

Drives

User Guide

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Antenna House XSL Formatter

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1 Identifying installed drives

To view the drives installed on the computer, select **Start > My Computer**.

2 Handling drives

Drives are fragile computer components that must be handled with care. Refer to the following cautions before handling drives. Additional cautions are included with the procedures to which they apply.



CAUTION To reduce the risk of damage to the computer, damage to a drive, or loss of information, observe these precautions:

Before you move a computer or external hard drive from one location to another, initiate Sleep, and allow the screen to clear.

Vista text

Before handling a drive, discharge static electricity by touching the unpainted metal surface of the drive.

Do not touch the connector pins on a removable drive or on the computer.

Handle a drive carefully; do not drop a drive or place items on it.

Before removing or inserting a drive, shut down the computer. If you are unsure whether the computer is off, in the Sleep state, or in hibernation, turn the computer on, and then shut it down through the operating system.

Vista text

Do not use excessive force when inserting a drive into a drive bay.

Do not type on the keyboard or move the computer while the optical drive is writing to a disc. The write process is sensitive to vibration.

When the battery is the only source of power, be sure that the battery is sufficiently charged before writing to a medium.

Avoid exposing a drive to temperature or humidity extremes.

Avoid exposing a drive to liquids. Do not spray the drive with cleaning products.

Remove the medium from a drive before removing the drive from the drive bay, or traveling with, shipping, or storing a drive.

If a drive must be mailed, place the drive in a bubble-pack mailer or other suitable protective packaging and label the package "FRAGILE."

Avoid exposing a drive to magnetic fields. Security devices with magnetic fields include airport walk-through devices and security wands. The airport security devices that check carry-on luggage, such as conveyor belts, use x-rays instead of magnetism and will not damage a drive.

3 Optical drives

An optical drive, such as a DVD-ROM drive, supports optical discs (CDs and DVDs). These discs store or transport information and play music and movies. DVDs have a higher storage capacity than CDs.

Optical drives can read from and select models can write to optical media as described in the following table.

Optical drive type	Read CD and DVD-ROM media	Write to CD-RW media	Write to DVD±RW/R media	Write to DVD+RW DL media	Write label to LightScribe CD or DVD±RW/R	Write to DVD-RAM media
DVD-ROM Drive	Yes	No	No	No	No	No
DVD±RW/R and CD-RW Combo Drive	Yes	Yes	Yes	No	No	No
DVD±RW/R and CD-RW Combo Drive with Double-Layer support	Yes	Yes	Yes	Yes	No	Yes
LightScribe DVD±RW/R and CD-RW Combo Drive with Double-Layer support	Yes	Yes	Yes	Yes	Yes	Yes



NOTE Some of the optical drives listed may not be supported by your computer. The listed drives are not necessarily all of the supported optical drives.



CAUTION To prevent possible audio and video degradation, loss of information, or loss of audio or video playback functionality, do not initiate Sleep or hibernation while reading or writing to a CD or DVD.

Vista text

Is this correct for Sputnik?

Vista text

If Sleep or hibernation is accidentally initiated during playback of a disc, you may experience the following behaviors:

- Your playback may be interrupted.
- You may see the following warning: "Putting the computer into hibernation or standby may stop the playback. Do you want to continue?" Click **No**.
- You may need to restart the CD or DVD to resume audio and video playback.

This warning text may change for Vista

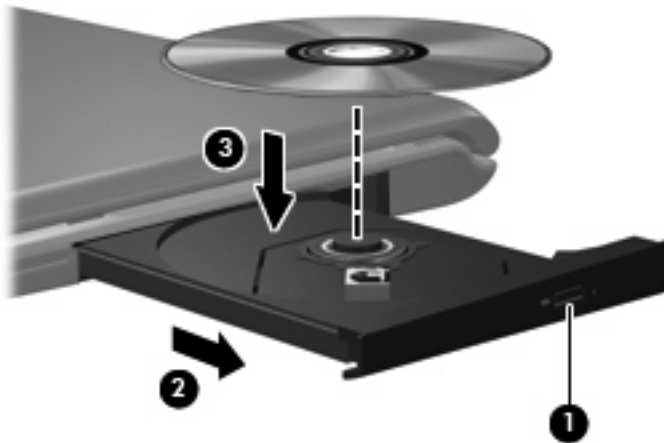
Inserting an optical disc

1. Turn on the computer.
2. Press the release button **(1)** on the drive bezel to release the media tray.
3. Pull out the tray **(2)**.
4. Hold the disc by the edges to avoid touching the flat surfaces and position the disc label-side up over the tray spindle.



NOTE If the tray is not fully accessible, tilt the disc carefully to position it over the spindle.

5. Gently press the disc **(3)** down onto the tray spindle until the disc snaps into place.



6. Close the media tray.



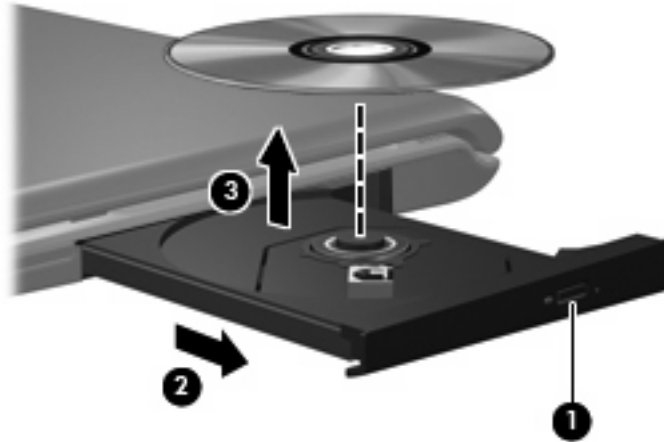
NOTE After you insert a disc, a short pause is normal. If you have not selected a media player, an AutoPlay dialog box opens. It prompts you to select how you want to use the media content.

Removing an optical disc when running on battery or external power

1. Press the release button (1) on the drive bezel to release the media tray, and then gently pull out the tray (2) until it stops.
2. Remove the disc (3) from the tray by gently pressing down on the spindle while lifting the outer edges of the disc. Hold the disc by the edges and avoid touching the flat surfaces.



NOTE If the tray is not fully accessible, tilt the disc carefully as you remove it.



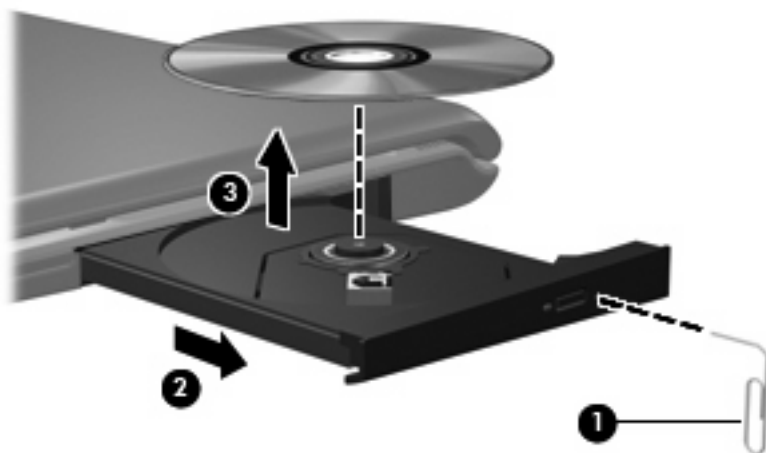
3. Close the media tray and place the disc in a protective case.

Removing an optical disc when no computer power is available

1. Insert the end of a paper clip (1) into the release access in the front bezel of the drive.
2. Press in gently on the paper clip until the tray is released, and then pull out the tray (2) until it stops.
3. Remove the disc (3) from the tray by gently pressing down on the spindle while lifting the outer edges of the disc. Hold the disc by the edges and avoid touching the flat surfaces.



NOTE If the tray is not fully accessible, tilt the disc carefully as you remove it.



4. Close the media tray and place the disc in a protective case.

4 Improving hard drive performance

These two sections may change for Vista

Using Disk Defragmenter

As you use the computer, files on the hard drive become fragmented. Disk Defragmenter consolidates the fragmented files and folders on the hard drive so that it can run more efficiently.

To run Disk Defragmenter:

1. Select **Start > All Programs > Accessories > System Tools > Disk Defragmenter**.
2. Click a volume for the hard drive you want to defragment, usually listed as (C:), and then click **Defragment**.

For additional information, access the Disk Defragmenter online Help.

Using Disk Cleanup

Disk Cleanup searches the hard drive for unnecessary files that you can safely delete to free up disk space and help the computer to run more efficiently.

To run Disk Cleanup:

1. Select **Start > All Programs > Accessories > System Tools > Disk Cleanup**.
2. Follow the on-screen instructions.

5 Replacing the hard drive

 **CAUTION** To prevent information loss or an unresponsive system:

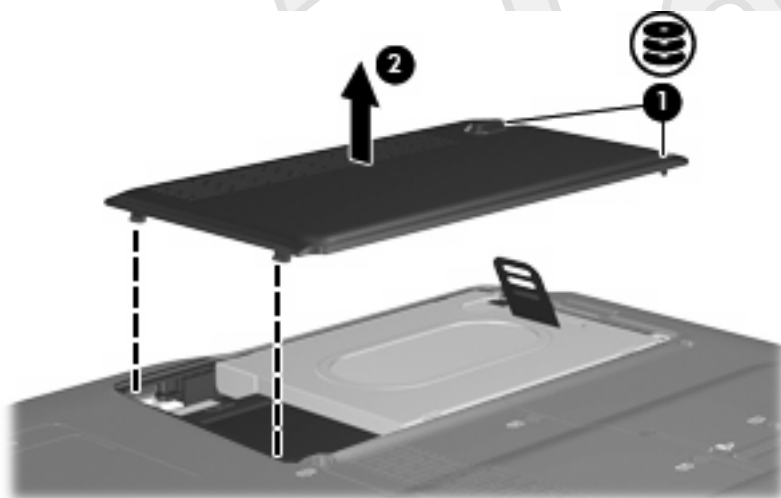
Shut down the computer before removing the hard drive from the hard drive bay. Do not remove the hard drive while the computer is on, in the Sleep state, or in hibernation.

