Getting Started

HP Pavilion Entertainment PC

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Product notice

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

Software terms

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For any further information or for requesting a full refund of the computer, please contact your local point of sale (the seller).

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 come into contact with 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 Welcome

After you set up and register the computer, it is important to take the following steps:

- **Set up HP QuickWeb**—Immediately access your music, digital photos, and the Web without launching the Windows® operating system. For more information, refer to HP QuickWeb on page 11.
- **Connect to the Internet**—Set up your wired or wireless network so that you can connect to the Internet. For more information, refer to Networking on page 15.
- **Update your antivirus software**—Protect your computer from damage caused by viruses. The software is preinstalled on the computer and includes a limited subscription for free updates. For more information, refer to the *HP Notebook Reference Guide*. For instructions on accessing this guide, refer to Finding information on page 2.
- **Get to know your computer**—Learn about your computer features. Refer to Getting to know your computer on page 3 and Keyboard and pointing devices on page 18 for additional information.
- **Create recovery discs**—Recover the operating system and software to factory settings in case of system instability or failure. For instructions, refer to Backup and recovery on page 33.
- **Find installed software**—Access a list of the software preinstalled on the computer. Select **Start > All Programs**. For details about using the software included with the computer, refer to the software manufacturer's instructions, which may be provided with the software or on the manufacturer's Web site.

Finding information

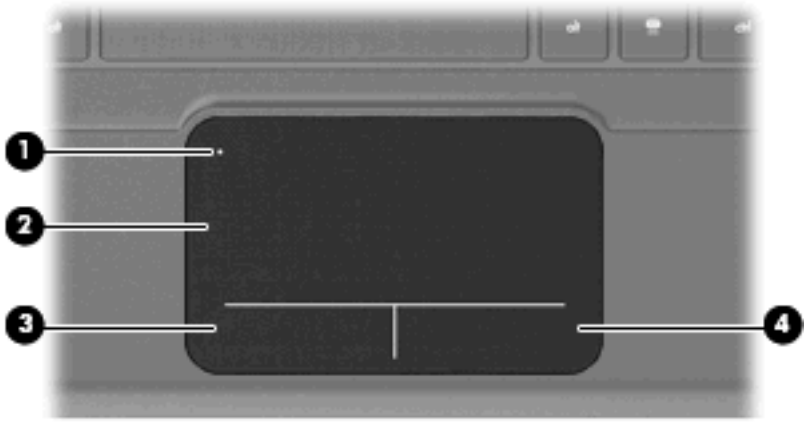
The computer comes with several resources to help you perform various tasks.

Resources	For information about
Quick Setup poster	• How to set up the computer • Help to identify computer components
HP Notebook Reference Guide To access this guide, select **Start > Help and Support > User Guides**.	• Power management features • How to maximize battery life • How to use the multimedia features of the computer • How to protect the computer • How to care for the computer • How to update the software
Help and Support To access Help and Support, select **Start > Help and Support**. **NOTE:** For country- or region-specific support, go to http://www.hp.com/support, select your country or region, and follow the on-screen instructions.	• Operating system information • Software, driver, and BIOS updates • Troubleshooting tools • How to access technical support
Regulatory, Safety, and Environmental Notices To access the notices, select **Start > Help and Support > User Guides**.	• Regulatory and safety information • Battery disposal information
Safety & Comfort Guide To access this guide: Select **Start > Help and Support > User Guides**. – or – Go to http://www.hp.com/ergo.	• Proper workstation setup, posture, health, and work habits • Electrical and mechanical safety information
Worldwide Telephone Numbers booklet This booklet is provided with your computer.	HP support telephone numbers
HP Web site: http://www.hp.com/support	• Support information • Ordering parts and finding additional help • Software, driver, and BIOS updates • Accessories available for the device
Limited warranty and technical support To access this warranty: Select **Start > Help and Support > Warranty**. - or - Select **Start > All Programs > HP > Warranty**.	Warranty information

2 Getting to know your computer

Top

TouchPad



Component		Description
(1)	TouchPad off indicator	Turns the TouchPad on and off. Quickly double-tap the TouchPad off indicator to turn the TouchPad on and off.
(2)	TouchPad zone	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.

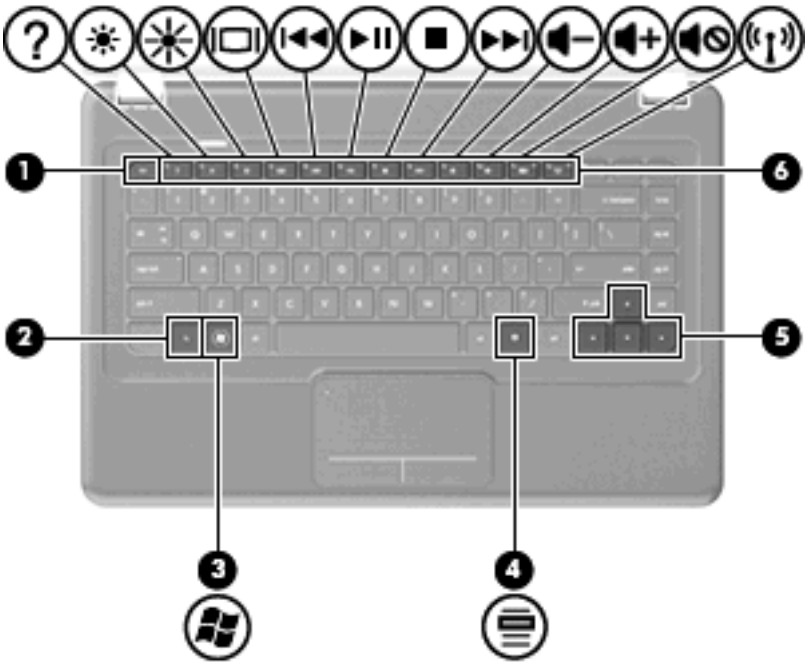
Lights

Component		Description
(1)	TouchPad off indicator	• Amber: The TouchPad is off. • Off: The TouchPad is on.
(2)	Caps lock light	• White: Caps lock is on. • Off: Caps lock is off.
(3)	Power light	• White: The computer is on. • Blinking white: The computer is in the Sleep state. • Off: The computer is off or in Hibernation.
(4)	Mute light	• Amber: Computer sound is off. • Off: Computer sound is on.
(5)	Wireless light	• White: An integrated wireless device, such as a wireless local area network (WLAN) device and/or a Bluetooth® device, is on. • Amber: All wireless devices are off.

Buttons

Component	Description
Power button	• When the computer is off, press the button to turn on the computer. • When the computer is on, press the button briefly to initiate Sleep. • When the computer is in the Sleep state, press the button briefly to exit Sleep. • When the computer is in Hibernation, press the button briefly to exit Hibernation. If the computer has stopped responding and Windows® shutdown procedures are ineffective, press and hold the power button for at least 5 seconds to turn off the computer. To learn more about your power settings, select **Start > Control Panel > System and Security > Power Options** or refer to the *HP Notebook Reference Guide*.

Keys

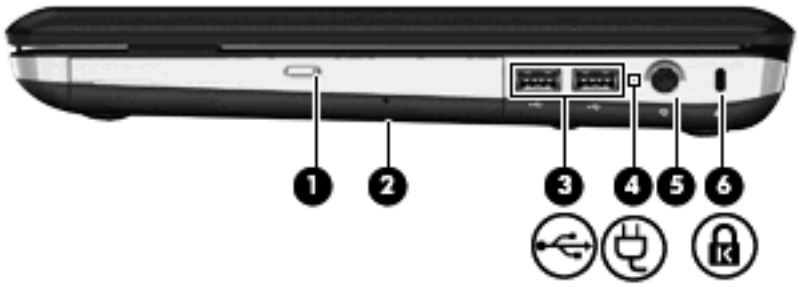


Component		Description
(1)	esc key	Displays system information when pressed in combination with the fn key.
(2)	fn key	Executes frequently used system functions when pressed in combination with an arrow key or the esc key.
(3)	Windows logo key	Displays the Windows Start menu.
(4)	Windows applications key	Displays a shortcut menu for items beneath the pointer.
(5)	Arrow keys	Scroll the page up or down, or when pressed in combination with the fn key, move to the beginning or end of the document.
(6)	Action keys	Execute frequently used system functions.

