Gateway

**E-1400
Small Form Factor
Desktop System Manual**

E-1400
Small Form Factor
Desktop System Manual

Notices

Trademark Acknowledgments

AnyKey, black-and-white spot design, CrystalScan, Destination, EZ Pad, EZ Point, Field Mouse, Solo, TelePath, Vivitron, stylized "G" design, and "You've got a friend in the business" slogan are registered trademarks and GATEWAY, Gateway Profile, Gateway Solo, green stylized GATEWAY, green stylized Gateway logo, and the black-and-white spotted box logo are trademarks of Gateway 2000, Inc. Intel, Intel Inside logo, and Pentium are registered trademarks and MMX is a trademark of Intel Corporation. Microsoft, MS, MS-DOS, and Windows are trademarks or registered trademarks of Microsoft Corporation. All other product names mentioned herein are used for identification purposes only, and may be the trademarks or registered trademarks of their respective companies.

Trademark Acknowledgments

ALR is a registered trademark of Advanced Logic Research, Inc. All other product names mentioned herein are used for identification purposes only, and may be the trademarks or registered trademarks of their respective companies.

Contents

Preface

Conventions used in this manual

Throughout this manual, you will see the following conventions:

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

Getting additional information

Log on to the Gateway Support Center at 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 informatio
- Technical documents and component information
- Frequently asked questions (FAQ)
- Documentation for peripherals or optional components
- Online access to technical support

System Features

Standard features

The following features are standard in your computer:

- 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 integrated L2 cache.

- Integrated Heceta IV Hardware Management Application Specifi Integrated Circuit (ASIC).

- Intel 810 chipset.

- One 3.5-inch diskette drive, one CD-ROM drive, and one hard drive.

- Keyboard port, mouse port, serial port, parallel port, VGA (video graphics array) port, audio line-in and line-out jacks, and two Universal Serial Bus (USB) ports.

- 10/100 megabits per second Ethernet network support.

Front panel

Diskette drive   Diskette eject button   CD-ROM eject button   Power button   Power LED

CD-RO drive   CD-ROM and hard drive activity LED   Reset button
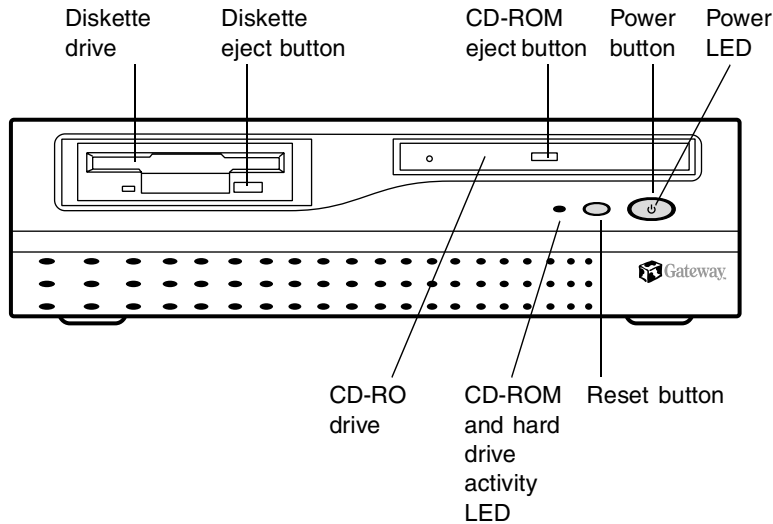
CD-ROM drive accepts data or audio CDs.

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

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

Diskette eject button ejects diskettes from the diskette drive.

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 reduced-power mode.

Reset button restarts a computer that is non-responsive. If you press the reset button and the computer still does not respond, press the power button for more than 4 seconds to turn off the computer.

Rear panel

Power connector · Keyboard port · Mouse port · Kensington lock slot · Parallel (printer) port

Voltage selector switch · Line in · Line out · USB ports · RJ-45 LAN connector · Serial port · Video port
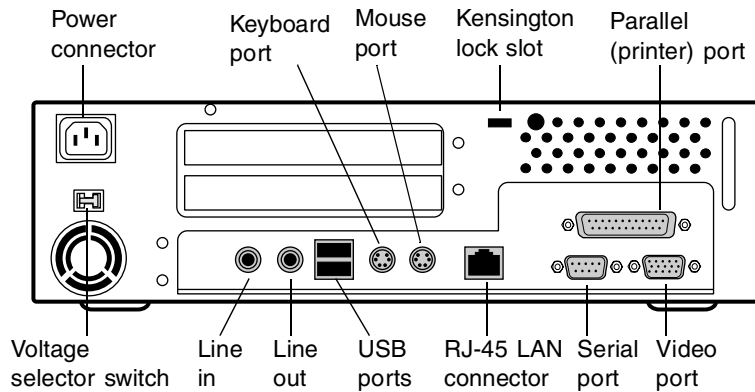
Line-in and line-out audio jacks connect audio devices such as speakers and a microphone.

Kensington lock slot lets you secure your computer with a Kensington lock.

Keyboard port connects a Personal System/2® (PS/2) compatible keyboard.

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.

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 switch sets the voltage for your area, either 115 V or 230 V.

Video port connects the monitor's interface cable.

Inside the computer
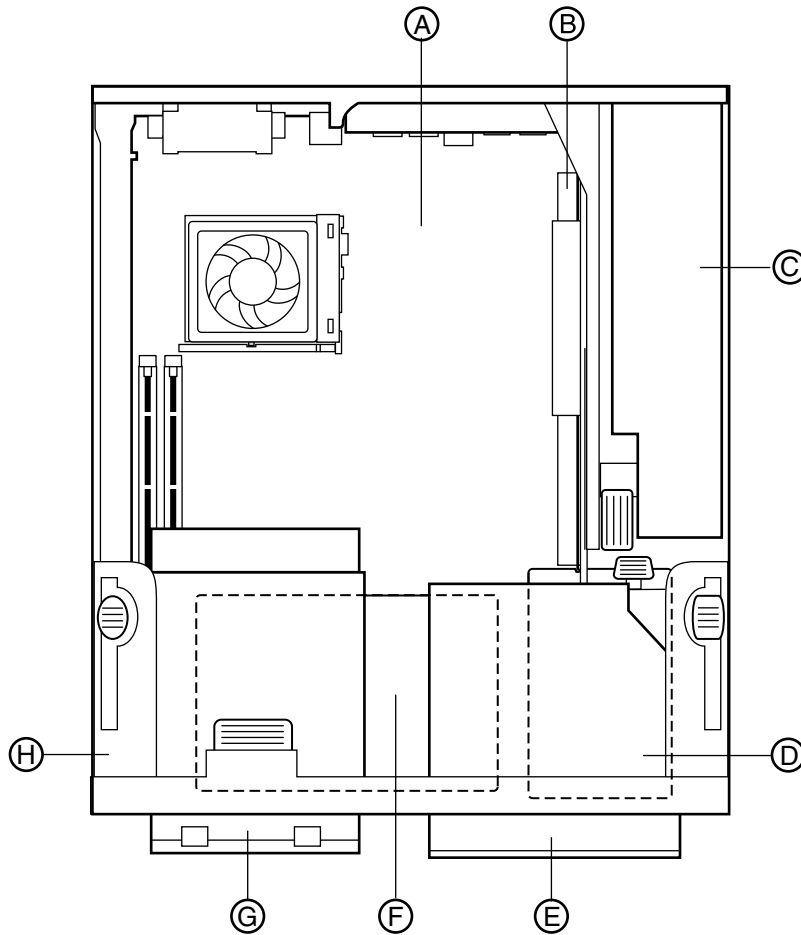
A System board
B Riser card
C Power supply
D Connector board
E CD-ROM drive
F Hard drive
G Diskette drive
H Drive tray assembly

