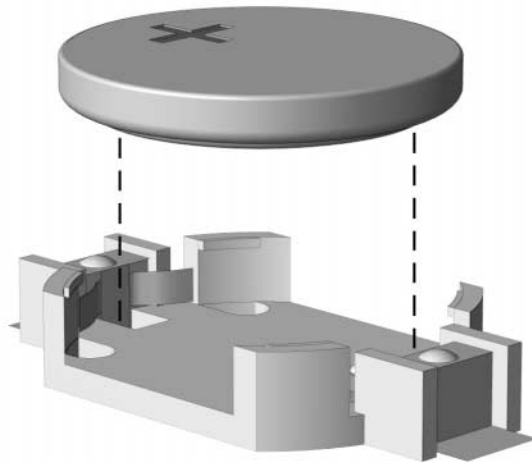
✎   It may be necessary to remove an expansion card to gain access to the battery.

2. Locate the battery and battery holder on the system board, as shown in the following illustration.
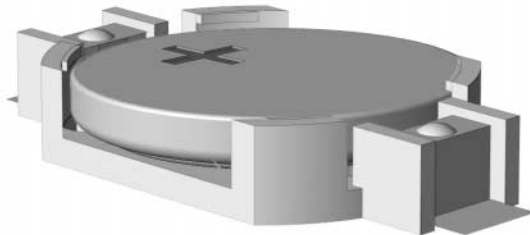
Battery and Battery Holder

3. Lift the battery out of its holder.

Removing the Coin Cell Battery

4. Slide the replacement battery into position, positive side up. The battery holder automatically secures the battery in the proper position.

5. Replace any expansion boards you removed.

6. Replace the computer cover or access panel.

7. Plug in the computer and turn on power to the computer.

8. Reset the date and time, your passwords, and any special system setups, using Compaq Computer Setup. Refer to the *Computer Setup* guide for additional information.

appendix D

SECURITY LOCK PROVISIONS

Installing a Cable Lock

The cable lock is an optional device used to help secure the workstation. Because of differences between chassis, the slot may be located in a different position than shown.
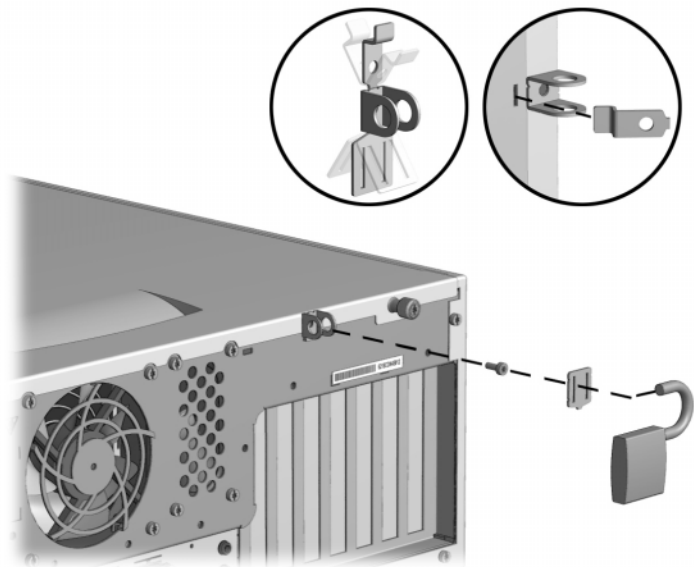
Securing the workstation

1. Separate the pieces of the security bracket by bending the metal where the three pieces join.

2. Insert the tang (tongue) of the narrow bracket into the slot on the chassis and slide the U-shaped security bracket between it and the system unit cover; then install the self-tapping screw included in the cable lock kit.

3. Cover the screw with the flat bracket.

4. Install a lock (not provided) in the security bracket to control access to the inside of the workstation. Install a cable lock (not provided) to secure the workstation to a fixed object.

appendix E

ELECTROSTATIC DISCHARGE

A discharge of static electricity from a finger or other conductor may damage system boards or other static-sensitive devices. This type of damage may reduce the life expectancy of the device.

Preventing Electrostatic Damage

To prevent electrostatic damage, observe the following precautions:

■ Avoid hand contact by transporting and storing products in static-safe containers.

■ Keep electrostatic-sensitive parts in their containers until they arrive at static-free workstations.

■ Place parts on a grounded surface before removing them from their containers.

■ Avoid touching pins, leads, or circuitry.

■ Always be properly grounded when touching a static-sensitive component or assembly.

Grounding Methods

Several methods for grounding are available. Use one or more of the following methods when handling or installing electrostatic-sensitive parts:

■ Use a wrist strap connected by a ground cord to a grounded workstation or computer chassis. Wrist straps are flexible straps with a minimum of 1 megohm +/-10 percent resistance in the ground cords. To provide proper ground, wear the strap snug against the skin.

