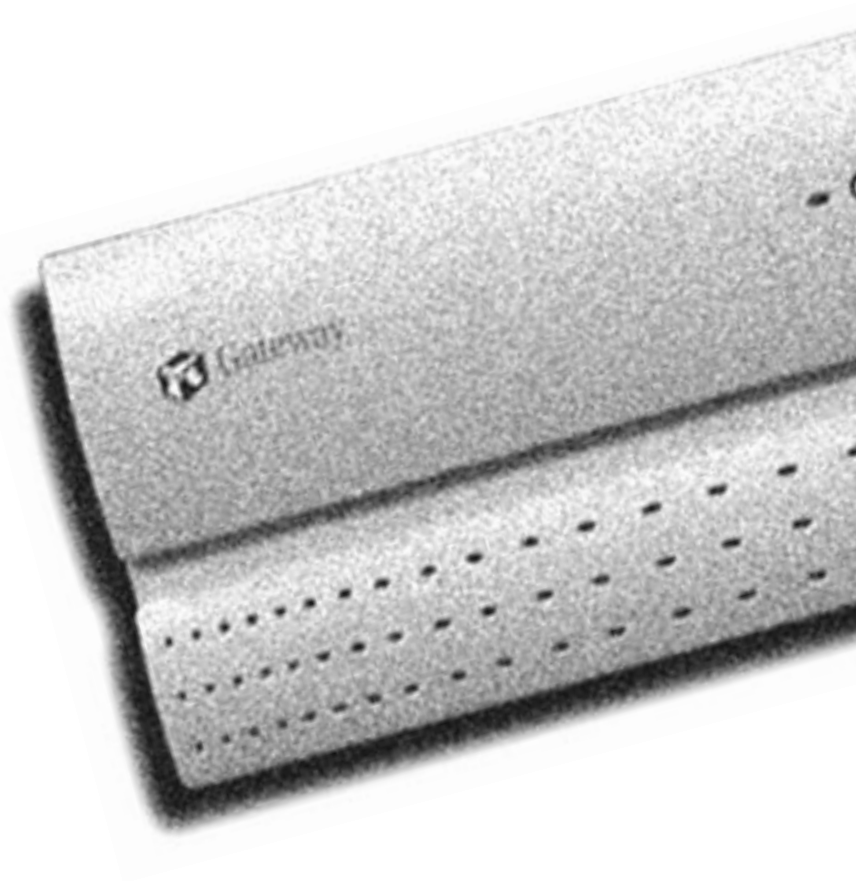


# Gateway



## **E-1400 Desktop System Manual**

# **E-1400 Desktop System Manual**

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# Contents

<b>Preface</b> .....	<b>vii</b>
Conventions used in this manual .....	.vii
Safety instructions .....	viii
Getting additional information .....	ix
<b>System Features</b> .....	<b>1</b>
Standard features .....	1
Front panel .....	2
Rear panel .....	3
Vertical desktop feature .....	4
System board .....	5
Riser card .....	6
Back .....	6
Front .....	6
Heceta IV hardware management .....	8
<b>System Setup</b> .....	<b>9</b>
Setting up your system .....	9
Starting your system .....	10
Understanding the Power-On Self-Test .....	11
Setting Up the operating system .....	11
Turning off your system .....	13
Resetting your system .....	14
<b>Case Access</b> .....	<b>15</b>
Static electricity precautions .....	15
Opening the case .....	17
Closing the case .....	19
<b>Replacing and Adding Drives</b> .....	<b>21</b>
Replacing and adding drives .....	21
Drive cabling information .....	23
Replacing the 3.5-inch diskette or CD-ROM drive .....	23
Installing an additional 3.5-inch device .....	25
Replacing the hard drive .....	26
Adding a second hard drive .....	27

<b>System Components</b>	<b>31</b>
Removing the system board	31
Replacing the processor	35
Installing memory and hardware	38
Installing DIMMs	39
Adding an expansion card	41
Replacing the battery	43
Troubleshooting the battery installation	44
Using your System Restoration CD	45
<b>Using the BIOS Setup Utility</b>	<b>47</b>
About the BIOS Setup utility	47
Updating the BIOS	49
Setting the system board jumpers	51
Recovery mode	51
<b>Managing Your System</b>	<b>53</b>
Protecting against power source problems	53
Surge suppressors	53
Line conditioners	54
Uninterruptible power supplies	54
Creating a startup diskette	55
Keeping a record of system configuration	55
Protecting against viruses	56
Checking system health with LANDesk	57
Using hard drive maintenance utilities	58
Using ScanDisk in Windows 95 and Windows 98	58
Using Check Disk in Windows NT	59
Using Disk Defragmenter in Windows 95 and Windows 98	59
Managing hard drive space	61
Checking hard drive space	61
Backing up files	61
Deleting unneeded files	62
Power management	64
About soft-off	64
Using suspend in Windows 95	64
Using standby in Windows 98	65
<b>Cleaning Your System</b>	<b>69</b>
Cleaning the mouse	69
Cleaning the keyboard	70
Cleaning the monitor screen	70

Cleaning the computer and monitor cases .....	70
<b>Troubleshooting</b> .....	<b>71</b>
Introduction .....	71
Troubleshooting checklist .....	72
Verifying your configuration .....	72
Troubleshooting guidelines .....	72
CD-ROM problems .....	73
Hard disk problems .....	75
Memory/Processor problems .....	76
Modem problems .....	77
Peripheral/Adapter problems .....	78
Printer problems .....	80
System problems .....	81
Video problems .....	83
Error messages .....	86
<b>Appendix</b> .....	<b>91</b>
System specifications .....	91
<b>Index</b> .....	<b>95</b>



# Preface

## Conventions used in this manual

Throughout this manual, you will see the following conventions:

<b>Convention</b>	<b>Description</b>
ENTER	Keyboard key names are printed in small capitals.
CTRL+ALT+DEL	A plus sign means to press the keys at the same time.
<b>Setup</b>	Commands to be entered, options to select, and messages that appear on your monitor are printed in bold.
<i>User's Guide</i>	Names of publications are printed in italic.

### **Important**



A note labeled important informs you of special circumstances.

### **Caution**



A caution warns you of possible damage to equipment or loss of data.

### **Warning**



A warning indicates the possibility of personal injury.



# Safety instructions

Observe the following safety instructions when using your system:

## Warning



Do not attempt to service the system yourself except as explained elsewhere in the system documentation. Adjust only those controls covered in the instructions.

Opening or removing covers marked “Do Not Remove” may expose you to dangerous electrical voltages or other risks. Refer all servicing of those compartments to qualified service personnel.

- Follow all instructions marked on the system and in the documentation.
- When the computer is turned off, a small amount of electrical current still runs through the computer. Always unplug the computer from the electrical outlet and disconnect the modem cable (if installed) before cleaning the system or removing the computer cover.
- Do not use this product near water or a heat source, such as a radiator or heat register.
- Do not spill anything on or into the system. The best way to avoid spills is to avoid eating and drinking near your system.
- Make sure you set up the system on a stable work surface.
- Openings in the computer case are provided for ventilation. Do not block or cover these openings. Make sure you provide adequate space (at least 12 inches) around the system for ventilation when you set up your work area. Never insert objects of any kind into the computer ventilation slots.
- Use the voltage setting for your location. The voltage selector switch is set at the factory to the correct voltage.
- This system is equipped with a 3-wire power cord to ensure that the product is properly grounded when in use. The plug will only fit into a grounding-type outlet. If you are unable to insert the plug into an outlet, contact an electrician to install the appropriate outlet.
- Do not walk on the power cord or allow anything to rest on it.
- If you use an extension cord with this system, make sure the total ampere ratings on the products plugged into the extension cord do not exceed the extension cord ampere rating. Also, the total ampere requirements for all products plugged into the wall outlet must not exceed 15 amperes.

- There is a danger of explosion if the CMOS (complementary metal-oxide semiconductor) battery is replaced incorrectly. Follow the instructions in this manual for replacing the battery. Replace the battery with the same or equivalent type recommended by the manufacturer. Dispose of used batteries according to the manufacturer's instructions.
- Unplug the system from the wall outlet and refer servicing to qualified personnel if:
  - The power cord or plug is damaged.
  - Liquid has been spilled into the system.
  - The system does not operate properly when the operating instructions are followed.
  - The system was dropped or the cabinet is damaged.
  - The system's performance changes.
- Use only replacement parts and accessories recommended by Gateway.

## Getting additional information

Log on to the Gateway Support Center at [www.gateway.com/support](http://www.gateway.com/support) to find information about your system or other Gateway products. Some types of information you can access are:

- Hardware driver and software application updates
- Technical tips
- Service agreement information
- Technical documents and component information
- Frequently asked questions (FAQ)
- Documentation for peripherals or optional components
- Online access to technical support



# System Features

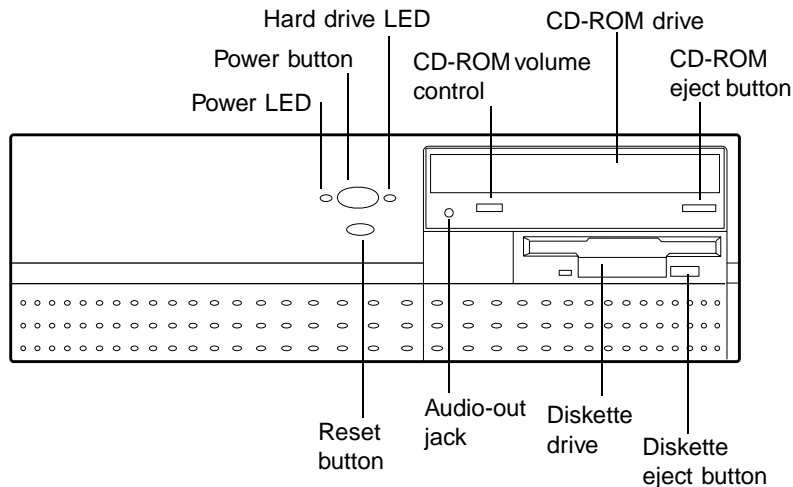
# 1

## Standard features

- Intel® Celeron™ processor
- Desktop to tower conversion
- Two DIMM sockets that support up to 512 megabytes (MB) of Synchronous Dynamic Random Access Memory (SDRAM)
- 128K of L2 cache
- Integrated Heceta IV Hardware Management Application Specific Integrated Circuit (ASIC)
- Integrated video with 4 MB Synchronous Dynamic Random Access Memory (SDRAM) on the system board, for enhanced 3D performance
- Intel 810 chipset
- Three PCI slots
- One 3.5 inch diskette drive, one CD-ROM drive, and one hard drive
- Keyboard port, mouse port, one serial port, parallel port, two Universal Serial Bus (USB) ports, and Line-out and Microphone-in audio ports
- Integrated audio using Analog Devices AD1881 Digital Audio Codec controller
- 10/100 Mbit per second Ethernet network support

# Front panel

The desktop case front panel includes the following features:



**Audio-out jack** connects headphones or powered speakers that enable you to listen to an audio CD (directly from the CD-ROM drive).

**CD-ROM drive** plays data or audio CDs.

**CD-ROM eject button** ejects a CD from the CD-ROM drive.

**CD-ROM volume control** controls the volume of an audio CD.

**Diskette drive** writes to and reads from 3.5-inch, 1.44 MB diskettes.

**Diskette eject button** ejects diskettes from the diskette drive

**Hard drive LED** lights when the hard drive is active.

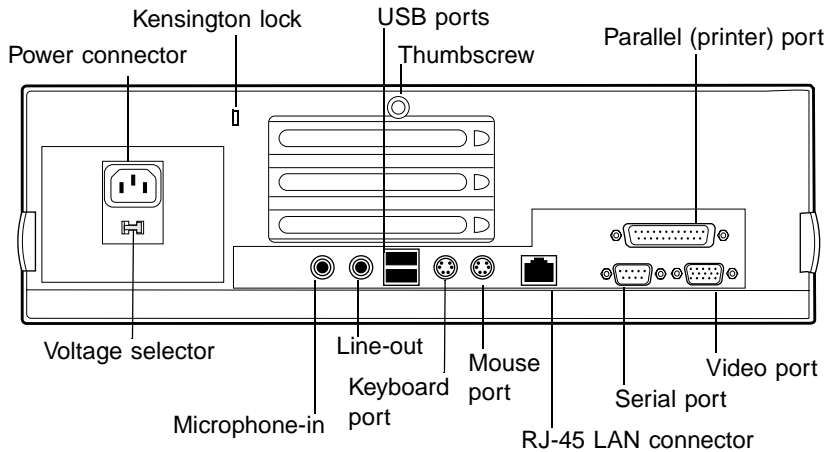
**Power button** turns the computer on and off.

**Power LED** lights when the computer is turned on. The green light means your computer is using full power. The amber light means your computer is in sleep mode.

**Reset Button** restarts a system that becomes non-responsive.

# Rear panel

The desktop case rear panel includes the following Input/Output (I/O) ports, connectors, and switches:



**Kensington lock** slot permits the use of a cable lock to secure the system.

**Keyboard port** connects a Personal System/2<sup>®</sup> (PS/2) compatible keyboard.

**Microphone-in and Line-out audio jacks** connect audio devices such as speakers and a microphone.

**Mouse port** connects a PS/2-compatible mouse.

**Parallel (printer) port** connects a printer or other parallel device.

**Power connector** connects the computer power cord. The other end of the power cord plugs into an AC outlet or power strip.

**RJ-45 LAN connector** connects the network cable.

**Serial port** connects serial devices.

**Thumbscrew** must be loosened to remove the cover from the system.

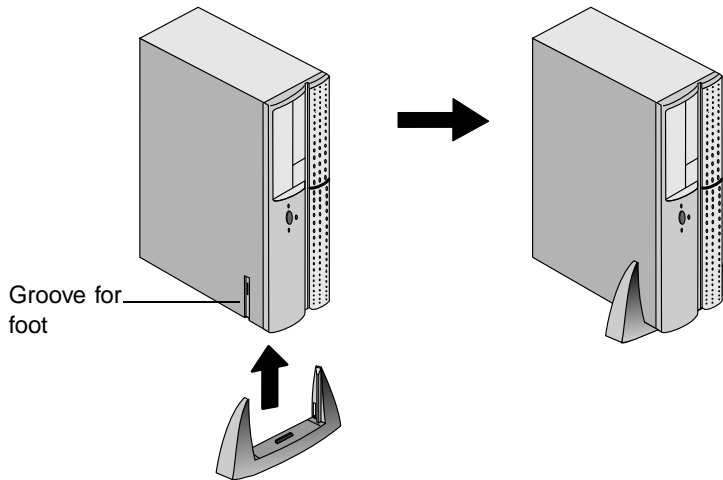
**USB ports** connect external Plug-and-Play devices that are automatically configured when they are plugged into the computer through one of these ports. Some USB devices are keyboards and pointing devices.

**Voltage selector** sets the voltage for your area, either 115V or 230V.

**Video port** connects the monitor's interface cable.

# Vertical desktop feature

You can set up your desktop to sit vertically by using a stand included with your accessory kit. This setup saves space and transforms your desktop into a minitower computer. See the illustrated instructions included with your accessory kit or the illustration below for more information.