System board
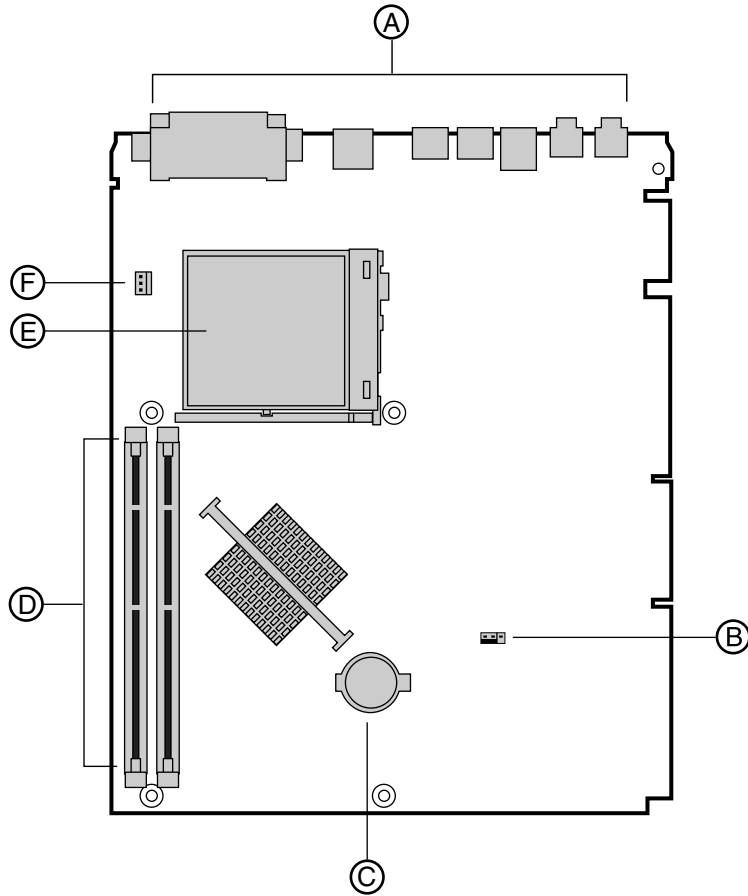
A I/O (input/output) connectors

B Configuration jumper (J6C1)

C Battery

D DIMM slots

E Processor

F Processor fan connector

Riser card

The riser card includes a chassis intrusion switch to alert you if the computer cover is removed. It also includes two Peripheral Component Interconnect (PCI) slots used for connecting add-on cards.

Front of riser card
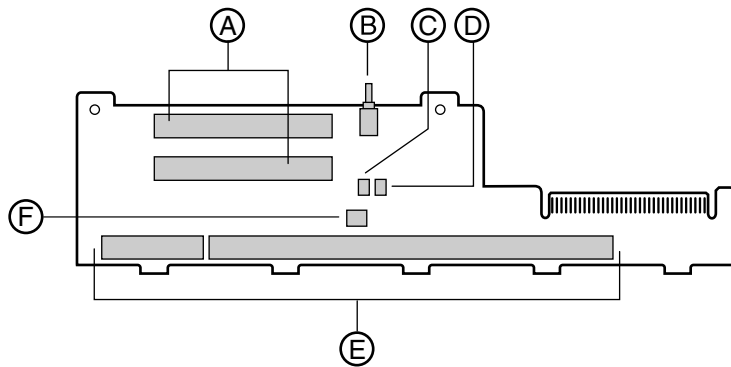
A PCI slots (2)

B Chassis intrusion switch

C Ring in connector

D Hard drive LED connector

E System board connector

F System fan connector

Back of riser card
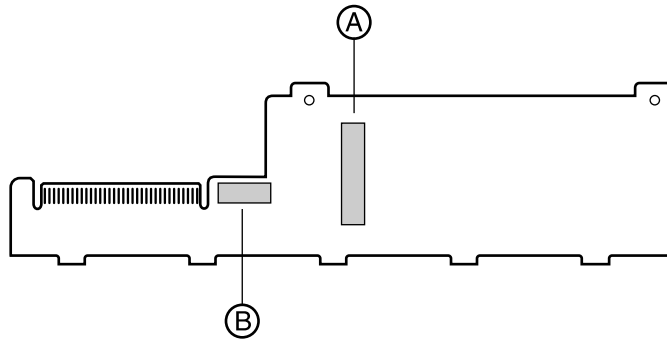
A   Power supply connector

B   Electronic lock connector

Connector board

The connector board is mounted underneath the drive tray assembly by two screws.
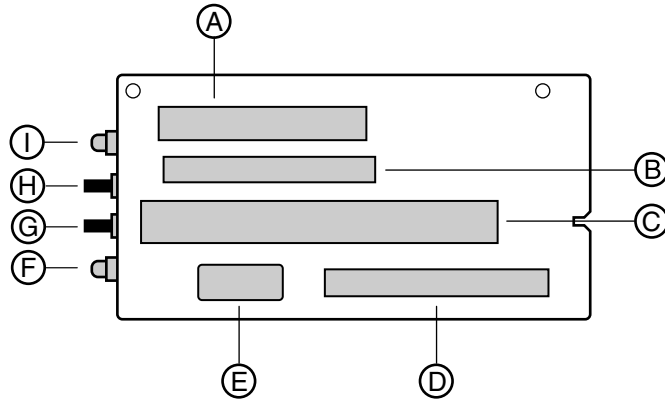
A   Diskette drive controller

B   CD-ROM drive controller

C   Riser card slot

D   Hard drive controller

E   Power connector for hard drive and diskette drive

F   IDE drive (hard drive and CD-ROM drive) activity LED

G   Reset switch

H   Power switch

I   Power LED

Desktop to tower conversion

You can convert your computer from a desktop to a tower configuration. Use the plastic base included with your system to support your computer as tower.

▐▐▐▶ **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 Place the plastic base where you plan to keep your computer.

    3 Turn your computer on its side with the front of the computer toward you.

    4 Place the computer into the plastic base, making sure the tab on the base fits into the groove on the bezel.

Groove

Tab
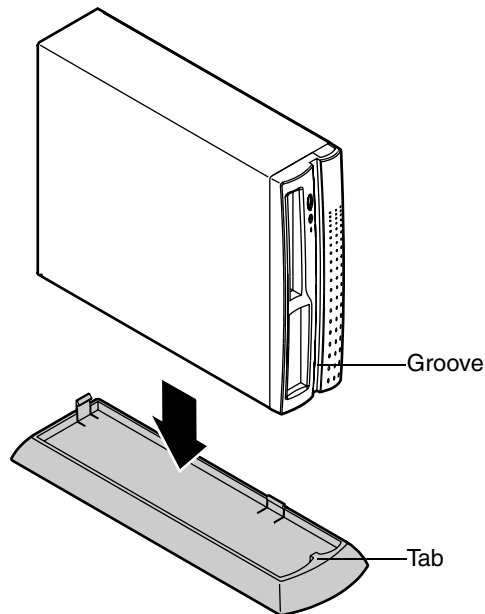
    5 Reconnect the power cord and cables you disconnected.

Opening and Closing the Case

2

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.

1 Wear a grounding wrist strap (available at most electronics stores).

2 Turn off the computer power.

3 Touch a bare metal surface on the back of the case to discharge any static electricity.

4 Unplug all power cords from AC outlets.

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 | To avoid exposure to dangerous electrical voltages and moving parts, turn off your computer and unplug the power cord and modem cord before removing the computer cover. |

Opening the case

The components inside your computer are extremely sensitive to static electricity. Each time you open the case, be sure to follow the precautions for avoiding static electricity damage at the beginning of this chapter.

| Important | Only qualified personnel should open the computer for maintenance or troubleshooting. |

To remove the computer cover:

1 Turn off the computer, disconnect the power cord, and disconnect the modem cord, if your computer has a modem.

2 If your computer includes an optional thumbscrew or lock on the back of the case, remove it.

| Warning | To avoid dangerous electrical voltages and moving parts, turn off your computer and unplug the power cord and modem cord before removing the computer cover. |

3 Locate the two release buttons on each side of the front bezel. Press and hold in both buttons and slide the cover forward approximately 11/2 inches.

Optional lock or thumbscrew

Release button

Bezel

Release button
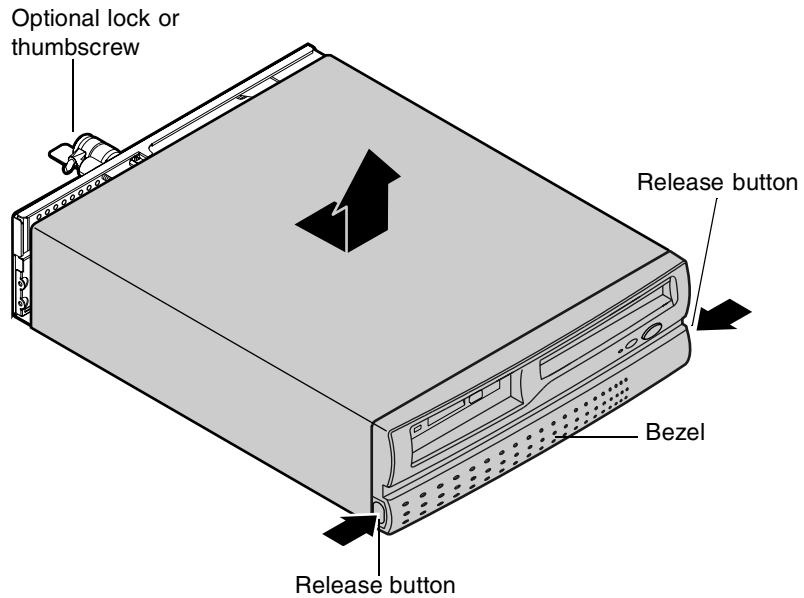
4 Lift the cover up and off the chassis.

