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Product notice

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

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.

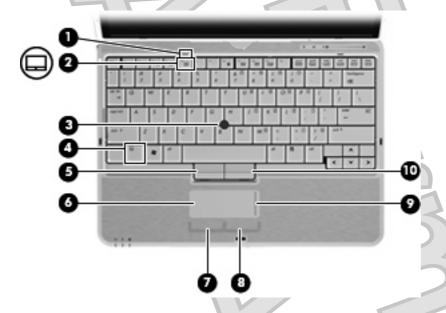
NOTE: Windows® includes the User Account Control feature to improve the security of your computer. You may be prompted for your permission or password for tasks such as installing applications, running utilities, or changing Windows settings. Refer to Help and Support for more information.



2 Components

Top components

Pointing devices

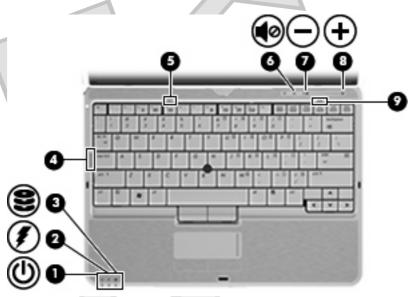


Component		Description
(1)	TouchPad light	Off: TouchPad is enabled.
		Amber: TouchPad is disabled.
(2)	TouchPad on/off control	Enables/disables the TouchPad when pressed in combination with the fn key.
(3)	Pointing stick*	Moves the pointer and selects or activates items on the screen.
(4)	fn key	Enables/disables the TouchPad when pressed in combination with the f5 key.
(5)	Left pointing stick button*	Functions like the left button on an external mouse.
(6)	TouchPad*	Moves the pointer and selects or activates items on the screen.
(7)	Left TouchPad button*	Functions like the left button on an external mouse.
(8)	Right TouchPad button*	Functions like the right button on an external mouse.
(9)	TouchPad scroll zone*	Scrolls up or down.

Component	Description
(10) Right pointing stick button*	Functions like the right button on an external mouse.
*This table describes factory settings. To view or change po Hardware and Sound > Mouse.	ointing device preferences, select Start > Control Panel >



Lights



Component		De	scription
(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	•	Amber: A battery is charging.
		•	Turquoise: A battery is close to full charge capacity.
		5	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.
		j	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.
(3)	Drive light	•	Blinking turquoise: The hard drive is being accessed.
			Amber: HP 3D DriveGuard has temporarily parked the internal hard drive.
(4)	Caps lock light	On	: Caps lock is on.
(5)	TouchPad light	•	Off: TouchPad is enabled.
		•	Amber: TouchPad is disabled.
(6)	Volume mute light	•	Turquoise: Computer sound is on.
		•	Amber: Computer sound is off.
(7)	Volume down light		king: The volume scroll zone is being used to decrease speaker ume.

4 Chapter 2 Components

Com	ponent		Description
(8)	Volume up light		Blinking: The volume scroll zone is being used to increase speaks volume.
(9)	Num lock light		On: Num lock is on or the embedded numeric keypad is enabled
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			Top components

Buttons and switches



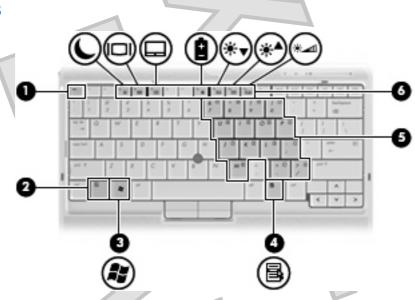
Com	ponent	Description
(1)	Internal display switch	Turns off the display if the display is closed while the power is on.
(2)	Presentation button	Starts the presentation feature.
(3)	Volume mute button	Mutes and restores speaker sound.
(4)	Volume scroll zone	Adjusts speaker volume: To decrease volume, slide your finger across the volume scroll zone from right to left. You can also press and hold the left end of the volume scroll zone. To increase volume, slide your finger across the volume scroll zone from left to right. You can also press and hold the right end of the volume scroll zone.

