www.hp.com/go/vectrasupport

hp vectra vl800 minitower

user's guide

invent

Notice

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France

User's Guide

Contents

Contents

Important Warnings

Avoid Electrical Shocks

WARNING To avoid electrical shock, do not open the power supply. There are no user-serviceable parts inside.

To avoid electrical shock and harm to your eyes by laser light, do not open the laser module. The laser module should only be serviced by service personnel. Do not attempt to make any adjustment to the laser unit. Refer to the label on the CD-ROM for power requirements and wavelength. This product is a class I laser product.

Electrical Connection

WARNING For your safety always connect equipment to a grounded wall outlet. Always use a power cord with a properly grounded plug, such as the one provided with the equipment, or one in compliance with your national safety standards. This equipment can be disconnected from the power by removing the power cord from the power outlet. This means the equipment must be located close to an easily accessible power outlet.

Multimedia Models

WARNING If your PC is a multimedia model, or if you have installed an audio card in your PC, always turn the volume down before connecting the headphones or speakers. This avoids discomfort from unexpected noise or static. Listening to loud sounds for prolonged periods of time may permanently damage your hearing. Before putting on headphones, place them around your neck and turn the volume down. When you put the headphones on, slowly increase the volume until you find a comfortable listening level. When you are able to hear comfortably and clearly, without distortion, leave the volume in that position.

Removing and Replacing the Cover

WARNING For your safety, never remove the PC's cover without first removing the power cord from the power outlet and any connection to a telecommunications network. Always replace the cover before switching the PC on again.

Safety Information

WARNING

There is a danger of explosion if the battery is incorrectly installed. For your safety, never attempt to recharge, disassemble, or burn an old battery. Only replace the battery with the same or equivalent type, as recommended by the manufacturer. The battery in this PC is a lithium battery which does not contain any heavy metals. Nevertheless, in order to protect the environment, do not dispose of batteries in household waste. Please return used batteries either to the shop from which you bought them, to the dealer from whom you purchased your PC, or to HP so that they can either be recycled or disposed of in the correct way . Returned batteries will be accepted free of charge.

If you have a modem:

Do not attempt to connect this product to the phone line during a lightning storm. Never install telephone jacks in wet locations unless the telephone line has been disconnected at the network interface. Never touch uninsulated telephone wires or terminals unless the telephone line has been disconnected at the network interface. Use caution when installing or modifying telephone lines. Avoid using a telephone (other than a cordless type) during an lightning storm. There may be a risk from lightning.

Do not use the telephone to report a gas leak in the vicinity of the leak.

Never touch or remove the communications board without first removing the connection to the telephone network.

Unpacking Your PC

WARNING

If you are in any doubt that you can lift the equipment safely, do not try to move it without help.

Static Electricity

CAUTION

Static electricity can damage electronic components. Turn OFF all equipment. Don't let your clothes touch the accessory. To equalize the static electricity, rest the accessory bag on top of the PC while you are removing the accessory from the bag. Handle the accessory as little as possible and with care.

PC Documentation Roadmap

If you want to ...

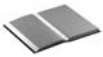
Find Information →  → **Access Information**
Start ☞ *Programs* ☞ *HP Info* ☞ *Finding Information*

Set up your computer →  WWW → **Setup**
This guide
Setting Up and Using Your PC

Learn how to use your operating system →  → **Reference**
Operating System Online Help
Start ☞ *Help* ☞ *Contents*

Learn how to upgrade your computer by installing accessories →  WWW → **Reference**
This guide
Installing and Replacing Hardware Parts in Your PC

Find out about the different support options available, and how to troubleshoot your PC

 → **Troubleshooting and Support**
HP Quick User's Guide
The paper manual that came with your PC

 WWW → **Troubleshooting and Support**
Troubleshooting Guide
www.hp.com/go/vectrasupport

On HP's Web Site

The HP web site contains a wide range of information, including downloadable documentation, service and support options, and the latest versions of drivers and utilities.

Downloadable Documentation from HP's Web Site

HP's web site lets you download additional documentation for your PC. This documentation is provided in Adobe Acrobat (PDF) format.

The documentation for your PC is available free of charge on the HP web site **www.hp.com/go/vectrasupport**.

This includes:

- Troubleshooting Guide — provides troubleshooting information.
- Technical Reference Manual — provides detailed information about your PC, including:

  System board switches, IRQs, DMAs, and I/O Addresses, power consumption and acoustic noise emission test configurations and Configuring Your Network Connection.
- Service Handbook — provides information on replacement parts, including HP part numbers.

NOTE

To view and print the above guides, you need to have Adobe's Acrobat Reader installed on your PC. You can download it free of charge from Adobe Systems Incorporated web site: **www.adobe.com**.

Information on Ergonomic Aspects

It is strongly recommended that you read the ergonomics information before using your PC.

Basic ergonomics information is available in the *Quick User's Guide* (provided with your PC).

You can access more extensive ergonomics information from your PC by clicking the **Start** button, and then **Programs** ➪ **HP Info** ➪ **Working in Comfort**, or by connecting to HP's web site **www.hp.com/ergo**.

Technical Information

Physical Characteristics (standard configuration as shipped)

Characteristic	Description
Weight (configuration with 1 CD-ROM drive, excluding keyboard and display)	14.0 kg (30.86 pounds)
Dimensions	Width: 20.6 cm (8.1 inches) Height: 46.9 cm (18.5 inches) Depth: 45.5 cm (17.9 inches)
Footprint	0.094 m^2 (1.01 ft^2)
Acoustic noise emission (ISO 7779) Operating (idle):	Sound power LwA < 38.5 dBA Sound pressure at operator position: LpA ≤ 32 dBA
Power Supply Input voltage (voltage selection switch) Input frequency:	 100 - 127, 200 -240 V 7A max or 7/4A 50/60Hz
Power consumption - Windows 2000 • Typical • Suspend (*)	115V / 60Hz and 230V / 50Hz < 70W < 5W
Available min. output power:	250W
Storage Humidity	8% to 85% (relative)

NOTE

When the computer is turned off with the power button on the front panel, the power consumption falls below 5 Watts, but is not zero. The special on/off method used by these computers considerably extends the lifetime of the power supply. To reach zero power consumption in “off” mode, either unplug the power outlet or use a power block with a switch.

1

Setting Up and Using Your PC

WARNING **If you are in any doubt that you can lift the PC and monitor safely, do not try to move them without help.**

1 When you receive your PC, unpack all of the components.

2 Place the PC on a sturdy desk with easily accessible power outlets and enough space for the keyboard, mouse, and any other accessories.

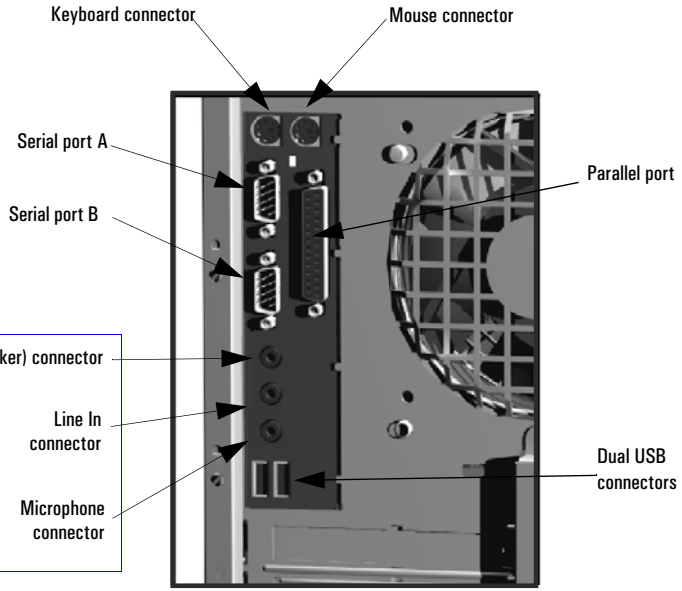
3 Position the PC so that its rear connectors are easily accessible.

Installation Tools

No tools are required to set up your PC. However, if you plan to install a disk drive or an accessory board inside your PC, you will need a flat-blade screwdriver. For more information on installing accessories, refer to "Installing and Replacing Hardware Parts in Your PC", on page 23.

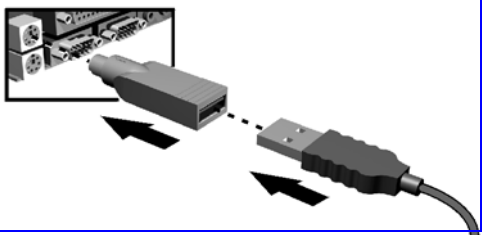
Connecting Devices

For your own safety, it is recommended that you first read the warning notices on pages v and vi.



Use these audio connectors if your PC does not have a Sound Blaster card.
For models with Sound Blaster card, refer to page 14.

Connecting the optical mouse
(some models only)



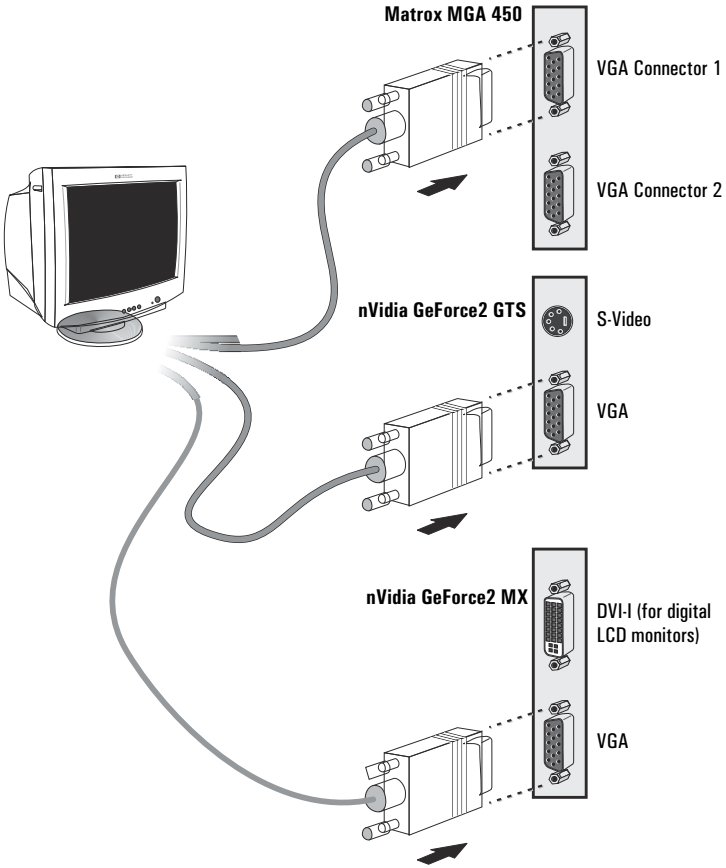
NOTE

Universal Serial Bus (USB) connectors can be used for USB accessories. (For information about HP accessories, connect to HP's web site **www.hp.com/go/pcaccessories**.) Most USB accessories are automatically configured as soon as they are physically attached to the PC. USB is supported by Window 2000, Windows 98 and Windows 95 SR 2.1 only.

