

HP  
**KAYAK**



PC Workstations  
High-Performance Desktops  
**HP Kayak XM600 Desktop**  
*User's Guide*



# HP Kayak XM600 Series 2 and HP Kayak XM600

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This User's Guide covers the **HP Kayak XM600 Series 2**, equipped with socket-mounted processors. These PCs carry the model number P2190N and higher.

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A separate User's Manual is available for the **HP Kayak XM600**, equipped with slot-mounted processors.

Each PC has a Support Label on its outer case clearly identifying the series to which it belongs. When looking at the PC from the front, the label is located on the right-hand side-panel, close to the bottom of the panel.

The Support Label states the Model, the Model Number and the Serial Number. The label includes the following information:

HP Kayak XM600

These PCs carry the model numbers Dxxxx (all) and Pxxxx up to P2189N.

*or*

HP Kayak XM600 Series 2

These PC carry the model numbers P2190N and higher.

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# User's Guide

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## Important Warnings

### Avoid Electrical Shocks

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**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.

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### Electrical Connection

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**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.

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### Multimedia Models

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**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.

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### Removing and Replacing the Cover

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**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.

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## Safety Information

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### **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 a 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.

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## Unpacking Your PC Workstation

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### **WARNING**

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

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## Static Electricity

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### **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 Workstation while you are removing the accessory from the bag. Handle the accessory as little as possible and with care.

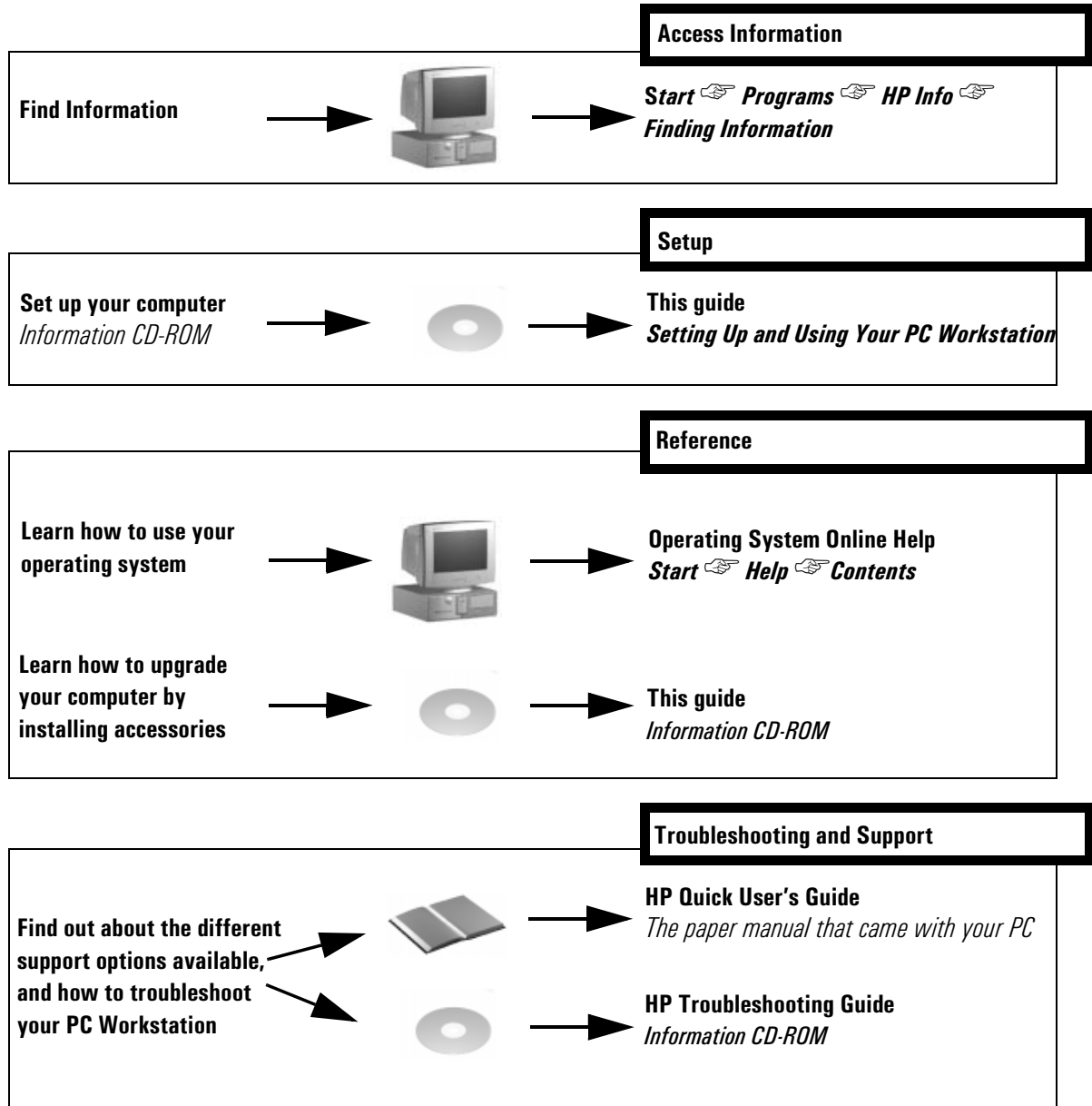
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## Information and Help

### PC Workstation Documentation Roadmap

If you want to ...





## 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 Workstation. This documentation is provided in Adobe Acrobat (PDF) format.

The documentation for your PC Workstation is available free of charge on the HP web site: <http://www.hp.com/go/kayaksupport> and on the Information CD-ROM.

This includes:

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

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#### *NOTE*

To view and print the above guides, you need to have Adobe's Acrobat Reader installed on your PC Workstation. You can download it free of charge from Adobe Systems Incorporated web site: [www.adobe.com](http://www.adobe.com) or from the HP Kayak web site.

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## Information on Ergonomic Aspects

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

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

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 [ww.hp.com/ergo](http://www.hp.com/ergo).

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## Technical Information

### Physical Characteristics (standard configuration as shipped)

Characteristics:	Description:
Weight (excl. keyboard and monitor)	10 kilograms (22 pounds).
Dimensions	45.7 cm max. (D) by 42 cm (W) by 16.2 cm (H) (17.99 inches by 16.53 inches by 6.37 inches).
Footprint	0.19 m <sup>2</sup> (2.06 sq ft).
Storage temperature	-40 °C to 70°C (-40 °F to 158 °F).
Storage humidity	8% to 85% (relative).
Operating temperature	10 °C to 35 °C (50 °F to 95 °F).
Operating humidity	15% to 85% (relative).
Acoustic noise emission (as defined ISO 7779): <ul style="list-style-type: none"><li>• Operating (typical)</li></ul>	<i>Sound Power</i>  LwA < 40 dBA For more information on acoustic data, refer to the PC Workstation's data sheet on HP's web site at: <b><a href="http://www.hp.com/desktops/kayak">http://www.hp.com/desktops/kayak</a></b>
Power supply	<ul style="list-style-type: none"><li>• Input voltage: 100 - 127, 200 - 240 V (switch select)</li><li>• Input frequency: 50/60 Hz</li><li>• Maximum power: 230 W continuous</li><li>• The maximum supported power consumption per PCI accessory slot is 25 W, either from the 5 V or the 3.3 V supply and must respect the electrical specification of the PCI 2.2 specification. Total power consumption for the PCI slots must not exceed 65 W.</li><li>• The maximum power consumption tolerated in the AGP slot is limited to 25 W.</li></ul>

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#### 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.

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# 1

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## Setting Up and Using Your PC Workstation

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### **WARNING**

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

- 1 When you receive your PC Workstation, unpack all of the components.
- 2 Place the PC Workstation on a sturdy desk with easily accessible power outlets and enough space for the keyboard, mouse, and any other accessories.
- 3 Position the PC Workstation so that its rear connectors are easily accessible.

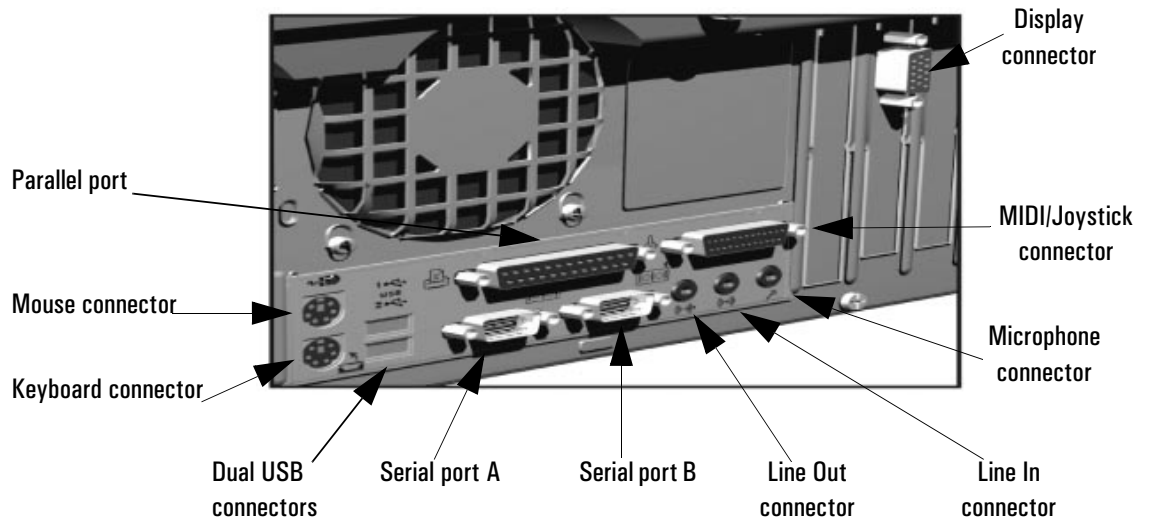
### *Installation Tools*

No tools are required to install your PC Workstation. However, if you plan to install a disk drive or an accessory board inside your PC Workstation, you will need a flat-blade screwdriver. For more information on installing accessories, refer to "Installing and Replacing Hardware Parts in Your PC Workstation", on page 21.

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## Connecting Devices

For your own safety, it is recommended that you first read the warning notices on pages 6 and 7.



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### **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](http://www.hp.com/go/pcaccessories).) Most USB accessories are automatically configured as soon as they are physically attached to the PC Workstation. USB accessories are not supported by all operating systems.