Display components



Component		Description
(1)	Webcam light (select models only)	On: The webcam is in use.
(2)	Webcam (select models only)	Records audio and video and captures still photographs.
(3)	Keyboard light	Illuminates the keyboard in low-light conditions when the keyboard light button is pressed.
(4)	Keyboard light button	Opens and turns on the keyboard light.
(5)	HP Fingerprint Sensor (fingerprint reader)	Allows a fingerprint logon to Windows instead of a password logon.
(6)	Internal microphones (2)	Record sound and transmit sound for video conferencing and Voice Over IP (VoIP).
(7)	Ambient light sensor	Automatically adjusts the display brightness based on the lighting conditions in your environment.
(8)	Convertible hinge	Swivels the display and converts the computer from traditional notebook mode into tablet mode or vice versa.

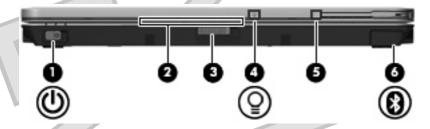
Keys



Com	ponent	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 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.

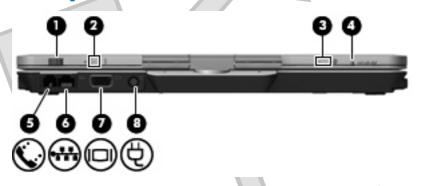
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Front components



Component		Description
(1)	Power switch	 When the computer is off, slide the switch to the right to turn on the computer.
		 When the computer is on, slide the switch to the right to shut down the computer.
		 When the computer is in the Sleep state, slide the switch to the right briefly to exit Sleep.
		When the computer is in Hibernation, slide the switch to the right briefly to exit Hibernation.
		If the computer has stopped responding and Windows® shutdown procedures are ineffective, slide the switch to the right and hold 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 .
(2)	Business card slot	Holds a business card in position so that the webcam can capture an image.
(3)	Display release latch	Opens the computer.
(4)	Keyboard light button	Opens and turns on the keyboard light.
(5)	External WWAN antenna button	Opens the external WWAN antenna.
(6)	Bluetooth® compartment	Contains an optional Bluetooth device.

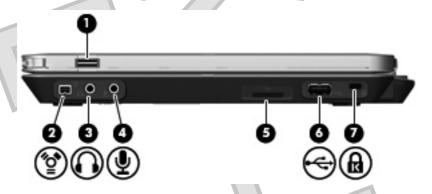
Rear components



Com	ponent	Description
(1)	Jog dial	In tablet mode, functions like the enter key and the up and down arrows on a standard keyboard.
		Press inward to enter a command.
		Rotate up to scroll up.
		Rotate down to scroll down.
(2)	Esc button	In tablet mode, allows you to exit or escape out of an application.
(3)	Rotate button	In tablet mode, switches the image between landscape and portrait orientation.
(4)	Ctrl+alt+del button	In tablet mode:
		 While Windows is running, press the button with the pen to enter the ctrl+alt+del command.*
		• While the Computer Setup utility is running, press the button with the pen to enter the reset command. The computer resets and all unsaved information is lost. The reset function can be used to restore functionality when the system has become unresponsive.
(5)	RJ-11 (modem) jack	Connects a modem cable.
(6)	RJ-45 (network) jack	Connects a network cable.
(7)	External monitor port	Connects an external VGA monitor or projector.
(8)	Power connector	Connects an AC adapter.

^{*}To protect your work and the system, the ctrl+alt+delete command cannot be entered using the ctrl, alt, and del keys on the on-screen keyboard.

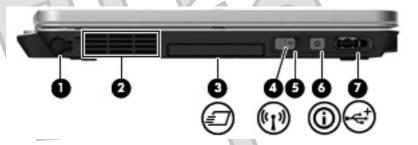
Right-side components



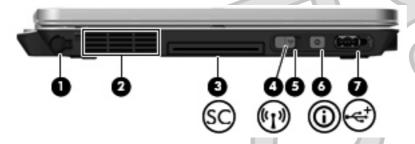
Com	ponent	Description
(1)	HP Fingerprint Sensor (fingerprint reader)	Allows a fingerprint logon to Windows instead of a password logon.
(2)	1394 port	Connects an optional IEEE 1394 or 1394a device, such as a camcorder.
(3)	Audio-out (headphone) jack	Produces sound when connected to optional powered stereo speakers, headphones, ear buds, a headset, or television audio.
(4)	Audio-in (microphone) jack	Connects an optional computer headset microphone, stereo array microphone, or monaural microphone.
(5)	SD Card Reader	Supports the following optional digital card formats:
		Secure Digital (SD) Memory Card
		MultiMediaCard (MMC)
(6)	USB port	Connects an optional USB device.
(7)	Security cable slot	Attaches an optional security cable to the computer.
		NOTE: The security cable is designed to act as a deterrent, but it may not prevent the computer from being mishandled or stolen.