Front

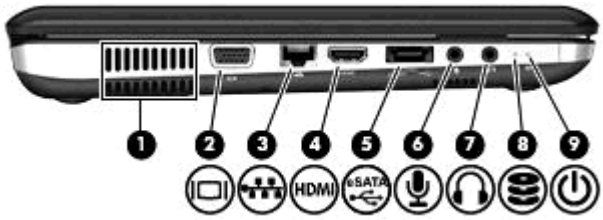
Component		Description
(1)	Digital Media Slot	Supports the following digital media formats: • Memory Stick • Memory Stick Pro • MultiMedia Card • Secure Digital (SD) Memory Card • xD-Picture Card
(2)	Speakers (2)	Produce sound.

Right-side



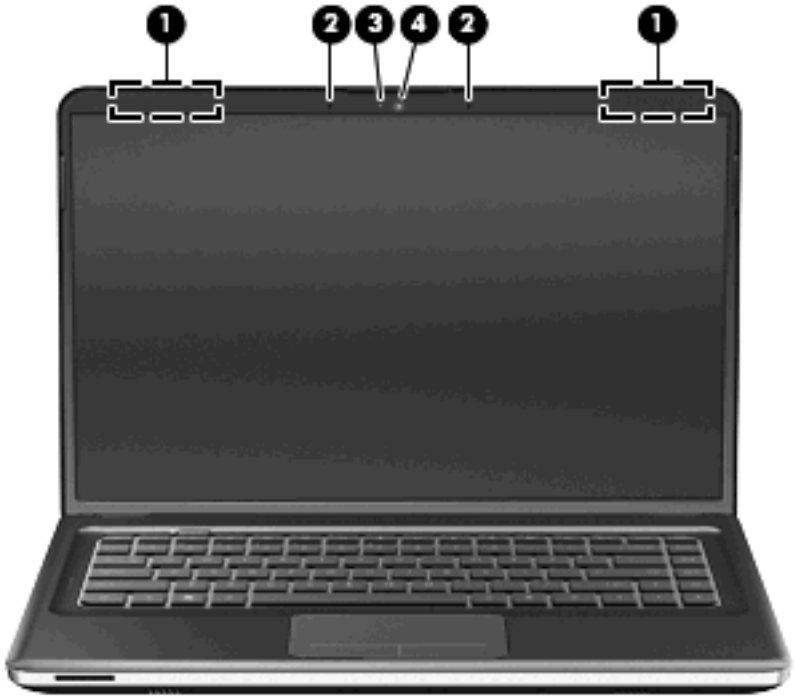
Component		Description
(1)	Optical drive light	Blinking: The optical drive is being accessed.
(2)	Optical drive	Reads and writes to optical discs.
(3)	USB ports (2)	Connect optional USB devices.
(4)	Battery light	• Off: The computer is running on battery power. • Blinking amber: The battery has reached a low or critical battery level or there is a battery error. • Amber: A battery is charging. • White: The computer is connected to external power and the battery is fully charged.
(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 it may not prevent the computer from being mishandled or stolen.

Left-side



Component		Description
(1)	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.
(2)	External monitor port	Connects an external VGA monitor or projector.
(3)	RJ-45 (network) jack	Connects a network cable.
(4)	HDMI port	Connects an optional video or audio device, such as a high-definition television, or any compatible digital or audio component.
(5)	eSATA connector/USB port	Connects an eSATA device or an optional USB device.
(6)	Audio-in (microphone) jack	Connects an optional computer headset microphone, stereo array microphone, or monaural microphone.
(7)	Audio-out (headphone) jack	Produces sound when connected to optional powered stereo speakers, headphones, earbuds, a headset, or television audio. **NOTE:** When a device is connected to the jack, the computer speakers are disabled.
(8)	Drive light	• Blinking white: The hard drive is being accessed. • Amber: HP ProtectSmart Hard Drive Protection has temporarily parked the hard drive. **NOTE:** For information on HP ProtectSmart Hard Drive Protection, refer to the *HP Notebook Reference Guide*.
(9)	Power light	• White: The computer is on. • Blinking white: The computer is in the Sleep state. • Off: The computer is off or in Hibernation.

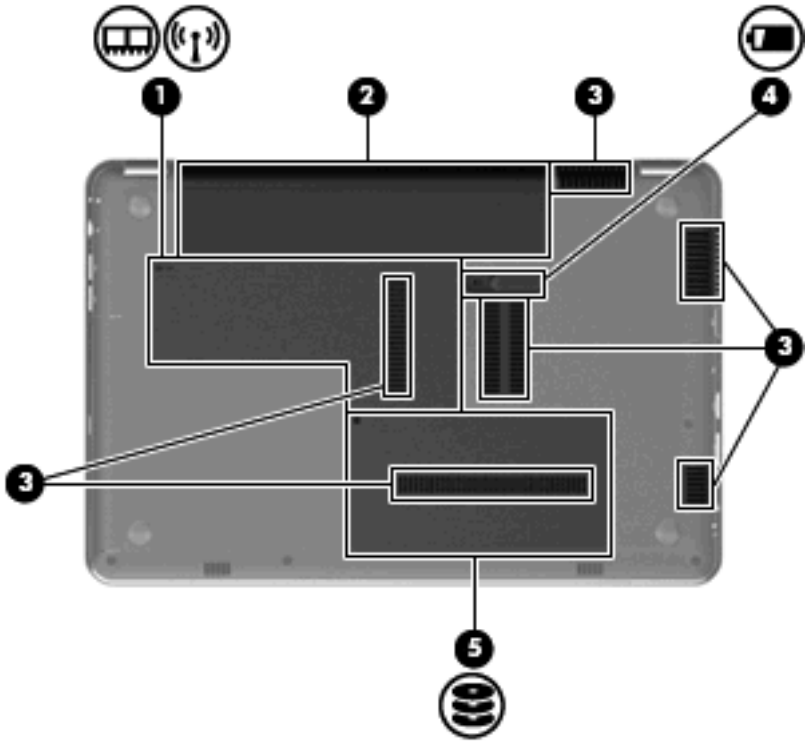
Display



Component		Description
(1)	WLAN antennas (2)*	Send and receive wireless signals to communicate with wireless local area networks (WLAN).
(2)	Internal microphones (2)	Record sound.
(3)	Webcam light	On: The webcam is in use.
(4)	Webcam	Records video and captures still photographs. To use the webcam, select **Start > HP > HP MediaSmart > HP MediaSmart Webcam**.

*The antennas are not visible from the outside of the computer. For optimal transmission, keep the areas immediately around the antennas 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.

Bottom



Component		Description
(1)	Memory module compartment	Contains the memory module slot and the wireless LAN (WLAN) module. **CAUTION:** To prevent an unresponsive system, replace the wireless module only with a wireless module authorized for use in the computer by the governmental agency that regulates wireless devices in your country or region. If you replace the module and then receive a warning message, remove the module to restore computer functionality, and then contact technical support through Help and Support.
(2)	Battery bay	Holds the battery.
(3)	Vents (6)	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.
(4)	Battery release latch	Releases the battery from the battery bay.
(5)	Hard drive bay	Holds the hard drive.

3 HP QuickWeb

After completing the Windows setup the first time you turn on the computer, the QuickWeb setup screen appears. HP QuickWeb is an optional, instant-on environment that is separate from the main operating system. QuickWeb allows you to access the following applications without the need to first start Windows:

- Web browser
- Chat
- Skype (select models only)
- Web e-mail
- Web calendar
- Music Player
- Photo Viewer

NOTE: For additional information about using QuickWeb, refer to the QuickWeb software Help.

Enabling HP QuickWeb

Follow the on-screen instructions to enable QuickWeb. After you have enabled QuickWeb, the QuickWeb Home screen appears whenever you turn on the computer.

