

# REFERENCEGUIDE



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# CHAPTER 1

## About This Reference

- [About this guide](#)
- [Accessing the online User Guide](#)
- [Gateway contact information](#)
- [Microsoft Certificate of Authenticity](#)
- [For more information](#)

# About this guide


This guide includes information and maintenance instructions that are specific to your model of Gateway computer. Some illustrations in this guide may look different than your computer because hardware options and port locations may vary. For all other computer information, see the online *User Guide*.

## For more information

For more information about your computer, visit Gateway's *Support* page at [support.gateway.com](http://support.gateway.com) or the Web address shown on your computer's label. The *Support* page also has links to additional Gateway documentation and detailed specifications.

# Accessing the online User Guide

In addition to this guide, the *User Guide* has been included on your hard drive. The *User Guide* is an in-depth, easy-to-read manual that includes information on the following topics:

- Help and technical support
  - Using and customizing Windows and other software
  - Controlling audio and video settings
  - Using the Internet
  - Protecting your files
  - Playing and recording media
  - Maintaining
- ▶ **To access the *User Guide*:**
- Click  (**Start**), **All Programs**, then click **Gateway Documentation**.
-



# Gateway contact information

The label on the side of your computer case contains information that identifies your computer model and serial number. Gateway Customer Care will need this information if you call for assistance.



# Microsoft Certificate of Authenticity

The Microsoft Certificate of Authenticity label found on the back or side of your computer includes the product key code for your operating system. If you ever reinstall Windows from the installation DVD, you will need to enter these numbers to activate Windows.

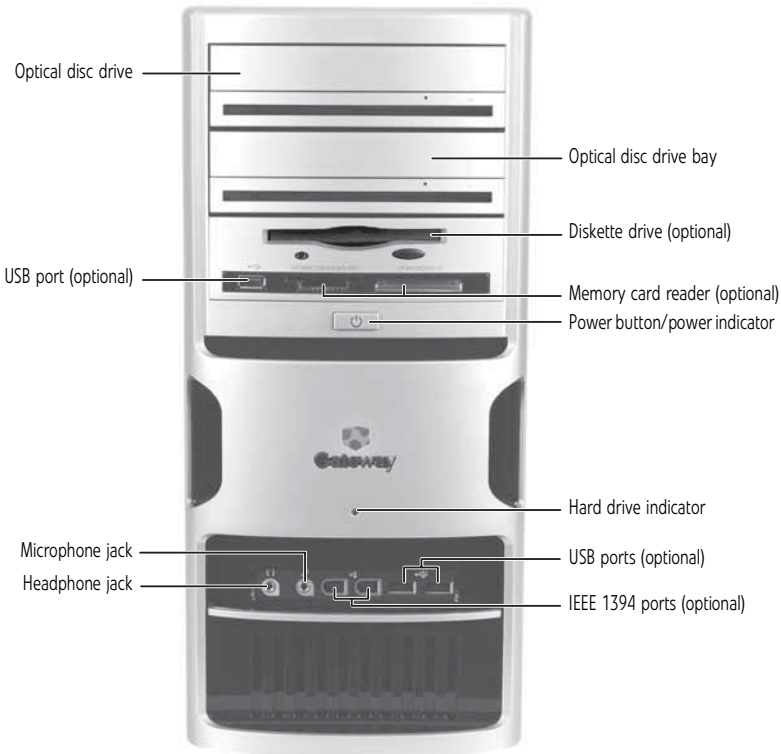




# CHAPTER 2



## Checking Out Your Computer

- [Front](#)
- [Back](#)

# Front



Component	Icon	Description
Optical disc drive		Use this drive to listen to audio CDs, install games and programs, watch DVDs, and store large files onto recordable discs (depending on drive type). This drive may be a CD, recordable CD, DVD, recordable DVD, Blu-ray, or HD DVD drive. For more information about your drive, see the online <i>User Guide</i> .
USB ports		Plug USB (Universal Serial Bus) devices (such as a USB external drive, printer, scanner, camera, keyboard, or mouse) into these ports.
Microphone jack		Plug a microphone into this jack. This jack is color-coded pink.

Component	Icon	Description
Headphone jack		Plug powered, analog front speakers, an external amplifier, or headphones into this jack. This jack is color-coded green.
Diskette drive (optional)		Use this drive to read from and write to 3.5" diskettes.
Memory card reader (optional)		Insert a memory card from a digital camera, MP3 player, PDA, cellular telephone, or other devices into the memory card reader.
Power button/power indicator		Press this button to turn the power on or off. You can also configure the power button to operate in Standby/Resume mode or Hibernate mode. The power indicator lights when the computer is turned on.
Hard drive activity indicator		Lights when the hard drive is active.
IEEE 1394 ports		Plug IEEE 1394 (also known as Firewire®) devices (such as a digital camcorder) into these 6-pin IEEE 1394 ports.

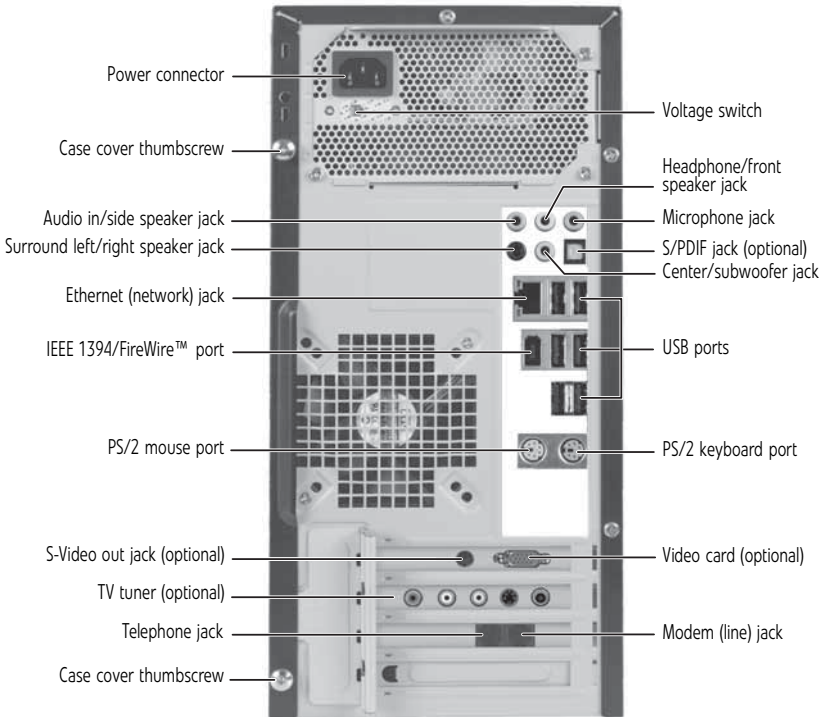
# Back








## Important







Your computer's hardware options and port locations may vary from this illustration.

Your computer includes the following components.



Component	Icon	Description
Power connector		Plug the power cord into this connector.
Case thumbscrew		Remove this screw before opening the case.

Component	Icon	Description
Audio input (Line in) jack (blue plug) -OR- Side speaker jack		This jack is user configurable for one of the following: <b>Stereo in:</b> Plug an external audio input source (such as a stereo) into this jack so you can record sound on your computer ( <b>Default</b> ). <b>Stereo out:</b> Plug your side left and right speakers into this jack. For more information, see <a href="#">"Configuring the audio jacks" on page 26.</a>
Surround/Rear speaker jack (black plug)		Plug your rear right and left speakers into this jack. For more information, see <a href="#">"Configuring the audio jacks" on page 26.</a>
Ethernet (network) jack		Plug an Ethernet network cable or a device (such as a DSL or cable modem for a broadband Internet connection) into this jack. For more information, see "Learning about the Internet" in the online <i>User Guide</i> .
IEEE 1394 port		Plug IEEE 1394 (also known as Firewire <sup>®</sup> ) devices (such as a digital camcorder) into this 6-pin IEEE 1394 port. For more information, see <a href="#">"Installing a printer, scanner, or other device" on page 26.</a>
PS/2 mouse port		Plug a PS/2 mouse into this port.
S-Video out jack (optional)		Plug a TV into this optional jack.
TV tuner (optional)		Plug a video tuner or antenna into this optional jack.
Telephone jack (optional)		Plug the cord from your telephone into this jack.
Voltage switch		The switch is preset at the factory. Make sure that this is set to the correct voltage for your area.

Component	Icon	Description
Headphone/analog speakers jack (green plug) -OR- Front speakers jack		This jack is user configurable for one of the following: <b>Headphone:</b> Plug headphones or amplified speakers into this jack ( <b>Default</b> ). <b>Stereo out:</b> Plug your front left and right speakers into this jack. For more information, see <a href="#">"Configuring the audio jacks" on page 26.</a>
Microphone jack (pink plug)		Plug a microphone into this jack.
S/PDIF output jack (optional)		Plug an optical cable from an amplifier or entertainment system into this jack for digital sound.
Center/subwoofer jack (orange plug)(optional)		Plug your center speaker and subwoofer into this jack. For more information, see <a href="#">"Configuring the audio jacks" on page 26.</a>
USB ports		Plug USB (Universal Serial Bus) devices (such as a USB Iomega™ Zip™ drive, printer, scanner, camera, keyboard, or mouse) into these ports. For more information, see <a href="#">"Installing a printer, scanner, or other device" on page 26.</a>
PS/2 keyboard port		Plug a PS/2 keyboard into this port.
Video card (optional)		Plug a VGA (blue connector) or DVI (white connector) monitor into a port on this card, if installed.
Modem jack (optional)		Plug a modem cable into this jack. For more information, see <a href="#">"Connecting a dial-up modem" on page 16.</a>



# CHAPTER 3

## Setting Up and Getting Started

- Working safely and comfortably
- Preparing power connections
- Connecting to a broadband modem or network
- Connecting a dial-up modem
- Starting your computer
- Turning off your computer
- Restarting (rebooting) your computer
- Using the keyboard
- Using the mouse
- Adjusting the volume
- Configuring the audio jacks
- Installing a printer, scanner, or other device

# Working safely and comfortably

Before using your computer, follow these general guidelines for setting up a safe and comfortable work area and avoiding discomfort and strain:

- Keep hands and arms parallel to the floor.
- Adjust the screen so it is perpendicular to your line of sight, and the top of the screen is no higher than eye level.
- Place your feet flat on the floor or on a footrest.
- Keep ventilation openings clear of obstructions.



## Reducing eye strain

Sunlight or bright indoor lighting should not reflect on the monitor screen or shine directly into your eyes.

- Position the computer desk and screen so you can avoid glare on your screen and light shining directly into your eyes. Reduce glare by installing shades or curtains on windows, and by installing a glare screen filter.
- Use soft, indirect lighting in your work area. Do not use your computer in a dark room.
- Set paper holders at the same height and distance as the monitor.
- Avoid focusing your eyes on your computer screen for long periods of time. Every 10 or 15 minutes, look around the room, and try to focus on distant objects.

## Setting up your computer desk and chair

When you are setting up your computer desk and chair, make sure that the desk is the appropriate height and the chair helps you maintain good posture.

- Select a flat surface for your computer desk.
- Adjust the height of the computer desk so your hands and arms are positioned parallel to the floor when you use the keyboard and touchpad. If the desk is not adjustable or is too tall, consider using an adjustable chair to control your arm's height above the keyboard.
- Use an adjustable chair that is comfortable, distributes your weight evenly, and keeps your body relaxed.
- Position your chair so the keyboard is at or slightly below the level of your elbow. This position lets your shoulders relax while you type.
- Adjust the chair height, adjust the forward tilt of the seat, or use a footrest to distribute your weight evenly on the chair and relieve pressure on the back of your thighs.
- Adjust the back of the chair so it supports the lower curve of your spine. You can use a pillow or cushion to provide extra back support.

## Sitting at your computer

- Avoid bending, arching, or angling your wrists. Make sure that they are in a relaxed position when you type.
- Do not slouch forward or lean far back. Sit with your back straight so your knees, hips, and elbows form right angles when you work.
- Take breaks to stand and stretch your legs.
- Avoid twisting your torso or neck.

## Avoiding discomfort and injury from repetitive strain

- Vary your activities to avoid excessive repetition.
- Take breaks to change your position, stretch your muscles, and relieve your eyes.
- Find ways to break up the work day, and schedule a variety of tasks.

# Preparing power connections

## Protecting from power source problems



### Warning

High voltages can enter your computer through both the power cord and the modem connection. Protect your computer by using a surge protector. If you have a telephone modem, use a surge protector that has a modem jack. If you have a cable modem, use a surge protector that has an antenna/cable TV jack. During an electrical storm, unplug both the surge protector and the modem.

During a power surge, the voltage level of electricity coming into your computer can increase to far above normal levels and cause data loss or system damage. Protect your computer and peripheral devices by connecting them to a *surge protector*, which absorbs voltage surges and prevents them from reaching your computer.

An *uninterruptible power supply* (UPS) supplies battery power to your computer during a power failure. Although you cannot run your computer for an extended period of time with a UPS, a UPS lets you run your computer long enough to save your work and shut down your computer normally.

## Checking the voltage selection



### Caution

If you set the voltage selection switch incorrectly, your system will be damaged. Make sure this switch is set correctly for your location before turning on your computer. In the United States, the utility power is supplied at a nominal 115 volts at 60 Hz. The power supply should always be set to this when your computer is operating in the United States. In other areas of the world, such as Europe, the utility power is supplied at 230 volts at 50 Hz. If your computer is operating in an environment such as this, the voltage switch should be moved to 230.

The *power supply*, a component built into your computer, provides power to the system board, add-in cards, and peripheral devices. The power supply's voltage selection for your location is typically set at the factory, but you can change it to match the electrical service available in your usage area (such as while in another country). Use the power selection switch on the back of your computer to set the voltage to 115V or 230V.

#### ► To set the voltage selection switch:

- 1 Disconnect your computer's power cable.
- 2 Use a tool such as an opened paper clip to slide the voltage selection switch to the correct voltage position. The switch is located on the back of your computer, near the power cable connector.



## Connecting to a broadband modem or network




### Important

Your computer may be equipped with a built-in Ethernet (network) jack. For information about setting up a wired or wireless Ethernet network, see the online *User Guide*.

You can connect your computer to a cable or DSL modem or to a wired Ethernet network.

#### ► To connect to a broadband modem or to an Ethernet network:

- 1 Insert one end of the network cable into the network jack  on the back of your computer.
- 2 Insert the other end of the network cable into a cable modem, DSL modem, or network jack.



# Connecting a dial-up modem




## Warning

To reduce the risk of fire, use only No. 26 AWG or larger telecommunications line cord.

Your computer may have a 56K modem that you can use with a standard telephone line to connect to the internet or fax documents.

### ► To connect the modem:

- 1 Insert one end of the modem cable into the modem jack  on the modem at the back of your computer.
- 2 Insert the other end of the modem cable into a telephone wall jack. (The modem will not work with digital or PBX telephone lines.)
- 3 If you want, you can connect a telephone to the PHONE jack on the modem on the back of your computer.



# Starting your computer

### ► To start your computer:


- 1 Connect the power, network, mouse, and keyboard cables to your computer according to the setup poster.
- 2 Press the power button on the front of your computer. If your computer does not turn on, check the power cable connections.



## Important

Your computer has a built-in, variable-speed fan. In addition, your computer uses a powerful processor which produces heat and has its own cooling fan. Both the system fan and processor fan can run at different speeds at times to ensure correct system cooling. You may notice an increase in the fan noise when the fan is running at high speed and a decrease in the fan noise when it switches to normal speed.

- 3 If you are starting your computer for the first time, follow the on-screen instructions to select the language and time zone and to create your first user account.
- 4 Attach and turn on any USB or audio peripheral devices, such as printers, scanners, and speakers. If you need to attach a peripheral device to the parallel or serial ports, turn off your computer first. See the documentation that came with each device for its setup instructions.

- 5 To open your computer's main menu, click  (**Start**). From that menu, you can run programs and search for files. For more information on using your computer's menus, see "Using Windows" and "Customizing Windows" in the online *User Guide*.



## Waking up your computer



### Tip

For more information about changing the power button mode, see the "Customizing" chapter in the online *User Guide*.

When you have not used your computer for several minutes, it may enter a power-saving mode called *Sleep*. While in Sleep mode, the power indicator on the power button flashes.

If your computer is in Sleep mode, move the mouse, press a key on the keyboard, or press the power button to "wake" it up.

## Turning off your computer



### Warning

When you turn off your computer, certain components in the power supply and system board remain energized. In order to remove all electrical power from your computer, unplug the power cord and modem cable from the wall outlets. We recommend disconnecting the power cord and modem cable when your computer will not be used for long periods.




### Important

If for some reason you cannot use the Shut Down option in Windows to turn off your computer, press and hold the power button for about five seconds, then release it.

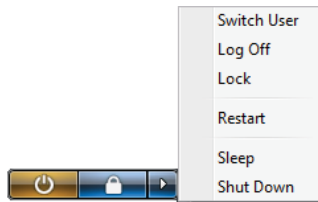
Putting your computer into Sleep mode is the easiest way to power down your computer. Although it does not turn your computer completely off, it does turn off or slow down most system operations to save power, and saves your desktop layout so the next time you restore power, the programs are laid out just as you left them. Waking your computer from a Sleep state is much faster than turning on your computer after it has been turned completely off.

► **To put your computer to sleep:**

- 1 Click **⌘ (Start)**, then click  (power). The computer saves your session and partially shuts down to save power.
- 2 To “wake” your computer, press a key on the keyboard or press the power button.

► **To turn off your computer:**

- 1 Click **⌘ (Start)**, click the arrow next to the lock icon, then click **Shut Down**. The computer turns off.



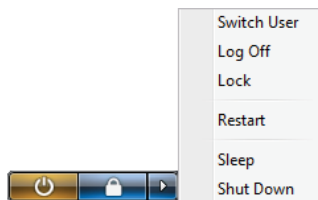
- 2 To completely disconnect all power (such as for servicing internal components), also disconnect the power cord.

## Restarting (rebooting) your computer

If your computer does not respond to keyboard or mouse input, you may need to restart (reboot) your computer.

► **To restart your computer:**

- 1 Click **⌘ (Start)**, click the arrow next to the lock icon, then click **Restart**. Your computer turns off, then turns on again.