If you are not sure whether the computer is off or in hibernation, turn the computer on by pressing the power button. Then shut down the computer through the operating system.

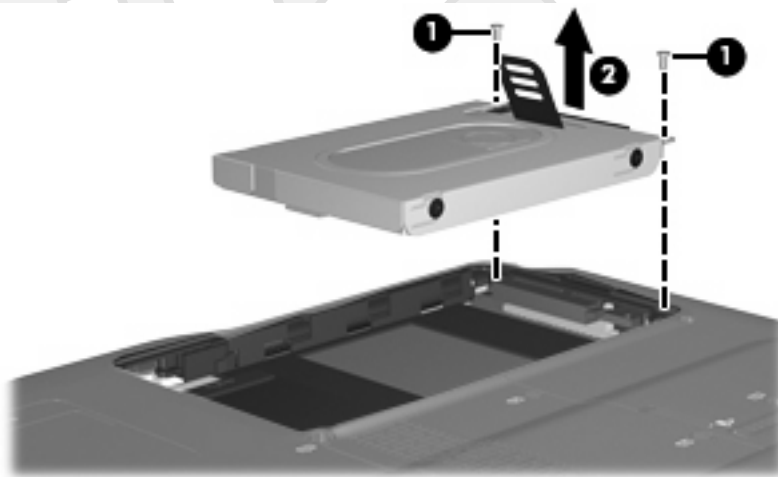
 **NOTE** Your computer may look slightly different from the illustrations in this chapter.

To remove the hard drive:

1. Save your work.
2. Shut down the computer and close the display.
3. Disconnect all external devices connected to the computer.
4. Unplug the power cord from the AC outlet.
5. Turn the computer upside down on a flat surface.
6. Remove the battery from the computer.
7. With the hard drive bay toward you, loosen the 2 hard drive cover screws (1).
8. Lift the hard drive cover away from the computer (2).

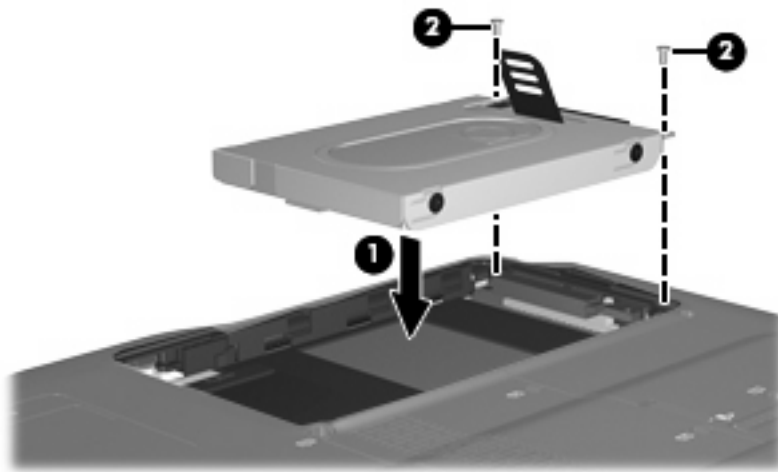


9. Remove the 2 hard drive screws (1)
10. Pull the hard drive tab up (2), and then lift the hard drive away from the computer.



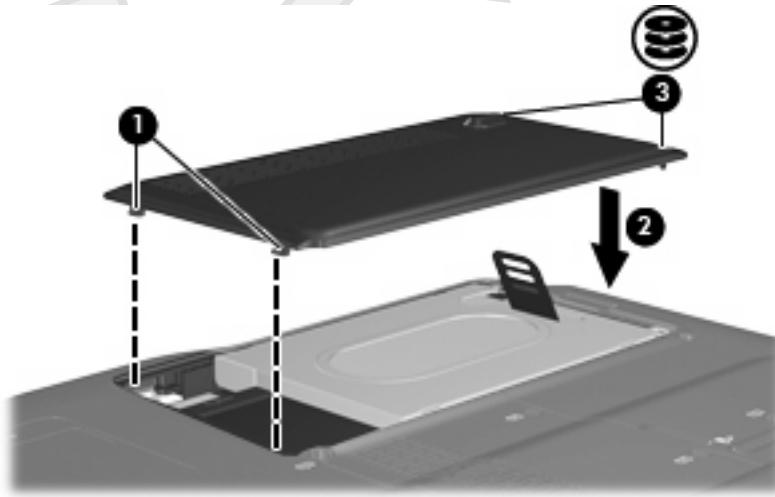
To install a hard drive:

1. Insert the hard drive into the hard drive bay.
2. Gently press the hard drive down until it snaps into place (1).
3. Replace the 2 hard drive screws (2).



4. Align the tabs (1) on the hard drive cover with the notches on the computer.
5. Close the cover (2).

6. Tighten the hard drive cover screws (3).



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External Media Cards

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1 Digital Media Slot cards

Optional digital cards provide secure data storage and convenient data sharing. These cards are often used with digital media–equipped cameras and PDAs as well as with other computers.

The Digital Media Slot supports the following digital card formats:

- Memory Stick (MS)
- Memory Stick Pro (MSP)
- MultiMediaCard (MMC)
- Secure Digital Input/Output (SD I/O)
- Secure Digital (SD) Memory Card
- xD-Picture Card (XD)
- xD-Picture Card (XD) Type M



CAUTION To avoid damaging the digital card or the computer, do not insert any type of adapter into the Digital Media Slot.

Inserting a digital card



CAUTION To prevent damage to the digital card connectors, use minimal force to insert a digital card.

1. Hold the digital card label-side up, with the connectors facing the computer.
2. Gently slide the card into the Digital Media Slot until the card is seated.

You will hear a sound when the device has been detected.



NOTE The first time you insert a digital card, the "Installing device driver software" message is displayed in the notification area, at the far right of the taskbar.



Vista wording

Stopping and removing a digital card



CAUTION To prevent loss of data or an unresponsive system, stop a digital card before removing it.

1. Close all files and applications that are associated with the digital card.



NOTE To stop a data transfer, click **Cancel** in the operating system Copying window.

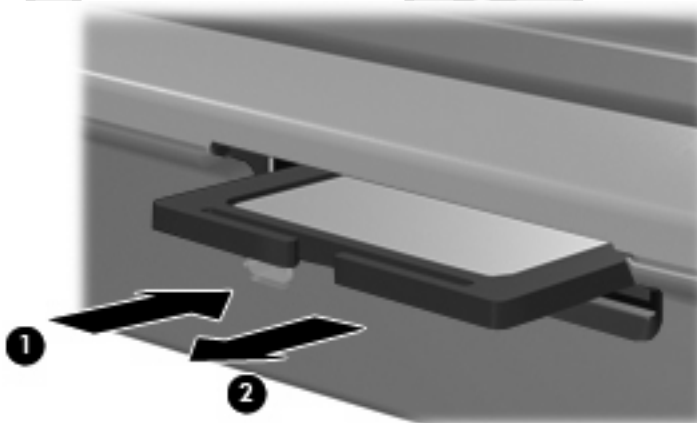
2. Stop the digital card:

- a. Double-click the **Safely Remove Hardware** icon in the notification area, at the far right of the taskbar.



NOTE To display the Safely Remove Hardware icon, click the **Show Hidden Icons** icon (< or <<) in the notification area.

- b. Click the digital card listing.
 - c. Click **Stop**, and then **OK**.
3. Press in on the digital card (1), and then remove the card from the slot (2).



2 ExpressCards

An ExpressCard is a next-generation, high-performance PC Card that is inserted into the ExpressCard slot.

Like standard PC Cards, ExpressCards are designed to conform to the standard specifications of the Personal Computer Memory Card International Association (PCMCIA).

Configuring an ExpressCard

Install only the software required for your device. If you are instructed by the ExpressCard manufacturer to install device drivers:

- Install only the device drivers for your operating system.
- Do not install other software, such as card services, socket services, or enablers, supplied by the ExpressCard manufacturer.

Inserting an ExpressCard



CAUTION To prevent damage to the computer and external media cards, do not insert an ExpressCard into a PC Card slot or a PC Card into an ExpressCard slot.

CAUTION To prevent damage to the connectors:

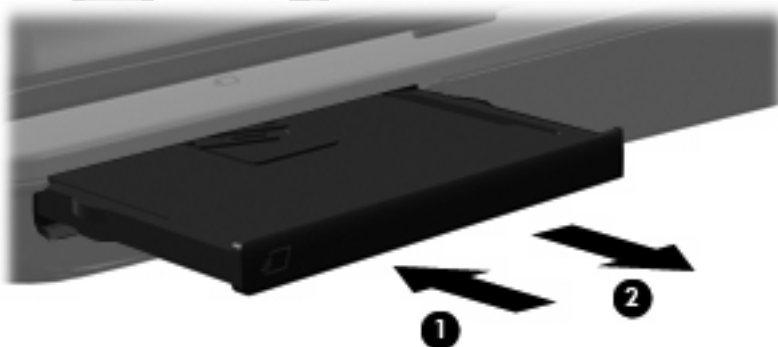
Use minimal force when inserting an ExpressCard.