Closing the case

Replace the cover as soon as you finish installing or removing components so that dust and dirt do not collect inside the computer.

�▶ **To replace the computer cover:**

1 Place the cover over the chassis, approximatel y 11/2 inches from the rear of the chassis.

2 Slide the cover towards the rear of the chassis until the side latches o the front bezel lock into place.

3 If a thumbscrew or lock is included with your computer, replace it.

4 Reconnect all cords you disconnected.
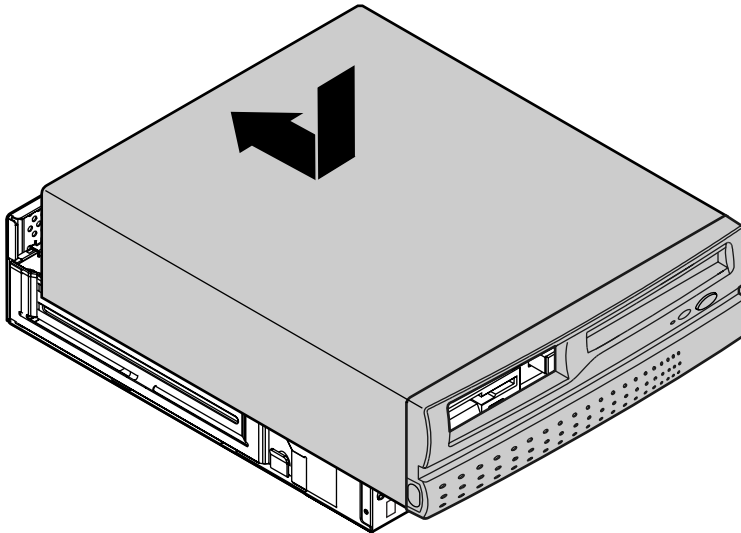
Replacing Drives

<div style="text-align: right">

3

</div>

About replacing drives

Your computer comes with these drives:

- A half-height 3.5-inch diskette drive
- A half-height 3.5-inch IDE hard drive
- An IDE CD-ROM drive

When you replace drives, keep the following in mind:

- To remove and install a diskette drive, you need 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 jumpers, and attaching cables.
- If you are installing a drive that uses an add-in controller, install the add-in card before you install the drive.
- You may need to configure the drives you install using the BIOS Setup utility. Press F1 at start up to open the BIOS Setup utility.

Replacing the diskette drive

The 3.5-inch diskette drive is attached to a drive cage with two screws. The drive cage is secured to the chassis by a tab. You do not have to remove any screws to take the drive cage out of the chassis.

▐▐▐▶ **To replace the diskette drive:**

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 12, observing the static electricity precautions on page 11.

3 Disconnect the power and data cables from the back of the diskette drive, noting the location and orientation of the cables. (You will reconnect the cables after you install the new drive.)

4 Press down and hold the locking tab on the drive cage. Then pull the drive cage towards the rear of the chassis and lift it out of the chassis.

Diskette driv   Locking tab
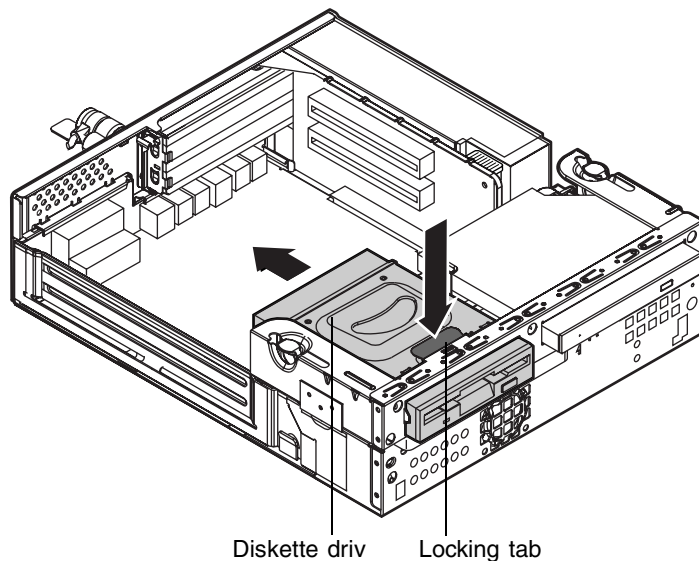
5 Remove the old drive from the drive cage:

    a Using a Phillips screwdriver, unscrew the drive from the drive cage.

    b Lift the edge of the drive and remove the drive from the drive cage. Make sure the drive clears the pins on the side of the drive cage.
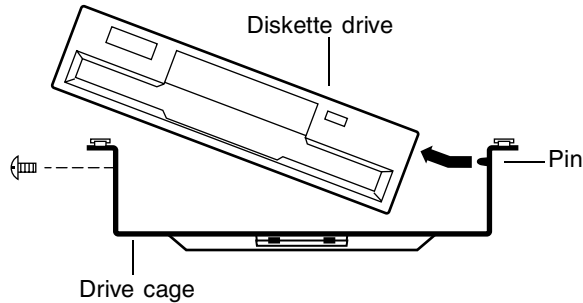
6 Place the new drive into the drive cage:

    a Place the new drive into the drive cage. Make sure the pins on the drive cage fit into the holes on the drive.

    b Using the screws you removed earlier, attach the drive to the drive cage.

7 Slide the drive cage into the drive bay until the locking tab snaps into place.

8 Connect the power and data cables, making sure the cables match the original position.

9 Close the case. (See "Closing the case" on pag e14 for instructions.)

10 Reconnect the cords you removed, then turn on the computer.

Replacing the CD-ROM drive

The CD-ROM drive is secured to the drive bay by a tab. The tab lets you to easily detach the drive from the drive bay without removing any screws.

Warning ⚠	The laser beam used in this CD-ROM drive can be harmful to the eyes. Do not attempt to disassemble the CD-RO drive.

▥▶ To replace the CD-ROM drive:

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 12, observing the static electricity precautions on page 11.

3 Disconnect the cable from the back of the drive, noting its location and orientation. (You will reconnect this cable after you install the new drive.)

4 Press and hold the CD-ROM drive locking tab. Then pull the drive out the front of the chassis.

CD-ROM drive locking tab

CD-ROM drive
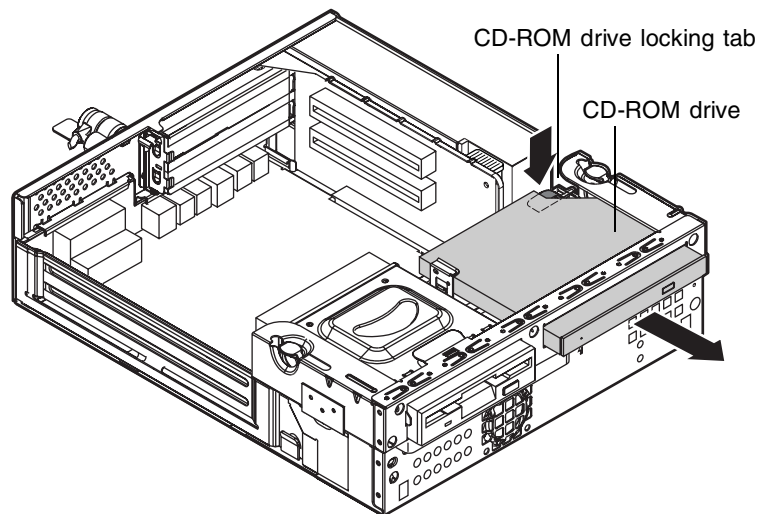
5 Slide the new drive all the way into the bay until the locking tab snaps into place.

6 Reconnect the drive cable, making sure the cable matches the original position. (See the drive documentation for proper drive jumper settings and cable orientation.)

7 Close the case. (See "Closing the case" on pag e14 for instructions.)

8 Reconnect the cords you removed, then turn on the computer.

Replacing the hard drive

The hard drive is secured to a drive bay located underneath the drive tray assembly.

▦▶ To replace the hard drive:

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 12, observing the static electricity precautions on page 11.

3 Remove the drive tray assembly:

    a Pull the drive tray assembly tabs up and toward the front of the chassis. Make sure the tabs are all the way forward. When the tabs are all the way forward, the drive tray assembly is unlocked fro the chassis.

