

Getting Started

Notebook PC

© Copyright 2011 Hewlett-Packard Development Company, L.P.

Bluetooth is a trademark owned by its proprietor and used by Hewlett-Packard Company under license. Microsoft, Windows and Windows Vista are U.S. registered trademarks of Microsoft Corporation. SD Logo is a trademark of its proprietor.

The information contained herein is subject to change without notice. The only warranties for HP products and services are set forth in the express warranty statements accompanying such products and services. Nothing herein should be construed as constituting an additional warranty. HP shall not be liable for technical or editorial errors or omissions contained herein.

Second Edition: July 2011

First Edition: May 2011

Document Part Number: 642161-002

Product notice

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

Software terms

By installing, copying, downloading, or otherwise using any software product preinstalled on this computer, you agree to be bound by the terms of the HP End User License Agreement (EULA). If you do not accept these license terms, your sole remedy is to return the entire unused product (hardware and software) within 14 days for a refund subject to the refund policy of your place of purchase.

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).

Table of contents

1 Welcome	1
Finding information	1
2 Getting to know your computer	4
Top	4
TouchPad	4
Lights	5
Buttons and fingerprint reader (select models only)	7
Keys	9
Front	10
Right	11
Left	12
Display	13
Rear	14
Bottom	15
3 HP QuickWeb	17
Getting Started	17
Starting HP QuickWeb	17
4 Networking	18
Using an Internet service provider (ISP)	18
Connecting to a wireless network	19
Connecting to an existing WLAN	19
Setting up a new WLAN network	19
Configuring a wireless router	20
Protecting your WLAN	20
5 Keyboard and pointing devices	21
Using the keyboard	21
Identifying the hotkeys	21
Using keypads	22
Using the embedded numeric keypad	22
Turning the embedded numeric keypad on and off	24
Switching key functions on the embedded numeric keypad	24
Using pointing devices	24

Setting pointing device preferences	24
Using the pointing stick	24
Using the TouchPad	24
Turning the TouchPad off and on	25
Navigating	25
Selecting	26
Using TouchPad gestures	26
Scrolling	27
Pinching/Zooming	27
Rotating	28

6 Maintenance 29

Inserting or removing the battery	29
Replacing or upgrading the hard drive	30
Removing the hard drive	30
Installing a hard drive	32
Adding or replacing memory modules	33
Updating programs and drivers	38

7 Backup and recovery 39

Windows 7	39
Backing up your information	39
Performing a system recovery	40
Using the Windows recovery tools	40
Using f11 recovery tools	41
Using a Windows 7 operating system DVD (purchased separately)	41
Windows Vista	42
Backing up your information	42
Performing a recovery	43
Using the Windows recovery tools	43
Using f11 recovery tools	44
Using a Windows Vista operating system DVD (purchased separately)	44

8 Customer support 46

Contacting customer support	46
Labels	47

9 Specifications 48

Input power	48
-------------------	----

1 Welcome

- [Finding information](#)

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

- **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 18](#).
- **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 1](#).
- **Get to know your computer**—Learn about your computer features. Refer to [Getting to know your computer on page 4](#) and [Keyboard and pointing devices on page 21](#) for additional information.
- **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
<i>Quick Setup</i> poster	<ul style="list-style-type: none">• How to set up the computer• Help to identify computer components
<i>Getting Started</i> To access this guide: Select Start > Help and Support > User Guides . – or – Select Start > All Programs > HP > HP Documentation .	<ul style="list-style-type: none">• Computer features• How to connect to a wireless network• How to use the keyboard and pointing devices• How to replace or upgrade the hard drive and memory modules• How to perform a backup and recovery• How to contact customer support• Computer specifications
<i>HP Notebook Reference Guide</i> To access this guide: Select Start > Help and Support > User Guides . – or – Select Start > All Programs > HP > HP Documentation .	<ul style="list-style-type: none">• 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