**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.

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## Starting and Stopping Your PC Workstation

### Starting Your PC Workstation for the First Time

If your PC Workstation has preinstalled software, it is initialized the first time you start the PC Workstation. 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 Workstation

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

2 Start your PC Workstation 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 Workstation'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 Workstation'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 Workstation.

## Initializing Your Software

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**NOTE**

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

To initialize your software:

- 1 Turn on the display first, then the PC Workstation.

When the PC Workstation is switched on, the HP PC Workstation's logo is displayed. The PC Workstation 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 Workstation.
- 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 Workstation 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 Workstation

To stop the PC Workstation, 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 Workstation's control panel.

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**CAUTION**

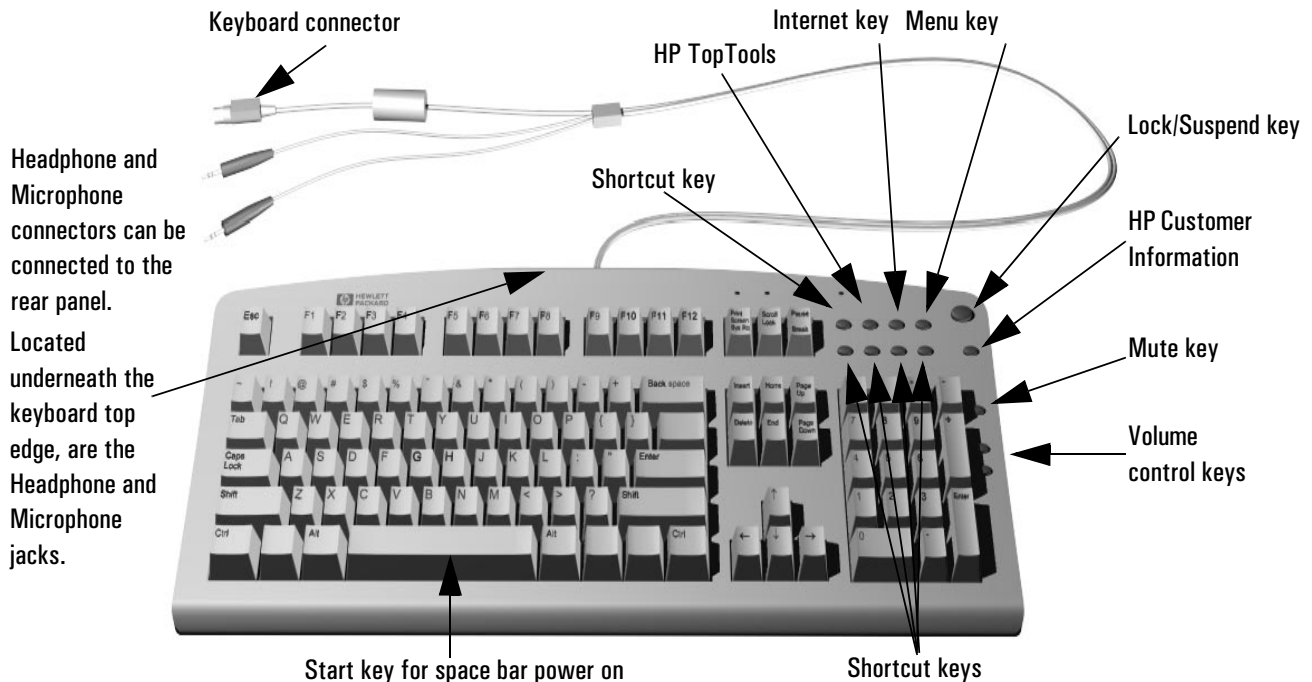
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Do not power off using the power button until prompted to do so otherwise you may lose any unsaved data from open applications.

## 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 Workstation.
- 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 HP Summary Screen

The HP Summary Screen gives you a summary of the current configuration of your PC Workstation (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 Workstation 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 Workstation. If the PC Workstation is already turned on, save your data and exit all programs, then restart the PC Workstation. Consult your operating system documentation for any special instructions concerning turning off and restarting your PC Workstation.
- 2 When the start-up logo appears on your display, press **Esc**. This takes you to the HP 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 Workstation (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 Workstation. If the PC Workstation is already turned on, save your data and exit all programs, then restart the PC Workstation.
- 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 Workstation and go through the POST again so you can press **F2**.

The opening screen of the PC Workstation'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; "PnP" (selects whether the BIOS or a Plug and Play operating system such as Windows 95 configures devices); "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 19).

#### 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 Modem Ring option allows you to enable or disable the system to return to full speed when an IRQ is generated, while the Network Interface option enables the system to return to normal speed when a specific command is received by the network interface.

Standby Delay (slows down the processor) and Suspend delay (saves a maximum of energy) options are only relevant for the Windows 95 SR2.1 operating system. Use these options to set a period of inactivity before the system goes into one of the selected modes.

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#### **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.

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## Setting Passwords in the HP *Setup* Program

You can set passwords to provide different levels of protection for your PC Workstation, 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.

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## 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 Workstation's data sheet on HP's web site at:

**<http://www.hp.com/desktops/kayak>.**

### *Operating System*

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

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## 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](http://www.hp.com/toptools).**

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## Software and Drivers

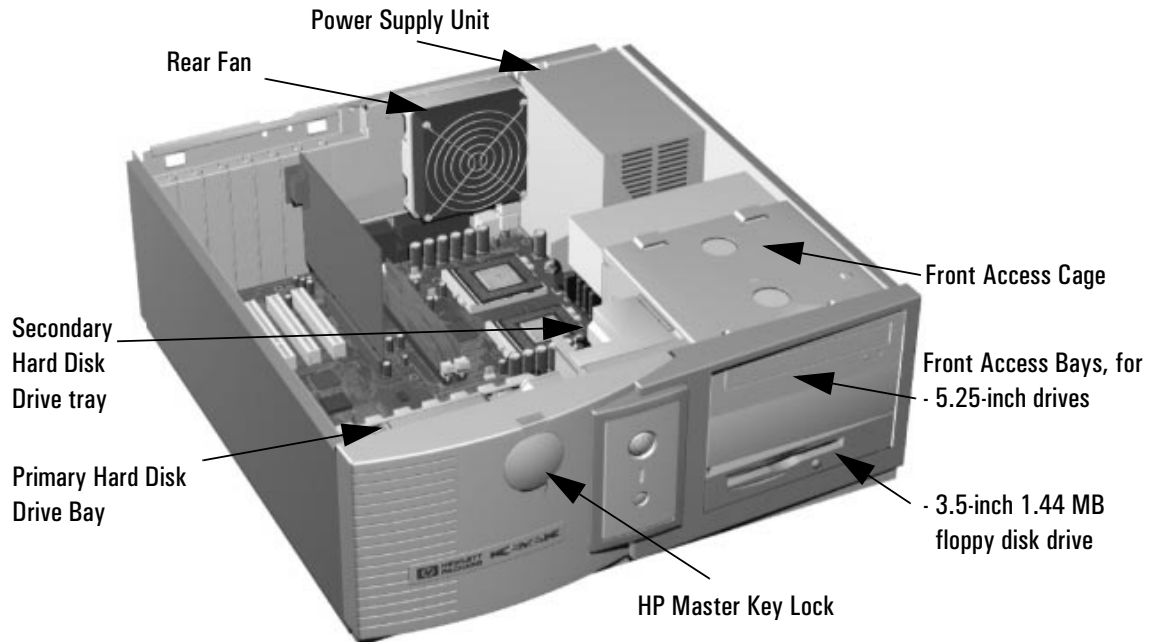
In the "Software and Drivers" section of the HP support site **[www.hp.com/go/kayaksupport](http://www.hp.com/go/kayaksupport)**, you can download the latest drivers and BIOS for your PC Workstation.

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: **<http://www.hp.com/go/kayak>**.

## Installing and Replacing Hardware Parts in Your PC Workstation

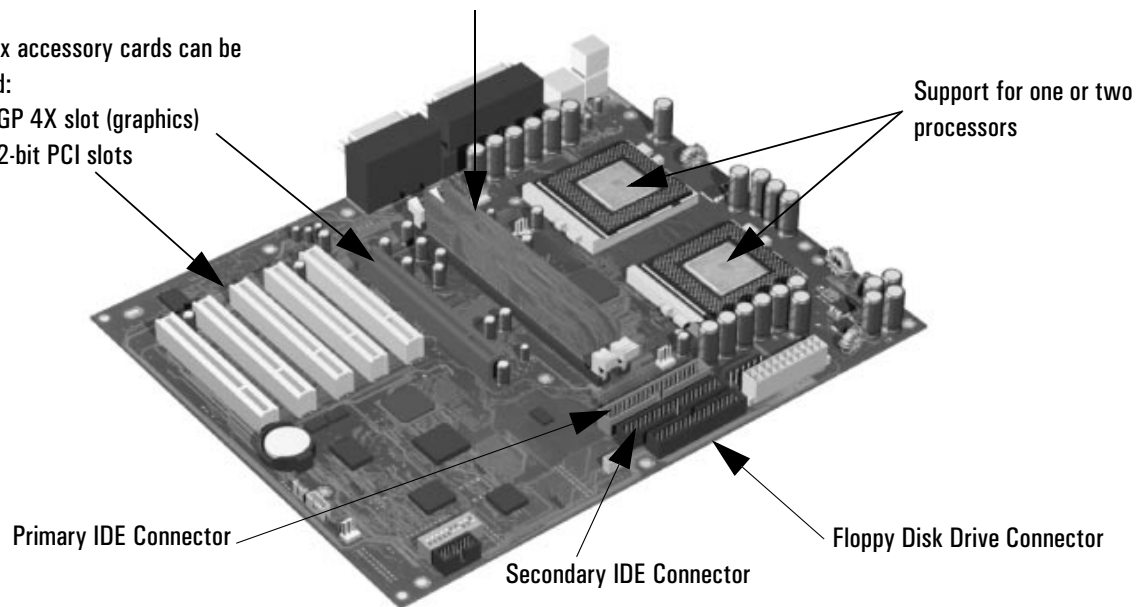
This chapter provides information about installing accessories and replacing hardware parts in your PC Workstation.



Memory module sockets supporting two RDRAM modules.