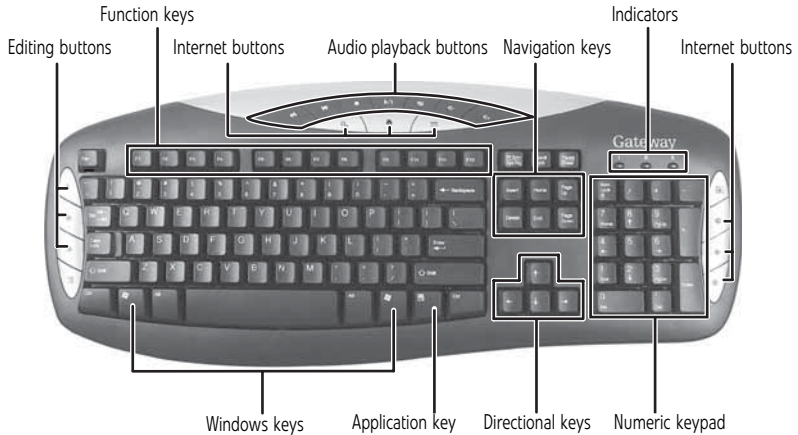


- 2 If your computer does not turn off, press and hold the power button until the computer turns off (about five seconds), then press it again to turn the computer back on.
- 



# Using the keyboard

## Premium multimedia keyboard features

The keyboard has several different types of keys and buttons. Your keyboard also has status indicators that show which keyboard feature is active.

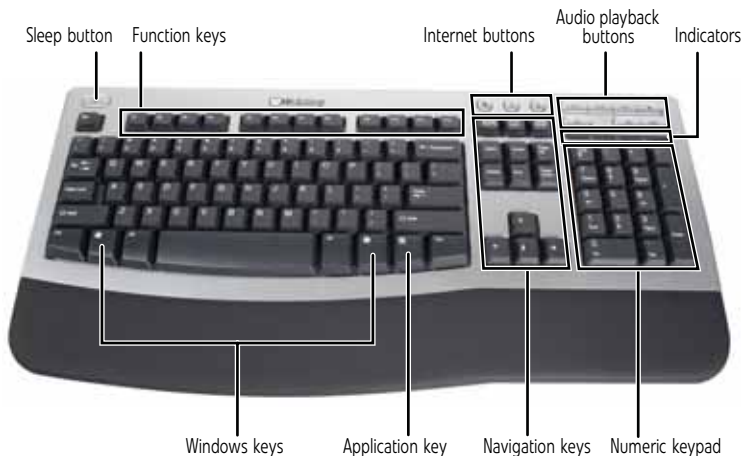





Feature	Icon	Description
Editing buttons		Press these buttons to copy, cut, and paste.
Function keys		Press these keys to start program actions. Each program uses different function keys for different purposes. See the program documentation to find out more about the function key actions.
Internet buttons		Press these buttons to launch your Internet home page, search, or e-mail programs.
Audio playback buttons		Press these buttons to play your audio files and to adjust the volume.

Feature	Icon	Description
Navigation keys		Press these keys to move the cursor to the beginning of a line, to the end of a line, up the page, down the page, to the beginning of a document, or to the end of a document.
Indicators		Show if your <b>NUM LOCK</b> , <b>CAPS LOCK</b> , or <b>SCROLL LOCK</b> keys are activated. Press the corresponding key to activate the function.
Windows keys		Press one of these keys to open the Windows <b>Start</b> menu. These keys can also be used in combination with other keys to open utilities like <b>F</b> (Find/Search), <b>R</b> (Run), and <b>E</b> (Computer).
Application key		Press this key to access shortcut menus and help assistants in Windows.
Directional keys		Press these keys to move the cursor up, down, right, or left.
Numeric keypad		Press these keys to type numbers when the numeric keypad ( <b>NUM LOCK</b> ) is turned on.

## Elite multimedia keyboard features

The keyboard has several different types of keys and buttons. Your keyboard also has status indicators that show which keyboard feature is active.



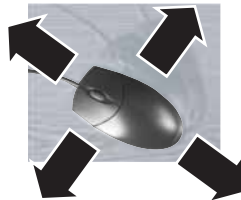
Feature	Icon	Description
Sleep button		Press this button to activate your computer's Sleep (power-saving) mode.
Function keys		Press these keys to start program actions. Each program uses different function keys for different purposes. See the program documentation to find out more about the function key actions.
Application buttons		Press these buttons to launch your Internet home page, search for files, or launch the calculator program.
Audio playback buttons		Press these buttons to play your audio files and to adjust the volume.
Indicators		Show if your <b>NUM LOCK</b> , <b>CAPS LOCK</b> , or <b>SCROLL LOCK</b> keys are activated. Press the corresponding key to activate the function.
Windows keys		Press one of these keys to open the Windows <b>Start</b> menu. These keys can also be used in combination with other keys to open utilities like <b>F</b> (Find/Search), <b>R</b> (Run), and <b>E</b> (Computer).
Application key		Press this key to access shortcut menus and help assistants in Windows.
Editing buttons		Press these buttons to copy, cut, and paste.
Navigation keys		Press these keys to move the cursor to the beginning of a line, to the end of a line, up the page, down the page, to the beginning of a document, or to the end of a document. Press the arrow keys to move the cursor.
Numeric keypad		Press these keys to type numbers when the numeric keypad ( <b>NUM LOCK</b> ) is turned on.

# Using the mouse



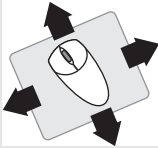




The *mouse* is a device that controls the pointer movement on the computer display. This illustration shows the standard mouse.

As you move the mouse, the *pointer* (arrow) on the display moves in the same direction.



You can use the *left* and *right buttons* on the mouse to select objects on the display.

You can use the *scroll wheel* on the mouse to move through a document. This feature is not available in all programs.

To...	Do this...
Move the pointer on the computer display	 <p>Move the mouse around. If you reach the edge of your mouse pad and need to move the mouse farther, lift the mouse and place it in the middle of the mouse pad, then continue moving the mouse.</p>
Select an object on the computer display	 <p>Position the pointer over the object. Quickly press and release the left mouse button. This is called <i>clicking</i>.</p>
Start a program or open a file or folder	 <p>Position the pointer over the object. Quickly press and release the left mouse button twice. This is called <i>double-clicking</i>.</p>
Access a shortcut menu or find more information about an object on the display.	 <p>Position the pointer over the object. Quickly press and release the right mouse button once. This is called <i>right-clicking</i>.</p>
Move an object on the computer display.	 <p>Position the pointer over the object. Press the left mouse button and hold it down. Move (drag) the object to the appropriate part of the computer display. Release the button to drop the object where you want it. This is called <i>clicking and dragging</i>.</p>

For more information about how to adjust the double-click speed, pointer speed, right-hand or left-hand configuration, and other mouse settings, see the "Customizing" chapter in the online *User Guide*. For instructions on how to clean the mouse, see ["Cleaning the mouse" on page 63](#).

# Adjusting the volume

You can adjust volume using your speakers' controls or the Windows volume controls. You can also adjust the volume of specific sound devices in your computer.

▶ **To adjust the overall volume using hardware controls:**


- If you are using external speakers, turn the knob on the front of the speakers.

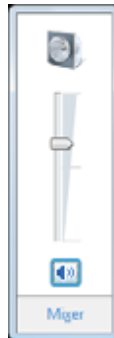
-OR-


Use the mute and volume control buttons on the keyboard. For more information, see [“Using the keyboard” on page 19](#).



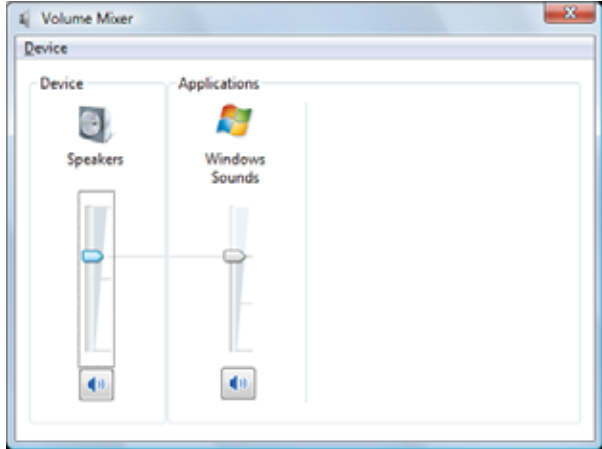
▶ **To adjust the volume from Windows:**

- 1 Click  (**Volume**) on the taskbar. The volume control slider opens.



- 2 Click and drag the slider up to increase volume and down to decrease volume.
- 3 To mute the volume, click  (**Mute**). To restore volume, click it again.

- 4 To adjust device volume levels, click **Mixer**. The *Volume Mixer* dialog box opens, where you can click and drag sliders for individual devices.



**Tip**

Adjust the Windows Sounds slider to change system sounds volume independently of general volume (such as the volume used for music and game sounds).

- 5 Click **X** in the top-right corner of the window to close it.



**Help**

For more information about adjusting the volume, click **Start**, then click **Help and Support**. Type **adjusting volume** in the **Search Help** box, then press ENTER.



# Configuring the audio jacks

If the back of your computer has five audio jacks, they are universal jacks. This means that they can be used for more than one purpose. For example, the blue jack on the computer can be a stereo in jack or a stereo out jack. To use the audio jacks for something other than the default audio device, you need to configure the audio jacks.

## ► To configure the audio jacks:




### Shortcut

Start ⇒ Control Panel ⇒ Hardware and Sound ⇒ Sound ⇒ click the device ⇒ Configure

- 1 Connect your audio device(s) to the computer audio jack(s).
- 2 Click **Ⓢ** (**Start**), then click **Control Panel**. The *Control Panel* window opens.
- 3 Click **Hardware and Sound**, **Sound**, the **Playback** tab, then click **Configure**.

-OR-

If your computer has the Realtek Sound Effect Manager installed, double-click the Sound Effect Manager icon  on the taskbar. The *Realtek* dialog box opens.

- 4 Follow the on-screen instructions to configure the audio jacks for your speaker setup.



# Installing a printer, scanner, or other device



### Important

Before you install a printer, scanner, or other peripheral device, see the device documentation and installation instructions.

Your computer has one or more of the following ports: IEEE 1394 (also known as Firewire<sup>®</sup>), Universal Serial Bus (USB), serial, and parallel. You use these ports to connect peripheral devices such as printers, scanners, and digital cameras to your computer. For more information about port locations, see [“Checking Out Your Computer” on page 5](#).



IEEE 1394 and USB ports support *plug-and-play* and *hot-swapping*, which means that your computer will usually recognize such a device whenever you plug it into the appropriate port. When you use an IEEE 1394 or USB device for the first time, your computer will prompt you to install any software the device needs. After doing this, you can disconnect and reconnect the device at any time.

---

 **Help**

For more information about installing peripheral devices, click **Start**, then click **Help and Support**. Type **installing devices** in the **Search Help** box, then press ENTER.

---

Parallel and serial port devices are not plug-and-play. See the device documentation for detailed information and installation instructions.



# CHAPTER 4

## Upgrading Your Computer

- Preventing static electricity discharge
- Opening and closing the case
- Installing memory
- Replacing the system battery
- Adding or replacing a CD or DVD drive
- Replacing the memory card reader
- Adding or replacing a hard drive
- Replacing the front fan
- Replacing the rear fan
- Replacing the power supply
- Replacing the heat sink and processor
- Replacing the I/O board
- Adding or replacing an expansion card
- Replacing the system board

# Preventing static electricity discharge



## Warning

To avoid exposure to dangerous electrical voltages and moving parts, turn off your computer and unplug the power cord and modem and network cables before opening the case.

To prevent risk of electric shock, do not insert any object into the vent holes of the power supply.

The components inside your computer are extremely sensitive to static electricity, also known as *electrostatic discharge* (ESD).

Before opening the computer case, follow these guidelines:

- Wear a grounding wrist strap (available at most electronics stores) and attach it to a bare metal part of your computer.
- Turn off your computer.
- Touch a bare metal surface on the back of the computer.
- Unplug the power cord and the modem and network cables.



## Caution

ESD can permanently damage electrostatic discharge-sensitive components in your computer. Prevent ESD damage by following ESD guidelines every time you open the computer case.

Before working with computer components, follow these guidelines:

- Avoid static-causing surfaces such as carpeted floors, plastic, and packing foam.
- Remove components from their antistatic bags only when you are ready to use them. Do not lay components on the outside of antistatic bags because only the inside of the bags provide electrostatic protection.
- Always hold expansion cards by their edges or their metal mounting brackets. Avoid touching the edge connectors and components on the cards. Never slide expansion cards or components over any surface.

# Opening the case

Your computer case provides easy access to internal components.

## Removing the side panel

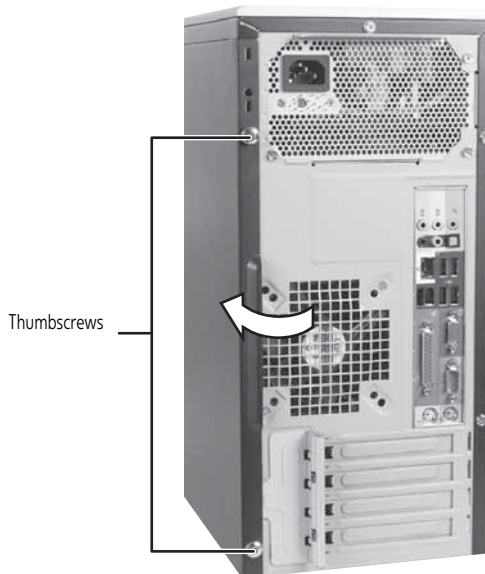


### Warning

To avoid exposure to dangerous electrical voltages and moving parts, turn off your computer, then unplug the power cord and modem cable before opening the case.

#### ► To remove the side panel:

- 1 Follow the instructions in [“Preventing static electricity discharge” on page 30.](#)
- 2 Shut down your computer, then disconnect the power cord and modem, network, and all peripheral device cables.
- 3 Press the power button for ten seconds to drain any residual power from your computer.
- 4 Remove the two thumbscrews on the side panel cover.



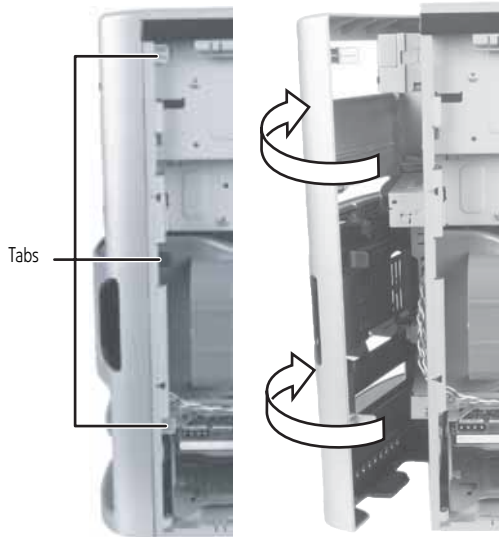
- 5 Swing the side panel away from the back of your computer, then pull the panel off.



## Removing the front bezel

► **To remove the front bezel:**

- Press the three bezel retention tabs, then swing the right side of the front bezel away from the computer and remove it.



## Closing the case

### Replacing the front bezel

► **To replace the front bezel:**

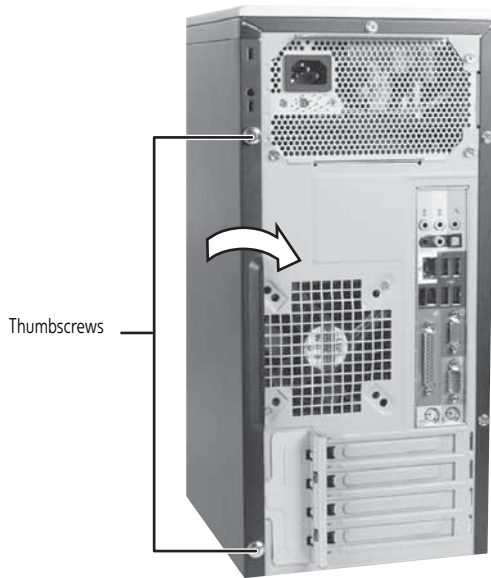
- 1 Slide the tabs on the left side of the bezel into the slots in the left side of the computer.
- 2 Swing the right side of the bezel in to insert the tabs on the right side of the bezel into the slots on the right side of the computer.
- 3 Press the right side of the bezel firmly until it snaps into place.



## Replacing the side panel

► **To replace the side panel:**

- 1 Make sure that all of the internal cables are arranged inside the computer so they will not be pinched when you close the computer.
- 2 Insert the front edge of the side panel into the inside front edge of the computer, then swing the side panel in toward the back of the computer to secure it into place.



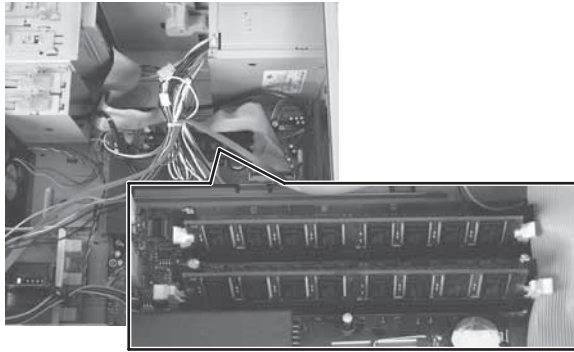
- 3 Replace the side panel thumbscrews.
  - 4 Reconnect the cables and power cord.
-

# Installing memory

When you upgrade the computer memory, make sure that you install the correct type of memory module for your computer. Your computer uses DIMM memory.

► **To install or replace DIMM memory:**

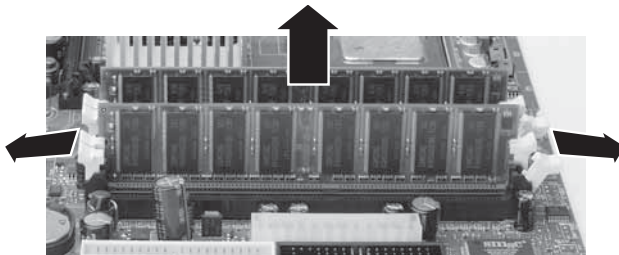
- 1 Remove the side panel by following the instructions in ["Removing the side panel"](#) on page 31.
- 2 For more stability, place your computer on its side. To avoid scratching the case, place it on a towel or other non-abrasive surface.
- 3 Find the memory module banks on your system board.




- 4 If you are removing a DIMM from the memory module bank, gently pull the plastic tabs away from the sides of the memory module and remove it.

- OR -

If you are adding a DIMM to an empty memory module bank, gently pull the plastic tabs away from the sides of the memory module bank.





- 5 Align the notches on the new DIMM with the notches on the memory module bank and press the module firmly into the bank. The tabs on the sides of the memory module should secure the memory module automatically. When the module is secure, you hear a click.
- 6 Replace the side panel by following the instructions in ["Replacing the side panel" on page 33](#).
- 7 Return your computer to its upright position.
- 8 Reconnect the cables and the power cord.
- 9 Turn on your computer. Windows starts and the Windows desktop appears.
- 10 Click  (**Start**), right-click **Computer**, then click **Properties**. The amount of memory in your computer is displayed.  
■

## Replacing the system battery



### Warning

Danger of explosion if battery is incorrectly replaced. Replace only with the same or equivalent type recommended by the manufacturer. Dispose of used batteries following the manufacturer's instructions.