NOTE: To turn on or turn off HP QuickWeb, refer to the section Turning HP QuickWeb on and off on page 14.

Starting HP QuickWeb

1. Turn on the computer.

   The HP QuickWeb Home screen appears.

2. Click an icon on the QuickWeb Home screen to launch an application.

Identifying the QuickWeb LaunchBar

The QuickWeb LaunchBar contains the QuickWeb control icons **(1)**, LaunchBar icons **(2)**, and the system tray icons **(3)**.

Identifying the QuickWeb control icons

Icon	Function
	Launches the Windows operating system.
	Shuts the computer down.
	Returns to the QuickWeb Home screen.

Identifying the QuickWeb LaunchBar icons

Icon	Function
	Launches the Web browser. You can browse and search the Web, open bookmarks, and create links to your favorite Web sites.
	Launches the Chat application. Chat is the instant messaging (IM) program that allows you to chat with friends on multiple instant messaging programs simultaneously.
	Launches Skype (select models only). Skype is the preinstalled Internet calling software that allows you to have a conference call or video chat. You can also chat with one or more people at a time.
	Launches Web e-mail so you can view your recent e-mail, check for new e-mail, and configure your e-mail account.
	Launches the Web calendar so you can schedule and manage your activities using your favorite online calendar program.

Icon	Function
	Launches the Music Player so you can quickly browse and manage your music collection by artist, album, song, genre, or playlist. Supported music formats include .mp3 files.
	Launches the Photo Viewer. You can view your favorite photos and albums and manage your photo collection. Supports .bmp, .gif, .jpg, and .png file types.

Identifying the QuickWeb system tray icons

Icon	Function
	When a USB drive is inserted, the File Manager window containing a USB icon appears. Click the USB icon to open the File Manager window. Right-click the USB icon to open a menu to safely remove the device.
	Indicates that the network is connected. Click the network icon to open the Network dialog box.
	Indicates that the network is disconnected.
	Launches the Volume Control dialog box.
	Launches the Settings panel. Use the Settings panel to modify the following QuickWeb settings: • Set date and time • Configure network connections • Manage power settings • Manage QuickWeb applications • Restore QuickWeb

Icon	Function
	Launches the Power Control dialog box to see information about battery capacity: • When the computer is connected to AC power, the icon appears with an AC power cord. • When the computer is running on battery power, the icon appears as only a battery. The state of charge is indicated by the color of the battery icon: • Green: charged • Yellow: low • Red: critically low
	Launches the QuickWeb software Help.

Configuring the network

You can set up a wireless connection in QuickWeb using the HP QuickWeb Configuration Tool.

To access this tool:

1. Click the **Settings** icon in the system tray.
2. Select **Network**, and then select the **Enable Wi-Fi** check box.

For more information on setting up a wireless connection using QuickWeb, refer to the software Help.

Starting Microsoft Windows

1. Turn on the computer.

   The HP QuickWeb Home screen appears.
2. Click the Windows **Start** icon, at the far left of the QuickWeb Home screen.
3. Click **Yes** in the Windows dialog box.

NOTE: Clicking **Make Windows your default Power On experience** in this dialog box turns off QuickWeb. To turn on QuickWeb, refer to Turning HP QuickWeb on and off on page 14.

Turning HP QuickWeb on and off

1. Select **Start > All Programs > HP QuickWeb > HP QuickWeb Configuration Tool**.

   The QuickWeb dialog box is displayed.
2. Select the **Status** tab.
3. Select the **Enable** or **Disable** check box to turn on or turn off QuickWeb.
4. Click **OK**.

4 Networking

NOTE: Internet hardware and software features vary depending on computer model and your location.

Your computer supports two types of Internet access:

- Wireless—For mobile Internet access, you can use a wireless connection. Refer to Connecting to an existing WLAN on page 16 or Setting up a new WLAN network on page 16.
- Wired—You can access the Internet by connecting to a wired network. For information on connecting to a wired network, refer to the *HP Notebook Reference Guide*.

Using an Internet service provider (ISP)

Before you can connect to the Internet, you must establish an ISP account. Contact a local ISP to purchase Internet service and a modem. The ISP will help set up the modem, install a network cable to connect your wireless computer to the modem, and test the Internet service.

NOTE: Your ISP will give you a user ID and password to access the Internet. Record this information and store it in a safe place.

The following features will help you set up a new Internet account or configure the computer to use an existing account:

- **Internet Services & Offers (available in some locations)**—This utility assists with signing up for a new Internet account and configuring the computer to use an existing account. To access this utility, select **Start > All Programs > Online Services > Get Online**.
- **ISP-provided icons (available in some locations)**—These icons may be displayed either individually on the Windows desktop or grouped in a desktop folder named Online Services. To set up a new Internet account or configure the computer to use an existing account, double-click an icon, and then follow the on-screen instructions.
- **Windows Connect to the Internet Wizard**—You can use the Windows Connect to the Internet Wizard to connect to the Internet in any of these situations:
  - You already have an account with an ISP.
  - You do not have an Internet account and want to select an ISP from the list provided within the wizard. (The list of ISP providers is not available in all regions.)
  - You have selected an unlisted ISP, and the ISP has provided you with information such as a specific IP address and POP3 and SMTP settings.

  To access the Windows Connect to the Internet Wizard and instructions for using it, select **Start > Help and Support**, and then type `Connect to the Internet wizard` in the Search box.

NOTE: If you are prompted within the wizard to choose between enabling or disabling Windows Firewall, choose to enable the firewall.

Connecting to a wireless network

Wireless technology transfers data across radio waves instead of wires. Your computer may be equipped with one or more of the following wireless devices:

- Wireless local area network (WLAN) device
- HP Mobile Broadband Module, a wireless wide area network (WWAN) device
- Bluetooth device

For more information on wireless technology and connecting to a wireless network, refer to the *HP Notebook Reference Guide* and information and Web site links provided in Help and Support.

Connecting to an existing WLAN

1. Turn on the computer.
2. Be sure that the WLAN device is on.
3. Click the network icon in the notification area, at the far right of the taskbar.
4. Select a network to connect to.
5. Click **Connect**.
6. If required, enter the security key.

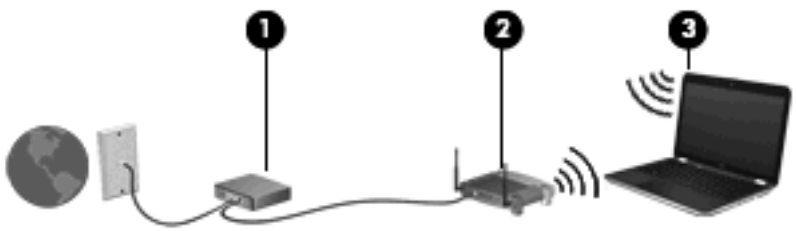
Setting up a new WLAN network

Required equipment:

- A broadband modem (either DSL or cable) **(1)** and high-speed Internet service purchased from an Internet service provider (ISP)
- A wireless router (purchased separately) **(2)**
- Your new wireless computer **(3)**

NOTE: Some modems have a built-in wireless router. Check with your ISP to determine what type of modem you have.

The illustration shows an example of a completed WLAN network installation that is connected to the Internet. As your network grows, additional wireless and wired computers can be connected to the network to access the Internet.



Configuring a wireless router

For help in setting up a WLAN, refer to the information provided by your router manufacturer or your ISP.

The Windows operating system also provides tools to help you set up a new wireless network. To use the Windows tools to set up your network, select **Start > Control Panel > Network and Internet > Network and Sharing Center > Set up a new connection or network > Set up a new network**. Then follow the on-screen instructions.

NOTE: It is recommended that you initially connect your new wireless computer to the router by using the network cable provided with the router. When the computer successfully connects to the Internet, you can disconnect the cable, and then access the Internet through your wireless network.

Protecting your WLAN

When you set up a WLAN or access an existing WLAN, always turn on security features to protect your network from unauthorized access.

For information on protecting your WLAN, refer to the *HP Notebook Reference Guide*.