Left-side components

NOTE: Refer to the illustration that most closely matches your computer.



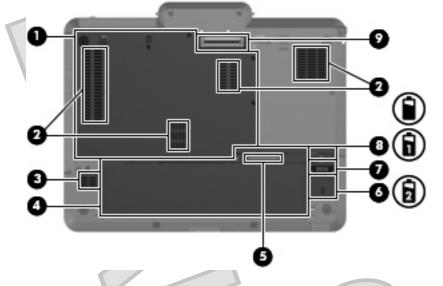
Com	ponent	Description
(1)	Pen holder	Stores the pen.
(2)	Vent	Enables airflow to cool internal components.
		NOTE: The computer fan starts up automatically to cool internal components and prevent overheating. It is normal for the internal fan to cycle on and off during routine operation.
(3)	ExpressCard slot (select models only)	Supports optional ExpressCards.
(4)	Wireless light	Blue: An integrated wireless device, such as a wireless local area network (WLAN) device, the HP Broadband Wireless Module, and/or a Bluetooth device, is on.
		Amber: All wireless devices are off.
(5)	Wireless switch	Turns the wireless feature on or off, but does not create a wireless connection.
		NOTE: A wireless network must be set up in order to establish a wireless connection.
(6)	Info button	Launches Info Center, which enables you to open various software solutions.
(7)	Powered USB port	Provides power to a USB device, such as an optional external MultiBay, if used with a powered USB cable.



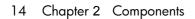
Com	ponent	Description	GV
(1)	Pen holder	Stores the pen.	
(2)	Vent	Enables airflow to cool internal components.	

Component		Description	
		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)	Smart card reader (select models only)	Supports optional smart cards and Java™ Cards.	
(4)	Wireless light	Blue: An integrated wireless device, such as a wireless local area network (WLAN) device, the HP Broadband Wireless Module, and/or a Bluetooth device, is on.	
		Amber: All wireless devices are off.	
(5)	Wireless switch	Turns the wireless feature on or off, but does not create a wireless connection.	
7		NOTE: A wireless network must be set up in order to establish a wireless connection.	
(6)	Info button	Launches Info Center, which enables you to open various software solutions.	
(7)	Powered USB port	Provides power to a USB device, such as an optional external MultiBay, if used with a powered USB cable.	

Bottom components



Component		Description	
(1)	Hard drive bay	Holds the hard drive, memory module slots, WLAN module (select models only), and WWAN module (select models only).	
(2)	Vents (4)	Enable 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)	Speaker	Produces sound.	
(4)	Battery bay	Holds the battery and subscriber identity module (SIM).	
(5)	Charge level indicator	Displays the approximate remaining battery charge.	
(6)	Accessory battery connector door	Slides open to expose the accessory battery connector.	
(7)	Accessory battery connector	Connects an optional accessory battery.	
(8)	Battery release latch	Releases the battery from the battery bay.	
(9)	Docking connector	Connects an optional docking device.	



Wireless antennae (select models only)

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

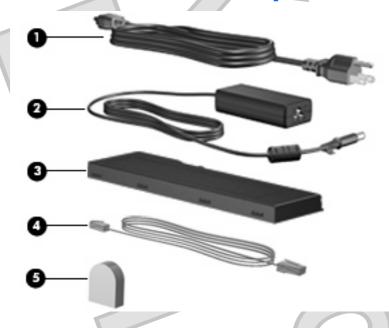


Component		Description	
(1)	WWAN antenna*	Sends and receives wireless signals to communicate with wireless wide area networks (WWAN).	
(2)	WLAN antennae (2)*	Send and receive wireless signals to communicate with wireless local area networks (WLAN).	
(3)	External WWAN antenna	Sends and receives wireless signals to communicate with wireless wide area networks (WWAN).	