## Important

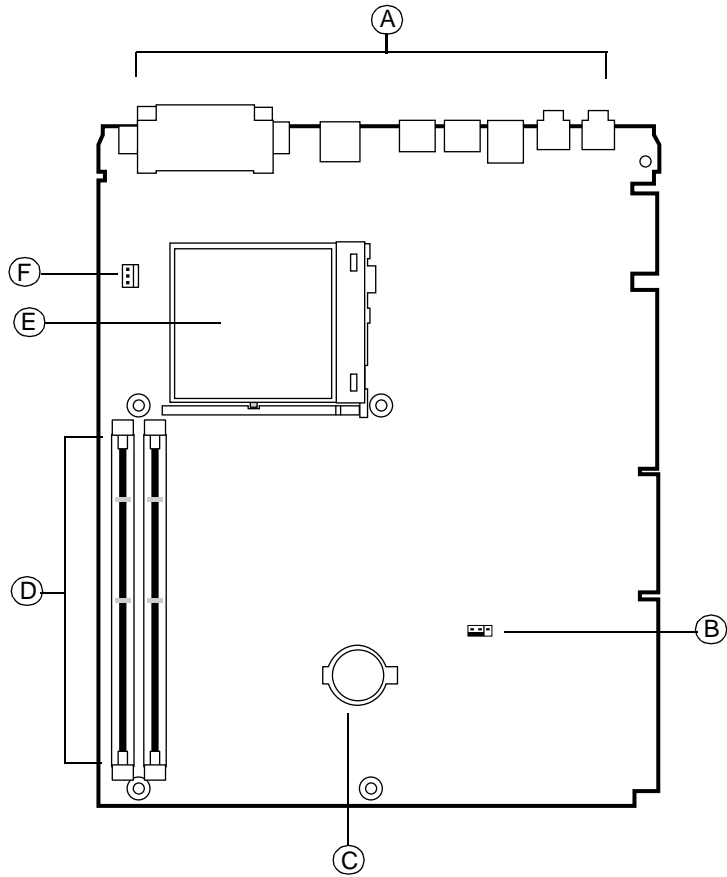


If you set your system up vertically, be sure to use a CD-ROM drive with retaining clips. You can use these clips to hold the CD-ROM in place when using the vertical desktop feature. The CD-ROM drive that ships with your system includes these clips.

## ➡ To convert your computer to a tower

- 1 Turn off the computer and disconnect the power cord and all cables connected to the back.
- 2 Lift the right side of the computer until it rests vertically on its left side.
- 3 Lift the front of the computer by pushing on the top front, rocking it back, and place the plastic foot in the grooves provided for that purpose.
- 4 Lower the front of the computer, allowing it to balance on the foot.
- 5 Reconnect the power cord and cables you disconnected.

# System board



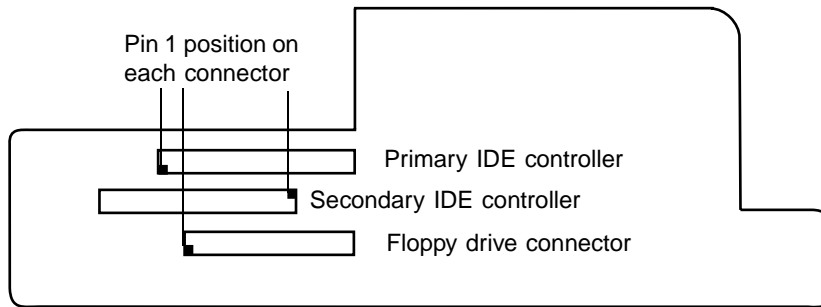
- A** I/O connectors
- B** Configuration jumper (J6C1)
- C** Battery
- D** DIMM slots
- E** Processor
- F** Processor fan connector



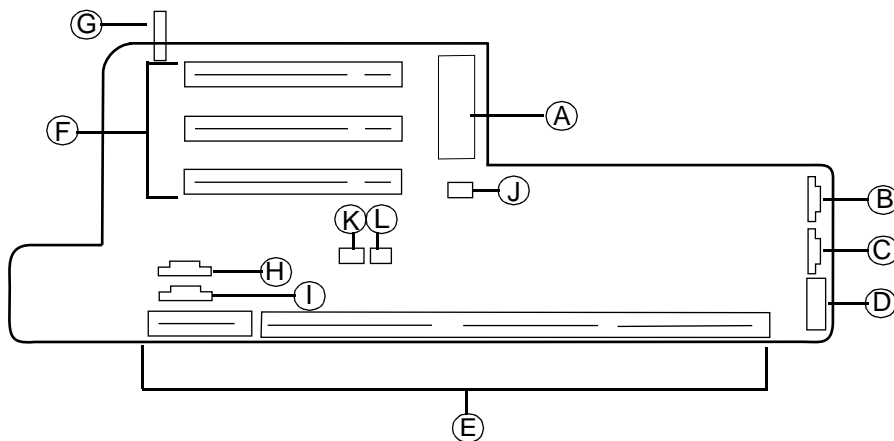
# Riser card

The riser card is mounted to the chassis by brackets at its base and two screws at the top. The two screws attach the riser card to a bracket attached to the power supply cage. To enable easy removal of the system board without unplugging cables or connectors, the riser card contains most of the connectors and slots used by the internal system components.

## Back



## Front



- A ATX power connector
- B JP11: SCSI LED connector
- C JP10: CPU/Chassis Fan connector

- D** Front panel control connector
- E** NLX system board edge connector
- F** PCI slots (3)
- G** SW1: Chassis intrusion switch
- H** CN3: TAD/Speakerphone
- I** CN4: CD/DVD audio connector
- J** JP9: Power supply fan connector
- K** JP7: Wake-on-LAN connector
- L** JP8: Ring-in connector

# Heceta IV hardware management

Heceta IV is an integrated data acquisition system that lets you monitor the status of your system hardware. Monitored information includes internal temperature, fan speed, voltage, and chassis intrusion (to alert you in case of tampering). The features of the hardware management system can be accessed through LANDesk® Client Manager, which provides a quick system health indicator.

# System Setup

# 2

## Setting up your system

Follow the instructions on the poster that came with your system for assembly instructions. You can prepare a safer working environment before assembling your system by following some of the guidelines listed below.

- Provide a clean, flat, and stable surface for your system. Allow at least 12 inches at the rear of the computer for cabling and air circulation.
- Obtain a grounded (three-prong) AC surge-protected power strip. A surge-protected power strip helps protect against AC line spikes.
- Protect your system from extreme temperature and humidity. Do not expose your system to direct sunlight, heater ducts, or other heat-generating objects.
- Keep your computer away from equipment that generates magnetic fields, such as unshielded stereo speakers. Even a telephone placed too close to the computer may cause interference.
- Plug the computer into a wall outlet or power strip that is easily accessible. When you turn off the computer with the power button, some electricity still flows through the computer. To remove all power from the computer, you need to unplug it.

### Important



Keep the product carton and packing material, in case you need to send the system out for repair. If you return your system to the factory in different packaging, your warranty may be void.

# Starting your system

Before you start your system for the first time:

- Check to ensure that the voltage selector switch on the back of the computer is still set to the correct voltage for your area. This switch is set at the factory to the correct voltage (see for voltage selector switch location).
- Make sure all cables are firmly connected to the proper ports on the rear panel of the computer.

## Caution

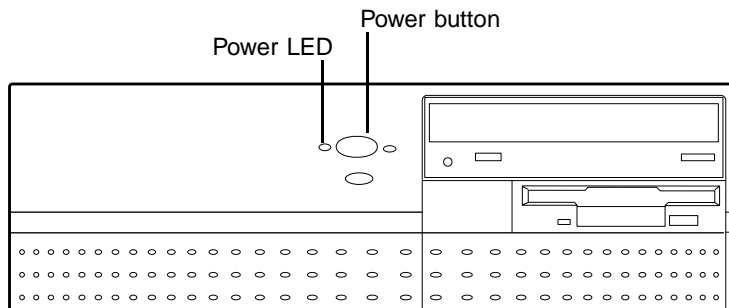


Make sure your computer and peripherals are turned off and unplugged from the power outlet when you connect peripherals to the computer.

- Make sure the computer and monitor are plugged into an AC outlet or power strip.

## ➡ To start the system:

- 1 If you have connected the system components to a power strip, make sure all the system components are turned off, and then turn on the power strip.
- 2 Turn on the monitor by pressing the power button.
- 3 Turn on the computer by pressing the power button. The power light-emitting diode (LED) on the front panel is lit when the power is on.



- 4 Turn on any other components connected to the computer, such as speakers, a printer, or a scanner.

If nothing happens when you turn on the system:

- Recheck the power cables to see that they are securely plugged in and that your power strip (if you are using one) is plugged in and turned on.
- Make sure the monitor is connected to the computer, plugged into the power strip or AC outlet, and turned on. You may also need to adjust the brightness and contrast controls on the monitor.

Wait until the startup procedure is finished before loading a diskette in the diskette drive, or the computer may search the diskette for startup information.

## Understanding the Power-On Self-Test

When you turn on your computer, the power-on self-test (POST) routine checks the system memory and components. To see this information on the screen, press TAB during POST. Press ESC to bypass the remaining memory count.

The system displays an error message if POST finds any problems. Write down the error message that appears.

## Setting Up the operating system

The first time you start your computer, the operating system takes a few minutes to set up.

Refer to your software documentation for specific instructions on what to do after the computer starts.

### **To complete the operating system setup:**

- 1 After the computer starts, start-up wizard opens. Click **Next** to continue.
- 2 Type the requested information in the appropriate text boxes. When you have finished entering the information, click **Next**.
- 3 Continue following the instructions and selecting options in the start-up wizard dialog boxes, clicking **Next** to move through the dialog boxes until the wizard tells you to restart your computer.

Most of the dialog boxes that open in the start-up wizard have a button that takes you back to previous dialog boxes, in case you need to change or correct the information you typed.

- 4** Restart your system. The setup is complete.

# Turning off your system

Every time you turn off your system, shut down the operating system first. You may lose data if you do not follow the proper procedure.

## To turn off your system in Windows 95:

- 1 On the taskbar, click **Start**.
- 2 Click **Shut Down**.
- 3 Select **Shut down the computer?**
- 4 Click **Yes**. The computer turns off.
- 5 Turn off the monitor and peripherals.

## To turn off your system in Windows NT or Windows 98:

- 1 On the taskbar, click **Start**.
- 2 Click **Shut Down** (Windows 98) or **Shut down the computer?** (Windows NT).
- 3 Select **Shut Down**.
- 4 Click **OK**. The computer turns off. If you see a message saying **It is now safe to turn off your computer** (Windows NT only), turn off the computer by pressing the power button.
- 5 Turn off the monitor and peripherals.

### **Warning**



When you turn the computer off by pressing the power button, some electric current still flows through the computer. Before opening the computer case or connecting or removing any peripherals, turn off the computer and then unplug the power cord and modem cord (if installed).



# Resetting your system

If your computer does not respond to keyboard or mouse input, you may have to close a program or programs that may not be responding. If closing unresponsive programs does not restore your computer to normal operation, you may have to reset the system.

## Important



You can use the power button to turn off your system if it does not respond. However, you must hold the power button in for 4 seconds to turn it off (Windows 95 and Windows 98 only).

### ➡ To reset your system in Windows 95 or Windows 98:

- 1 Press **CTRL+ALT+DEL**. A window opens that lets you close a program that is not responding.
- 2 Highlight a program that displays a “not responding” message and click **End Task**. Close the program by following any additional screen prompts.
- 3 If the computer does not respond, restart the computer by pressing the reset button.
- 4 After displaying some of the startup screens, a message appears asking if you would like to run ScanDisk.
- 5 Run ScanDisk by pressing any key. Follow the on-screen instructions. When the checks are finished, Windows starts.

### ➡ To reset your system in Windows NT:

- 1 Press **CTRL+ALT+DEL**. A window opens that lets you to close a program that is not responding.
- 2 Click **Task Manager**, select the program that is not responding, then click **End Task**.
- 3 If the computer does not respond, press the reset button to restart the computer.

As a part of the regular startup process, a program to check the disk status automatically runs. When the checks are finished, Windows starts.

# Case Access

## Static electricity precautions

Static electricity can permanently damage electronic components in your computer. When opening your computer case, always perform the following procedure.

**Caution**



Prevent electrostatic damage to your computer by following static electricity precautions every time you open your computer case.

**➤ To avoid static electricity discharge:**

- 1 Wear a grounding wrist strap (available at most electronics stores).
- 2 Turn off the computer power.
- 3 Discharge any static electricity by touching a bare metal surface on the back of the case.
- 4 Unplug all power cords from AC outlets and disconnect the modem cable (if installed).
- 5 Remove the computer cover.

Follow these precautions to avoid electrostatic damage to your computer components:

- Avoid static-causing surfaces such as plastic and styrofoam in your work area.
- Remove the parts from their antistatic bags only when you are ready to use them. Do not lay parts on the outside of antistatic bags since only the inside of the bag provides antistatic protection.
- Always hold cards by their edges and their metal mounting bracket. Avoid touching components on the cards and the edge connectors that connect to expansion slots.
- Never slide cards or other parts over any surface.

**Warning**



Avoid exposure to dangerous electrical voltages and moving parts, by turning off your computer and unplugging the power cord and modem cord before removing the computer cover.

# Opening the case

To work on the internal components of the computer, you must open the case, which has two removable parts:

- A chassis cover, that surrounds the sides and top of the system
- A front faceplate (bezel) that covers the front of the system

Because the components inside your computer are extremely sensitive to static electricity, be sure to follow the precautions at the beginning of this chapter for avoiding static electricity damage.

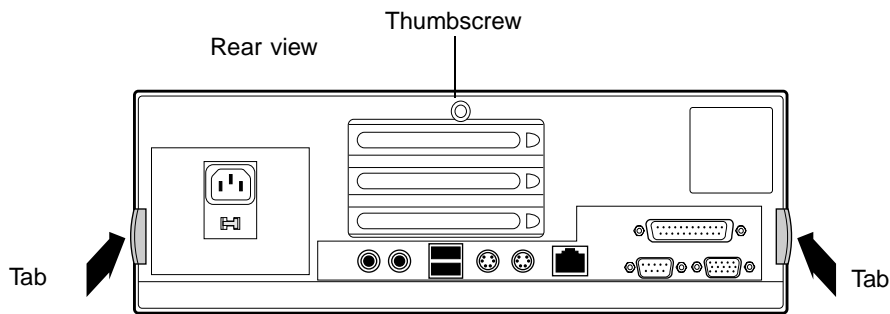
## Warning



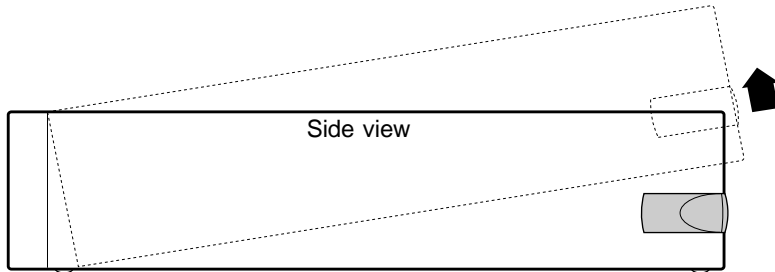
Avoid exposure to dangerous electrical voltages and moving parts, by turning off your computer and unplugging the power cord and modem cable (if installed) before removing the chassis cover.

## ▶▶▶ To remove the chassis cover:

- 1 Turn off the computer and disconnect all power cords.
- 2 Remove the thumbscrew or lock on the back of the case.
- 3 With the front of the computer facing you, locate the latches at the rear sides of the case and pull both latches out until they clear the chassis.