If the computer clock does not keep time or the settings in the BIOS Setup utility are not saved when you turn off your computer, replace the system battery. Use a battery of the same size and voltage as the original battery that was in your computer.

#### ► To replace the battery:

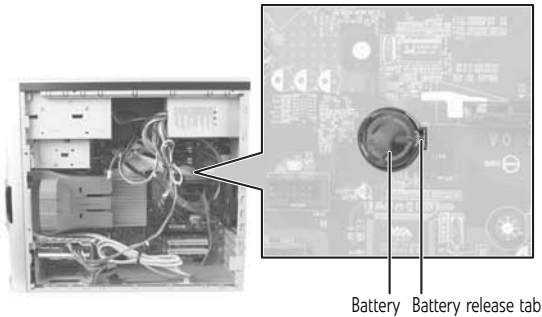
- 1 Restart your computer.
- 2 During the restart, press and hold the **F1** key. The main menu of the BIOS Setup utility opens.
- 3 Write down all the values in the menus and submenus, then exit from the utility.
- 4 Shut down your computer.

- 5 Remove the side panel by following the instructions in [“Removing the side panel” on page 31](#).
- 6 For more stability, place your computer on its side. To avoid scratching the case, place it on a towel or other non-abrasive surface.

**Important**

Your computer's battery location may vary from the illustration below.

- 7 Locate the old battery on the system board and note its orientation. You will need to install the new battery the same way.
- 8 Push the battery release tab. The battery pops out of the socket.



- 9 Make sure that the positive (+) side of the new battery is facing up, then press the battery into the socket until it snaps into place.
- 10 Replace the side panel by following the instructions in [“Replacing the side panel” on page 33](#).
- 11 Reconnect all external cables and the power cord.
- 12 Turn on your computer.
- 13 While your computer starts, press and hold the **F1** key. The main menu of the BIOS Setup utility opens.
- 14 In the BIOS Setup utility, restore any settings that you wrote down in [Step 3](#).
- 15 Save all your settings and exit the BIOS Setup utility.



# Adding or replacing a CD or DVD drive



## Tools

You need a Phillips screwdriver to add or replace a CD or DVD drive.

### ► To add replace a CD or DVD drive:

- 1 Remove the side panel by following the instructions in ["Removing the side panel"](#) on page 31.
- 2 Remove the front bezel by following the instructions in ["Removing the front bezel"](#) on page 32.



## Important

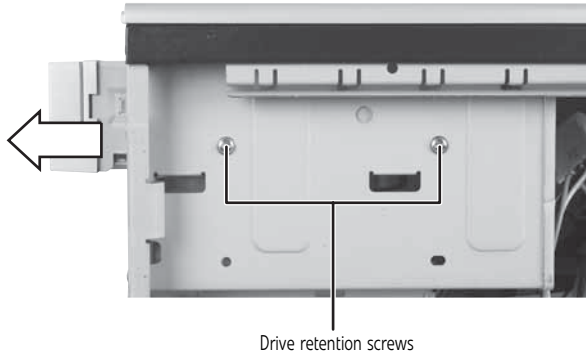
The color and shape of your replacement drive's front cover may vary from your original drive.

- 3 If you are installing a new drive (not replacing an old one), remove the two drive retention screws in the drive bay, then go to [Step 7](#). For the location of the screws, see the photo in [Step 6](#).
- 4 If you are replacing an existing drive, disconnect the cables from the drive, noting their locations and orientation. You will reconnect the cables after you install the new drive. (CD/DVD drive shown.)

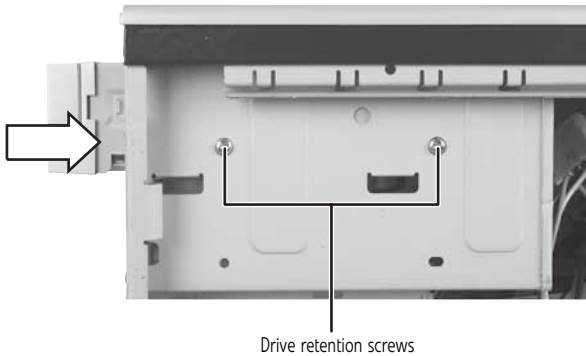


- 5 Note any jumper settings on the old drive and set the jumper on the new drive to be the same.

- 6 Remove the two drive retention screws, then slide the drive forward and out of the drive bay.



- 7 Slide the new drive into the drive bay, line up the screw holes on the drive bay with the screw holes on the drive, then replace the two drive retention screws.



- 8 Reconnect the drive cables using your notes from [Step 4](#), or according to the manufacturer's instructions.
- 9 Replace the front bezel by following the instructions in ["Replacing the front bezel" on page 32](#).
- 10 Replace the side panel by following the instructions in ["Replacing the side panel" on page 33](#).

■

# Replacing the memory card reader



## Tools

You need a Phillips screwdriver to replace the memory card reader.

### ► To replace the memory card reader:

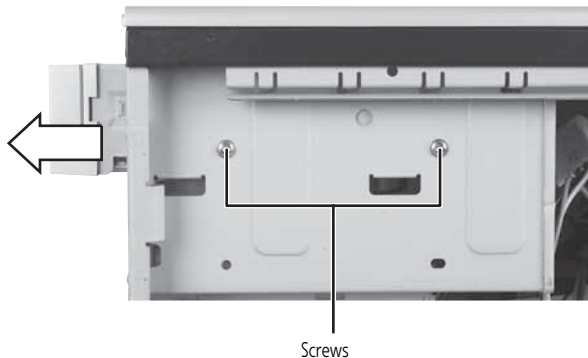
- 1 Remove the side panel by following the instructions in ["Removing the side panel"](#) on page 31.
- 2 Remove the front bezel by following the instructions in ["Removing the front bezel"](#) on page 32.



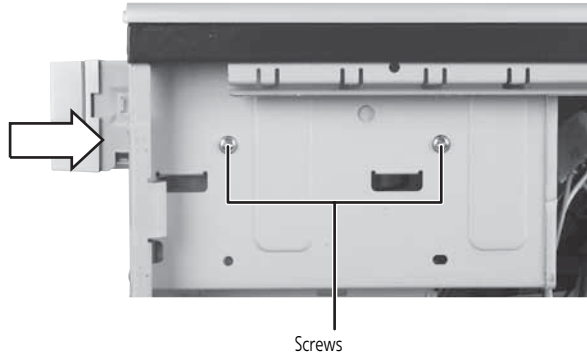
## Important

The color and shape of your replacement card reader's front cover may vary from your original card reader.

- 3 If you are installing a new card reader (not replacing an old one), remove the two drive retention screws in the drive bay, then go to [Step 5](#). For the location of the screws, see the photo in [Step 4](#).
- 4 Remove the two drive retention screws, disconnect the card reader's data cable from the system board, then slide the drive forward and out of the drive bay.



- 5 Slide the new card reader into the bay from the front of the case.



- 6 Use the screws you removed previously to secure the card reader to the bay.
  - 7 Connect the new card reader's data cable to the system board.
  - 8 Reinstall the bezel by following the instructions in ["Replacing the front bezel" on page 32](#).
  - 9 Reinstall the computer case's side panel by following the instructions in ["Replacing the side panel" on page 33](#).
- 

## Adding or replacing a hard drive

### ► To add or replace a hard drive:

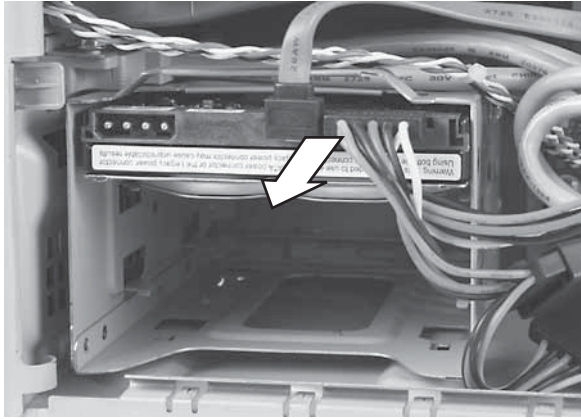


#### Tools

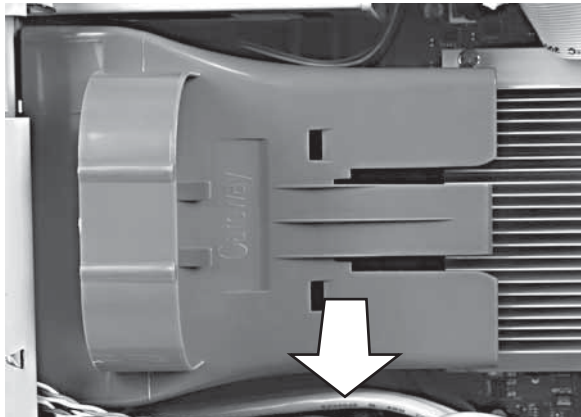
You need a Phillips screwdriver to add or replace a hard drive.

- 1 Remove the side panel by following the instructions in ["Removing the side panel" on page 31](#).
- 2 If you are adding a new drive, go to [Step 4](#). If you are replacing an existing drive, go to the next step.

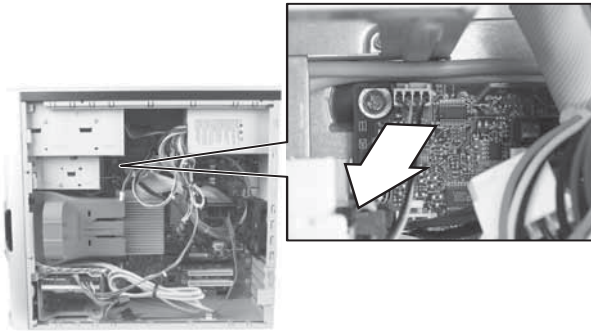
- 3 Disconnect the drive cables, noting their locations and orientation. (You will reconnect the cables after you install the new drive.)



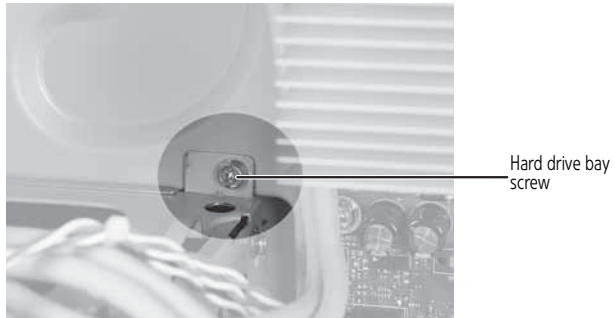
- 4 Pull the front fan assembly away from the system board, then remove it.



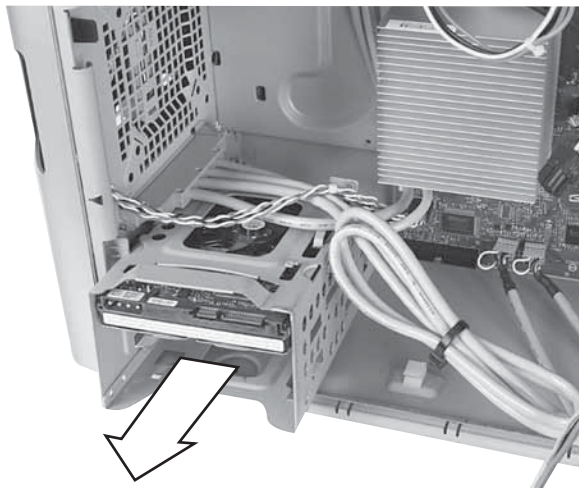
- 5 Disconnect the fan cable from the system board.



- 6 Remove the hard drive bay screw.

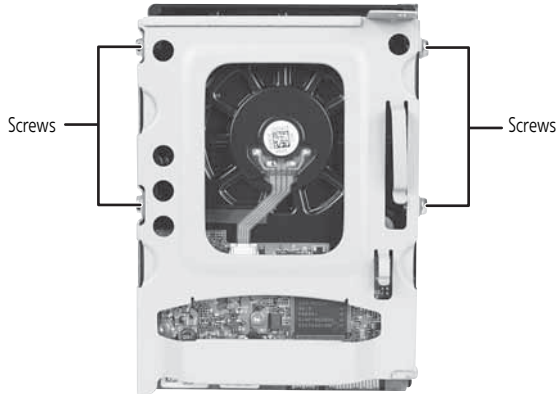


- 7 Remove the hard drive bay from your computer. You may need to work the bay out of your computer by rocking the bay back and forth.





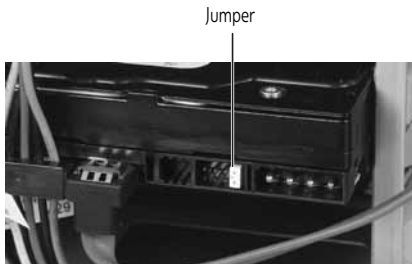
- 8 If you are replacing an old drive, remove the four screws that secure the hard drive to the hard drive bay, then remove the hard drive from the bay.



- OR -

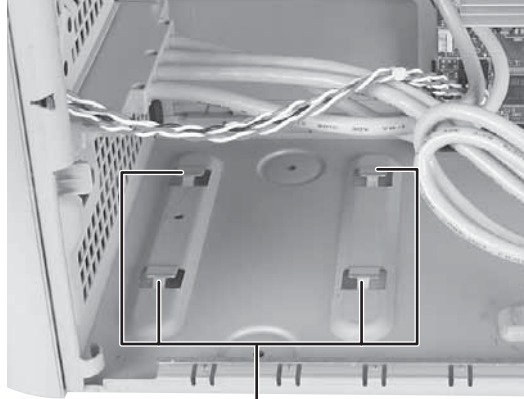
If you are adding a new drive (not replacing an old one), remove the four screws (two on each side) from the empty hard drive bay.

- 9 If you are replacing a drive, note any jumper settings on the old drive and set the jumper on the new drive to be the same. If you are adding a new drive, set the jumper as instructed by the drive's user guide.



- 10 Slide the new drive into the drive bay, then secure the drive to the bay using the four screws you removed previously.

- 11 Slide the drive bay back into your computer, making sure that the tabs on the bottom of the bay align with and slide into the slots on the bottom of your computer.



Hard drive bay mounting slots

- 12 Secure the drive bay to your computer using the screw you removed previously.
- 13 Connect the drive cables. If you are replacing a drive, use your notes from [Step 3](#).
- 14 Replace the side panel by following the instructions in [“Replacing the side panel”](#) on page 33.
- 15 Reconnect all external cables and the power cord.
- 16 Turn on your computer.
- 17 Install Windows using the operating system DVD that came with your computer. For more information on restoring your system, see [“Recovering your system”](#) on page 97.



# Replacing the front fan

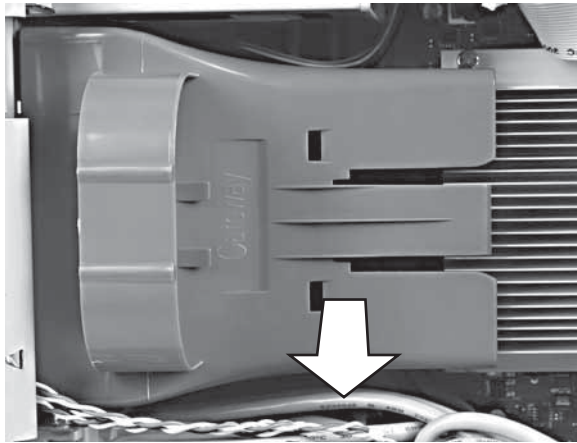


## Tools

You need a Phillips screwdriver to replace the front fan.

### ► To replace the front fan:

- 1 Remove the side panel by following the instructions in [“Removing the side panel” on page 31](#).
- 2 Pull the front fan away from the system board, then remove it.

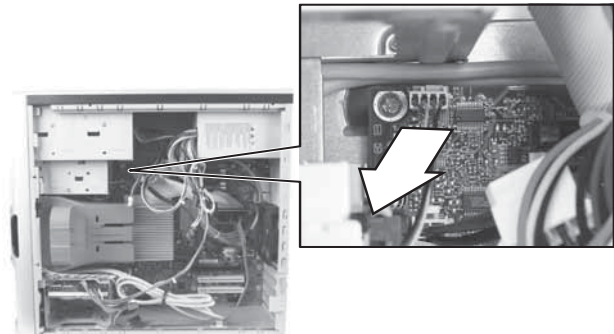


- 3 Disconnect the fan cable from the system board.



## Important

The location of the fan connection may vary, so make sure that you trace the fan cable from the fan to the system board.



- 4 Connect the new fan cable to the system board, then insert the new fan into place.

- 5 Replace the side panel by following the instructions in [“Replacing the side panel”](#) on page 33.



## Replacing the rear fan



### Tools

You need a Phillips screwdriver to replace the rear fan.

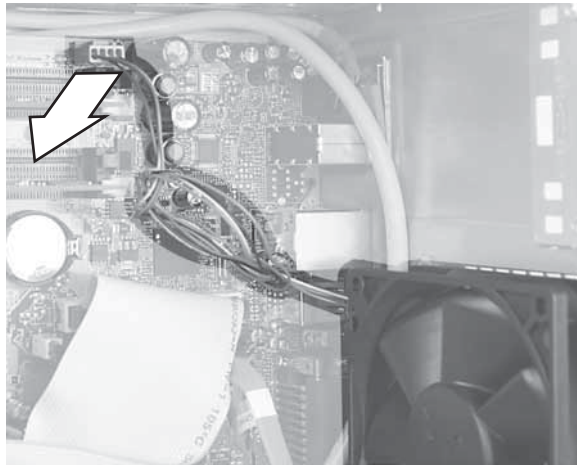
#### ► To replace the rear fan:

- 1 Remove the side panel by following the instructions in [“Removing the side panel”](#) on page 31.
- 2 Disconnect the fan from the system board.



### Important

The location of the fan connection may vary, so make sure that you trace the fan cable from the fan to the system board.



- 3 Remove the four screws on the outside of the case that secure the fan to the back of the case, then remove the fan.



- 4 Place the new fan on the back of your computer, then replace the screws that secure it to the back cover.
- 5 Reconnect the fan cable to the system board.
- 6 Replace the side panel by following the instructions in ["Replacing the side panel" on page 33.](#)
- 7 Reconnect all external cables and the power cord.
- 8 Turn on your computer.  
■

## Replacing the power supply



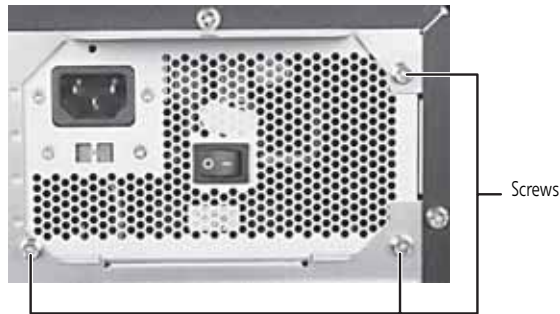
### Tools

You need a Phillips screwdriver to replace the power supply.