Resources	For information about
<p>Help and Support</p> <p>To access Help and Support, select Start > Help and Support.</p> <p>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.</p>	<ul style="list-style-type: none"> • Operating system information • Software, driver, and BIOS updates • Troubleshooting tools • How to access technical support
<p><i>Regulatory, Safety, and Environmental Notices</i></p> <p>To access this guide:</p> <p>Select Start > Help and Support > User Guides.</p> <p>– or –</p> <p>Select Start > All Programs > HP > HP Documentation.</p>	<ul style="list-style-type: none"> • Regulatory and safety information • Battery disposal information
<p><i>Safety & Comfort Guide</i></p> <p>To access this guide:</p> <p>Select Start > Help and Support > User Guides.</p> <p>– or –</p> <p>Select Start > All Programs > HP > HP Documentation.</p> <p>– or –</p> <p>Go to http://www.hp.com/ergo.</p>	<ul style="list-style-type: none"> • Proper workstation setup, posture, health, and work habits • Electrical and mechanical safety information
<p><i>Worldwide Telephone Numbers</i> booklet</p> <p>This booklet is provided with your computer.</p>	<p>HP support telephone numbers</p>
<p>HP Web site</p> <p>To access this Web site, go to http://www.hp.com/support.</p>	<ul style="list-style-type: none"> • Support information • Ordering parts and finding additional help • Accessories available for the device

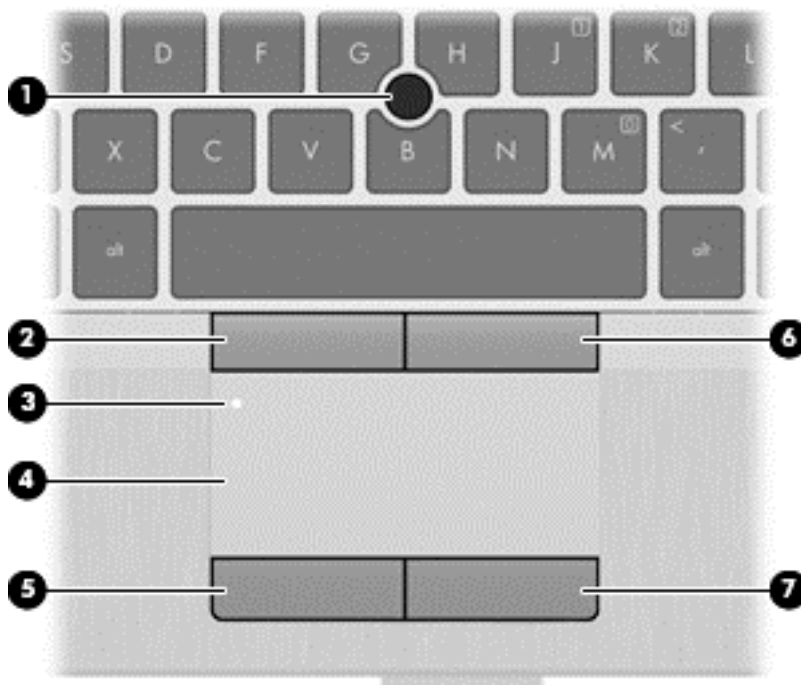
Resources	For information about
<i>Limited Warranty*</i>	Warranty information
To access the warranty:	
Select Start > Help and Support > User Guides > View Warranty Information.	
– or –	
Select Start > All Programs > HP > HP Documentation > View Warranty Information.	
– or –	
Go to http://www.hp.com/go/orderdocuments .	
*You can find the expressly provided HP Limited Warranty applicable to your product located with the electronic guides on your computer and/or on the CD/DVD provided in the box. For some countries/regions, HP may provide a printed HP Limited Warranty in the box. For some countries/regions where the warranty is not provided in printed format, you may request a printed copy at http://www.hp.com/go/orderdocuments or write to:	
<ul style="list-style-type: none">● North America: Hewlett-Packard, MS POD, 11311 Chinden Blvd, Boise, ID 83714, USA● Europe, Middle East, Africa: Hewlett-Packard, POD, Via G. Di Vittorio, 9, 20063, Cernusco s/Naviglio (MI), Italy● Asia Pacific: Hewlett-Packard, POD, P.O. Box 200, Alexandra Post Office, Singapore 911507	
Please include your product number, warranty period (found on your serial number label), name, and postal address.	