Drive tray assembly tab

Drive tray assembly tab

Drive tray assembly
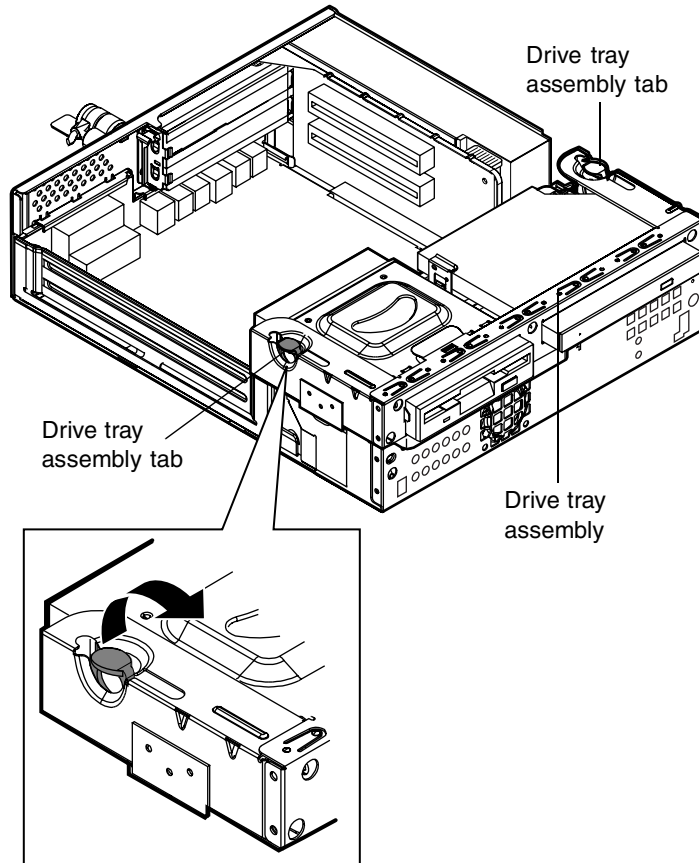
b Tilt the drive tray slightly forward while lifting it up and off the chassis.

4 Remove the hard drive from the drive tray assembly:

    a Turn the drive tray over and locate the hard drive.

    b Pull the ring on the drive bay down and out. The locking tabs are released.

Pin

Pin

Locking tab

Ring

Locking tab
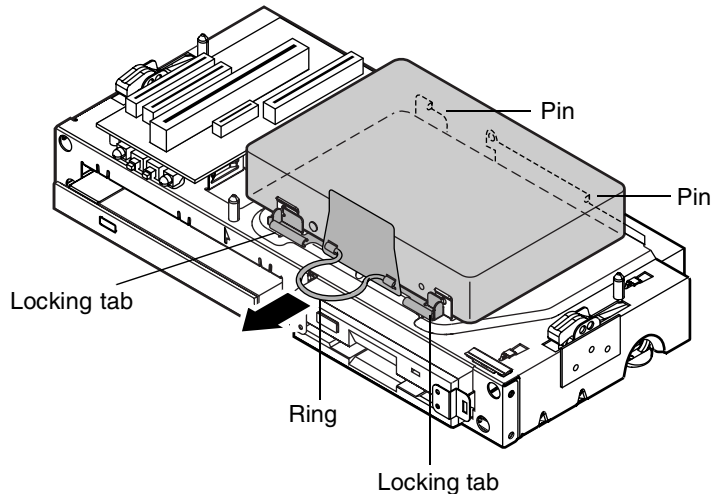
    c While holding the ring out, lift the drive out of the bay. Make sure that the drive clears the two pins on the bay that hold the drive in place. Be careful not to put pressure on the cables attached to the drive.

    d Disconnect the data and power cables from the back of the drive, noting the location and orientation.

5 Place the new drive into the drive bay:

    a Hold the new drive above the bay and connect the data and power cables. Make sure the cables match the original positions. (See the drive documentation for proper drive jumper settings and cable orientation.)

    b Pull the ring on the drive bay down and out and hold it.

    c Place the drive into the bay, making sure to align the drive correctly with all pins on the tray. When the drive is in place, release the ring.

6 Replace the drive tray assembly:

    a Turn over the drive tray assembly so the hard drive is on the bottom.

    b Make sure the drive tray assembly tabs are pulled all the way forward.

    c Align the pins at the front of the tray with the holes on the chassis. Then set the drive tray onto the chassis.
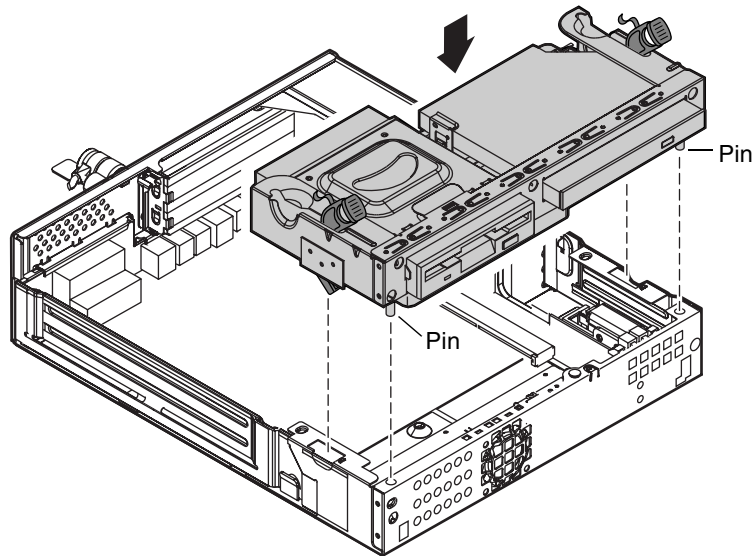
    d Push the drive tray assembly tabs all the way toward the back of the chassis. The drive tray is locked in place.

7 Close the case. (See "Closing the case" on pag e14 for instructions.) for instructions.)

8 Reconnect the cords you removed, then turn on the computer.

Replacing and Adding Other Components

4

Installing memory

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

- Maximum system memory of 512 MB

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.

If your processor has a 66-MHz front side bus (FSB), you can use 66-MHz or 100-MHz SDRAM. If your processor has a 100-MHz FSB, you should use only 100-MHz SDRAM.

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, and disconnect the modem cord, if your computer has a modem.

2 Open the case by following the instructions on page 12, observing the static electricity precautions on page 11.
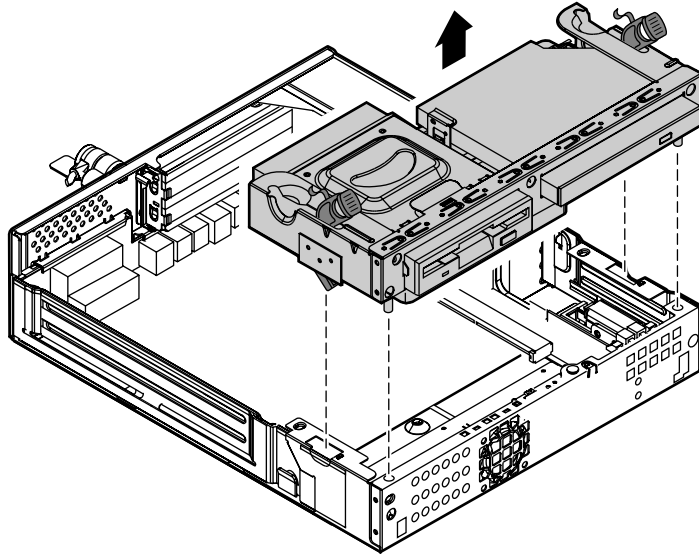
3 Remove the drive tray assembly so that you can access the DIMM sockets. (See page 20 for instructions on removing the tray.)

4 Pull open the socket clamps on each side of the DIMM socket and lift the DIMM out of the socket.

Caution ⚠	Never try to remove a DIMM without releasing the clamps. You may break the socket, causing serious damage.
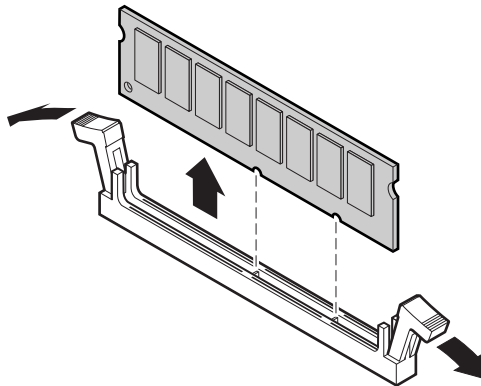
5 Insert the DIMM into the socket and align the two bottom notches i the DIMM with the two notches in the DIMM socket.
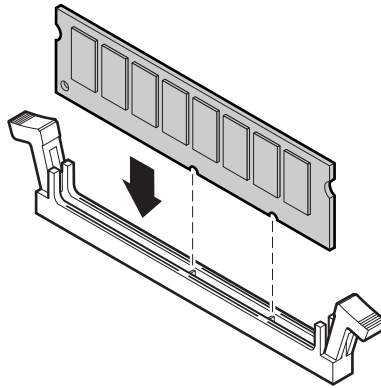
6 Gently press the DIMM into the socket until the plastic socket clamps on each side of the socket snap into the notches on the side of the DIMM.