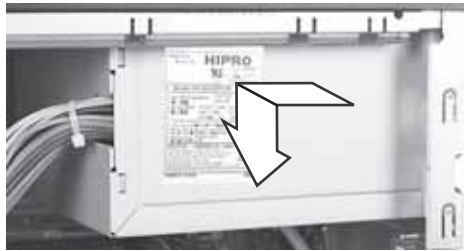
#### ► To replace the power supply:

- 1 Remove the side panel by following the instructions in ["Removing the side panel" on page 31.](#)
- 2 Disconnect the power supply cables from all components (such as hard drives, CD or DVD drives, and the system board), noting their locations and orientation. (You will reconnect the cables after you install the new power supply.)

- 3 Remove the three screws that secure the power supply to your computer.



- 4 Slide the power supply away from the back of your computer, then pull it down and remove it.



- 5 Install the new power supply into the case, then install the three screws to secure the power supply to the case.
- 6 Reconnect the power supply cables using your notes from [Step 2](#).
- 7 Replace the side panel by following the instructions in ["Replacing the side panel" on page 33](#).



## Replacing the heat sink and processor



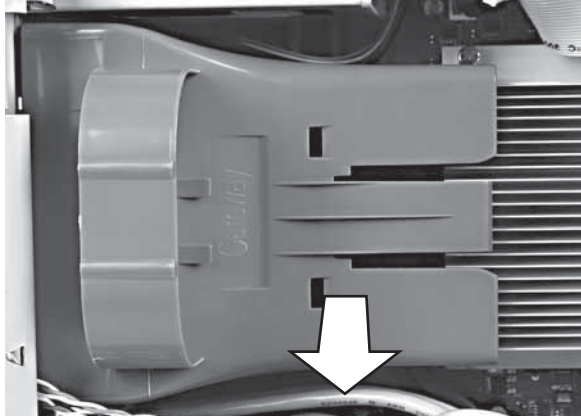
### Tools

You need a Phillips screwdriver to replace the heat sink.

#### ► To replace the heat sink and processor:

- 1 Remove the side panel by following the instructions in ["Removing the side panel" on page 31](#).

- 2 For more stability, place your computer on its side. To avoid scratching the case, place it on a towel or other non-abrasive surface.
- 3 Pull the front fan away from the system board, then remove it.

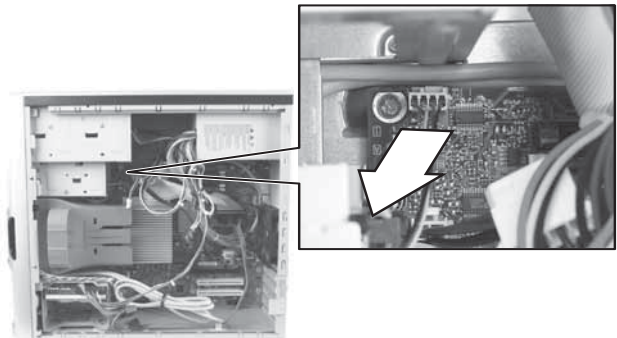


- 4 Disconnect the fan cable from the system board.

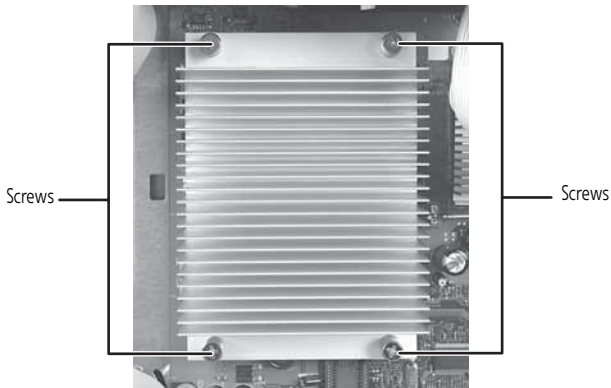


**Important**

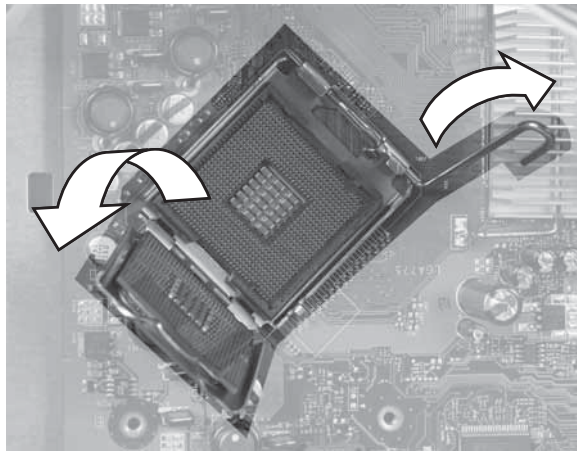
The location of the fan connection may vary, so make sure that you trace the fan cable from the fan to the system board.



- 5 Loosen the four screws that secure the heat sink to the system board, then remove the heat sink and place it on a stable surface with the flat surface of the heat sink (the side with the thermal grease) up.



- 6 Release the processor by pushing down on the lever, and then lifting it completely up.



- 7 Remove the processor from the system board.
- 8 Install the new processor onto the system board making sure that Pin 1 on the processor (indicated by the silk-screened arrow on the corner of the processor) aligns with Pin 1 on the processor socket (indicated by the absence of a pin hole in the processor socket), then return the lever to its locked position.



- 9 If this is a new heat sink, remove the strip on the heat sink that covers the gray thermal grease. If you are re-using a heat sink, then re-apply a small bead of thermal grease to the surface that contacts the processor.
- 10 Place the heat sink on the processor, then tighten the screws that secure it to the system board.
- 11 Connect the fan cable to the system board, then insert the fan into place.
- 12 Replace the side panel by following the instructions in ["Replacing the side panel" on page 33.](#)  
■

## Replacing the I/O board

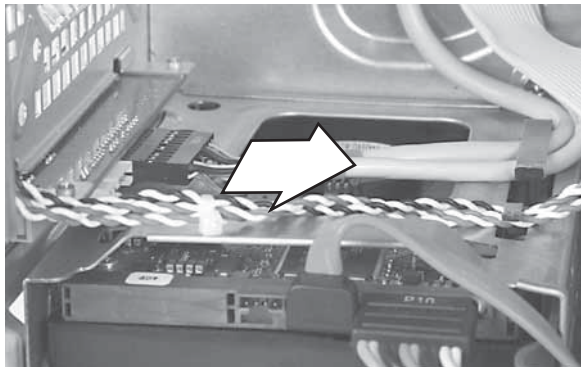


### Important

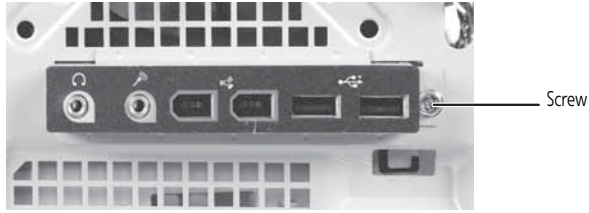
The color and shape of your replacement I/O panel may vary from your original I/O panel..

#### ► To replace the front I/O panel:

- 1 Remove the side panel by following the instructions in ["Removing the side panel" on page 31.](#)
- 2 Remove the bezel by following the instructions in ["Removing the front bezel" on page 32.](#)
- 3 Disconnect the cable from the I/O panel.



- 4 Remove the screw that secures the I/O panel to your computer, then remove the I/O panel from your computer.



- 5 Insert the new I/O panel into your computer, then replace the screw.
- 6 Connect the I/O panel cable to the new I/O panel.
- 7 Replace the front bezel by following the instructions in [“Replacing the front bezel” on page 32.](#)
- 8 Replace the side panel by following the instructions in [“Replacing the side panel” on page 33.](#)



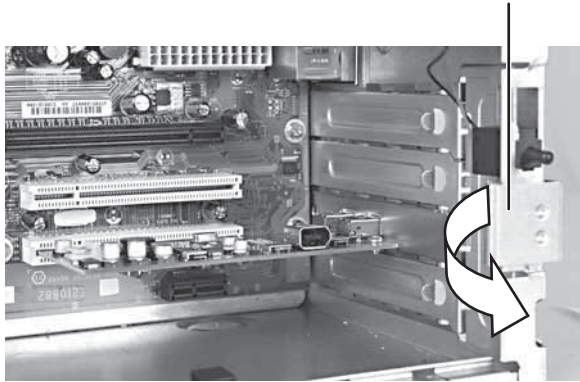
## Adding or replacing an expansion card

### ► To add or replace an expansion card:

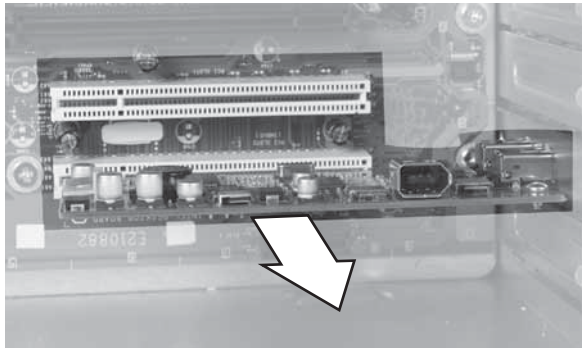
- 1 Remove the side panel by following the instructions in [“Removing the side panel” on page 31.](#)
- 2 If you are replacing an expansion card, go to the next step. If you are adding a new expansion card, go to [Step 4.](#)
- 3 Disconnect any cables that are attached to the card, noting their locations and orientation. (You may need to reconnect the cables after you install the new card.)

4 Open the card retention lever.

Card retention lever



5 Remove the old expansion card. You can slightly seesaw the card end-to-end to loosen the card, but do not bend the card sideways.



**Caution**

Do not touch the contacts on the bottom part of the expansion card. Touching the contacts can cause electrostatic damage to the card.

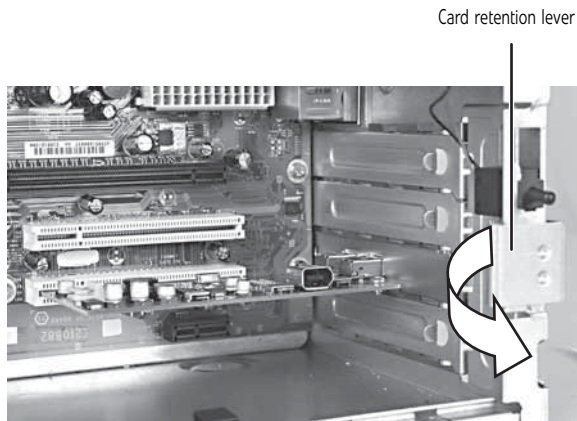
- 6 Install the new card into the expansion slot. You can slightly seesaw the card end-to-end to help insert the card, but do not bend the card sideways.
- 7 If you have just replaced an expansion card, reconnect the expansion card cables (if any) using your notes from [Step 3](#). If you have added a new expansion card, connect its cables according to its user guide.
- 8 Replace the side panel by following the instructions in ["Replacing the side panel"](#) on page 33.



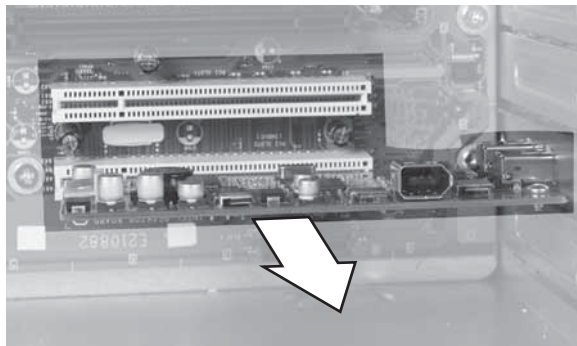
# Replacing the system board

► **To replace the system board:**

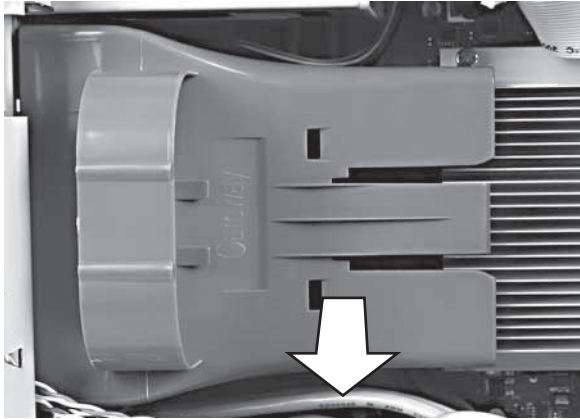
- 1 Remove the side panel by following the instructions in ["Removing the side panel"](#) on page 31.
- 2 Disconnect any expansion card cables from the cards and from the system board, noting their locations and orientation. (You will reconnect the cables after you reinstall the cards.) You can also mark the cables with tape labels to simplify reconnecting cables later.
- 3 Open the card retention lever.



- 4 Remove any expansion cards. You can slightly seesaw the card end-to-end to loosen the card, but do not bend the card sideways.



- 5 Pull the front fan away from the system board, then remove it.

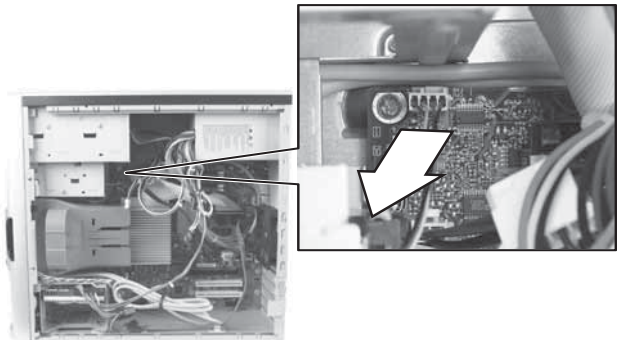


- 6 Disconnect the fan cable from the system board.

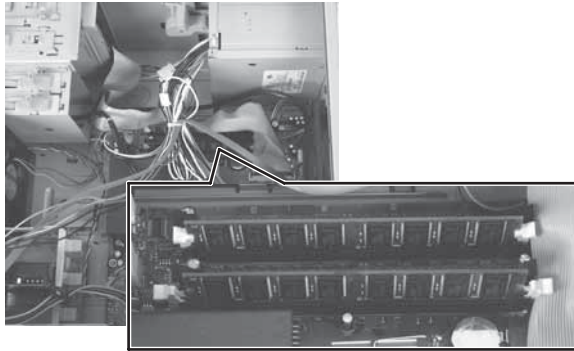


**Important**

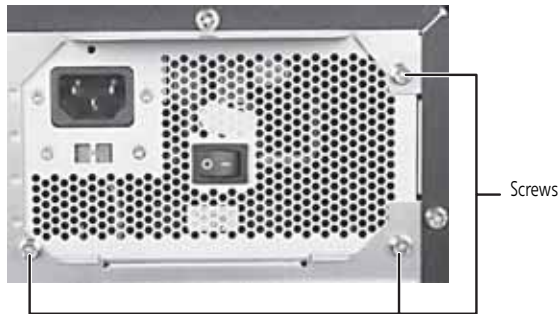
The location of the fan connection may vary, so make sure that you trace the fan cable from the fan to the system board.



**7** Find the memory module banks on your system board.



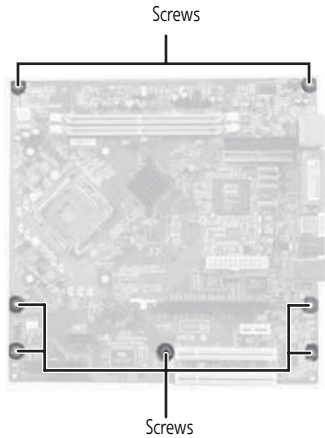
- 8** Gently pull the plastic tabs away from the sides of the memory modules, then remove them.
- 9** Disconnect the power and data cables from the system board, noting their locations and orientation. (You will reconnect the cables after you install the new board.)
- 10** Remove the three screws that secure the power supply to your computer.



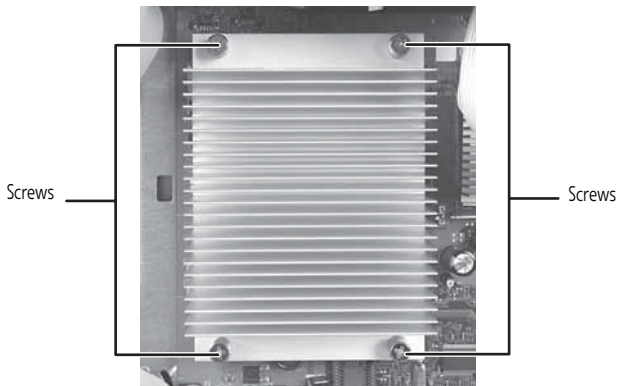
- 11** Slide the power supply away from the back of your computer, then pull it down and remove it.



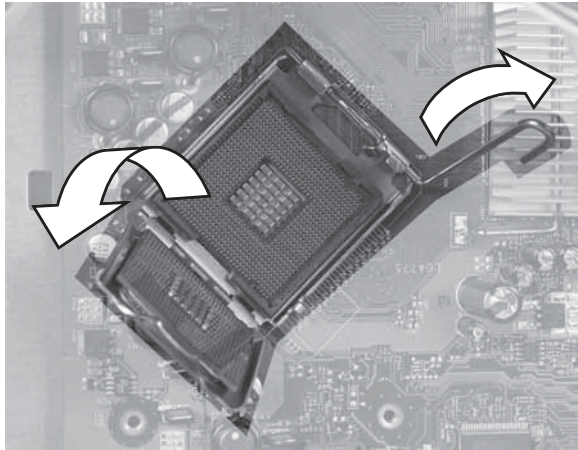
- 12 Remove the seven system board screws.



- 13 Lift the system board up and out of the case.
- 14 Align the new system board on the screw holes in the case, then secure it into the case with the screws.
- 15 If your replacement system board does not include a processor, go to [Step 16](#).  
-OR-  
If your replacement system board includes a processor, go to [Step 21](#).
- 16 Loosen the four screws that secure the heat sink to the old system board, then remove the heat sink and place it on a stable surface with the flat surface of the heat sink (the side with the thermal grease) up.



- 17** Release the processor from the old system board by pushing down on the lever, then lifting it completely up.



- 18** Remove the processor from the old system board.
- 19** Install the processor onto the new system board making sure that Pin 1 on the processor (indicated by the silk-screened arrow on the corner of the processor) aligns with Pin 1 on the processor socket (indicated by the absence of a pin hole in the processor socket), then return the lever to its locked position.
- 20** Place the heat sink over the processor, then tighten the screws that secure it to the system board.
- 21** Install the power supply into the case, then install the three screws to secure the power supply to the case.
- 22** Connect the power and data cables using your notes from [Step 9](#).
- 23** Install the memory you removed previously.
- 24** Connect the fan cable to the system board, then insert the fan into place.
- 25** Reinstall any expansion cards you removed.
- 26** Replace the side panel by following the instructions in [“Replacing the side panel”](#) on [page 33](#).