2 Getting to know your computer

- [Top](#)
- [Front](#)
- [Right](#)
- [Left](#)
- [Display](#)
- [Rear](#)
- [Bottom](#)

Top

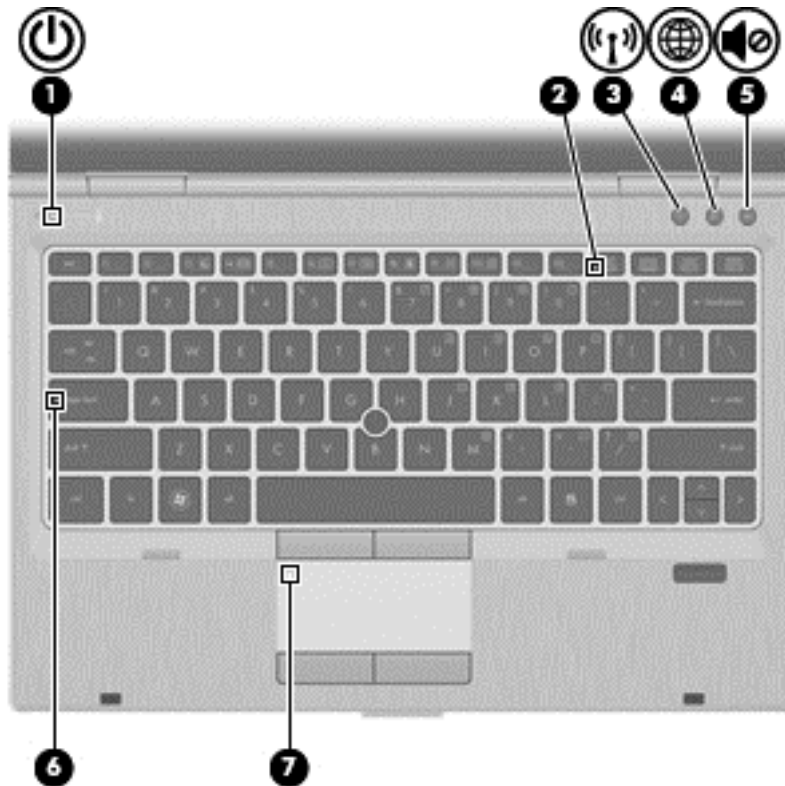
TouchPad








Component	Description
(1)	Pointing stick Moves the pointer and selects or activates items on the screen.
(2)	Left pointing stick button Functions like the left button on an external mouse.
(3)	TouchPad on/off button Turns the TouchPad on and off.

Component		Description
(4)	TouchPad zone	Moves the pointer and selects or activates items on the screen.
(5)	Left TouchPad button	Functions like the left button on an external mouse.
(6)	Right pointing stick button	Functions like the right button on an external mouse.
(7)	Right TouchPad button	Functions like the right button on an external mouse.