7 Replace the drive tray. (See "Replacing the hard drive" on pag e19 for instructions.)

8 Close the case. (See "Closing the case" on pag e14 for instructions.)

9 Reconnect the cords you removed, then turn on the computer.

Adding an expansion card

The E-1400 chassis has two expansion slots for PCI cards. The riser card has two PCI connectors.

⫸ To add a PCI expansion card:

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

2 Turn off the computer, disconnect the power cord, and disconnect the modem cord, if your computer has a modem.

3 Open the case by following the instructions on page 12, observing the static electricity precautions on page 11.

4 Remove the slot cover bracket by pressing down on the tab and pulling out the bracket.

Slot cover bracket

Tab
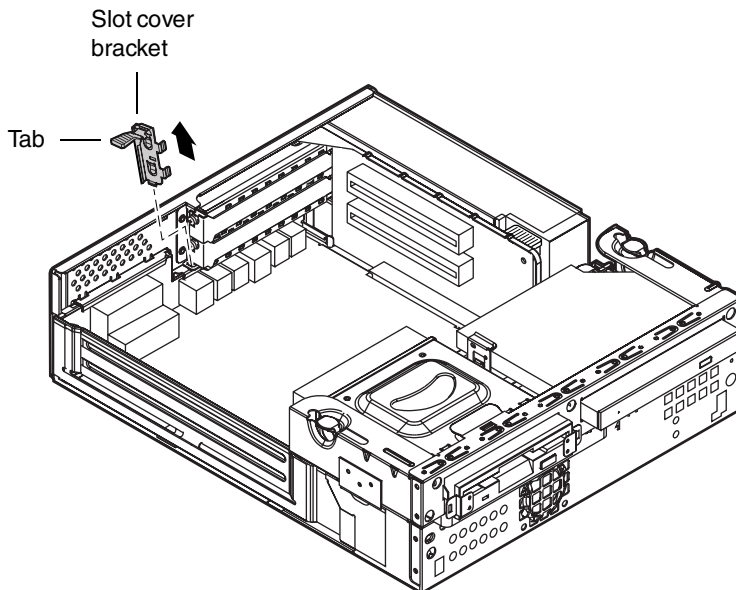
5 Locate an available slot and pull out the slot cover.

Slot cover
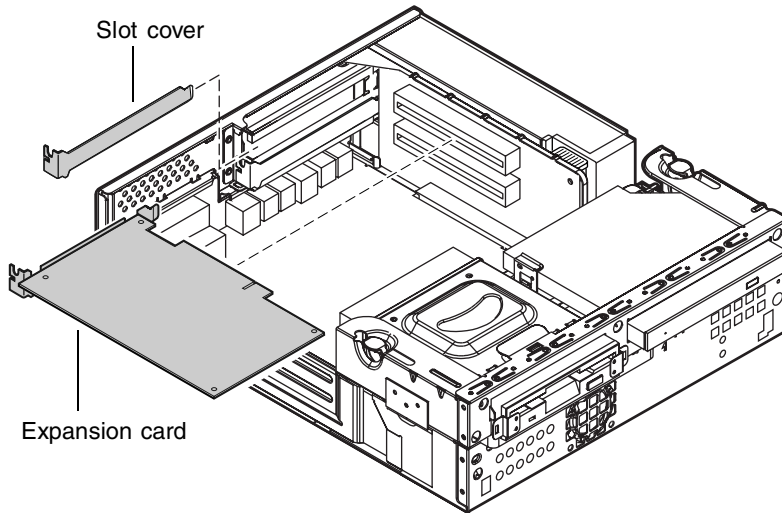
Expansion card

6 Insert the edge of the expansion card into the slot on the riser card.

7 After seating the card firmly, replace the slot cover bracket. Insert the bottom of the bracket into the slot on the chassis and snap the bracket into place.
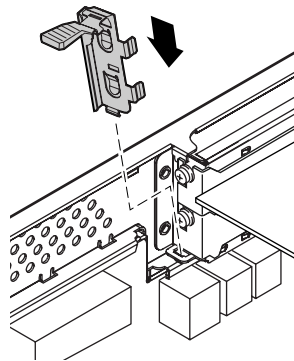
8 Connect any cables to the card. (See the card's documentation for proper jumper settings and cable orientation.)

9 Close the case. (See "Closing the case" on page 14 for instructions.)

10 Reconnect the cords you removed, then turn on the computer.

It may be necessary to reconfigure your system after installing some expansio 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 real-time clock and complementary metal oxide semiconductor (CMOS) random access memory (RAM), which holds the system configuration information.

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 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 Setup utility, see "About the BIOS Setup utility" on page 47.)

3 Turn off the computer, disconnect the power cord, and disconnect the modem cord, if your computer has a modem.

4 Open the case by following the instructions on page 12, observing the static electricity precautions on page 11.

5 Locate the battery on the system board. The battery is circular and has the positive pole mark (+) on the top.

6 Using a small flat-bladed screwdriver, carefully remove the battery fro its socket on the system board.
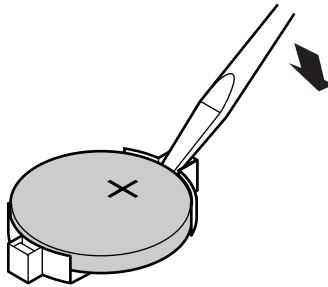
7 Press the new battery in the socket with the positive pole up. Be sure you have pressed the battery down far enough for it to contact the base of the socket.

8 Replace the computer cover. (See "Closing the case" on page 14 for instructions.)

9 Reconnect the cords you removed, then turn on the computer.

10 Enter the Setup utility 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.

Replacing the power supply

You need a Phillips screwdriver to remove and install the power supply.

▉▶ **To replace the power supply:**

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 12, observing the static electricity precautions on page 11.

3 Press down on the power-supply tab until the power supply is disconnected from the riser card.

Power-supply tab

Voltage selector switch
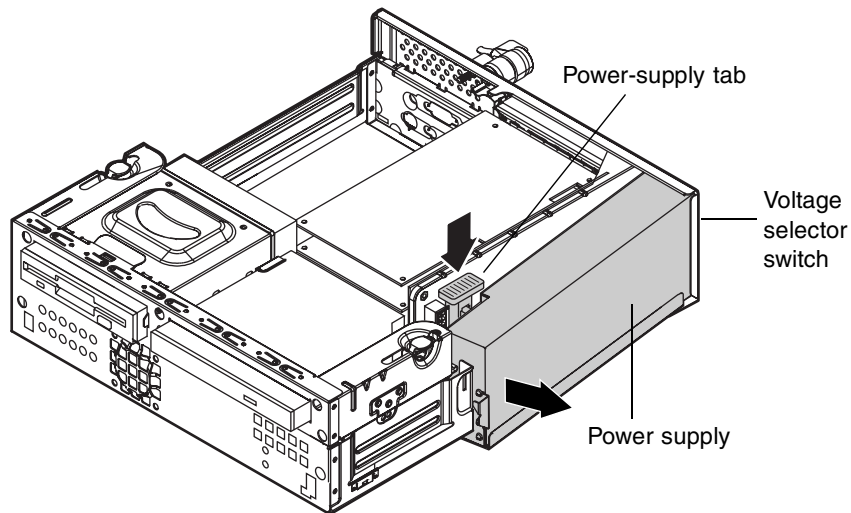
Power supply

4 Pull out the edge of the power supply near the tab. Then remove the power supply from the chassis.

5 Check the voltage selector switch on the back end of the new power supply. Be sure it is set to the correct voltage for your location.

6 Put the back end of the power supply into the chassis. Then push the front end toward the chassis until it snaps into place.

7 Replace the computer cover. (See "Closing the case" on page 14 for instructions.)

8 Reconnect the cords you removed, then turn on the computer.

If the computer does not start, make sure that you installed the power supply correctly. Also check that the voltage selector switch on the back of the power supply is set correctly.

Replacing the processor

Your system board currently supports the Intel Celeron processor. See the Gateway Web site at 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, and disconnect the modem cord, if your computer has a modem

2 Open the case by following the instructions on page 12, observing the static electricity precautions on page 11.

3 Remove the heat sink:

    a Disconnect the fan cable from the fan connector on the system board. (See "System board" on pag e5 for the location of the fan connector.)

    b The heat sink is attached to the processor socket by two metal clips. Unhook the large clip from the tab on the processor socket by pressing down on the clip and then pulling out on the clip.