Up to six accessory cards can be installed:

- One AGP 4X slot (graphics)
- Five 32-bit PCI slots



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

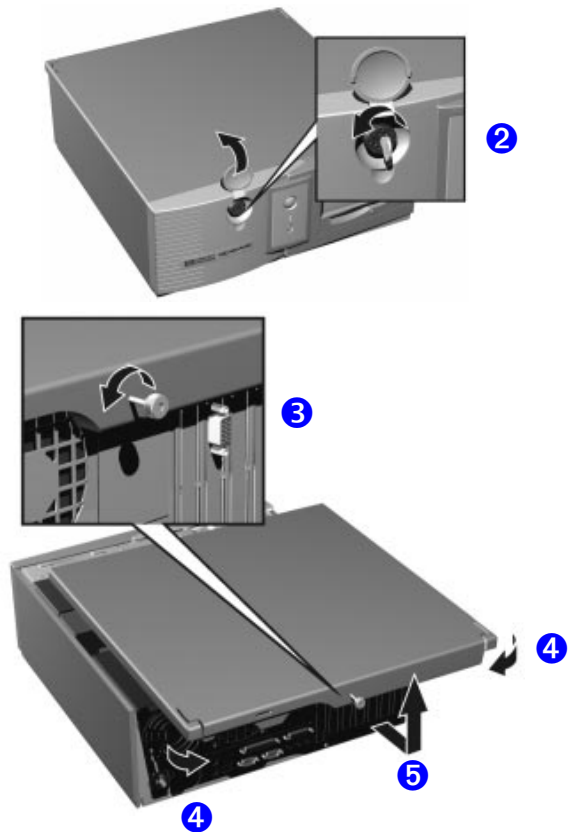
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## Removing and Replacing the Cover and Front Bezel

### Removing the Cover

For your own safety, it is recommended that you first read the warning notices on pages 6 and 7.

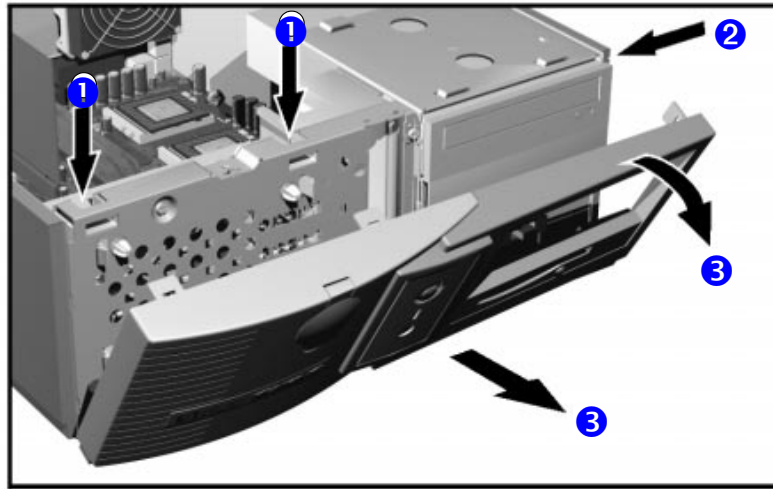
- 1 Switch off the monitor and PC Workstation. Disconnect all power cables and any LAN or telecommunications cables.
- 2 If necessary, unlock the cover using the key on the front panel.
- 3 Unscrew the thumb screw at the back of the PC.
- 4 Push the two release latches inwards.
- 5 Slide the cover towards the rear of the PC Workstation until it stops, then lift off the PC chassis.



#### Removing the Front Bezel

If required, remove the front bezel. To remove the bezel:

- 1 Push down on the two grey retaining clips.
- 2 Then push the blue clip inwards.
- 3 Tilt the bezel forwards and lift it off.



#### Replacing the Cover and Front Bezel

- 1 Ensure that all internal cables are properly connected and safely routed.
- 2 If necessary, replace the front bezel. To do this, align the three guide pins located at the bottom of the bezel with their associated slots on the front of the chassis and gently push forward until the bezel snaps into place.
- 3 Lower the cover onto the PC chassis (aligning the rails on the inside edges of the cover with the sides of the PC chassis), and firmly slide the cover forwards until it clicks into position.
- 4 Tighten the thumb screw at the rear of the PC.
- 5 If required, lock the cover using the key provided. Reconnect all the power and telecommunications cables.

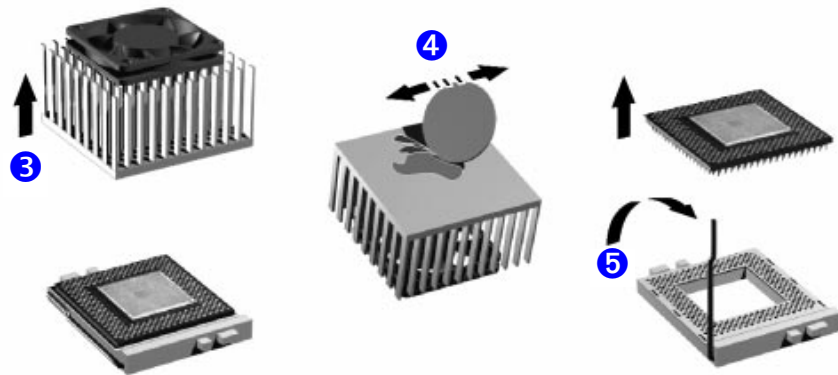
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## Replacing or Installing a Processor

Single-processor systems can be upgraded to dual-processor systems by installing a second processor in the vacant processor socket. The second processor must be of the same specification (type, speed and level-2 cache memory capacity) as the existing processor.

### Removing an Existing Processor

- 1 Switch off the display and PC Workstation. Disconnect all power cables and any LAN or telecommunications cables.
- 2 Remove the PC Workstation's cover (refer to page 22 for instructions):
- 3 If present, remove the heatsink fan's power connector from the system board, then remove the heatsink. You may need to use a tool to remove release the spring retaining clip(s) holding the processor in place.



- 4 Remove the thermal bonding material from the underside of the heatsink. You may need to scrape the material with an object such as a coin to remove all traces of the old thermal interface.
- 5 Lift the Zero Insertion Force (ZIF) lever, located at the side of the processor socket, until it is in the vertical position to release the pins of the processor in the socket base. Lift out the processor carefully. To avoid bending the processor pins, keep the body of the processor as much as possible in the plane horizontal to the main board when removing it.
- 6 Store the processor you have removed in an anti-static bag (for example, the one provided with the replacement processor).

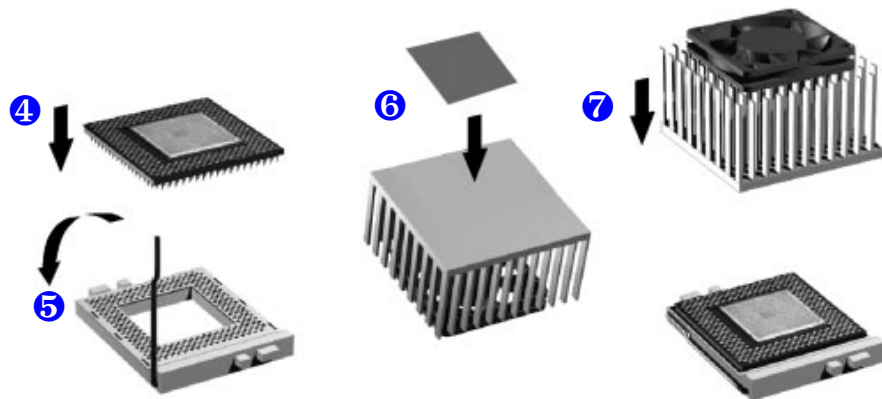
### Installing a Processor

If you are installing a replacement processor, proceed directly to step 4.

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



- 2 Remove the PC Workstation's cover (refer to page 22 for instructions).
- 3 Locate the second processor socket marked CPU 2 on the system board. Lift the ZIF lever and remove the processor terminator from the CPU 2 socket. Store the terminator in a safe place.
- 4 Insert the new processor carefully, with the Zero Insertion Force (ZIF) lever in the open position vertical to the main board. Ensure the processor orientation is correct - it can go in one way only. No force is required to insert the processor, if the pins are undamaged it should drop into place easily.



- 5 When the processor is fully inserted, close the ZIF lever until it is horizontal to the main board and clips alongside the socket base. This clamps the processor pins in place.  
If you have a device installed in the lower CD-ROM drive shelf, you should verify that it will not interfere with the new processor.
- 6 Affix the new thermal interface material (sticker or polymer, provided with the new processor) to the underside of the heatsink.
- 7 Attach the heatsink to the processor using the spring retaining clips to hold the heatsink in firm contact with the processor. If your heatsink has a fan, connect it to the corresponding connector on the system board, these are marked CPU\_FAN1 and CPU\_FAN2 for the first and second processor sockets respectively.
- 8 Replace the PC Workstation's cover (refer to page 22 for instructions). Reconnect all the power and telecommunications cables.  
When the PC Workstation is started, you should check that the processor has been correctly identified (refer to "Viewing the HP Summary Screen" on page 16).

To make the most of your dual processor configuration, you will need to configure your operating system (refer to "Configuring the Operating System for use with Dual Processors" on page 26).

## Configuring the Operating System for use with Dual Processors

### Configuring Windows 2000

To obtain the full benefits of a dual processor configuration you will need to configure Windows 2000 as follows:

- 1 Click on **Start, Settings** then **Control Panel**.
- 2 In the **Control Panel** window, double-click on **Administrative Tools**.
- 3 In the Administrative Tools window, double-click on **Computer Management**.
- 4 In the left section of the Computer Management window under the System Tools section, click on **Device Manager**.
- 5 In the right section of the Device Manager window, double-click on **Computer** then double click on **ACPI Uniprocessor PC**.
- 6 In the Properties window that appears, click on the **Driver** tab and click on the **Update Driver** button.
- 7 Click on **Next** to begin the **Upgrade Device Driver Wizard**. In the next window, select **Display a list of known drivers** then click on **Next** to continue.
- 8 In the next window, select **Show all hardware of this device class** and in the **Manufacturers** section, select **[Standard computers]** and in the **Models** section, select **ACPI Multiprocessor PC** then click on the **Next** button.
- 9 Click on **Next** to install the driver and when this is complete, click on **Finish**. Close all open windows and restart your PC when prompted. After restarting, Windows 2000 will make full use of your new dual processor configuration.

