

Hardware Reference Guide

Compaq Deskpro EN Series of Personal Computers
Convertible Minitower Models



COMPAQ



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of Personal Computers

Convertible Minitower Models

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



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Hardware Reference Guide

Compaq Deskpro EN Series of Personal Computers Convertible Minitower Models

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Compaq Computer Corporation

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chapter 1

INSTALLATION GUIDELINES

This guide explains how to remove the computer cover or access panel and install the following optional equipment upgrades:

- Additional system memory
- Expansion card
- Optional drive
- Security lock
- Replacement battery

This chapter includes information about the general installation sequence for Deskpro personal computers, and about when to reconfigure the computer to ensure that it recognizes the newly installed equipment.

Installation Sequence

It is very important that you follow this sequence of steps to ensure the proper installation of any optional equipment.

1. If your computer includes the Smart Cover Lock feature and you have set the lock, use Computer Setup to unlock the lock and disable the Smart Cover Sensor.

For more information about Computer Setup, refer to the *Computer Setup* guide.

2. If the computer is already on, turn it off and disconnect the power cord from the wall outlet.



WARNING: To reduce the risk of personal injury from electrical shock and/or hot surfaces, be sure to disconnect the power cord from the wall outlet, and allow the internal system components to cool before touching.



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 computer or optional equipment. Before beginning these procedures, ensure that you are discharged of static electricity by briefly touching a grounded metal object. Refer to Appendix E, “Electrostatic Discharge,” for more information.

3. Open the computer by removing its outside cover. Refer to the procedures for removing the computer cover or access panel.
4. Install any optional equipment. Refer to the applicable sections of this guide or to the documentation provided with the optional equipment for instructions.
5. Replace the computer cover.
6. Turn on the monitor, computer, and any devices you want to test.
7. Reconfigure the computer, if necessary. Refer to the *Computer Setup* guide for instructions about using Computer Setup.

If you normally lock the Smart Cover Lock, use Computer Setup to relock the lock and enable the cover removal sensor.

When to Reconfigure the Computer

System configuration is the process of specifying the devices and programs that make up a computer system. When you add or remove optional equipment, the computer must be reconfigured to recognize these changes.

Windows 95 and later operating systems automatically recognize all Plug and Play devices installed. However, if the device is not a Plug and Play device or is not automatically detected after installation, follow these instructions:

- In Windows 95 and later operating systems, select the Add New Hardware icon in the Control Panel and follow the instructions on the screen.
- To reconfigure the computer in Windows NT version 4.0, use the software utility provided with the newly installed hardware.

chapter 2

HARDWARE UPGRADES

Serviceability Features

Your computer includes features that make it easier to upgrade and service.

Removing the Computer Access Panel

Before removing the access panel, lay the computer down on its large base for greater stability.

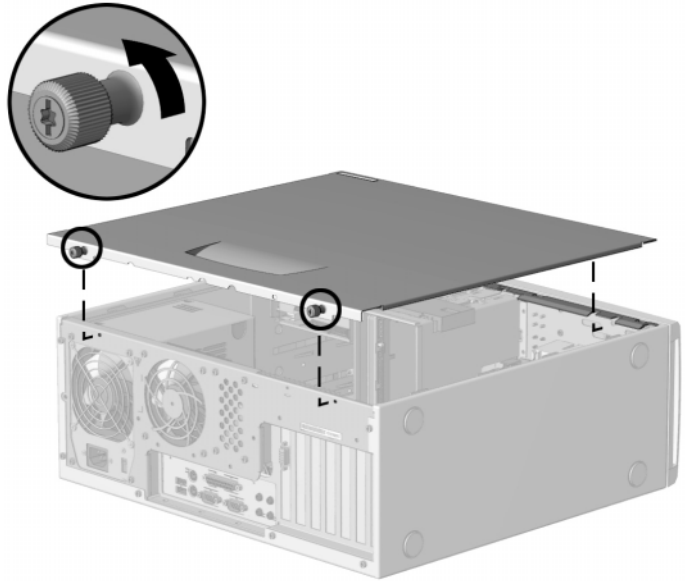
1. Shut down the operating system properly, then turn off the computer and any external devices.
2. Disconnect the power cord from the power outlet, and disconnect any external devices.



CAUTION: Before removing the computer access panel, ensure that the computer is turned off and that the power cord is disconnected from the electrical outlet.

3. Loosen the two screws that secure the access panel to the computer chassis.

4. Slide the access panel back about 1 inch (2.5 cm), then lift it up and off the unit.

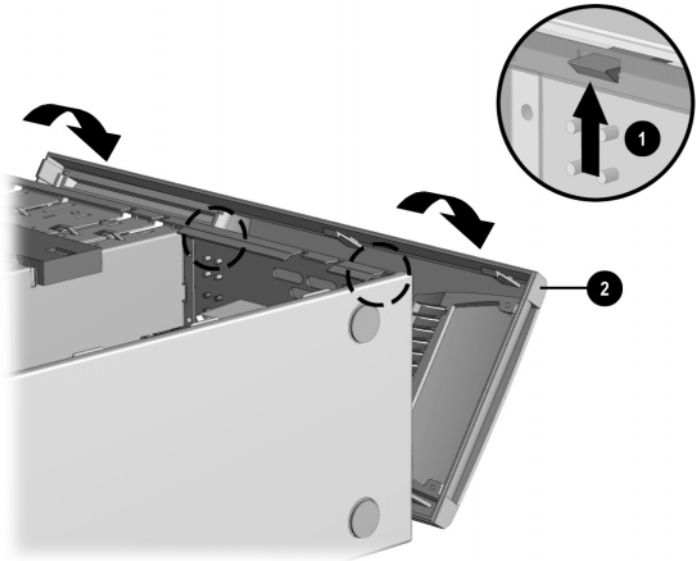


Removing the Computer Access Panel

To replace the access panel, reverse steps 1–4.

Removing the Front Bezel

1. Shut down the operating system properly, then turn off the computer and any external devices. Disconnect the power cord from the power outlet and disconnect any external devices.
2. Remove the computer access panel.
3. Push up on the two release tabs **1** , then rotate the front bezel away from the chassis to release it **2**.



Removing the Front Bezel



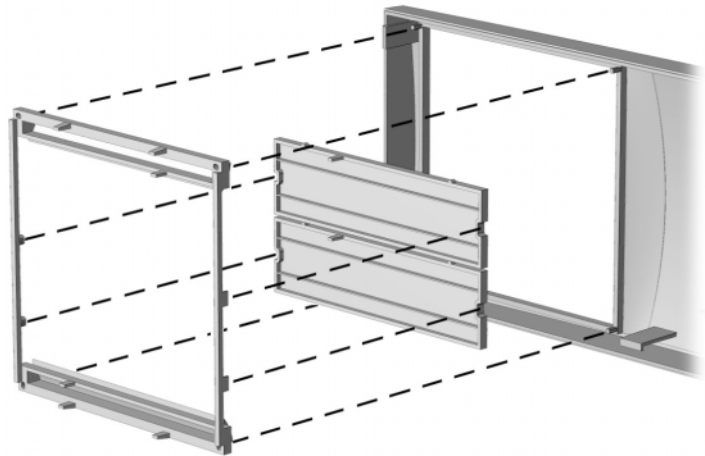
When replacing the front bezel, ensure that the bottom hinge points are properly placed in the chassis before rotating the front bezel back into its original position.