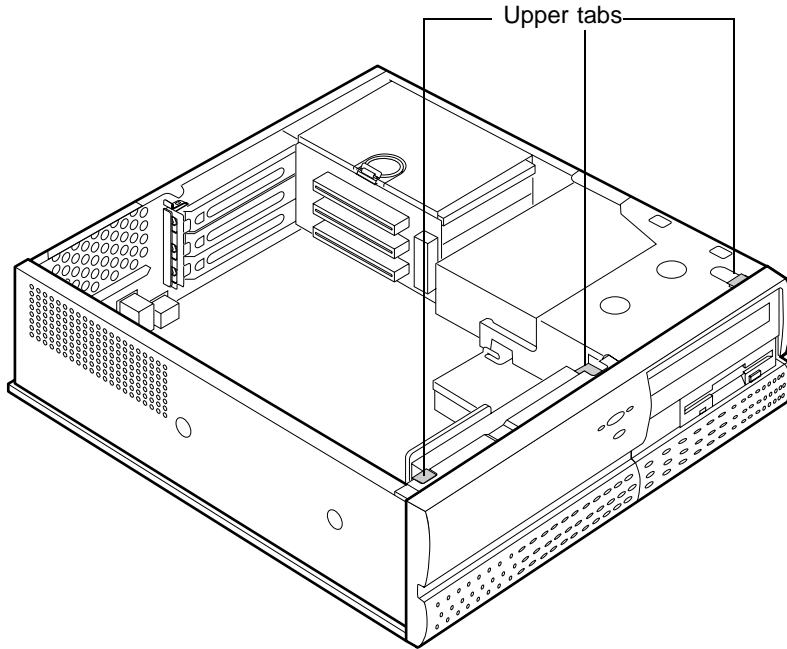


- 4 Lift up the rear of the cover and slide the cover toward the rear of the computer until the lip on the cover is free of the front bezel. Remove the cover.



➡ **To remove the front bezel:**

- 1 Lift the three upper tabs and push them through the slots in the chassis. The top of the bezel unlatches out and away from the chassis.
- 2 Lift the front of the chassis until the lower bezel tabs clear the chassis locking holes. Remove the bezel.



# Closing the case

Replace the chassis cover as soon as you finish installing or removing components so that dust and dirt (which could damage the computer) do not collect inside the computer.

## **To replace the front bezel:**

- 1** Lift the front of the chassis and set the lower chassis tabs into the locking holes on the bezel.
- 2** Press the bezel into the chassis until the three upper tabs snap into their locking holes. Two of the three upper tabs latch underneath the locking holes. One tab latches over the top of the chassis.

## **To replace the chassis cover:**

- 1** Place the cover on the computer, making sure the tabs on the front end are inserted underneath the bezel and the rear of the cover is in a raised position.
- 2** Lower the rear of the cover onto the computer chassis until the side latches snap into place.
- 3** Reinstall the thumbscrew or lock that was removed to open the case.



# Replacing and Adding Drives

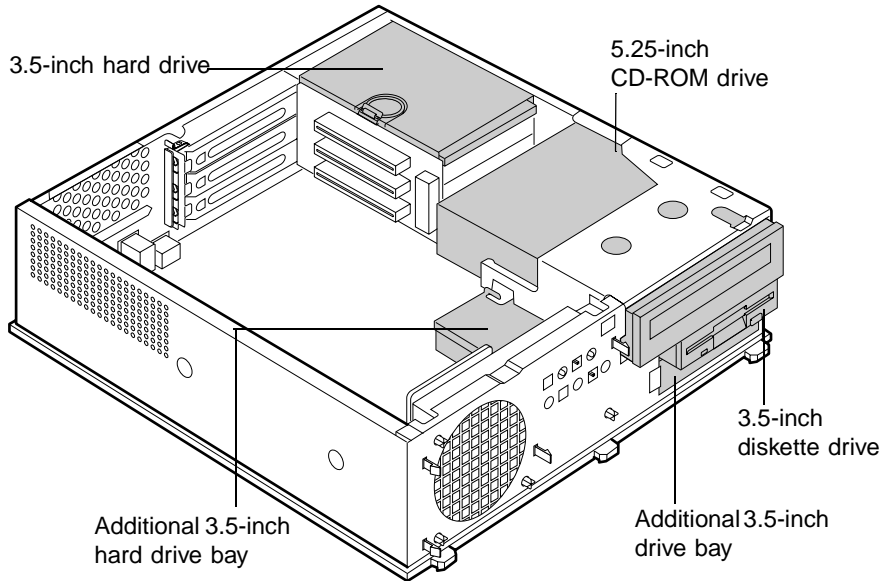
# 4

## Replacing and adding drives

One 3.5-inch diskette drive, one 3.5-inch hard drive, and one CD-ROM drive come with your computer. You can add additional drives of the following types:

- Half-height 3.5-inch diskette drives. The riser card has a floppy controller that supports up to two diskette drives, one of which is the 3.5-inch diskette drive that comes with your computer.
- Half-height 3.5-inch hard drives. The riser card has two IDE connectors that support up to two drives each. To use another type of hard drive, such as a SCSI drive, install an add-in card.
- Half-height 3.5-inch tape storage or disk storage devices.



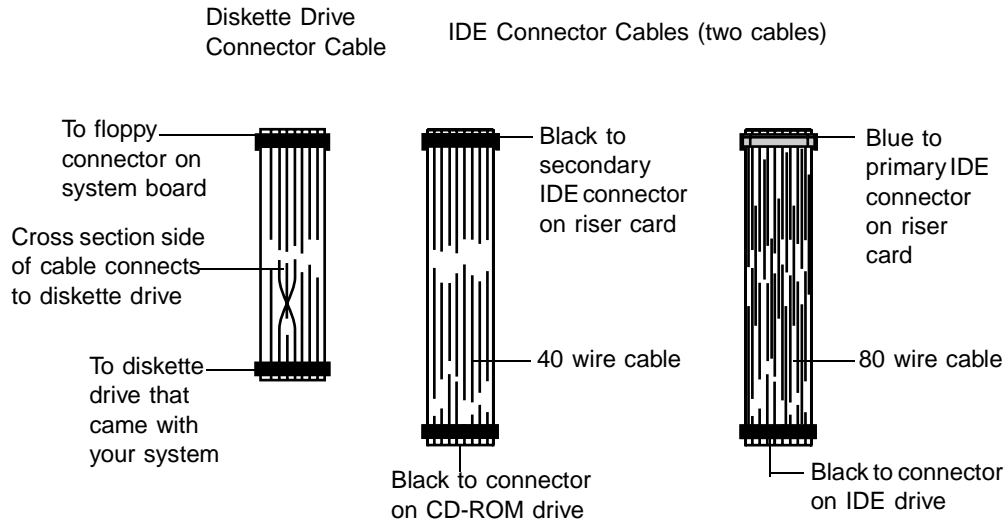


As you prepare to install drives, keep the following in mind:

- To remove and install drives, you need a grounding wrist strap and a Phillips screwdriver. If you remove a drive, place it in an antistatic bag.
- Before you install a drive, see the drive's documentation for information on configuring the drive, setting any jumpers on the drive, and attaching cables to the drive.
- If you are installing a drive that uses an add-in controller, install the add-in card before you install the drive.
- IDE hard drives can be configured as single, master, or slave. IDE CD-ROM drives can be configured as master or slave. Configure the drives by using the drive-select jumpers located on the drives.
- If only one drive is attached to a controller cable, configure the drive as single if it is a hard drive or master if it is a CD-ROM drive. If two drives of any type are attached to the cable, configure one as master and one as slave.
- You may need to configure the drives you install using the BIOS Setup utility program. Press F1 at start up to access the BIOS Setup utility program.

# Drive cabling information

Three drive cables are included with your system. The diskette drive connector cable is used to connect diskette drives and other non-IDE devices (such as a tape backup drive). The two IDE connector cables are used to connect IDE devices such as CD-ROM drives and hard drives. If you want to add additional drives, you can replace the drive connector cables with ones that contain three connectors, which would let you add a total of four IDE devices or two diskette drives.



## Replacing the 3.5-inch diskette or CD-ROM drive

Both the 3.5-inch diskette drive and 5.25-inch CD-ROM drives are secured in the chassis by a set of removable rails. The rails let the drives slide into and out of the guides in the front bays.

### ► To replace the drives:

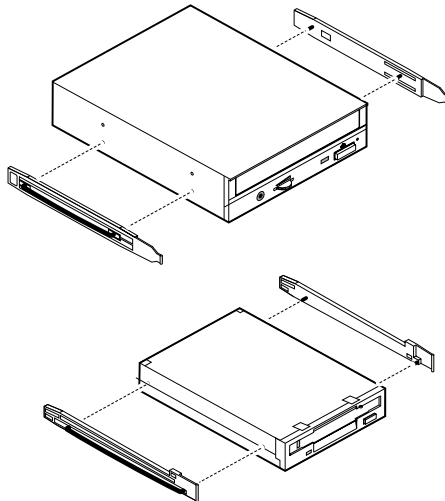
- 1 Turn off the system and disconnect the power cord and modem cord, if installed.
- 2 Open the case and remove the front bezel, observing the "Static electricity precautions" on page 15.

- 3 Locate the 3.5-inch diskette or 5.25-inch CD-ROM drive. If you are removing the 3.5-inch diskette, you may need to partially remove the CD-ROM drive to get to the 3.5-inch diskette drive.
- 4 Disconnect the power and data cables from the back of the drive, noting their location and orientation. (You will reconnect these cables after you install the new drive.)
- 5 Disengage the locking tabs by pressing inward on both front rail extensions, then move it slightly out of the bay by pushing on the back of the drive. Pull the drive out of the chassis.
- 6 Remove the rails on both sides of the drive and snap them onto the new drive in the same positions. Make sure the front rail extensions are towards the front of the drive.

**Important**



The rails on the 3.5-inch drive are different from those on the CD-ROM drive. Make sure you install the correct rails on each drive.



- 7 Align the rails with the appropriate bay and slide the drive into the bay until the locking tabs snap into place.

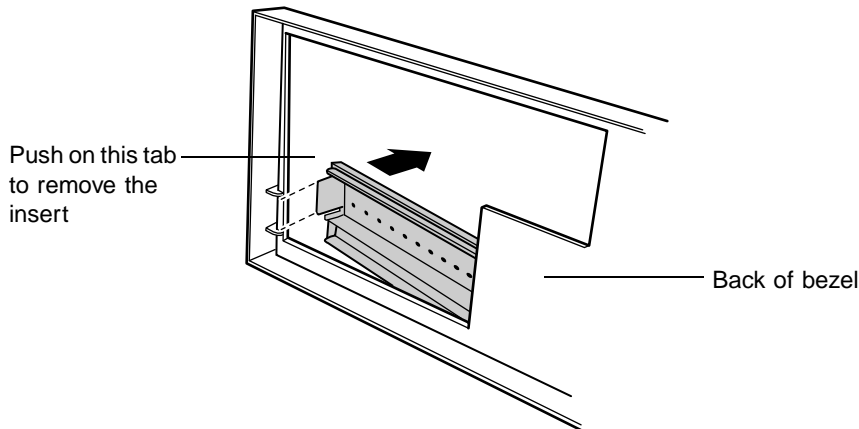
- 8 Connect the power and data cables, making sure the cables match their original position. (See drive your documentation for proper drive jumper settings and cable orientation.)
- 9 Close the case, as described in Chapter 3.
- 10 Reconnect the power and modem cords, and turn on the system.

## Installing an additional 3.5-inch device

The second 3.5-inch drive bay can be used to install a 3.5-inch device such as a tape drive or 100 MB or 120 MB disk storage device. A set of rails are included in your system (in the drive bay under the diskette drive) and are used during the installation. You will have to purchase an IDE cable with three connectors and of sufficient length to connect the existing hard drive and the new drive to the riser card IDE connector.

### To install an additional drive in the 3.5-inch drive bay:

- 1 Turn off the system and disconnect the power cord and modem cord (if installed).
- 2 Open the case and remove the front bezel, observing the “Static electricity precautions” on page 15.
- 3 To remove the bezel insert. (you can save and replace the insert should you need to remove the device and continue to use the system.)



- 4 Remove the 3.5-inch diskette and CD-ROM drive (see “Replacing the 3.5-inch diskette or CD-ROM drive” on page 23). This will allow access to the bottom drive bay.
- 5 Remove the metal shield from the front of the drive bay, if installed, by placing a flat-bladed screwdriver in the metal shield tab and pulling it outwards.

**Caution**



Your system was designed to adhere to electromagnetic interference requirements, and the shield is an integral part of the system. Installing an approved device should continue to maintain those standards. If you remove the device, you should reinstall the shield.

- 6 Snap the rails onto the drive, making sure the front rail extensions are towards the front of the device.
- 7 Align the rails with the bay, and slide the drive into the chassis until the locking tabs snap into place.
- 8 Connect the power and data cables to the back of the drive. (See drive documentation for proper drive jumper settings and cable orientation.)
- 9 Reinstall the CD-ROM drive and 3.5-inch diskette drive (see “Replacing the 3.5-inch diskette or CD-ROM drive” on page 23).
- 10 Close the case, as described in Chapter 3.
- 11 Reconnect the power and modem cords, then turn on the system.
- 12 Run the configuration software, if required.

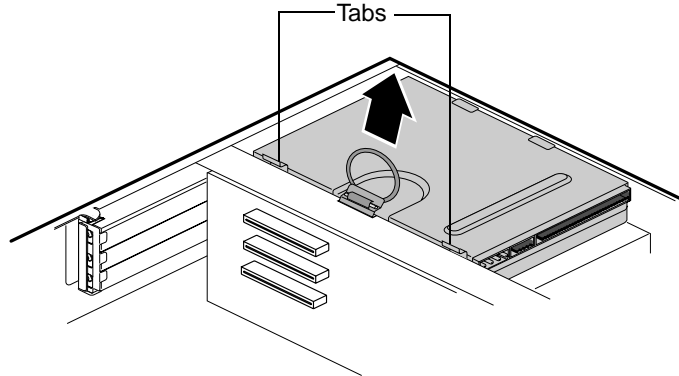
## Replacing the hard drive

The hard drive is secured to a mounting plate that snaps out of and into the chassis.

### To replace the hard drive:

- 1 Turn off the system and disconnect the power cord and modem cord, if installed.
- 2 Open the case, observing the “Static electricity precautions” on page 15.
- 3 Locate the 3.5-inch hard drive and mounting plate ring.

- 4 Lift the ring slightly, then pull it towards the center of the drive until the spring latch releases. Lift the drive out of the chassis.



- 5 Remove the mounting plate from the old drive by lifting and sliding one tab at a time until they unlock. Lift the mounting plate off the drive.
- 6 Position the new drive upside down in the mounting plate and snap it into place.
- 7 Place the drive back into the drive bay.
- 8 Connect the power and data cables to the back of the drive. (See drive documentation for proper drive jumper settings and cable orientation.)
- 9 Close the case, as described in Chapter 3.
- 10 Reconnect the power and modem cords, and turn on the system.

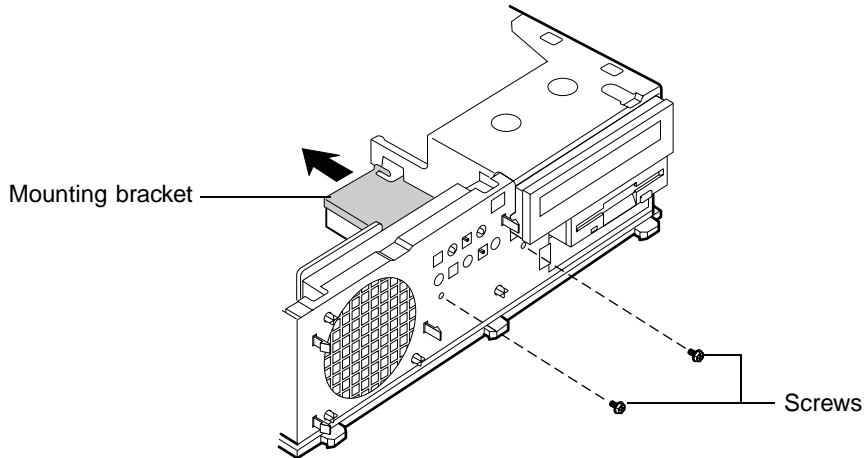
## Adding a second hard drive

The system comes with a metal drive-mounting bracket you can use to install an additional internal hard drive. You will have to purchase an IDE cable with three connectors and of sufficient length to connect the existing hard drive and the new drive to the riser card IDE connector.