### Configuring Windows NT 4.0 using HP DualExpress!

Included with the HP Processor Accessory is the HP DualExpress! application. This application is to be used when upgrading Windows NT 4 from a single-processor to a multi-processor system.

---

#### **NOTE**

Do not use the HP DualExpress! application when upgrading Windows 2000 from a single-processor to a multi-processor system.

---

Using an installation Wizard, HP DualExpress! guides you through the operating system upgrade and will take approximately five minutes.

#### *Launching HP DualExpress!*

The second processor must be installed and the PC booted. For now, Windows NT will still only recognize the original processor. Insert the HP DualExpress! floppy disk in the floppy disk drive and follow the instructions. When the upgrade is complete, the system reboots. This time a multi-processing system is recognized.

---

---

## 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: <http://www.hp.com/go/pcaccessories>.

---

### Upgrading Memory

The HP Kayak XM600 PC Workstation supports up to two RAMBUS Direct RAM (RDRAM) memory modules.

If only one RDRAM module is installed, it must be installed in the socket nearest the processor(s). The unused memory socket **must** contain a continuity module.

### Removing and Installing a Memory Module

#### *Installing or Replacing a Memory Module*

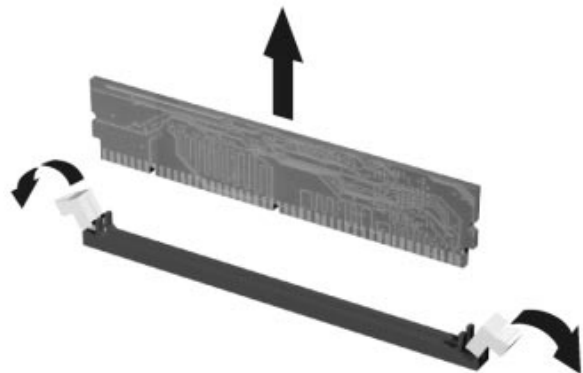
- 1 Switch off the display and PC Workstation. Disconnect all power cables and any LAN or telecommunications cables.
- 2 Remove the PC Workstation's cover (refer to page 22 for instructions).

To ease installation, place the PC on its side with the system board facing upwards.

- 3 If you are installing an additional memory module then you will need to remove the continuity module. 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.

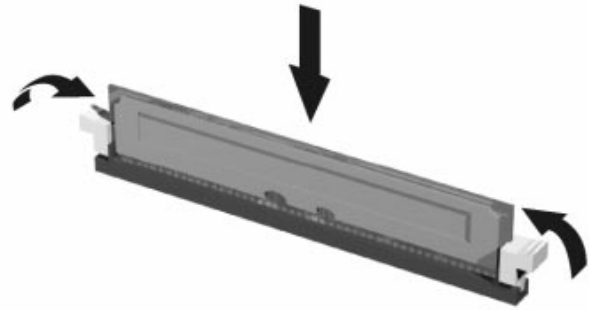
Always store any removed memory or continuity module in a safe place for future use.



## 2 Installing and Replacing Hardware Parts in Your PC Workstation

### Removing, Replacing and Upgrading Memory

- 4 Install your new memory module, ensuring that the two notches on the bottom edge of the memory module are 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.
- 5 Replace the PC Workstation's cover (refer to page 23). Reconnect all the power and telecommunications cables.
- 6 Check the HP Summary Screen to verify the new configuration (refer to "Viewing the HP Summary Screen" on page 16).



---

## Removing and Replacing an Accessory Card

The HP Kayak XM600 has five 32-bit 33 MHz PCI accessory card slots and one AGP slot on the system board. The AGP slot accepts standard 25W AGP video cards.

---

**NOTE**

AGP PRO video cards cannot be used in desktop models. Hardware Protection on the system board ensures that the system is protected against this.

- 
- 1 Switch off the display and PC Workstation. Disconnect all power cables and any LAN or telecommunications cables.
  - 2 Remove the PC Workstation's cover (refer to page 22 for instructions).
  - 3 If you are installing a new accessory card, unscrew and remove the slot panel. Store it in a safe place. If the slot cover is tight, loosen the screws on the adjacent slots.  
If you are replacing an existing accessory card, remove any cables connected to the accessory card. Remove the screw that holds the old card in place and carefully pull it out.

---

**NOTE**

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

- 
- 4 Aligning the new card carefully, slide it into position, then press it firmly into the slot and tighten the retaining screw.
  - 5 Install any other accessories before replacing the cover (refer to page 23). Reconnect all the power and telecommunications cables.

## Installing Mass Storage Devices

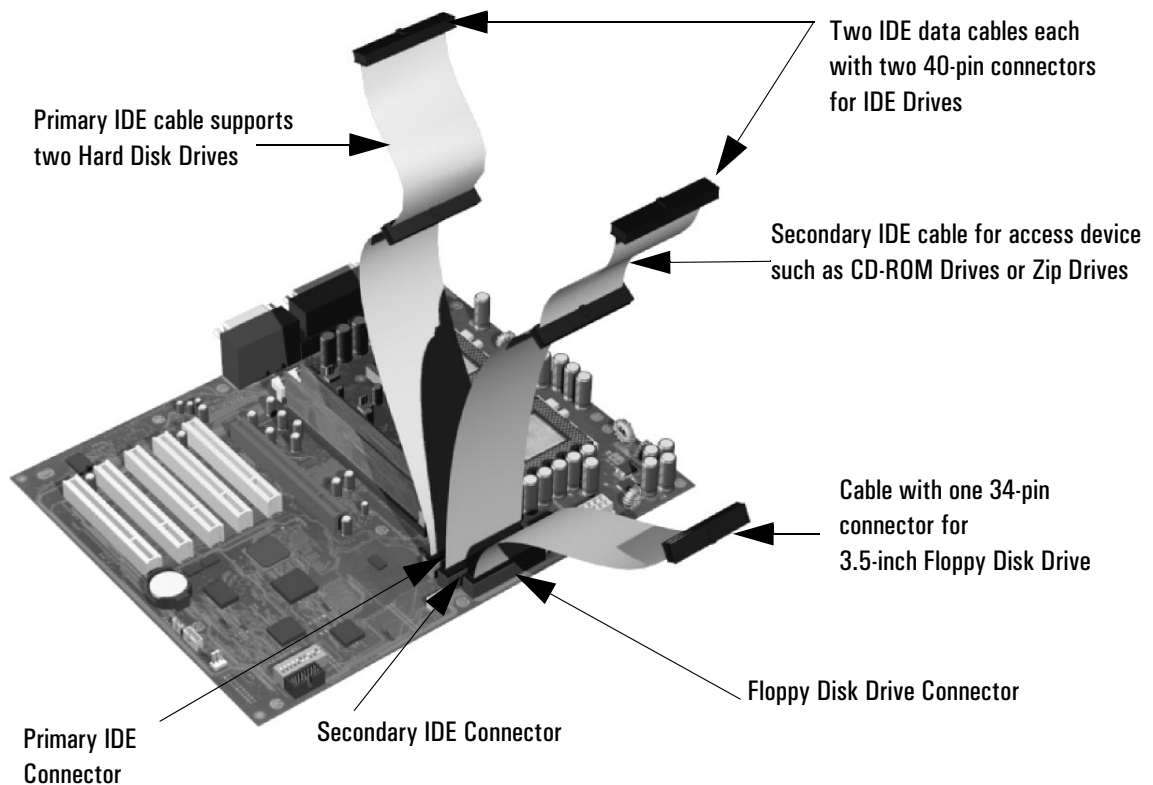
The PC has an integrated Ultra ATA-66 controller that supports up to four IDE devices. Removable media IDE devices, such as CD-ROM drives, DVD drives, tape drives and Zip drives, require front access. In addition to the floppy disk drive, your PC can support another 3.5-inch internal device plus two front-access 5.25-inch devices. Note that one front-access shelf may already have a CD-ROM drive installed in it.

You can physically install up to two 10K RPM hard disk drives in the desktop 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 data cables inside your PC Workstation. 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.

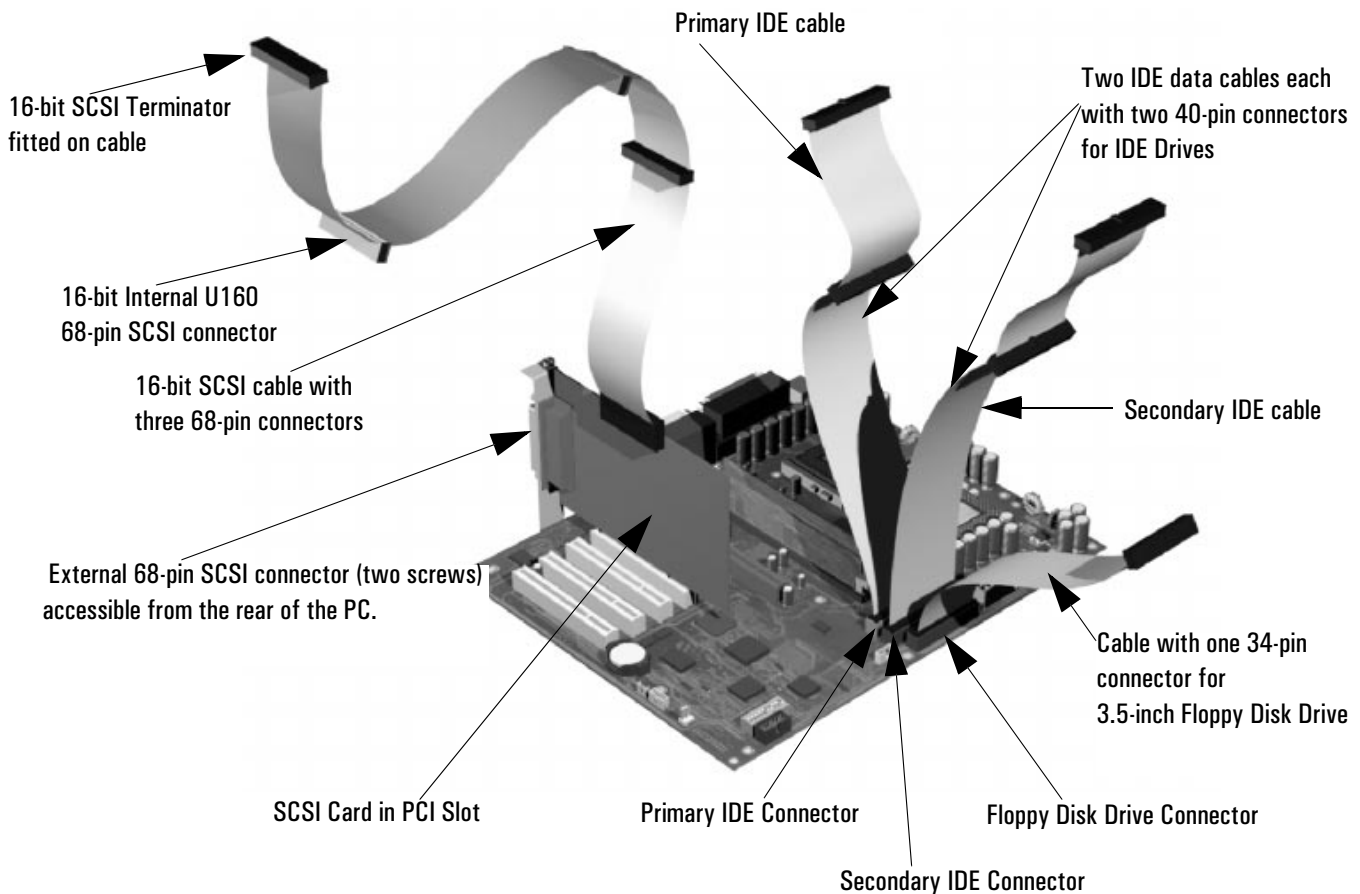
The following table explains which data connectors you should use when you install additional devices.