Removing Bezel Blanks

1. Shut down the operating system properly, then turn off the computer and any external devices. Disconnect the power cord from the power outlet and disconnect any external devices.
2. Remove the computer access panel.
3. Remove the front bezel.
4. Gently pull the subpanel, with the bezel blanks secured in it, away from the front bezel, then remove the desired bezel blank.



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.



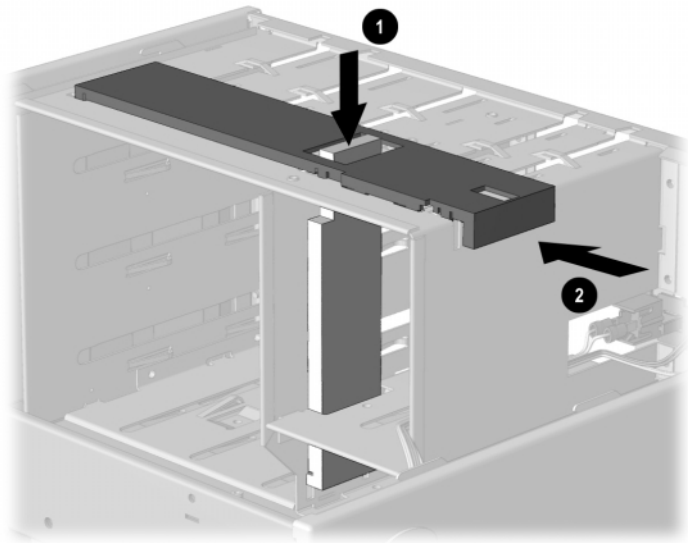
Removing Bezel Blanks from the Subpanel (Desktop Shown)



When replacing the subpanel, ensure that the aligning pins and any remaining bezel blanks are in their proper orientation.

Changing from a Minitower to a Desktop Configuration

1. Shut down the operating system properly, then turn off the computer and any external devices. Disconnect the power cord from the power outlet and disconnect any external devices.
2. Remove the computer access panel.
3. Remove the front bezel.
4. Disconnect all power and data cables from the drives in the 5.25-inch drive bays.
5. To release the drives from the 5.25-inch drive bay, press the long (green) drivelock ② as shown.



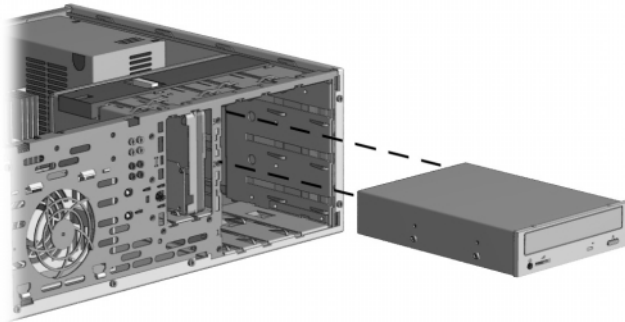
Activating the Drivelocks (Shown from the Rear of the Chassis)

6. While pressing the drivelock, pull the drives out of the drive bay.

7. Before you install each drive into the chassis, turn it so that it is perpendicular to the internal 3.5-inch drive. The bottom of the drive should be parallel to the green drivelock.



The diskette drive should always be placed in the bay nearest the top of the chassis in the desktop configuration for proper drive clearance and access.



Installing a Drive in the Desktop Configuration

8. Gently slide the drive into the bay. When the drive is properly inserted, the drivelock will secure it.



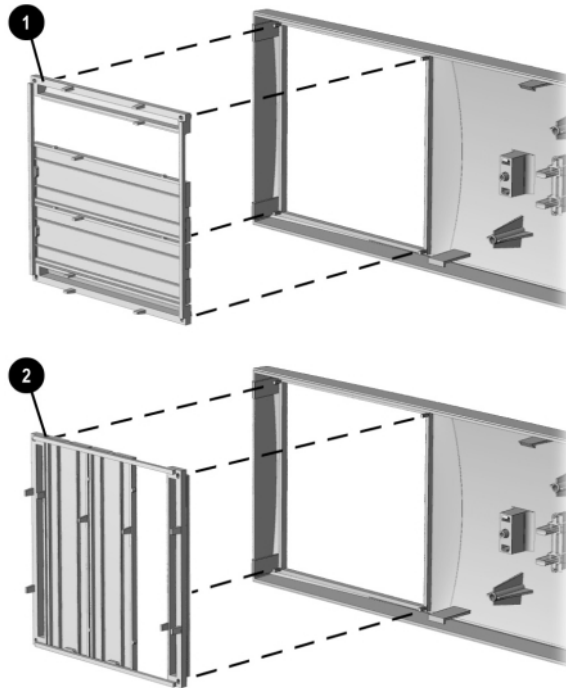
CAUTION: The use of unnecessary force may result in damage to the drives.

9. Reconnect all power and data cables to the drives in the 5.25-inch drive bays.

10. Remove the subpanel as described in the section “Removing Bezel Blanks” and reposition it with the bezel blanks in the proper orientation for the desktop configuration ❶.



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.

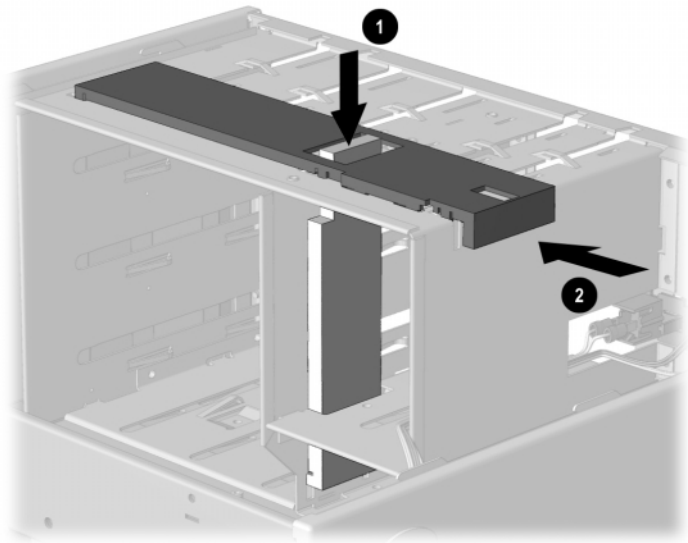


Changing from a Minitower ❷ to a Desktop ❶ Configuration

11. Replace the subpanel, front bezel, and the computer access panel.
12. Reconnect the external equipment.

Changing from a Desktop to a Minitower Configuration

1. Shut down the operating system properly, then turn off the computer and any external devices. Disconnect the power cord from the power outlet and disconnect any external devices.
2. Remove the computer access panel.
3. Remove the front bezel.
4. Disconnect all power and data cables from the drives in the 5.25-inch drive bays.
5. To release the drives from the 5.25-inch drive bay, press the short yellow drivelock ❶ as shown.