Do not move or transport the computer when an ExpressCard is in use.

The ExpressCard slot may contain a protective insert. The insert must be removed before you can insert an ExpressCard.

To release and remove the protective insert:

1. Press in on the insert **(1)** to unlock it.
2. Pull the insert out of the slot **(2)**.



To insert an ExpressCard:

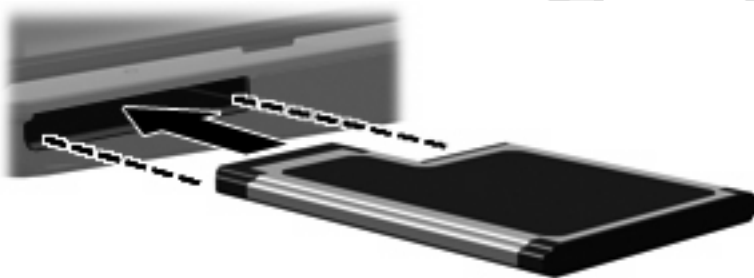
1. Hold the card label-side up, with the connectors facing the computer.
2. Gently slide the card into the ExpressCard slot until the card is seated.

You will hear a sound when the device has been detected.



NOTE The first time you insert an ExpressCard, the "Installing device driver software" message is displayed in the notification area, at the far right of the taskbar.

Vista wording



NOTE An inserted ExpressCard uses power even when idle. To conserve power, stop or remove an ExpressCard when it is not in use.

Stopping and removing an ExpressCard



CAUTION To prevent loss of data or an unresponsive system, stop an ExpressCard before removing it.

1. Close all programs and complete all activities that are associated with the ExpressCard.



NOTE To stop a data transfer, click **Cancel** in the operating system Copying window.

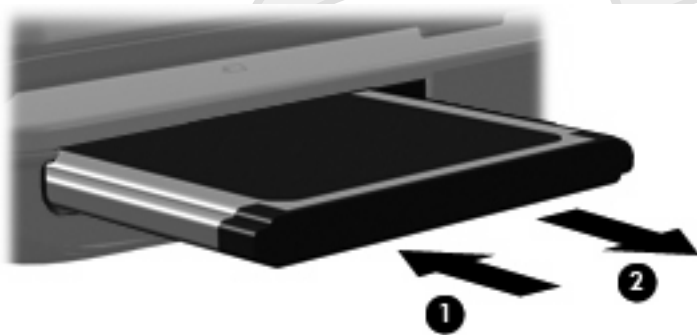
2. Stop the ExpressCard:

- a. Double-click the **Safely Remove Hardware** icon in the notification area, at the far right of the taskbar.



NOTE To display the Safely Remove Hardware icon, click the **Show Hidden Icons** icon (< or <<) in the notification area.

- b. Click the ExpressCard listing.
 - c. Click **Stop**, and then **OK**.
3. Release and remove the ExpressCard:
 - a. Gently press in on the ExpressCard **(1)** to unlock it.
 - b. Pull the ExpressCard out of the slot **(2)**.



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External Devices

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1 Using a USB device

Universal Serial Bus (USB) is a hardware interface that connects an optional external device, such as a USB keyboard, mouse, drive, printer, scanner, or hub, to the computer or to an optional expansion product or docking device.

Some USB devices may require additional support software, which is usually included with the device. For more information about device-specific software, refer to the manufacturer's instructions.

The computer has 3 USB ports, which support USB 1.0, USB 1.1, and USB 2.0 devices To add more USB ports, attach an optional hub, expansion product, or docking device.



Connecting a USB device



CAUTION To prevent damage to a USB connector, use minimal force to connect a USB device.

To connect a USB device to the computer, connect the USB cable for the device to the USB port. The operating system will issue a sound to indicate that a device has been detected.



NOTE The first time you connect a USB device, the "Installing device driver software" message is displayed in the notification area, at the far right of the taskbar.

Vista message

Stopping a USB device



CAUTION To prevent loss of information or an unresponsive system, stop the USB device before removing it.

CAUTION To prevent damage to a USB connector, do not pull on the cable to disconnect the USB device.

To stop a USB device:

1. Double-click the **Safely Remove Hardware** icon in the notification area, at the far right of the taskbar.



NOTE To display the Safely Remove Hardware icon, click the **Show Hidden Icons** icon (< or <<) in the notification area.

2. Click the name of the device in the list.



NOTE If the USB device is not listed, you do not have to stop the device before you remove it.

3. Click **Stop**, and then click **OK**.

2 Using the expansion port

The expansion port connects the computer to an optional expansion product. An optional expansion product provides additional ports and connectors that can be used with the computer.



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Memory Modules

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Adding or replacing a memory module

The computer has one memory module compartment, which is located on the bottom of the computer. The memory capacity of the computer can be upgraded by adding a memory module to the vacant expansion memory module slot or by upgrading the existing memory module in the primary memory module slot.



WARNING! To reduce the risk of electric shock and damage to the equipment, unplug the power cord and remove all batteries before installing a memory module.



CAUTION Electrostatic discharge (ESD) can damage electronic components. Before beginning any procedure, ensure that you are discharged of static electricity by touching a grounded metal object.

To add or replace a memory module:

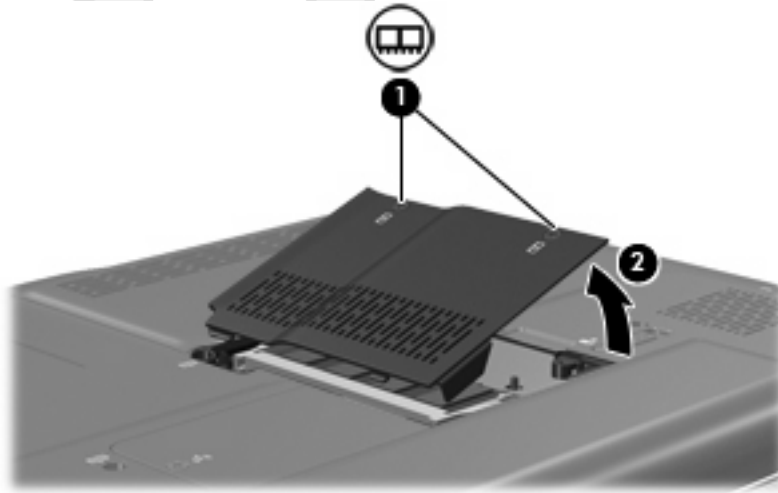
1. Save your work.
2. Shut down the computer and close the display.

Vista version. If we ship with XP, this will say "in Standby"

If you are not sure whether the computer is off or in the Sleep state, turn the computer on by pressing the power button. Then shut down the computer through the operating system.

3. Disconnect all external devices connected to the computer.
4. Unplug the power cord from the AC outlet.
5. Turn the computer upside down on a flat surface.
6. Remove the battery from the computer.
7. Loosen the 2 memory module compartment screws (1).

8. Lift the memory module compartment cover (2) away from the computer.



9. If you are replacing a memory module, remove the existing memory module:

- a. Pull away the retention clips (1) on each side of the memory module.

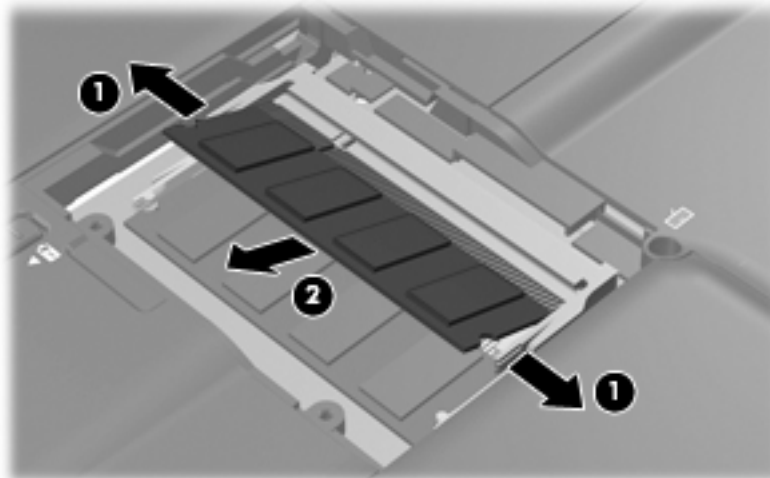
The memory module tilts up.



CAUTION To prevent damage to the memory module, hold the memory module by the edges only. Do not touch the components on the memory module.

- b. Grasp the edge of the memory module (2), and gently pull the module out of the memory module slot.

To protect a memory module after removal, place it in an electrostatic-safe container.



10. Insert a new memory module:

- a. Align the notched edge (1) of the memory module with the tab in the memory module slot.