Line Out Jack. The internal audio speaker is deactivated when you use the Line Out jack. External speakers should have a built-in power supply.

Connecting the Monitor

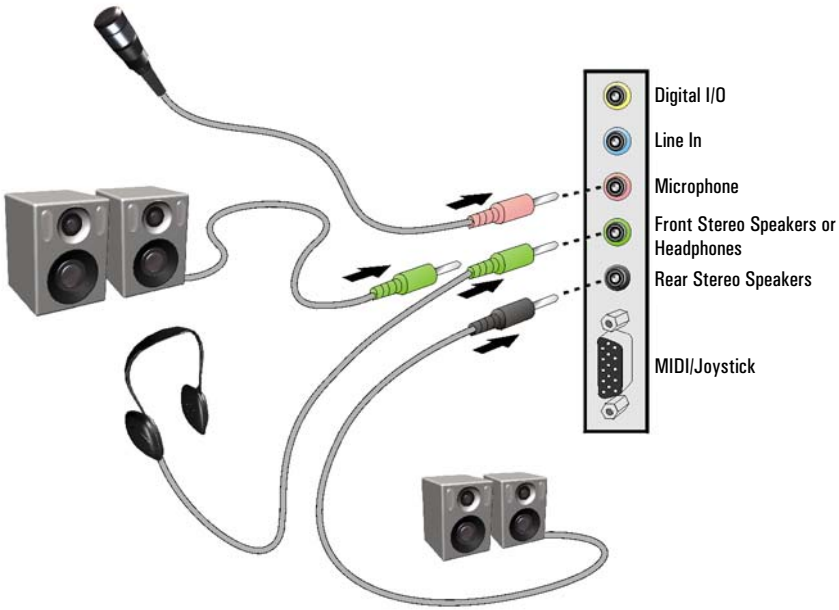
Connect the monitor according to the model of graphics card you have, as shown below.



Connecting the Sound Blaster Audio Card (Some Models Only)

If your PC has a Sound Blaster audio card, connect your audio devices as shown.

If your PC does not have a Sound Blaster audio card, refer to page 12.



Starting and Stopping Your PC

Starting Your PC for the First Time

If your PC has preinstalled software, it is initialized the first time you start the PC. The software initialization process takes a few minutes. This process sets up the software in your language and sets up your software to use the hardware installed in your computer (you can change the settings after the software has been initialized).

Starting Your PC

1 Before you start your PC, first switch on the display.

2 Start your PC in one of these ways:

- Press the power button on the front panel.
- Press the keyboard space bar (multimedia models only). The keyboard power-on feature will work only if the appropriate system board switch is set (the default setting is enabled).

When you switch on the computer, it carries out the Power-On-Self-Test (POST) while the PC's logo is displayed. If you wish to view the details of this test, press the **Esc** key. If there is an error in the POST, the error will automatically be displayed.

3 If you have set a password in the PC's *Setup* program, the password prompt displays after the POST has completed. If the Password prompt is displayed, type your password and press **Enter** to be able to use the PC.

Initializing Your Software

NOTE

Do NOT switch OFF the PC while the software is being initialized—this could cause unexpected results.

To initialize your software:

1 Turn on the display first, then the PC.

When the PC is switched on, the HP PC's logo is displayed. The PC performs a Power-On-Self-Test (POST).

2 The software initialization process starts. It displays the software license agreement, gives you an opportunity to read *Working in Comfort* (ergonomics advice for computer users), then asks questions about the PC.

3 While the initialization process is running, you can complete the Warranty Registration card that came with this manual.

4 When the initialization process has finished, click OK and the PC will restart.

Creating an Emergency Repair Disk

During the initialization of your software, it is very important that you create an Emergency Repair Disk for the operating system, when prompted. HP recommends that you use new diskettes for this purpose.

For more information on how to create these diskettes, refer to the documentation that came with your application software or operating system.

Stopping Your PC

To stop the PC, first make sure that you have exited all applications and then use the shutdown command in the **Start** menu. When prompted, press the power button on your PC.

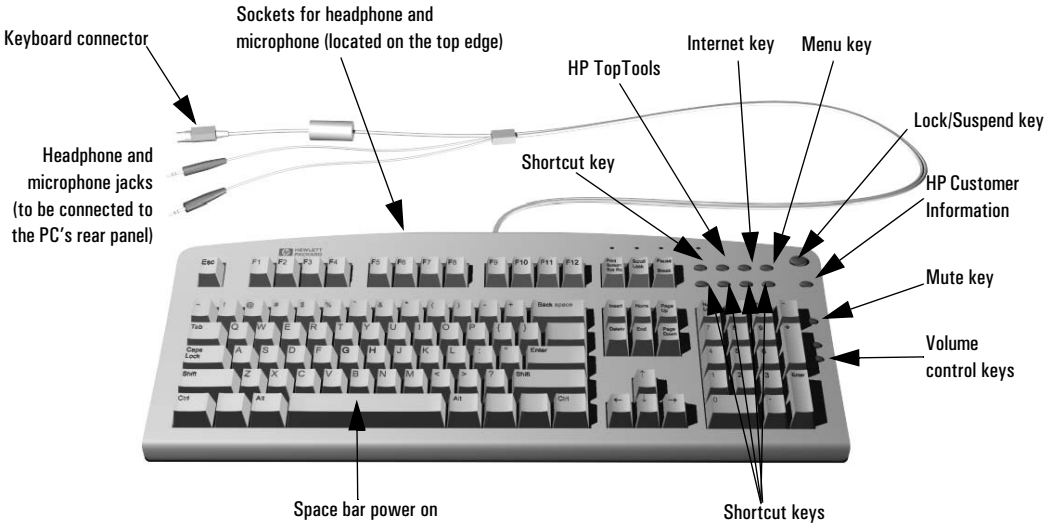
CAUTION

Do not power off using the power button until prompted to do so otherwise you may lose any unsaved data from open applications.

Using Your HP Enhanced Multimedia Keyboard (some models only)

The HP enhanced keyboard includes soft keys you can use to:

- Display and configure the actions assigned to keys.
- Perform one-touch shortcuts to start applications, open files, or open web sites on the Internet.
- Launch the Internet browser supplied with your system.
- Lock or suspend your PC.
- Access HP TopTools and customer information.
- Mute or adjust the volume of the audio system.
- A headphone and microphone can be connected directly to the keyboard. For this option to work, the headphone and microphone connectors must be connected to their associated rear panel jacks.



Menu Key

Pressing the "**?**" Menu soft key displays the soft key section of the HP enhanced keyboard control panel on your screen. Click any of the keys on the screen to display the action assigned to an individual key or to change or assign an action to a key. Shortcut keys are provided specifically for user-defined actions.

Viewing the Summary Screen

The Summary Screen gives you a summary of the current configuration of your PC (for example: BIOS version, CPU speed, memory module size, and installed mass storage devices).

It is recommended that you check the configuration of your PC when you first use it and each time after you install, remove, or upgrade accessories. To check the configuration:

1 Turn on the display and then the PC. If the PC is already turned on, save your data and exit all programs, then restart the PC. Consult your operating system documentation for any special instructions concerning turning off and restarting your PC.

2 When the start-up logo appears on your display, press **Esc**. This takes you to the Summary Screen. (To go immediately into the *Setup* program, and bypass the Summary Screen, press **F2** instead of **Esc**). The Summary Screen is displayed for only a short time.

Using the HP *Setup* Program

Use the *Setup* program to configure your PC (for example: setting up system and user passwords, installing and upgrading mass storage devices), and to solve configuration problems.

It is recommended that you take note of any changes to the system setup.

Starting the HP *Setup* Program

1 Turn on the display and then the PC. If the PC is already turned on, save your data and exit all programs, then restart the PC.

2 Press **F2** while **F2 Setup** is displayed at the bottom of the screen. If you fail to press **F2** in time and the start-up process continues, you will need to restart your PC and go through the POST again so you can press **F2**.

The opening screen of the PC's *Setup* program is displayed. The Main Menu presents a list of fields, for example, the installed BIOS version or Date and Time.

A band along the top of the screen offers a list of menus. A menu is selected by using either the left or right arrow keys.

Main Menu

The Main Menu presents a list of fields, for example, the installed BIOS version; "Reset Configuration Data"; "System Time"; "System Date"; "Key Click"; "Key Auto-Repeat Speed"; Delay Before Auto-Repeat" and "NumLock at Power-on".

By default the "Reset Configuration Data" item is set to No. Selecting Yes will clear the system configuration data and return to the default settings.

Advanced Menu

The Advanced Menu offers a list of sub-menus allowing you to:

- Configure memory caching, USB ports, Integrated I/O Ports and Integrated Audio Devices
- Enable floppy disk drives, IDE devices (Primary and Secondary)
- PCI Devices.

Security Menu

Sub-menus are presented for changing the characteristics and values of the System Administrator Password, User Password, Power-on Password, Fixed Disk Boot Sector and for preventing unauthorized start-up from the Floppy, CD-ROM and IDE-HDD drives (refer to “Setting Passwords in the HP Setup Program” on page 21).

Boot Menu

Select the order of the devices from which you want the BIOS to attempt to boot the operating system. The QuickBoot mode option allows the system to skip certain tests while booting. This decreases the time needed to boot the system.

Power Menu

The Network Interface option enables the system to return to normal speed when a specific command is received by the network interface.

NOTE

Setup changes system behavior by modifying the power-on initialization parameters. Setting incorrect values may cause system boot failure. Should this occur, press **F9** to load the *Setup* default values to recover.

Setting Passwords in the HP *Setup* Program

You can set passwords to provide different levels of protection for your PC, the Administrator password, the User password and the Power-on password. You set these passwords using the **Security** menu in the *Setup* program.

The Administrator can access and change all settings in the *Setup* program, while the User can only access and modify certain items in the Main menu.

When the Power-on Password option is enabled, you need to enter a password every time you boot the PC. Either the Administrator or User Password can be used.

Setting a Password

To set a password:

1 Start the *Setup* program

2 Select the **Security** menu.

3 Select the **Administrator** or **User** password submenu.

4 Choose the **Set Administrator** or **User password** setup item. You will be asked to enter your password twice.

To enable the Power-on Password, select the **Enabled** setup item.

5 To save your changes and exit the *Setup* program press **Esc** or select **Exit Menu**, then **Exit Saving Changes**.

To remove the password, follow the same procedure as to set a password. You will be asked to enter the existing password first. Then, for the new password, leave the password field blank and press **Enter**. To confirm your choice, press **Enter** a second time.