Examples of multiple IDE drive combinations		
Configuration	Connections to data cables	
1 Hard disk drive	1. Bootable hard disk drive:	Master connector, Primary IDE Cable
2 Hard disk drives	1. Bootable hard disk drive: 2. Second hard disk drive:	Master connector, Primary IDE Cable Slave connector, Primary IDE Cable
1 Hard disk drive 1 CD-ROM drive	1. Bootable hard disk drive: 2. CD-ROM drive:	Master connector, Primary IDE Cable Master connector, Secondary IDE Cable
2 Hard disk drives 1 CD-ROM drive	1. Bootable hard disk drive: 2. Second hard disk drive: 3. 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	1. Bootable hard disk drive: 2. CD-ROM drive: 3. 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	1. Bootable hard disk drive: 2. Second hard disk drive: 3. CD-ROM drive: 4. 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.

If all the internal SCSI connectors are used, additional devices can be added outside the PC by connecting directly to the rear panel SCSI connector. The external connector allows up to ten external devices to be connected. This gives a maximum of 13 (internal + external) devices that can be connected.

---

#### **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).

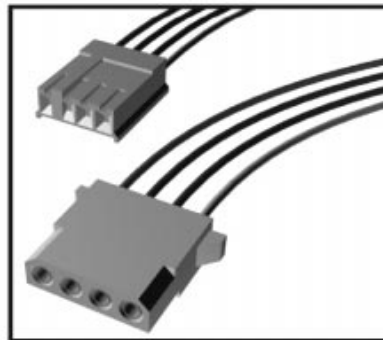


The SCSI ID is usually configured with jumpers on the SCSI hard disk drive. Refer to the installation guide supplied with the drive for information on selecting a SCSI ID.

Some internal SCSI disk drives may have termination resistors that must be removed or disabled before installation in your PC Workstation. 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

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## Removing and Replacing the Primary Hard Disk Drive

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### **CAUTION**

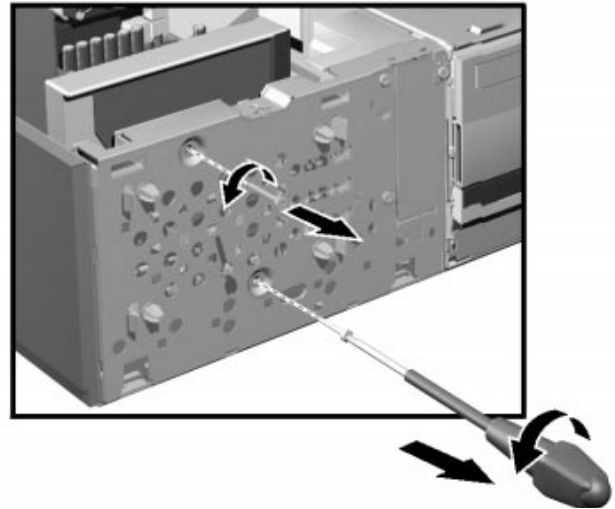
Handle the hard disk drive with care. Avoid shocks and violent movement as this can cause damage to the hard disk drive's internal components.

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.

---

### Removing the Existing Drive

- 1 Switch off the display and PC Workstation. Disconnect all power cables and any LAN or telecommunications cables.
- 2 Remove the PC Workstation's cover and front bezel (refer to page 23).
- 3 Remove the two retaining screws from the chassis located on the front of the PC and pull the primary hard disk drive out of the hard disk drive bay.
- 4 Disconnect the data and power cables from the hard disk drive.



---

### **CAUTION**

Take care when handling the hard disk drive during installation. A one-quarter inch drop can damage it.

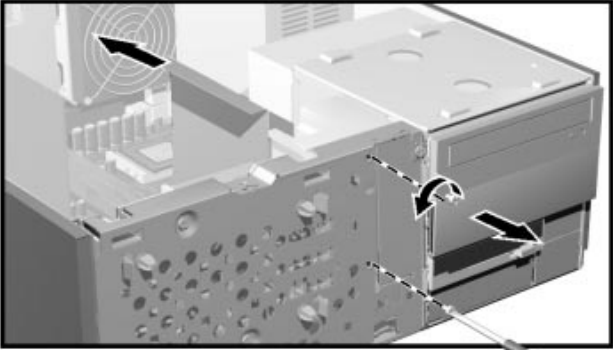
---

### Installing the New Drive

- 1 Connect the data and power connectors to the hard disk drive.
  - 2 Slide the new drive into the hard disk drive bay (with the correct orientation) and tighten the two retaining screws you removed earlier.
  - 3 Replace the front bezel and PC Workstation's cover (refer to page 23). Reconnect all the power and telecommunications cables.
  - 4 Go to page 42 to complete the installation.
-

---

## Installing a Second Hard Disk Drive

- 1 Switch off the display and PC Workstation. Disconnect all power cables and any LAN or telecommunications cables.
- 2 Remove the PC Workstation's cover and front bezel (refer to page 23 for these instructions).
- 3 Remove the two retaining screws from the hard disk drive tray located on the front of the chassis, then carefully slide the tray towards the rear of the PC.  
The diagram shows a 3D cutaway view of a PC chassis. A hard disk drive tray is shown being pulled out from the front panel. Two screws are shown being removed from the tray. A screwdriver is shown below the tray, with arrows indicating the direction of rotation for removing the screws. The tray is shown being slid back into the chassis, with arrows indicating the direction of movement.
- 4 Insert the new drive into the drive tray and secure it to the tray using the screw provided with the hard disk drive tray. Only one screw is required.
- 5 Carefully put the drive tray back into the PC, and secure it in position using the two retaining screws that you removed earlier.
- 6 Connect the power cable and the data cable to the rear of the new hard disk drive. *The connectors are shaped to go in one way only.* If you are not sure which connector to use, refer to "Installing Mass Storage Devices", on page 30.
- 7 Replace the front bezel and PC Workstation's cover (refer to page 23). Reconnect all the power and telecommunications cables.
- 8 Go to page 42 to complete the installation.

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## Installing a Device in a Front Access Bay

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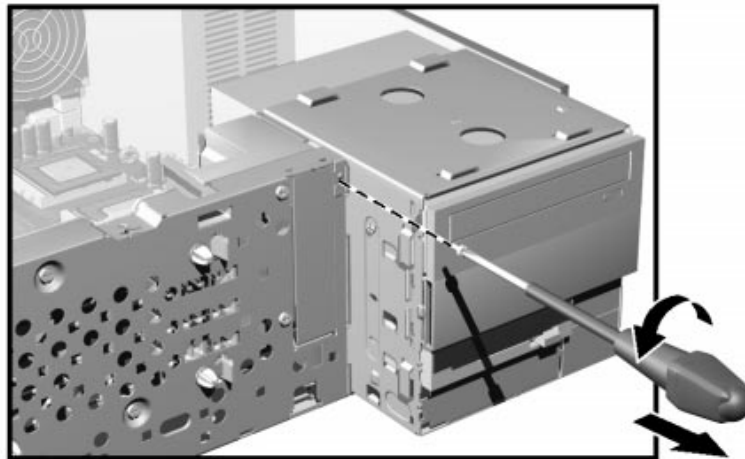
### **NOTE**

If the PC has two processors installed, you may not be able to install some 5.25-inch devices (such as a CD-R/W drive) in the lower front shelf. If this is the case, install the longer of the two 5.25-inch devices in the top shelf.

---

### **Removing the Front Access Drive Cage**

- 1 Switch off the display and PC Workstation. Disconnect all power cables and any LAN or telecommunications cables.
- 2 Remove the PC Workstation's cover and the front bezel (refer to page 22 for instructions).
- 3 Remove the retaining screw from the front access cage, and slide it forwards until it stops.



- 4 Disconnect the power and data cables from the installed drives.
- 5 Lift the front access cage upwards and out from the PC. Place the cage on a table/desk top.

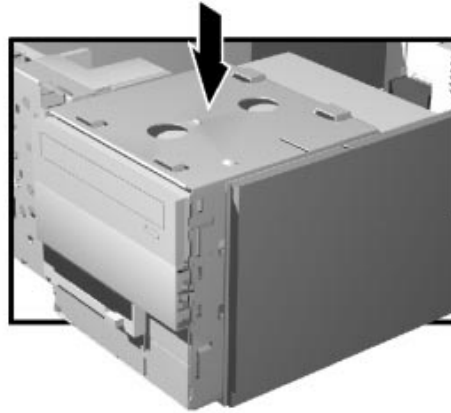
### **Installing the Device**

- 1 Remove the 5.25-inch plastic filler plate. Use a screwdriver to unclip the two latches located on the left-hand side of the filler plate, then pivot it out. Store the filler plate in a safe place for future use. Take care not to hurt your fingers when you remove the plate.
- 2 If the new device has a tray, attach it to the front access cage. Some devices may require an HP-supplied tray before they can be installed. The tray is available as an accessory. CD-ROM drives do not require a tray.