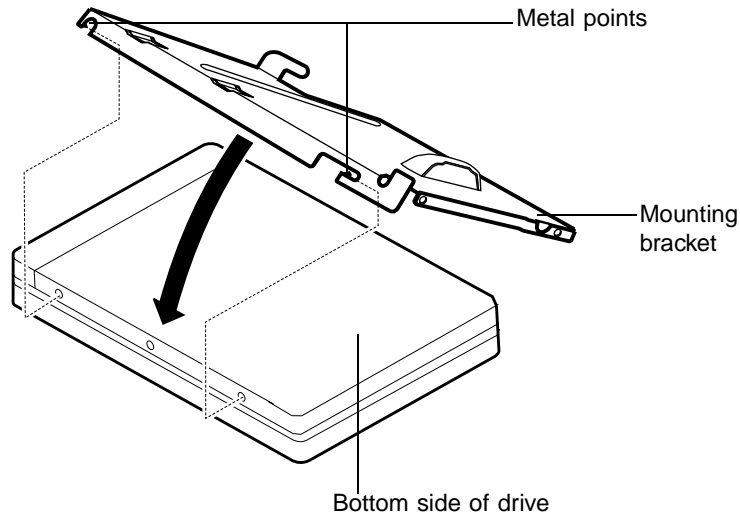
### ► To install a second hard drive:

- 1 Turn off the system and disconnect the power cord and modem cord, if installed.
- 2 Open the case, observing the “Static electricity precautions” on page 15.

- 3 Locate and remove the two screws that attach the mounting bracket to the front of the chassis.



- 4 Remove the CD-ROM drive from the chassis so you can access the mounting bracket. (see “Replacing the 3.5-inch diskette or CD-ROM drive” on page 23, for instructions on removing the CD-ROM drive.)
- 5 Slide bracket towards the back of the chassis until the tabs disengage from the chassis. Lift the mounting bracket out of the chassis.
- 6 With the drive upside down, insert the metal points into the holes on one side of the drive and lower the bracket over the bottom of the drive.



- 7** Secure the drive to the bracket with a screw.
- 8** Replace the mounting bracket into the chassis and slide the two locking tabs together.
- 9** Replace the two screws you removed in step 2.
- 10** Replace the CD-ROM drive.
- 11** Connect the proper cables to the drive (see “Replacing and adding drives” on page 21).
- 12** Close the case as described in Chapter 3.
- 13** Reconnect the power and modem cords, and turn on the system.





# System Components

# 5

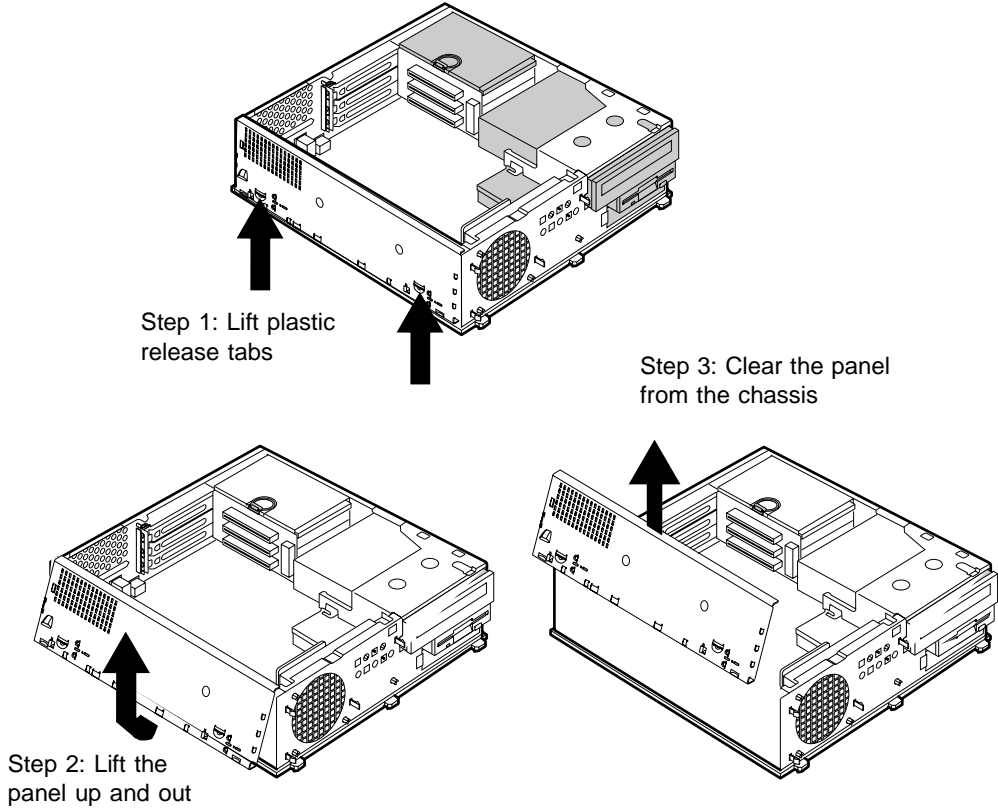
## Removing the system board

The system board is installed on a set of guide rails, and can be removed without tools.

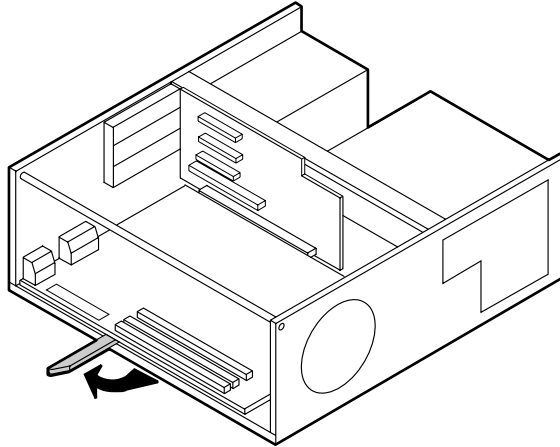
### To remove the system board:

- 1 Turn off the system and disconnect the power cord, modem cord (if installed), and all external peripheral devices.
- 2 Open the case, observing the “Static electricity precautions” on page 15.
- 3 Remove the chassis cover.

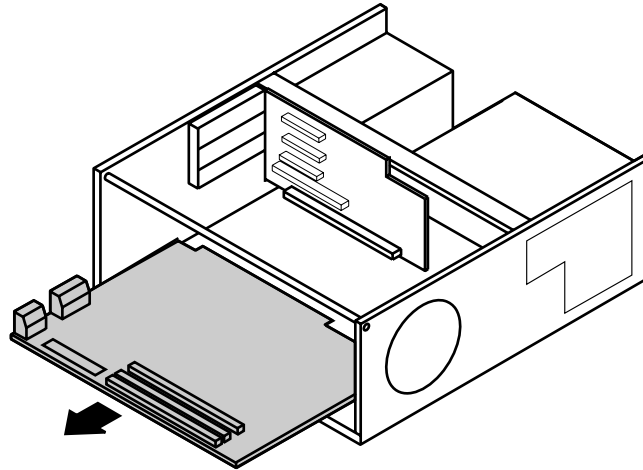
- 4** Remove the chassis side panel by lifting up on both plastic release tabs on the outside of the chassis (Step 1 in the illustration below). Lift the panel up and out (Step 2 in the illustration below). Clear the panel from the chassis (Step 3 in the illustration below). In the following illustration the bezel was removed for clarity.



- 5** Locate the release lever at the outside center edge of the system board and lift the lever upward slightly, then pull it outward approximately eighty degrees from the edge of the system board. This disengages the edge connector on the system board from the riser card and moves the board slightly out of the chassis.



- 6** Grasp the edge of the system board and carefully slide it out of the chassis.





### To reinstall the system board:

- 1** Align the rails located underneath the system board with the guides on the chassis.
- 2** Push in the release lever until it is parallel with the chassis. This will complete the reinstallation and lock the board in place.
- 3** Reconnect peripherals, the modem cord, and the power cord, then turn on the system.

# Replacing the processor

Your system board currently supports the Intel Celeron processor. See the Gateway Web site at [www.gateway.com](http://www.gateway.com) for updates on processor speeds supported by your system.

When replacing a processor, order a processor upgrade kit. The kit includes the processor and a heat sink.

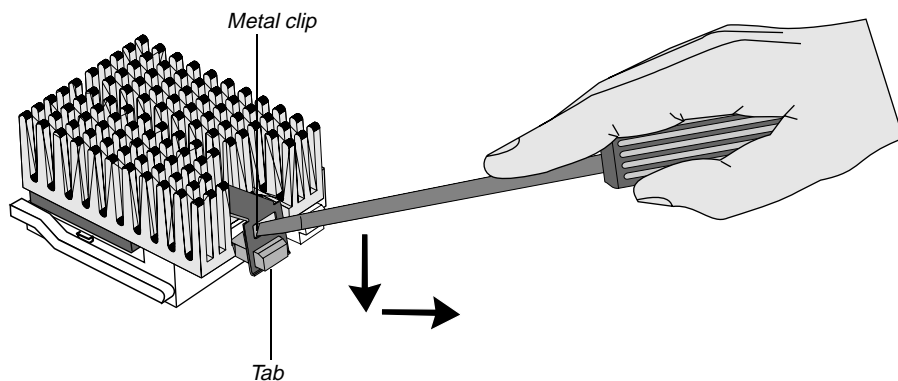
## Warning



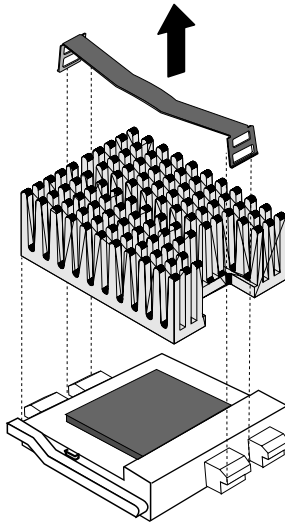
It is critical that a heat sink be installed on the processor to provide sufficient cooling.

## ▶▶▶ To replace the processor:

- 1 Turn off the computer, disconnect the power cord, modem cord (if installed), and all external peripheral devices.
- 2 Open the case by following the instructions on page 17, observing the static electricity precautions on page 15.
- 3 Remove the heat sink:
  - a The heat sink is attached to the processor socket by a metal clip. Unhook the clip from the tab on the processor socket by inserting a slotted screwdriver into the upper opening on the metal clip, pushing downward on the blade to allow the clip to clear the tab, then prying outward on the clip.
  - b Remove the clip when unhooked from the processor socket.

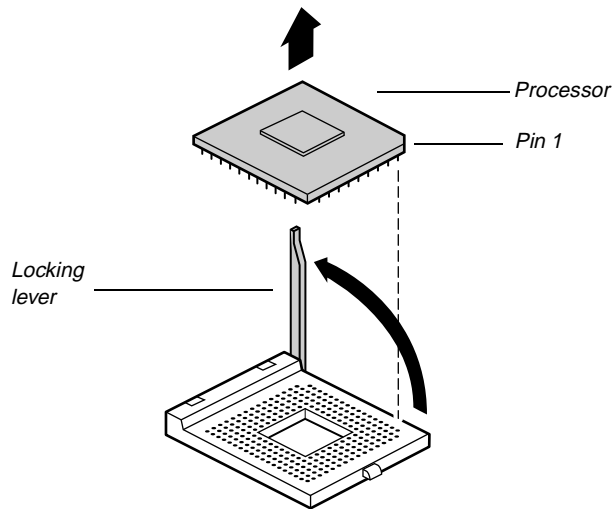


**c** Lift the heat sink off the processor.



**4** Remove the processor:

**a** Open the locking lever on the processor socket by moving the lever slightly out to the side and then rotating it up 90 degrees.



**b** Lift the old processor straight up and out of the socket.

**5** Install the new processor:

**a** Hold the new processor over the empty processor socket and verify that pin 1 on both the processor and the socket are aligned. Pin 1 is near the cut out corner.

**b** Gently place the new processor into the socket. The processor will slip into place without pressure when aligned correctly.

**c** Secure the processor by lowering the locking lever until it latches into place.

**6** Replace the heat sink by hooking the two metal clips on the heat sink to the tabs on the processor socket. Make sure the heat sink is level with the processor and the metal clips are securely attached.

**Caution**



It is very important that the heat sink makes direct contact with the processor or else it will not cool correctly, resulting in processor failure.

**7** Close the case. (See “Closing the case” on page 19 for instructions.)

**8** Reconnect peripherals, the modem cord, and the power cord, then turn on the system.

You do not have to manually adjust the processor speeds. Your system BIOS automatically detects the processor speed for you.



# Installing memory and hardware

Your computer's system board supports:

- 3.3-V, 168-pin unbuffered, Synchronous Dynamic Random Access Memory (SDRAM) Dual In-line Memory Modules (DIMMs).
- Non-ECC (64 bit) memory
- Single- or double-sided configurations
- 512 MB maximum system memory

The system board contains two DIMM sockets. You can fill the sockets with 16 MB, 32 MB, 64 MB, 128 MB, or 256 MB DIMMs, in any combination, to expand the SDRAM up to 512 MB.

## Important



66 MHz FSB processors can be paired with 66 or 100 MHz SDRAM, but 100 MHz FSB processors should be paired only with 100 MHz SDRAM.

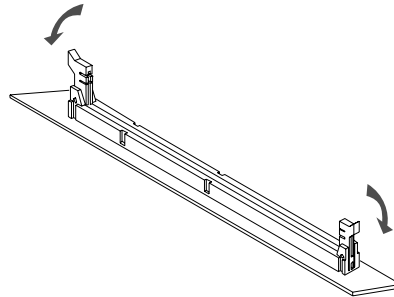
No jumper settings are required for the memory size or type because the BIOS automatically detects this information.

# Installing DIMMs

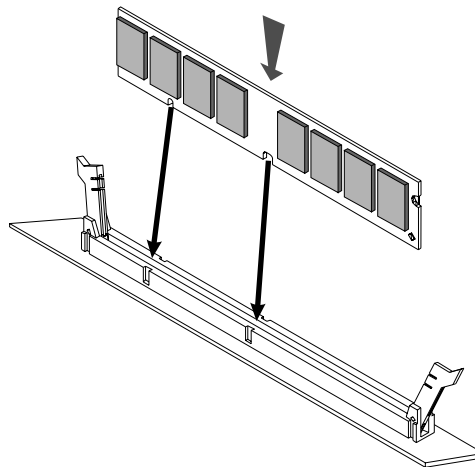
The system board contains two DIMM slots. You can fill either DIMM0, DIMM1, or both with DIMMs. No jumper settings are required for the memory size or type because the BIOS automatically detects this information.

## ► To install DIMMs:

- 1 Turn off the computer, disconnect the power cord, modem cord (if installed), and all external peripheral devices.
- 2 Open the case, observing the “Static electricity precautions” on page 15.
- 3 Pull open the socket clamps on each side of the DIMM socket.



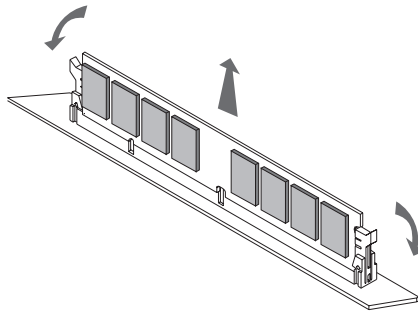
- 4 Insert the DIMM into the socket and align the two bottom notches in the DIMM with the two notches in the DIMM socket.