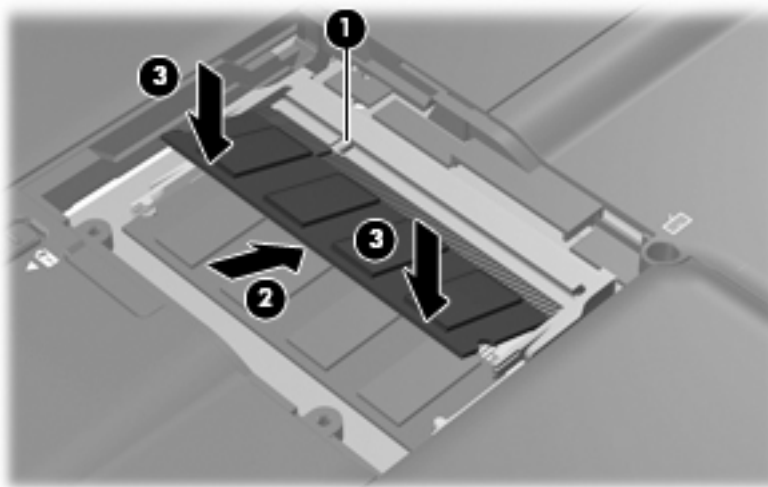


CAUTION To prevent damage to the memory module, hold the memory module by the edges only. Do not touch the components on the memory module.

- b. With the memory module at a 45-degree angle from the surface of the memory module compartment, press the module (2) into the memory module slot until it is seated.
- c. Gently press the memory module (3) down, applying pressure to both the left and right edges of the memory module, until the retention clips snap into place.



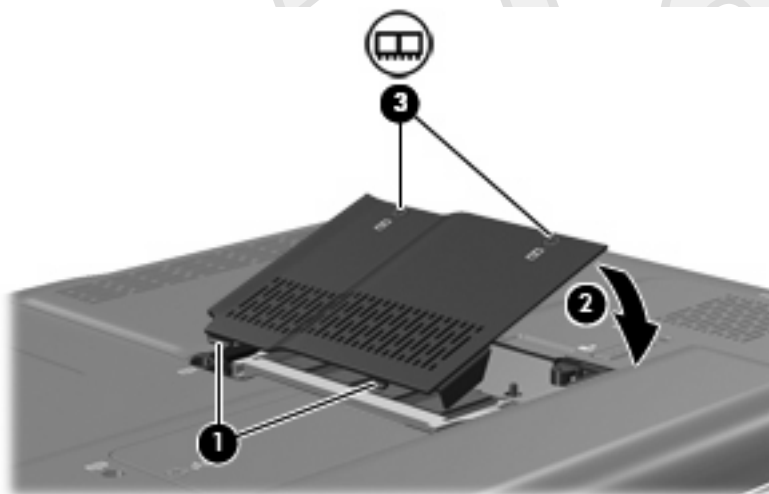
CAUTION To prevent damage to the memory module, be sure that you do not bend the memory module.



- 11.** Align the tabs (1) on the memory module compartment cover with the notches on the computer.

- 12.** Close the cover (2).

- 13.** Tighten the 2 memory module compartment screws (3).



14. Replace the battery.
15. Reconnect external power and external devices.
16. Turn on the computer.

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Multimedia

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1 Using multimedia hardware

Using the audio features

The following illustration and table describe the audio features of the computer.



Component		Description
(1)	Internal microphones (2)	Record sound.
		 NOTE A microphone icon next to the microphone opening indicates that the computer has an internal microphone.
(2)	Speakers (2)	Produce sound.
(3)	Audio-in (microphone) jack	Connects an optional computer headset microphone, stereo array microphone, or monaural microphone.
(4)	Audio-out (headphone) jack	Connects optional powered stereo speakers, headphones, ear buds, a headset, or television audio.
(5)	Audio-out (headphone) S/PDIF jack	Provides enhanced audio performance, including surround sound and other high-end audio output.

Using the audio-in (microphone) jack

The computer is equipped with a stereo (dual-channel) microphone jack that supports an optional stereo array or monaural microphone. Using sound recording software with external microphones allows for stereo recordings.

When connecting a microphone to the microphone jack, use a microphone with a 3.5-mm plug.

Using the audio-out (headphone) jack



WARNING! To reduce the risk of personal injury, adjust the volume before putting on headphones, earbuds, or a headset.



CAUTION To prevent possible damage to an external device, do not plug a single sound channel (monaural) connector into the headphone jack.

In addition to connecting headphones, the headphone jack is used to connect the audio input function of an audio/video device such as a television or VCR.

When connecting a device to the headphone jack, use only a 3.5-mm stereo plug.

When a device is connected to the headphone jack, the speakers are disabled.

Using S/PDIF digital audio (select models only)

S/PDIF (Sony/Phillips Digital Interface) or digital audio provides enhanced audio performance, including surround sound and other high-end audio output.

For digital audio connections, connect the S/PDIF digital audio plug to the digital audio connector on your audio/video equipment.



NOTE In order to use S/PDIF with the headphone jack, you will need an optional mini TOS link cable and/or adapter.

Adjusting the volume

You can adjust the volume using the following controls:

- Computer volume buttons:
 - To decrease volume, press the volume down button (1).
 - To mute or restore volume, press the mute button (2).
 - To increase volume, press the volume up button (3).



- Microsoft® Windows® volume control:
 - a. Click the **Volume** icon in the notification area, at the far right of the taskbar.
 - b. Increase or decrease the volume by moving the slider up or down. Select the **Mute** check box to mute the volume.

– or –

 - a. Double-click the **Volume** icon in the notification area.
 - b. In the Master Volume column, increase or decrease the volume by moving the **Volume** slider up or down. You can also adjust the balance or mute the volume.

If the Volume icon is not displayed in the notification area, follow these steps to add it:

 - a. Select **Start > Control Panel > Sounds, Speech, and Audio Devices > Sounds and Audio Devices**.
 - b. Click the **Volume** tab.
 - c. Select the **Place volume icon in the taskbar** check box.
 - d. Click **Apply**.
- Program volume control:

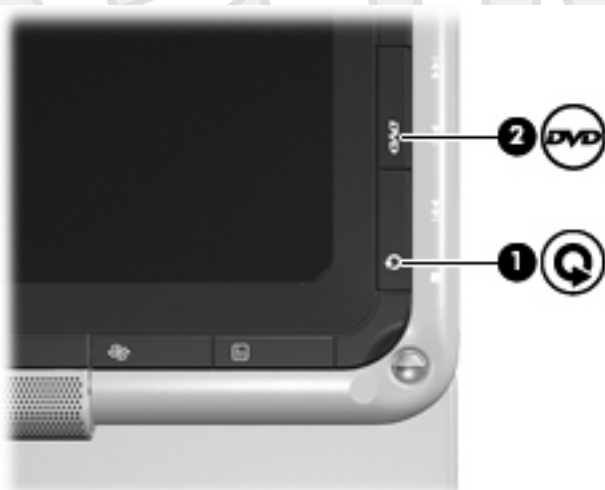
Volume can also be adjusted within some programs.

May change with Vista

Using the QuickPlay buttons

Media button and DVD button functions vary, depending on the software installed on your computer.

The media button **(1)** and the DVD button **(2)** allow you to listen to music, play DVDs, and watch movies with the touch of a button.



Media button

Computer power state	Media button function
On or off	Opens a music program or the Media menu so that you can select a multimedia program.
	 NOTE Press the power button to exit the program.
Standby	Exits standby.

Will change to "Sleep" with Vista

DVD button

Computer power state	DVD button function
On	Opens the default DVD program so that you can play a DVD in the optical drive.  NOTE Press the power button to exit the program.
Off	Opens QuickPlay so that you can play a DVD in the optical drive.  NOTE Press the power button to exit QuickPlay.
Standby	Exits standby.

Will change to "Sleep" with Vista

Using the video features

Using the external monitor port

The external monitor port connects an external display device, such as a television, an external monitor, or a projector, to the computer.

To connect a display device, connect the device cable to the external monitor port.



NOTE If a properly connected external display device does not display an image, press **fn+f4** to transfer the image to the device.

Using the S-Video-out jack

The 7-pin S-Video-out jack connects the computer to an optional S-Video device such as a television, VCR, camcorder, overhead projector, or video capture card.

To transmit video signals through the S-Video-out jack, you need an S-Video cable, available from most electronics retailers. If you are combining audio and video functions, such as playing a DVD movie on your computer and displaying it on your television, you also need a standard audio cable, available from most electronics retailers, to connect to the headphone jack.

The computer can support one S-Video device connected to the S-Video-out jack, while simultaneously supporting an image on the computer display or on any other supported external display.



NOTE The S-Video connection provides a higher quality image than a composite-video connection.

To connect a video device to the S-Video-out jack:

1. Plug one end of the S-Video cable into the S-Video-out jack on the computer.



NOTE If the S-Video-out jack on the computer is not accessible because the computer is docked in an optional docking device, connect the S-Video cable to the S-Video-out jack on the docking device.

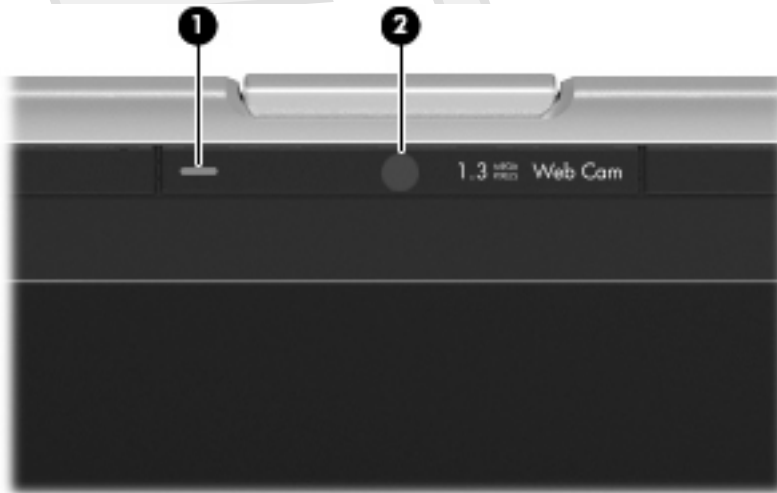
2. Plug the other end of the cable into the video device, as instructed in the user guide included with the device.
3. Press the **fn+f4** keys to switch the image between display devices connected to the computer.