Large metal clip

Small metal clip

Tabs
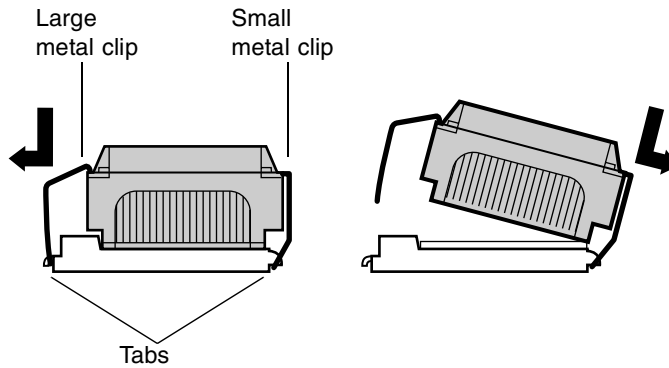
    c Lift the heat sink at an angle and unhook the small metal clip. Lift the heat sink off the processor.

4 Remove the processor:

    a Open the locking lever on the processor socket by moving the lever slightly out to the side and then lifting it up 90 degrees.
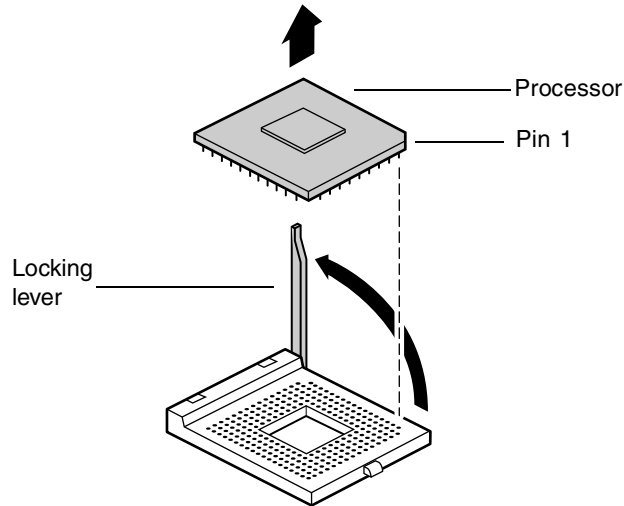
    b Lift the old processor straight up and out of the socket.

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.

    c Secure the processor by lowering the locking lever until the lever latches into place. The processor will slip into place without pressure when aligned correctly.

6 Replace the heat sink:

    a Hook 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.

    b Connect the heat sink fan cable to the fan connector on the system board.

7 Close the case. (See "Closing the case" on page 14 for instructions.)

8 Reconnect the cords you removed, then turn on the computer.

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

Removing the system board tray assembly

The system board is installed on a system board tray assembly. The tray can be removed from the chassis without tools.

▐▐▐▶ To remove the system board tray assembly:

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 12, observing the static electricity precautions on page 11.

3 Remove any peripheral devices attached to the rear-panel connectors.

4 Locate the release lever at the outside edge of the system board tray assembly. Pull the lever outward approximately 45 degrees from the edge of the tray. The system board disengages from the riser card and the tray moves slightly out of the chassis.

System board

System board tray assembly

Release lever
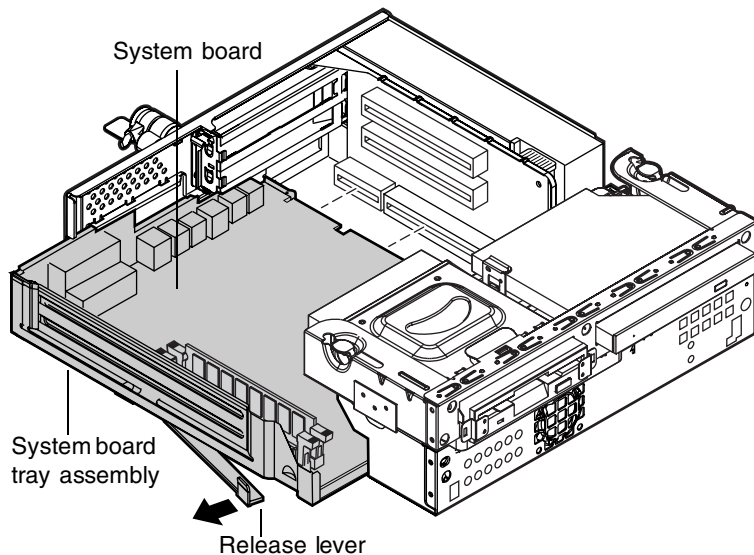
5 Grasp the edge of the tray and carefully slide the tray out of the chassis.
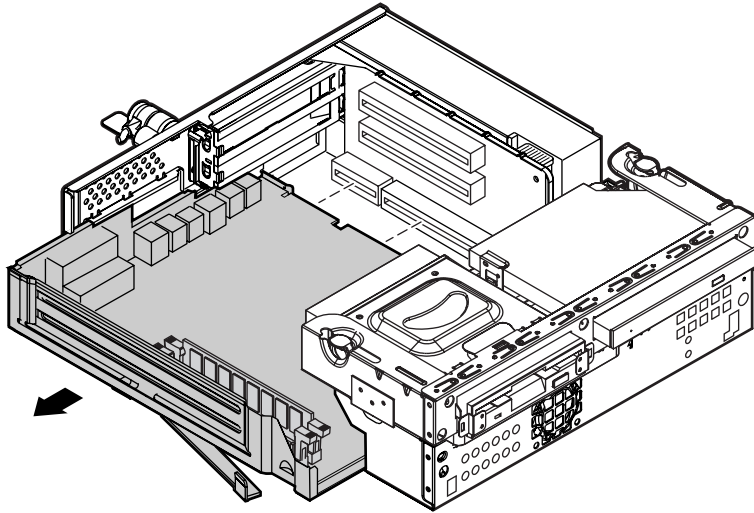
To reinstall the system board tray assembly:

1 Align the outside edges of the system board tray assembly with the guides on the chassis.

2 Push the tray in until the system board is inserted into the system board connector on the riser card.

3 Push the release lever in until the board is fully inserted in the connector and the lever automatically locks in place.

4 Replace any peripheral devices you removed from the rear-panel connectors.

Replacing the system board

To replace the system board, you need a grounding wrist strap, and a Phillips screwdriver. Make sure to place all static-sensitive devices in antistatic bags

▶ To replace the system board:

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 12, observing the static electricity precautions on page 11.

3 Remove any peripheral devices attached to the rear-panel I/O connectors.

4 Remove the system board tray assembly from the chassis. (See "Removing the system board tray assembly" on pag e37.)

5 Remove the following devices from the system board:

   ■ Processor. (See "Replacing the processor" on pa ge33 for instructions.)

   ■ DIMMs. (See "Installing memory" on p age25 for instructions.)

   ■ Devices from the old system board that are not included with the new board. (See "System board" on pag e5 for the location of devices.)

6 Remove the four screws that attach the system board to the tray. Then lift out the system board.

I/O connectors

Notch on board

Screws

Tabs
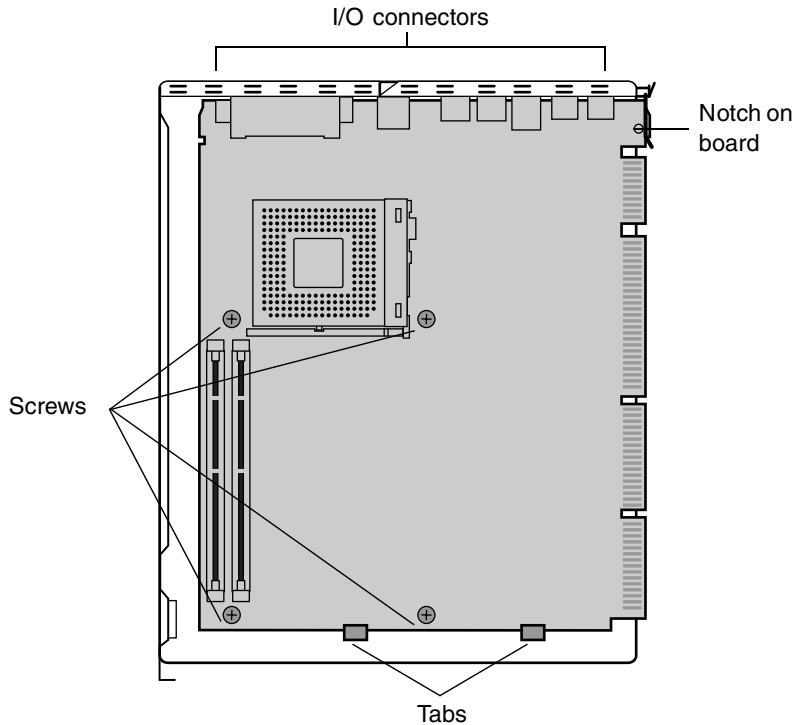
7 Remove the new system board from its packing material.