^{*}These antennae are not visible from the outside of the computer. For optimal transmission, keep the areas immediately around the antennae free from obstructions.

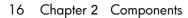
To see wireless regulatory notices, refer to the section of the *Regulatory, Safety and Environmental Notices* that applies to your country or region. These notices are located in Help and Support.

Additional hardware components



Comp	ponent	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 [†] (select models only)	Connects the internal modem to an RJ-11 telephone jack or to a country- or region-specific modem cable adapter.
(5)	Country- or region-specific modem cable adapter (select models only)	Adapts the modem cable to a non-RJ-11 telephone jack.

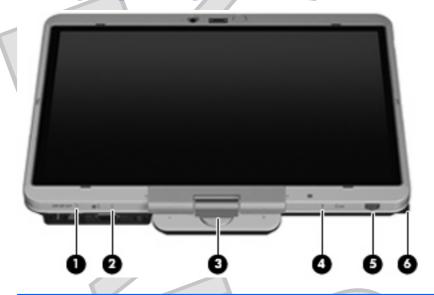
^{*}Batteries and power cords vary in appearance by country or region.



 $^{{}^{\}dagger}\text{The modem cable}$ is necessary only if you are using dial-up networking.

Using the tablet

Tablet display components



Component		Description	
(1)	Ctrl+alt+del button*	While Windows is running, press the button with the pen to enter the ctrl+alt+delete command.† While the Computer Setup utility is running, press the button with the pen to enter the reset command. The computer resets and all unsaved information is lost. The reset function can be used to restore functionality when the system has become unresponsive.	
(2)	Rotate button	Switches the image between landscape and portrait orientation.	
(3)	Convertible hinge	Swivels the display and converts the computer from traditional notebook mode into tablet mode or vice versa.	
(4)	Esc button	Allows you to exit or escape out of a program.	
(5)	Jog dial*	Functions like the enter key and the up and down arrow keys on a standard keyboard: Press to enter a command. Rotate up to scroll up. Rotate down to scroll down.	
(6)	Pen holder	Stores the pen.	

^{*}This table describes default settings. For information about changing the functions of the Ctrl+alt+del button and jog dial, select Start > Control Panel > Hardware and Sound > Tablet PC Settings.

[†]To protect your work and the system, the ctrl+alt+delete command cannot be entered using the ctrl, alt, and del keys on the on-screen keyboard.

Rotating the display

The computer display can rotate from traditional notebook mode to tablet mode.

NOTE: When the computer is docked in either notebook mode or tablet mode, the display will not rotate.

Tablet mode

To change the computer from notebook mode to tablet mode:

1. Slide the display release latch to release the display (1), and then open the computer display (2).



2. Rotate the computer display clockwise until it snaps into place facing away from the keyboard.



3. Tilt the computer display downward onto the keyboard until it snaps into place.



In tablet mode, the screen display automatically rotates from portrait to landscape as it is being turned.

NOTE: If antennae on the computer are held in close proximity to the body, the antennae may disable automatic rotation of the screen display.

Notebook mode

To change the computer from tablet mode to notebook mode:

- Slide the display release latch (1).
- Open the computer display (2).



Rotate the computer display counterclockwise until it snaps into place facing the keyboard.



NOTE: To prevent a lack of response when you turn on the computer, be sure that the battery is firmly seated.

Chapter 3 Using the tablet

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4 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 important information including the following: the product brand and series name, serial number (s/n), and product number (p/n) of your computer.



- Product name (1). This is the product name affixed to the front of your notebook.
- Serial number (s/n) (2). This is an alphanumeric number that is unique to each product.
- Part number/Product number (p/n) (3). This number provides specific information about the product's hardware components. The part number helps a service technician to determine what components and parts are needed.
- Model description (4). This is the number you use to locate documents, drivers, and support for your notebook.
- Warranty period **(5)**. This number describes the duration of the warranty period for this 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
 inside the battery 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 battery 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 battery bay and the hard drive bay.

- SIM (subscriber identity module) label (select models only) Provides the ICCID (Integrated Circuit Card Identifier) of your SIM. This label is located inside the battery bay.
- HP Broadband Wireless Module serial number label (select models only) Provides the serial number of your HP Broadband Wireless Module. This label is located inside the hard drive bay.



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