Using the camera

Select computer models include an integrated camera, located on the top of the display. The camera can be used with a variety of software for the following functions:

- Capturing video.
- Streaming video with instant message software.
- Taking still photos.

The camera light (1) turns on when video software accesses the camera (2).



For optimum performance, observe the following guidelines while using the integrated camera:

- Be sure that you have the latest version of an instant message program before attempting a video conversation.
- Your integrated camera may not work properly across some network firewalls. If you are having trouble viewing or sending video to someone on another LAN or outside your network firewall, contact your network administrator for assistance.
- Whenever possible, place bright light sources behind the camera and out of the picture area.

Capturing and streaming video

To illustrate how each camera feature works, the following examples use specific software, not available on all computers. Select **Start > All Programs** to locate the video software installed on your computer, and refer to the individual program's online Help for further information.

Capturing video

You can capture video for playback at a later time. The following example uses MovieMaker software:

1. Select **Start > Programs > Windows MovieMaker**.
2. Click **Capture from Video Device**. The Video Capture Wizard opens.
3. Click the listing for the integrated camera from the list of available devices.
4. Check the microphone and camera settings, and adjust if necessary.
5. Click **Next**.
6. Select the file name and path where you want to save the video file, and then click **Next**.
7. Select the video settings, and then click **Next**.
8. Click **Start Capture**. When you finish recording, click **Stop Capture**.
9. Click **Finish** to save the video file and close the wizard.

Streaming video with an instant message program

You can send real-time video through an instant message program. The following example uses Windows Messenger:

1. Open Windows Messenger by double-clicking the icon in the notification area, at the far right of the taskbar.
2. Sign in to Windows Messenger.
3. Select **Actions > Voice/Video > Start a Video Conversation**.
4. Click the name of the person you want to connect with, and then click **OK**. An instant message window is displayed, and the camera image is displayed next to the message area.
5. If the Audio and Video Tuning Wizard opens, follow the instructions to adjust your camera and microphone settings.

Taking still photographs with the integrated camera

1. Select **Start > Control Panel > Scanners and Cameras**.
2. Double-click the listing for the integrated camera, and then click **Next**.
3. Click **Take Picture**.
4. Follow the directions on the Picture wizard to select any of the following options:
 - Publish the pictures to a Web site.
 - Order prints of the pictures.
 - Save the pictures on your computer.

Adjusting camera properties

You can adjust the following camera properties:

- **Brightness**—Controls the amount of light that is incorporated into the image. A higher brightness setting creates a brighter image; a lower brightness setting creates a darker image.
- **Contrast**—Controls the difference between lighter and darker areas on the image. A higher contrast setting intensifies the image; a lower contrast setting maintains more of the original information's dynamic range but leads to a flatter image.
- **Hue**—Controls the aspect of color that distinguishes it from another color (what makes a color red, green, or blue). Hue is distinct from saturation, which measures the intensity of the hue.
- **Saturation**—Controls the strength of color in the final image. A higher saturation setting creates a bolder image; a lower saturation setting creates a more subtle image.
- **Sharpness**—Controls the definition of edges in an image. A higher sharpness setting creates a more defined image; a lower sharpness setting creates a softer image.
- **Gamma**—Controls the contrast affecting the mid-level grays or midtones of an image. Adjusting the gamma of an image allows you to change brightness values of the middle range of gray tones without dramatically altering the shadows and highlights. A lower Gamma setting makes greys look black, and makes dark colors even darker.
- **White Balance**—Controls the color temperature of the dominant light sources. This enables white objects in the image to appear truly white. The white balance settings in the Properties dialog box are displayed as WB (Red) and WB (Blue). A higher white balance setting increases the concentration of the color (red or blue); a lower white balance setting decreases the concentration of the selected color.
- **Exposure**—Controls the relative amount of light that enters the camera sensor. A higher exposure setting allows more light; a lower exposure setting allows less light.
- **Gain**—Controls the intensity range, thus altering the color contrast of the image. A higher gain setting stretches the intensity range; a lower gain setting shrinks the intensity.
- **Light Source**—Controls the settings to adjust the camera exposure for the ambient light.
- **Flip**—Reverses the captured image vertically.
- **Mirror**—Reverses the captured image horizontally.

- Privacy—Turns off the capture function.
- Low Light—Lowers the frame rate automatically in a poor lighting environment to maintain the brightness of the captured image.

The Properties dialog box is accessible from various programs that use the integrated camera, usually from a configuration, settings, or properties menu.

Using an optical drive

Depending on the type of optical drive and software installed in your computer, the optical drive plays, copies, and creates CDs or DVDs.

Identifying the installed optical drive

- ☐ Select **Start > My Computer**.

The type of optical drive installed in the computer is displayed under Devices with Removable Storage.

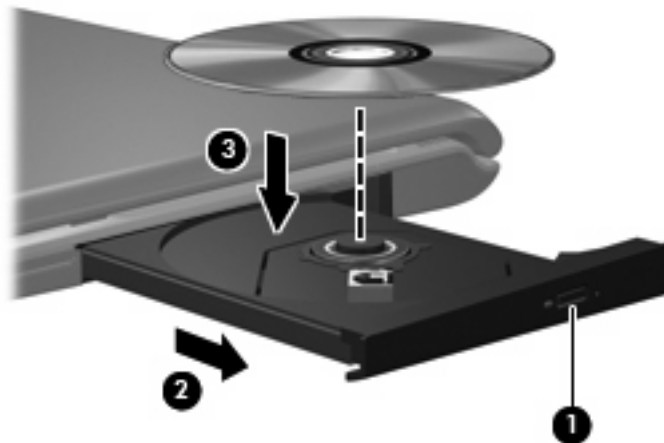
Inserting an optical disc

1. Turn on the computer.
2. Press the release button **(1)** on the drive bezel to release the media tray.
3. Pull out the tray **(2)**.
4. Hold the disc by the edges to avoid touching the flat surfaces and position the disc label-side up over the tray spindle.



NOTE If the tray is not fully accessible, tilt the disc carefully to position it over the spindle.

5. Gently press the disc **(3)** down onto the tray spindle until the disc snaps into place.



6. Close the media tray.



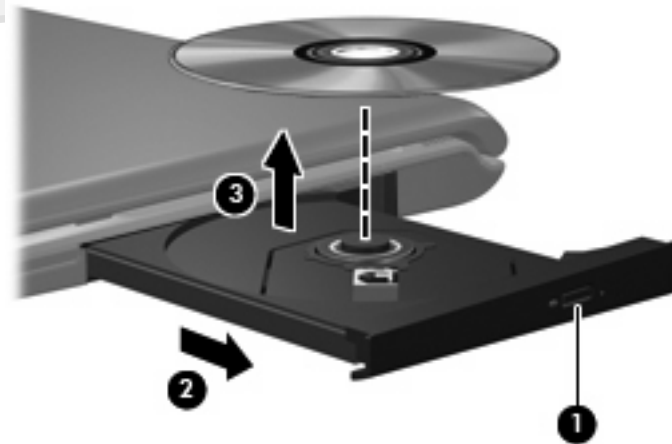
NOTE After you insert a disc, a short pause is normal. If you have not selected a media player, an AutoPlay dialog box opens. It prompts you to select how you want to use the media content.

Removing an optical disc when running on battery or external power

1. Press the release button (1) on the drive bezel to release the media tray, and then gently pull out the tray (2) until it stops.
2. Remove the disc (3) from the tray by gently pressing down on the spindle while lifting the outer edges of the disc. Hold the disc by the edges and avoid touching the flat surfaces.



NOTE If the tray is not fully accessible, tilt the disc carefully as you remove it.



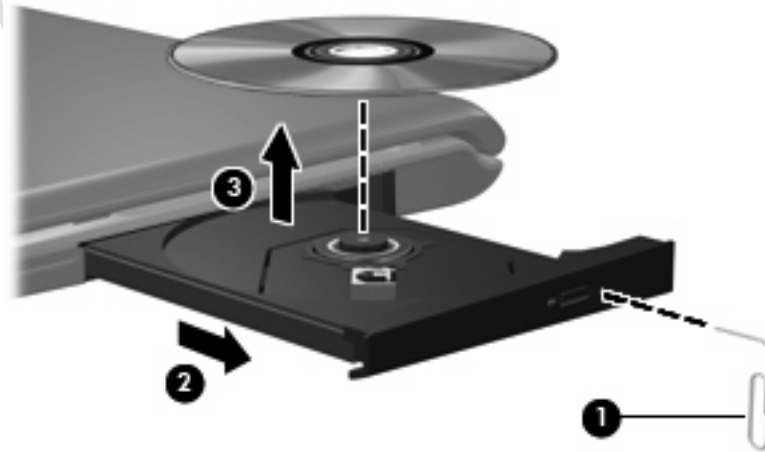
3. Close the media tray and place the disc in a protective case.