5 Keyboard and pointing devices

Using the keyboard

Using the action keys

Action keys are customized actions that are assigned to specific keys at the top of the keyboard. The icons on the f1 through f12 keys represent the action key functions.

To use an action key, press and hold this key to activate the assigned function.

NOTE: The action key feature is enabled at the factory. You can disable this feature in Setup Utility. If this feature is disabled in Setup Utility, you must press fn and an action key to activate the assigned function.

Icon	Key	Description
	f1	Opens Help and Support, which provides information about your Windows operating system and computer, answers to questions and tutorials, and updates to your computer. Help and Support also provides automated troubleshooting and links to support specialists.
	f2	Decreases the screen brightness level incrementally when you hold down this key.
	f3	Increases the screen brightness level incrementally when you hold down this key.
	f4	Switches the screen image among display devices connected to the system. For example, if a monitor is connected to the computer, pressing this key alternates the screen image from computer display to monitor display to simultaneous display on both the computer and the monitor. Most external monitors receive video information from the computer using the external VGA video standard. The switch screen image key can also alternate images among other devices that are receiving video information from the computer.
	f5	Plays the previous track of a CD or the previous section of a DVD or a BD.

	f6	Plays, pauses, or resumes a track of an audio CD or a section of a DVD or a BD.
	f7	Stops playback.
	f8	Plays the next track of an audio CD or the next section of a DVD or a BD.
	f9	Decreases speaker volume incrementally when you hold down this key.
	f10	Increases speaker volume incrementally when you hold down this key.
	f11	Mutes or restores speaker sound.
	f12	Turns the wireless feature on or off. **NOTE:** This key does not establish a wireless connection. To establish a wireless connection, a wireless network must also be set up.

Using keypads

The computer supports an optional external numeric keypad or an optional external keyboard that includes a numeric keypad.

Using an optional external numeric keypad

Keys on most external numeric keypads function differently according to whether num lock is on or off. (Num lock is turned off at the factory.) For example:

- When num lock is on, most keypad keys type numbers.
- When num lock is off, most keypad keys function like the arrow, page up, or page down keys.

When num lock on an external keypad is turned on, the num lock light on the computer is turned on. When num lock on an external keypad is turned off, the num lock light on the computer is turned off.

To turn num lock on or off on an external keypad as you work:

▲ Press the num lk key on the external keypad, not on the computer.

Using pointing devices

NOTE: In addition to the pointing devices included with your computer, you can use an external USB mouse (purchased separately) by connecting it to one of the USB ports on the computer.

Setting pointing device preferences

Use Mouse Properties in Windows® to customize settings for pointing devices, such as button configuration, click speed, and pointer options.

To access Mouse Properties, select **Start > Devices and Printers**. Then, right-click the device representing your computer, and select **Mouse settings**.

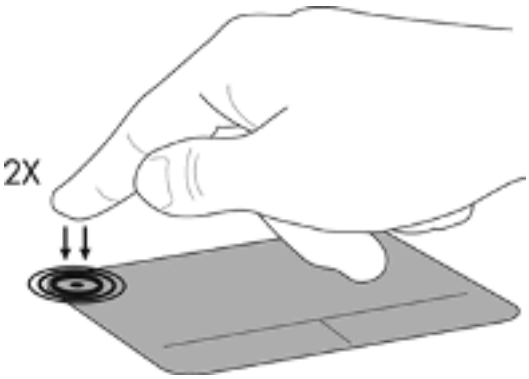
Using the TouchPad

To move the pointer, slide one finger across the TouchPad in the direction you want the pointer to go. Use the left and right TouchPad buttons like the buttons on an external mouse. To scroll up and down using the TouchPad vertical scroll zone, slide your finger up or down over the lines.

NOTE: If you are using the TouchPad to move the pointer, you must lift your finger off the TouchPad before moving it to the scroll zone. Simply sliding your finger from the TouchPad to the scroll zone does not activate the scrolling function.

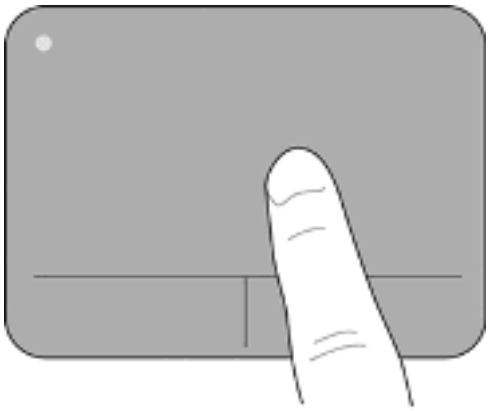
Turning the TouchPad on and off

To turn the TouchPad on and off, quickly double-tap the TouchPad off indicator. When the TouchPad is on, the light is off.



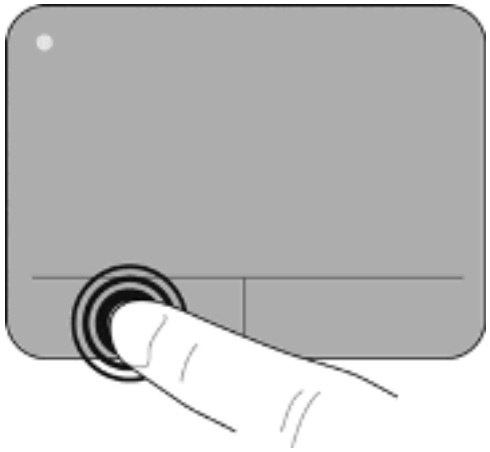
Navigating

To move the pointer, slide one finger across the TouchPad in the direction you want the pointer to go.



Selecting

Use the left and right TouchPad buttons like the corresponding buttons on an external mouse.



Using TouchPad gestures

The TouchPad supports a variety of gestures. To use TouchPad gestures, place two fingers on the TouchPad at the same time.

To turn the gestures on and off:

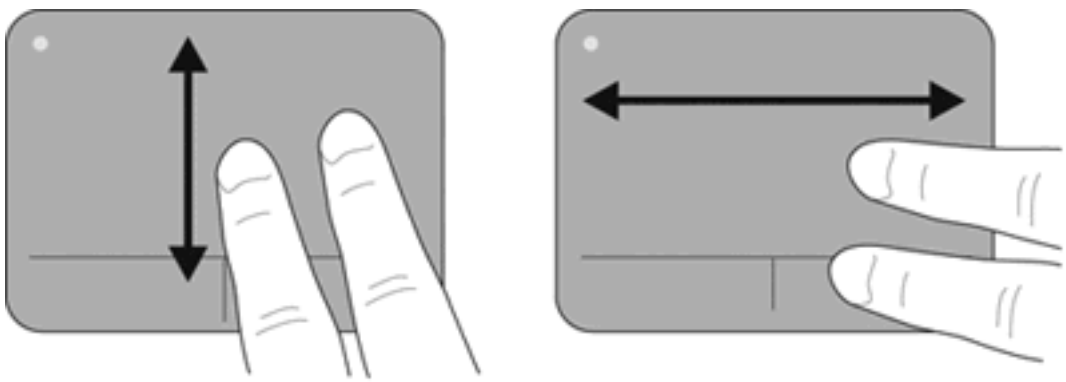
1. Double-click the **Synaptics** icon in the notification area, at the far right of the taskbar, and then click the **Device Settings** tab.
2. Select the device, and then click **Settings**.
3. Select the gesture that you want to turn on or off.
4. Click **Apply**, and then click **OK**.

NOTE: The computer also supports additional TouchPad features. To view and turn on these features, double-click the **Synaptics** icon in the notification area, at the far right of the taskbar, and then click the **Device Settings** tab. Select the device, and then click **Settings**.

Scrolling

Scrolling is useful for moving up or down on a page or image. To scroll, place two fingers slightly apart on the TouchPad and drag them across the TouchPad in an up, down, left, or right motion.