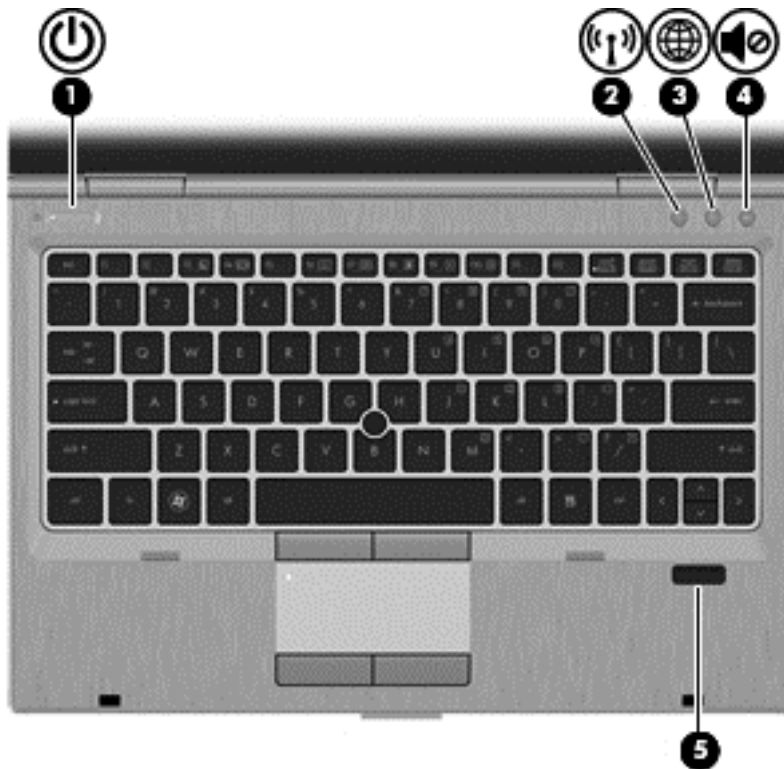
Lights







Component		Description
(1)	 Power light	<ul style="list-style-type: none"> White: The computer is on. Blinking: The computer is in the Sleep state. Off: The computer is off or in Hibernation.
(2)	Num lock light	White: Num lock is on.
(3)	 Wireless light	<ul style="list-style-type: none"> 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.

Component	Description
(4)  HP QuickWeb light	<ul style="list-style-type: none">• White: The computer is on.• Off: The computer is off or in Hibernation mode. <p>NOTE: For more information, refer to “HP QuickWeb” in this guide and to the HP QuickWeb software Help.</p>
(5)  Mute light	<ul style="list-style-type: none">• White: Computer sound is on.• Amber: Computer sound is muted.
(6) Caps lock light	White: Caps lock is on.
(7)  TouchPad on/off light	<ul style="list-style-type: none">• Amber: The TouchPad is off.• Off: The TouchPad is on.

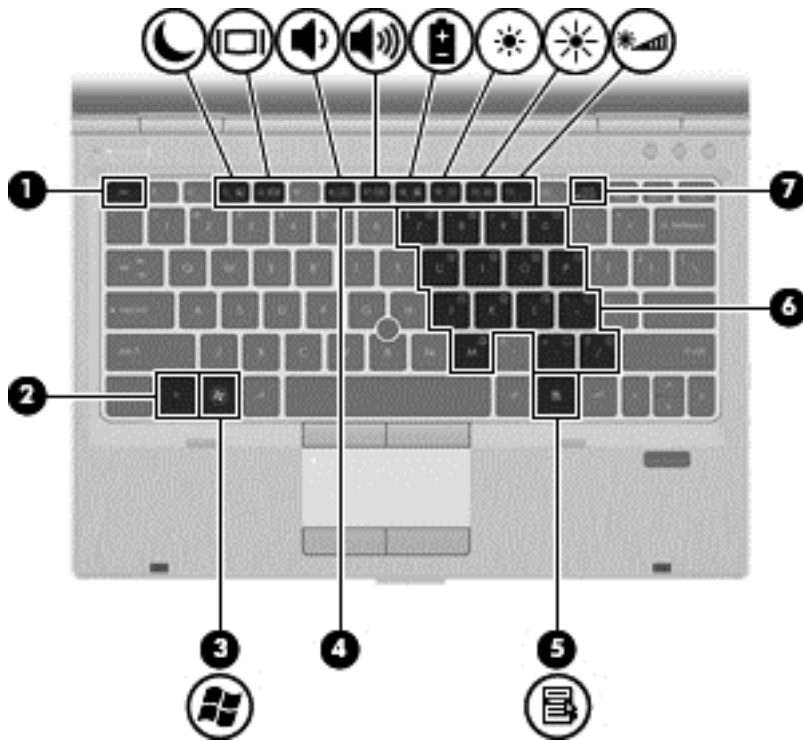
Buttons and fingerprint reader (select models only)





Component	Description
(1)  Power button	<ul style="list-style-type: none"> • When the computer is off, press the power button to turn on the computer. • When the computer is on, press the power button briefly to initiate Sleep. • When the computer is in the Sleep state, press the power button briefly to exit Sleep. • When the computer is in Hibernation, press the power button briefly to exit Hibernation. <p>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.</p> <p>To learn more about your power settings:</p> <ul style="list-style-type: none"> • Windows 7—Select Start > Control Panel > System and Security > Power Options. • Windows Vista®—Select Start > Control Panel > System and Maintenance > Power Options • Or refer to the <i>HP Notebook Reference Guide</i>.
(2)  Wireless button	Turns the wireless feature on or off, but does not establish a wireless connection.