Using Power Management

Power management enables you to reduce the PC's overall power consumption by slowing down the PC's activity when it is idle.
For more information on power consumption data, refer to the PC's data sheet on HP's web site at: **www.hp.com/desktops/vectra**.

Operating System

Operating systems differ in their power management capabilities. Refer to your operating system documentation for more information.

Manageability

Your PC is highly manageable. HP TopTools is a device management tool that can help you in troubleshooting and makes remote administration easier. For more information about TopTools, connect to HP's web site at: **www.hp.com/toptools.**

Software and Drivers

In the "Software and Drivers" section of the HP support site **www.hp.com/go/vectrasupport**, you can download the latest drivers and BIOS for your PC.

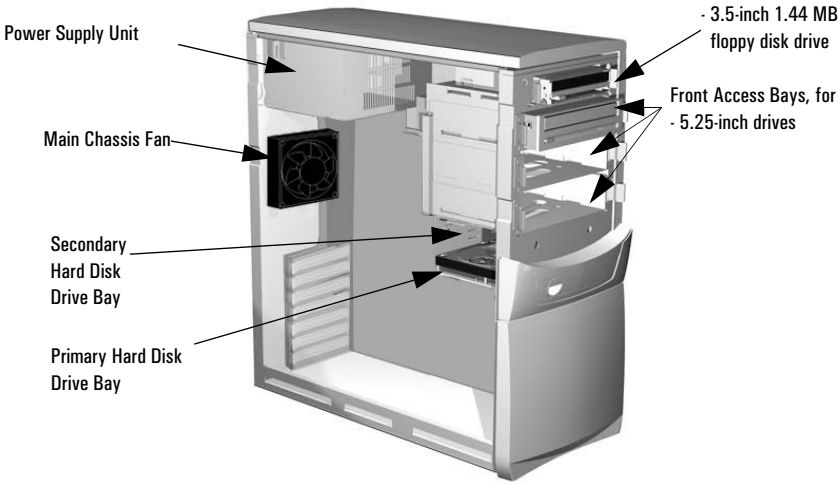
You can also register to obtain information on new driver availability automatically.

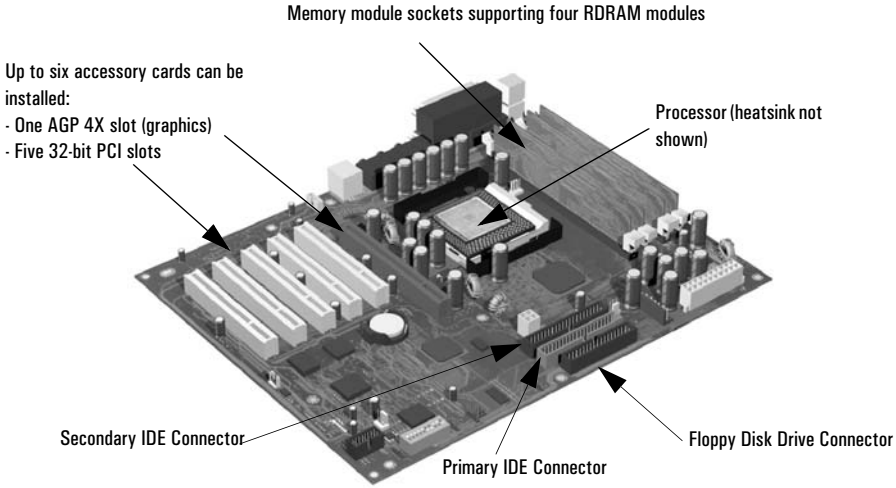
Contact your dealer for an up-to-date list of supported devices or check the HP web site: **www.hp.com/go/vectrasupport**.

2

Installing and Replacing Hardware Parts in Your PC

This chapter provides information about installing accessories and replacing hardware parts in your PC.





Contact your dealer for an up-to-date list of supported devices or connect to **www.hp.com/go/pcaccessories** then select **vl800** in the menu.

For the list of non-HP devices compatible with your PC, consult the Tested Product List at **www.hp.com/desktops/vectra/vl800/tpl.html** (when available).

Removing and Replacing the Cover

Removing the Cover

1 Switch off the monitor and PC, disconnect all power cords and any telecommunication cables.

2 Unlock the cover (with the key) at the rear of the PC if a lock is installed.

3 Open the latch and remove the side panel.

4 Remove the front panel (required if you are adding a front-access device).

Replacing the Cover

1 Ensure that all internal cables are properly connected and safely routed (not trapped or snagging on anything.)

2 Replace the front panel.

3 Replace the side panel, making sure you align the hinges properly.

4 If required, lock the cover (with the key) at the rear of the PC.

Removing, Replacing and Upgrading Memory

NOTE

Use only HP memory modules specifically designed for your PC model. To find out about available accessories for your PC, refer to the HP Accessories Web site at: **www.hp.com/go/pcaccessories**.

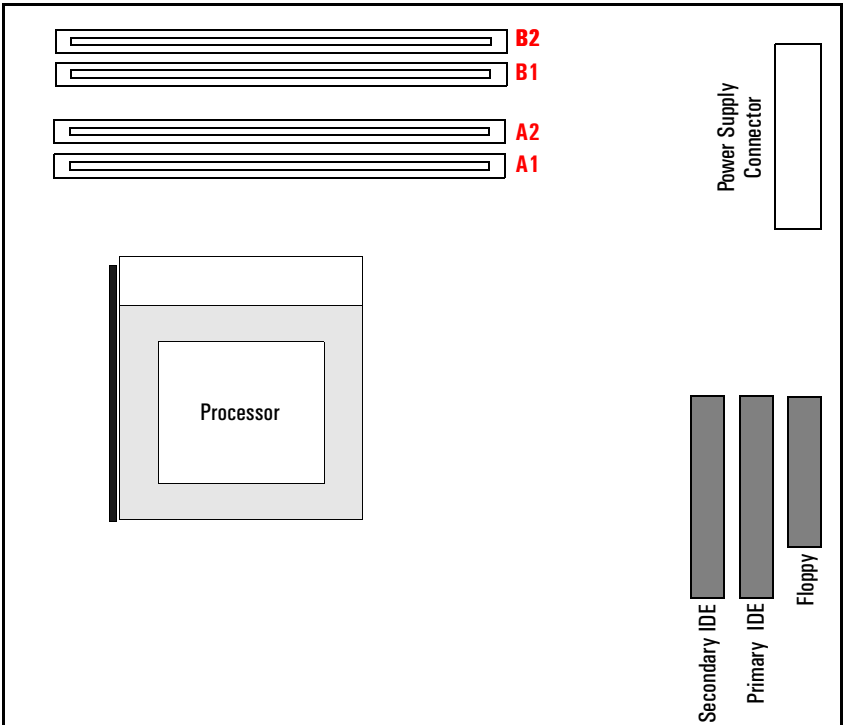
Upgrading Memory

Your PC has two pairs of memory sockets for installing either two or four PC800 RAMBUS Direct RAM (RDRAM) memory modules.

NOTE

Each pair of memory sockets must contain identical memory modules (identical in size, speed and type). That is, sockets **A1** and **B1** must contain identical modules, and sockets **A2** and **B2** must contain identical modules (or continuity modules).

If only two RDRAM modules are installed, use the sockets marked **A1** and **B1**. The other two sockets (**A2** and **B2**) must contain continuity modules.



Memory modules for your PC are available from HP or from your Authorized HP Reseller. To see which memory modules are available, connect to **www.hp.com/go/pcaccessories**, then select **HP Memory** and **vl800** in the menus.

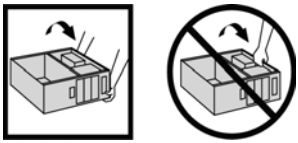
Removing and Installing a Memory Module

Installing or Replacing a Memory Module

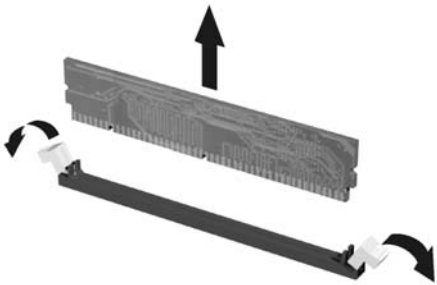
1 Switch off the display and PC. Disconnect all power cables and any LAN or telecommunications cables.

2 Remove the PC's cover (refer to page 25 for instructions).

3 Lay the minitower on its side.

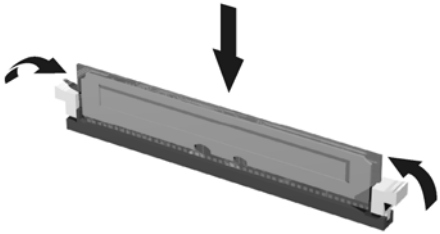


4 If you are installing additional memory modules then you will need to remove the continuity modules. Open the two retaining clips and remove the continuity module from the socket. If you are replacing an existing memory module then open the two retaining clips and remove the existing memory module the socket.



Always store any removed memory or continuity module in a safe place for future use.

5 Install your new memory modules, ensuring that the two notches on the bottom edge of each memory module is aligned with those of the socket. With the two retaining clips open, press the memory module ***fully*** into the socket until the retaining clips click into position. You can also close the retaining clips by hand to ensure that the module is correctly inserted.



6 Replace the PC's cover (refer to page 25). Reconnect all the power and telecommunications cables.

7 Check the Summary Screen to verify the new configuration (refer to "Viewing the Summary Screen" on page 18).

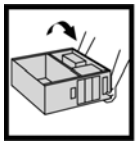
Installing or Replacing an Accessory Card

Your PC has five 32-bit 33 MHz PCI (PCI 2.2) accessory card slots and one AGP slot on the system board. The AGP slot accepts standard 25W 1.5V AGP graphics cards.

1 Switch off the display and PC. Disconnect all power cables and any LAN or telecommunications cables.

2 Remove the PC's cover (refer to page 25 for instructions).

3 Lay the minitower on its side.



4 Remove the accessory card retaining bracket.

5 If you are installing a new accessory card, remove the slot panel. Store it in a safe place.

6 If you are replacing an existing accessory card, remove any cables connected to the accessory card and carefully pull it out.
If you are removing an AGP graphics card, release the plastic clip before removing the card.

NOTE

Some cards may have preferred locations and special installation instructions detailed in their manuals.

7 Aligning the new card carefully, slide it into position, then press it firmly into the slot.

8 Replace the retaining bracket.

9 If you are installing or replacing the AGP graphics card, remember to secure the card with the plastic latch on the AGP connector.

10 If you are installing or replacing a SCSI card, reconnect the disk activity LED connector to the system board (refer to page 55 for the location of the system board connectors).

11 If you are installing or replacing a Sound Blaster audio card, reconnect the CD drive's audio cable to the Sound Blaster card. (If you do not have a Sound Blaster card, the CD drive's audio cable connects to the system board – refer to page 55 for the location of the system board connectors.)

