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### Safety warning notice

▲ WARNING! To reduce the possibility of heat-related injuries or of overheating the computer, do not place the computer directly on your lap or obstruct the computer air 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 rugs or clothing, to block airflow. Also, do not allow the AC adapter to contact the skin or a soft surface, such as pillows or rugs or clothing, during operation. The computer and the AC adapter comply with the user-accessible surface temperature limits defined by the International Standard for Safety of Information Technology Equipment (IEC 60950).



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# **1** Identifying hardware

To see a list of hardware installed in the computer, follow these steps:

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

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

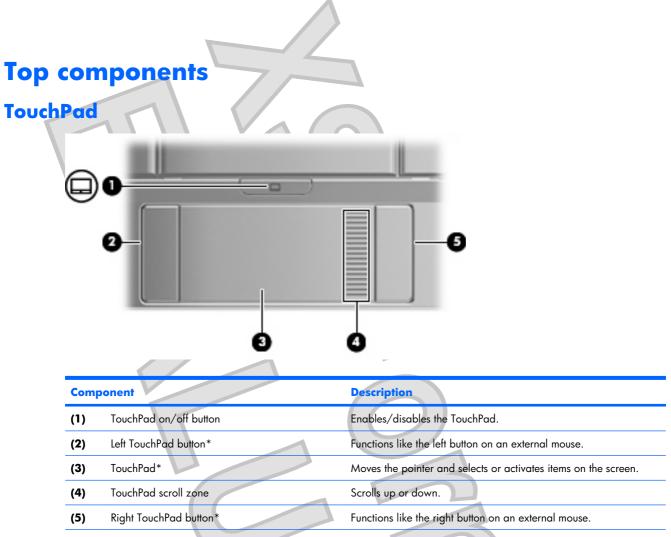
NOTE: Windows® includes the User Account Control feature to improve the security of your computer. You may be prompted for your permission or password for tasks such as installing applications, running utilities, or changing Windows settings. Refer to Windows Help for more information.