■



# CHAPTER 5

## Maintaining Your Computer

- Setting up a maintenance schedule
- Caring for your computer
- Cleaning your computer
- Updating Windows
- Using BigFix
- Managing hard drive space
- Scheduling maintenance tasks
- Moving from your old computer

# Setting up a maintenance schedule

Use the following table to set up a regular maintenance schedule.

Maintenance task	Weekly	Monthly	When needed
Check for viruses	X	X	X
Run Windows Update	X		X
Manage hard drive space			X
Clean up hard drives		X	X
Scan hard drive for errors		X	X
Defragment hard drive		X	X
Back up files	X	X	X
Clean computer case and peripheral devices			X

## Caring for your computer

To extend the life of your computer:

- Be careful not to bump or drop your computer, and do not put any objects on top of it. The case, although strong, is not made to support extra weight.
- When transporting your computer, we recommend that you put it in the original packaging materials.
- Keep your computer away from magnetic fields. Magnetic fields can erase data on hard drives.
- Never turn off your computer when the drive indicator is on because data on the hard drive could be lost or corrupted.

- Avoid subjecting your computer to extreme temperature changes. The case can become brittle and easy to break in cold temperatures and can melt or warp in high temperatures. Damage due to either extreme is not covered by your warranty. As a general rule, your computer is safest at temperatures that are comfortable for you.
- Keep all liquids away from your computer. When spilled onto computer components, almost any liquid can result in expensive repairs that are not covered under a standard warranty.
- Avoid dusty or dirty work environments. Dust and dirt can clog the internal mechanisms and can lead to permanent damage to the computer.
- Do not block the ventilation fan slots. If these slots are blocked, your computer may overheat, resulting in unexpected shutdown or permanent damage to the computer.
- When storing your computer for an extended period of time, unplug AC power.

## Cleaning your computer

Keeping your computer clean and the vents free from dust helps keep your computer performing at its best. You may want to gather these items and put together a computer cleaning kit:

- A soft, lint-free cloth
- An aerosol can of air that has a narrow, straw-like extension
- Cotton swabs
- An optical disc drive cleaning kit

## Cleaning the exterior



### Warning

When you shut down your computer, the power turns off, but some electrical current still flows through it. To avoid possible injury from electrical shock, unplug the power cord, modem cable, and network cable from the wall outlets.

- Always turn off your computer and other peripheral devices before cleaning any components.
- Use a damp, lint-free cloth to clean your computer and other parts of your system. Do not use household abrasive or solvent cleaners because they can damage the finish on components.
- Your computer is cooled by air circulated through the vents on the case, so keep the vents free of dust. With your computer turned off and unplugged, brush the dust away from the vents with a damp cloth. Be careful not to drip any water into the vents.

## Cleaning the keyboard

You should occasionally clean the keyboard to remove dust and lint trapped under the keys.

### ► To clean the keyboard:

- 1 Use an aerosol can of air with a narrow, straw-like extension to remove dust and lint trapped under the keys.
- 2 If you spill liquid on the keyboard, turn off your computer and turn the keyboard upside down. Let the liquid drain, then let the keyboard dry before trying to use it again. If the keyboard does not work after it dries, you may need to replace it.



## Cleaning the monitor



### Caution

A flat-panel display is made of specially coated glass and can be scratched or damaged by abrasive or ammonia-based glass cleaners.

#### ► To clean the monitor:

- To clean an LCD flat panel monitor, use a soft cloth and water to clean the screen. Dampen the cloth (never apply liquid directly to the screen), then wipe the screen with the cloth.
- To clean a CRT monitor, use a soft cloth and glass cleaner to clean the monitor screen. Squirt a little cleaner on the cloth (never directly on the screen), then wipe the screen with the cloth.



## Cleaning the mouse

If the mouse pointer begins moving erratically across the computer screen or becomes difficult to control precisely, cleaning the mouse will likely improve its accuracy.

#### ► To clean the mouse:

- Wipe the bottom of the mouse with a damp, lint-free cloth.



## Cleaning optical discs

Optical discs (CDs, DVDs, and Blu-ray Discs) get dirty from frequent handling.

#### ► To clean an optical disc:

- Wipe from the center to the edge, not around in a circle, using a product made especially for the purpose.



# Updating Windows

Windows Update helps you keep your computer up-to-date. Use Windows Update to choose updates for your computer's operating system, software, and hardware. New content is added to the site regularly, so you can always get the most recent updates and fixes to protect your computer and keep it running smoothly. Windows Update scans your computer and provides you with a tailored selection of updates that apply only to the software and hardware on your computer.

For information on running Windows Update, see "Windows Update" in the online *User Guide*. Windows Update can also be controlled through the Windows Security Center. For more information, see "Protecting Your Computer" in the online *User Guide*.



## Help

For more information about Windows Update, click **Start**, then click **Help and Support**. Type **windows update** in the **Search Help** box, then press ENTER.

# Using BigFix

BigFix monitors your computer for problems and conflicts. It automatically gathers information about the latest bugs, security alerts, and updates from BigFix sites on the Internet. Whenever BigFix detects a problem, it alerts you by flashing the blue taskbar icon. To fix the problem, click on that icon to open BigFix.

## ► To start BigFix:

- 1 Click **Ⓜ** (**Start**), **All Programs, Accessories, System Tools**, then click **BigFix**.
- 2 To learn more about BigFix, click **Help**, then click **Tutorial**.



# Managing hard drive space

Windows provides several utilities you can use to check hard drive space, delete unnecessary files, defragment files, and back up files.

# Checking hard drive space

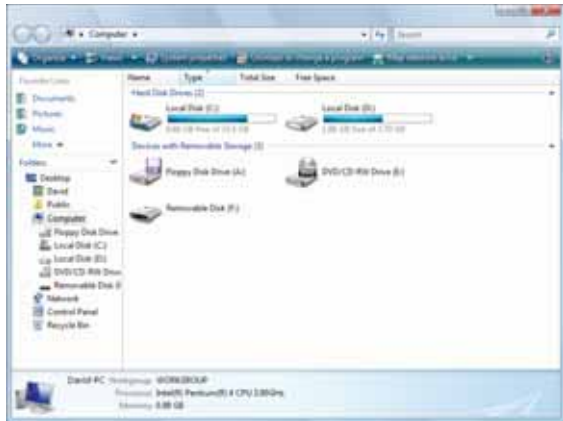
► **To check hard drive space:**



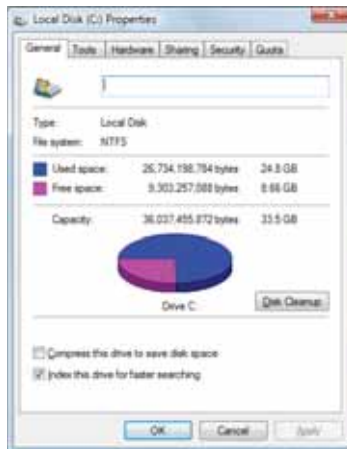
**Shortcut**

Start ⇒ Computer ⇒ right-click drive ⇒ Properties

- 1 Click **(Start)** then click **Computer**. The *Computer* window opens.



- 2 Right-click the drive that you want to check for available file space, then click **Properties**. Drive space information appears.



## Deleting unnecessary files

Delete unnecessary files, such as temporary files and files in the Recycle Bin, to free hard drive space.

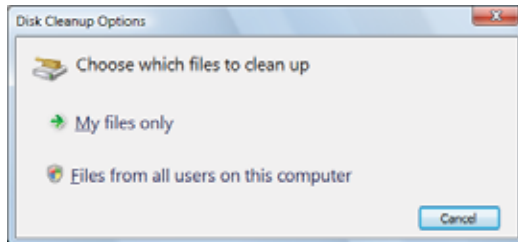
► **To delete unnecessary files:**



### Shortcut

Start ⇒ Computer ⇒ right-click drive ⇒ Properties ⇒ Disk Cleanup

- 1 Click **⊞ (Start)**, **All Programs, Accessories, System Tools**, then click **Disk Cleanup**. The *Disk Cleanup* dialog box opens.



- 2 Click one of the options:
  - **My files only** cleans only the folders for the currently logged in user.
  - **Files from all users on this computer** cleans all folders.

The *Disk Cleanup* dialog box opens.

- 3 Click to select the types of files you want to delete, then click **OK**. The types of files you indicated are deleted.



### Help

For more information about keeping the hard drive free of unnecessary files, click **Start**, then click **Help and Support**. Type **disk cleanup** in the **Search Help** box, then press ENTER.




## Checking the hard drive for errors

The Error-checking program examines the hard drive for physical flaws and file and folder problems. This program corrects file and folder problems and marks flawed areas on the hard drive so Windows does not use them.



If you use your computer several hours every day, you probably want to run Error-checking once a week. If you use your computer less frequently, once a month may be adequate. Also use Error-checking if you encounter hard drive problems.

► **To check the hard drive for errors:**

- 1 Click  (**Start**) then click **Computer**. The *Computer* window opens.
- 2 Right-click the drive that you want to check for errors, click **Properties**, then click the **Tools** tab.



- 3 Click **Check Now**, then click **Start**. Your drive is checked for errors. This process may take several minutes.



**Important**

Error checking cannot scan a drive while the drive is being used, so if you try to check your hard drive for errors, you see a prompt asking you if you want to scan the hard drive later (the next time you restart your computer). If you see this prompt, click **Schedule disc check**, then restart your computer.

After Windows has finished checking the drive for errors, it provides a summary of the problems that it found.

- 4 Correct any problems that are found by following the on-screen instructions.
- 5 Click **OK**.



**Help**

For more information about checking the hard drive for errors, click **Start**, then click **Help and Support**. Type **checking for disk errors** in the **Search Help** box, then press ENTER.



## Defragmenting the hard drive

When working with files, sometimes Windows divides the file information into pieces and stores them in different places on the hard drive. This is called *fragmentation*, and it is normal. In order for your computer to use a file, Windows must search for the pieces of the file and put them back together. This process slows the hard drive performance.

Disk Defragmenter organizes the data on the drive so each file is stored as one unit rather than as multiple pieces scattered across different areas of the drive. Defragmenting the information stored on the drive can improve hard drive performance.

While Disk Defragmenter is running, do not use your keyboard or mouse because using them may continuously stop and restart the defragmenting process. Also, if you are connected to a network, log off before starting Disk Defragmenter. Network communication may stop the defragmentation process and cause it to start over.

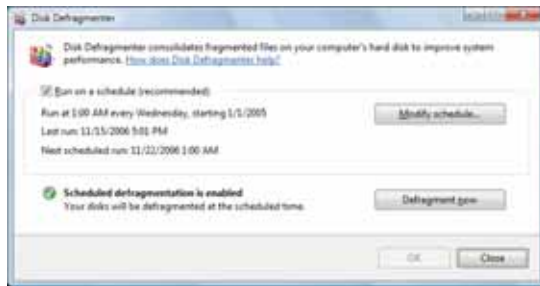


### Tip

Because defragmenting a drive may take hours to complete (depending on the size of the drive being defragmented), consider starting the process when you will not need the computer for several hours.

### ► To defragment the hard drive:

- 1 Disconnect your computer from the network.
- 2 Click **® (Start), All Programs, Accessories, System Tools**, then click **Disk Defragmenter**. The *Disk Defragmenter* dialog box opens.



- 3 Click **Defragment now**. This process may take hours to complete, depending on the size of the drive being defragmented.



### Help

For more information about defragmenting the hard drive, click **Start**, then click **Help and Support**. Type **defragmenting** in the **Search Help** box, then press ENTER.



## Backing up files

Backing up files and removing them from the hard drive frees space for new files on the hard drive. It also protects you from losing important information if the hard drive fails or you accidentally delete files.

You should back up your files regularly to a writable optical disc (if you have a recordable drive). Use a backup device, such as a recordable disc drive, to do a complete hard drive backup. If you do not have a high-capacity backup device and you want to purchase one, you can visit the Accessories Store at [www.gateway.com](http://www.gateway.com).

► **To back up files:**

- 1 Click **Ⓜ** (**Start**) then click **Computer**. The *Computer* window opens.
- 2 Right-click the drive that you want to back up, click **Properties**, then click the **Tools** tab.



- 3 Click **Backup Now**, then click **Run a file backup now**.
- 4 Follow the on-screen instructions to select a backup storage location and the files and folders to back up.



### Help

For more information about backing up files, click **Start**, then click **Help and Support**. Type **backup** in the **Search Help** box, then press **ENTER**.



# Scheduling maintenance tasks

Task Scheduler lets you schedule maintenance tasks such as running Disk Defragmenter and checking your drives for errors.

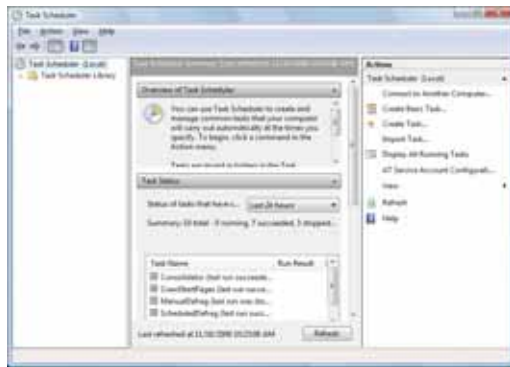


## Important

Your computer must be on during scheduled tasks. If your computer is off, scheduled tasks will not run.

### ► To start the Task Scheduler:

- 1 Click **Ⓜ (Start), All Programs, Accessories, System Tools**, then click **Task Scheduler**. The *Task Scheduler* dialog box opens.



- 2 Click **Create Basic Task** for basic tasks or click **Create Task** for more complex tasks, then follow the on-screen instructions to finish setting up and scheduling the task.



## Help

For more information about scheduling tasks, click **Start**, then click **Help and Support**. Type **task scheduler** in the **Search Help** box, then press ENTER.



# Moving from your old computer

## Moving with Windows Easy Transfer

You can move your files, folders, software settings, and user account settings (such as display, Internet, and e-mail settings) from your old computer to your new one using Windows Easy Transfer, providing your old computer uses Windows XP or Windows Vista.

While using Windows Easy Transfer, you will not be able to run other tasks on the computers.



### Important

If your old computer does not use Windows XP or Windows Vista, you must manually move your data by using a writeable disc, flash drive, or external hard drive.

---

### ► To move files and settings from your old computer:

- 1 If you want to transfer program settings to your new computer, install those programs on the new computer before running Windows Easy Transfer. Windows Easy Transfer copies only the software's settings, not the software itself, to the new computer.
- 2 Click **® (Start), All Programs, Accessories, System Tools**, then click **Windows Easy Transfer**. The *Windows Easy Transfer* dialog box opens.
- 3 Click **Next**, click **Start a new transfer**, then follow the on-screen instructions to complete the transfer.



### Help

For more information about transferring files, click **Start**, then click **Help and Support**. Type **transferring files** in the **Search Help** box, then press ENTER.

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## Moving files and settings manually

You can manually transfer your personal data files by copying them to removable media, such as a writable disc, an external hard drive, a network location, or a flash drive.

### Finding your documents

Many programs save your personal data files in the *Documents* or *My Documents* folder. Look in your old computer's documents folder for personal data files.

#### ► To find files in the documents folder:

- 1 In Windows Vista, click **Ⓜ (Start)**, then click **Documents**. The *Documents* folder opens and displays many of your saved personal data files. Go to [Step 4](#).

- OR -

In Windows XP, click **Start**, then click **My Documents**. The *My Documents* window opens and displays many of your saved personal data files. Go to [Step 4](#).

- OR -

In Windows 98, Windows Me, or Windows 2000, double-click the **My Computer** icon on the desktop. Go to the next step.

- 2 Double-click the **C:\** drive icon.
- 3 Double-click the **My Documents** folder. The *My Documents* window opens and displays many of your saved personal data files.
- 4 Copy your personal data files to removable media or to another computer on your network.



### Finding other files

Use Windows Find or Search to locate other personal data files. For more information, see the online *User Guide*.

You can often identify different data file types by looking at the file's *extension* (the part of the file name following the last period). For example, a document file might have a .DOC extension and a spreadsheet file might have an .XLS extension.

File type	File usually ends in...
Documents	.DOC, .TXT, .RTF, .HTM, .HTML, .DOT
Spreadsheets	.XLS, .XLT, .TXT
Pictures	.JPG, .BMP, .GIF, .PDF, .PCT, .TIF, .PNG, .EPS
Movies	.MPEG, .MPG, .AVI, .GIF, .MOV
Sound and music	.WAV, .CDA, .MP3, .MID, .MIDI, .WMA

► **To find files using Find or Search:**

- 1 In Windows Vista, click **Ⓜ** (**Start**), then click **Search**. The *Search Results* window opens.  
- OR -  
In Windows XP, click **Start**, then click **Search**. The *Search Results* window opens.  
- OR -  
In Windows 98, Windows Me, or Windows 2000, click **Start**, **Find** or **Search**, then click **For Files or Folders**. The *Search Results* window opens.
- 2 Type the filename you want to search for, then press **ENTER**. The search results are displayed.
- 3 To learn about more search options, click **Help**.  
■





# CHAPTER 6

## Troubleshooting

- Safety guidelines
- First steps
- Troubleshooting
- Recovering your system
- Telephone support

# Safety guidelines

While troubleshooting your computer, follow these safety guidelines:



## Warning

Never remove your computer case cover while your computer is turned on and while the modem cable, network cable, and power cord are connected.



## Warning

Make sure that you are correctly grounded before accessing internal components. For more information about preventing damage from static electricity, see "Preventing static electricity discharge" in your hardware reference.



## Warning

To avoid bodily injury, do not attempt to troubleshoot your computer problem if:

- Power cords or plugs are damaged
- Liquid has been spilled into your computer
- Your computer was dropped
- The case was damaged

Instead, unplug your computer and contact a qualified computer technician.

# First steps

If you have problems with your computer, try these things first:

- Make sure that the power cord is connected to your computer and an AC outlet and that the AC outlet is supplying power.
- If you use a power strip or surge protector, make sure that it is turned on.
- If a peripheral device (such as a keyboard or mouse) does not work, make sure that all connections are secure.
- Make sure that your hard drive is not full.
- If an error message appears on the screen, write down the exact message. The message may help Gateway Customer Care in diagnosing and fixing the problem.

- If you added or removed peripheral devices, review the installation procedures you performed and make sure that you followed each instruction.
- If an error occurs in a program, see the program's printed documentation or the online help.



### Help

For more information about troubleshooting, click **Start**, then click **Help and Support**. Type **troubleshooting** in the **Search Help** box, then press ENTER.

# Troubleshooting

Troubleshooting topics are listed in alphabetical order.

## Add-in cards

### The computer does not recognize an add-in card

- Shut down and restart your computer.
- Make sure that you have installed the required software. For more information, see the documentation that came with your add-in card.