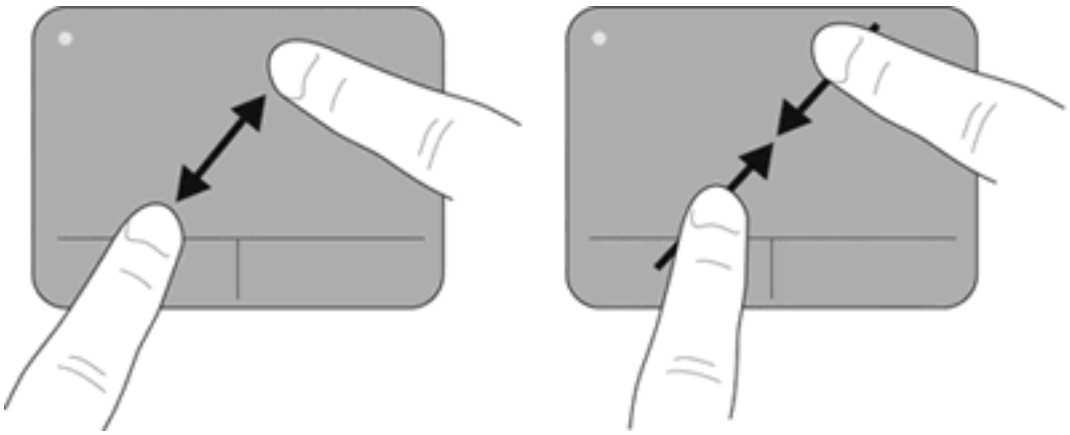
NOTE: Scrolling speed is controlled by finger speed.



Pinching/Zooming

Pinching allows you to zoom in or out on images or text.

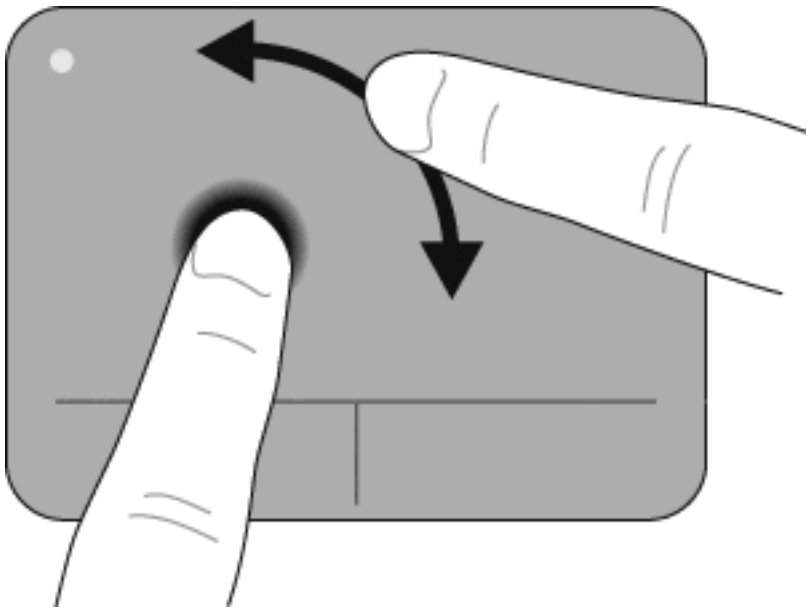
- Zoom in by placing two fingers together on the TouchPad, and then moving them apart.
- Zoom out by placing two fingers apart on the TouchPad, and then moving them together.



Rotating

Rotating allows you to rotate items such as photos. To rotate, anchor your left forefinger in the TouchPad zone. Move the right forefinger around the anchored finger in a sweeping motion, moving from 12 o'clock to 3 o'clock. To reverse the rotation, move your right forefinger from 3 o'clock to 12 o'clock.

NOTE: Rotating must be done within the TouchPad zone.



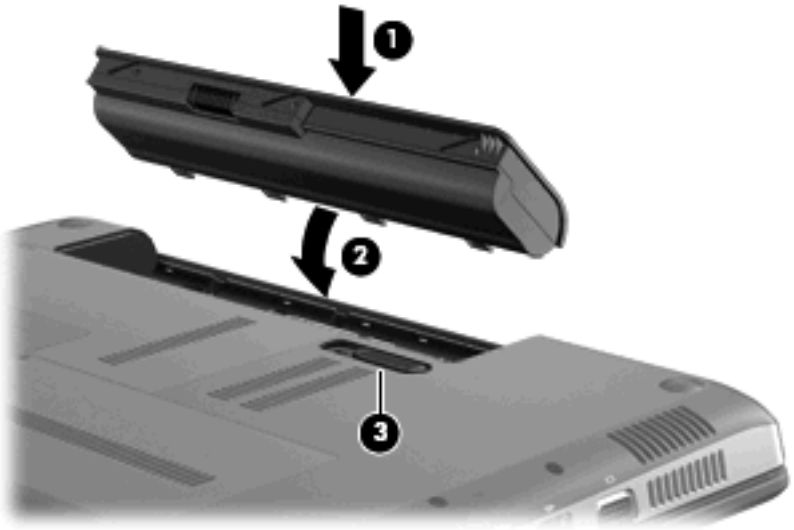
6 Maintenance

Inserting or removing the battery

NOTE: For additional information on using the battery, refer to the *HP Notebook Reference Guide*.

To insert the battery:

1. Turn the computer upside down on a flat surface.
2. Insert the battery **(1)** into the battery bay and pivot the battery downward **(2)**. The battery release latch **(3)** automatically locks the battery into place.

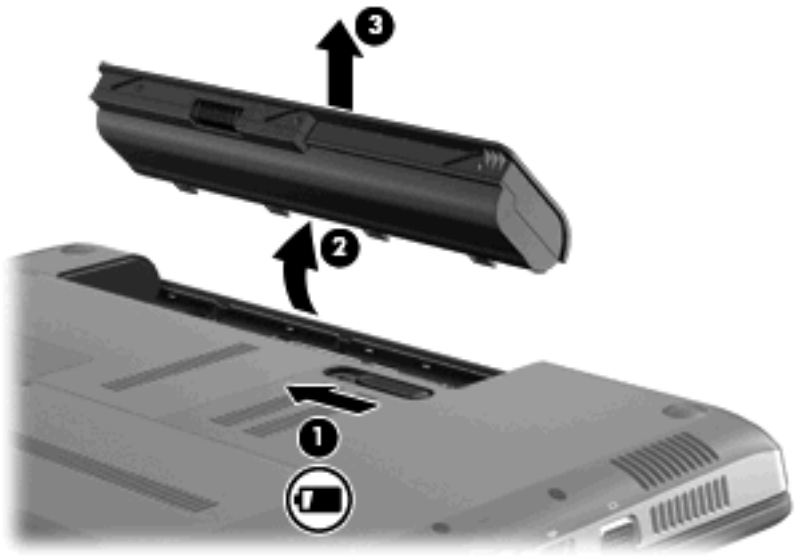


To remove the battery:

CAUTION: Removing a battery that is the sole power source for the computer can cause loss of information. To prevent loss of information, save your work and initiate Hibernation or shut down the computer through Windows before removing the battery.

1. Turn the computer upside down on a flat surface.
2. Slide the battery release latch **(1)**, and then pivot the battery upward **(2)**.

3. Remove the battery from the computer **(3)**.



Replacing or upgrading the hard drive

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

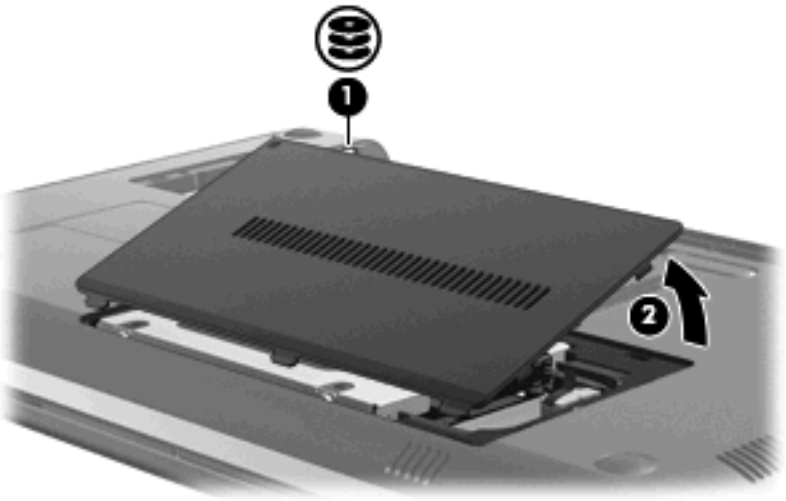
Shut down the computer before removing the hard drive from the hard drive bay. Do not remove the hard drive while the computer is on, in the Sleep state, or in Hibernation.