- 5 Gently press the DIMM into the socket until the plastic socket clamps on each side of the socket snap into the notches on the side of the DIMM.
- 6 Close the case, as described in Chapter 3.
- 7 Reconnect peripherals, the modem cord and the power cord, and turn on the system.

### ▶▶▶ To remove DIMMs:

- 1 Turn off the computer, disconnect the power cord, modem cord (if installed), and all external peripheral devices.
- 2 Open the case, observing the “Static electricity precautions” on page 15.
- 3 Using your fingers, gently push out both plastic socket clamps on each end of the DIMM socket. The DIMM should pop up slightly from the socket.



#### Caution



Never try to remove a DIMM without releasing the clamps. You may break the socket, causing serious damage.

- 4 Carefully lift the DIMM out of the socket.
- 5 Store the DIMM in a static-free container.

# Adding an expansion card

The E-1400 computer has three expansion slots on the riser card for PCI cards.

## Important



The integrated video is automatically disabled if an add-in video card is used.

## ▶▶▶ To add a PCI expansion card:

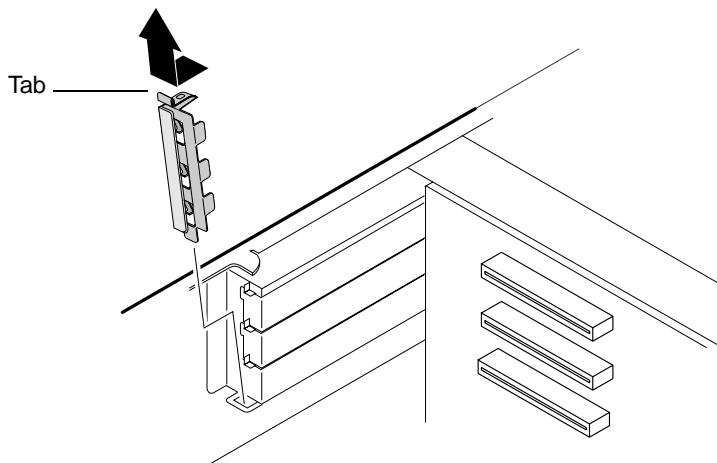
- 1 Set any jumpers and switches on the card, if required in the card instructions.

## Important

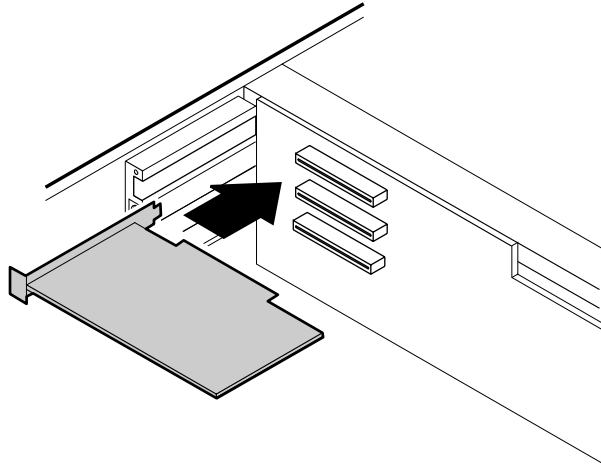


Make sure the option ROMs on your add-in cards conform to the Phoenix POST Memory Manager Specification, Version 1.01 and BIOS Boot Specification, Version 1.01. For additional information, refer to the following website: <http://www.phoenix.com>.

- 2 Turn off the computer, disconnect the power cord, modem cord (if installed), and all external peripheral devices.
- 3 Open the case, observing the static electricity precautions on page 15.
- 4 Remove the slot cover bracket by pressing downward and outward on the tab.



- 5** Locate an available slot and remove the slot cover by releasing the lock tab. (Save the cover for reinstallation if you need to remove the card.) (You can use a blunt tool such as a flat-head screwdriver if the tab does not release with finger pressure.) Either apply inward pressure to the middle of the slot cover or use a flat-head screwdriver and insert it into the tab hole.
- 6** Insert the edge of the expansion card into the slot on the riser card and press firmly to seat the card.



- 7** After seating the card firmly, replace the slot cover bracket.
- 8** Connect any cables to the card (see card documentation for proper jumper settings and cable orientation)
- 9** Close the case, as described in Chapter 3.
- 10** Reconnect peripherals, the modem cord and the power cord, and turn on the system.

It may be necessary to reconfigure your system after installing some expansion cards. You may also need to install software that came with the card. Check the card documentation for additional information.

# Replacing the battery

The battery provides power for the system real-time clock and CMOS RAM, which holds the system configuration information.

If your battery is failing you may notice your system clock slowing down and giving you the incorrect time. If so, open the BIOS Setup utility and write down all the values in the menus and submenus before replacing the battery. Replacing the battery resets the BIOS Setup utility to its default values.

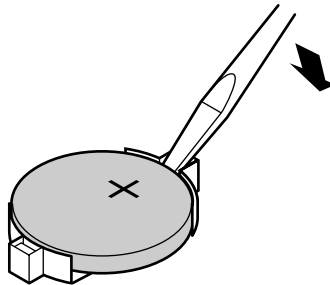
## Caution



There is a danger of explosion if the battery is incorrectly replaced. Replace the battery only with the same or equivalent type recommended by the manufacturer. Dispose of used batteries according to the manufacturer's instructions.

## ▶▶▶ To replace the battery:

- 1 Restart the computer and start the BIOS Setup utility program by pressing F1 when you are prompted to do so.
- 2 Write down the CMOS values from the Main BIOS Setup utility screen so you can reenter them after you replace the battery. For more information about the BIOS Setup utility program, see page 47.
- 3 Turn off the computer, disconnect the power cord, modem cord (if installed), and all external peripheral devices.
- 4 Open the case, observing the “Static electricity precautions” on page 15.
- 5 Locate the battery on the system board (see “System board” on page 5). The battery is circular and has the positive pole mark (+) on the top.
- 6 Using a small flat-bladed screwdriver, carefully remove the battery from its socket on the system board.



- 7 Press the new battery in the socket with the positive pole up. Be sure you have pressed the battery down far enough for it to contact the base of the socket.
- 8 Close the case, as described in Chapter 3.
- 9 Reconnect peripherals, the modem cord and the power cord, and turn on the system.
- 10 Enter the BIOS Setup utility program and verify that the system configuration is correct using the data you recorded in Step 2.

If the CMOS data is not correct, change the information in the BIOS Setup utility screens as necessary.

## Troubleshooting the battery installation

If you have problems after installing the new battery, try each of the items listed below, replacing the cover and restarting the computer after each try.

- Turn off the computer and ensure that all exterior cables are attached and secured to the correct connectors.
- Check to be sure that all power switches are on. If the computer is plugged into a power strip or surge protector, be sure it is turned on also.
- Enter the BIOS Setup utility program and compare the settings on the screen with your notes or the system hardware manuals. Correct any discrepancies.
- Turn off the computer, remove the cover, and verify that all cables inside the case are attached securely. Also, make sure that the colored cable edges are aligned correctly and that the connectors didn't miss any pins. Disconnect and reconnect the cables, and then replace the cover carefully, so as not to disturb any cables.
- Turn off the computer, remove the cover and, if you have the proper test equipment, verify that the new battery has power. (It is possible, although highly unlikely, that your new battery is defective.)

When everything works properly, close the case as described in Chapter 3, reconnect the modem and power cords, and turn on the computer.

# Using your System Restoration CD

The System Restoration CD included with your system can be used to:

- Install hardware drivers for Windows 95, Windows 98, and Windows NT
- Reinstall selected software applications, such as LANDesk Client Manager

Instructions for each operating system are provided with the System Restoration CD.





# Using the BIOS Setup Utility

# 6

## About the BIOS Setup utility

The computer's BIOS has a built-in setup utility that lets you configure several basic system characteristics. The settings are stored in battery-backed RAM and are retained even when the power is off.

Enter the BIOS Setup utility by restarting the computer, then pressing F1 when prompted during the startup process. Upon entering BIOS Setup utility, the Main BIOS Setup utility screen opens.

BIOS Setup Utility					
Main	Advanced	Security	Power	Boot	Exit
					Item Specific Help
	BIOS Version: xx				Select the default language used by the BIOS.
	Processor Type: Intel Celeron				
	Processor Speed: 466 MHz				
	Cache RAM: 128 KB				
	Total Memory: 64 MB				
	Bank 0: SDRAM				
	Bank 1: SDRAM				←→ Select Menu
	Language: [English (US)]				↑↓ Select Item
	System Time: [xx:xx:xx]				Enter Select>Sub-Menu
	System Date: [xx/xx/xxxx]				F9 Setup Default
					F10 Save and Exit
					ESC Exit
					F1 Help

As you select items on the Main menu, or in submenus, you will see specific information related to the current selection in the Item Specific Help box. Refer to the Help box for information about the menu options.

The command bar shows the keystrokes necessary to access help, navigate through the menus, and perform other functions.

- F1 opens the Help screen, providing general help for using the BIOS Setup utility.
- The ↑ (up arrow) and ↓ (down arrow) keys select items in the menu.
- The ← (left arrow) and → (right arrow) keys move you between the menus.
- ENTER either moves you to a submenu screen when a selected item is preceded by > or activates a selected field.
- ESC closes the screen you are in and returns you to the previous screen or exits you from the BIOS Setup utility.
- F9 opens a screen that lets you return all values to their default settings.
- F10 opens a screen that lets you save all parameters and then exit the BIOS Setup utility.

The main screen has the following menu selections at the top of the screen:

- **Main** gives you access to basic information and settings related to your system hardware and configuration.
- **Advanced** gives you access to information and settings for system resources, hardware, and system configuration.
- **Security** gives you access to settings related to system access passwords.
- **Power** gives you access to information and settings for power management features.
- **Boot** gives you access to information and settings for boot features and boot sequences.
- **Exit** gives you access to options for exiting the BIOS Setup utility.

Refer to the Help box on the right side of the BIOS Setup screens for information about menu items.

# Updating the BIOS

Flash memory simplifies distributing BIOS upgrades. If you need a new version of the BIOS, you can download the BIOS update from technical support on the Gateway web site and install the new version from a diskette.

## To update the BIOS:

- 1 Create a bootable diskette.
  - a Enter DOS and type the following at the DOS prompt: **format a: /s**
  - b Put a blank diskette in the diskette drive and press **ENTER**.
  - c Follow the instructions on the screen.
- 2 Note the current BIOS settings:
  - a Remove the diskette and restart your computer. Enter BIOS Setup by pressing **F1** when prompted during startup.
  - b Write down the settings for each of the fields. (At the end of the BIOS update process, you will reset the fields back to the values you recorded.)
  - c Exit the BIOS Setup utility.
- 3 Create the BIOS update diskette:
  - a Log on to the Internet and download the correct BIOS file from the technical support area of [www.gateway.com](http://www.gateway.com).
  - b Decompress the contents of the BIOS file you downloaded and copy the contents onto the bootable diskette.
- 4 Update the BIOS:
  - a Place the bootable diskette containing the BIOS files into drive A: then restart the computer. The BIOS Setup utility starts.
  - b Press **ENTER**. The **Main** menu opens.
  - c Select **Update Flash Memory From a File** and press **ENTER**.
  - d Select **Update System BIOS**.

- e** Press **TAB** to select the file name and then press **ENTER**. The computer warns you that the BIOS is about to be changed and asks you to confirm the BIOS version.
  - f** Press **ENTER**. The BIOS files are loaded.
- 5** Once the BIOS files have been loaded, remove the diskette from drive A: and press **ENTER** when prompted to restart the computer.
- 6** As the computer starts up, verify that the number of the BIOS version reported on the screen is the number of the new BIOS you downloaded from the Internet.
- 7** Restore the BIOS settings:
  - a** Enter BIOS Setup by pressing **F1** when prompted during startup. Once in BIOS Setup, press **F9** to load the BIOS Setup utility default settings.
  - b** Select any BIOS fields you want to change by using the **↑** (up arrow) and **↓** (down arrow) keys. Press **ENTER** and then reenter the values you wrote down at the beginning of this process.




# Setting the system board jumpers

The J6C1 configuration jumper on the system board lets you clear passwords and recover the BIOS. (See the figure on page 5 for the location of the jumper.) The table below shows the settings required to perform those tasks. Make sure you turn off the computer and unplug the power cord before moving the jumper.

## Caution



Moving the jumper while the computer's power is on can damage your computer. Always turn off the computer and unplug the power cord from the computer before changing the jumper.

J6C1 Mode	Jumper Setting	Action When Set
Normal	 Pins 1-2	Normal operation
Configure	 Pins 2-3	Adds a Maintenance menu to BIOS Setup utility with options to clear passwords
Recovery	 No jumper	Causes computer to attempt BIOS update or recovery from diskette

## Recovery mode

If you are trying to update the BIOS and have a problem such as a power outage, the update may not be successful. You can then attempt to recover the BIOS by setting the J6C1 jumper.

When you are attempting to recover the BIOS, no image appears on your monitor.

## To recover the BIOS:

- 1 Turn off the computer, disconnect the power cord, and disconnect the modem cord, if your computer has a modem.
- 2 Open the case by following the instructions on page 17, observing the static electricity precautions on page 15.
- 3 Remove the jumper on the J6C1 jumper and set it aside. You will need it in a later step.
- 4 Close the case (See “Closing the case” on page 19 for instructions.), then reconnect the power cords.
- 5 Place the bootable diskette containing the BIOS files into drive A:, then turn on the computer.

At the start of the BIOS recovery process, the computer beeps once. The recovery process may take a few minutes.

- 6 When you hear two beeps, the BIOS has been successfully recovered. Remove the diskette from drive A:, turn off the computer, and disconnect the power cord.

If you do not hear two beeps, the BIOS recovery was not successful. See the troubleshooting section at the end of this procedure for further information.

- 7 Open the case again by following the instructions on page 17, observing the static electricity precautions on page 15.
- 8 Place the jumper back on pins 1-2 on the J6C1 jumper.
- 9 Close the case, reconnect the cords, and turn on the computer.
- 10 Enter BIOS Setup utility by pressing F1 when prompted during startup. Once in BIOS Setup utility, press F9. The default settings for the BIOS Setup utility are loaded.
- 11 Select a BIOS field that you want to change by using the ↑ (up arrow) and ↓ (down arrow) keys. Press ENTER and then reenter the values you wrote down at the beginning of the BIOS update process.

**Troubleshooting:** If the BIOS recovery was unsuccessful the computer will beep continuously or will not beep at all. If the computer beeps continuously, make sure all the BIOS files you downloaded are on your diskette. If the computer does not beep at all and the diskette drive light stays on, make sure your BIOS update diskette is a bootable diskette.

# Managing Your System

# 7

## Protecting against power source problems

Surge suppressors, line conditioners, and uninterruptible power supplies (UPS) can help protect your system against power source problems.

### Surge suppressors

During a power surge, the voltage level of electricity coming into your system can increase far above normal for a few milliseconds. Data may be lost or the system may be damaged. To protect against power surges, use a surge suppressor. The surge suppressor absorbs voltage surges and prevents them from reaching your system.

A surge suppressor plugs into an electrical outlet, and you connect your computer, monitor, and other devices to it instead of directly to the outlet.

If you have a modem, make sure your surge suppressor has jacks for the telephone and modem cables. Power surges can pass through telephone wires as well as electrical wires.



When purchasing a surge suppressor:

- Make sure the surge suppressor meets the appropriate product safety certification for your location, such as Underwriters Laboratories (UL) or Conformance European (CE).
- Check the maximum amount of voltage the suppressor allows to pass through the line. The lower the voltage that the suppressor allows to pass through, the better the protection for your system.
- Check the energy absorption, or *dissipation*, rating. The higher the energy absorption rating, the better the protection for your system.
- Check for line-conditioner capabilities. A line conditioner smooths out some of the normal line noise (small voltage fluctuations) of an electrical supply.