12 Install any other accessories before replacing the cover (refer to page 25). Reconnect all the power and telecommunications cables.

Installing Mass Storage Devices

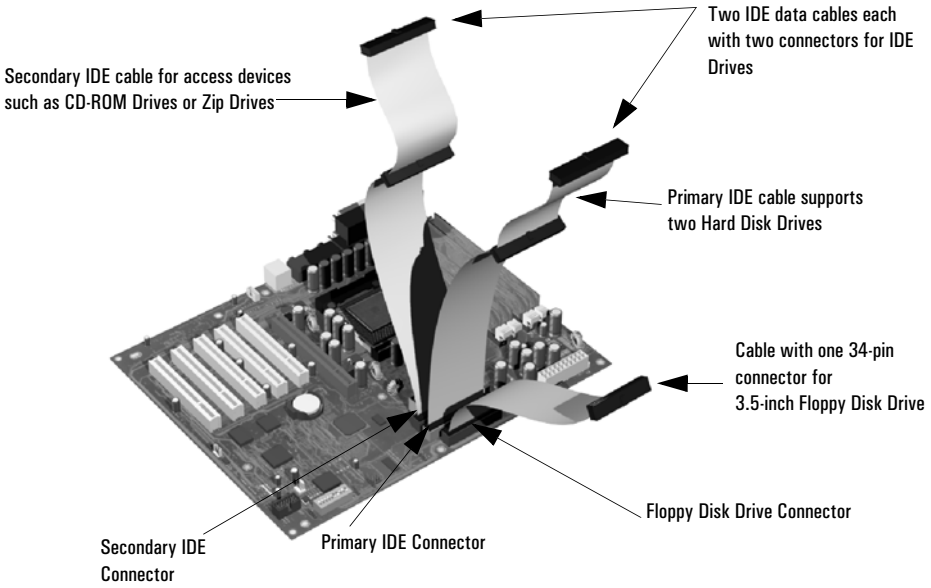
The PC has an integrated Ultra ATA-100 controller that supports up to four IDE devices. Removable media IDE devices, such as CD-ROM drives, DVD drives, tape drives and Zip drives, require front access. In addition to the floppy disk drive, your PC can support another 3.5-inch internal device plus three front-access 5.25-inch devices. Note that one front-access shelf may already have an optical drive installed in it.

You can physically install up to two 7.2 or 10 Krpm hard disk drives in the minitower chassis.

Refer to the drive's manual to see if you must set jumpers or if there is a special installation procedure to follow.

Cables and Connectors (all models)

If you add an IDE Zip drive, hard disk drive, DVD drive, CD-ROM drive, CD-RW drive, or tape drive, you need to connect it to power and data cables. The data cables and connectors provided are shown below:



Which IDE Data Connectors to Use

There are three or four data cables inside your PC. Two of these are for IDE devices.

- The ATA IDE cable supports two IDE devices. This cable is connected to the Primary IDE connector on the system board. The bootable hard disk drive is connected to this cable via the MASTER connector. A second hard disk drive could be installed by using the SLAVE connector.
- A second IDE drive cable supports two IDE devices. If you install a CD-ROM drive, a DVD drive or a Zip drive, connect it to this cable.
- The third cable has one connector for a floppy drive.
- SCSI models have an additional cable and connectors. For more information, refer to "Cables and Connectors (SCSI Models)" on page 33.

The following table explains which data connectors you should use when you install additional devices.

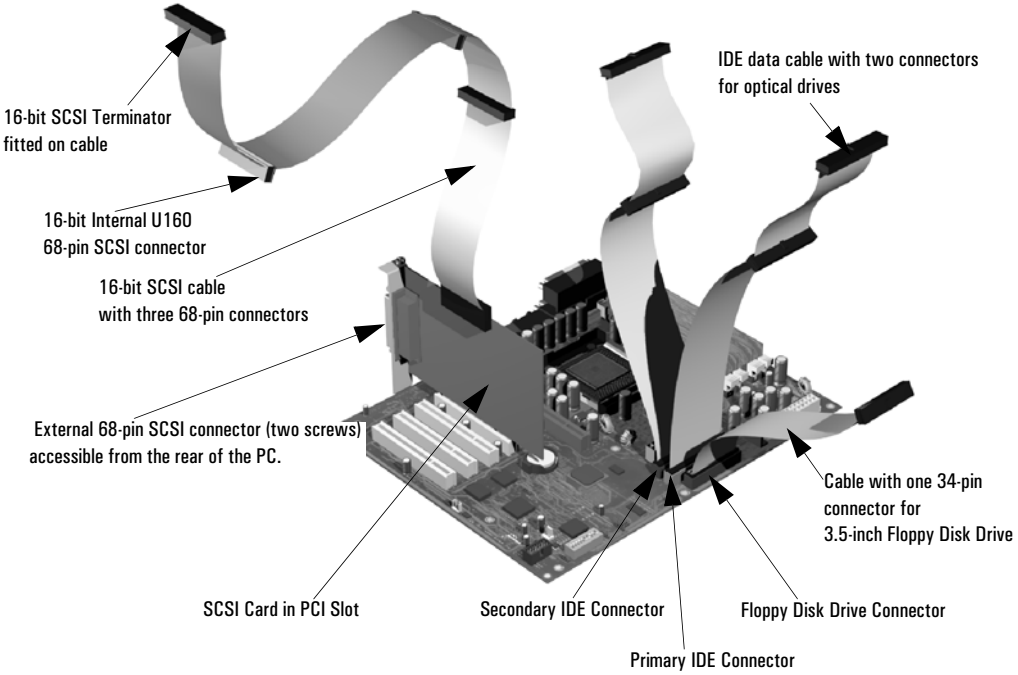
Examples of multiple IDE drive combinations

Configuration	Connections to data cables	
1 Hard disk drive	Bootable hard disk drive:	Master connector, Primary IDE Cable
1 Hard disk drive 1 CD-ROM drive	Bootable hard disk drive: CD-ROM drive:	Master connector, Primary IDE Cable Master connector, Secondary IDE Cable
2 Hard disk drives 1 CD-ROM drive	Bootable hard disk drive: Second hard disk drive: CD-ROM drive:	Master connector, Primary IDE Cable Slave connector, Primary IDE Cable Master connector, Secondary IDE Cable
1 Hard disk drive 1 CD-ROM drive 1 Zip drive	Bootable hard disk drive: CD-ROM drive: Zip drive:	Master connector, Primary IDE Cable Master connector, Secondary Cable Slave connector, Secondary IDE Cable
2 Hard disk drives 1 CD-ROM drive 1 Zip drive	Bootable hard disk drive: Second hard disk drive: CD-ROM drive: Zip drive:	Master connector, Primary IDE Cable Slave connector, Primary IDE Cable Master connector, Secondary IDE Cable Slave connector, Secondary IDE Cable

Before Installing an IDE Hard Disk

Refer to the drive's installation guide to check jumper settings or if there is a special installation procedure to follow.

Cables and Connectors (SCSI Models)



Which SCSI Connectors to Use

Models with a SCSI card can be connected to up to three internal SCSI devices.

Additional devices can be added outside the PC by connecting directly to the rear panel SCSI connector. The SCSI card allows up to 15 devices to be connected, three internal and 12 external SCSI devices.

NOTE

The total length of the external SCSI cables should not exceed 3 meters (approximately 10 feet).

Before Installing a SCSI Hard Disk (Selected Models Only)

If you are installing an additional SCSI drive, **you should configure an unused SCSI ID to this accessory.** SCSI IDs range from 0 to 15 for Ultrawide 16-bit SCSI. SCSI ID 0 is used by the first SCSI hard disk drive and SCSI ID 7 is reserved for the integrated SCSI controller (the default for narrow and wide SCSI devices).

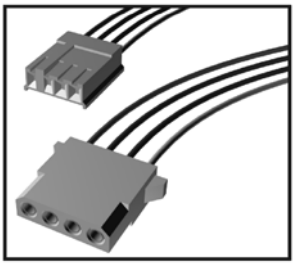
You should assign an unused SCSI ID to the second SCSI hard disk drive (for example, SCSI ID 1).

The SCSI ID is usually configured with jumpers on the SCSI hard disk drive. Refer to the installation guide supplied with the drive for information on selecting a SCSI ID.

Some SCSI disk drives may have termination resistors that must be removed or disabled before installation in your PC. Refer to the drive's installation guide for more details and to see if there is a special installation procedure to follow.

Power Connectors

Power Cable for 3.5-inch Floppy Disk Drive



Power Cables for Hard Disk Drives, Zip Drives, Tape Drives, CD-RW, CD-ROM Drives and DVD drives

Replacing the Primary Hard Disk Drive

CAUTION

Handle the hard disk drive with care. Avoid shocks and violent movement as this can cause damage to the hard disk drive's internal components.

Make sure that you back up your files before you install a hard disk drive. Refer to your operating system documentation for information on how to do this.

If you are replacing a SCSI hard disk, you need to set the hard disk's SCSI ID correctly. Refer to "Before Installing a SCSI Hard Disk (Selected Models Only)" on page 33 for more information.

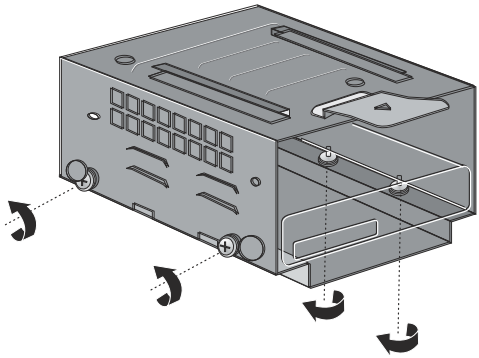
You can replace your PC's hard disk drive with a larger one. To do this:

1 Remove the computer's cover (refer to page 25 for instructions).

2 Remove the drive's connectors.

3 Press the retaining clip on the top of the drive tray and slide it forward to remove it. Hold the tray firmly while removing it.

4 Turn the drive tray over, remove all the screws from the base of the tray, then slide out the old hard drive.



5 Align the new drive in the tray and replace the screws to fix it in place.

6 Slide the drive tray back into the bay until it clicks into place.

7 Attach the data and power connectors.

8 Replace the cover (refer to page 25 for instructions).

9 Go to page 45 to complete the installation.

NOTE

Ensure that you have installed all the required operating system and HP drivers on the newly installed drive. To reinstall operating system and HP drivers, use the *Image Creation & Recovery CD-ROM* provided with the PC. In addition, you can find the most up-to-date versions of HP drivers on HP's Web site at: **www.hp.com/go/vectrasupport**.