8 Attach the new system board to the tray:

   a Fit the notch on the edge of the board into the slot on the system board tray and the I/O connectors into the holes on the tray.

   b Push down the edge of the board near the tabs so the board fits securely behind the tabs.

   c Install the four screws that attach the system board to the tray.

9 Replace the tray and system board. (See "To reinstall the system board tray assembly:" on pag e38 for instructions.)

10 Replace the following devices:

- Processor. (See "Replacing the processor" on pa ge33 for instructions.)

- Peripheral devices attached to the rear-panel I/O connectors.

- Devices from the old system board that are not included with the new board. (See "System board" on pag e5 for the location of devices.)

11 Replace the computer cover. (See "Closing the case" on page 14 for instructions).

12 Reconnect the cords you removed, then turn on the computer.

# Replacing the connector board

You need a Phillips screwdriver to replace the connector board.

▐▐▐▶ **To replace the connector board:**

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 12, observing the static electricity precautions on page 11.

3 Remove the drive tray assembly and the hard drive. (See "Replacing the hard drive" on pag e19 for instructions.)

4 Remove the connector board:

    a Remove the cables attached to the connector board.

    b Remove the two screw that attach the board to the drive tray assembly.

    c Lift the board off the drive tray assembly.
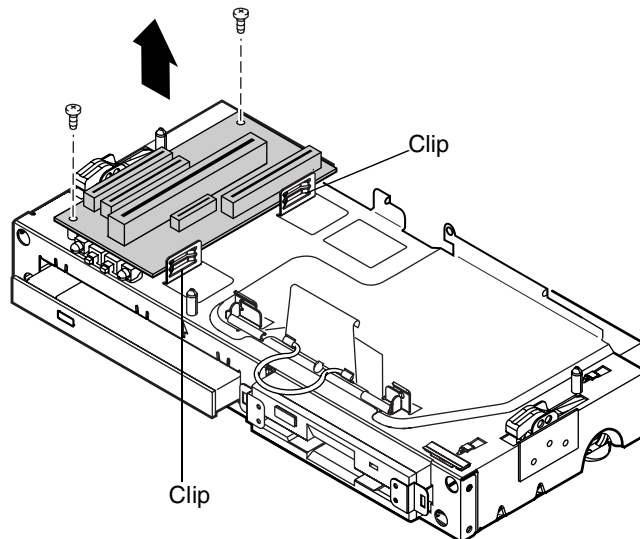
Clip

Clip

5 Install the new connector board:

a Place the new connector board onto the drive tray assembly. Make sure the edge of the board fits into the clips on the tray and the screw holes on the board align with the holes on the tray.

   b Replace the two screw that attach the connector board to the drive tray assembly.

   c Replace the cable that you removed from the old board.

6 Reinstall the hard drive and replace the drive tray assembly in the chassis.

7 Replace the computer cover. (See "Closing the case" on page 14 for instructions).

8 Reconnect the cords you removed, then turn on the computer.

Replacing the riser card

You need a Phillips screwdriver to replace the riser card.

▐▐▶ **To replace the riser card:**

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 12, observing the static electricity precautions on page 11.

3 Remove the following devices from the chassis:

   ■ Expansion cards.

   ■ Drive tray assembly. (See page 20 for instructions on removing the tray.)

   ■ Power supply. (See "Replacing the power supply" on page 32 for instructions.)

   ■ System board tray assembly. (See "Removing the system board tray assembly" on pag e37 for instructions.)

4 Remove the riser card:

    a Remove the two screws that attach the riser card to the chassis.

    b Grasp the PCI slot on the board and tilt the board forward approximately 1/2 inch. Make sure the power connector on the back of the board clears the slot on the chassis. Tilt the board only until you feel resistance from the bottom of the board or you could damage the bottom of the board.

    c Lift up the edge of the board near the PCI slot. Then tilt the botto of the board up until the small end of the board clears the tab on the chassis.

    d Lift the board out of the chassis.
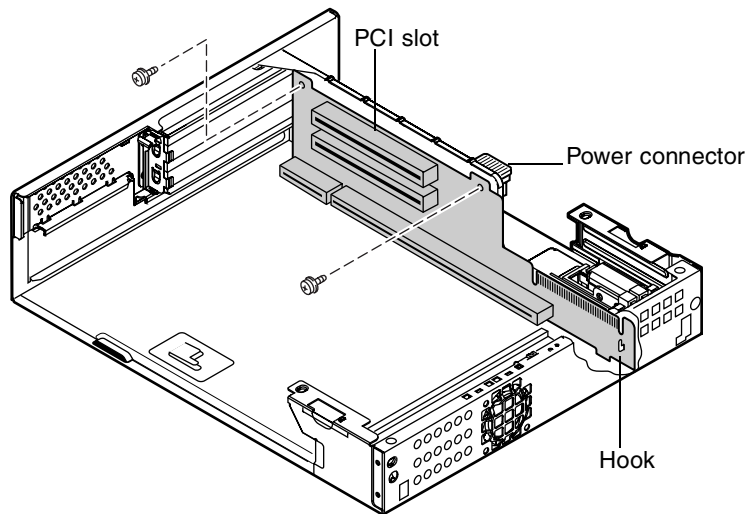
5 Install the new riser card:

    a With the bottom of the board tilted up, hook the tab on the chassis into the slot on the small end of the board.

    b Tilt the top of the board down slightly and fit the tabs on the bottom of the board into the slots on the chassis. Make sure the power connector fits through the hole in the chassis.

    c Replace the screws that attach the board to the chassis.

Tab   Slot
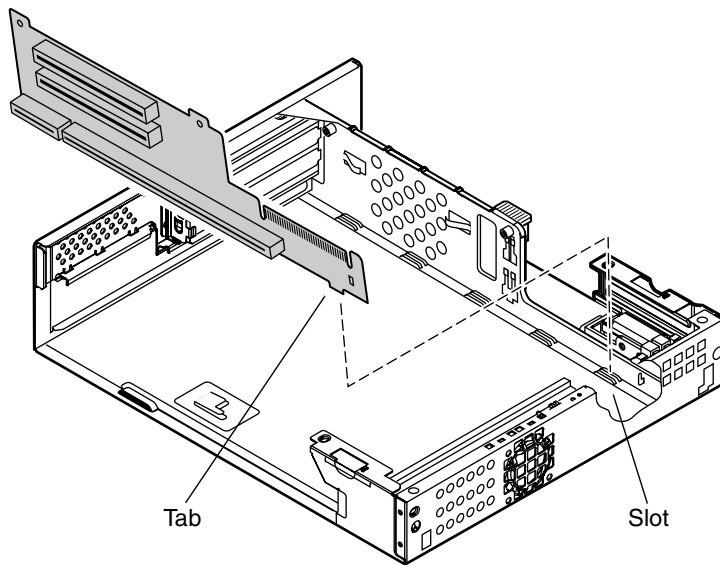
6 Replace the computer cover. (See "Closing the case" on page 14 for instructions).

7 Reconnect the cords you removed, then turn on the computer.

Using the BIOS Setup Utility

5

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.