## Line conditioners

A line conditioner protects your system from the small daily fluctuations in voltage from an electrical supply. Most systems can handle this variation, or *line noise*, without problems. However, some electrical sources include more line noise than normal. Line noise can also be a problem if your system is located near, or shares a circuit with, a device that causes electromagnetic interference, such as a television or a motor.

Some surge suppressors and uninterruptible power supplies include simple line-conditioning capabilities.

## Uninterruptible power supplies

You may lose data during a total power failure. A standby Uninterruptible Power Supply (UPS) uses a battery to keep your system running during a power failure. The UPS enables you to shut down your system normally, but not run the system for an extended time.

If you purchase a standby UPS, make sure the UPS includes surge suppression and line-conditioning features.

# Creating a startup diskette

If your computer hard drive is damaged, you may not be able to start the computer from the hard drive. A startup diskette is a bootable diskette that enables you to start the computer and attempt to fix the problem.

When you set up Windows 95 or Windows 98, you are prompted to create a startup diskette. You can also create a startup diskette in Windows 95 or Windows 98 at any time.

## To create a startup diskette:

- 1 Click **Start**, select **Settings**, and click **Control Panel**. The Control Panel Window opens.
- 2 Double-click **Add/Remove Programs**. The Add/Remove Program Properties window opens.
- 3 Click the **Startup Disk** tab.
- 4 Insert a diskette into the diskette drive and click **Create Disk**.
- 5 Follow the directions on the screen.

# Keeping a record of system configuration

In Windows 95 and Windows 98, you can print a summary of the configuration of your system and the memory allocation. This printed summary can help you troubleshoot your system.

## To print a system summary:

- 1 Right-click the **My Computer** icon on the desktop.
- 2 Select **Properties**. The System Properties window opens.
- 3 Click the **Device Manager** tab.
- 4 Click **Print**.
- 5 In **Report type**, select **All devices and system summary**.
- 6 Press **OK**.

# Protecting against viruses

A virus is a program written with malicious intent for the purpose of creating havoc in a computer system.

Viruses spread through executable files, document macros, or boot sectors. Diskettes used in a contaminated computer can get a virus and transfer the virus when used in another computer. A virus can also spread through files downloaded from bulletin boards or the Internet.

Some viruses may only cause your system to beep or display messages or images on the screen. Other viruses are highly destructive and corrupt, or erase the contents of your files or diskettes. To be safe, never assume any virus is harmless. Always protect your system against viruses.

To protect your system against viruses:

- Obtain an antivirus program and scan your computer regularly. Make sure that your antivirus program has an update mechanism. Virus programs need to be updated periodically to keep up with new viruses.
- Make backup copies of all files and write-protect the diskettes. A virus cannot infect a write-protected diskette.
- Obtain all software from reputable sources and always scan new software for any viruses before installing it.
- Be cautious about files you receive in e-mail or download from a network or the Internet. If you download a file, use your virus checking software to scan the directory on your computer that contains the downloaded file before you open the file.
- If you have doubts about the source of a Microsoft® Word or Excel file, disable the file macros before opening the file. Word and Excel are set by default to warn you if a document you are about to open contains a macro that might have a virus.



## To remove a virus:

- 1 If you suspect your system has been infected with a virus, find and remove the virus immediately using an antivirus program.
- 2 Turn off your computer and leave it off for at least 30 seconds.
- 3 Turn on the computer and rescan for the virus. If the virus is still on your computer, contact your system administrator.

# Checking system health with LANDesk

LANDesk® Client Manager is a desktop management interface (DMI) that lets you monitor the health of your system components. Through LANDesk, you can view software and hardware properties. You can also set LANDesk to notify you when system resources reach certain levels.

## To install LANDesk Client Manager:

- 1 In the C:\DMI folder on your hard drive, double-click the **Setup** icon to launch the InstallShield® wizard.
- 2 Follow the instructions that appear on the screen. If you are prompted for a password during the installation process, type **lowtco**.

LANDesk Client Manager comes with complete electronic documentation and online help. Refer to these documents and the program's Help for more information.

If you ever need to restore LANDesk from the System Restoration CD that came with your system, type **lowtco** if prompted for a password.

# Using hard drive maintenance utilities

By regularly using the following utilities, you can help maintain the performance of your hard drive:

- ScanDisk (Windows 95 and Windows 98)
- Check Disk (Windows NT)
- Disk Defragmenter (Windows 95 and Windows 98)

## Using ScanDisk in Windows 95 and Windows 98

*Bad sectors* are parts of a hard drive or diskette that do not hold data. ScanDisk checks the hard drive for bad sectors or *lost allocation units* and lets you fix them. A lost allocation unit is a group of sectors that has lost its place in the table that the operating system uses to locate files.

Use ScanDisk from once a week to once a month, depending on how often you use your system. Also use ScanDisk if you have any hard drive problems.



### To use ScanDisk:

- 1 Double-click the **My Computer** icon on the desktop. The My Computer window opens.
- 2 Click the drive you want to check.
- 3 Click **File** and then click **Properties**. The drive's properties window opens.
- 4 Click the **Tools** tab.
- 5 At **Error-checking status**, click **Check Now**. The ScanDisk window opens.
- 6 Select the options you want for checking the drive.  
  
If you want ScanDisk to check more than one drive, press and hold **SHIFT** and click on the additional drives in the list of drives to check.
- 7 Click **Start**. ScanDisk checks the drive for errors.
- 8 Follow any instructions on screen for completing the scan.

## Using Check Disk in Windows NT

Check Disk checks the hard drive for bad sectors or lost allocation units and lets you fix them. Bad sectors are parts of a hard drive or diskette that will not hold data. A lost allocation unit is a group of sectors that has lost its place in the table that the operating system uses to locate files.

Use Check Disk from once a week to once a month, depending on how often you use your system. Also use Check Disk if you have any hard drive problems.



### To use Check Disk:

- 1 Double-click the **My Computer** icon on the desktop. The My Computer window opens.
- 2 Click the drive you want to check.
- 3 Click **File** and then click **Properties**. The drive's properties window opens.
- 4 Click the **Tools** tab.
- 5 At **Error-checking**, click **Check Now**. The Check Disk window opens.
- 6 Select the options you want for checking the drive. Check **Scan for and attempt recovery of bad sectors** to scan the entire hard drive.
- 7 Click **Start**. Check Disk checks the drive for errors.
- 8 Follow any instructions on screen for completing the scan.

## Using Disk Defragmenter in Windows 95 and Windows 98

When working with files, Windows may divide the files into pieces and store the pieces at different places on the hard drive. This division of files, called *fragmentation*, is normal. However, to access a file, the hard drive must search for the pieces of the file and put the file back together, which can slow down your system.

Disk Defragmenter brings all the separate pieces back together. Defragment your computer frequently to improve system performance.

Log off network connections before starting Disk Defragmenter, or network communication may stop the defragmentation process and restart it at the beginning. Also, do not use your keyboard or mouse during the defragmentation process or the process may stop and restart at the beginning.

**Important**



A disk defragmentation utility does not ship with Windows NT, but you can purchase one. If you purchase a defragmentation program, make sure it can defragment the NT File System (NTFS).



**To use Disk Defragmenter:**

- 1** Double-click the **My Computer** icon on the desktop. The My Computer window opens.
- 2** Click the drive you want to check.
- 3** Click **File** and then click **Properties**. The drive's properties window opens.
- 4** Click the **Tools** tab.
- 5** At **Defragmentation status**, click **Defragment Now**. The defragmentation process begins. If your drive is very fragmented, It may take a half-hour or longer to defragment it, depending upon the size of the hard drive.

# Managing hard drive space

By deleting unneeded files from your hard drive and managing the space that is automatically allocated for saving certain files, you can help maintain the performance of the hard drive.

## Checking hard drive space

In Windows, you can see a chart of the available hard drive space.

### To check hard drive space:

- 1 Double-click on the **My Computer** icon on the desktop. The My Computer window opens.
- 2 Click the drive you want to check.
- 3 Click **File** and then click **Properties**. The drive's properties window opens. The **General** tab shows you the available and used space on the drive.

## Backing up files

Regularly backing up your files protects you from losing data and lets you keep fewer files on your hard drive. Back up old files to a large capacity disk drive or tape drive and delete the files from your hard drive. You can use the software that came with your tape backup drive or your large capacity disk drive to back up the files.

You can also back up files by running the Backup utility that came with your operating system. In Windows 95 and Windows 98, Backup copies files to diskettes or a tape drive. In Windows NT, Backup copies files to a tape drive.

### To run Backup in Windows 95 and Windows 98:

- 1 Click **Start**, select **Programs**, select **Accessories**, and then select **System Tools**.
- 2 Click **Backup**.
- 3 Follow the instructions on the screen.



## To run Backup in Windows NT:

- 1 Click **Start**, select **Programs**, and then select **Administrative Tools**.
- 2 Click **Backup**.
- 3 Follow the instructions on the screen.

## Deleting unneeded files

By deleting unneeded files from the hard drive, you free up space on the hard drive and help improve hard-drive performance. The following sections give you some simple ways to delete unneeded files.

### Deleting Windows temporary files

During normal operation, Windows constantly creates new temporary (temp) files. You can safely delete all but the most recent temp files.

## To delete temp files:

- 1 Open Explorer, click **Tools**, select **Find**, and then click **Files and Folders**.
- 2 At **Named**, type **\*.tmp**
- 3 In the **Look in** drop down list, select your drive letter.
- 4 Click **Find Now**. The list of temp files is generated.
- 5 Click **Modified** above the list. To see the **Modified** button, you may need to maximize the Find window.  
  
The list is sorted by date.
- 6 Highlight all the files in the list except those with today's date.
- 7 Press **DELETE**.

### Deleting temporary internet files

As you visit Web sites, your browser stores temporary internet files on your hard drive in a *memory cache* and a *disk cache*. Files in the memory cache are removed when you turn off your computer. Files are saved in the disk cache until the space designated for the cache is full. See your browser's Help files for instructions on emptying the disk cache.

You can save space on the hard drive by decreasing the size of the internet file disk cache. See your browser's Help files for instructions.

## Emptying the Recycle Bin

When you delete a file from your hard drive in Windows, it is not immediately removed from the hard drive. Instead, the file is moved into the Recycle Bin. Because files are stored in the Recycle Bin and not deleted from the hard drive immediately, you can retrieve a file that you accidentally delete from the hard drive.

To delete all the files from the Recycle Bin, right-click the **Recycle Bin** icon on the desktop and click **Empty Recycle Bin**.

You can save space on the hard drive by decreasing the size of the Recycle Bin.



### To decrease the size of the Recycle Bin:

- 1 Right-click the **Recycle Bin** icon on the desktop.
- 2 Click **Properties**. The Recycle Bin Properties window opens.
- 3 At the Global tab, select either **Configure drives independently** or **Use one setting for all drives**.
- 4 If you are configuring drives independently, click the tab for the drive you want to configure.
- 5 Move the slider to set the size of the Recycle Bin. 5% is a good initial setting.
- 6 Click **OK**.

# Power management

The power-management features supported by your system are described in the following sections.

## About soft-off

When you turn off your computer by following the Windows shutdown procedure or pressing the power button, a small amount of power (less than 5 watts) still runs to the wakeup circuitry on the system board. In this *soft-off* state, your computer can still respond to an incoming signal from the modem or to certain LAN commands.

To remove all power from your computer, turn off the computer and unplug the power cord. When you plug the power cord back in, the network connection LEDs may flash and the fan may start before you press the power button. This is normal.

## Using suspend in Windows 95

Suspend is a power-management feature that can reduce power by shutting down the hard drive and reducing or turning off power to the monitor. When the system is in Suspend, it appears to be off. The computer's power LED turns amber and the monitor goes dark, indicating that the system has entered Suspend. However, some wakeup events can bring the system out of Suspend.

When you resume from Suspend, the system returns to the state it was in without going through the normal startup routine.

### Adding a suspend option to the Start menu

If it's not already shown in the Start menu, you can add an option that puts your system into Suspend:



#### To add a Suspend option to the Start menu:

- 1 Click **Start**, select **Settings**, and click **Control Panel**. The Control Panel window opens.
- 2 Double-click **Power**. The Power Properties window opens.
- 3 On the Power tab, Click **Advanced**. The Advanced Properties window opens.

- 4 On the Advanced tab, check the option **Show suspend command on Start menu**.
- 5 Click **OK**.

After you have added the **Suspend** option to the **Start** menu, you can put your system into suspend from a normal working state by clicking **Start** and then clicking **Suspend**.

## Taking your system out of suspend

You can take your system out of suspend by pressing any key on the keyboard or by moving the mouse. (A PS/2 or USB keyboard or mouse can bring the system out of suspend.) The power LED turns green and your system returns to the state it was in before it entered suspend.

If your system is part of a Novell network, putting your system in suspend disconnects you from your network connection. Reestablish your network connection when you take your system out of suspend.



### To reestablish your network connection:

- 1 Click **Start** and then click **Shut Down**.
- 2 Select **Close all programs and log on as a different user**. Selecting this option bypasses the restart process and displays your network logon dialog box.
- 3 Type your password and click **OK**. Your logon script runs and your network connections are reestablished.

For more information about power management, see your Windows 95 Help or Windows documentation.

## Using standby in Windows 98

Windows 98 supports two standards of power management, Advanced Power Management (APM) and Advanced Configuration and Power Interface (ACPI).

The standby mode, available through both APM and ACPI, saves power by spinning down the hard drive, and by reducing or turning off power to the monitor. ACPI enables your system to save additional power in standby by controlling the power usage of individual devices, add-in boards, and hard drives.

When the system is in standby, it appears to be off. The computer's power LED turns amber and the monitor goes dark, indicating that the system has entered standby. However, some wakeup events can bring the system out of standby.

## Checking the type of power management on your system

ACPI is available only if Windows 98 was installed with ACPI enabled. If Windows 98 was not installed with ACPI enabled, APM power management is available.



### To check the type of power management on your system:

- 1 Click **Start**, select **Settings**, and click **Control Panel**. The Control Panel window opens.
- 2 Double-click **System**. The System Properties window opens.
- 3 Click the **Device Manager** tab and double-click **System devices**. The type of power management supported appears at the top of the list under **System devices**.

If you want to enable ACPI in Windows 98, see the Microsoft web site for instructions.

## Putting your system into standby

You can put your system into standby by clicking **Start**, clicking **Shutdown**, selecting **Stand by**, and clicking **OK**. This procedure puts your system into standby with both APM and ACPI.

If ACPI is enabled on your system, you can also set a timer or press the power button to put your system into standby.



### To set the standby timer:

- 1 Click **Start**, select **Settings**, and click **Control Panel**. The Control Panel window opens.
- 2 Double-click **Power Management**. The Power Management Properties window opens.
- 3 On the **Power Schemes** tab, set the timer. Your system enters standby when it has been inactive for the amount of time you set.



## To set the computer's power button to put the system into standby:

- 1 Click **Start**, select **Settings**, and click **Control Panel**. The Control Panel window opens.
- 2 Double-click **Power Management**. The Power Management Properties window opens.
- 3 Click the **Advanced** tab.
- 4 Under **When I press power button on my computer**, select **Standby**.
- 5 Click **OK**.

After you have set the power button to be a standby button, the button functions in this way:

State of system	Length of time you press button	Result
Normal working state	Less than 4 seconds	System enters standby
Normal working state	More than 4 seconds	Computer turns off
Standby	Less than 4 seconds	System returns to normal working state
Standby	More than 4 seconds	Computer turns off

### Selecting the type of standby

If ACPI is enabled on your system, you can select one of two standby types in the BIOS Setup utility. One type reduces the power consumption of the system to 20-30 watts. The other type reduces power consumption to 10-20 watts. The more power reduction, the slower your system exits standby and returns to a normal working state. The two standby types also respond differently to wakeup events, such as network, modem, and USB communication.