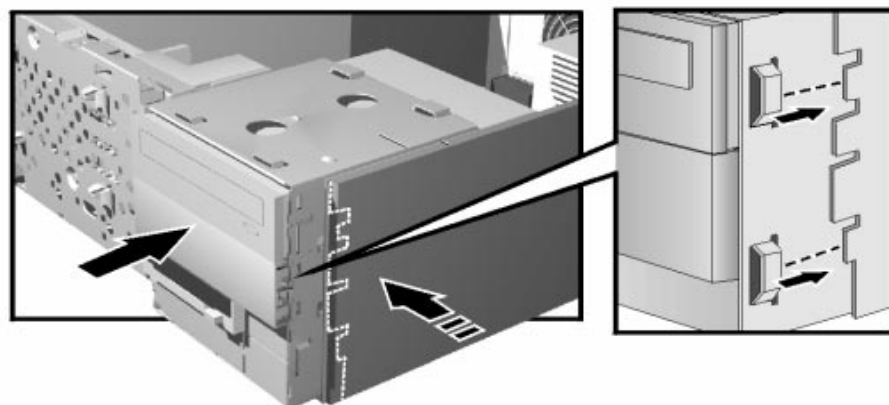
- 3 Slide the new drive into the shelf. Ensure that the front of the new device is aligned with the other drive or filler plate. Secure the device in position using the screws supplied with it.

#### Replacing the Front Access Drive Cage

- 1 Place the front access cage back into the PC. The front access cage retainers should be correctly aligned with the bottom of the chassis.



- 2 Connect the power and data cables to the installed devices. For convenience, it is recommended to start from the bottom and work upwards. *The connectors are shaped to go in one way only.* If you are not sure which connector to use, refer to "Installing Mass Storage Devices", on page 30.
- 3 Ensure that the metal guides on the front access cage are aligned with those on the chassis. (There are two on either side.) Slide the front access cage into the chassis until it snaps into place.



---

#### NOTE

To verify that the front access cage is correctly in position, check that the "ALIGN" mark on top of the front access cage is parallel with the one on chassis.

---

- 4 Secure the front access cage in position using the retaining screw you removed earlier.
- 5 If have installed a new device, you will need to remove the plastic plate from the cover by unclipping it on one side and pivoting it out. Store the plate in a safe place.
- 6 Replace the front bezel and PC Workstation's cover (refer to page 23). Reconnect all the power and telecommunications cables.
- 7 Turn to page 42 to complete the installation.

---

## Replacing the CD-ROM (or DVD) Drive

### Removing the Existing Drive

- 1 Switch off the display and PC Workstation. Disconnect all power cables and any LAN or telecommunications cables.
- 2 Remove the PC Workstation's cover and front bezel (refer to page 22).
- 3 Refer to "Removing the Front Access Drive Cage" on page 36 for instructions on removing the front access cage.
- 4 Remove the screws attaching the drive to the cage and slide the drive out of the cage.

### Installing the New Drive

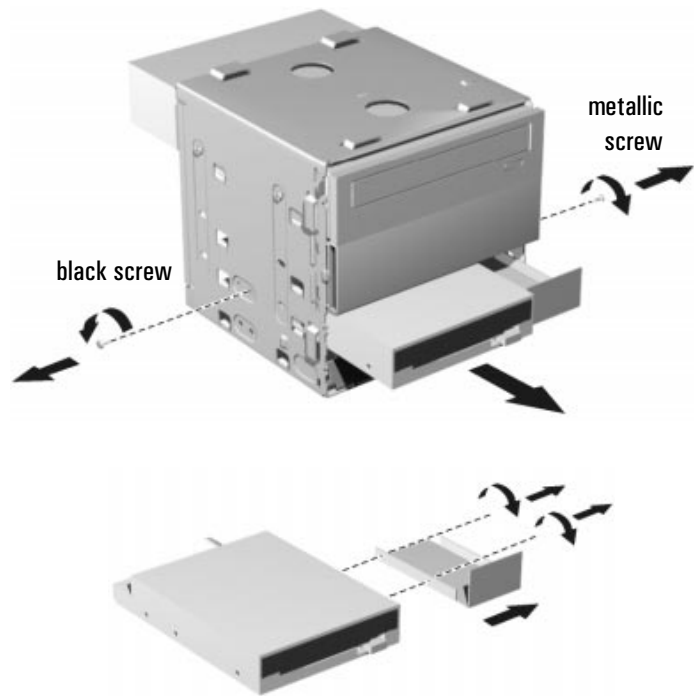
- 1 Slide the new drive into the drive tray (with the correct orientation). Ensure that the front of the new device is aligned with the other drive or filler plate. Secure the drive in position using the screws.
- 2 Put the front access cage back into the PC. Refer to "Replacing the Front Access Drive Cage" on page 37 to complete the installation.

---

## Replacing the Floppy Disk Drive

### Removing the Floppy Disk Drive

- 1 Refer to “Removing the Front Access Drive Cage” on page 36 for instructions on removing the front access cage.
- 2 Remove the screws (one metallic, one black) on the side of the drive tray and remove the old drive.
- 3 Remove the screws from the drive tray holder.



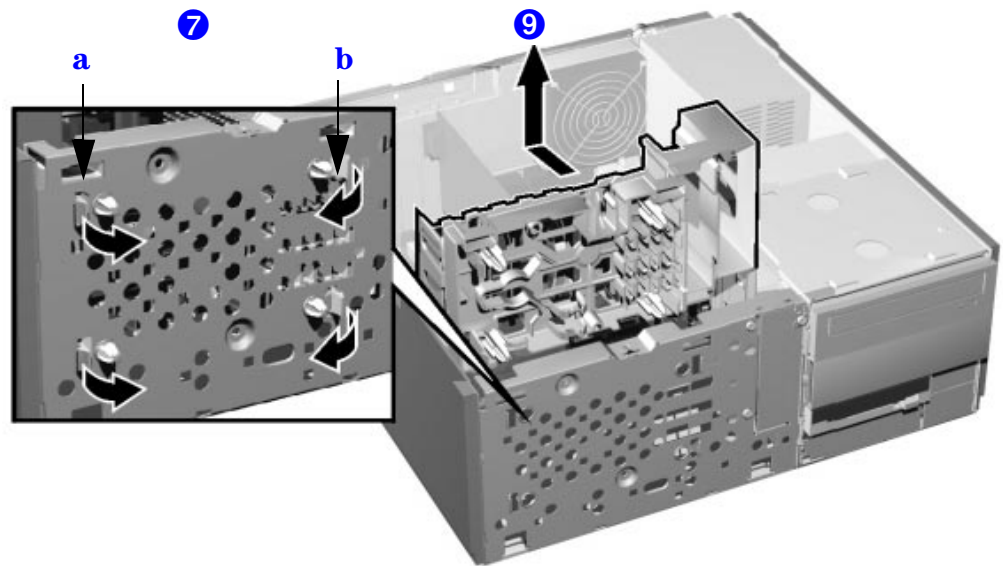
### Installing the Floppy Disk Drive

- 1 Secure the floppy disk drive to the drive tray holder.
- 2 Slide the new drive into the cage (with the correct orientation) and tighten the screws, ensuring that you use the correct screws.
- 3 Put the front access cage back into the PC. Refer to “Replacing the Front Access Drive Cage” on page 37 to complete the installation.

## Replacing the Hard Drive Bay and Speaker Assembly

### Removing the Assembly

- 1 Switch off the display and PC Workstation. Disconnect all power cables and any LAN or telecommunications cables.
- 2 Remove the PC Workstation's cover and front bezel (refer to page 23 for these instructions).
- 3 Remove the two primary hard disk retaining screws located on the front left side of the chassis and lift the primary hard disk drive out of the hard disk drive bay.
- 4 Disconnect the data and power cables from the primary hard disk drive. If you have a second hard disk drive installed, disconnect its data and power cables.
- 5 Remove the two secondary disk tray retaining screws located on the front centre of the chassis, then slide the tray towards the rear of the PC and remove it.
- 6 Disconnect the speaker and control panel cables from their connectors on the system board.
- 7 From the front of the PC: (a) push the two plastic clips located on the left-hand side inwards; (b) repeat this procedure for the other two clips on the right-hand side.



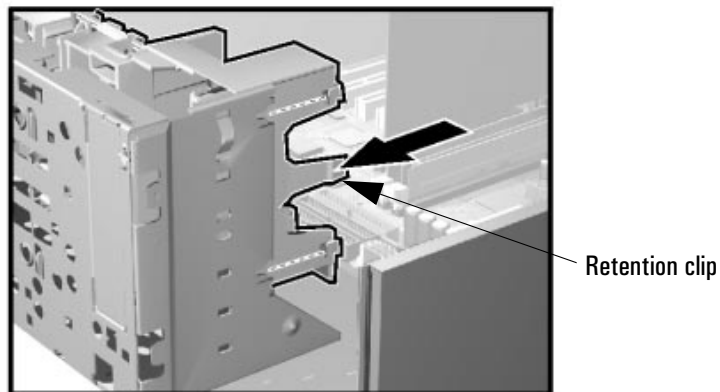
- 8 Unclip the retention clip located on the right-hand side and middle of the hard disk drive bay and speaker assembly.



- 9 Slide the hard disk drive bay and speaker assembly towards the system board until it is well clear of the chassis edge (located between the hard disk drive bay and speaker assembly and front access cage).
- 10 Lift the hard disk drive bay and speaker assembly upwards to remove it from the computer.

#### Replacing the Assembly

- 1 Ensure that there are no cables underneath the hard disk drive bay and speaker assembly.
- 2 Align the two plastic tabs (control panel side) of the hard disk drive bay and speaker assembly with their associated notches.



- 3 Ensure that the plastic clips on the front of the hard disk drive bay and speaker assembly are lined-up with their associated locations.
- 4 From the front of the PC, gently push towards you the right-hand side of the hard disk drive bay and speaker assembly until it clicks in place. Repeat this procedure on the left-hand side of the hard disk drive bay and speaker assembly.
- 5 Reconnect the speaker and control panel cables to their connectors on the system board.
- 6 Reconnect the data and power cables. Replace the hard disk drive and hard disk drive tray.
- 7 Replace the PC Workstation's cover and front bezel (refer to page 23). Reconnect all the power and telecommunications cables.