Installing a Second Hard Disk Drive

CAUTION

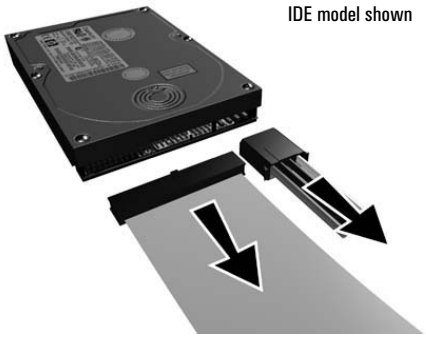
Handle the hard disk drive with care. Avoid shocks and violent movement as this can cause damage to the hard disk drive's internal components.

Make sure that you back up your files before you install a hard disk drive. Refer to your operating system documentation for information on how to do this.

If you are replacing a SCSI hard disk, you need to set the hard disk's SCSI ID correctly. Refer to "Before Installing a SCSI Hard Disk (Selected Models Only)" on page 33 for more information.

1 Remove the computer's cover (refer to page 25 for instructions).

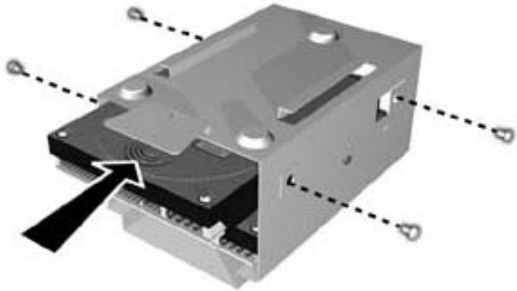
2 Remove the connectors from the already installed hard drive.



IDE model shown

3 Press the retaining clip on the top of the drive tray and slide it forward to remove it. Hold the tray firmly while removing it.

4 Slide in the new hard drive in the position shown and fasten the four screws to secure it in position in the drive tray.



5 Slide the drive tray back into the bay.

6 Attach an IDE or SCSI data connector and a power connector to each hard disk drive.

NOTE

For IDE drives, you must use the end connector (marked DRIVE 0) with the master hard drive. This is the drive you intend to boot your PC from.

7 Replace the cover (refer to page 25 for instructions).

8 Go to page 45 to complete the installation.

NOTE

If you intend to boot from the newly installed drive, ensure that you have configured *Setup* to do this. Also ensure that you have installed all the required operating system and HP drivers on the newly installed drive. To reinstall operating system and HP drivers, use the *HP Image Creation & Recovery CD-ROM* provided with the PC. In addition, you can find the most up-to-date versions of HP drivers on HP's Web site at: **www.hp.com/go/vectrasupport**.

Installing Removable Media

WARNING

To avoid electric shock and harm to your eyes by laser light, do not open the laser module. The laser module should be serviced by service personnel only. Do not attempt to make any adjustment to the laser unit. Refer to the label on the CD-ROM drive for power requirements and wavelength. This product is a class 1 laser product.

The PC has an integrated Enhanced IDE controller which supports up to four IDE devices. Removable media IDE devices, such as CD-ROM drives, DVD drives, tape drives and Zip drives require front access. You can install a removable media IDE drive in an empty front shelf.

Refer to the drive's manual to see if you must set jumpers or if there is a special installation procedure to follow.

1 Remove the computer's cover and front panel (refer to page 25 for instructions).

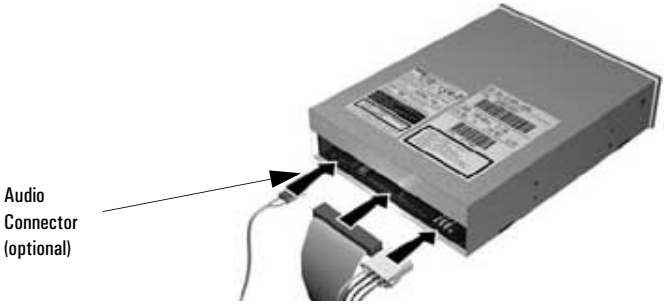
2 Press the two latches inward and slide out the drive tray in which you want to install a new device.

3 Remove the tray's metal RFI shield.

4 Place the new device in the drive tray with the correct orientation and secure it in place with the four screws (two on each side).

5 Slide the device tray into the PC.

6 Attach the data and power connectors. If you are installing a CD-ROM, CD-RW or DVD drive, connect the audio cable too.



7 Replace the cover (refer to page 25 for instructions).

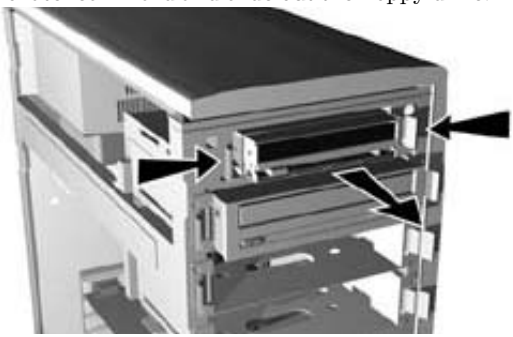
8 Go to page 45 to complete the installation.

Replacing the Floppy Drive

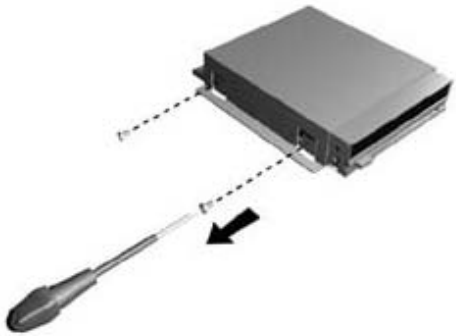
1 Remove the computer's cover and front panel (refer to page 25 for instructions).

2 Remove the drive's connectors.

3 Press the two latches inward and slide out the floppy drive.



4 Loosen the tray's two side screws and remove the old floppy drive.



5 Insert the new floppy drive (pin side first) then replace the two side screws.

6 Slide the floppy drive back into the PC.

7 Attach the data and power connectors.

8 Replace the cover (refer to page 25 for instructions).

9 Go to page 45 to complete the installation.

Completing the Installation of a Mass Storage Device

IDE Drive

1 Switch on the computer.

2 To verify the configuration of your hard disk drive, press **F2** to enter *Setup* when the HP logo appears. Once in *Setup*, select the **Advanced** menu, then the **IDE Devices** submenu. In the **Primary Master** item, check that the details for the device have been correctly detected by the *Setup* program.

3 Press **F3** to save and exit *Setup*.

4 Refer to the operating system documentation for information on partitioning and formatting a drive.

5 If an IDE drive is removed, switch on the computer. The system BIOS will detect that the device is missing. Press **F4** to confirm that you want to remove the device. The system configuration will be updated automatically.

SCSI Drive on SCSI Models

1 Switch on the computer.

2 To enter the SCSI Configuration Utility press **Ctrl-C** when prompted during the PC's start-up routine.

3 Verify or modify the configuration of your new SCSI hard disk drive. For more information on configuring a SCSI hard disk drive, refer to the SCSI User's Guide.

4 When configuration is complete, exit the SCSI Configuration Utility and reboot the computer to save any changes.

CD-ROM, CD-RW or DVD-Drive

1 Switch on the computer and press **F2** when the HP logo appears.

2 In the *Setup* program, select the **Advanced** menu, then the **IDE Devices** submenu. Check that the CD-ROM drive has been detected on the IDE channel.

3 Press **F3** to save and exit the program.

Floppy Drive

1 Switch on the computer and press **F2** when the HP logo appears.

2 In the *Setup* program, select the **Advanced** menu, then the **Floppy Disk Drives** submenu, and check that the drive has been detected.

3 Press **F3** to save and exit the program.

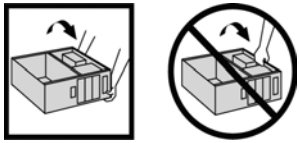
Replacing the Main Chassis Fan

Removing the Fan

1 Switch off the display and PC. Disconnect all power cables and any LAN or telecommunications cables.

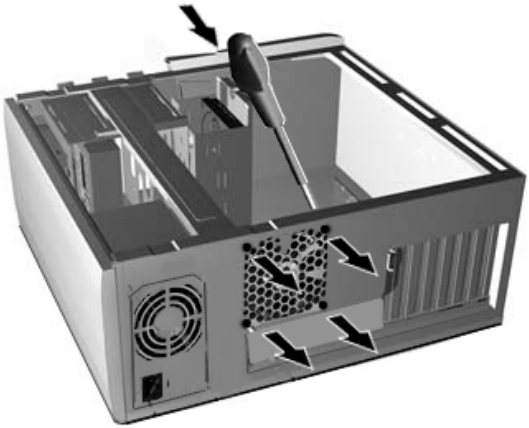
2 Remove the PC's cover (refer to page 25 for instructions).

3 Lay the minitower on its side.



4 Disconnect the fan cable from the system board.

5 From inside the PC, use a screwdriver to gently push out the four plastic studs, then remove the fan.



Replacing the Fan

NOTE

Ensure that all cables are clear of the fan and will not easily come into contact with the fan during normal use or following transportation.

1 Align the fixation holes in the fan with the holes in the chassis.

2 Insert the four plastic studs provided with the new fan.

3 Connect the fan cable to the main chassis fan connector on the system board (refer to page 58 for location).

4 Replace the PC's cover (refer to page 25). Reconnect all the power and telecommunications cables.

Replacing the Power Supply Unit

WARNING

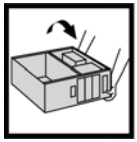
Hewlett-Packard does not support power supply upgrades. This information is provided to help you replace a defective power supply unit. For your safety, only replace a power supply unit with a unit provided by HP support services.

Removing the Power Supply Unit

1 Switch off the display and PC. Disconnect all power cables and any LAN or telecommunications cables.

2 Remove the PC's cover (refer to page 25 for instructions).

3 Lay the minitower on its side.



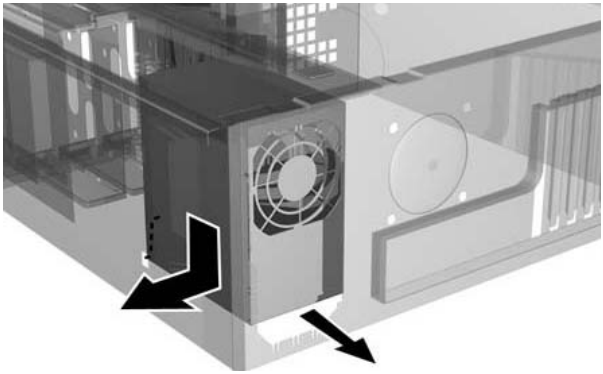
4 Remove ***all*** internal power supply connectors.

5 Remove the four screws located on the rear of the chassis that secure the power supply unit in position.

6 Push the power supply from the rear to slide it forward, disengage the hinges and remove the power supply.

Installing the Power Supply Unit

1 Insert the new power supply unit (lining up the metal catches).



2 Secure the power supply in position using the screws you removed previously.

3 Reconnect ***all*** internal power supply connectors (there are ***two*** connectors on the system board).

4 Replace the PC's cover (refer to page 25). Reconnect all the power and telecommunications cables.

5 Select the correct voltage setting for your country.

Replacing the Processor

CAUTION

Before removing the heatsink or processor, ensure that you have a new piece of thermal interface material (provided with system board or processor replacement kit).
When you re-attach the heatsink to the processor, use the new piece of thermal interface material. This will ensure the cooling properties of the heatsink are fully utilized.