Removing an optical disc when no computer power is available

1. Insert the end of a paper clip (1) into the release access in the front bezel of the drive.
2. Press in gently on the paper clip until the tray is released, and then pull out the tray (2) until it stops.
3. Remove the disc (3) from the tray by gently pressing down on the spindle while lifting the outer edges of the disc. Hold the disc by the edges and avoid touching the flat surfaces.



NOTE If the tray is not fully accessible, tilt the disc carefully as you remove it.



4. Close the media tray and place the disc in a protective case.

Using the media activity functions

The media activity hotkeys and the media activity buttons (select models only) control the play of an audio CD or a DVD that is inserted into the optical drive.

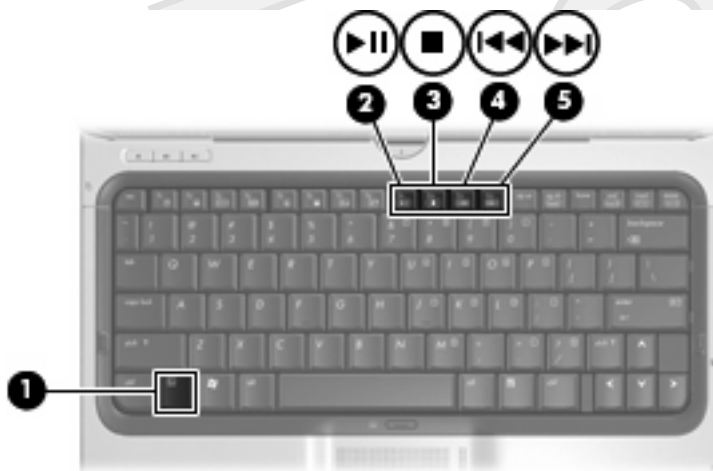
Using the media activity hotkeys

A media activity hotkey is a combination of the **fn** key (1) and a function key.



NOTE To control the play of a video disc, use the media activity controls in your video disc player program.

- To play, pause, or resume an audio CD or a DVD, press **fn+f9** (2).
- To stop an audio CD or a DVD that is playing, press **fn+f10** (3).
- To play the previous track of an audio CD or the previous chapter of a DVD that is playing, press **fn+f11** (4).
- To play the next track of an audio CD or the next chapter of a DVD that is playing, press **fn+f12** (5).



Using the media activity buttons

The following illustration and tables describe the functions of the media activity buttons when a disc is inserted in the optical drive.

- Previous/rewind button (1)
- Play/pause button (2)
- Next/fast forward button (3)
- Stop button (4)



Previous/rewind button

Disc status	Button	Function
Playing	Previous/rewind button	Plays a previous track.
Playing	fn + previous/rewind button	Rewinds the playback.

Play/pause button

Disc status	Button	Function
Not playing	Play/pause button	Plays the disc.
Playing	Play/pause button	Pauses the playback.

Next/fast forward button

Disc status	Button	Function
Playing	Next/fast forward button	Plays the next track or chapter.
Playing	fn + next/fast forward button	Fast forwards the playback.

Stop button

Disc status	Button	Function
Playing	Stop button	Stops the playback.

2 Working with multimedia software

The computer includes preinstalled multimedia software. Some computer models also include additional multimedia software on an optical disc.

Depending on the hardware and software included with the computer, the following multimedia tasks may be supported:

- Playing digital media, including audio and video CDs, audio and video DVDs, and Internet radio
- Creating or copying data CDs
- Creating, editing, and burning audio CDs
- Creating, editing, and burning a video or movie to a DVD or video CD



CAUTION To prevent loss of information or damage to a disc:

Before writing to a disc, connect the computer to a reliable external power source. Do not write to a disc while the computer is running on battery power.

Before writing to a disc, close all open programs except the disc software you are using.

Do not copy directly from a source disc to a destination disc or from a network drive to a destination disc. Instead, copy from a source disc or network drive to your hard drive, and then copy from your hard drive to the destination disc.

Do not use the computer keyboard or move the computer while the computer is writing to a disc. The write process is sensitive to vibration.



NOTE For information about using software included with the computer, refer to the software manufacturer's instructions that may be provided on disc, as online Help files, or on the software manufacturer's Web site.

Opening preinstalled multimedia software

1. Select **Start > All Programs**.
2. Double-click the program that you want to open.

Installing multimedia software from a disc

1. Insert the disc into your optical drive.
2. When the installation wizard opens, follow the on-screen instructions.
3. Restart the computer if prompted to do so.

Using multimedia software

1. Select **Start > All Programs**, and then open the multimedia program you want to use. For example, if you want to use Windows Media Player to play an audio CD, click **Windows Media Player**.



NOTE Some programs may be located in subfolders.

2. Insert the media disc, such as an audio CD, into the optical drive.
3. Follow the instructions on the screen.

– or –

1. Insert the media disc, such as an audio CD, into the optical drive.

An AutoPlay dialog box opens.

2. Click a multimedia task from the list of tasks.



NOTE The AutoPlay dialog box allows you to select a multimedia program for the media disc. After you select a program from the list, click the **Always do the selected action** box.

3. Click **OK**.

Preventing playback disruptions

To reduce the possibility of playback disruption:

- Save your work and close all open programs before playing a CD or a DVD.
- Do not connect or disconnect hardware while playing a disc.

Do not initiate standby or hibernation while playing a disc. Otherwise, you may see the warning message “Putting the computer into hibernation or standby might stop the playback. Do you want to continue?” If this message is displayed, click **No**. After you click No:

- Playback may resume.
 - or –
- Playback may stop and the screen may clear. To return to playing the CD or DVD, press the power button and then restart the disc.

Changing DVD region settings

Most DVDs that contain copyrighted files also contain region codes. The region codes help protect copyrights internationally.

You can play a DVD containing a region code only if the region code on the DVD matches the region setting on your DVD drive.



CAUTION The region settings on your DVD drive can be changed only 5 times.

The region setting you select the fifth time becomes the permanent region setting on the DVD drive.

The number of allowable region changes remaining on the drive is displayed in the Changes remaining box on the **DVD Region** tab. The number in the field includes the fifth and permanent change.

To change settings through the operating system:

1. Select **Start > My Computer**.
2. Right-click in the window and select **Properties > Hardware** tab > **Device Manager**.
3. Click **DVD/CD-ROM drives**, right-click the DVD drive for which you want to change region settings, and then click **Properties**.
4. Make the desired changes on the **DVD Region** tab.
5. Click **OK**.

Observing the copyright warning

It is a criminal offense, under applicable copyright laws, to make unauthorized copies of copyright-protected material, including computer programs, films, broadcasts, and sound recordings. Do not use this computer for such purposes.

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Antenna House XSL Formatter



Notebook Tour

User Guide

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Antenna House XSL Formatter

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Antenna House XSL Formatter

1 Identifying Hardware

To see a list of hardware installed in the computer:

1. Select **Start > Computer > Properties**.
2. In the left pane, click **Hardware and Device Settings**.
3. In the Windows Security dialog box, click **Allow**.
4. Select **Hardware** tab > **Device Manager**.

You can also add hardware or modify device configurations using Device Manager.

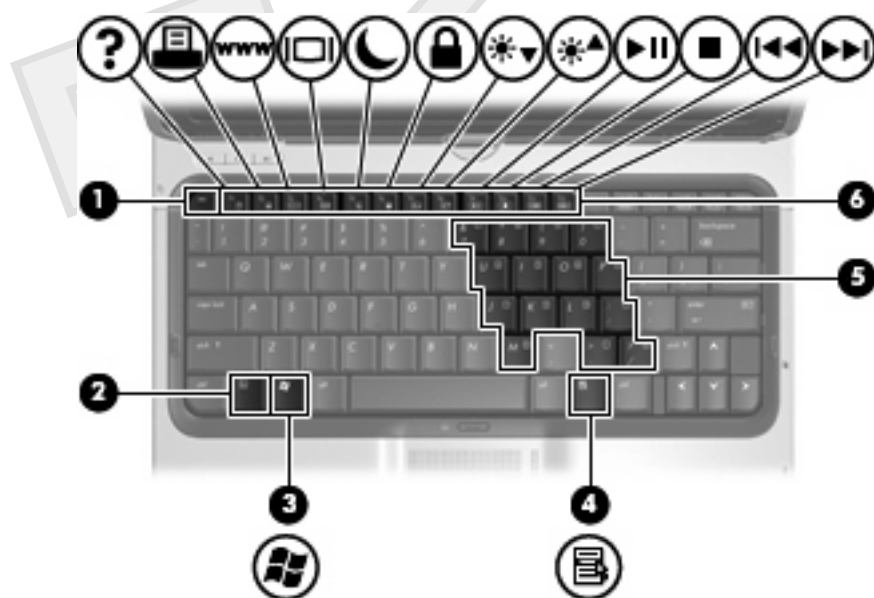
2 Top components

TouchPad



Component		Description
(1)	TouchPad light	Blue: TouchPad is enabled. Amber: TouchPad is disabled.
(2)	TouchPad*	Moves the pointer and selects or activates items on the screen.
(3)	Left TouchPad button*	Functions like the left button on an external mouse.
(4)	Right TouchPad button*	Functions like the right button on an external mouse.
(5)	TouchPad scroll zone*	Scrolls up or down.
(6)	TouchPad on/off button	Enables/disables the TouchPad.
*This table describes factory settings. To view and change pointing device preferences, select Start > Control Panel > Hardware and Sound > Mouse . In the Windows Security dialog box, click Allow .		