2	Components
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2	Chapter 2 Components

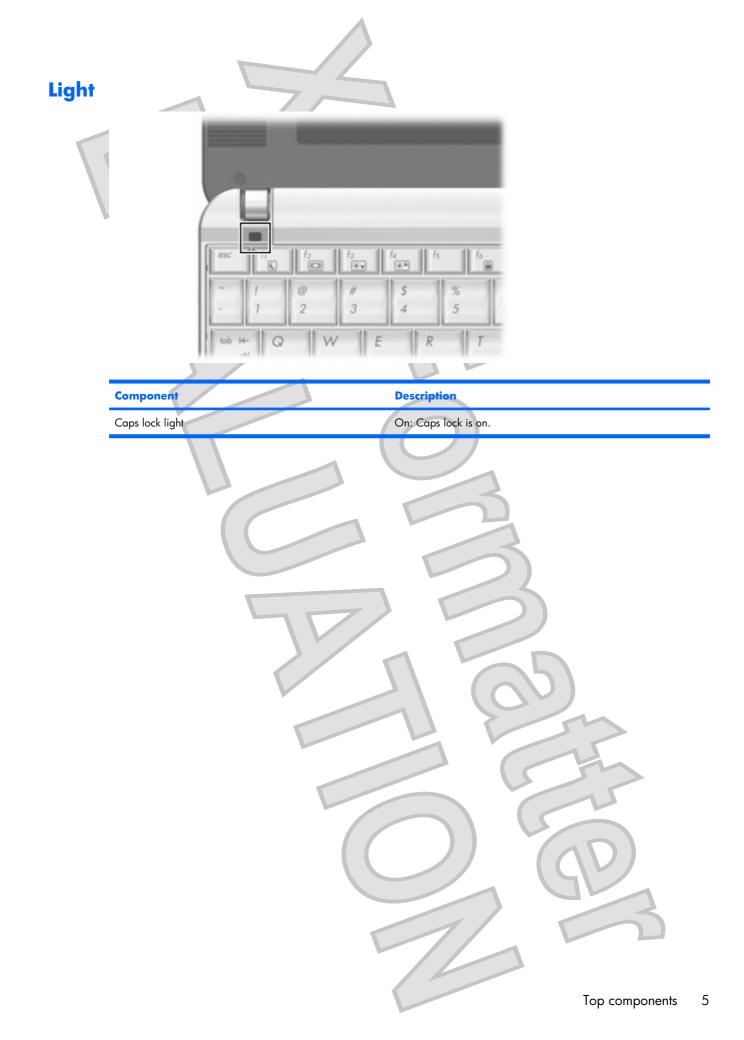
### **Product notice**

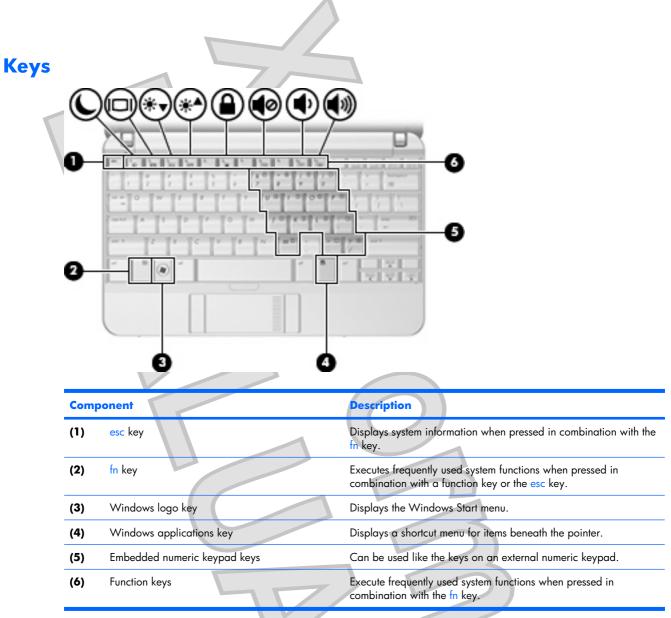
This user guide describes features that are common to most models. Some features may not be available on your computer.



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







### Front components Component Description (1) Power light Blue: The computer is on. Blinking: The computer is in the Sleep state. • Off: The computer is off or in Hibernation. (2) Power switch When the computer is off, slide the switch to turn on the computer. When the computer is on, slide the switch briefly to initiate Hibernation. When the computer is in the Sleep state, slide the switch briefly to exit Sleep. When the computer is in Hibernation, slide the switch briefly to exit Hibernation. If the computer has stopped responding and Windows® shutdown procedures are ineffective, slide and hold the power switch for at least 5 seconds to turn off the computer. To learn more about your power settings, select Start > Control Panel > System and Maintenance > Power Options. Drive light Blinking: The hard drive is being accessed. (3) Wireless light Blue: An integrated wireless device, such as a wireless local (4) area network (WLAN) device, the HP Broadband Wireless Module, and/or a Bluetooth® device, is on. Amber: All wireless devices are off. NOTE: The wireless light turns amber when the computer turns on, but all wireless devices are off. (5) Wireless switch Turns the wireless feature on or off, but does not create a wireless connection. NOTE: To establish a wireless connection, a wireless network must already be set up.

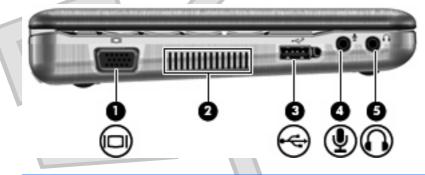
# **Right-side components**

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Com	ponent	Description			
(1)	ExpressCard slot	Supports optional ExpressCards 54.			
(2)	SD Card Reader	Supports the following optional digital card formats:			
		Secure Digital (SD) Memory Card			
		MultiMediaCard (MMC)			
(3)	USB port	Connects an optional USB device.			
(4)	RJ-45 (network) jack	Connects a network cable.			
(5)	Battery light	• Amber: A battery is charging.			
		• Blue: A battery is close to full charge capacity.			
		• Blinking amber: 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 turns 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.			
(6)	Power connector	Connects an AC adapter.			
(7)	Security cable slot	Attaches an optional security cable to the computer.			
		<b>NOTE:</b> The security cable is designed to act as a deterrent, but may not prevent the computer from being mishandled or stolen.			

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### Left-side components



#### Description Component Connects an external VGA monitor or projector. (1) External monitor port (2) Vent Enables airflow to cool internal components. 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. (3) Powered USB port Provides power to a USB device, such as an optional external MultiBay or an optional external optical drive, if used with a powered USB cable. (4) Audio-in (microphone) jack Connects an optional computer headset microphone, stereo array microphone, or monaural microphone. Audio-out (headphone) jack Produces sound when connected to optional powered stereo (5) speakers, headphones, ear buds, a headset, or television audio.