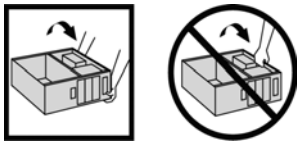
Removing the Existing Processor

1 Switch off the display and PC. Disconnect all power cables and any LAN or telecommunications cables.

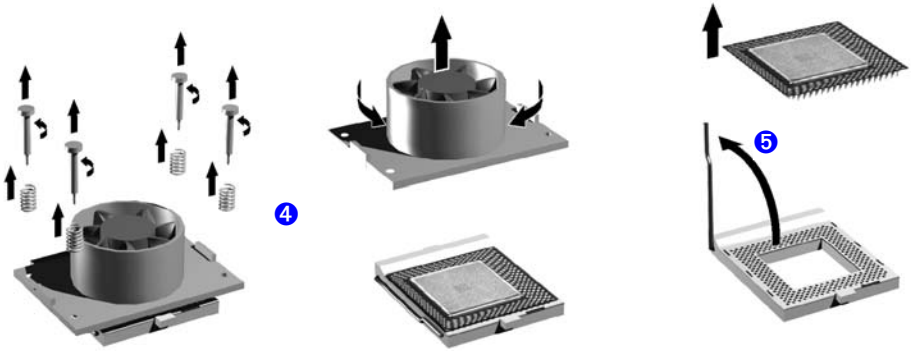
2 Remove the PC's cover (refer to page 25 for instructions).

3 Lay the minitower on its side.

4 Remove the heatsink fan cable from the system board.



5 Remove the four heatsink screws (and springs) then lift off the heatsink. You may need to twist the heatsink to detach the thermal interface material.
Keep the screws and springs in a safe place; you will need them to install the new processor.



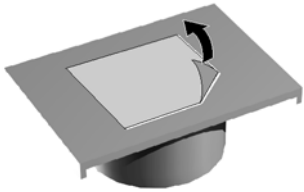
6 Lift the Zero Insertion Force (ZIF) lever, located at the side of the processor socket, until it is in the vertical position, then carefully lift out the processor. To avoid bending the processor pins, keep the processor perfectly flat when removing it.

7 Store the processor in an anti-static bag (for example, the one provided with the replacement processor).

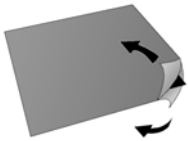
Installing the New Processor

1 First ensure the processor is correctly oriented, then carefully lower the new processor into place. When the processor is fully inserted, close the ZIF lever.

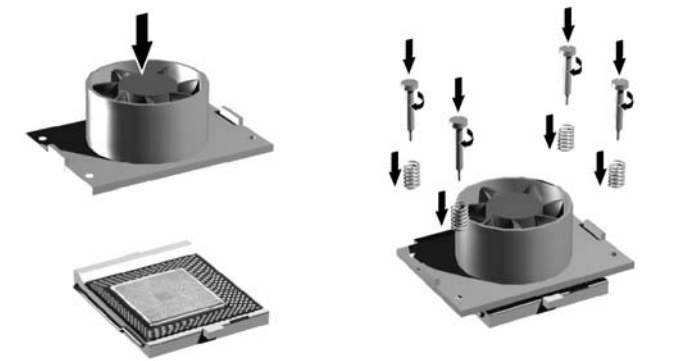
2 Carefully remove all thermal bonding material from the underside of the heatsink.



3 Remove the two paper protectors from the thermal interface material then affix it to the top of the processor.



4 Attach the heatsink to the processor then secure it in place using the four springs and four screws.



5 Connect the heatsink power connector to the system board.

6 Replace the PC's cover (refer to page 25 for instructions). Reconnect all the power and telecommunications cables.
When you start the PC, you should check that the processor has been correctly identified (refer to "Viewing the Summary Screen" on page 18).

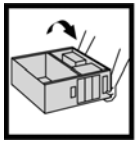
Replacing the System Board

Removing the System Board

1 Switch off the display and PC. Disconnect all power cables and any LAN or telecommunications cables.

2 Remove the PC's cover (refer to page 25).

3 Lay the minitower on its side.

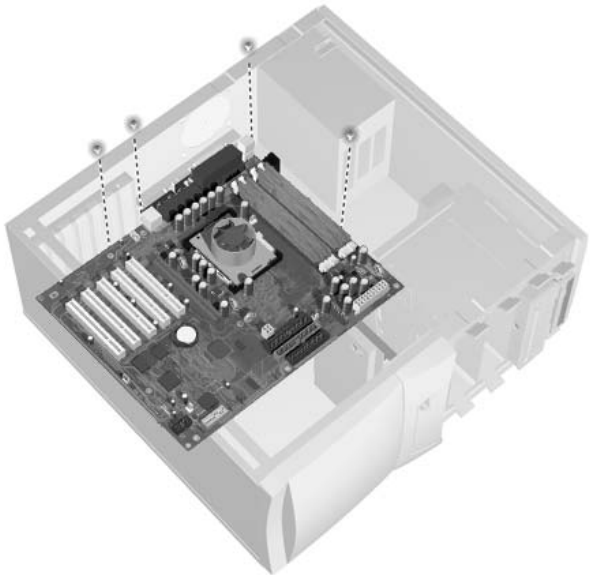


4 Disconnect all cables attached to the system board.

5 Remove the main memory, processor, heatsink and any accessory cards from the old system board (described in this chapter).

6 Remove the screws securing the system board in place.

7 Lift the system board out, being careful not to damage the PC's rear connectors.



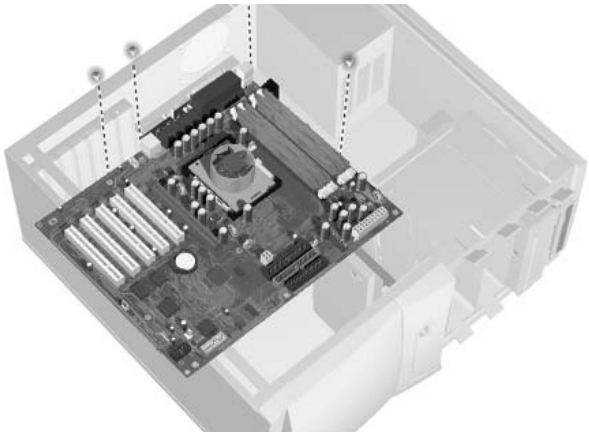
Installing the New System Board

1 Aligning the rear connectors with their corresponding sockets, insert the system board and lower it onto the guide pins. Ensure that all hooks are correctly positioned. Check that the rear connectors are correctly aligned in their sockets.

CAUTION

When inserting the system board, be careful not to damage or bend the metal fingers on the rear connector EMI shield. If the shield is damaged it can be very difficult to install the system board correctly.

2 Replace the screws to secure the system board in place.



3 Replace the main memory, processor, heatsink and any accessory cards in the new system board (described in this chapter). When reinstalling the heatsink, remember to replace the thermal interface (described on page 50).

4 Reconnect any cables you disconnected earlier from the system board. Note that there are *two power connectors* on the system board – you must connect both. To find out the positions of system board connectors, refer to page 58 or to the label located on the PC chassis.

5 Check the system board switches to ensure they are correctly set. Refer to page 55 for more information.

6 Replace the PC's cover and front bezel (refer to page 25). Reconnect all the power and telecommunications cables.

7 After installing the system board, you need to update your BIOS.

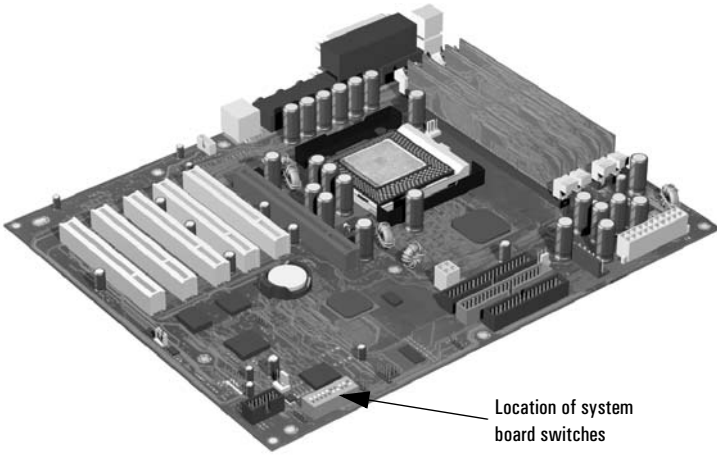
NOTE

The latest BIOS for your PC and instructions on updating the BIOS are available from: **www.hp.com/go/vectrasupport**.

System Board Switches

There are ten system board switches used for configuration, numbered from 1 to 10. Of these a certain number are reserved and should not be modified, otherwise it could lead to a system failure.

Switch	Default Position	To Configure:
1-5	**OFF**	Reserved. **Do Not change Default Settings**
6	**ON**	Enables keyboard power-on. OFF disables this option.
7	**OFF**	Enables normal modes. ON enables the BIOS recovery mode at next boot.
8	**OFF**	Retains CMOS memory. ON clears CMOS memory at next boot.
9	**OFF**	Enables User and System Administrator passwords. ON clears the passwords at next boot.
10	**OFF**	



Replacing the Battery

WARNING

There is a danger of explosion if the battery is incorrectly installed. For your safety, never attempt to recharge, disassemble, or burn the old battery. Replace the battery only with the same or equivalent type recommended by the manufacturer. The battery is a lithium battery which does not contain heavy metals. Nevertheless, in order to protect the environment, do not dispose of batteries in household waste. Please return used batteries to the shop from which you bought them, or to the dealer from whom you purchased your PC, or to HP, so that they can be either recycled or disposed of in an environmentally sound way. Returned batteries will be accepted free of charge.

If your PC repeatedly loses its configuration settings you should consider changing the battery. Replace it with a CR2032 coin type manganese/lithium battery, available from most PC stores.

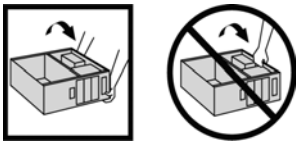
To change the battery:

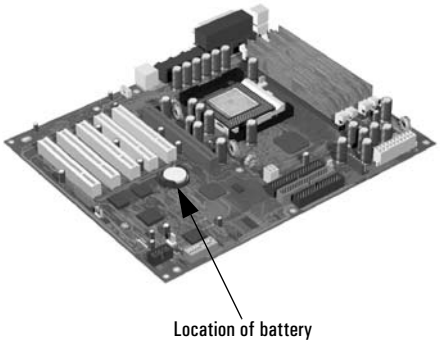
1 Disconnect the PC's power supply cord and any connection to a telecommunications network.