See the **Power** menu of the BIOS Setup utility for more information on the two stand-by types. See page 47 for more information about Setup.

### Taking your system out of standby

Do one of the following to take your system out of standby:

- Press any key on the keyboard. (A PS/2 or USB keyboard can bring the system out of standby.)
- If your system uses APM, move the mouse. (A PS/2 or USB mouse can bring the system out of standby.)

- If you have set the power button to be a stand-by button, press the power button for less than 4 seconds.

The power LED turns green, and your system returns to the state it was in before it entered standby.

If your system is part of a Novell network, putting your system in standby disconnects you from your network connection. Reestablish your network connection when you take your system out of standby.



### To reestablish your network connection:

- 1 Click **Start** and then click **Shut Down**.
- 2 Select **Close all programs and log on as a different user**. Selecting this option bypasses the restart process and displays your network logon dialog box.
- 3 Type your password and click **OK**. Your logon script runs and your network connections are reestablished.

See your Windows 98 Help or documentation for more information on using power management

# Cleaning Your System

## 8

### Cleaning the mouse

If the mouse pointer on the screen moves erratically when you move the mouse, the inside of the mouse may be dirty.



#### To clean the mouse:

- 1 Turn off the computer and then disconnect the mouse cable from the mouse port.
- 2 Turn your mouse upside down and remove the roller ball cover.
- 3 Cup your hand under the mouse and turn your mouse right-side up. The roller ball should drop into your hand. If it does not, gently shake the mouse until the ball drops out of the socket.
- 4 Use adhesive tape to pick up any dust or lint on the surface of the ball and wipe away dirt or lint inside the ball socket. You can also blow into the socket to remove dirt and lint. Use a cotton swab dipped in isopropyl alcohol to clean the rollers inside the socket.
- 5 Let surfaces dry completely.
- 6 Return the ball to the socket and replace the cover.



## Cleaning the keyboard

You should clean the keyboard occasionally to free it of dust and lint particles trapped under the keys. The easiest way to do this is to blow trapped dirt from under the keys using an aerosol can of air with a narrow, straw-like extension.

If you spill liquid on the keyboard, turn off the computer and disconnect it. Turn the keyboard upside down to let the liquid drain. Let the keyboard dry for a few days before trying to use it again. If the keyboard does not work after it is dry, you may need a new one.

## Cleaning the monitor screen

Use a soft cloth and window cleaner to clean the monitor screen. Squirt a little cleaner on the cloth (never directly on the screen), and wipe the screen with the cloth.

## Cleaning the computer and monitor cases

### Warning



When you clean the system, turn off the computer, monitor, and peripherals and unplug the power cord and modem cord (if installed). Be careful not to drip liquid into the computer, monitor, and peripherals when cleaning the system.

Always turn off the computer and other peripherals before cleaning any components.

Use a damp, lint-free cloth to clean the computer case, monitor case, keyboard, speakers, and other parts of your system. Avoid abrasive or solvent cleaners because they can damage the finish on your components.

Your computer is cooled by air drawn in through the vents on the chassis and blown out through the power supply exhaust fan. Keep vents on the front and back of the chassis free of dust. With the computer turned off and unplugged, brush the dust away from the vents with a slightly damp cloth. Be careful not to drip any water into the vents. Do not attempt to clean dust from the inside the computer.

# 9

# Troubleshooting

## Introduction

If your system does not operate correctly, re-read the instructions for the procedures you have performed. If an error occurs within an application, consult the documentation supplied with the software. This section identifies solutions to some possible problems.

# Troubleshooting checklist

Before turning on the system, make sure that:

- The power cord is connected to the AC power-in connector and an AC outlet.
- The AC outlet is supplying power.
- If a power strip is used, it is turned on, and the circuit breaker is set.
- The voltage selection switch on the system power supply reflects the proper voltage.

## Verifying your configuration

If your system is not operating correctly, the BIOS may contain an invalid configuration parameter. Enter the BIOS Setup utility program and check your configuration settings.

## Troubleshooting guidelines

As you troubleshoot your system, keep the following guidelines in mind:

- Never remove the chassis cover while the computer is turned on.
- Do not attempt to open the monitor; it is extremely dangerous. Even if the monitor's power is disconnected, stored energy within the monitor's components can offer a painful or harmful experience.
- If a peripheral, such as the keyboard, mouse, drive, or printer does not appear to work, verify that all connections are secure.
- If an error message displays on the screen, write it down, word for word. You may be asked about it when calling Technical Support.
- Only qualified personnel should open the system for maintenance.
- If you feel you are qualified to maintain the system yourself, make certain you are properly grounded before opening the system chassis. See Chapter 3, Case Access, for more information on preventing electrostatic damage to the system.

# CD-ROM problems

An audio CD produces no sound.

Probable Cause	Solution
The CD is loaded incorrectly.	Make certain the label is facing upward, and then try again.
The speakers are not connected.	Check the speaker cables. Make certain they are connected properly and securely.
The speaker volume is turned down.	Check the volume control.
The speakers may be muted via the Multimedia volume control.	From the <b>Accessories</b> menu ( <b>Start   Programs   Accessories</b> ), click <b>Multimedia</b> , and then click <b>Volume Control</b> . Make certain the volume is turned up.
The sound card may not be installed correctly.	Open the system, and then reseat the sound card. Make certain the cables are connected properly.
The CD-ROM drive audio cable may be installed incorrectly.	Open the system and make certain the cables are connected properly.
The speakers may be faulty.	Connect a set of headphones to the line out jack to test the output. If they work, replace the speakers.

## Important



Some systems do not have sound cards because sound capabilities are built into the system board.

The CD-ROM drive is not recognized by the system.

Probable Cause	Solution
The CD is not intended for PC use.	Make certain the CD is PC compatible.
The CD is loaded incorrectly.	Make certain the label is facing upward, and then try again.
The CD is scratched or dirty.	Try cleaning the CD with a lint-free cloth. Check the CD for scratches.

Probable Cause	Solution
The CD-ROM drive needs to be added as new hardware.	From the Control Panel window ( <b>Start   Settings   Control Panel</b> ), double-click <b>Add New Hardware</b> . Follow the directions for adding the drive. If you are not experienced with this procedure, call Technical Support.
The secondary IDE device may be disabled.	Restart your computer, and then press F1 to enter the Setup utility program. From the <b>Advanced   IDE Configuration</b> menu, set the <b>IDE Controller</b> to Both and the <b>Secondary IDE Master</b> to Auto.
The CD cables are not installed correctly.	Open the system and check all cables between the CD controller and the CD-ROM drive.
The CD-ROM drive may be defective.	Replace the CD-ROM drive.

# Hard disk problems

The SCSI drive is not recognized by the system.

Probable Cause	Solution
The SCSI bus is not properly terminated.	Make certain the last device on the SCSI chain is properly terminated.
The drive is configured with a conflicting SCSI address.	Change the device's SCSI address to one that is not currently being used by the system.
The cables are not connected correctly.	Open the system and check the cable connections.

The IDE drive is not recognized by the system.

Probable Cause	Solution
The primary IDE device may be configured incorrectly.	Restart your computer, and then press F1 to enter the Setup utility program. From the <b>Advanced   IDE Configuration</b> menu, set the <b>IDE Controller</b> to <b>Both</b> and the <b>Primary IDE Master</b> to <b>Auto</b> .
The drive may not be configured properly.	Consult the hard disk user's guide for instructions on how to configure the drive.
The drive cables are not connected properly.	Open the system and check all cables connected to the controller card.
The drive controller is not seated properly.	Open the system and reseal the drive controller.

## Important



Some systems do not have IDE controller cards because the IDE controller is built into the system board.

# Memory/Processor problems

Memory errors were detected during system start up.

Probable Cause	Solution
Memory was added or removed, and the new configuration was not saved in Setup utility.	Enter the BIOS Setup and save the new memory configuration.
The memory was installed incorrectly.	Check the memory for proper seating and orientation.
A memory chip is faulty.	Replace the card on which the faulty chip resides. Third-party diagnostic programs can help determine which chip or memory segment is failing.

A new processor is not recognized by the system.

Probable Cause	Solution
The processor was installed incorrectly.	Check the installation. The processor should be recognized automatically if it was installed correctly.
The processor speed was not set correctly in the Setup utility configuration mode.	If your system BIOS enables you to select the processor speed, make sure you have selected the speed properly.
The processor was not seated correctly in the socket.	Check to make sure the processor is fully seated in its socket.

# Modem problems

The modem is not recognized by the system.

<b>Probable Cause</b>	<b>Solution</b>
The modem has not been added as new hardware.	Add the modem as new hardware.
The modem is not connected to a live phone jack.	Make certain the line connected to the modem is live and plugged into the appropriate port on the modem (line port).
The modem is not configured with a valid interrupt or address.	Check the system settings for possible conflicts. If one exists, correct the problem by selecting an available interrupt and address.
The phone jack is shared by another modem or telephone.	If the modem shares the jack with another device, make certain the other device does not have the port open (for instance, someone is on the phone, or another modem is in use).



# Peripheral/Adapter problems

A SCSI device is not recognized by the system.

Probable Cause	Solution
The device needs to be added as new hardware.	From the Control Panel window ( <b>Start   Settings   Control Panel</b> ), double-click <b>Add New Hardware</b> . Follow the directions for adding the device. If you are not experienced with this procedure, call technical support.
The SCSI ID may be invalid.	Assign an available SCSI ID to the device.
The SCSI chain is not terminated.	Make certain the last device on the SCSI chain is terminated.
The device cables are not installed correctly.	Open the system and check all cables between the controller and the device.

The diskette drive is not recognized by the system.

Probable Cause	Solution
The diskette drive may be configured incorrectly.	Restart your computer, and then press F1 to enter the Setup utility program. From the <b>Boot   Removable Devices</b> menu, ensure that the diskette drive parameters are set correctly.
The drive cables are not connected properly.	Open the system and check all cables connected to the controller card.
The drive controller is not seated properly.	Open the system and reseat the drive controller.

## Important



Some systems do not have a floppy controller card because the floppy controller is built into the system board.

The diskette drive will not read, write, or format.

Probable Cause	Solution
The diskette is not IBM formatted.	Make certain the diskette you are trying to format is IBM-compatible. If it is, try reformatting it.

<b>Probable Cause</b>	<b>Solution</b>
The diskette is corrupted.	Run ScanDisk on the diskette. If errors are detected and corrected, try accessing the diskette again.
The disk is write protected.	Make certain the write-protection window on the upper-right corner of the diskette is closed (unprotected).

The diskette drive LED illuminates continuously.

<b>Probable Cause</b>	<b>Solution</b>
The diskette is corrupted.	Remove the diskette from the drive. If the light remains on, try restarting the system.
The cable to the drive is not connected properly.	Open the system and check the cable between the diskette drive and its controller. Make certain the pins are not bent or misaligned.

An adapter card is not recognized by the system.

<b>Probable Cause</b>	<b>Solution</b>
The interrupt and/or I/O address is set incorrectly.	Check the address configuration of the adapter card and ensure that it does not conflict with another card in the system.
The card has not been configured through the software.	Configure the card with the appropriate software.
The card was not installed correctly.	Reseat the card and make certain that its jumpers are configured appropriately.

# Printer problems

The printer will not turn on.

Probable Cause	Solution
The printer is not plugged in.	Check the power cable. Make certain it is plugged into a live power source.
The printer is not turned on.	Make certain the printer's power switch is depressed or set to the On position. If power is applied to the printer, the green power LED should be illuminated.
The printer is defective.	Try another printer, if one is available.

The printer is turned on but will not print.

Probable Cause	Solution
The printer is not connected to the system.	Check the data cable between the printer and the system. Make certain it is connected to the proper port. Check the connector and cable for bent or broken pins.
The printer is not designated as the default printer.	If the printer to which you are trying to print is not the default printer, make certain you have selected it through the application's printer setup function.
The printer has not been added to the system.	From the Printers window ( <b>Start   Settings   Printers</b> ), double-click <b>Add Printer</b> . Follow the directions for adding the new printer.

The printer prints garbled text.

Probable Cause	Solution
The wrong driver is being used for the selected printer.	From the Printers window ( <b>Start   Settings   Printers</b> ), select the printer. From the <b>File</b> menu, click <b>Properties</b> . Make certain the printer is using the right printer driver. If not, install the correct one.

# System problems

The system will not start up.

Probable Cause	Solution
The system is not connected to an AC outlet.	Check the power cable(s) and verify connection to an AC power source.
Voltage selection switch not set correctly.	Make certain the voltage selection switch is set to the correct power source.

The system is non-responsive.

Probable Cause	Solution
An error occurs during an application or your system may be out of memory.	Reboot your computer by pressing the reset button. If the system is still non-responsive, press and hold in the power button for 4 seconds to turn the system off. Turn the system back on and follow the onscreen instructions.

The keyboard does not work.

Probable Cause	Solution
A key was depressed while the system was starting up.	Clear the sticking key, then turn off the system, wait for a few seconds, then turn the system back on.
The keyboard is not plugged in or connected properly.	Check the cable. Make certain it is plugged in correctly.
Something spilled into the keyboard.	Turn off the system. Turn the keyboard upside down to let it dry before turning the system back on.
The keyboard is defective.	Try a keyboard you know is working.

The mouse does not work.

<b>Probable Cause</b>	<b>Solution</b>
The mouse is not plugged in or connected properly.	Check the cable. Make certain it is plugged in correctly.
The mouse driver did not load when the system booted.	Load the appropriate mouse driver manually or contact Technical Support.
The mouse is defective.	Try a mouse you know is working.

# Video problems

The system is running but there is no display.

Probable Cause	Solution
The monitor is not turned on.	Make certain the monitor is plugged in and turned on. If power is applied to the monitor, the green power LED should illuminate.
The monitor's data cable is not connected.	Make certain the monitor's data cable is connected to the video controller on the back of the system.
The connector or cable is damaged.	Check the connector and cable for bent or damaged pins.
The monitor is defective.	Connect a working monitor to the computer.
The monitor's brightness and contrast controls are turned down.	Adjust the brightness and contrast knobs to the center position.
The video card is not seated correctly.	Open the system and reseal the video card.
The video card is not compatible with the system.	PCI video cards must be compatible with the system.

## Important



Your system board may have a built-in video adapter, so there may not be a video adapter to remove and replace.

The text on the display is dim or difficult to read.

Probable Cause	Solution
The monitor's brightness and contrast controls are turned down.	Adjust the brightness and contrast knobs until the text becomes clear.
Sunlight is glaring off the display.	Position the monitor away from the sun or window.

Probable Cause	Solution
The CRT may be old.	Replace the monitor.

The color monitor displays everything in black and white.

Probable Cause	Solution
The system was turned on before the monitor.	Make certain the monitor is turned on, and then restart the system.
The display type is set incorrectly.	From the Control Panel window ( <b>Start   Settings   Control Panel</b> ), double-click <b>Display</b> , set the display to the appropriate monitor type, and then reboot the system.

The displayed characters are garbled.

Probable Cause	Solution
The video cable is damaged.	Check the cable and connectors for bent pins or broken wires.
The video card has failed.	Try another video card.
The display setup is incorrect.	From the Control Panel window ( <b>Start   Settings   Control Panel</b> ), double-click <b>Display</b> and check the settings. The correct video type should be selected, along with a supported resolution. Check your monitor and video controller documentation for details.

The video is distorted.

Probable Cause	Solution
The monitor's controls are not properly adjusted.	Adjust the monitor controls until the text becomes clear. (See your monitor documentation for more information.)
The connector or cable is damaged.	Check the connector and cable for bent or damaged pins.
The surge protector or UPS is damaged.	Disconnect the monitor power cable and connect it directly to the power source.

