

User Guide

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# 1 Components

This chapter explains the hardware features of the computer.

To see a list of hardware installed in the computer:

- 1. Select Start > Computer > System properties.
- In the left pane, click Device Manager.

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

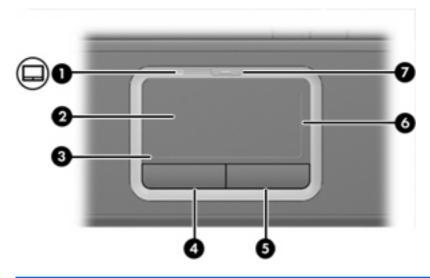


**NOTE** Components included in the computer may vary by region and by model. The illustrations in this chapter identify the standard features included in most computer models.

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### **Top components**

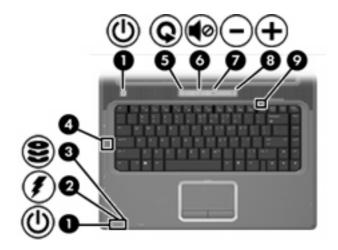
#### **TouchPad**



Component		Description
(1) TouchPad light Blue: TouchPad is enabled.		Blue: TouchPad is enabled.
		Amber: TouchPad is disabled.
(2)	TouchPad*	Moves the pointer and selects or activates items on the screen.
(3)	TouchPad horizontal scroll zone*	Allows you to scroll left or right.
(4)	Left TouchPad button*	Functions like the left button on an external mouse.
(5)	Right TouchPad button*	Functions like the right button on an external mouse.
(6)	TouchPad vertical scroll zone*	Allows you to scroll up or down.
(7)	TouchPad on/off button	Enables/disables the TouchPad.

<sup>\*</sup>This table describes factory settings. To view and change pointing device preferences, select **Start > Control Panel > Hardware and Sound > Mouse**.

#### Lights



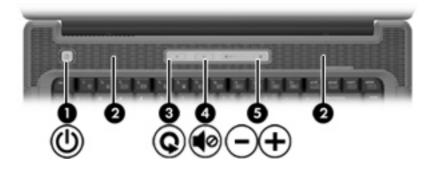
Component		Description	
(1)	Power lights (2)*	On: The computer is on.	
		Blinking: The computer is in the Sleep state.	
		Off: The computer is off or in Hibernation.	
(2)	Battery light	On: A battery is charging.	
		Blinking: A battery that is the only available power source has reached a low battery level. When the battery reaches a critical battery level, 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 level.	
(3)	Drive light	Blinks when the hard drive or optical drive is being accessed.	
(4)	Caps lock light	On: Caps lock is on.	
(5)	Media button light	Blinks once when the media button has been pressed.	
(6)	Volume mute light	Blue: Computer sound is turned on.	
		Amber: Computer sound is turned off.	
(7)	Volume down light	Blinking: The volume scroll zone is being used to decrease speaker volume.	
(8)	Volume up light	Blinking: The volume scroll zone is being used to increase speaker volume.	
(9)	Num lock light	On: Num lock is on or the embedded numeric keypad is enabled.	

<sup>\*</sup>The 2 power lights display the same information. The light on the power button is visible only when the computer is open. The power light on the front of the computer is visible whether the computer is open or closed.

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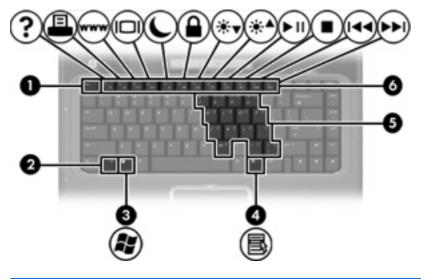
#### **Buttons, switches, and speakers**



Component		Description
(1)	Power button*	When the computer is off, press the power button to turn on the computer.
		If the computer has stopped responding and Windows® shutdown procedures cannot be used, press and hold the power button for at least 5 seconds to turn off the computer.
		To learn more about your power settings, select <b>Start &gt; Control Panel &gt; System and Maintenance &gt; Power Options</b> .
(2)	Speakers (2)	Produce sound.
(3)	Media button	Launches the QuickPlay program (for models with QuickPlay preinstalled). Launches the DVDPlay program (for models with DVDPlay preinstalled).
		NOTE If the computer has been set up to require a logon password, you may be asked to log on to Windows. QuickPlay or DVDPlay launches after you log on. Refer to the QuickPlay or DVDPlay online Help for more information.
(4)	Volume mute button	Mutes and restores speaker sound.
(5)	Volume scroll zone	Adjusts speaker volume. Slide your finger to the left to decrease volume and to the right to increase volume. You can also tap the minus sign on the scroll zone to decrease volume, or you can tap the plus sign on the scroll zone to increase volume.

\*This table describes factory settings. For information about changing factory settings, refer to the user guides located in Help and Support.

### Keys



Component		Description
(1) esc key Displays system information when presse the fn 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 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
Open Help and Support.	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 Hibernation.	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

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To perform this function	Press
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 or section on an audio CD or a DVD.	fn+12

### **Front components**



Component		Description	
(1)	Wireless switch	Turns the wireless feature on or off, but does not create a wirele connection.	
		NOTE A wireless network must be set up in order to establish a wireless connection.	
(2)	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: All wireless devices are turned off.	
(3)	Consumer infrared lens (select models only)	Receives a signal from the HP Remote Control.	
(4)	Audio-in (microphone) jack	Connects an optional computer headset microphone, stereo array microphone, or monaural microphone.	
(5)	Audio-out (headphone) jack	Produces sound when connected to optional powered stereo speakers, headphones, ear buds, a headset, or television audio.	