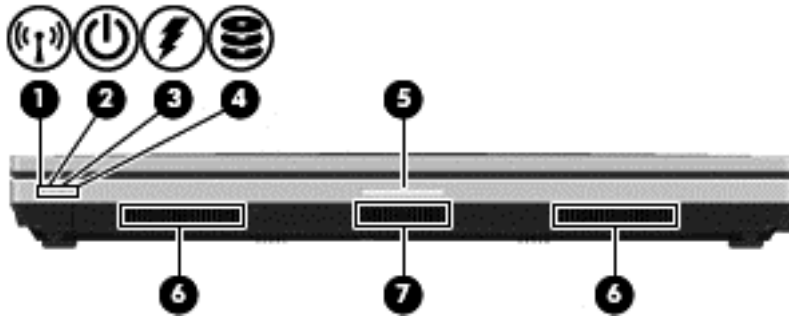
Component	Description
(3)  QuickWeb button	<ul style="list-style-type: none">• When the computer is off or in Hibernation mode, press the button to open HP QuickWeb.• When the computer is in Microsoft Windows, press the button to open the default Web browser.• When the computer is in HP QuickWeb, press the button to open the default Web browser. <p>NOTE: For more information, refer to “HP QuickWeb” in this guide and to the HP QuickWeb software Help. If your computer does not have HP QuickWeb software, the button does not perform any action or function.</p>
(4)  Volume mute button	Mutes and restores speaker sound.
(5) Fingerprint reader (select models only)	Allows a fingerprint logon to Windows, instead of a password logon.

Keys



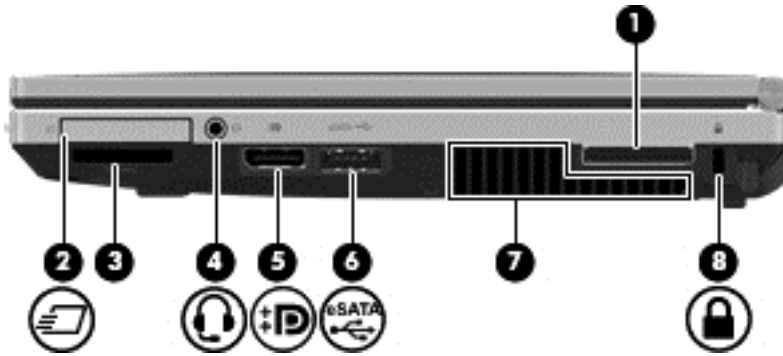
Component	Description
(1) esc key	Displays system information when pressed in combination with the fn key.
(2) fn key	Executes frequently used system functions when pressed in combination with a function key, the num lk key, or the esc key.
(3)  Windows logo key	Displays the Windows Start menu.
(4) Function keys (f3 through f11)	Execute frequently used system functions when pressed in combination with the fn key.
(5)  Windows applications key	Displays a shortcut menu for items beneath the pointer.
(6) Embedded numeric keypad keys	Can be used like the keys on an external numeric keypad when pressed in combination with the fn and num lk keys.
(7) num lk key	Enables/disables the embedded numeric keypad when pressed in combination with the fn key.