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.

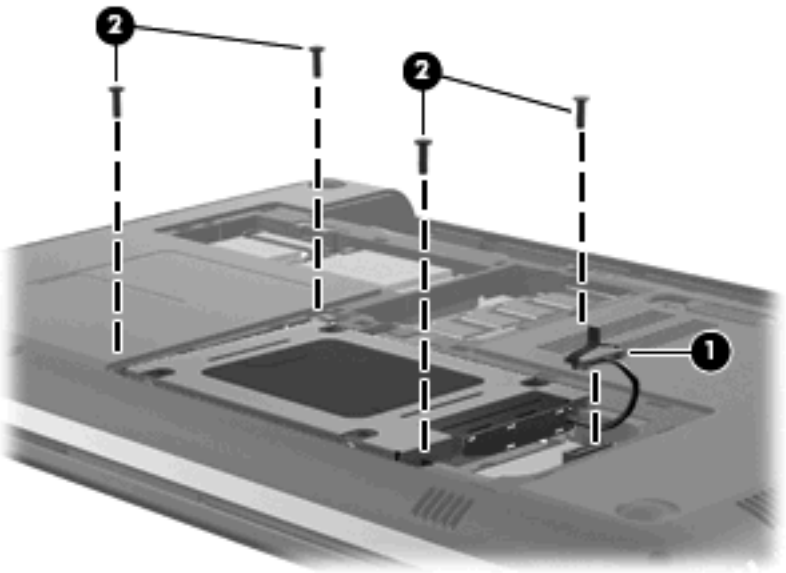
Removing the hard drive

1. Save your work and shut down the computer.
2. Disconnect all external devices connected to the computer.
3. Unplug the power cord from the AC outlet and remove the battery.
4. Loosen the hard drive cover screw **(1)**.

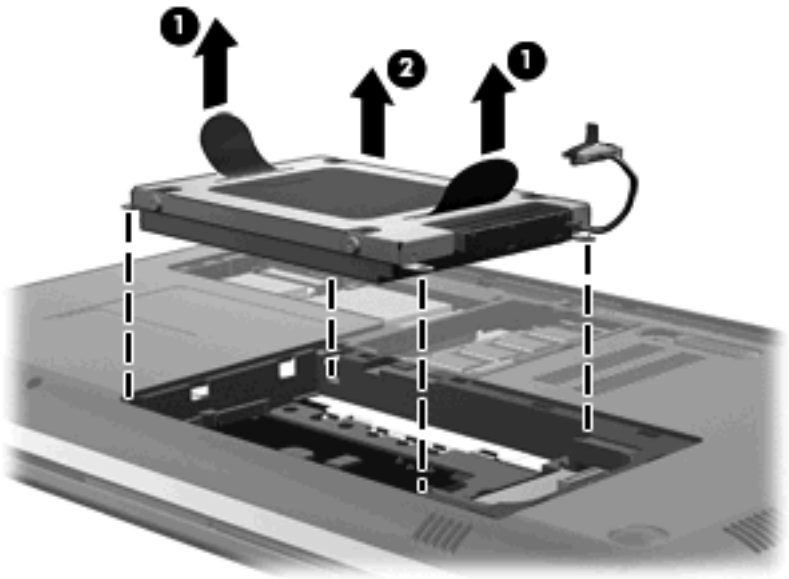
5. Remove the hard drive cover **(2)**.



6. Disconnect the hard drive cable **(1)**, and then remove the 4 hard drive screws **(2)**.

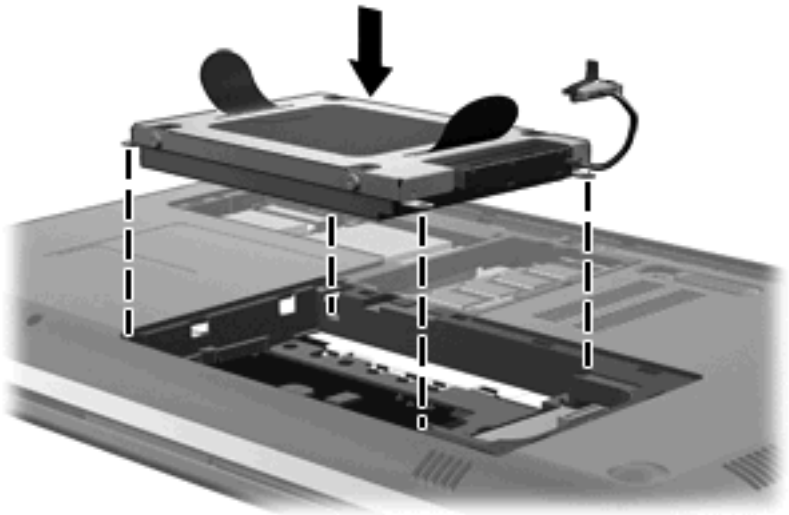


7. Pull the hard drive tabs **(1)** upward, and then lift the hard drive **(2)** out of the hard drive bay.

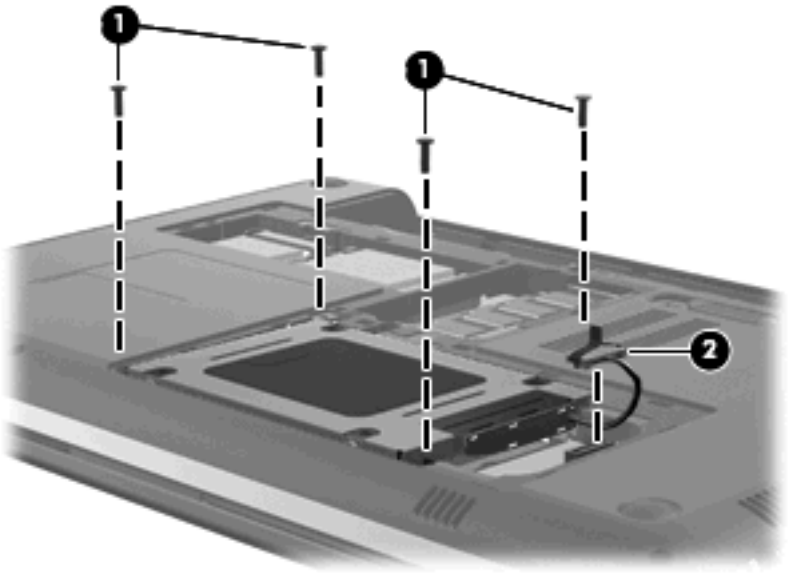


Installing a hard drive

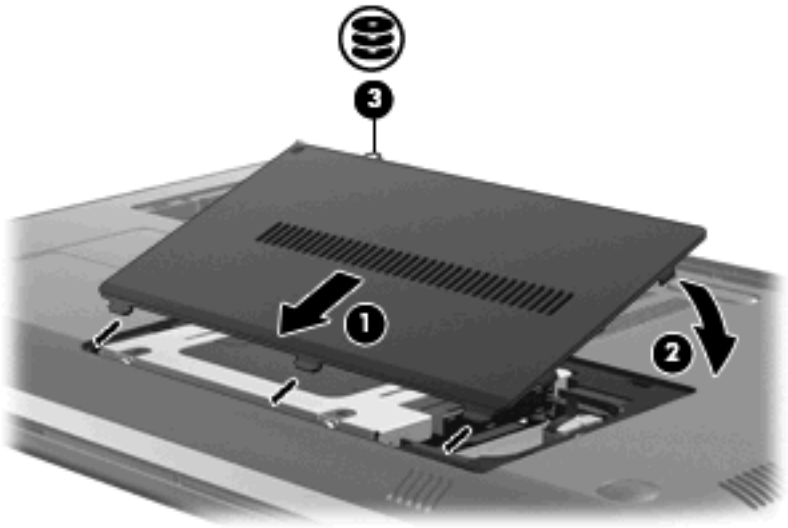
1. Align the screw holes on the hard drive with the screw holes in the bay, and then insert the hard drive into the hard drive bay.