## Completing the Installation of a Mass Storage Device

### *When an IDE Drive Is Installed*

- 1 Switch on the PC Workstation.
- 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 PC Workstation. 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.

### *When a SCSI Hard Disk Drive Is Installed*

- 1 Switch on the PC Workstation.
- 2 To enter the SCSI Configuration Utility press **F6** when prompted during the PC Workstation'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 Administrator's Guide* available on HP's web site at **<http://www.hp.com/go/kayaksupport>**.
- 4 When configuration is complete, exit the SCSI Configuration Utility and re-boot the PC Workstation to save any changes.

### *When a CD-ROM, CD-RW or DV-Drive is Installed*

- 1 Switch on the PC Workstation 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.

### *When a Floppy Disk Drive Is Installed*

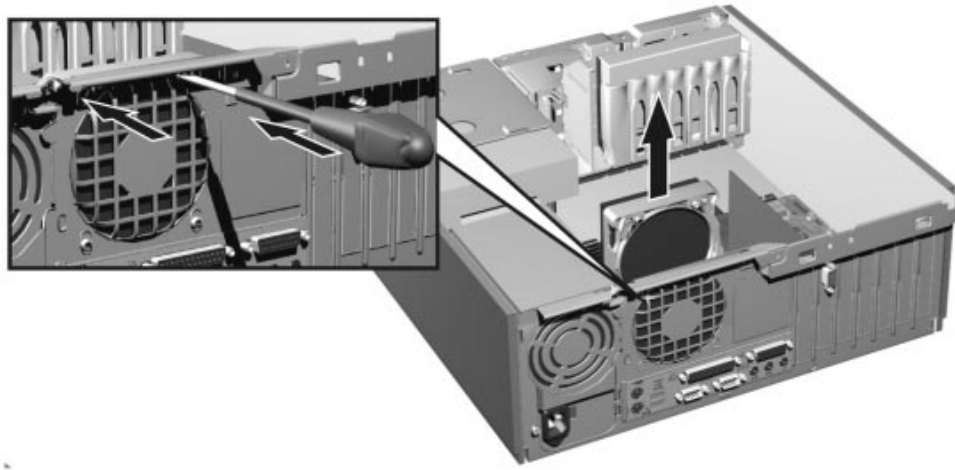
- 1 Switch on the PC Workstation and press **F2** when **HP logo** appears.
- 2 In the *Setup* program, select the **Advanced** menu, then the **Floppy Disk Drives** submenu, and check that the drive has been detected.
- 3 Press **F3** to save and exit the program.

---

## Replacing the Main Chassis Fan

### Removing the Fan

- 1 Switch off the display and PC Workstation. Disconnect all power cables and any LAN or telecommunications cables.
- 2 Remove the PC Workstation's cover (refer to page 22 for instructions).
- 3 From the rear of the PC, use a screwdriver to gently push the two retaining clips inwards, then lift the fan up and out of the chassis.



- 4 Disconnect the fan connector from the MAIN\_FAN socket on the system board.

### Replacing the Fan

- 1 Connect the fan connector to the MAIN\_FAN socket on the system board.

---

**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.

- 2 The fan unit can only be installed in one way. The distance between the two retaining clips is shorter at the top than the bottom. Align the fan clips with their corresponding holes.
- 3 Gently push the fan downwards until it clicks into place.
- 4 Replace the PC Workstation's cover (refer to page 23). Reconnect all the power and telecommunications cables.

---

## Replacing the Power Supply Unit

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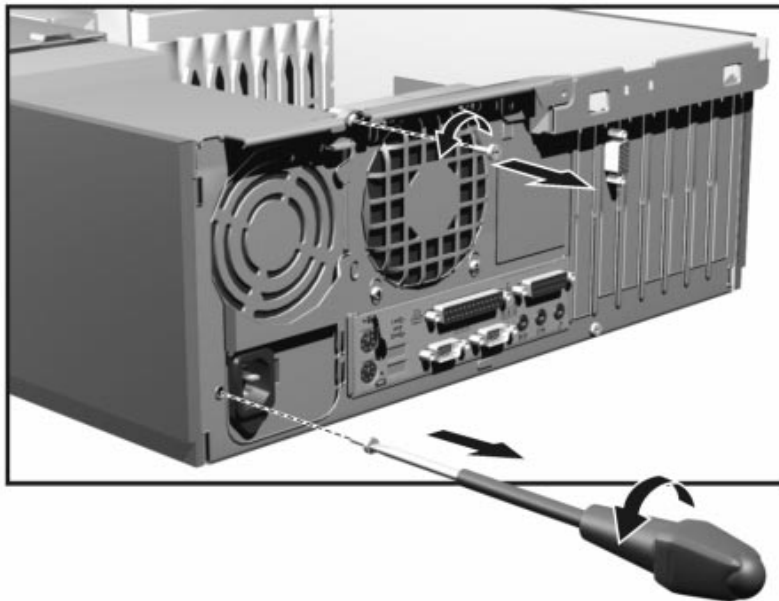
### **WARNING**

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 Workstation. Disconnect all power cables and any LAN or telecommunications cables.
- 2 Remove the PC Workstation's cover (refer to page 22 for instructions).
- 3 Remove **all** internal power supply connectors.
- 4 Remove the two screws located on the rear of the chassis that secure the power supply unit in position.



- 5 Lift the front of the power supply unit up and move it forwards to disengage the hinge on the rear.

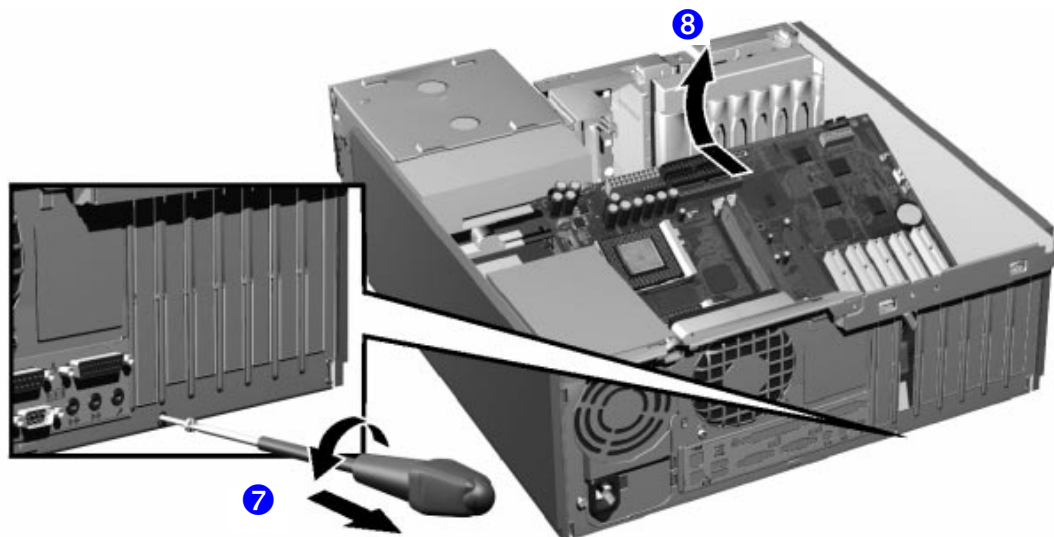
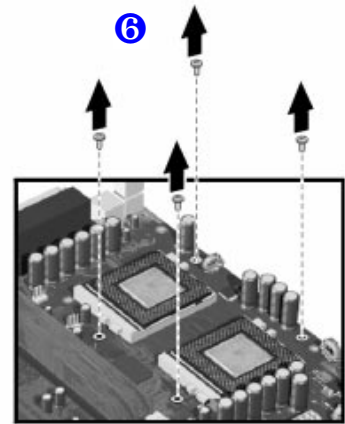
### *Installing the Power Supply Unit*

- 1 Insert the new power supply unit.
- 2 Secure it in position using the screws you previously removed.
- 3 Reconnect **all** internal power supply connectors.
- 4 Replace the PC Workstation's cover (refer to page 23). Reconnect all the power and telecommunications cables.

## Replacing the System Board

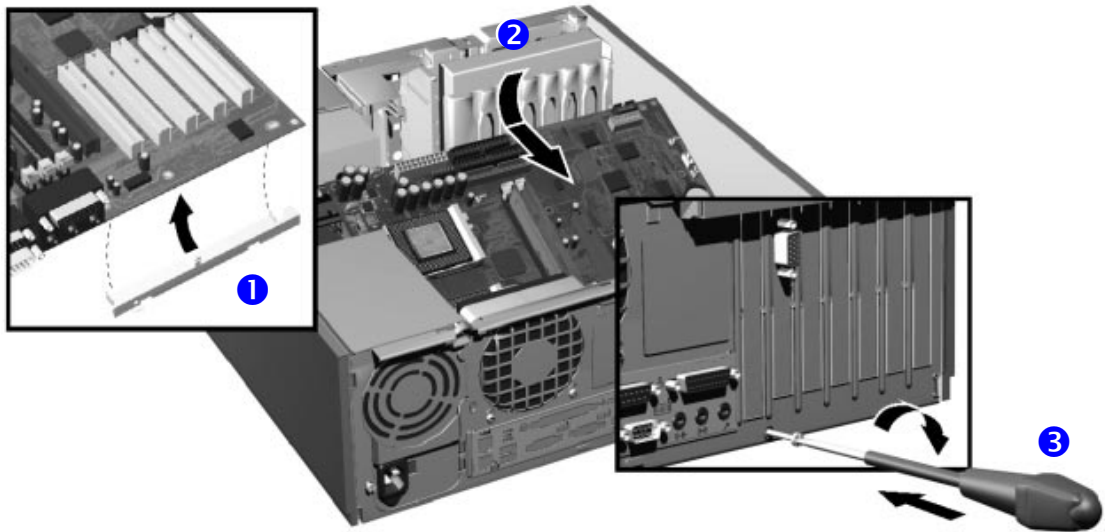
### Removing the System Board

- 1 Switch off the display and PC Workstation. Disconnect all power cables and any LAN or telecommunications cables.
- 2 Remove the PC Workstation's cover and front bezel (refer to page 23 for these instructions).
- 3 Disconnect any cables attached to the system board.
- 4 Move the front access cage forward (described on page 36).
- 5 Remove the main memory, processor and any accessory cards from the old system board (described in this chapter).
- 6 Remove the four screws located near the processor sockets.
- 7 Remove the external screw located on the rear of the PC near the AGP slot.
- 8 Lift the system board out, being careful not to damage the PC's rear connectors.
- 9 Unclip the retaining bracket from the system board. This bracket must be re-installed on the new system board (refer to "Installing the New System Board" on page 46).