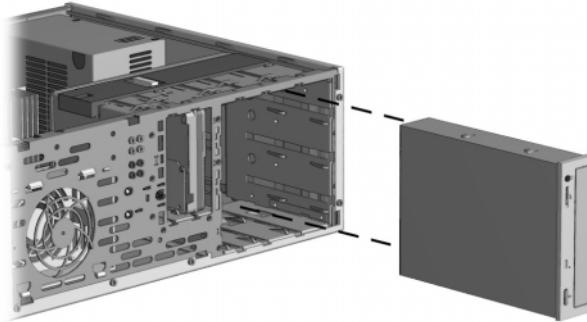


Activating the Drivelocks (Shown from the Rear of the Chassis)

6. While pressing the drivelock, pull the drives out of the drive bay.
7. Before you install each drive into the chassis, turn it so that it is in the same orientation as the internal 3.5-inch drive. The bottom of the drive should be parallel to the yellow drivelock ❶.



The diskette drive should always be placed in the bay nearest the internal 3.5-inch drives in the minitower configuration for proper clearance within the chassis.



Installing a Drive in the Minitower Configuration

8. Gently slide the drive into the bay. When the drive is properly inserted, the drivelock will secure it.



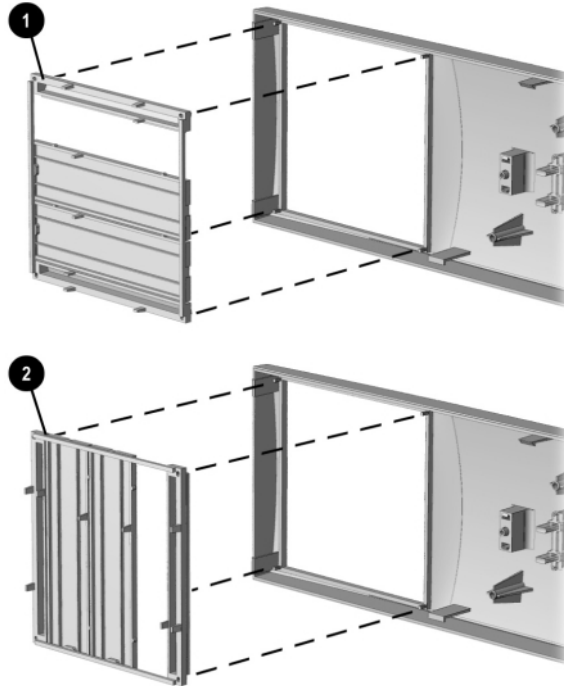
CAUTION: The use of unnecessary force may result in damage to the drives.

9. Reconnect all power and data cables to the drives in the 5.25-inch drive bays.

10. Remove the subpanel ❶ as described in the section “Removing Bezel Blanks” and reposition it with the bezel blanks in the proper orientation for the minitower configuration ❷.



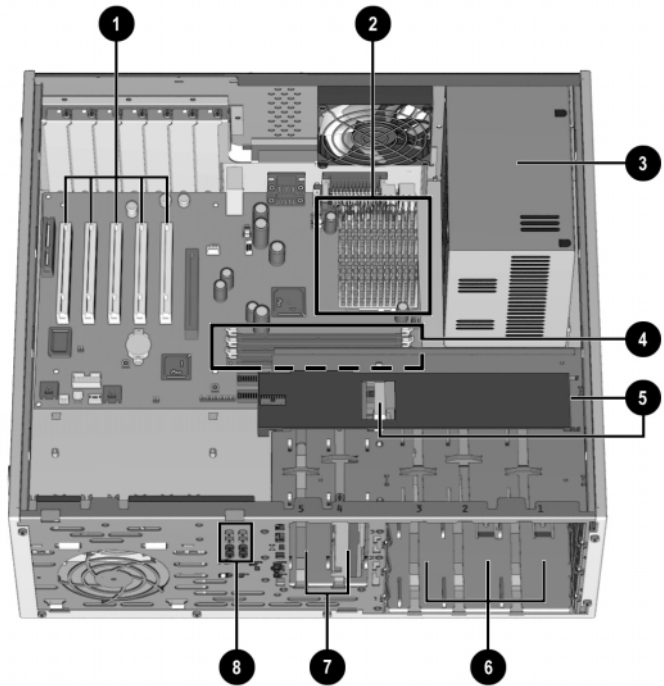
CAUTION: Hold the subpanel straight when you pull it away from the front bezel. Pulling the subpanel away at an angle could damage the pins that align it within the front bezel.



Changing from a Desktop ❶ to a Minitower Configuration ❷

11. Replace the subpanel, front bezel, and the computer access panel.
12. Reconnect the external equipment.

Internal Components (Intel 815E Chipset)



Intel 815E Chipset-Based Internal Components

- ❶ PCI expansion slots
- ❷ Processor
- ❸ Power supply
- ❹ Memory module sockets
- ❺ Drivelocks
- ❻ External drive bays (diskette drive is always in bay 3)
- ❼ Internal hard drive bays (bays 4 and 5)
- ❽ Extra drive mounting screws



The number and position of expansion slots may vary by model, as shown.

Installing Additional Memory

Depending on the model, the computer comes with:

- Synchronous dynamic random access memory (SDRAM) dual inline memory modules (DIMMs)
- Direct Rambus dynamic random access memory (RDRAM) Rambus inline memory modules (RIMMs)

DIMMs

The memory sockets on the Intel 815E chipset–based system board can be populated with industry-standard DIMMs. These memory module slots are populated with at least one preinstalled memory module. To achieve the maximum memory support, you may be required to replace the preinstalled DIMM with a higher capacity DIMM.

For proper system operation, the DIMMs must be industry-standard 168-pin, unbuffered PC100– or PC133– compliant SDRAM DIMMs, depending on the model. The SDRAM DIMMs must support CAS Latency 2 or 3 (CL = 2 or CL = 3). They must also contain the mandatory Joint Electronic Device Engineering Council (JEDEC) Serial Presence Detect (SPD) information. DIMMs constructed with x4 SDRAM are not supported; the system will not start using unsupported DIMMs.

The Intel 815E chipset supports both PC100 and PC133 SDRAM DIMMs. PC133 DIMMs should be used for optimal operation. If both PC100 and PC133 SDRAM DIMMs are installed in a computer, the system memory will run at the lower 100Mhz speed. Some configurations of PC133 SDRAMs may run at 100Mhz, instead of 133Mhz.

Installing DIMMs



CAUTION: Your memory module sockets have gold metal contacts. When upgrading your memory, it is important to use memory modules with gold metal contacts to prevent corrosion and/or oxidation resulting from having incompatible metals in contact with each other.



CAUTION: Static electricity can damage the electronic components of the computer or optional cards. Before beginning these procedures, ensure that you are discharged of static electricity by briefly touching a grounded metal object. Refer to Appendix E, “Electrostatic Discharge,” for more information.



CAUTION: When handling a memory module, be careful not to touch any of the contacts. Doing so may damage the module.

1. If you have locked the Smart Cover Lock, use Computer Setup to unlock the lock and disable the Smart Cover Sensor.
2. Shut down the operating system properly, then turn off the computer and any external devices, then disconnect the power cord from the power outlet.
3. Remove the access panel and locate the memory module sockets.