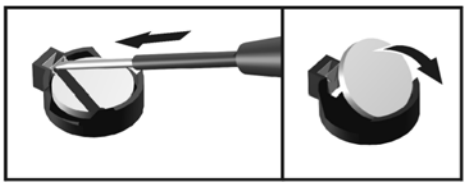
2 Remove the PC's cover (refer to page 25).

3 Lay the minitower on its side.

4 Remove the old battery by sliding it from under the retaining clip.





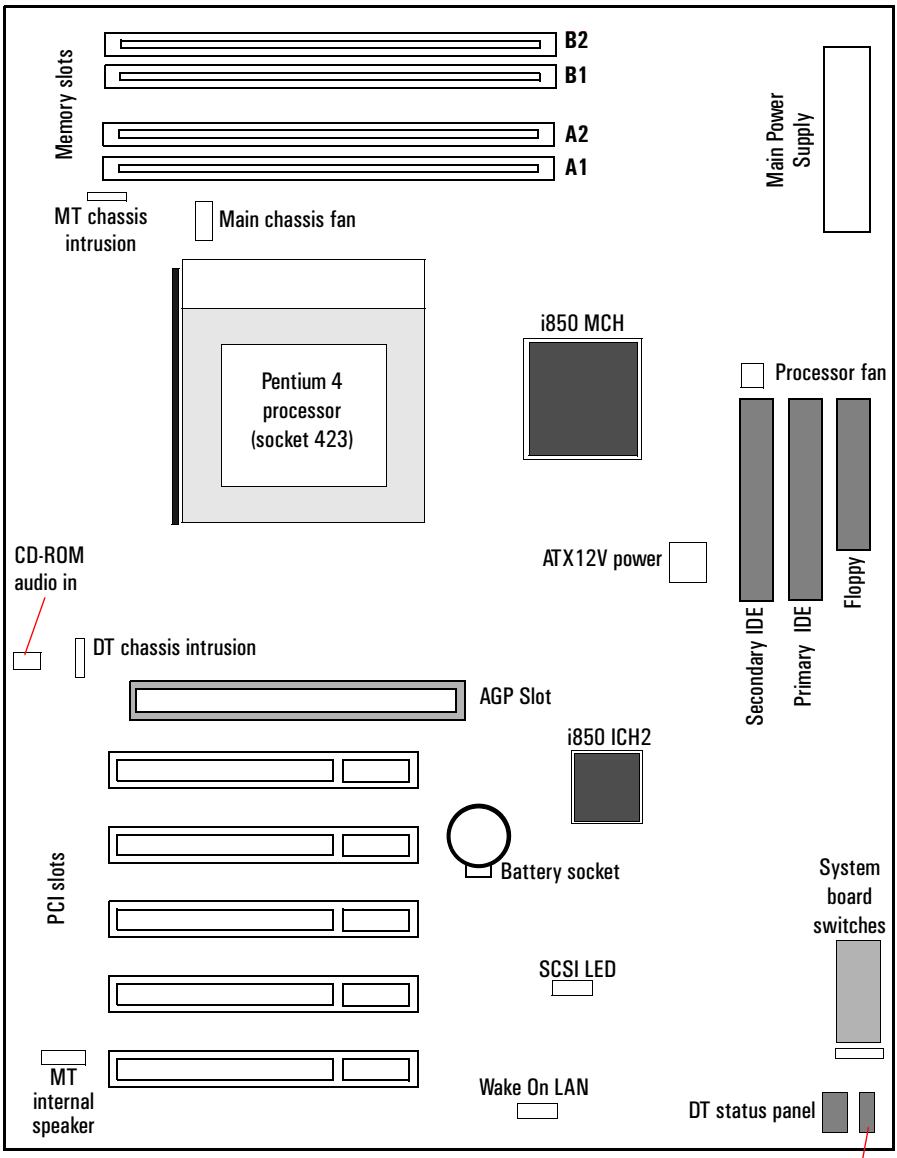


5 Place the new battery in the battery holder and ensure that it is properly seated. Ensure that the clip holds the battery firmly in place.

6 Replace the cover (refer to page 25). Reconnect all cables and power cords.

7 Run the *Setup* program to reconfigure the PC.

System Board Connectors



MT = Minitower
DT = Desktop

3

Troubleshooting Your HP PC

This chapter provides summary information that can help you solve problems you may have when using your PC.

- Dealing with common PC and hardware problems.
- Using HP e-DiagTools hardware diagnostics program.
- Using the *HP Image Creation and Recovery CD-ROM*.
- Frequently Asked Questions.
- What to do if you need more help.
- What to do before contacting HP Support.

For more detailed information, refer to the *Troubleshooting Guide*, available on HP's web site at **www.hp.com/go/vectrasupport**, then select **HP Vectra VL800** from the drop-down menu.

HP Instant Support

You can also use HP Instant Support, the web-based problem resolution service that automates and speeds up troubleshooting. This service is available free of charge. For more information about HP Instant Support, go to **www.hp.com/go/vectrasupport**, then click **HP Instant Support** in the left-hand menu.

If Your PC Does Not Start Properly

The PC Doesn't Power On	
Check that...	*How*
The PC's power cord is correctly connected.	Connect the power cord to a working grounded power outlet and the PC.

The Power Button LED Flashes Yellow	
Check that...	*How*
The internal hardware components are correctly installed.	Refer to the *Troubleshooting Guide* available from HP's web site at: **www.hp.com/go/vectrasupport**

The Power-On Self Test Results In an Error, The Power Button LED Flashes Yellow, or The PC Doesn't Start and Makes a Noise or Beeps	
An on-screen error message or a beep sequence when the PC starts up means there is a configuration problem with your PC.	
Check that...	*How*
The part of your configuration for which the Power-On Self Test has detected an error.	Refer to "Pre-Boot Diagnostics", on page 62. Refer to the *Troubleshooting Guide* available from HP's web site at: **www.hp.com/go/vectrasupport**

If Your PC Has a Hardware Problem

The Monitor Doesn't Work...	
The PC's power indicator light works but the monitor remains blank.	
Check that...	*How*
The monitor is switched ON (LED is on).	Refer to the monitor manual for an explanation of the LED signals (green, orange, or blinking).
The monitor's power cord is correctly connected.	Connect the power cord – ensure it is plugged into a working grounded power outlet and into the monitor.
The monitor's brightness and contrast settings are correctly set.	Check the settings using the monitor's OSD (on-screen display) or using controls on the front of the monitor.
You see an image during boot but then the screen goes blank or unstable.	
Check that...	*How*
The monitor settings in your PC are compatible with your monitor.	• Windows NT: Enter VGA mode when prompted during start-up, then reset the resolution. • Windows 98: Restart the PC. When the HP screen is displayed, press **F8** and then start the PC in safe mode. Double-click on the **Display** icon in your PC's **Control Panel**, then click on the **Settings** button. Use the sliding control to reset the resolution.

The Keyboard Doesn't Work...	
Check that...	*How*
The keyboard cable is correctly connected.	Plug the cable into the correct connector on the back of the PC.
The keyboard is clean and no keys are stuck down.	Check all keys are at the same height, and none are stuck.
The keyboard itself is not defective.	Either replace the keyboard by a known working unit or try the keyboard with another PC.
If the PC starts but you still have a problem...	Run e-DiagTools. See page 63.

The Mouse Doesn't Work...	
Check that...	*How*
The mouse cable is correctly connected.	1 Switch off the PC. 2 Plug the cable into the correct connector on the back of the PC.
The mouse and keyboard connectors have not been switched.	Check the connectors at the rear of the PC. The connectors are color coded. Match the colors. Refer to page 12 for more information.
You are using the correct driver. If you are using HP's mouse, ensure that the correct driver is installed. This driver is delivered with the HP scrolling mouse accessory.	Download the latest drivers from HP's web at: **www.hp.com/go/vectrasupport**
The mouse is clean.	Clean the mouse ball.
The mouse itself is not defective.	Replace the mouse by a known working unit or try the mouse with another PC.
If the PC starts but you still have a problem...	Run e-DiagTools. See page 63.

The Power-On Self Test Displays an Error
What to do
Press the **F2** key to enter Setup. [1]

1. For more information on the *Setup* program, refer to the *Troubleshooting Guide*, available on the HP web at: **www.hp.com/go/vectrasupport.**

Pre-Boot Diagnostics

When your PC starts up, the BIOS performs Pre-Boot Diagnostics and a Power-on Self Test (POST) to test your hardware configuration for any problems. If a problem is detected during the POST, an error is displayed on your PC's monitor.

If, however, your PC is unable to display an error message (for example, when you graphics controller has failed), the Pre-Boot Diagnostics will emit an audio signal.

The Pre-Boot Diagnostics emits an audio sequence with two kinds of sounds. The first is an unusual series of tones that indicate an anomaly has been detected. This series of sounds also contains an electronic signal that can be sent through a telephone line to an authorized helpdesk or HP Support, if necessary. This signal cannot be interpreted by the human ear. However, it can be decoded by helpdesk equipment to extract the PC model and serial number.

The second type of sound is a series of long beeps that indicate a particular error. If you hear a series of beeps, you should count them as this will help you detect the cause of the problem.

Number of Beeps	Meaning
1	Processor absent, not correctly connected or ZIP socket not closed
2	Power supply is in protected mode
3	No memory, bad memory modules, incompatible memory module
4	Graphics card problem
5	PnP/PCI initialization problem
6	Corrupted BIOS. You need to activate crisis recovery procedure
7	Defective system board

Please note that Memory (code 3), Video Card (code 4), and PnP/PCI (code 5) errors will only be detected after a 15-second timeout.

If You Miss the Beep Code

If you miss the beep code, turn off the PC by pressing the on/off power button for five seconds or more, then listen for the signal again.

HP e-DiagTools Hardware Diagnostics Utility

HP e-DiagTools is an accurate and reliable utility that helps you diagnose any potential hardware-related problems. With this utility you can:

- Check the hardware configuration and verify that it is functioning correctly.
- Test individual hardware components.
- Diagnose hardware-related problems.
- Obtain a complete hardware configuration.
- Provide precise information to an HP support agent so they can solve any problems quickly and effectively.

For more information about this utility, refer to the *e-DiagTools Hardware Diagnostics User's Guide*, available on the HP web site in PDF (Adobe Acrobat) format.

Where Can I Get HP e-DiagTools?

HP e-DiagTools is available from the following sources:

- Installed on your hard disk drive in the special "Utility" partition.
- *Image Creation and Recovery CD-ROM* delivered with your computer.
- *HP DiagTools CD-ROM* obtained from the HP web site at **`www.hp.com/desktops/diagtools`**

Before Using HP e-DiagTools

Decide how you are going to run the diagnostics utility: using either the utility partition on the hard disk drive or one of the CD-ROM options. Both provide the same range of extensive test but the full range of e-DiagTools features are only available when you run e-DiagTools from the hard drive. If you are running the diagnostics from a CD-ROM, then the CD-ROM drive must be configured to boot before the hard disk drive.