Dis	s <mark>play</mark>	compon	ents (selec	t models only)
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		II		
		ponent		Description
	(1)	Speakers (2)		Produce sound.
	(2)	Internal microphones	(2)	Record sound.
				<b>NOTE:</b> If there is a microphone icon next to each microphone opening, your computer has internal microphones.
	(3)	Webcam		Records and plays back webcam video.
				<ul> <li>Includes streaming video options and special effects for adding frames, filters, and emoticons to snapshots and video.</li> </ul>
				Captures single frame or burst webcam snapshots.
				Connects to e-mail photos and video.
10	Chapter 2	Components		

Bottom		onents		
Com (1) (2)	aponent Battery release Battery bay	: latches (2)	3 Description Release the battery from the battery Holds the battery.	y bay.
(3) (4)	Vents (3) Service tag		Enable airflow to cool internal com <b>NOTE:</b> The computer fan starts u components and prevent overheating to cycle on and off during routine of Provides the product brand and se and product number (p/n) of your available when you contact technic	p automatically to cool internal ng. It is normal for the internal fan operation.
				Bottom components 11

### 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.

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

To see wireless regulatory notices, refer to the section of the *Regulatory, Safety and Environmental Notices* that applies to your country or region. These notices are located in Help and Support.

# Additional hardware components **Description** Component Power cord\* Connects an AC adapter to an AC outlet. (1) (2) AC adapter Converts AC power to DC power. (3) Battery\* Powers the computer when the computer is not plugged into external power. \*Batteries and power cords vary in appearance by region and country.

### 3 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 technical support. The service tag label is affixed to the bottom of the computer.
- Microsoft® Certificate of Authenticity—Contains the 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, an HP Broadband
  Wireless Module, 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

to the bottom of the computer.

## 4 Routine care

### **Cleaning the display**

△ CAUTION: To prevent permanent damage to the computer, never spray water, cleaning fluids, or chemicals on the display.

To remove smudges and lint, frequently clean the display with a soft, damp, lint-free cloth. If the screen requires additional cleaning, use premoistened antistatic wipes or an antistatic screen cleaner.

### **Cleaning the keyboard**

▲ WARNING! To reduce the risk of electric shock or damage to internal components, do not use a vacuum cleaner attachment to clean the keyboard. A vacuum cleaner can deposit household debris on the keyboard surface.

Clean the keyboard regularly to prevent keys from sticking and to remove dust, lint, and particles that can become trapped beneath the keys. A can of compressed air with a straw extension can be used to blow air around and under the keys to loosen and remove debris.

### **Traveling and shipping**

The computer is built to go with you for work and play. For best results, follow the traveling and shipping tips described here.

- To prepare the computer for traveling and shipping, follow these steps:
  - 1. Back up your information.
  - 2. Remove all optical discs and all external media cards, such as digital cards and ExpressCards.
    - △ CAUTION: To reduce the risk of damage to the computer, damage to a drive, or loss of information, remove discs from a drive before removing the drive from a drive bay, and before shipping, storing, or traveling with a drive.
  - 3. Turn off and then disconnect all external devices.
  - 4. Shut down the computer.
- Take along a backup of your information. Keep the backup separate from the computer.
- When traveling by air, carry the computer as hand luggage, and do not check it in with the rest of your bags.

- △ CAUTION: Avoid exposing a drive to magnetic fields. Security devices with magnetic fields include airport walk-through devices and security wands. Security devices that use X-rays to check luggage moving on conveyor belts do not damage a drive.
  - If you plan to use the computer during a flight, check with the airline in advance. In-flight computer use is at the discretion of the airline.
- If the computer will be unused and disconnected from external power for more than 2 weeks, remove the battery and store it separately.
- If you are shipping the computer or a drive, place it in a bubble-pack mailer or other suitable protective packaging and label the package "FRAGILE."
- If the computer has a wireless device or a cell phone device installed, such as an 802.11b/g, a Global System for Mobile Communications (GSM), or a General Packet Radio Service (GPRS) device, note that the use of these devices may be restricted in some environments. Such restrictions may apply onboard aircraft, in hospitals, near explosives, in hazardous locations, and so on. If you are uncertain of the policy that applies to the use of a particular device, ask for authorization to use it before you turn it on.
- If you are traveling internationally, follow these suggestions:
  - Check the computer-related customs regulations for each country or region on your itinerary.
  - Contact technical support to discuss power cord and adapter requirements for each location in which you plan to use the computer. Voltage, frequency, and plug configurations vary.
  - ▲ **WARNING!** To reduce the risk of electric shock, fire, or damage to the equipment, do not attempt to power the computer with a voltage converter kit sold for appliances.

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