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#### **Rear components**



Component

**Description** 

Vent

Enables airflow to cool internal components.

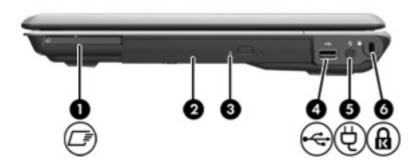


**CAUTION** To prevent overheating, do not obstruct vents. Use the computer only on a hard, flat surface. Do not allow another hard surface, such as an adjoining optional printer, or a soft surface, such as pillows or thick rugs or clothing, to block airflow.



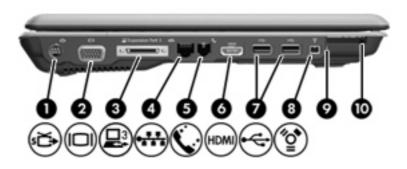
**NOTE** The computer fan starts up automatically to cool internal components and prevent overheating. It is normal for the internal fan to cycle on and off during routine operation.

## **Right-side components**



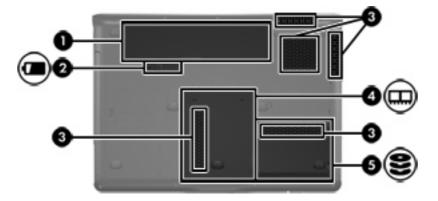
Component		Description	
(1)	ExpressCard slot	Supports optional ExpressCard/54 cards.	
(2)	Optical drive	Reads an optical disc.	
(3)	Optical drive light	Blinking: The optical drive is being accessed.	
(4)	USB port (select models only)	Connects an optional USB device.	
(5)	Power connector	Connects an AC adapter.	
(6)	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.	

### **Left-side components**



Component		Description	
(1)	S-Video-out jack	Connects an optional S-Video device such as a television, VCR, camcorder, overhead projector, or video capture card.	
(2)	External monitor port	Connects an external VGA monitor or projector.	
(3)	Expansion port 3	Connects the computer to an optional expansion product.	
		NOTE The computer has only one expansion port. The term expansion port 3 describes the type of expansion port.	
(4)	RJ-45 (network) jack	Connects a network cable.	
(5)	RJ-11 (modem) jack	Connects a modem cable.	
(6)	HDMI port (select models only)	Connects an optional audio or video device, such as a high- definition television, or any compatible digital or audio device.	
(7)	USB ports (2)	Connect optional USB devices.	
(8)	1394 port (select models only)	Connects an optional IEEE 1394 or 1394a device, such as a camcorder.	
(9)	Digital Media Slot light (select models only)	On: A digital card is being accessed.	
(10)	Digital Media Slot (select models only)	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.	

### **Bottom components**



Component		Description	
(1)	Battery bay	Holds the battery.	
(2)	Battery release latch	Releases the battery from the battery bay.	
(3)	Vents (5)	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.	
(4)	Memory module compartment	Contains the memory module slots.	
(5)	Hard drive bay	Holds the hard drive.	

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### **Display components**



Component		Description	
(1)	Internal microphones (2) (select models only)	Record	NOTE If there is a microphone icon next to each microphone opening, your computer has internal microphones.
(2)	Internal display switch	Turns off the display and initiates Sleep if the display is closed while the power is turned on.	

#### 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 country's section of the *Regulatory, Safety and Environmental Notices* located in Help and Support.





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

## **Additional hardware components**



Comp	onent	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.

#### 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 to the bottom of the computer.
- 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 to the bottom of the computer.

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# 2 Specifications

### **Operating environment**

The operating environment information in the following table may be helpful if you plan to use or transport the computer in extreme environments.

Factor	Metric	U.S.	
Temperature			
Operating	5°C to 35°C	41°F to 95°F	
Nonoperating	-20°C to 60°C	-4°F to 140°F	
Relative humidity (noncondensing)			
Operating	10% to 90%	10% to 90%	
Nonoperating	5% to 95%	5% to 95%	
Maximum altitude (unpressurized)			
Operating (14.7 to 10.1 psia*)	-15 m to 3,048 m	-50 ft to 10,000 ft	
Nonoperating (14.7 to 4.4 psia*)	-15 m to 12,192 m	-50 ft to 40,000 ft	
*Pounds per square inch absolute (psia) is another unit of measurement for altitude.			

#### Rated input power

The power information in this section may be helpful if you plan to travel internationally with your computer.

The computer operates on DC power, which can be supplied by an AC or a DC power source. Although the computer can be powered from a stand-alone DC power source, it should be powered only with an AC adapter or a DC power source supplied and approved by HP for the computer.

The computer is capable of accepting DC power within the following specifications.

Input power	Rating	
Operating voltage	18.5 V dc — 19.0 V dc	
Operating current	3.5 A or 4.74 A	

This product is designed for IT power systems in Norway with phase-to-phase voltage not exceeding 240 V rms.

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#### **Expansion port input/output signals**

The signal information in this section may be helpful if you plan to use an optional expansion product that connects to the expansion port 3 on the computer. (The computer has only one expansion port.)

The term expansion port 3 describes the type of expansion port.)

The following table identifies the input and output signals supported by the expansion port 3 on the computer.

Feature	Support
USB 2.0	Yes
Gigabit Ethernet	Yes
IEEE 1394 (4-pin port)	No
Consumer infrared (for optional remote control only) (select models only)	Yes
Power inputs	65-W to 90-W maximum
Composite TV	Yes
S-Video TV	Yes
Component TV	Yes
S/PDIF audio	Yes
DVI	No
Headphone/speaker audio-out	Yes
Microphone audio-in	Yes
VGA	Yes
Power button	Yes
Volume control (up/down)	Yes
Mute/unmute	Yes

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