Starting HP e-DiagTools

From the hard disk drive:

1 Close all applications if you have not already done so.

2 Shutdown the computer with the Restart option.

3 When the HP start-up logo appears, the following message will be displayed for a few seconds: **`"Press <F10> to start hardware diagnostics or any other key to proceed".`**
Press the **`F10`** key to start HP e-DiagTools.

4 When e-DiagTools starts, it will display a welcome screen. Follow the on-screen instructions to perform the diagnostic tests.

From either the *Image Creation and Recovery CD-ROM* or *HP DiagTools CD-ROM*:

1 Insert the CD-ROM into the CD-ROM drive and restart the computer.

2 Press the **F8** key to select the boot order to CD-ROM first.

3 The PC will boot from the CD-ROM.
If you are using the *Image Creation and Recovery CD-ROM*, a menu will be displayed. Select the option to run e-DiagTools.

4 When e-DiagTools starts, it will display a welcome screen. Follow the on-screen instructions to perform the diagnostic tests.

The diagnostics utility will automatically detect the complete hardware configuration of your system before any tests are performed.

Producing a Support Ticket

To produce a complete record of your system's configuration and test results, you will need to create a Support Ticket. This is a simple text file that contains essential information and is designed to assist your local or HP support agent.

If you are using HP e-DiagTools from the hard disk drive and your PC is connected to a LAN using TCP/IP (Internet) protocols, you have the option of e-mailing your Support Ticket from within e-DiagTools.

If you are using HP e-DiagTools from a CD-ROM, you can create the Support Ticket file on either the hard disk drive or floppy disk drive.

You can also view the Support Ticket file using the "Support Ticket Viewer" program.

The Support Ticket file can be easily be sent, via email or fax.

Image Creation and Recovery CD-ROM

The *PC Image Engineer — Image Creation and Recovery CD-ROM* enables you to restore your computer to its original factory configuration, change or reconfigure the operating system and reinstall drivers or other factory-supplied software components. The drivers and software utilities, including documentation and navigational aids, help you to recover either the full set of pre-loaded software or subset of it.

What Functions Are Available?

Some of the available functions on the *Image Creation and Recovery CD-ROM* are described below:

- Full Recovery: Restores the operating system, drivers, utilities and Special Disk Partition as supplied by default. A full recovery also automatically erases any viruses that might be present on the Master Boot Record. It should be noted however, that this function reformats your hard disk drive. It is highly recommended, if possible, that you save ***all*** data files and software installations.
- Minimal Recovery: Restores only the operating system and SCSI driver for access to a SCSI hard disk drive.
- Partial Recovery: Restores individual drivers which are supplied in a "browseable area" of the CD-ROM.
- Copy OS Master Files: For use when Windows prompts you to insert the operating system media when installing additional drivers.
- HP e-DiagTools: Checks the system configuration and operation. Also described on page 63.

NOTE

Some of the operations that can be performed using the *Image Creation and Recovery CD-ROM* will permanently erase the current contents of your hard disk. You should always backup your data and personal files before using the CD-ROM.

Requirements

Before performing a recovery, upgrade or downgrade, it is advisable that you make a checklist for each type of function. You will require to have the Administrator password to make any changes to the *Setup* program and it is recommended that you make a note of any changes.

Performing a Recovery or Downgrade (Windows 2000 to Windows NT4)

- ❒ The PC model must match the CD-ROM (the CD-ROM is locked to a specific PC model).
- ❒ Backup all data files and, if necessary, software applications.
- ❒ It is recommended upgrading to the latest BIOS version.
- ❒ *Setup* program settings: Clear any BIOS-level passwords. In the Security menu, set all Hardware Protection items to “Enabled” or “Unlocked” (if applicable). Check also that Booting from the CD-ROM is enabled; in the Boot menu, the CD-ROM drive is configured to boot before the hard disk drive in the Boot Device Priority List.
- ❒ Ensure that you have the Certificate of Authenticity from Microsoft available. (This may be a label on the side of your PC.)

Running HP e-DiagTools

- ❒ The PC model must match the CD-ROM (the CD-ROM is locked to a specific PC model).
- ❒ CD-ROM drive has been configured to boot before the hard disk drive.

Performing a Full Recovery

Depending on the hardware configuration, a full system recovery should take from 30 minutes to 2 hours.

NOTE

Remember, this procedure will erase everything from the hard disk drive (primary partition if defined). Ensure that ***all*** data files and software applications have been saved.

1. Shutdown the Operating System and switch-off your PC.
2. Remove any non-standard components that were added after you received the PC to restore the PC to its original factory configuration.
3. Insert the recovery CD-ROM into the CD-ROM drive and start the PC.
4. Press the **F8** key and select the CD-ROM to boot first.
5. The computer will boot from the CD-ROM and display a DOS-style menu. Select the option to recover the hard disk drive.
   In some cases, you might have to go through the menu item “Partitioning & Formatting”. In this case, there are two options:
   - Automatic (recommended).
   - Custom (for advanced users only).

   Unless you have a specific requirement, select Automatic.

6 Follow the on-screen instructions.

7 The hard disk drive will be formatted first. Several reboots will be carried out. This is normal: do not interrupt the process. Wait until a message indicates that the operation has been successfully completed.

8 Remove the recovery CD-ROM from the CD-ROM drive.

9 The operating system and drivers will be installed. In this phase, you will be required to enter the operating system settings.

Completing a Full Recovery

The full recovery function will restore the original disk image of your computer. However, it is recommended installing updated drivers which are available from the HP web site **www.hp.com/go/vectrasupport.**

You will also be required to install drivers for any accessory boards that have been added to the original model. All data files and software applications that were saved before performing the full recovery will also need to be restored on the hard disk drive.

Minimal Recovery

To recover the operating system only, follow the instructions indicated above. In step 5, select the option to perform a minimal recovery.

The minimal recovery will install the Service Pack originally delivered with your PC. However, it is possible to uninstall it later.

To complete the recovery, you will need to install drivers recommended by Hewlett-Packard which are available from the HP web site, or other drivers.

Performing a Partial Recovery

Insert the recovery CD-ROM in the CD-ROM drive with the operating system running. A web browser can be used to navigate through the CD-ROM to obtain the required driver(s). You can also use Windows Explorer to browse through the driver directories.

To install a driver, follow the driver's instructions given in the Readme file.

Frequently Asked Questions

Q: How can I reinstall my PC's operating system?
A: Use the Image Creation and Recovery CD-ROM provided with your PC.

Q: Why is my PC running slowly/producing strange messages?
A: Your PC may have been infected by a virus. Run an antivirus utility on your PC.
If the problem continues, update your PC's BIOS. You can download the BIOS and updating instructions from **www.hp.com/go/vectrasupport**.
Try reducing your demands on the PC by closing applications when you are not using them. Refer to your Operating System documentation (online or paper) for information on performance monitoring.

Q: I've been experiencing problems with my PC ever since I installed some new software. What can I do?
A: Uninstall the software to see whether this solves the problem. If the problem continues, contact the software manufacturer for help or information on known compatibility problems.

Q: How do I disable the integrated sound features on my PC if I install an add-on sound card (on Windows NT, Windows 95 and Windows 98)?
A: Use the HP Setup program to disable the Audio item in the Advanced menu. Refer to refer to "Using the HP Setup Program" on page 19.

Q: Can I use USB hardware devices with all the operating systems preloaded on my PC?
A: USB is supported by Windows 98 and Windows 2000 only.

Q: An application says I need more free memory on my PC. How do I free memory?
A: Quit any open applications that you are not using.
Delete any unnecessary files on your hard disk.

Q: Where can I get information about the latest HP drivers?
A: **www.hp.com/go/vectrasupport**

Need More Help?

Refer to the *Troubleshooting Guide* for more detailed help. This manual is available from HP's web site at: **www.hp.com/go/vectrasupport**

Troubleshooting Tips

- Restart your PC and see if the problem recurs.
- Run HP e-DiagTools. You can create a hardware profile of your PC (Support Ticket) that can be faxed or mailed to support. Refer to page 63 for information on using e-DiagTools.
- Visit the HP support web site **www.hp.com/go/vectrasupport** to see if you are experiencing a known problem.
- Update your PC's BIOS. The latest BIOS for your PC and instructions on updating the BIOS are available from HP's support web site at: **www.hp.com/go/vectrasupport**
- Record the details of the problem so that you can describe it accurately. Refer to page 70 for advice on what information is required.
- Think of anything you may have done recently before you first experienced the problem.
- If possible, have your system up and running and close by when you call.
- We recommend you contact your HP dealer, or contact HP support outside of peak times (mid-morning and early evening). Refer to the *HP Quick User's Guide* for more information.
  You can learn more about HP service and support from the support web site: **www.hp.com/go/vectrasupport**

If You Have a Problem

- Check you have your product receipt.
- Run HP e-DiagTools (refer to page 63).
- Check your warranty entitlement (refer to the *Quick User's Guide* that came with your PC).
- Contact your local Customer Care Center (for the phone numbers, refer to the *Quick User's Guide* that came with your PC) or your HP Authorized Service Provider.

It is recommended that before contacting HP Support you note down some of the information mentioned below. This will help HP support deal with your problem quickly and efficiently:

PC Description	
Model number	See label on the right side of your PC.
Serial number	See label on the right side of your PC.
Memory • Number of megabytes installed • Is it HP supplied memory or memory from another source?	• The total amount of memory installed is displayed in the *Setup* program main menu, accessed by pressing **F2** during start-up. • There may be some compatibility problems with non-HP memory modules. HP supports and recommends only HP supplied memory modules.
Question or Problem	
Write down a brief description of the problem	
Frequency	How often has the problem occurred?
Run OK?	How long has the PC been running normally?
Recent changes to the PC	Have there been any recent changes made to the PC?
Hardware Configuration	
Which BIOS version is used?	The BIOS version is displayed in the *Setup* program main menu, accessed by pressing **F2** during start-up.
Any BIOS parameter changes?	Did the problem occur after changes were made to the BIOS using the *Setup* program?
Make a list of slots and interrupts used by additional cards (for example, LAN, sound and SCSI)	**This is to check for interrupt conflicts. You can find IRQs by running e-DiagTools (see page 63).**
Operating System... refer to next page ⇨	

Operating System	
Are you using the original operating system software that came preloaded on your PC?	
If not, what is the operating system version?	**Select Settings ➪ Control Panel from the Start menu, then click on the System icon. The operating system version is displayed under System.**
Any operating system-generated error messages?	Please note down exact text of error message.
Any errors during boot (Power-On Self Test)? This test checks all installed components.	Any POST errors will be displayed on your monitor screen or signalled by beep codes.

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