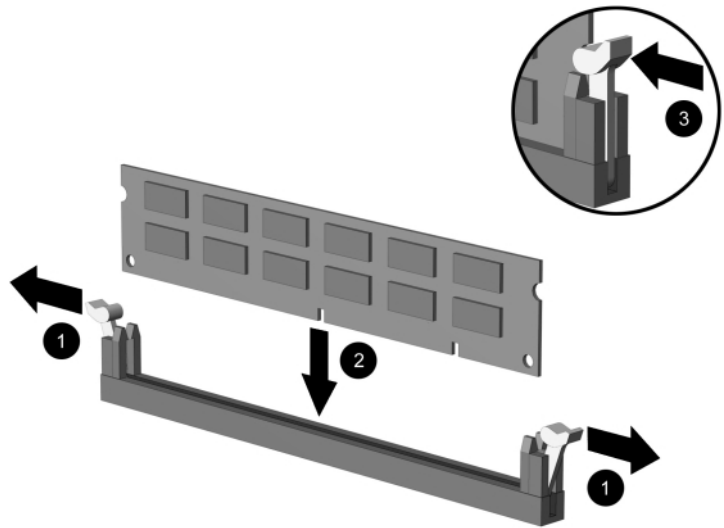


WARNING: To reduce risk of personal injury from hot surfaces, allow the internal system components to cool before touching.

4. Open both latches of the memory module socket ❶, and insert the memory module into the socket ❷.

Begin by installing a module into the socket nearest the preinstalled module, and install the modules following the numerical order of the sockets.

A memory module can be installed in only one way. Match the notch on the module with the tab on the memory socket. Push the module down into the socket, ensuring that the module is fully inserted and properly seated ❸.



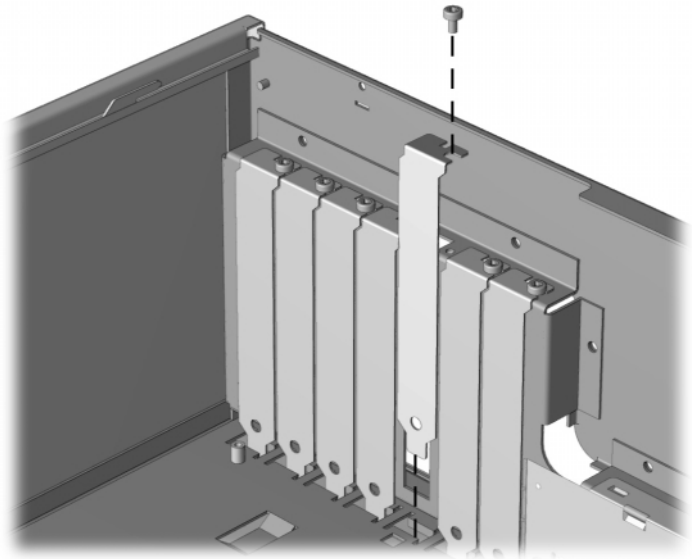
Installing a DIMM

Installing or Removing an Expansion Card

Your computer contains expansion slots, as shown in the “Internal Components” section of this chapter.

Removing an Expansion Slot Cover

1. Shut down the operating system properly, then turn off the computer and any external devices, then disconnect the power cord from the power outlet.
2. Remove the computer access panel and locate the correct vacant slot in the computer chassis.
3. Remove the screw securing the slot cover, then remove the expansion slot cover from the slot as illustrated.

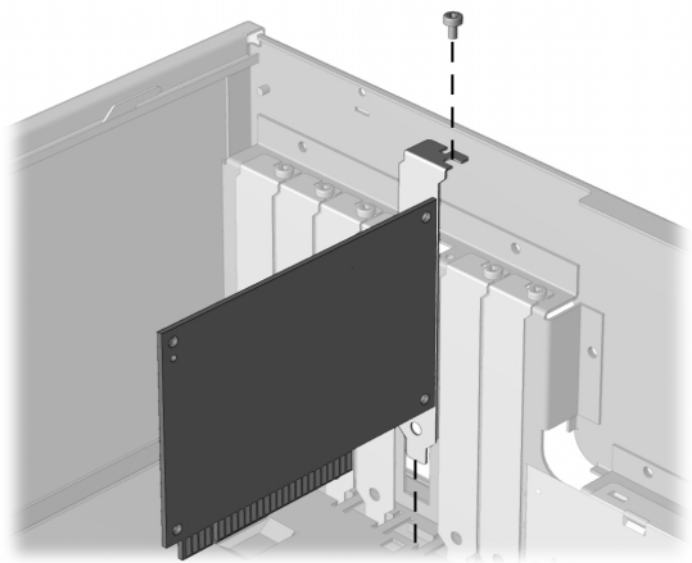


Removing the Screw and Expansion Slot Cover

Removing or Installing an Expansion Card

1. Shut down the operating system properly, then turn off the computer and any external devices, then disconnect the power cord from the power outlet.
2. Remove the computer access panel.
3. If installing an expansion card, skip to step 8.
4. To remove an installed expansion card, disconnect any cables attached to the expansion card.
5. Remove the screw at the side of the expansion slot.
6. Hold the card at each end and carefully rock it back and forth until the connectors pull free from the slot. Be sure not to scrape the card against other components.
7. Store the card in anti-static packaging.
8. Install an expansion slot cover or new expansion card to close the open slot.
9. If not installing a new expansion card, skip to step 11.
10. To install a new expansion card in an open slot, remove the expansion slot cover.

11. Slide the expansion card into the expansion slot and press it firmly into place.



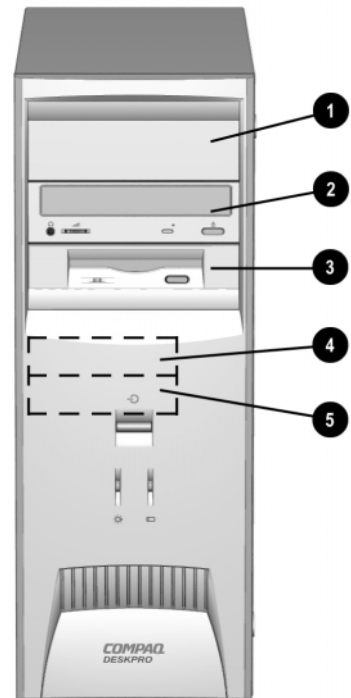
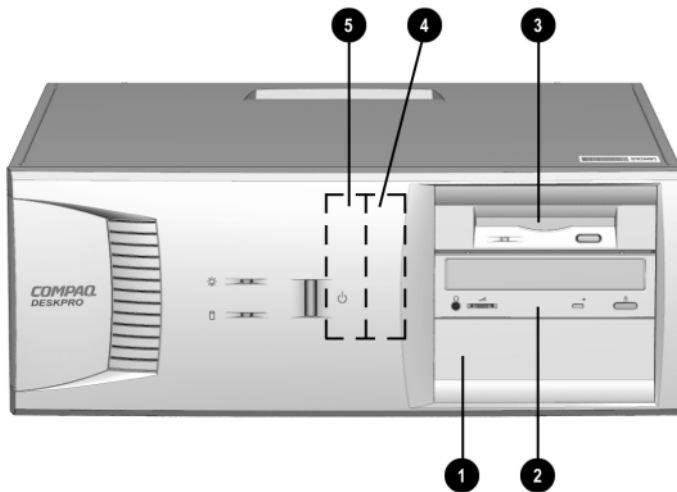
Removing or Installing an Expansion Card



When you install an expansion card, make sure you press firmly on the card so that the whole connector seats properly in the expansion card slot.