To enter the BIOS Setup utility, restart the computer and then press F1 when prompted during the startup process. Upon entering BIOS Setup, the Mai 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                    ←—→ Select Menu
          Bank 1: SDRAM
                                           ↑↓ Select Item
        Language: [English (US)]           Enter Select>Sub-Menu
                                           F9  Setup Default
     System Time: [xx:xx:xx]               F10  Save and Exit
     System Date: [xx/xx/xxxx]             ESC  Exit
                                           F1  Help
```

As you select items on the Main menu and 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.

    b Decompress the contents of the BIOS file you downloaded an 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 $\uparrow$ (up arrow) and $\downarrow$ (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 12, observing the static electricity precautions on page 11.

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 pag e14 for instructions.) The reconnect the power cords.

5 Place the bootable diskette containing the BIOS files into drive A: and 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 information at the end of this procedure.

7 Open the case.

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 by pressing F1 when prompted during startup. Once in BIOS Setup, press F9. The default settings for the BIOS Setup utilit are loaded.

11 Select any BIOS fields you want to change by using the↑ (up arrow) an ↓ (down arrow) keys. Press ENTER and then reenter the values you wrote down at the beginning of the BIOS update process.

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

6

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 the 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 Conformite 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 i 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 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 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 in troubleshooting 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 summar** .

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 Window s98)

Using ScanDisk in Wind ows95 and Window s98

ScanDisk checks the hard drive for bad sectors or lost allocation units and enables you to fix them. Bad sectors are parts of a hard drive or diskette that do 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 ScanDisk from once a week to once a month, depending on how ofte 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 No** . 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 holdSHIFT and click on the additional drives in the list of drives to check.

7 Click **Star** . ScanDisk checks the drive for errors.

8 Follow any instructions on screen for completing the scan.

Using Check Disk in Wind owsNT

Check Disk checks the hard drive for bad sectors or lost allocation units and enables you to fix them. Bad sectors are parts of a hard drive or diskette that do 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 ofte 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.** ScanDisk checks the drive for errors.

8 Follow any instructions on screen for completing the scan.

Using Disk Defragmenter in Windows 95 and Window s98

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 some time to defragment it.

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 Window s98, Backup copies files to diskettes or a tape drive. In Windows NT, Backup copies files to a tape drive.

▸ To run Backup in Windows95 and Windows98:

1 Click **Start,** select **Programs**, select **Accessories**, and then select **Syste Tools**.

2 Click **Backup**.

3 Follow the instructions on the screen.

To run Backup in Windows NT:

1 Click **Star** , 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 har 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 At **Look in**, select your drive letter.

4 Click **Find No** . 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 *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 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 or a diskette.

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. Choose a size based on the size of the hard drive.

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 spinning 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

You can add an option to the Start menu that puts your system into suspend:

To add a suspend option to the Start menu:

1 Click **Star** , 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 **Star** 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 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 use**. 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 Hel or Windows documentation.

Using standby in Wind ows98

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 b spinning down the hard drive and reducing or turning off power to the monitor. ACPI enables your system to save additional power in standby through 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 unde **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 **Star** , 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 whe 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 compute** , select **Stand by**.

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 stand-by 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 stand-by 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 "About the BIOS Setup utility" on p age47 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.) I

- 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 i 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 **Star** and then click **Shut Down**.

2 Select **Close all programs and log on as a different use** . 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
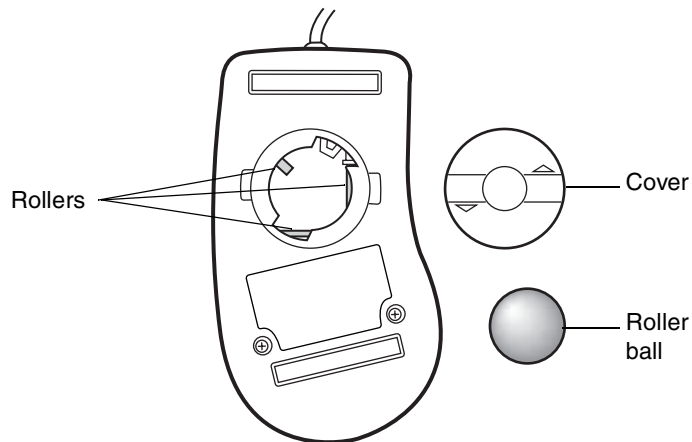
Cleaning Your System

7

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.

Rollers

Cover

Roller ball

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

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 cords. 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.

Troubleshooting

8

Troubleshooting guidelines

Only qualified personnel should open the computer for maintenance and troubleshooting. If you are confident that you are qualified to maintain and troubleshoot the computer yourself, make certain you follow basic safety precautions:

Warning

To avoid exposure to dangerous electrical voltages and moving parts, turn off your computer and unplug the power cord and modem cord before removing the computer cover.

- Make sure you are properly grounded before opening the computer chassis. (See the static electricity precautions on page 11 for more information on preventing electrostatic damage to the computer.)

- Never remove the computer cover while the computer is turned on, the power cord is plugged in, or the modem cord is plugged in (if your computer has a modem).

- Do not remove or replace any parts or set any jumpers or switches while the computer is turned on or the power cord is plugged in.

- 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 cause a painful or harmful experience.

While troubleshooting your system, follow these basic guidelines:

■ If you added or removed components, reread the instructions for the procedures you performed to see if you made a mistake.

■ If an error occurred within an application, consult the documentation supplied with the software.

■ Write down the following information, in case you need to talk wit support personnel:

  ■ Is the system making an unfamiliar sound, for example, does the hard drive grind when you access it?

  ■ Are familiar sounds, such as the sound of the power supply fan, missing?

  ■ Does the light on a drive you are trying to use fail to turn on or stay on constantly when you are not accessing the drive

  ■ Does the power light on the monitor or computer fail to turn o when you turn on the monitor or computer?

  ■ Does an error message appear on the screen? If so, write it dow word for word.

You can visit the technical support area of the Gateway Web site (www.gateway.com/support) for answers to frequently asked questions and more information on contacting Gateway.

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 using the CD are provided with the CD.

BIOS messages

This section lists common BIOS messages that may be displayed on your monitor. Some of the messages report on normal operations and others report errors

If you see any BIOS message that reports an error, make sure that the BIOS on your system is the latest one available. (See "Updating the BIOS" o page 49 for more information.)

Message	Explanation
A: Drive Error B: Drive Error	An error occurred when the system attempted to access the diskette drive. Make sure the controller and power cables of the drive are connected correctly and securely.
CMOS Battery Low	The CMOS battery may be losing power. Replace the battery.
CMOS Date/Time Not Set	The time and date values stored in CMOS are invalid. Run BIOS Setup and set the date and time. If the date and time do not remain correct, the CMOS battery may need to be replaced.
FDC Failure	An error occurred when the system tried to access the diskette drive controller. Make sure the diskette drive controller is enabled in the BIOS Setup program.
GA20 Error	An error occurred with Gate-A20 during the switch to protected mode in the memory test. Try to boot the computer with another hard drive that contains either the same or a different operating system.
HDC Failure	An error occurred when the system tried to access the hard disk drive controller. You may need to replace the hard drive.
Keyboard Error	There is a problem with the keyboard connection. Make sure the keyboard is connected correctly to the keyboard port. A key may have been stuck when the computer was started. Remove anything resting on the keyboard and restart the computer. If the problem continues, try a new keyboard that you know is working. If the error recurs, there may be a problem with the system board.

Message	Explanation
Memory Size Decreased	The memory size has decreased since the last time the computer was started. This message normally appears whenever you remove a memory module.
No Boot Device Available	The system did not find a boot device. Make sure there is a bootable CD in the CD-ROM drive, a bootable diskette in the diskette drive, or boot information on the hard drive. If you installed a new hard drive, you may need to add the boot information to the drive.
Pri Master HDD Error Pri Slave HDD Error Sec Master HDD Error Sec Slave HDD Error	A sector on the corresponding drive could not be read. If the drive is a hard drive, you may need to replace the drive. If the drive is a CD-ROM drive, try replacing the CD. If this does not correct the problem, you may need to replace the CD-ROM drive.
Pri Master Drive - ATAPI Incompatible Pri Slave Drive - ATAPI Incompatible Sec Master Drive - ATAPI Incompatible Sec Slave Drive - ATAPI Incompatible	The corresponding IDE drive is not configured correctly. Run Setup and select the auto configuration setting for the drive. Auto configuration is the default setting.

Viewing system resources

You can view how the interrupt request (IRQ), direct memory access (DMA), input/output (I/O), and memory resources are used on your system. You may want to check what system resources are already used before adding peripherals to avoid conflicts in resource usage. Viewing resource usage may also help you troubleshoot problems.

▮▮▮▶ **To view system resources for Windows95 and98:**

1 Right-click on the **My Computer** icon on the desktop.

2 Click **Properties**. The System Properties window opens.

3 Click the **Device Manager** tab.

4 Select **Computer** in the list and click **Properties**.

5 Select the type of resource you want to view.

▮▮▮▶ **To view system resources for Wi ndowsNT:**

1 Click **Start,** select **Programs,** select **AdministrativeTools (Common)**, and click **Windows NT Diagnostics.**

The Windows NT Diagnostics window opens.

2 Click a tab to see the information that you want.

Appendix

A

System Specifications

The following table lists the specifications for your system.

Case size (without the tower base)	3.65 x 11.50 x 14.00 inches. (H x W x D)
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 audio-line in jack, one audio line-out jack, one RJ-45 network jack.
Expansion slots	Two PCI slots.

Temperature, operating	10° to 35° Celsius
Humidity, operating	20 to 80 percent
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 801-2:198

ENV 50140:199 or IEC 801-3:1984

EN 61000-4-4:1988 or IEC 801-4:199

[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。

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.

N-93

| **Caution** | Disconnect power before servicing. |

| **Attention** | Couper le courant avant l'entretien. |

Index

system board tray assembly
    reinstalling 38
    removing 37
System Restoration CD, using 74

T
tower conversion feature 9
troubleshooting
    additional sources of information 74
    guidelines 73
    safety precautions 73
    using the System Restoration CD 74

U
updating the BIOS (basic input/output
        system) 49
UPS (uninterruptible power supply) 54
USB (universal serial bus) ports 3

V
video port 3
viruses, protecting against 56
voltage selector switch 3

W
wakeup circuitry 64