2. Replace the 4 hard drive screws **(1)**, and then connect the hard drive cable **(2)**.



3. Align the tabs **(1)** on the hard drive cover with the notches on the computer.
4. Close the cover **(2)**.
5. Tighten the hard drive cover screw **(3)**.



6. Replace the battery.
7. Reconnect external power and external devices.
8. Turn on the computer.

Adding or replacing memory modules

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.

NOTE: To use a dual-channel configuration when adding a second memory module, be sure that both memory modules are the same capacity.

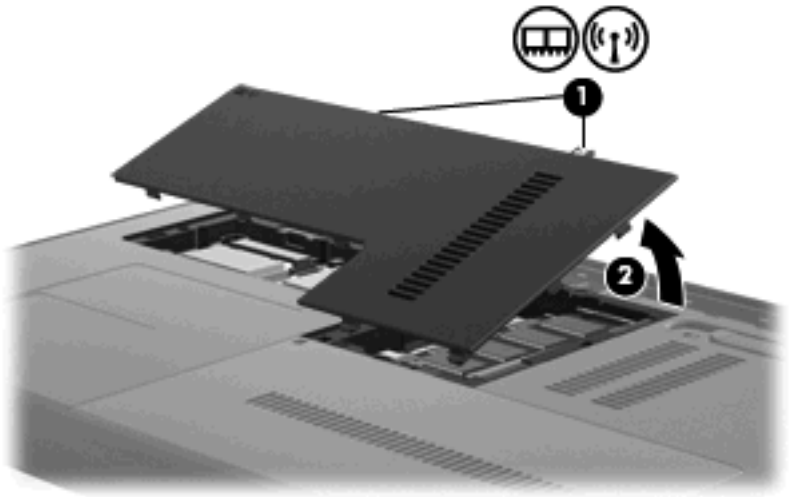
To add or replace a memory module:

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

Shut down the computer before adding or replacing memory modules. Do not remove a memory module 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.

1. Save your work and shut down the computer.
2. Disconnect all external devices connected to the computer.
3. Unplug the power cord from the AC outlet and remove the battery.
4. Loosen the 2 memory module compartment cover screws **(1)**.
5. Remove the memory module compartment cover **(2)**.

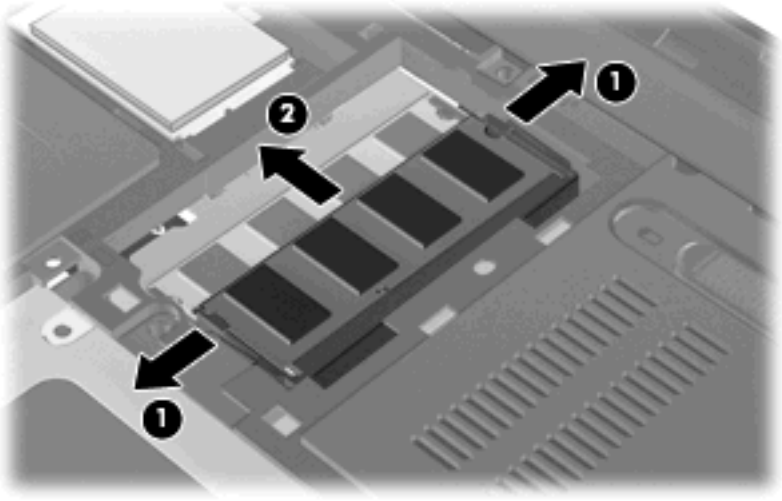


6. If you are replacing a memory module, remove the existing memory module:
   a. Pull away the retention clips **(1)** on each side of the memory module.

      The memory module tilts up.

b. Grasp the edge of the memory module **(2)**, and then gently pull the memory module out of 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. To protect a memory module after removal, place it in an electrostatic-safe container.



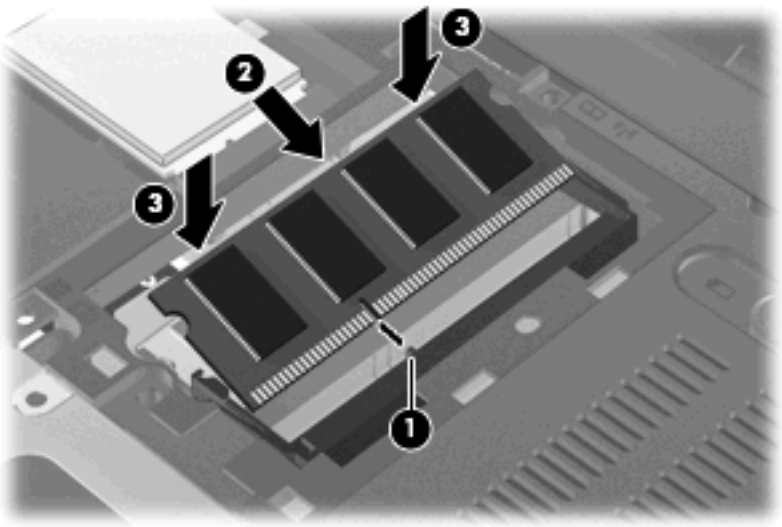
7. Insert a new memory module:

△ **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, and do not bend the memory module.

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

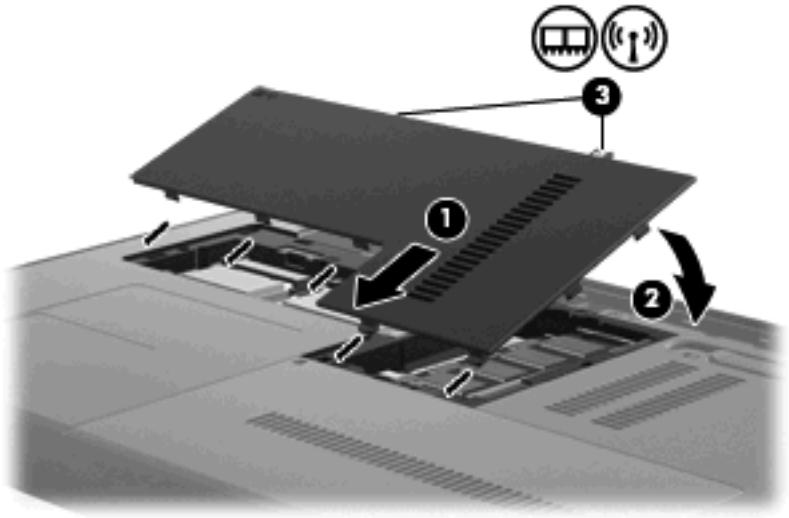
b. With the memory module at a 45-degree angle from the surface of the memory module compartment, press the module **(2)** into the memory module slot until it is seated.

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.



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

9. Close the cover **(2)**.
10. Tighten the 2 memory module compartment cover screws **(3)**.



11. Replace the battery.
12. Reconnect external power and external devices.
13. Turn on the computer.

Updating programs and drivers

HP recommends that you update your programs and drivers on a regular basis with the latest versions. Go to http://www.hp.com/support to download the latest versions. You can also register to receive automatic update notifications when they become available.

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 TouchPad and keyboard

Dirt and grease on the TouchPad can cause the pointer to jump around on the screen. To avoid this, clean the TouchPad with a damp cloth, and wash your hands frequently when using the computer.

⚠ **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.

7 Backup and recovery

Recovery after a system failure is as good as your most recent backup. HP recommends that you create recovery discs immediately after software setup. As you add new software and data files, you should continue to back up your system on a regular basis to maintain a reasonably current backup.