12. Replace the screw at the side of the expansion slot.
13. Connect external cables to the installed card, if needed. Connect internal cables to the system board, if needed.
14. Replace the computer access panel.
15. Reconfigure the computer, if necessary. Refer to Chapter 1, "Installation Guidelines."

Drive Positions



Desktop Drive Positions

- ❶❷ Two 5.25-inch, half-height bays for optional drives (labeled as drive bays 1 and 2)
- ❸ One standard 3.5-inch, 1.44-MB diskette drive mounted with a drive adapter in the 5.25-inch, one-third height bay (labeled as drive bay 3)
- ❹❺ Two internal 3.5-inch, one-third height bays for hard drives (labeled as drive bays 4 and 5)

To verify the type and size of the storage devices installed in your computer, run Compaq Computer Setup. Refer to the *Computer Setup Guide* for more information.



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

Minitower Drive Positions

Installing Additional Drives

The computer supports up to five drives which may be installed in various configurations.

When installing additional drives, follow these guidelines:

- For optimal performance, connect hard drives to the primary controller. Connect expansion devices, such as CD-ROM, IDE tape, and diskette drives to the secondary controller.
- You may install either a third-height or a half-height drive into a half-height bay.
- You must install guide screws to ensure the drive will line up correctly in the drive cage. Compaq has provided extra guide screws, installed in the front of the computer chassis, behind the front bezel. Some options use metric hardware. The Compaq-supplied metric screws are black.



CAUTION: To prevent loss of work and damage to the computer or drive:

- If you are inserting or removing a hard drive, shut down the operating system properly, then turn off the computer. Do not remove a hard drive while the computer is on or in standby mode.
 - Before handling a drive, ensure that you are discharged of static electricity. While handling a drive, avoid touching the connector. For more information about preventing electrostatic damage, refer to Appendix E, "Electrostatic Discharge."
 - Handle a drive carefully, do not drop it.
 - Do not use excessive force when inserting a drive.
 - Avoid exposing a hard drive to liquids, temperature extremes, or products that have magnetic fields such as monitors or speakers.
 - If a drive must be mailed, place the drive in a bubble-pack mailer or other suitable protective packaging and label the package "Fragile: Handle With Care."
-

Installing a CD-ROM, DVD-ROM, or other Removable Storage Device

1. Shut down the operating system properly, then turn off the computer and any external devices, disconnect the power cord from the power outlet, and remove the computer access panel.

2. Install two guide screws on each side of the drive **1**.

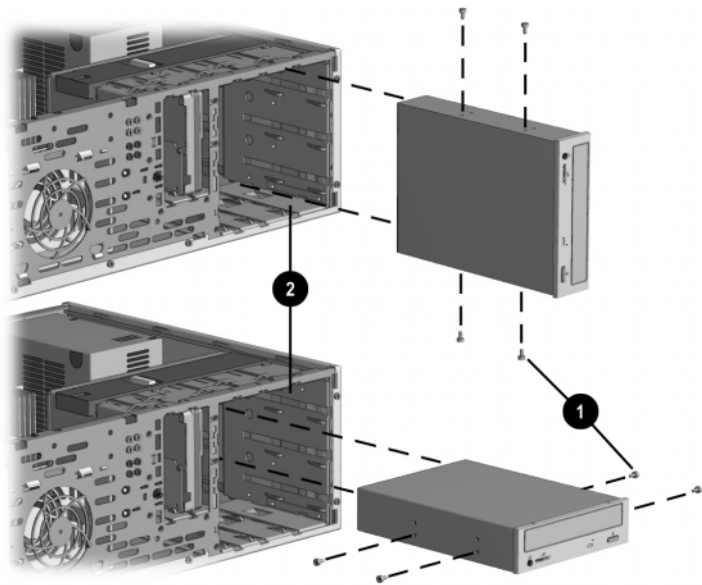


Some options use metric hardware. Extra guide screws are provided on the front of the chassis, under the front bezel. The Compaq-supplied metric screws are black.

3. Install the drive in the desired drive bay by sliding it into the front of the drive cage **2**; the drivelock automatically secures the drive in the bay.

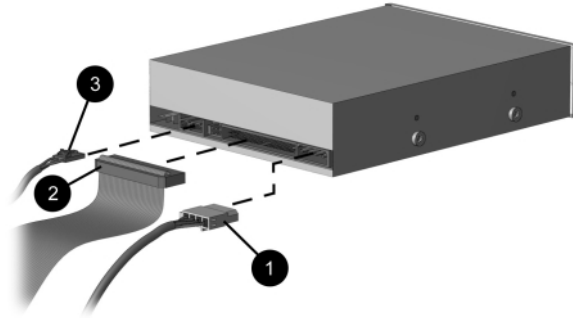


Be sure the guide screws line up with the guide slots in the drive cage.



Aligning the Guide Screws and Installing an Optional 5.25-Inch Drive

4. Connect the drive power ❶ and signal ❷ cables and, if it is a CD-ROM or DVD-ROM drive and if analog audio is preferred to digital audio, connect the audio cable ❸. The other end of the audio cable ❸ should be connected to the embedded audio connector on the system board.

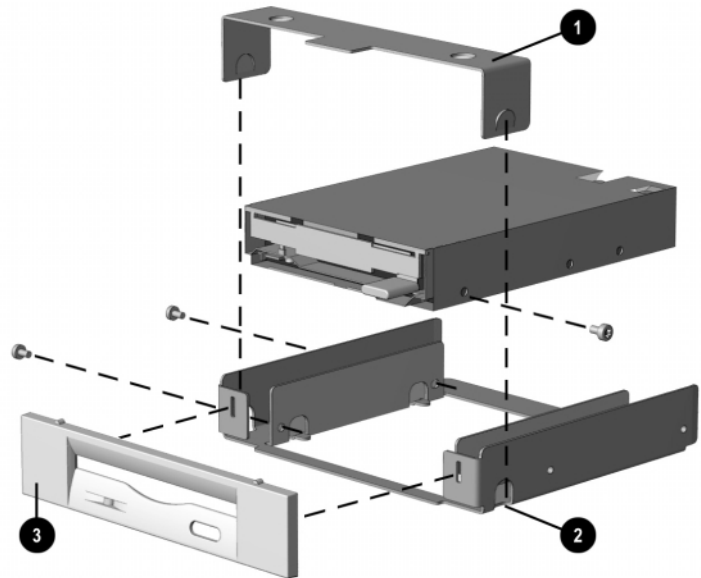


Connecting the Drive Cables

5. Remove the appropriate bezel blank from the subpanel inside the front bezel. Refer to the section “Removing Bezel Blanks” for more information.
6. Replace the computer access panel.
7. Reconfigure the computer, if necessary. Refer to Chapter 1, “Installation Guidelines,” for more information.