<b>Probable Cause</b>	<b>Solution</b>
The monitor is too close to a source of electrical interference.	Move the monitor away from sources of electrical interference, such as televisions, unshielded speakers, microwave ovens, fluorescent lights, and metal beams or shelves.
The monitor needs to be degaussed.	Turn off the computer and monitor and leave them off for at least a half hour, and then restart the system.



# Error messages

This section lists common error messages that may be displayed on your monitor. These messages often indicate procedural errors such as an incorrect keystroke or a write-protected diskette. Some messages, however, may indicate a problem that requires you to consult the troubleshooting section of this manual.

Error Message	Solutions
Access denied.	Try saving to a new file or diskette. Move the write-protection tab over the hole on the back of the diskette.
Bad command or file name.	Make certain you entered the right command. Verify the specified drive and try it again. If you are trying to exit MS-DOS to return to Windows, type <b>exit</b> and press <b>ENTER</b> .
Base memory [xxx] expansion.	This is an informational message only. No action is required.
Checking RAM on disk controller.	Your BIOS configuration is incorrect. Enter Setup utility and verify the parameter values.
CD-ROM is not recognized.	See "The CD-ROM drive is not recognized by the system." on page 73.
Data error.	Run ScanDisk on the reported disk.
Decreasing available memory.	Your BIOS configuration is incorrect. Enter Setup utility and verify the parameter values.
Diskette drive is not recognized.	See "The diskette drive is not recognized by the system." on page 78.
Diskette drive 0 seek to track 0 failed.	Enter Setup utility and verify the diskette drive parameters. Check the diskette drive cables. Make certain Pin 1 on the cable aligns with Pin 1 on the connector.
Diskette drive reset failed.	Enter BIOS Setup utility and verify the diskette drive parameters. Check the diskette drive cables. Make certain Pin 1 on the cable aligns with Pin 1 on the connector.

Error Message	Solutions
Diskette read failed - strike F1 to retry boot.	Make certain the boot disk contains the Command.com file. Use the configuration utility (if applicable) to verify your drive or controller configuration. Press F1 to try to restart the computer.
Gate A20 failure.	You may have an XT keyboard connected to an AT system or vice versa. Make certain the keyboard is configured to work with the appropriate system. Some keyboards have a switch to select either AT or XT.
Hard disk controller failure.	Make certain the hard disk cable is properly connected. Open the Setup utility program and verify that the correct drive type is selected.
Hard disk controller failure - press F1 to try reboot.	The drive controller may be defective. Press F1 to try to restart the computer. Try running Fdisk and DOS Format. For more information, refer to your DOS documentation.
Insert bootable media device.	See "The IDE drive is not recognized by the system." on page 75. See "The SCSI drive is not recognized by the system." on page 75. Backup your files as soon as possible.
Insufficient disk space.	Check the free space on the disk volume. If the volume is full or almost full, remove unnecessary files.
Invalid configuration information...	Enter the BIOS Setup utility and verify the parameter values.
Invalid password.	Enter your password again, making certain to enter it correctly. If you do not know the password, you may need to reinstall the software you are trying to access. Startup passwords are stored in BIOS. If this password has been set and is unknown, you may be able to reset the password via system board jumper settings.

<b>Error Message</b>	<b>Solutions</b>
Keyboard clock line failure.	Try a working keyboard. Make certain the keyboard is compatible with the system. You may have to change the switch setting to AT.
Keyboard controller failure.	Try a working keyboard. Make certain the keyboard is compatible with the system. You may have to change the switch setting to AT.
Keyboard controller failure.	Try a working keyboard. Make certain the keyboard is compatible with the system. You may have to change the switch setting to AT.
Keyboard not detected.	See "The keyboard does not work." on page 81. Turn off the system and check the keyboard cable.
Keyboard stuck key failure.	Remove any objects that may be resting on the keyboard, and then restart the system. Check for sticky keys. Clean the keyboard if necessary.
Memory errors were detected while the system powered up.	See "Memory errors were detected during system start up." on page 76.
Memory size error.	Enter the BIOS Setup utility and save the memory configuration.
Non-system disk or disk error.	Eject the diskette and press <code>ENTER</code> . If the diskette is bootable, check it for errors.
Not enough memory.	Close all programs that are not currently in use.
Print queue is full.	Wait until the current print job has completed before sending another print job. If you receive this error often, you need to add memory to the printer.
Printer is out of paper.	Add paper to the printer. Make certain the printer is online.
Required parameter missing.	Make certain you entered the right command. If you are trying to exit MS-DOS to return to Windows, type <code>exit</code> and press <code>ENTER</code> .

<b>Error Message</b>	<b>Solutions</b>
Syntax error.	Make certain you entered the right command. If you are trying to exit MS-DOS to return to Windows, type <b>exit</b> and press <code>ENTER</code> .
Time and date not set.	Enter the BIOS Setup utility to set the system's date and time.
Write protect error.	Move the write-protection tab over the hole on the back of the diskette.



# Appendix

# A

## System specifications

The following specifications are for the standard configuration; your system may contain optional equipment. All specifications are subject to change.

Case size (without the optional minitower base)	Width: 15" Depth: 17.5" Height: 4.7"
Processor	Intel® Celeron™ processor with plastic pin grid array (PPGA) packaging
Cache	128K on processor
RAM	Two sockets on the system board support 3.3 volt 4-clock SDRAM DIMMs. Maximum memory is 512 MB.
BIOS	Flash BIOS for easy updates from diskette.
IDE interfaces	Supports up to two ATAPI/IDE devices (hard drives or CD-ROMs) using two onboard PCI IDE controllers.
Diskette drive interface	A diskette drive controller is integrated on the system board.

I/O ports	One parallel port, one serial port, two USB ports, one PS/2 keyboard port, one PS/2 mouse port, one video port, one microphone in jack, one audio line out jack, one RJ-45 network jack
Expansion slots	Three PCI slots on riser card
Drive Bays	One 5.25-inch drive bay (occupied by CD-ROM drive), and four 3.5-inch drive bays (one occupied by diskette drive)
Temperature, operating	10° to 35° Celsius or 50° to 95° Fahrenheit.
Humidity, operating	20% to 80%
Altitude	-200 feet to 10,000 feet
Voltage, AC input	90 to 135 VAC, 180 to 265 VAC
Frequency	47 to 63 Hz
Certification	FCC Class B, ETL Listed to UL 1950, CAN/CSA STD C22.2 No. 950, CE Mark, VCCI Class B, Energy Star Complaint

# Regulatory compliance statements



**American Users:** This device has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio or television reception. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause interference to radio and television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna
- Increase the separation between the equipment and receiver
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected
- Consult the dealer or an experienced radio/TV technician for help.

**Accessories:** This equipment has been tested and found to comply with the limits of a Class B digital device. The accessories associated with this equipment are as follows:

- Shielded video cable
- Shielded power cord

These accessories are required to be used in order to ensure compliance with FCC rules.

## Caution



The Federal Communications Commission warns the users that changes or modifications to the unit not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.



**Canadian Users:** This digital apparatus does not exceed the Class B limits for radio noise emissions from digital apparatus as set out in the radio interference regulations of Industry Canada.

Le présent appareil numérique n'émet pas de bruits radioélectriques dépassant les limites applicables aux appareils numériques de Classe B prescrites dans le règlement sur le brouillage radioélectrique édicté par Industrie Canada.





**European Users:** This Information Technology Equipment has been tested and found to comply with the following European directives:

[i] EMC Directive 89/336/EEC amending directive 92/31/EEC & 93/68/EEC as per

- EN 50081-1:1992 according to  
EN 55022:1995 Class B  
EN 61000-3-2:1995 or EN 60555-2:1986  
EN 61000-3-3: 1995
- EN50082-1:1992 according to  
EN 61000-4-2:1995 or IEC 801-2:1984  
ENV 50140:1994 or IEC 801-3:1984  
EN 61000-4-4:1988 or IEC 801-4:1999

[ii] Low Voltage Directive (Safety) 73/23/EEC as per EN 60950: 1992



**Japanese Users:** This equipment is in the Class 2 category (Information Technology Equipment to be used in a residential area or an adjacent area thereto) and conforms to the standards set by the Voluntary Control Council for Interference by Information Technology Equipment aimed at preventing radio interference in such residential area.

When used near a radio or TV receiver, it may become the cause of radio interference. Read instructions for correct handling.

電波障害について

この装置は、情報処理装置等電波障害自主規制協議会（VCCI）の基準に基づく第二種情報技術装置です。この装置は、家庭環境で使用することを目的としていますが、この装置をラジオやテレビジョン受信器に近接してご使用になると、受信障害を引き起こすことがあります。

取扱説明書に従って正しい取り扱いをしてください。



N-93

**Australian and New Zealand Users:** This device has been tested and found to comply with the limits for a Class B digital device, pursuant to the Australian/New Zealand standard AS/NZS 3548 set out by the Spectrum Management Agency.

**Caution**



Disconnect power before servicing.

**Attention**



Couper le courant avant l'entretien.

# Index

## Numerics

- 3.5-inch device
  - installing additional 25

## A

- adapter cards
  - troubleshooting 79
- adding expansion cards 41
- additional information, getting ix
- Advanced menu, Setup utility 48
- audio jacks 3

## B

- battery
  - replacing 43
  - troubleshooting 44
- BIOS
  - updating 49
- Boot menu, Setup utility 48
- buttons
  - using power button as standby button 67

## C

- cabling
  - drive 23
- case
  - cleaning 70
- case, closing 19
- case, opening 17
- CD
  - system restoration 45
- CD-ROM
  - problems 73
- CD-ROM drive 2
  - installing 25
  - replacing 23
- chassis cover, removing 17
- chassis cover, replacing 19
- cleaning

- computer case 70
- monitor case 70
- monitor screen 70
- mouse 70
- system 69

- closing the case 19
- compliance, regulatory 93
- connectors, location of 5
- converting to vertical 4

## D

- DIMMs
  - installing 39
  - removing 40
- diskette drive
  - cabling 23
  - installing a 5.25-inch 25
  - replacing the 3.5-inch 23
  - troubleshooting 78, 79

## E

- error messages 86
- Exit menu, Setup utility 48
- expansion card
  - adding 41
- expansion cards
  - troubleshooting 79

## F

- FAQ (frequently asked questions),
  - accessing ix
- front bezel, removing 18
- front bezel, replacing 19
- front panel 2
  - features 2

## G

- guidelines
  - troubleshooting 72

## H

- hard disk
  - LED (light-emitting diode) 2
  - replacing 26
  - troubleshooting 75
- hard drive
  - adding additional 27
  - installing 26
  - replacing 26
- hardware management
  - Heceta IV 8
- heat sink
  - removing 35
  - replacing 37

## I

- IDE drive
  - cabling 23
- installing
  - 3.5-inch diskette drive 23
  - 5.25-inch drive 25
  - additional hard drive 27
  - CD-ROM drive 23, 25
  - hard disk 26
  - LANDesk Client Manager 57
- installing additional 3.5-inch device 25
- installing DIMMs 39
- installing memory 39

## J

- jumpers
  - BIOS recovery 51
  - clearing passwords 51
  - setting 51

## K

- keyboard
  - cleaning 70
  - port 3
- keyboard, troubleshooting 81

## L

- LANDesk Client Manager

- installing 57
- restoring 57
- line-in jack 3
- line-out jack 3

## M

- Main menu, Setup utility 48
- managing power 64
- manual conventions vii
- Memory
  - supported 38
- memory
  - installing 39
  - removing 40
  - troubleshooting 76
- minitower, converting to 4
- modem, troubleshooting 77
- monitor
  - adjusting 11
- monitor, cleaning 70
- mouse
  - cleaning 70
  - port 3
- mouse, troubleshooting 82

## O

- opening the case 17
- operating system
  - setup 11

## P

- panel, front 2
- panel, rear 3
- parallel port 3
- peripheral devices, troubleshooting 78
- ports, location of 3
- POST (power-on self-test)
  - explained 11
- power
  - button 10
  - connector 3
  - LED (light-emitting diode) 2, 10
- power management

- checking type of 66
- features 64
- Power menu, Setup utility 48
- power source problems 53
- power surges, effect on system 53
- printer, troubleshooting 80
- processor
  - locating pin 1 37
  - replacing 35
  - troubleshooting 76
- protecting system
  - against power source problems 53
  - against viruses 56

## R

- rear panel 3
- recovery mode 51
- regulatory compliance 93
- reinstalling the system board 34
- removal of chassis cover 17
- removal of front bezel 18
- removing
  - heat sink 35
- removing DIMMs 40
- removing memory 40
- removing the system board 31
- replacing
  - 3.5-inch diskette drive 23
  - CD-ROM drive 23
  - hard disk 26
  - hard drive 26
  - heat sink 37
  - processor 35
- replacing the battery 43
- replacing the chassis cover 19
- replacing the front bezel 19
- resetting the system
  - Windows 95/98 14
  - Windows NT 14
- restoring LANdesk Client Manager 57
- restoring your system 45
- Riser card
  - back view 6

- Front view 6

## S

- safety
  - guidelines viii
- SCSI device, troubleshooting 78
- Security menu, Setup utility 48
- serial port 3
- setting up the operating system 11
- Setup utility
  - menus 48
  - navigating through 48
- shut-down procedures 13
- soft-off, using 64
- specifications
  - system 91
- standby
  - entering 66
  - exiting 67
  - selecting type 67
  - using power button as standby
    - button 67
- starting the system 10
- start-up, system 10
- surge suppressors 53
- suspend
  - entering 64
- System
  - specifications 91
- system
  - cleaning 69
  - error messages 86
  - troubleshooting 81
  - turning off 13
- system board
  - component locations 5
  - reinstalling 34
  - removing 31
- system reset
  - Windows 95/98 14
  - Windows NT 14
- system restoration CD 45
- system shut down

- Windows 95 13
- Windows NT/98 13
- system specifications 91
- system start-up 10
- system troubleshooting 72

## T

- troubleshooting
  - adapters 78
  - battery 44
  - CD-ROM 73
  - checklist 72
  - error messages 86
  - guidelines 72
  - hard disk 75
  - memory 76
  - modem 77
  - peripherals 78
  - printer 80
  - processor 76
  - system 81
  - video 83
- turning off the system
  - Windows 95 13
  - Windows NT/98 13

## U

- updating the BIOS 49
- UPS (uninterruptible power supply) 54
- USB (universal serial bus) ports 3

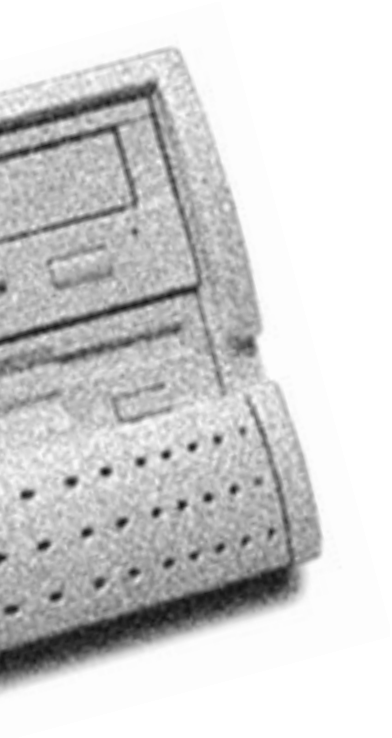
## V

- vertical desktop feature 4
- video port 3
- video, troubleshooting 83
- viruses, protecting against 56
- voltage selector 3

## W

- wakeup circuitry 64
- Windows 95
  - setup 11
  - shut-down procedures 13

- Windows 98
  - setup 11
  - shut-down procedures 13
- Windows NT
  - setup 11
  - shut-down procedures 13



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