Tools provided by the operating system and HP Recovery Manager software are designed to help you with the following tasks for safeguarding your information and restoring it in case of a computer failure:

- Creating a set of recovery discs (Recovery Manager software feature)
- Backing up your information
- Creating system restore points
- Recovering a program or driver
- Performing a full system recovery (from the partition or recovery discs)

NOTE: Recovery discs have been included if your computer does not have a partition. Use these discs to recover your operating system and software. To check for the presence of a recovery partition, select **Start**, right-click **Computer**, click **Manage**, and then click **Disk Management**. If the partition is present, an HP Recovery drive is listed in the window.

Recovery discs

HP recommends that you create recovery discs to be sure that you can restore your computer to its original factory state if the hard drive fails, or if for any reason you cannot recover using the recovery partition tools. Create these discs after setting up the computer for the first time.

Handle these discs carefully and keep them in a safe place. The software allows the creation of only one set of recovery discs.

NOTE: If your computer does not include an integrated optical drive, you can use an optional external optical drive (purchased separately) to create recovery discs, or you can purchase recovery discs for your computer from the HP Web site. If you use an external optical drive, it must be connected directly connected to a USB port on the computer, not to a USB port on an external device, such as a USB hub.

Guidelines:

- Purchase high-quality DVD-R, DVD+R, BD-R (writable Blu-ray), or CD-R discs. DVDs and BDs have a much higher storage capacity than CDs. If you use CDs, up to 20 discs may be required, whereas only a few DVDs or BDs are required.

NOTE: Read-write discs, such as CD-RW, DVD±RW, double-layer DVD±RW, and BD-RE (rewritable Blu-ray) discs, are not compatible with the Recovery Manager software.

- The computer must be connected to AC power during this process.
- Only one set of recovery discs can be created per computer.
- Number each disc before inserting it into the optical drive.
- If necessary, you can exit the program before you have finished creating the recovery discs. The next time you open Recovery Manager, you will be prompted to continue the disc creation process.

To create a set of recovery discs:

1. Select **Start > All Programs > Recovery Manager > Recovery Disc Creation**.
2. Follow the on-screen instructions.

Performing a system recovery

Recovery Manager software allows you to repair or restore the computer to its original factory state. Recovery Manager works from recovery discs or from a dedicated recovery partition (select models only) on the hard drive.

Note the following when performing a system recovery:

- You can recover only files that you have previously backed up. HP recommends that you use HP Recovery Manager to create a set of recovery discs (entire drive backup) as soon as you set up the computer.
- Windows has its own built-in repair features, such as System Restore. If you have not already tried these features, try them before using Recovery Manager.
- Recovery Manager recovers only software that was preinstalled at the factory. Software not provided with this computer must be downloaded from the manufacturer's Web site or reinstalled from the disc provided by the manufacturer.

Recovering using the dedicated recovery partition (select models only)

On some models, you can perform a recovery from the partition on the hard drive, accessed by clicking Start or pressing the f11 key. This type of recovery restores the computer to its factory condition without using recovery discs.

To restore the computer from the partition, follow these steps:

1. Access Recovery Manager in either of the following ways:

   - Select **Start > All Programs > Recovery Manager > Recovery Manager**.

     – or –

   - Turn on or restart the computer, and then press esc while the “Press the ESC key for Startup Menu” message is displayed at the bottom of the screen. Then, press f11 while the “F11 (HP Recovery)” message is displayed on the screen.

2. Click **System Recovery** in the **Recovery Manager** window.
3. Follow the on-screen instructions.

Recovering using the recovery discs

1. Back up all personal files.
2. Insert the first recovery disc into the optical drive on your computer or an optional external optical drive, and then restart the computer.
3. Follow the on-screen instructions.

Backing up your information

You should back up your computer on a regular schedule to maintain a current backup. You can back up your information to an optional external hard drive, a network drive, or discs. Back up your system at the following times:

- At regularly scheduled times

NOTE: Set reminders to back up your information periodically.

- Before the computer is repaired or restored
- Before you add or modify hardware or software

Guidelines:

- Create system restore points using the Windows® System Restore feature, and periodically copy them to an optical disc or an external hard drive. For more information on using system restore points, refer to Using system restore points on page 36.
- Store personal files in the Documents library and back up this folder periodically.
- Save customized settings in a window, toolbar, or menu bar by taking a screen shot of your settings. The screen shot can be a time-saver if you have to reset your preferences.

Using Windows Backup and Restore

Windows Backup and Restore allows you to back up individual files or back up the entire computer image.

Guidelines:

- Be sure that the computer is connected to AC power before you start the backup process.
- Allow enough time to complete the backup process. Depending on file sizes, it may take over an hour.

To create a backup:

1. Select **Start > Control Panel > System and Security > Backup and Restore**.
2. Follow the on-screen instructions to schedule and create a backup.

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

Using system restore points

A system restore point allows you to save and name a snapshot of your hard drive at a specific point in time. You can then recover back to that point if you want to reverse subsequent changes.

NOTE: Recovering to an earlier restore point does not affect data files saved or e-mails created since the last restore point.

You also can create additional restore points to provide increased protection for your files and settings.

When to create restore points

- Before you add or extensively modify software or hardware
- Periodically, whenever the computer is functioning optimally

NOTE: If you revert to a restore point and then change your mind, you can reverse the restoration.

Create a system restore point

1. Select **Start > Control Panel > System and Security > System**.
2. In the left pane, click **System Protection**.
3. Click the **System Protection** tab.
4. Follow the on-screen instructions.

Restore to a previous date and time

To revert to a restore point (created at a previous date and time), when the computer was functioning optimally, follow these steps:

1. Select **Start > Control Panel > System and Security > System**.
2. In the left pane, click **System protection**.
3. Click the **System Protection** tab.
4. Click **System Restore**.
5. Follow the on-screen instructions.

8 Customer support

Contacting customer support

If the information provided in this user guide, in the *HP Notebook Reference Guide*, or in Help and Support does not address your questions, you can contact HP Customer Support at:

http://www.hp.com/go/contactHP

NOTE: For worldwide support, click **Contact HP worldwide** on the left side of the page, or go to http://welcome.hp.com/country/us/en/wwcontact_us.html.

Here you can:

- Chat online with an HP technician.

  NOTE: When technical support chat is not available in a particular language, it is available in English.

- E-mail HP Customer Support.
- Find HP Customer Support worldwide telephone numbers.
- Locate an HP service center.

Labels

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

- Integrated service tag—Provides regulatory information about the computer, as well as the service tag, which includes the computer model number, serial number, and warranty information. This label is affixed inside the battery bay.

Component	Description
(1) Regulatory Information	Provides regulatory information about the computer.

(2)	Service tag*	Provides the serial number for this product, as well as the product number and warranty information. ◦ The serial number is an alphanumeric identifier unique to this product. ◦ The product number provides specific information about the product's hardware components, which helps a service technician to determine what components and parts are needed. ◦ The warranty number describes the duration of the warranty period for this product.

*Have this information available when you contact technical support.

- 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.
- Modem approval label (select models only)—Provides regulatory information about the modem and lists the agency approval markings required by some of the countries or regions 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)—Provide information about optional wireless devices and the approval markings of some of the countries or regions 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. This label is affixed inside the battery bay.

9 Specifications

Input power

The power information in this section may be helpful if you plan to travel internationally with the 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 standalone DC power source, it should be powered only with an AC adapter or a DC power source supplied and approved by HP for use with this computer.

The computer can operate on DC power within the following specifications.

Input power	Rating
Operating voltage	18.5 V dc @ 3.5 A - 65W
Operating current	3.5 A

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

NOTE: The computer operating voltage and current can be found on the system regulatory label on the bottom of the computer.

Operating environment

Factor	Metric	U.S.
Temperature		
Operating (writing to optical disc)	**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	**-15 m to 3,048 m**	-50 ft to 10,000 ft
Nonoperating	**-15 m to 12,192 m**	-50 ft to 40,000 ft

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