Installing a 3.5-Inch Drive into a 5.25-Inch Drive Bay

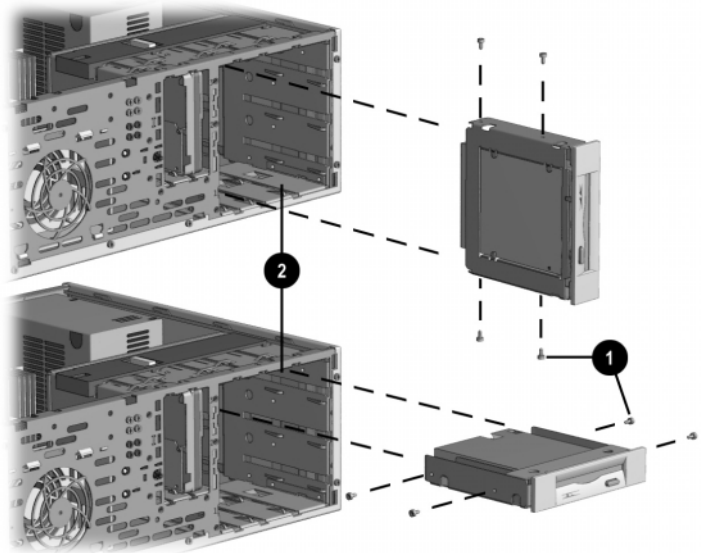
1. Shut down the operating system properly, then turn off the computer and any external drives, disconnect the power cord from the power outlet, and remove the computer access panel.
2. Remove the front bezel.
3. Install one guide screw on the right side of the drive.
4. Insert the drive into the adapter ② so that the guide screw aligns in the slot, and then attach with two retaining screws.
5. Snap on the brace ①, and attach the drive bezel ③ to the front of the adapter.



Attaching a 3.5-Inch Drive to the 5.25-Inch Adapter

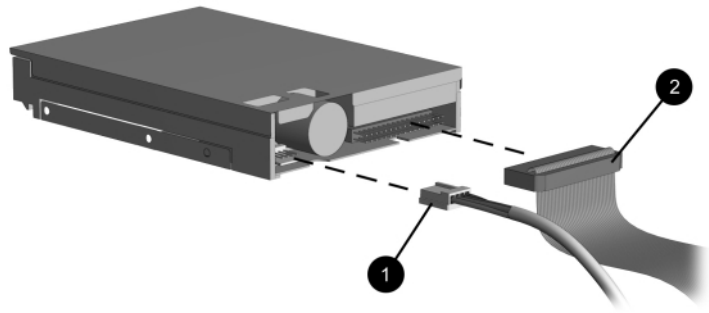
6. Install two guide screws on each side of the adapter ❶.
7. Install the adapter in the desired drive bay ❷ by sliding it into the front of the drive cage; the drivelock automatically secures the adapter when it snaps into place.

✎ The primary 3.5-inch diskette drive should only be installed into bay 3. Bay 3 is the bottom bay in the minitower configuration and the topmost bay in the desktop configuration.



Aligning the Guide Screws and Installing an Adapter with a 3.5-Inch Drive

8. Connect the drive power ❶ and signal ❷ cables.



Connecting the Drive Cables

9. Remove the appropriate bezel blank from the subpanel inside the front bezel. (Refer to the section “Removing Bezel Blanks.”)
10. Replace the computer access panel.
11. Reconfigure the computer, if necessary. Refer to Chapter 1, “Installation Guidelines,” for more information.

Installing a Hard Drive into a 3.5-inch Drive Bay

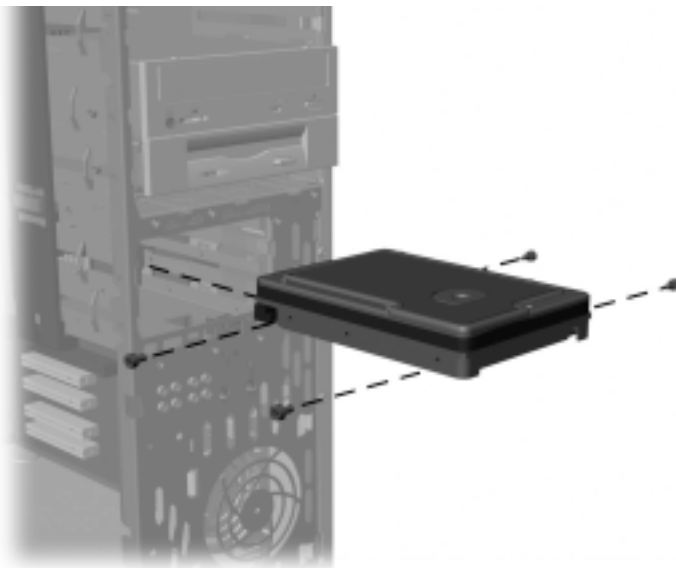


Compaq does not support mixing IDE and SCSI hard drives in the same system. If you are replacing a hard drive in bay 4 or bay 5, it should be of the same type.

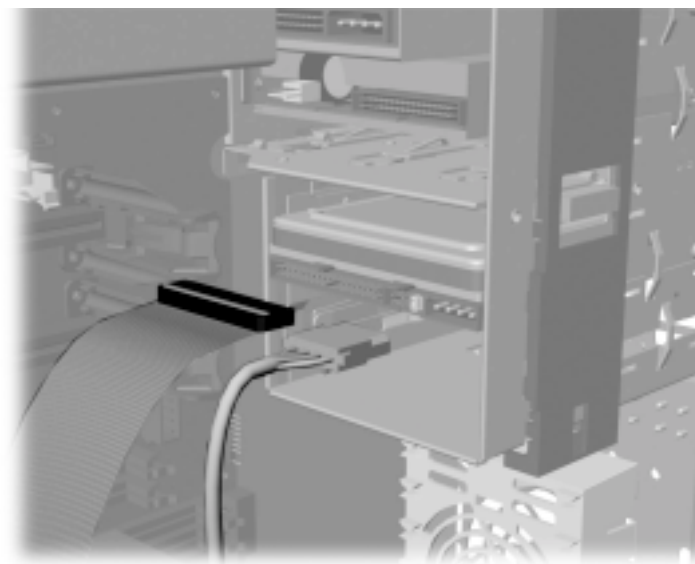
To install a hard drive in a 3.5-inch drive bay:

1. Shut down the operating system properly, then turn off the computer and any external drives, disconnect the power cord from the power outlet, and remove the computer access panel.
2. Remove the front bezel.

3. Refer to the following illustrations to install a hard drive into a 3.5-inch bay.



Installing a hard drive into the hard drive bay

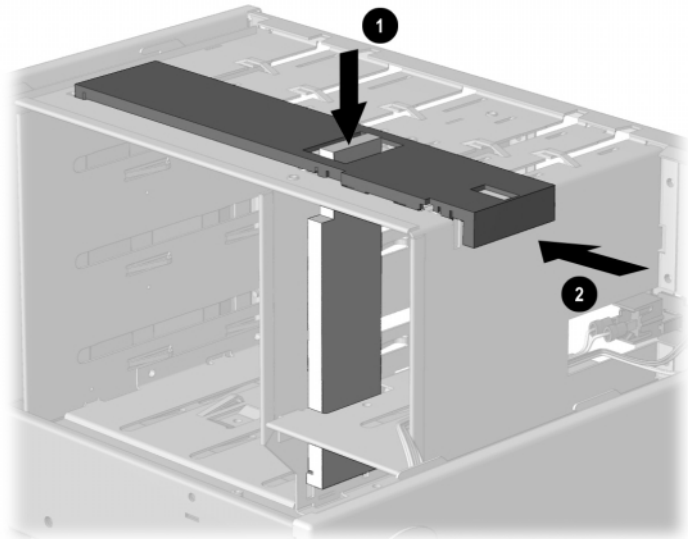


Connecting the signal cable and power cable

4. Connect the opposite end of the cables to the appropriate system board connector.
5. Replace the computer access panel.
6. Reconfigure the computer, if necessary. Refer to Chapter 1, “Installation Guidelines,” for more information.