■ Use heelstraps, toestraps, or bootstraps at standing workstations. Wear the straps on both feet when standing on conductive floors or dissipating floor mats.

■ Use conductive field service tools.

■ Use a portable field service kit with a folding static-dissipating work mat.

If you do not have any of the suggested equipment for proper grounding, contact your Compaq authorized dealer, reseller, or service provider.

✎ For more information on static electricity, contact your Compaq authorized dealer, reseller, or service provider.

appendix F

ROUTINE COMPUTER CARE AND SHIPPING PREPARATION

Routine Computer Care

Follow these suggestions to take care of your computer and monitor:

■ Operate the computer on a sturdy, level surface. Leave a 3-inch (7.6-cm) clearance at the back of the system unit and above the monitor to permit the required airflow.

■ Never operate the computer with the cover or side panel removed.

■ Never restrict the airflow into the computer by blocking the front vents or air intake. Do not place the keyboard, with the keyboard feet down, directly against the front of the unit that is in a desktop configuration because this also restricts airflow.

■ Keep the computer away from excessive moisture, direct sunlight, and extremes of heat and cold. For information about the recommended temperature and humidity ranges for your computer, see to Appendix A, "Specifications," in this guide.

■ Keep liquids away from the computer and keyboard.

■ Never cover the ventilation slots on the monitor with any type of material.

■ Turn off the computer properly before you do either of the following:

❏ Wipe the exterior of the computer with a soft, damp cloth as needed. Using cleaning products may discolor or damage the finish.

❏ Occasionally clean the air vents on the front and back of the computer. Lint and other foreign matter can block the vents and limit the airflow.

CD-ROM Drive Precautions

Be sure to observe the following guidelines while operating or cleaning your CD-ROM drive.

Operation

■ Do not move the drive during operation. This may cause it to malfunction during reading.

■ Avoid exposing the drive to sudden changes in temperature, because condensation may form inside the unit. If the temperature suddenly changes while the drive is on, wait at least one hour before you turn off the power. If you operate the unit immediately, it may malfunction while reading.

■ Avoid placing the drive in a location that is subject to high humidity, extreme temperatures, mechanical vibration, or direct sunlight.

Cleaning

■ Clean the panel and controls with a soft, dry cloth or a soft cloth lightly moistened with a mild detergent solution. Never spray cleaning fluids directly on the unit.

■ Avoid using any type of solvent, such as alcohol or benzene, which may damage the finish.

Safety

If any object or liquid falls into the drive, immediately unplug the computer and have it checked by an authorized Compaq service provider.

Shipping Preparation

Follow these suggestions when preparing to ship your computer:

1. Back up the hard drive files onto PD discs, tape cartridges, or diskettes. Be sure that the backup media is not exposed to electrical or magnetic impulses while stored or in transit.

   ✎ The hard drive locks automatically when the system power is turned off.

2. Remove and store any program diskettes from the diskette drives.

3. Insert a blank diskette into the diskette drive to protect the drive while in transit. Do not use a diskette on which you have stored or plan to store data.

4. Turn off the computer and external devices.

5. Disconnect the power cord from the electrical outlet and then from the computer.

6. Disconnect the system components and external devices from their power sources and then from the computer.

   ✎ Ensure that all boards are seated properly and secured in the board sockets before shipping the computer.

7. Pack the system components and external devices in their original packing boxes or similar packaging with sufficient packing material to protect them.

   ✎ For environmental nonoperating ranges, see to Appendix A, "Specifications," in this guide.

INDEX

N

network interface card (NIC)
   connector, 1-3

O

optional drives
   routing cables, B-4
   SCSI adapters, B-6

P

parallel connector, 1-3, 1-4
power cord
   connector, 1-3
power-on light, 1-2

R

removing
   expansion board, 2-19
   hard drive, 2-16
   workstation access panel, 2-3
RIMMs (RAMBUS Inline Memory
  Modules)
   configuration, 2-7
   CRIMMs, 2-6
   important guidelines, 2-6
   installing, 2-5
   removing, 2-5
   socket locations, 2-5

S

SCSI
   cables, B-5
   connector, 1-3
   guidelines, B-2
   SCSI*Select*, B-6
Serial A connector, 1-3, 1-4
Serial B connector, 1-3, 1-4
serial number, 1-14
specifications, A-1
system board components, 1-5

U

universial serial bus (USB)
   connector, 1-3, 1-4

V

video connector, 1-3
voltage select switch, 1-3

W

workstation
   removing access panel, 2-3
   specifications, A-1