## Audio

See ["Sound" on page 96](#).

## CD or DVD drives

### The computer does not recognize a disc or the CD or DVD drive

- Make sure that the disc label is facing up, then try again.
- Try a different disc. Occasionally discs are flawed or become scratched and cannot be read by the CD or DVD drive.
- If you are trying to play a DVD, make sure that you have a DVD drive. To identify your drive type, see the "Using Drives and Media Files" chapter in the online *User Guide*.
- Your computer may be experiencing some temporary memory problems. Shut down and restart your computer.
- Some music CDs have copy protection software. You may not be able to play these CDs on your computer.

- Clean the disc. For more information, see [“Cleaning optical discs” on page 63](#).
- Restart your computer, then enter the BIOS Setup utility by pressing and holding **F2** while your computer restarts. Make sure that the IDE controllers are enabled.
- Make sure that the drive is configured correctly by following the instructions in the drive documentation.
- Reinstall the device driver.

#### **An audio CD does not produce sound**

- Make sure that the disc label is facing up, then try again.
- Some music CDs have copy protection software. You may not be able to play these CDs on your computer.
- Make sure that the volume controls are turned up. For more information, see [“Adjusting the volume” on page 24](#).
- Make sure that the mute controls are turned off. For more information, see [“Adjusting the volume” on page 24](#).
- Make sure that the speaker cables are connected correctly and securely.
- Shut down and restart your computer.
- Clean the disc. For more information, see [“Cleaning optical discs” on page 63](#).
- Reinstall the audio device drivers.

#### **A DVD movie will not play**

- Make sure that you have a DVD drive. To identify your drive type, see the [“Using Drives and Media Files”](#) chapter in the online *User Guide*.
- Make sure that the disc label is facing up, then try again.
- Try a different disc. Occasionally discs are flawed or become scratched and cannot be read by the DVD drive.
- Shut down and restart your computer.
- Clean the disc. For more information, see [“Cleaning optical discs” on page 63](#).
- Reinstall the device driver.
- Make sure that the DVD program has been installed on your computer.

- DVDs and DVD drives contain *regional codes* that help control DVD title exports and help reduce illegal disc distribution. To be able to play a DVD, the disc's regional code and your DVD drive's regional code must match.

The regional code on your DVD drive is determined by your computer's delivery address. The regional code for the United States and Canada is 1. The regional code for Mexico is 4. Your DVD drive's regional code must match the regional code for the disc. The regional code for the disc is on the disc, disc documentation, or disc packaging.

If the DVD movie does not play, the disc's regional code and your DVD drive's regional code may not match.

## Diskette drive

### **The diskette drive is not recognized**

- Shut down and restart your computer.

### **You cannot save a file to diskette or you see the message "disk is full or write-protected"**

- Make sure that the write-protection tab on the upper-right corner of the diskette is down (unprotected).
- Delete unnecessary files on the diskette and try again.
- Make sure that the diskette you are using is IBM-compatible.
- Try a different diskette. Occasionally diskettes are flawed and cannot be read by the diskette drive.
- Run Error-checking on the diskette. For more information, see "[Checking the hard drive for errors](#)" on page 66. If errors are detected and corrected, try using the diskette again.

### **You see an "Access Denied" or "Write protect" error message**

- Move the write-protection tab in the upper-right corner of the diskette down (unprotected).
- The diskette may be full. Delete unnecessary files on the diskette and try again.
- Make sure that the diskette you are using is IBM-compatible.
- Try a different diskette. Occasionally diskettes are flawed and cannot be read by the diskette drive.

**You see a “Disk is full” error message**

- Delete unnecessary files on the diskette.
- Try a different diskette. Occasionally diskettes are flawed and cannot be read by the diskette drive.
- Run Error Checking on the diskette. For more information, see [“Checking the hard drive for errors” on page 66](#).

**You see a “Non-system disk” or “Disk error” error message**

- Eject the diskette from the diskette drive, then press **ENTER**.
- Make sure that the diskette you are using is IBM-compatible.

**The diskette drive LED is lit continuously**

- Remove the diskette from the drive. If the light stays on, try restarting your computer.

## DVD drives

- See [“CD or DVD drives” on page 77](#).

## Ethernet

**You cannot see the other computers on your network**

- Make sure that your Ethernet cable is plugged into the Ethernet jack on your computer. Make sure that the other end is plugged into a router.
- Make sure that all computers are plugged into a powered electrical outlet and turned on.
- Make sure that the router is plugged into a powered electrical outlet and turned on. Most routers have lights that indicate they are working. For more information, see the documentation that came with your router.
- Make sure that all computers on your network have the same workgroup name.
- Make sure that all computers are using the same Subnet Mask.
- If you assigned IP addresses to the computers, make sure that all computers have different IP addresses. For home networks, IP addresses should be 192.168.N.N where N is a number you assign between 0 and 254. The first N should be the same for all computers on your network and the second N should be different for all computers on your network.

### The computer does not recognize an add-in Ethernet card

- Shut down and restart your computer.
- Make sure that you have installed the required software. For more information, see the documentation that came with your Ethernet card.
- Reseat the card. For more information, about opening your computer case, see your hardware reference. For more information about your Ethernet card, see the documentation that came with your Ethernet card.

### Your Ethernet network is running slower than you expect

- If your Ethernet network is running slower than you expect, check the speed of each Ethernet component. For best results, all Ethernet components should be standard Ethernet (10 Mbps), Fast Ethernet (100 Mbps or 10/100 Mbps), or Gigabit Ethernet (1000 Mbps or 10/100/1000 Mbps). A mixture of Ethernet, Fast Ethernet, and Gigabit Ethernet components will result in your network running at the slowest component speed.

## File management

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### Help

For more information about restoring deleted files, click **Start**, then click **Help and Support**. Type **System Restore** in the **Search Help** box, then press **ENTER**.

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### A file was accidentally deleted

If a file was deleted while holding down the **SHIFT** key, the file cannot be restored.

#### ► To restore deleted files:

- 1 Double-click the **Recycle Bin** icon.
- 2 Right-click the file you want to restore, then click **Restore**. The file is restored to the place where it was originally deleted from.

If the Recycle Bin was emptied before you try to restore a file, the file cannot be restored.



## Hard drive

### You see an “Insufficient disk space” error message

- Delete unnecessary files from the hard drive using Disk Cleanup. For instructions on deleting unnecessary files, see [“Deleting unnecessary files” on page 66](#).



#### Help

For more information about file management, click **Start**, then click **Help and Support**. Type **file management** in the **Search Help** box, then press ENTER.

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- Empty the Recycle Bin by right-clicking the **Recycle Bin** icon, then clicking **Empty Recycle Bin**.



#### Caution

All deleted files will be lost when you empty the Recycle Bin.

---

- Save your files to another drive. If the hard drive is full, copy any files not regularly used to backup media, then delete them from the hard drive.

### You see a “Data error” message

- This may be the result of a defective area on the hard drive. To fix hard drive problems, run the Error checking program. For instructions on fixing hard drive problems, see [“Checking the hard drive for errors” on page 66](#).

### The hard drive cannot be accessed, or you see a “General failure reading drive C” error message

- If your computer has been subjected to static electricity or physical shock, you may need to reinstall the operating system.



# Internet

See also [“Modem \(dial-up\)” on page 89](#).

## You cannot connect to the Internet

- If you are using a dial-up modem, make sure that the modem cable is plugged into the modem jack and not the Ethernet network jack. See your hardware reference or setup poster to make sure that the connections have been made correctly.
  - OR -
  - If you are using a cable or DSL modem, make sure that the modem cable is plugged into the Ethernet network jack and not the modem jack. See your hardware reference or setup poster to make sure that the connections have been made correctly.
- Make sure that your account with your Internet service provider (ISP) is set up correctly. Contact your ISP technical support for help.
- Make sure that you do not have a problem with your modem. For more information, [“Modem \(dial-up\)” on page 89](#).



### Help

For more information about troubleshooting Internet connections, click **Start**, then click **Help and Support**. Type **troubleshooting connections** in the **Search Help** box, then press ENTER.

---

## You see an “Unable to locate host” message and are unable to browse the Internet

- This problem can occur when you have typed a URL (Web address) incorrectly, you have lost your Internet connection, or your ISP is having technical difficulties.
- Double-check the URL or try a different URL. If the error message still appears, disconnect from the ISP connection and close your browser, then reconnect and open the browser. If you still get the error, your ISP may be having technical difficulties.

**Connecting to a Web site takes too long**

Many factors can affect Internet performance:

- The condition of the telephone lines in your residence or at your local telephone service
- The condition of the Internet computers to which you connect and the number of users accessing those computers
- The complexity of graphics and multimedia on Web pages
- Having multiple Web browsers open, performing multiple downloads, and having multiple programs open on your computer

**People are sending you e-mail messages, but you have not received any mail**

- Click the receive button in your e-mail program.
- Make sure that your account with your Internet service provider (ISP) is set up correctly. Contact your ISP for technical support.

## Keyboard

**The keyboard does not work**

- Make sure that the keyboard cable is plugged in correctly. For more information, see the poster that came with your computer.
- Remove all extension cables and switch boxes.
- Clean the keyboard by using an aerosol can of air with a narrow, straw-like extension to remove dust and lint trapped under the keys.
- Try a keyboard that you know works to make sure that the keyboard port works.
- Reinstall the keyboard device driver.

**A keyboard character keeps repeating or you see a “keyboard stuck” or “key failure” error message**

- Make sure that nothing is resting on the keyboard.
- Make sure that a key is not stuck. Press each key to loosen a key that might be stuck, then restart your computer.

## Liquid spilled in the keyboard

- If you spilled liquid in the keyboard, turn off your computer and unplug the keyboard. Clean the keyboard and turn it upside down to drain it. Let the keyboard dry before using it again. If the keyboard does not work after it dries, you may need to replace it.

## Media Center

To view Media Center troubleshooting information that is not covered in this section, go to the Gateway support Web Site at [www.gateway.com](http://www.gateway.com).



### Help

For more information about Windows Media Center, click **Start**, then click **Help and Support**. Type **Windows Media Center** in the **Search Help** box, then press ENTER.

## The Media Center video display looks bad on your TV

Many factors, such as the display type, quality of the video source, type of connection used, quality of video cables, display device screen resolution, size of TV, age of the TV, or the type of TV (interlaced or progressive scan), can affect the video quality significantly:

- **Display type**—The Media Center is best viewed on display devices that were offered with the Media Center computer when you purchased it from Gateway. Other types of display devices, including retail TVs, may provide lower quality video. If you did not order a display device when you purchased your Media Center computer, a progressive scan display device with a VGA input is the best choice.
- **Quality of video source**—The quality of the video signal coming into the Media Center computer has an affect on the video quality. The video displayed from the Media Center is only as good as the source video signal. Cable, digital cable, and satellite usually provide better quality than an antenna.
- **Type of connection used**—You can connect the Media Center computer video output to a TV. However, the connection type has an affect on the video quality. The Media Center has two video outputs:
  - **VGA**—If your TV includes a VGA port, connect the VGA cable from the Media Center computer's VGA (monitor) port to the TV's VGA In port for the best quality. Many TVs do not have a VGA port.

- **S-Video**—If your TV does not have a VGA port, but includes an S-Video port, connect the S-Video cable from the Media Center computer's S-Video Out port to the TV's S-Video In port. S-Video display quality is usually good for TV images. The display quality for the Media Center computer functions, however, is not as good as VGA output. S-Video display output is not optimized for computer video display.
- **Quality of video cables**—Poor quality or the incorrect type of video cables can cause problems and affect the video quality. Gateway recommends using high-quality video cables that can be purchased from the Gateway Accessory Store.  
Note: Cable connections must be made correctly for optimal video quality. A poor cable connection can lower video quality.
- **Screen resolution**—By default, if your display device was purchased with the Media Center computer, the computer uses a screen resolution of 1024 × 768 for computer monitors and 800 × 600 for the Gateway 42-inch Plasma TV. Many TVs cannot display this high of a resolution and may shift, scramble, or scroll the picture. For a better picture on a TV display, you may need to lower the Media Center screen resolution to 800 × 600 or 640 × 480. For more information about changing the screen resolution, see the "Customizing" chapter in the online *User Guide*.
- **Size of display device**—Small computer monitors for standard computer applications are generally not optimized for motion video playback. Although they offer excellent resolutions and refresh rates, they are designed to make static white backgrounds with black text look readable. Some small display devices do not make colorful motion video look its best. Generally, video will look better on a larger display device.
- **Age of the TV**—Newer TVs usually have more advanced features, produce a better quality picture, and support higher screen resolutions. The Media Center video display will likely be better on a newer model TV.

- **Type of TV** (interlaced or progressive scan)  
Many TVs use interlaced video. Interlaced video displays a video frame with two passes of alternating scan lines. The TV screen first displays the video image odd lines one at a time, sequentially from top to bottom, then it fills in the other half of the video image with the even lines. Because most TVs use this interlaced method to display the picture on the screen, a standard interlaced analog TV will most likely flicker when displaying thin lines and small text. An interlaced video display device will produce a lower quality display, especially when viewing and using the Media Center computer functions.  
  
Progressive scan video displays a video frame with one pass of sequential scan lines. A progressive scan TV displays the entire picture, drawn sequentially from top to bottom, without the odd/even interlacing. This results in a fuller, sharper picture and better display quality for viewing and using the Media Center computer functions. The progressive scan picture is also brighter and easier on your eyes.

#### **You need to configure your Media Center computer to output to a TV**

- Your Media Center computer detects whether you are using a VGA or an S-Video display device and automatically changes the display settings for the type of display device you are using. For more information, see the Gateway support Web site at: [www.gateway.com](http://www.gateway.com).

#### **You want to change display settings to get better TV or DVD image quality**

- Adjust the display device brightness, contrast, hue, and saturation. For more information, see the Gateway support Web site at: [www.gateway.com](http://www.gateway.com).

#### **You want to know whether you can burn programs that were recorded with your Media Center computer to a DVD**

- Yes, you can. The Media Center saves recorded programs in the DVR-MS format. You can burn a DVR-MS file to a DVD with DVD recording (burning) software and with the Media Center itself.

**You want to know whether you can play recorded programs on other computers**

- Yes, you can. A DVR-MS file recorded to DVD can be replayed on another Media Center computer or on a non-Media Center computer that has a DVD player and DVD decoder software (such as WinDVD). The non-Media Center computer must also have at least Windows XP with Service Pack (SP) 1 or 2, Windows Media Player 9 or later, and the Windows patch Q810243 Update.

**You want to know whether you can play recorded programs on your home DVD player**

- Yes, you can. DVDs recorded with the Media Center can be played on a home DVD player.

**You get a “Download Error” message when the Media Center tries to update the Program Guide:**

- You must be connected to the Internet to update the Program Guide. Make sure that your Internet account is set up and connected to the Media Center computer.

## Memory

**Help**

For more information about troubleshooting memory errors, click **Start**, then click **Help and Support**. Type **memory error** in the **Search Help** box, then press ENTER.

**You see a “Memory error” message**

- Use a third-party diagnostic program to help determine if a memory module is failing.

**You see a “Not enough memory” error message**

- Close all programs, then restart your computer.

## Memory card reader

**Drive letters for the memory card slots do not appear in the My Computer window**

- Reboot your computer.

## Modem (cable or DSL)

- See the documentation that came with your modem for additional troubleshooting information.

## Modem (dial-up)

See also [“Internet” on page 83](#).

### Your modem does not dial or does not connect

- Make sure that the modem cable is plugged into the modem jack and not the Ethernet network jack. See your hardware reference or setup poster to make sure that the connections have been made correctly.
- Make sure that your computer is connected to the telephone line and the telephone line has a dial tone.
- Make sure that the modem cable is less than 6 feet (1.8 meters) long.
- Remove any line splitters or surge protectors from your telephone line, then check for a dial tone by plugging a working telephone into the telephone wall jack.
- If you have additional telephone services such as call waiting, call messaging, or voice mail, make sure that all messages are cleared and call waiting is disabled before using the modem. Contact your telephone service to get the correct code to temporarily disable the service. Also make sure that the modem dialing properties are set correctly.

### ► To check the dialing properties:

- 1 Click **Start**, then click **Control Panel**. The *Control Panel* window opens.
- 2 Click **Hardware and Sound**, then click **Phone and Modem Options**. The *Phone and Modem Options* dialog box opens.
- 3 If this is the first time you have accessed this category, the *Location Information* dialog box opens. Enter the information for your area, then click **OK**.
- 4 Click the **Dialing Rules** tab, click the location from which you are dialing, then click **Edit**.
- 5 Make sure that all settings are correct.  
■

**Help**

For more information about dialing properties, click **Start**, then click **Help and Support**. Type **dialing** in the **Search Help** box, then press **ENTER**.

- Disconnect any answering machine, fax machine, or printer that is on the same line as the modem. Do not connect these devices to the same telephone line as the modem.
- Make sure that you are not using a digital, rollover, or PBX line. These lines do not work with your modem.
- Check for line noise (scratchy, crackling, or popping sounds). Line noise is a common problem that can cause the modem to connect at a slower rate, abort downloads, or even disconnect. The faster the modem, the less line noise it can tolerate and still work correctly.

Listen to the line using your telephone. Dial a single number (such as **1**). When the dial tone stops, listen for line noise. Wiggle the modem cable to see if that makes a difference. Make sure that the connectors are free from corrosion and all screws in the wall or telephone wall jack are secure.

You can also call your telephone service and have the telephone line checked for noise or low line levels.

- Try another telephone line (either a different telephone number in your house or a telephone line at a different location). If you can connect on this line, call your telephone service.
- Try connecting with the modem at a lower connection speed. If reducing the connect speed lets you connect, call your telephone service. The telephone line may be too noisy.

**You cannot connect to the Internet**

- The ISP may be having technical difficulties. Contact your ISP for technical support.
- See if the modem works with a different communications program. The problem may be with just one program.
- Review the troubleshooting information under ["Internet" on page 83](#).

**Your 56K modem does not connect at 56K**

Current FCC regulations restrict actual data transfer rates over public telephone lines to 53K. Other factors, such as line noise, telephone service provider equipment, or ISP limitations, may lower the speed even further.



If your computer has a v.90 modem, the speed at which you can upload (send) data is limited to 33.6K. If your computer has a v.92 modem, the speed at which you can upload data is limited to 48K. Your ISP may not support 48K uploads.

**Your fax communications program only sends and receives faxes at 14,400 bps when you have a 56K modem**

- Current fax technology only supports a maximum send and receive rate of 14,400 bps.

**The modem is not recognized by your computer**

- Make sure that the line connected to the modem is working and plugged into the appropriate port on your computer. See your hardware reference or setup poster to make sure that the connections have been made correctly.
- If the modem shares the telephone line with another device, make sure that the telephone line is not in use (for example, someone is on the telephone, or another modem is in use).
- Use the modem cable that came with your computer. Some telephone cables do not meet cable standards and may cause problems with the connection.
- Shut down and restart your computer.
- Run Windows modem diagnostics.