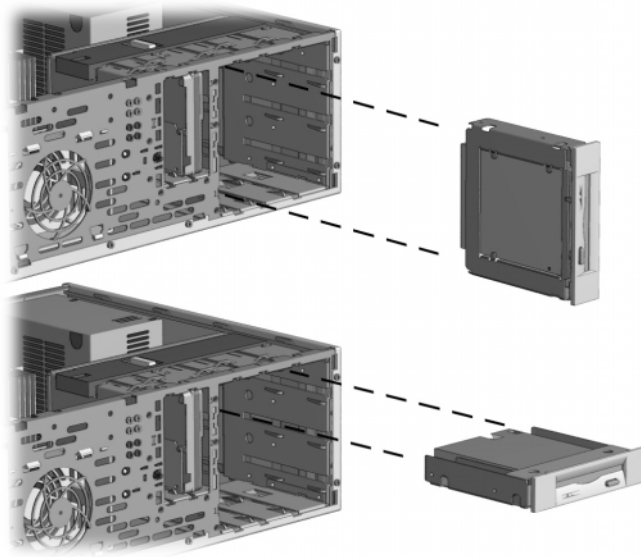
Removing a Drive from the Drive Bay

1. Shut down the operating system properly, then turn off the computer, disconnect the power cord from the power outlet, and remove the computer access panel.
2. Remove the front bezel.
3. Disconnect the drive power and signal cables and, if it is a CD-ROM or DVD-ROM drive, disconnect the audio connector.
4. Press drivelock mechanisms (❶ or ❷) to unlock the drive in the drive bay.



Drivelock ❶ Secures the 5.25-Inch Drives in the Desktop and ❷ Secures All Drives in the Minitor (Shown from the Rear of the Chassis)

5. While pressing the drivelock, pull the drive out of the drive bay.



Removing a Drive from the 5.25-Inch Drive Bay

6. Remove the drive from the drive bay and store in anti-static packaging.

appendix A

SPECIFICATIONS

Compaq Deskpro EN, Convertible Minitower, Intel 815E Chipset

Desktop Dimensions

Height	6.60 in	16.76 cm
Width	17.65 in	44.83 cm
Depth	17.11 in	43.46 cm

Minitower Dimensions

Height	17.65 in	44.83 cm
Width	6.60 in	16.76 cm
Depth	17.11 in	43.46 cm

Approximate Weight

26 lb	12 kg
-------	-------

Weight Supported (maximum distributed load)

100.0 lb	45.5 kg
----------	---------

Temperature Range

Operating	50° to 95°F	10° to 35°C
Nonoperating	-4° to 140°F	-20° to 60°C

Relative Humidity (noncondensing)

Operating	20% to 80%	20% to 80%
Nonoperating	10% to 90%	10% to 90%

Maximum Altitude (unpressurized)

Operating	10,000 ft	3048 m
Nonoperating	30,000 ft	9144 m

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

Power Output

200 W	200 W
-------	-------

Rated Input Current (maximum)

6 A	3 A
-----	-----

Heat Dissipation

Maximum	1050 Btu/hr	265 kg-cal/hr
Nominal	525 Btu/hr	133 kg-cal/hr

appendix B

HARD DRIVE INSTALLATION GUIDELINES

Using the Cable-Select Feature with Ultra ATA Devices

Optional drives are available from Compaq in kits that include a special drive cable. 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 computer recognizes device 0 as the drive connected to the short segment of the drive cable (farthest from the system board), and device 1 as the drive connected to the long segment of the drive cable (closest to the system board).

When using an 80 conductor Ultra ATA cable, connect the colored connectors as follows:

- blue—system board (end)
- gray—device 1 (middle)
- black—device 0 (end)

Drive installation requires no jumper setting changes on the existing or optional drives. All Compaq drives have the jumpers preset for cable-select installation.



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.

Installing SCSI Devices

Select models feature a Wide Ultra160 SCSI host adapter that supports up to fifteen wide internal and external SCSI devices. Select models come with an internal SCSI hard drive preinstalled. Additional high-performance SCSI devices can be added to these select models.

Guidelines for Installing Optional SCSI Devices

When installing additional SCSI devices, you must adhere to the following guidelines:

- The Wide Ultra160 SCSI host adapter supports up to 15 wide SCSI devices.
- Every SCSI device must have a unique identification (ID) number (0 - 15). The SCSI host adapter identifies signals to and from a SCSI device by its SCSI ID number rather than its location. Moving a SCSI device from one position to another on the SCSI chain does not affect the communication between the controller and the SCSI device. The reserved and available SCSI ID numbers for SCSI devices are as follows:
 - ❑ 0 is reserved for the hard drive.
 - ❑ 1 through 4 are available.
 - ❑ 5 is reserved for a CD-ROM drive.
 - ❑ 6 is available.
 - ❑ 7 is reserved for the SCSI host adapter.
 - ❑ 8 - 15 are available.

- Every SCSI chain or circuit must be terminated (closed) at both ends. Termination can be accomplished by using the terminating feature on the device or by using a terminated cable.



Some devices may not have terminating jumpers on the device. Termination on these devices must be achieved with terminated cable.

Turn on an external SCSI device before turning on power to the computer. This enables the system board controller to recognize the external SCSI device and automatically reset. When an external SCSI device is connected to the external SCSI connector on the rear panel of the computer, that device becomes the end of the SCSI chain and must be terminated.

- The system accommodates a combination of internal and external SCSI devices, such as SCSI tape, CD-ROM drives, and hard drives.



When an IDE hard drive and SCSI hard drive are both installed, the system can boot only from the IDE hard drive.

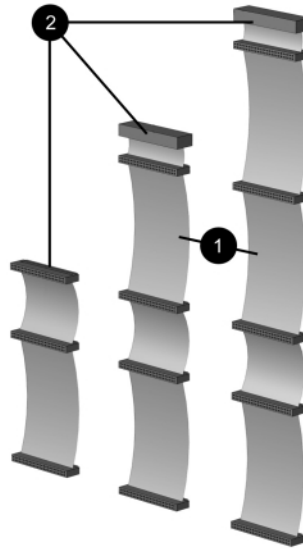


Before you can install a SCSI device, you must first verify the SCSI ID of the device and, if necessary, set the SCSI ID to a new number. Be sure that each SCSI device on the SCSI chain has a unique SCSI ID number.

Second, you must determine if the device ought to have termination enabled or disabled. Set the termination if necessary.

Cabling for Optional SCSI Devices

Depending on the model, your computer may include one of the SCSI cables shown in the next illustration.



SCSI Cable Options

Because your computer comes preconfigured, cable configuration does not become a consideration until you decide to add an optional SCSI device.

- ❶ Computers with 2-, 3-, and 4-peripheral SCSI cables come with a terminator ❷ on the end of the cable. The connector on the opposite end of the cable always connects to the system board. All SCSI devices connected with these cables must have their termination disabled.



Some devices may not have terminating jumpers on the device. Termination on these devices must be achieved with terminated cable.