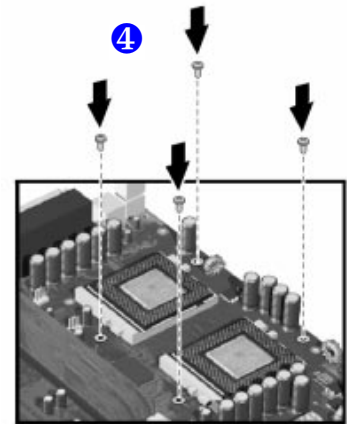


#### Installing the New System Board

- 1 Clip the retaining bracket onto the new system board.
- 2 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.
- 3 Replace the screw to secure the system board in place.



- 4 Attach the system board to the chassis using the four screws located near the processor sockets.
- 5 Slide the front access cage back into position (described on page 37).
- 6 Reconnect any cables you disconnected earlier from the system board.
- 7 Replace the main memory, processor and any accessory cards in the new system board (described in this chapter).
- 8 Replace the PC Workstation's cover and front bezel (refer to page 23). Reconnect all the power and telecommunications cables.
- 9 After installing the system board, you need to update your BIOS.



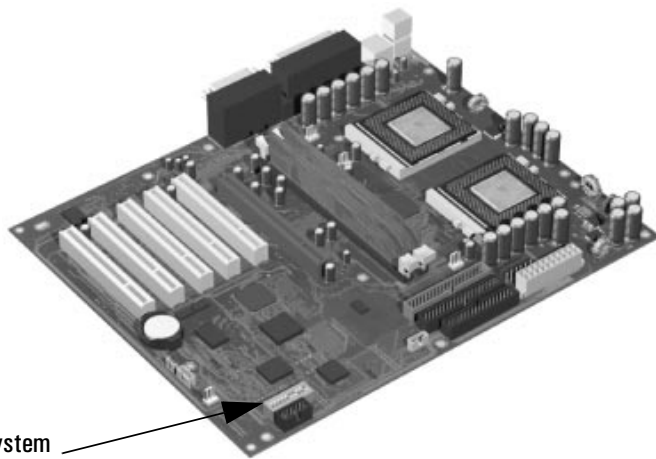
#### **NOTE**

The latest BIOS for your PC and instructions on updating the BIOS are available from: [www.hp.com/go/kayaksupport](http://www.hp.com/go/kayaksupport).

## 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:
<i>1-5</i>	<b>OFF</b>	Reserved. <b>Do Not change Default Settings</b>
<i>6</i>	<b>ON</b>	Enables keyboard power-on. OFF disables this option.
<i>7</i>	<b>OFF</b>	Enables normal modes. ON enables the BIOS recovery mode at next boot.
<i>8</i>	<b>OFF</b>	Retains CMOS memory. ON clears CMOS memory at next boot.
<i>9</i>	<b>OFF</b>	Enables User and System Administrator passwords. ON clears the passwords at next boot.
<i>10</i>	<b>OFF</b>	Selects the chassis type. <b>OFF = desktop</b>



Location of system  
board switches

## Replacing the Battery

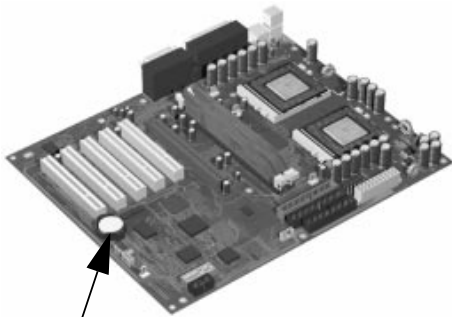
### **WARNING**

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 Workstation, 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.

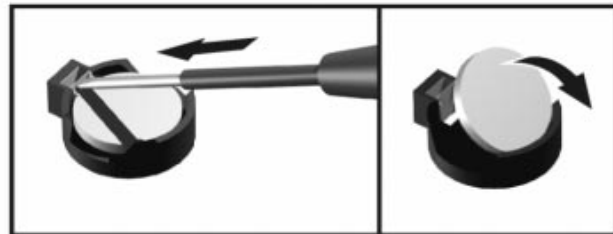
If your PC repeatedly loses its configuration settings you should consider changing the battery. Replace it with a CR2032 coin type manganese/lithium battery, available from most PC stores.

To change the battery:

- 1 Disconnect the PC Workstation's power supply cord and any connection to a telecommunications network.
- 2 Remove the PC Workstation's cover.
- 3 Remove the old battery by sliding it from under the retaining clip.



Location of battery



- 4 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.
- 5 Replace the cover. Reconnect all cables and power cords.
- 6 Run the *Setup* program to reconfigure the PC.



---

# 3

---

## Troubleshooting Your HP PC Workstation

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

- 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 **<http://www.hp.com/go/kayaksupport>**, then select HP Kayak XM600 from the drop-down menu.

## If Your PC Does Not Start Properly

The PC Doesn't Power On	
<i>Check that...</i>	<i>How</i>
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 RED	
<i>Check that...</i>	<i>How</i>
The internal hardware components are correctly installed.	Refer to the <i>Troubleshooting Guide</i> available from HP's web site at: <a href="http://www.hp.com/go/kayaksupport">www.hp.com/go/kayaksupport</a>
The Power-On Self Test Results In an Error 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.	
<i>Check that...</i>	<i>How</i>
The part of your configuration for which the Power-On Self Test has detected an error.	Refer to the <i>Troubleshooting Guide</i> available from HP's web site at: <a href="http://www.hp.com/go/kayaksupport">www.hp.com/go/kayaksupport</a>

## If Your PC Has a Hardware Problem

The Monitor Doesn't Work...	
The PC's power indicator light works but the monitor remains blank.	
<i>Check that...</i>	<i>How</i>
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	
<i>Check that...</i>	<i>How</i>
The monitor settings in your PC are compatible with your monitor.	<ul style="list-style-type: none"> <li>• Windows NT: Enter VGA mode when prompted during start-up, then reset the resolution.</li> <li>• Windows 95/98: Restart the PC. When the HP screen is displayed, press <b>F8</b> and then start the PC in safe mode. Double-click on the <b>Display</b> icon in your PC's <b>Control Panel</b>, then click on the <b>Settings</b> button. Use the sliding control to reset the resolution.</li> </ul>

<b>The Keyboard Doesn't Work...</b>	
<i>Check that...</i>	<i>How</i>
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.
<b>If the PC starts but you still have a problem...</b>	Run e-DiagTools. See page 53.

<b>The Mouse Doesn't Work...</b>	
<i>Check that...</i>	<i>How</i>
The mouse cable is correctly connected.	<ol style="list-style-type: none"> <li>1 Switch off the PC.</li> <li>2 Plug the cable into the correct connector on the back of the PC.</li> </ol>
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: <b><a href="http://www.hp.com/go/kayaksupport">www.hp.com/go/kayaksupport</a></b>
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.
<b>If the PC starts but you still have a problem...</b>	Run e-DiagTools. See page 53.

<b>The Power-On Self Test Displays an Error</b>	
<i>What to do</i>	
Turn on or restart your PC.	
When the message <b>Press F2 to enter Setup</b> appears, press the <b>F2</b> key.	

## Pre-Boot Diagnostics

When your PC starts up, the BIOS performs 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 your graphics controller has failed), it will emit a buzzing sound. Immediately after the buzzing sound, a series of beeps is emitted.

If you hear a series of beeps, you should count them as this will help you detect the cause of the problem.

<b>Number of Beeps</b>	<b>Meaning</b>
0	System OK
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 for Memory (code 3), Video Card (code 4), and PnP/PCI (code 5) errors, e-Buzzer will only detect them 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  
**<http://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 Kayak 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 53.

---

### **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, Upgrade or Downgrade

- 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/kayaksupport](http://www.hp.com/go/kayaksupport)

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.

If your PC Workstation does not have any SCSI drives, a message displaying “At least one service failed to start”. You can remove the driver through

**Control Panel > SCSI**

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: PC Image Engineer — 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/kayaksupport.***

*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 17.*

**Q: Can I use USB hardware devices with all the operating systems preloaded on my PC?**

*A: No. USB is supported by Windows 95, Windows 98 and Windows 2000 only.*

**Q: Is my PC year 2000-compliant?**

*A: All new HP PC Workstations are designed to handle the transition to year 2000 without any problem. For more information, refer to HP's Year 2000 web site: **www.hp.com/year2000.***

**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/kayaksupport***

## 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/kayaksupport](http://www.hp.com/go/kayaksupport)**

Some 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 53 for information on using e-DiagTools.
- Visit the HP support web site **[www.hp.com/go/kayaksupport](http://www.hp.com/go/kayaksupport)** 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/kayaksupport](http://www.hp.com/go/kayaksupport)**
- Record the details of the problem so that you can describe it accurately. Refer to page 60 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/kayaksupport](http://www.hp.com/go/kayaksupport)**

## Collecting Information Before Contacting HP Support

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	<ul style="list-style-type: none"> <li>• Number of megabytes installed</li> <li>• Is it HP supplied memory or memory from another source?</li> </ul>
	<ul style="list-style-type: none"> <li>• The total amount of memory installed is displayed in the <i>Setup</i> program main menu, accessed by pressing <b>F2</b> during start-up.</li> <li>• There may be some compatibility problems with non-HP memory modules. HP supports and recommends only HP supplied memory modules.</li> </ul>
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 <i>Setup</i> program main menu, accessed by pressing <b>F2</b> during start-up.
Any BIOS parameter changes?	Did the problem occur after changes were made to the BIOS using the <i>Setup</i> program?
Make a list of slots and interrupts used by additional cards (for example, LAN, sound and SCSI)	<i>This is to check for interrupt conflicts. You can find IRQs by running e-DiagTools (see page 53).</i>
Operating System	
Are you using the original operating system software that came preloaded on your PC?	
If not, what is the operating system version?	<i>Select Settings ⇄ Control Panel from the Start menu, then click on the System icon. The operating system version is displayed under System.</i>
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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