► **To run modem diagnostics:**

- 1 Close all open programs.
- 2 Click **Start**, then click **Control Panel**. The *Control Panel* window opens.
- 3 Click **Hardware and Sound**, then click **Phone and Modem Options**. The *Phone and Modem Options* dialog box opens.
- 4 Click the **Modems** tab, click your modem, then click **Properties**. The *Modem Properties* dialog box opens.
- 5 Click the **Diagnostic** tab, then click **Query Modem**. If information about the modem appears, the modem passed diagnostics. If no modem information is available, a white screen appears with no data, or if you get an error such as *port already open* or *the modem has failed to respond*, the modem did not pass diagnostics.



**Help**

For more information about modem troubleshooting, click **Start**, then click **Help and Support**. Type **modem troubleshooting** in the **Search Help** box, then press ENTER.

**The modem is noisy when it dials and connects**

When your modem tries to connect to another modem, it begins *handshaking*. Handshaking is a digital “getting acquainted” conversation between the two modems that establishes connection speeds and communication protocols. You may hear unusual handshaking sounds when the modems first connect. If the handshaking sounds are too loud, you can turn down the modem volume.

**► To turn down the modem volume:**

- 1 Click **Start**, then click **Control Panel**. The *Control Panel* window opens.
- 2 Click **Hardware and Sound**, then click **Phone and Modem Options**. The *Phone and Modem Options* dialog box opens.
- 3 Click the **Modems** tab, click the modem you want to adjust, then click **Properties**.
- 4 Click the **Modem** tab, then adjust the **Speaker volume** control.
- 5 Click **OK** twice to close the *Phone and Modem Options* dialog box.



## Monitor

**The screen resolution is not correct**

- Change the screen resolution from the *Display Settings* dialog box. For more information, see the “Customizing” chapter in the online *User Guide*.

**The computer is running but there is no picture**

- Make sure that the monitor is plugged in and turned on. If the monitor is turned on, the power LED should be lit.
- Adjust the brightness and contrast controls to the center position.
- Make sure that the monitor cable is connected to the video port on the back of your computer.
- Check the cable for bent or damaged pins.

- Reinstall the device driver.
- Connect a monitor that you know works to your computer.

### **The color is not uniform**

- Make sure that the monitor warms up for at least 30 minutes before making a final judgment about color uniformity.
- Make sure that:
  - Non-shielded speakers are not placed too close to the monitor.
  - The monitor is not positioned too close to another monitor, electric fan, fluorescent light, metal shelf, or laser printer.
  - You demagnetize the screen using the monitor's degauss feature. For more information on degauss, see your monitor's documentation.

### **Why is there a horizontal line or wire visible across the monitor screen?**

Your monitor may use a thin *damp*er wire, located approximately 1/3 of the way down from the upper screen edge and 1/3 of the way up from the lower screen edge, to stabilize the internal aperture grille. These wires are most obvious when the monitor displays a white background. The aperture grille allows more light to pass through the screen for brighter colors and greater luminescence. The damper wire is a critical part of the overall monitor design and does not negatively affect the monitor's function.

### **The text on the display is dim or difficult to read**

- Adjust the brightness and contrast controls.
- Use the monitor degauss feature (see your monitor documentation) or turn off your computer and monitor, leave them off for at least a half hour, then restart your computer.
- Change the display settings. For more information, see the "Customizing" chapter in the online *User Guide*.
- Move the monitor away from sources of electrical interference, such as televisions, unshielded speakers, microwaves, fluorescent lights, and metal beams or shelves.

For more information about display types, see your monitor and video card documentation.

**Help**

For more information about changing the screen resolution, click **Start**, then click **Help and Support**. Type **screen resolution** in the **Search Help** box, then press ENTER.

---

## Mouse

**The mouse does not work**

- Make sure that the mouse cable is plugged in correctly.
- Shut down and restart your computer.
- Remove all extension cables and switch boxes.
- Try a mouse you know is working to make sure that the mouse port works.

**The mouse works erratically**

- If the mouse pointer begins moving erratically across the computer display or becomes difficult to control precisely, cleaning the mouse will likely improve its accuracy.
- Clean the mouse by wiping the bottom with a clean, damp cloth. Make sure that the optical sensor is clean and free of debris.

## Networks

**You cannot connect to your company network**

Every network is unique. Contact your company computer department or network administrator for help. For more information about setting up a network in your home, see the “Networking Your Computer” chapter in the online *User Guide*.

**Help**

For more information about network troubleshooting, click **Start**, then click **Help and Support**. Type **network troubleshooting** in the **Search Help** box, then press ENTER.

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## Passwords

**Your computer does not accept your password**

- Make sure that **CAPS LOCK** is turned off, then retype the password.

## Power

### Your computer will not turn on

- Make sure that the power cord is connected to an AC power source and to your computer, and that your computer is turned on.
- If your computer is plugged into a surge protector, make sure that the surge protector is connected securely to an electrical outlet, turned on, and working correctly. To test the outlet, plug a working device, such as a lamp, into the outlet and turn it on.
- Make sure that the power cord is free from cuts or damage. Replace any damaged cables.

## Printer

### The printer will not turn on

- Make sure that the printer is online. Many printers have an online/offline button that you may need to press.
- Make sure that the power cable is plugged into an AC power source.

### The printer is on but will not print

- Check the cable between the printer and your computer. Make sure that it is connected to the correct port.
- Make sure that the printer is online. Many printers have an online/offline button that you may need to press so the printer can start printing. Press the button to put the printer online.
- Check the cable for bent or broken pins.
- If the printer you want to print to is not the default printer, make sure that you have selected it in the printer setup.

#### ► To set a default printer:

- 1 Click **Start**, then click **Control Panel**. The *Control Panel* window opens.
- 2 Click **Hardware and Sound**, then click the **Change Default Printer** option under the **Printers** category. The *Printer* window opens.
- 3 Right-click the printer you want to be the default printer, then click **Set as Default Printer**.



- Reinstall the printer driver. See the guide that came with your printer for instructions on installing the printer driver.

#### You see a “Printer queue is full” error message

- Make sure that the printer is not set to work offline.
  - ▶ **To make sure that the printer is not set to work offline:**
    - 1 Click **Start**, then click **Control Panel**. The *Control Panel* window opens.
    - 2 Click **Hardware and Sound**, then click the **Printers** category. The *Printers* window opens.
    - 3 Right-click the printer you want to use. If the menu shows a check mark next to **Use Printer Offline**, click **Use Printer Offline** to clear the check mark. ■
- Wait until files have been printed before sending additional files to the printer.
- If you print large files or many files at one time, you may want to add additional memory to the printer. See the printer documentation for instructions for adding additional memory.

#### You see a “Printer is out of paper” error message

After adding paper, make sure that the printer is online. Most printers have an online/offline button that you need to press after adding paper.



#### Help

For more information about printer troubleshooting, click **Start**, then click **Help and Support**. Type **printer troubleshooter** in the **Search Help** box, then press ENTER.

## Sound

#### You are not getting sound from the speakers

- Make sure that the speakers are turned on.
- Make sure that the volume controls are turned up. For more information, see [“Adjusting the volume” on page 24](#).
- Make sure that mute controls are turned off. For more information, see [“Adjusting the volume” on page 24](#).
- If you are using external speakers, see the speaker setup poster to check your speaker connections.
- Make sure that the universal jacks are configured correctly. For more information, see [“Configuring the audio jacks” on page 26](#).

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## Help

For more information about sound troubleshooting, click **Start**, then click **Help and Support**. Type **sound troubleshooter** in the **Search Help** box, then press ENTER.

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# Recovering your system

Most computer problems can be solved by following the information in [“Troubleshooting” on page 143](#) or in the technical support pages at [www.gateway.com](http://www.gateway.com). Problem-solving may also involve re-installing some or all of the computer’s software (also called *recovering* or *restoring* your system). Gateway provides everything you need to recover your system under most conditions.

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## Caution

To prepare your computer for additional system recovery options, you should create a set of software and driver recovery discs as soon as possible. For instructions, see [“Preparing for software and device driver recovery” on page 98](#).

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- To recover software and device drivers that were pre-installed at the factory, see [“Recovering pre-installed software and drivers” on page 98](#).
- To return your system to a previous condition when it was working correctly, see [“Using Microsoft System Restore” on page 104](#).
- To completely recover your system to its factory condition, see [“Recovering your system to its factory condition” on page 107](#).

If you upgrade or exchange your hard drive, or if your hard drive is completely erased or corrupted, your only option for system recovery may be to reinstall Windows from the Windows DVD, then recover your pre-installed software and device drivers using recovery discs that you created. (Your computer must have a recordable disc drive to use these options.)

- To re-install Windows using the Windows DVD, see [“Recovering your system using the Windows DVD” on page 108](#).
- To re-install your pre-installed software and device drivers using recovery discs, see [“Recovering pre-installed software and drivers using recovery discs” on page 102](#).

## Recovering pre-installed software and drivers

You can perform a partial recovery by recovering the software and device drivers that were pre-installed at the factory. If you need to recover software that did **not** come pre-installed on your system, you need to follow that software's installation instructions.

You can recover pre-installed software and drivers from a set of recovery discs (you must create the discs) or by using Gateway Recovery Center.

### Preparing for software and device driver recovery

You can usually recover your pre-installed software and drivers from your hard drive. However, if you ever re-install Windows from the Windows DVD or install a new hard drive, you will need to recover your pre-installed software and drivers using a set of *software and driver recovery discs*. Because these discs do not come with your computer, you should create your own set.



#### **Caution**

Although you may not be expecting to need recovery discs, we recommend that you prepare for any eventuality and create a set of recovery discs while you have the opportunity.

---



You should create a set of discs for recovering your pre-installed software and device drivers, in case you will need to use them later for a complete system recovery. (Your computer must have a recordable disc drive to perform this procedure.)

► **To create discs for recovering pre-installed software and drivers:**

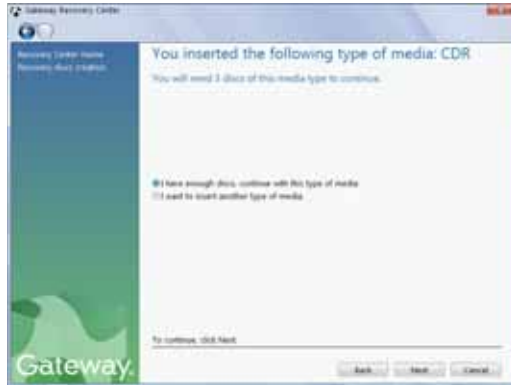
- 1 Click **® (Start), All Programs, Gateway Recovery Center**, then click **Gateway Recovery Center**. The *Gateway Recovery Center* opens.



- 2 Click **Applications and drivers external media**, then click **Next**. The *What would you like to do?* dialog box opens.
- 3 Click **Create system recovery discs**, then click **Next**.

- 4 Insert a blank, recordable disc into a recordable disc drive, then click **Next**. If an *AutoPlay* dialog box opens, click the **x** in the upper-right corner to close it.

A dialog box opens that tells you the number of blank discs you will need to create a full set of recovery discs.



- 5 If you have enough blank discs of the specified type, click **I have enough discs**, then click **Next**. If you do not have enough discs, choose a different disc type, or click **Cancel**.

The disc recording begins. Label the discs as they are completed.



### Important

Use a permanent marker to label each disc “Software and Driver Recovery,” along with a short description of which computer the discs are for. If you are recording multiple discs, as you remove each disc from the drive, use the marker to label each disc **1 of x**, **2 of x**, **3 of x**, and so on.



### Tip

After a recovery disc is created, your computer names the disc **Recovery13** for disc 1 of a 3-disc set, **Recovery23** for disc 2, and so on.

- 6 If multiple discs are required, insert the additional blank disks when prompted.
- 7 When the process is finished, the *Congratulations!* window opens.
- 8 Click **Finish**.
- 9 Remove your final disc, then label all of the discs and store them in a safe place.



## Recovering pre-installed software and drivers using Gateway Recovery Center

► To recover specific drivers and software:

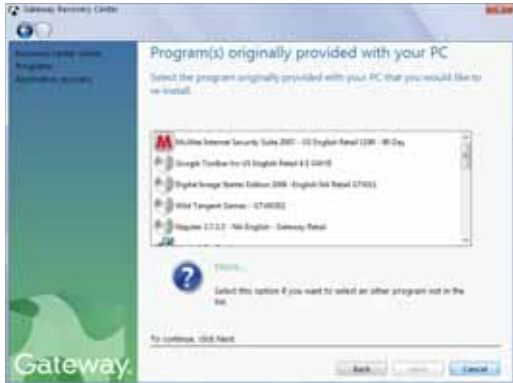
- 1 Click **Ⓜ (Start)**, **All Programs**, **Gateway Recovery Center**, then click **Gateway Recovery Center**. The *Gateway Recovery Center* opens.



### Important

If you have recently reinstalled Windows or installed a new hard drive, and your Start menu does not contain Gateway Recovery Center as an option, you must recover your software and drivers using software and driver recovery discs you have created. For instructions, see ["Recovering pre-installed software and drivers using recovery discs"](#) on page 102.

- 2 To recover software that was pre-installed, click **Programs**, then click **Application recovery**.



- 3 To recover device drivers that were pre-installed, click **Hardware**, then click **Device driver recovery**.



- 4 Click the software or driver you want to recover, then click **Next**.

## Recovering pre-installed software and drivers using recovery discs

If you created a multiple-disc set of recovery discs, each disc contains a unique set of software and drivers. If a recovery disc does not offer the software or driver you need to recover, try another disc.

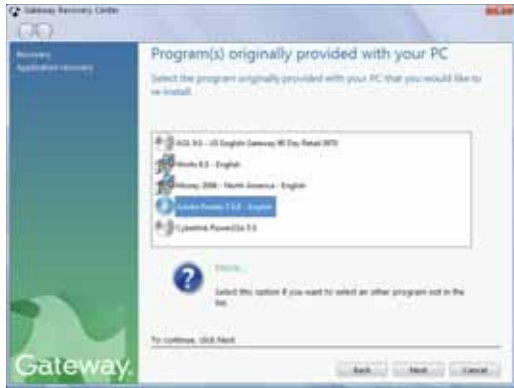
### ► To recover software and drivers using recovery discs:

- 1 Insert a software and driver recovery disc into a CD/DVD drive. If an *AutoPlay* dialog box appears, click **Run Grc\_Vista.exe**.

The disc's Gateway Recovery Center starts.

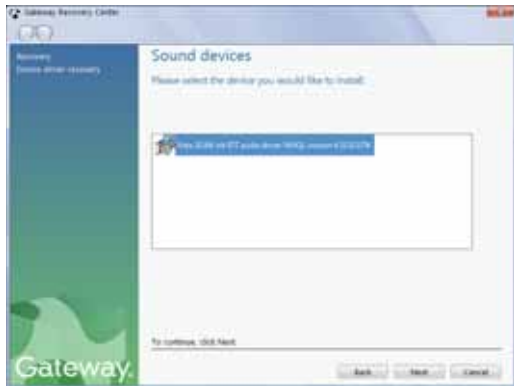


- 2 To recover pre-installed software, click **Application recovery**, click the software you want to recover, then click **Next**.



- OR -

- 2 To recover pre-installed device drivers, click **Device driver recovery**, click the type of driver you want to recover, then click **Next**.



- 3 If the software or driver is not shown on the list, and you have a multiple-disc set of recovery discs, close Gateway Recovery Center and try another disc.



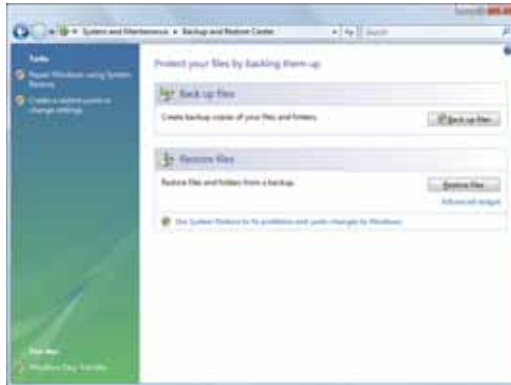
## Using Microsoft System Restore

Microsoft System Restore periodically takes “snapshots” of your system settings and saves them as *restore points*. In most cases of hard-to-resolve software problems, you can return to one of these restore points to get your system running again.

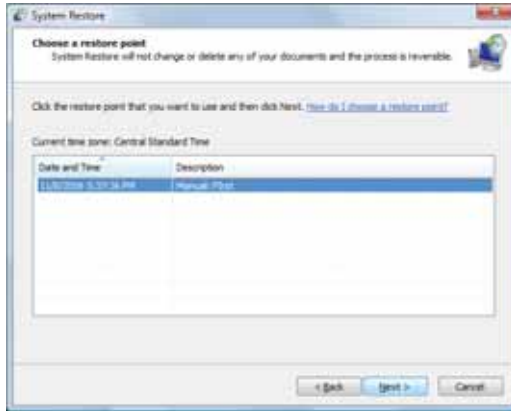
Windows automatically creates an additional restore point each day, and also each time you install software or device drivers. You can also create a restore point manually. For instructions, see [“Manually creating a restore point” on page 105](#).

► **To restore using Microsoft System Restore:**

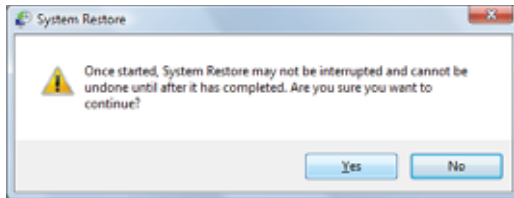
- 1 Click **(Start)**, **Control Panel, System and Maintenance**, then click **Backup and Restore Center**. The *Backup and Restore Center* opens.



- 2 On the left side of the window, click **Repair Windows using System Restore**, then click **Next**. The *Choose a restore point* dialog box opens.



- 3 Click the restore point you want, click **Next**, then click **Finish**. A confirmation message box appears.




- 4 Click **Yes**. Your system is restored using the restore point you specified.

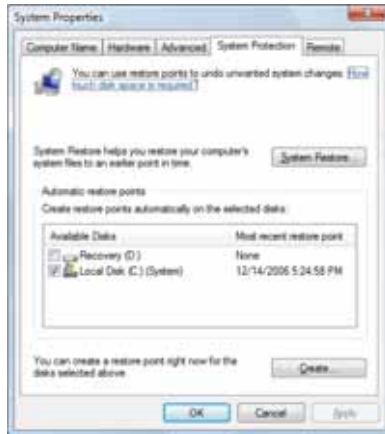


## Manually creating a restore point

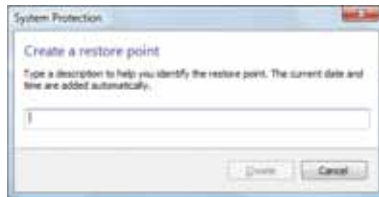
► To manually create a restore point:

- 1 Click  (**Start**), **Control Panel**, **System and Maintenance**, then click **Backup and Restore Center**. The *Backup and Restore Center* opens.