When installing a SCSI device, be sure to route the SCSI cable over the expansion board cage, between the raised areas.

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

Using *SCSISelect* with SCSI Devices

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

- In Post Messages Enabled mode: Press Ctrl+A when the Press <Ctrl><A> for *SCSISelect* 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 *SCSISelect* 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

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 (140°F).

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.



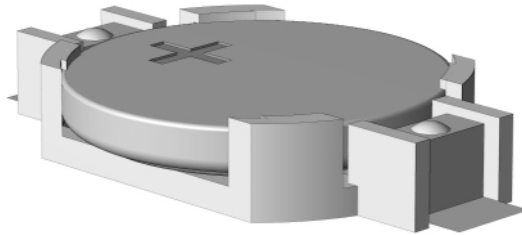
Batteries, battery packs, and accumulators should not be disposed of together with the general household waste. In order to forward them to recycling or proper disposal, please use the public collection system or return them to Compaq, your authorized partners, or their agents.

1. If you have locked the Smart Cover Lock, use Computer Setup to unlock the lock and disable the Smart Cover Sensor.
2. 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.



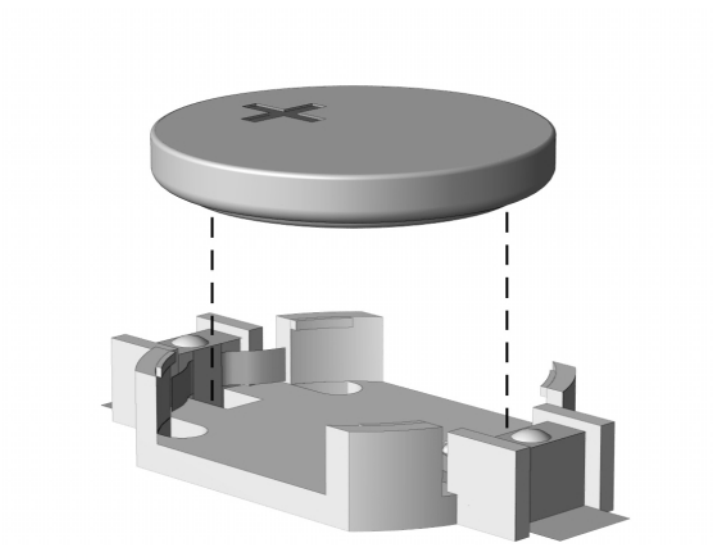
It may be necessary to remove an expansion card to gain access to the battery.

3. Locate the battery and battery holder on the system board, as shown in the following illustration.



Battery and Battery Holder

4. Lift the battery out of its holder.



Removing the Coin Cell Battery

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

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.


If you normally lock the Smart Cover Lock, use Computer Setup to relock the lock and enable the Smart Cover Sensor.

appendix D

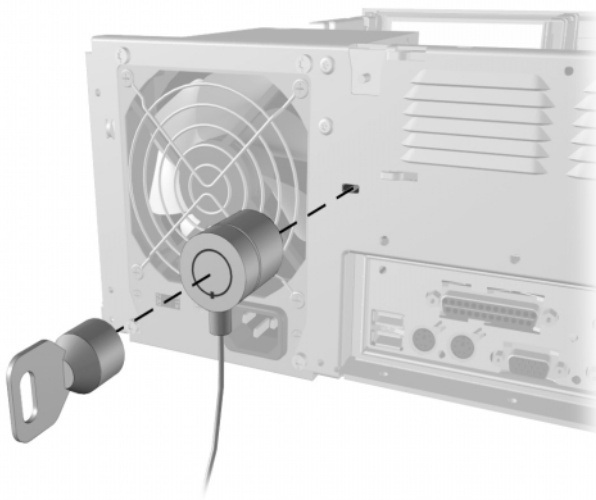
SECURITY LOCK PROVISIONS

Installing a Cable Lock

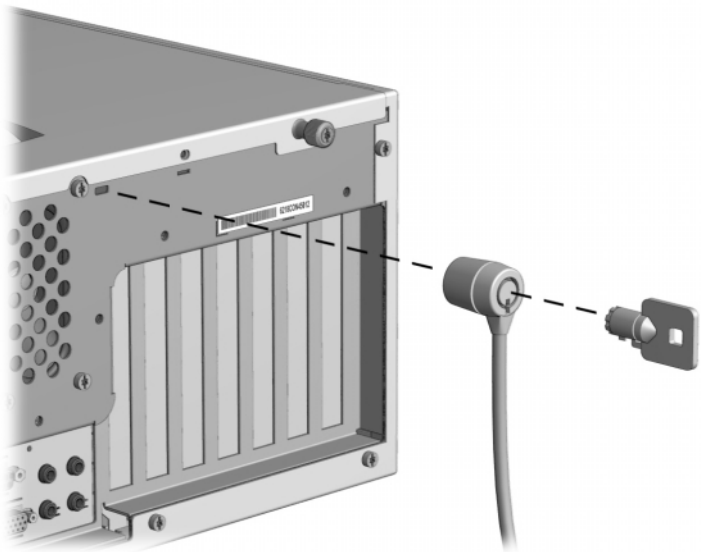
Depending on the model, the rear panel of the computer accommodates a cable lock so that the computer can be physically secured to a work area.

 The cable lock can be purchased from Kensington Microware Limited or Compaq authorized dealers, resellers, and service providers. Ask for the Kensington MicroSaver Security System, Model 64068.

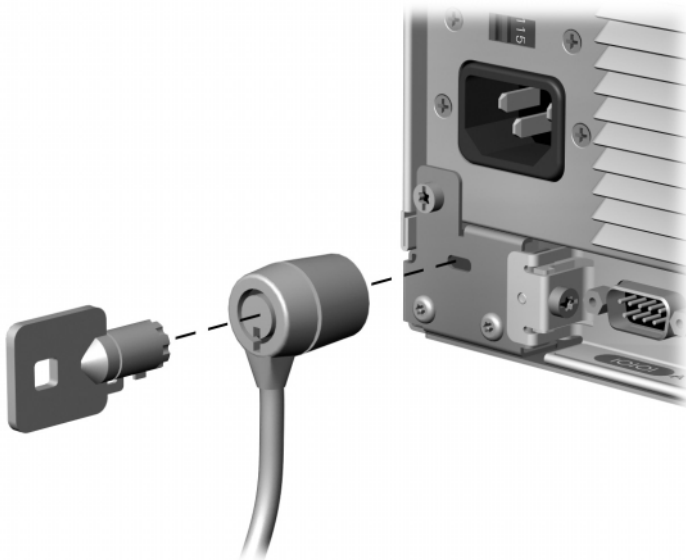
1. Loop the cable around a heavy, fixed object to which you want to secure the computer.
2. Insert the cable lock end of the cable through the loop end of the cable.
3. Insert the lock into the appropriate slot on the rear of the computer and lock with the key.



Compaq Deskpro EN, Slim Desktop



Compaq Deskpro EN, Convertible Minitower



Compaq Deskpro EN, Small Form Factor

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

There are several methods for grounding. 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 Mohm +/- 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 desktop unit as 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, refer 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 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, as 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, then from the computer.
6. Disconnect the system components and external devices from their power sources, then from the computer.
 -  Ensure that all boards are seated properly and secured in the board slots 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, refer to Appendix A, “Specifications,” in this guide.

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