Keys



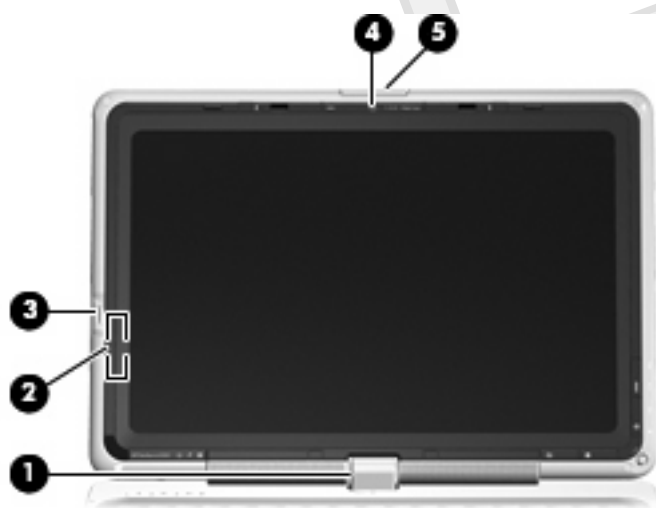
Component	Description
(1) esc key	Displays system information when pressed in combination with the fn key.
(2) fn key	Executes frequently used system functions when pressed in combination with a function key or the esc key.
(3) Windows logo key	Displays the Microsoft Windows Start menu.
(4) Windows applications key	Displays a shortcut menu for items beneath the pointer.
(5) Embedded numeric keypad keys	Can be used like the keys on an external numeric keypad.
(6) Function keys	Execute frequently used system functions when pressed in combination with the fn key.

Hotkey quick reference

To perform this function	Press
Display information.	fn+esc
Clear system information.	fn+esc or press enter
Open the Help and Support Center.	fn+f1
Open the Print Options window.	fn+f2
Open a Web browser.	fn+f3
Alternate between computer display and external display.	fn+f4
Initiate the Sleep state.	fn+f5
Initiate QuickLock.	fn+f6
Decrease screen brightness.	fn+f7
Increase screen brightness.	fn+f8
Play, pause, or resume an audio CD or a DVD.	fn+f9
Stop an audio CD or a DVD.	fn+f10
Play the previous track or section on an audio CD or a DVD.	fn+f11
Play the next track on an audio CD or a DVD.	fn+f12

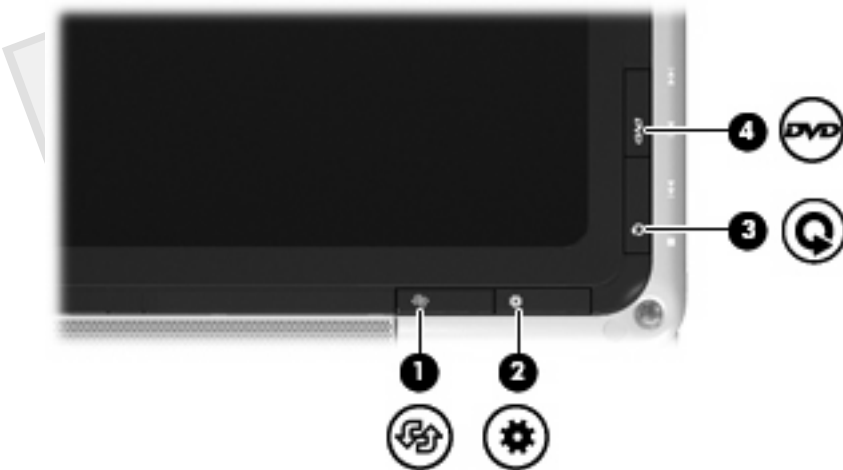
3 Display

Display components



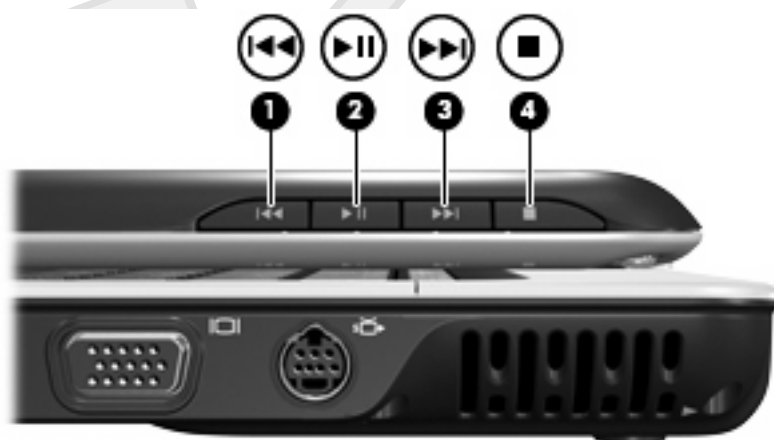
Component		Description
(1)	Rotating hinge	Swivels the display and converts the computer from notebook mode into tablet PC mode or vice versa.
(2)	Internal display switch	Turns off the display if the display is closed while the computer is turned on.
(3)	Fingerprint reader	Allows a fingerprint logon to Windows, instead of a password logon.
(4)	Integrated camera (select models only)	Records video and captures still photographs.
(5)	Display release latch	Opens the computer.

Quick Launch buttons



Component		Description
(1)	Rotate button	Switches the image between landscape and portrait orientation.
(2)	Mobility Center button	Press to open Mobility Center.
(3)	Media button	When the computer is - On, the media button opens the music program or Media menu, allowing you to select a multimedia program. - Off, the media button opens the music program or the Media menu, allowing you to select a multimedia program. - In the Sleep state, the media button resumes from Sleep into Windows.
(4)	DVD button	When the computer is - On, the DVD button opens the default DVD program to start a DVD in the optical drive. - Off, the DVD button opens QuickPlay to start a DVD in the optical drive. If the QuickPlay software is not installed, the computer starts in Windows. - In Hibernation, opens QuickPlay to start a DVD in the optical drive. If the QuickPlay software is not installed, the computer resumes from Hibernation.
		 NOTE Refer to the QuickPlay online Help for details on using QuickPlay.

Media buttons



Component	Description
(1) Previous/rewind button	When a disc is playing in the optical drive: • Press to play the previous track or chapter. • Press fn+ this button to rewind.
(2) Play/pause button	When a disc is in the optical drive and is • Not playing, press to play the disc. • Playing, press to pause the disc.
(3) Next/fast forward button	When a disc is playing in the optical drive: • Press once to play the next track or chapter. • Press fn+ this button to fast forward.
(4) Stop button	When a disc is playing in the optical drive, press to stop the current disc activity.

Display lights



Component	Description
(1) Power light*	- On: The computer is on. - Blinking: The computer is in the Sleep state. - Off: The computer is off or in Hibernation.
(2) Battery light	- On: A battery is charging. - Blinking: A battery that is the only available power source has reached a low-battery condition. When the battery reaches a <i>critical</i> low-battery condition, the battery light begins blinking rapidly. - Off: If the computer is plugged into an external power source, the light is turned off when all batteries in the computer are fully charged. If the computer is not plugged into an external power source, the light stays off until the battery reaches a low-battery condition.
(3) Drive light	Blinking: The hard drive or optical drive is being accessed.
(4) Rotate button light	On: The image is in landscape mode. [PLEASE VERIFY]
(5) Mobility Center button light	On: Mobility Center is open. [PLEASE VERIFY]
(6) Media button light	On: QuickPlay media mode is open. [PLEASE VERIFY]
(7) DVD button light	On: QuickPlay DVD mode is open. [PLEASE VERIFY]

Wireless antennae (select models only)

On select computer models, at least 2 antennae send and receive signals from one or more wireless devices. These antennae are not visible from the outside of the computer.

To see wireless regulatory notices, refer to your region's section of the *Regulatory, Safety and Environmental Notices* located in the Help and Support Center.



NOTE For optimal transmission, keep the areas immediately around the antennae free from obstructions.

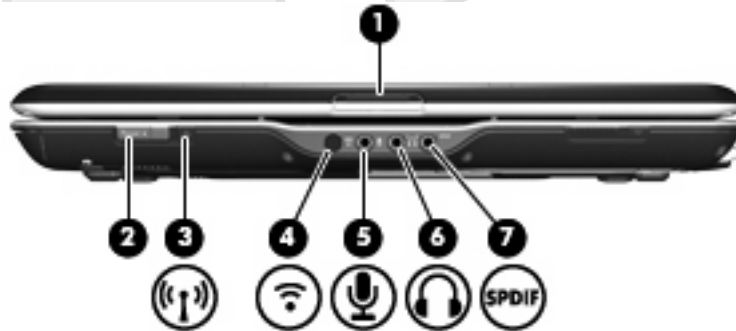
WWAN antenna

The wireless antenna inside the display enclosure allows you to connect to a wireless wide-area network (WWAN), and then to the Internet, using the integrated HP Broadband Wireless module and service from a supported cellular network operator.

For more information on HP Broadband Wireless and how to sign up for service, refer to the *HP Broadband Wireless Getting Started* guide included with your computer.