- 2 On the left side of the window, click **Create a restore point or change settings**, then click **Next**. The *System Protection* dialog box opens to the *System Protection* tab.



- 3 Click **Create**. The *Create a restore point* dialog box opens.



- 4 Type a description for the restore point (such as the date and time), then click **Create**. The restore point is created.
- 5 Click **OK**.



# Recovering your system to its factory condition

If your computer's problems are not solved by any of the other recovery options, you may need to recover its hard drive to its factory condition. This process is called a *factory recovery*.



## Caution

A complete factory recovery deletes everything on your hard drive, then reinstalls Windows and any pre-installed software and device drivers. If you are able to access important files on your hard drive, back them up now.

---

### ► To delete everything on your hard drive and re-install all factory software:

- 1 If you can still run Windows:
  - a Click **@ (Start)**, **All Programs**, **Gateway Recovery Center**, then click **Gateway Recovery Center**. The *Gateway Recovery Center* opens.
  - b Click **Recovery**, then click **Next**. Your computer restarts.
- 2 If you cannot run Windows:
  - a Turn on or restart your computer.
  - b While the computer is starting up, repeatedly press **F8** until the *Recovery Options* screen opens. If Windows loads instead, restart the computer and try again.
- 3 Press the arrow keys on your keyboard to select **Repair Your Computer**, then press **ENTER**.  
*Gateway System Recovery* starts, and the *System Recovery Options* dialog box opens.
- 4 Select a language and keyboard layout, then click **Next**.
- 5 Click the **User name box** to select a Windows user account, click in the **Password** box and type the user account's password (if any), then click **Next**. The *System Recovery Options* menu opens.
- 6 Click **Restore Application**. The *Welcome to Gateway System Recovery* window opens.
- 7 Click **Next**, click **Full factory recovery**, then click **Next**.



## Caution

Continuing with the full factory recovery will delete everything on your hard drive. If your computer has multiple hard drives, recovery will delete everything on only the primary (operating system) hard drive. If your computer's hard drive has multiple partitions, recovery will delete everything on only the operating system partition.

---

- 8 Click **Yes**, then click **Next**. The *Factory image recovery* window opens, which shows you the progress of the system recovery.  
When recovery is finished, the *Recovery is complete* window opens.
- 9 Click **Finish**, then click **Restart**. Your computer restarts into its original factory condition.
  -

## Recovering your system using the Windows DVD

If you install a new hard drive or completely re-format your original hard drive, you must recover your system using the Windows Vista operating system DVD. You will also need to recover your computer's pre-installed software and device drivers.

### ► To completely re-install Windows:

- 1 Insert the Windows DVD into one of your computer's DVD-capable drives, then restart your computer.
- 2 When the prompt "Press any key to boot from CD or DVD" appears, press any key on your keyboard. A list of valid boot devices appears.
- 3 Press the arrow keys to select the drive containing the Windows DVD, then press **ENTER** and follow the on-screen instructions.
- 4 After Windows is completely re-installed, use your software and driver recovery discs to recover your computer's pre-installed software and device drivers. For instructions, see "[Recovering pre-installed software and drivers using recovery discs](#)" on page 102.
  -

## Telephone support

### Before calling Gateway Customer Care

If you have a technical problem with your computer, follow these recommendations before contacting Gateway Customer Care:

- Make sure that your computer is connected correctly to a grounded AC outlet that is supplying power. If you use a surge protector, make sure that it is turned on.
- If a peripheral device, such as a keyboard or mouse, does not appear to work, make sure that all cables are plugged in securely.
- If you have recently installed hardware or software, make sure that you have installed it according to the instructions provided with it. If you did not purchase the hardware or software from Gateway, see the manufacturer's documentation and technical support resources.
- If you have "how to" questions about using a program, see:
  - Online Help
  - Printed documentation
  - The Microsoft Windows documentation
  - The software publisher's Web site
- See the troubleshooting section of this chapter.



#### **Warning**

To avoid bodily injury, do not attempt to troubleshoot your computer problem if:

- Power cords or plugs are damaged
- Liquid has been spilled into your computer
- Your computer was dropped
- The case was damaged

Instead, unplug your computer and contact a qualified computer technician.

- Have your customer ID, serial number, and order number available, along with a detailed description of your problem, including the exact text of any error messages, and the steps you have taken.
- Make sure that your computer is nearby at the time of your call. The technician may have you follow troubleshooting steps.

## Telephone numbers

Gateway offers a wide range of customer service, Customer Care, and information services.

### **Automated troubleshooting system**

<b>Service description</b>	<b>How to reach</b>
Use an automated menu system and your telephone keypad to find answers to common problems.	800-846-2118 (US and Canada)

## Telephone numbers

You can access the following services through your telephone to get answers to your questions:

Resource	Service description	How to reach
Answers by Gateway	Get tutorial assistance for hardware and software issues.	<a href="http://www.gateway.com/answers">www.gateway.com/answers</a>
Gateway Customer Care	Talk to a Gateway Customer Care representative about a non-tutorial technical support question. (See “Before calling Gateway Customer Care” on page 108 before calling)  TDD Customer Care (for hearing impaired) is available: Weekdays 8:00 a.m. - 10:00 p.m. Pacific Time Weekends 8:00 a.m. - 7:00 p.m. Pacific Time	Gateway Customer Care telephone numbers vary by country or region. See the label on the front or side of your computer.  605-232-2191
Sales, accounting, and warranty	Get information about available systems, pricing, orders, billing statements, warranty service, or other non-technical issues.	800-846-2000 (US) 888-387-7752 (Canada)

## Self-help

If you have *how-to* questions about using your Gateway-supplied hardware or software, see the following resources:

- The printed or online documentation that came with your hardware or software. In many cases, additional product information and online documentation for Gateway-supplied hardware can be found in our Web site’s Documentation Library.
- This user guide and the hardware reference.
- The software publisher’s Web site.



### Help

For more how-to information about Windows, click **Start**, then click **Help and Support**. Type **practice** in the **Search Help** box, then press ENTER.

## Tutoring

Answers by Gateway<sup>SM</sup> is a telephone service that provides answers to all of your "How do I..." questions on Gateway computers. For more information, go to [www.gateway.com/answers](http://www.gateway.com/answers).

## Training

Gateway provides the following computer-based training:

Resource	Service description	For more information
Gateway Learning Libraries	A variety of courses and tutorials are available on CD. Select from several easy-to-use learning libraries.	<a href="http://www.gateway.com/training">www.gateway.com/training</a>
Online Training from Learn With Gateway	More than 450 online courses are available from Learn With Gateway. All you have to do is go online and log in. You select the subject matter, and the learning format (self-paced tutorials or virtual classrooms), all from the comfort of your computer.	<a href="http://www.learnwithgateway.com">www.learnwithgateway.com</a>

---



# Appendix **A**

## **Legal Notices**

- Important safety information
- Regulatory compliance statements
- Environmental information
- Notices

# Important safety information



## Warning

Always follow these instructions to help guard against personal injury and damage to your Gateway system.

Your Gateway system is designed and tested to meet the latest standards for safety of information technology equipment. However, to ensure safe use of this product, it is important that the safety instructions marked on the product and in the documentation are followed.

## Setting up your system

- Read and follow all instructions marked on the product and in the documentation before you operate your system. Retain all safety and operating instructions for future use.
- Do not use this product near water or a heat source such as a radiator.
- Set up the system on a stable work surface.
- The product should be operated only from the type of power source indicated on the rating label.
- If your computer has a voltage selector switch, make sure that the switch is in the proper position for your area. The voltage selector switch is set at the factory to the correct voltage.
- Openings in the computer case are provided for ventilation. Do not block or cover these openings. Make sure you provide adequate space, at least 6 inches (15 cm), around the system for ventilation when you set up your work area. Never insert objects of any kind into the computer ventilation openings.
- Some products are equipped with a three-wire power cord to make sure that the product is properly grounded when in use. The plug on this cord will fit only into a grounding-type outlet. This is a safety feature. If you are unable to insert the plug into an outlet, contact an electrician to install the appropriate outlet.
- If you use an extension cord with this system, make sure that the total ampere rating on the products plugged into the extension cord does not exceed the extension cord ampere rating.
- If your system is fitted with a TV Tuner, cable, or satellite receiver card, make sure that the antenna or cable system is electrically grounded to provide some protection against voltage surges and buildup of static charges.



## Care during use



### Warning

Do not use Gateway products in areas classified as hazardous locations. Such areas include patient care areas of medical and dental facilities, oxygen-laden environments, or industrial facilities.



### Warning

To reduce the risk of fire, use only No. 26 AWG or larger telecommunications line cord.

- Do not walk on the power cord or allow anything to rest on it.
- Do not spill anything on the system. The best way to avoid spills is to avoid eating and drinking near your system.
- Some products have a replaceable CMOS battery on the system board. There is a danger of explosion if the CMOS battery is replaced incorrectly. Replace the battery with the same or equivalent type recommended by the manufacturer. Dispose of batteries according to the manufacturer's instructions.
- When the computer is turned off, a small amount of electrical current still flows through the computer. To avoid electrical shock, always unplug all power cables and modem cables from the wall outlets before cleaning the system.
- 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 performance changes.

## Replacement parts and accessories

Use only replacement parts and accessories recommended by Gateway.

# Regulatory compliance statements

## United States of America

### Federal Communications Commission (FCC) Unintentional emitter per FCC Part 15

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 to an outlet on a different circuit from that to which the receiver is connected
- Consult the dealer or an experienced radio/TV technician for help.

**Compliance Accessories:** The accessories associated with this equipment are: shielded video cable when an external monitor is connected. These accessories are required to be used in order to ensure compliance with FCC rules.

## FCC declaration of conformity

### Responsible party:

Gateway, Inc.  
7565 Irvine Center Drive  
Irvine, CA 92618  
Phone: 800-846-2000



### Caution

Changes or modifications not expressly approved by Gateway could void the FCC compliance and negate your authority to operate the product.

This device complies with Part 15 of the FCC Rules. Operation of this device is subject to the following two conditions: (1) this device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

## California Proposition 65 Warning



### Warning

This product contains chemicals, including lead, known to the State of California to cause cancer, birth defects or reproductive harm.

## Telecommunications per Part 68 of the Code of Federal Regulations (CFR 47) (applicable to products fitted with USA modems)

Your modem complies with Part 68 of the Code of Federal Regulations (CFR 47) rules. On the computer or modem card is a label that contains the FCC registration number and Ringer Equivalence Number (REN) for this device. If requested, this information must be provided to the telephone company.

A telephone line cord with a modular plug is required for use with this device. The modem is designed to be connected to the telephone network or premises wiring using a compatible modular jack which is Part 68-compliant. See installation instructions for details.

The Ringer Equivalence Number (REN) is used to determine the number of devices which may be connected to the telephone line. Excessive RENs on a telephone line may result in the devices not ringing in response to an incoming call. In most areas, the sum of RENs should not exceed five (5.0). To be certain of the number of devices that may be connected to a line, as determined by the total RENs, contact the local telephone company.

If this device causes harm to the telephone network, the telephone company will notify you in advance that temporary discontinuance of service may be required. The telephone company may request that you disconnect the equipment until the problem is resolved.

The telephone company may make changes in its facilities, equipment, operations, or procedures that could affect the operation of this equipment. If this happens, the telephone company will provide advance notice in order for you to make necessary modifications to maintain uninterrupted service.

This equipment cannot be used on telephone company-provided coin service. Connection to party line service is subject to state tariffs. Contact the state public utility commission or public service commission for information.

When programming or making test calls to emergency numbers:

- Remain on the line and briefly explain to the dispatcher the reason for the call.
- Perform such activities in the off-peak hours such as early morning or late evenings.

The United States Telephone Consumer Protection Act of 1991 makes it unlawful for any person to use a computer or other electronic device to send any message via a telephone fax machine unless such message clearly contains, in a margin at the top or bottom of each transmitted page or on the first page of the transmission, the date and time it is sent, an identification of the business, other entity, or other individual sending the message, and the telephone number of the sending machine or such business, other entity, or individual. Refer to your fax communication software documentation for details on how to comply with the fax-branding requirement.

## Canada

### Industry Canada (IC) Unintentional emitter per ICES-003

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.

### Telecommunications per Industry Canada CS-03 (for products fitted with an IC-compliant modem)

The Industry Canada label identifies certified equipment. This certification means that the equipment meets certain telecommunications network protective, operation, and safety requirements. The Department does not guarantee the equipment will operate to the users' satisfaction.

Before installing this equipment, users should make sure that it is permissible to be connected to the facilities of the local telecommunications company. The equipment must also be installed using an acceptable method of connection. In some cases, the inside wiring associated with a single-line individual service may be extended by means of a certified connector assembly. The customer should be aware that compliance with the above conditions may not prevent degradation of service in some situations.

Repairs to certified equipment should be made by an authorized Canadian maintenance facility designated by the supplier. Any repairs or alterations made by the user to this equipment, or equipment malfunctions, may give the telecommunications company cause to request the user to disconnect the equipment.



#### **Warning**

To avoid electrical shock or equipment malfunction do not attempt to make electrical ground connections by yourself. Contact the appropriate inspection authority or an electrician, as appropriate.

Users should make sure, for their own protection, that the electrical ground connections of the power utility, telephone lines, and internal metallic water pipe system, if present, are connected together. This precaution may be particularly important in rural areas.

The **Ringer Equivalence Number (REN)** assigned to each terminal device provides an indication of the maximum number of terminals allowed to be connected to a telephone interface. The termination on an interface may consist of any combination of devices subject only to the requirement that the sum of the Ringer Equivalence Numbers of all the devices does not exceed 5.

## Laser safety statement



### Warning

Use of controls or adjustments or performance of procedures other than those specified in this manual may result in hazardous radiation exposure. To prevent exposure to laser beams, do not try to open the enclosure of a CD or DVD drive.

All Gateway systems equipped with CD and DVD drives comply with the appropriate safety standards, including IEC 825. The laser devices in these components are classified as "Class 1 Laser Products" under a US Department of Health and Human Services (DHHS) Radiation Performance Standard. Should the unit ever need servicing, contact an authorized service location.

## Television antenna connectors protection (for systems fitted with TV/cable TV tuner cards)

### External television antenna grounding



### Important

The instructions are for the person who installs cable to the system. Gateway assumes you are qualified in the servicing of computer equipment and trained in recognizing hazards in products with electric shock.

If an outside antenna or cable system is to be connected to your Gateway PC, make sure that the antenna or cable system is electrically grounded to provide some protection against voltage surges and static charges.

Article 810 of the National Electrical Code, ANSI/NFPA 70, provides information with regard to proper grounding of the mast and supporting structure, grounding of the lead-in wire to an antenna discharge unit, size of grounding conductors, location of antenna discharge unit, connection to grounding electrodes, and requirements for the grounding electrode.

Cable distribution system should be grounded (earthed) in accordance with ANSI/NFPA 70, the National Electrical Code (NEC), in particular Section 820.93, Grounding of Outer Conductive Shield of a Coaxial Cable.

### Lightning protection

For added protection of any Gateway product during a lightning storm or when it is left unattended or unused for long periods of time, unplug the product from the wall outlet and disconnect the antenna or cable system.

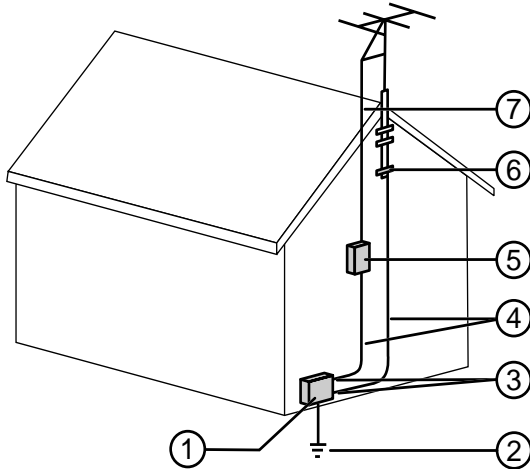
## Power lines



### Warning

When installing or realigning an outside antenna system, extreme care should be taken to keep from touching such power lines or circuits. Contact with them could be fatal.

Do not locate the antenna near overhead light or power circuits, or where it could fall into such power lines or circuits.



**Antenna and satellite grounding**

Reference	Grounding component
1	Electric service equipment
2	Power service grounding electrode system (NEC Art 250, Part H)
3	Ground clamps
4	Grounding conductors (NEC Section 810-21)
5	Antenna discharge unit (NEC Section 810-20)
6	Ground clamp
7	Antenna lead-in wire

# Environmental information

The product you have purchased contains extracted natural resources that have been used in the manufacturing process. This product may contain substances known to be hazardous to the environment or to human health.

To prevent releases of harmful substances into the environment and to maximize the use of our natural resources, Gateway provides the following information on how you can responsibly recycle or reuse most of the materials in your "end of life" product.

Waste Electrical and Electronic Equipment (commonly known as WEEE) should never be disposed of in the municipal waste stream (residential garbage collection). The "Crossed-Out Waste Bin" label affixed to this product is your reminder to dispose of your "end of life" product properly.



Substances such as glass, plastics, and certain chemical compounds are highly recoverable, recyclable, and reusable. You can do your part for the environment by following these simple steps:

- When your electrical or electronic equipment is no longer useful to you, "take it back" to your local or regional waste collection administration for recycling.
- In some cases, your "end of life" product may be "traded in" for credit towards the purchase of new Gateway equipment. Call Gateway to see if this program is available in your area.
- If you need further assistance in recycling, reusing, or trading in your "end of life" product, you may contact us at the Customer Care number listed in your product's user guide and we will be glad to help you with your effort.

Finally, we suggest that you practice other environmentally friendly actions by understanding and using the energy-saving features of this product (where applicable), recycling the inner and outer packaging (including shipping containers) this product was delivered in, and by disposing of or recycling used batteries properly.

With your help, we can reduce the amount of natural resources needed to produce electrical and electronic equipment, minimize the use of landfills for the disposal of "end of life" products, and generally improve our quality of life by ensuring that potentially hazardous substances are not released into the environment and are disposed of properly.

## Notices

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Irvine, CA 92618 USA

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## Macrovision statement

### **If your computer has a DVD-compatible drive and an analog TV Out port, the following paragraph applies:**

This product incorporates copyright protection technology that is protected by method claims of certain U.S. patents and other intellectual property rights owned by Macrovision Corporation and other rights owners. Use of this copyright protection technology must be authorized by Macrovision Corporation, and is intended for home and other limited viewing uses only unless otherwise authorized by Macrovision Corporation. Reverse engineering or disassembly is prohibited.





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