4 Front components



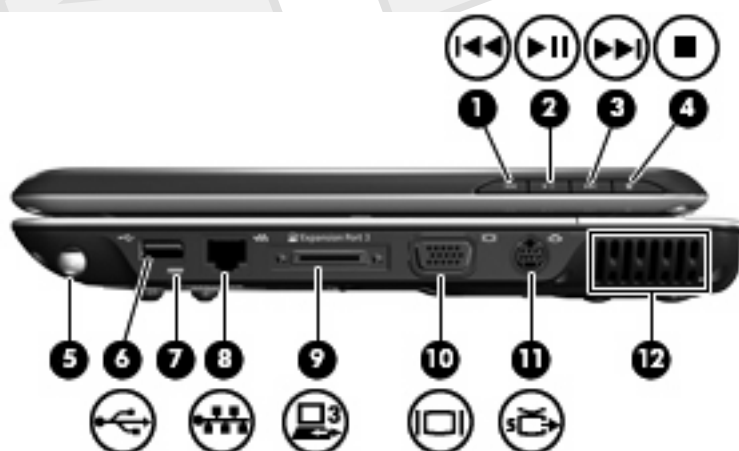
Component		Description
(1)	Display release latch	Opens the computer.
(2)	Power button*	When the computer is - Off, press to turn on the computer. - On, press to enter Hibernation. - In the Sleep state, briefly press to exit Sleep. - In Hibernation, briefly press to exit Hibernation. If the computer has stopped responding and Microsoft® Windows® shutdown procedures cannot be used, press and hold the power button for at least 5 seconds to turn off the computer.
(3)	Wireless light	Blue: An integrated wireless device, such as a wireless local area network (LAN) device and/or a Bluetooth® device, is turned on. Amber: an integrated wireless device is turned off.
(4)	Consumer infrared lens	Links the computer to the HP Remote Control.
(5)	Audio-in (microphone) jack	Connects an optional computer headset microphone, stereo array microphone, or monaural microphone.
(6)	Audio-out (headphone) jack	Produce sound when connected to optional powered stereo speakers, headphones, ear buds, a headset, or television audio.

5 Rear components



Component	Description
(1) Vent	Enables airflow to cool internal components.  CAUTION To prevent overheating, do not obstruct vents. Use the computer only on a hard, flat surface. Do not allow another hard surface, such as an adjoining optional printer, or a soft surface, such as pillows or thick rugs or clothing, to block airflow.  NOTE The computer fan starts up automatically to cool internal components and prevent overheating. It is normal for the internal fan to cycle on and off during routine operation.
(2) RJ-11 (modem) jack	Connects a modem cable.
(3) USB port	Connects an optional USB device.
(4) Security cable slot	Attaches an optional security cable to the computer.  NOTE The security cable is designed to act as a deterrent, but may not prevent the computer from being mishandled or stolen.

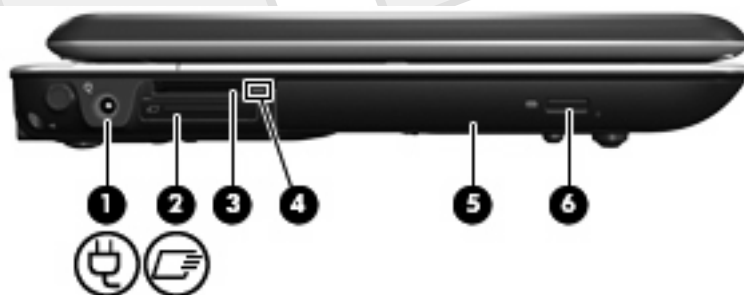
6 Right-side components



Component	Description
(1) Previous/rewind button	When a disc is playing in the optical drive: - Press to play the previous track or chapter. - Press fn+ this button to rewind.
(2) Play/pause button	When a disc is in the optical drive and is - Not playing, press to play the disc. - Playing, press to pause the disc.
(3) Next/fast forward button	When a disc is playing in the optical drive: - Press once to play the next track or chapter. - Press fn+ this button to fast forward.
(4) Stop button	When a disc is playing in the optical drive, press to stop the current disc activity.
(5) Pen holder	Secures the pen to the computer.
(6) USB port	Connects an optional USB device.
(7) Pen tether	Connects the pen tether
(8) RJ-45 (network) jack	Connects a network cable.
(9) Expansion port 3	Connects the computer to an optional expansion product.

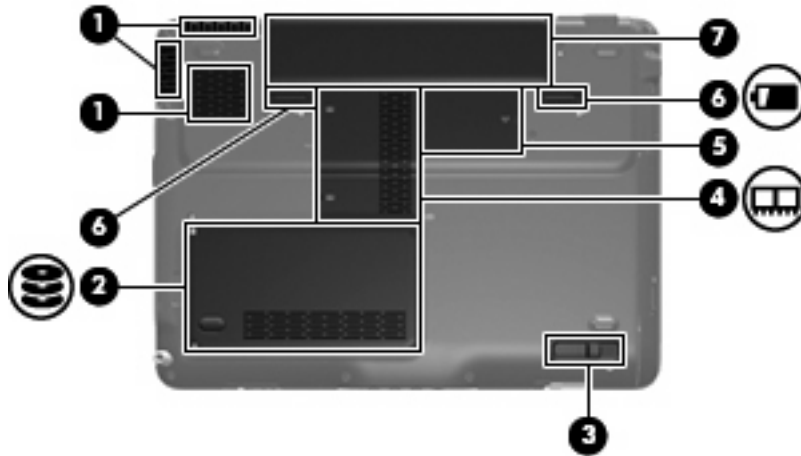
Component	Description
	 NOTE The computer has only one expansion port. The term <i>expansion port 3</i> describes the type of expansion port.
(10) External monitor port	Connects an external VGA monitor or projector.
(11) S-Video-out jack	Connects an optional S-Video device such as a television, VCR, camcorder, overhead projector, or video capture card.
(12) Vent	Enables airflow to cool internal components.
	 CAUTION To prevent overheating, do not obstruct vents. Use the computer only on a hard, flat surface. Do not allow another hard surface, such as an adjoining optional printer, or a soft surface, such as pillows or thick rugs or clothing, to block airflow.
	 NOTE The computer fan starts up automatically to cool internal components and prevent overheating. It is normal for the internal fan to cycle on and off during routine operation.

7 Left-side components



Component		Description
(1)	Power connector	Connects an AC adapter.
(2)	ExpressCard slot	Supports optional ExpressCard/54 cards.
(3)	Digital Media Slot	Supports the following optional digital card formats: Secure Digital (SD) Memory Card, MultiMediaCard (MMC), Secure Digital Input/Output (SD I/O), Memory Stick (MS), Memory Stick Pro (MSP), xD-Picture Card (XD), xD-Picture Card (XD) Type M.
(4)	Digital Media Slot light	On: A digital card is being accessed.
(5)	Optical drive	Reads an optical disc.
(6)	Optical drive release button	Releases the optical drive tray.

8 Bottom components



Component	Description
(1) Vents (3)	Enable airflow to cool internal components. CAUTION To prevent overheating, do not obstruct vents. Use the computer only on a hard, flat surface. Do not allow another hard surface, such as an adjoining optional printer, or a soft surface, such as pillows or thick rugs or clothing, to block airflow. NOTE The computer fan starts up automatically to cool internal components and prevent overheating. It is normal for the internal fan to cycle on and off during routine operation.
(2) Hard drive bay	Holds the hard drive.
(3) Optical drive release latch	Releases the optical drive from the drive bay.
(4) Memory module compartment	Contains the memory module slots.
(5) Mini Card compartment	Holds a wireless LAN device (select models only).

Component	Description
(6) Battery release latch	Releases the battery from the battery bay.
(7) Battery bay	Holds the battery.



NOTE To prevent an unresponsive system and the display of a warning message, replace with only a Mini Card device authorized for use in the computer by the governmental agency that regulates wireless devices in your country. If you replace the device and then receive a warning message, remove the device to restore computer functionality. Then contact Customer Care through the Help and Support Center.

9 Additional hardware components



Component		Description
(1)	Power cord*	Connects an AC adapter to an AC outlet.
(2)	AC adapter	Converts AC power to DC power.
(3)	Battery*	Powers the computer when the computer is not plugged into external power.
(4)	Modem cable*	Connects the internal modem to an RJ-11 telephone jack or to a country-specific modem adapter.
(5)	Country-specific modem cable adapter (select models only)	Adapts the modem cable to a non-RJ-11 telephone jack.
*Modem cables, batteries, and power cords vary in appearance by region and country.		

10 Labels

The labels affixed to the computer provide information you may need when you troubleshoot system problems or travel internationally with the computer.

- Service tag—Provides the product brand and series name, serial number (s/n), and product number (p/n) of your computer. Have this information available when you contact Customer Care. The service tag label is affixed to the bottom of the computer.
- Microsoft Certificate of Authenticity—Contains the Microsoft® Windows® Product Key. You may need the Product Key to update or troubleshoot the operating system. This certificate is affixed to the bottom of the computer.
- Regulatory label—Provides regulatory information about the computer. The regulatory label is affixed inside the hard drive bay.
- Modem approval label—Provides regulatory information about the modem and lists the agency approval markings required by some of the countries in which the modem has been approved for use. You may need this information when traveling internationally. The modem approval label is affixed inside the hard drive bay.
- Wireless certification label(s) (select models only)—Provide information about optional wireless devices and the approval markings of some of the countries in which the devices have been approved for use. An optional device may be a wireless local area network (WLAN) device or an optional Bluetooth® device. If your computer model includes one or more wireless devices, one or more certification labels are included with your computer. You may need this information when traveling internationally. Wireless certification labels are affixed inside the memory module compartment.

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