Front



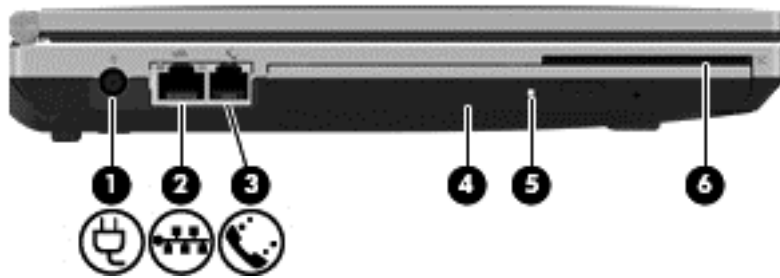
Component	Description
(1) Wireless light	<ul style="list-style-type: none"> White: An integrated wireless device, such as a wireless local area network (WLAN) device and/or a Bluetooth® device, is on. Amber: All wireless devices are off.
(2) Power light	<ul style="list-style-type: none"> White: Power is on. Blinking white: The computer is in the Sleep state. Off: The computer is off or in Hibernation.
(3) Battery light	<ul style="list-style-type: none"> White: A battery is close to full charge capacity. 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.
(4) Drive light	<ul style="list-style-type: none"> White: The hard drive or optical drive is being accessed. Amber: HP 3D DriveGuard has temporarily parked the hard drive.
(5) Display release button	Opens the computer.
(6) Vents (2)	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.
(7) Speaker	Produces sound.



Right



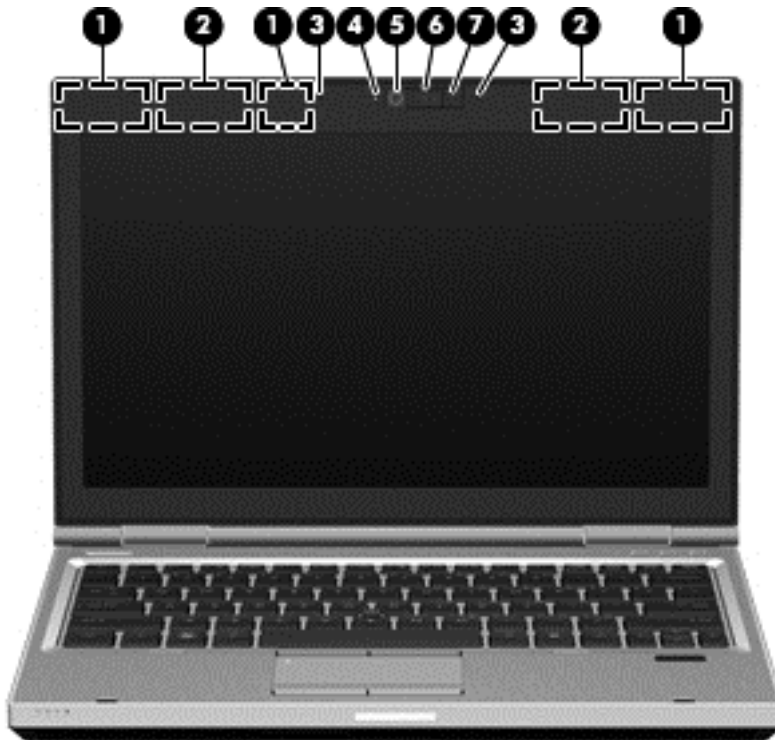
Component	Description
(1) Docking connector	Connects an optional docking device.
(2) ExpressCard slot	Supports optional 34mm ExpressCards.
(3) Media Card Reader	Supports the following digital card formats: <ul style="list-style-type: none"> • MultiMediaCard • Secure Digital (SD) Card
(4)  Audio-out (headphone) jack/Audio-in (microphone) jack	<p>Connects optional powered stereo speakers, headphones, earbuds, a headset, or television audio. Also connects an optional headset microphone.</p> <p>WARNING! To reduce the risk of personal injury, adjust the volume before putting on headphones, earbuds, or a headset. For additional safety information, refer to the <i>Regulatory, Safety, and Environmental Notices</i>.</p> <p>NOTE: When a device is connected to the jack, the computer speakers are disabled.</p> <p>NOTE: A 4-conductor audio jack plug headphone with microphone is needed in order to use the microphone function.</p>
(5)  DisplayPort	Connects an optional digital display device, such as a high-performance monitor or projector.
(6)  eSATA/USB 2.0 combo port	Connects a high-performance eSATA component, such as an eSATA external hard drive, or connects an optional USB device.
(7) Vent	<p>Enables airflow to cool internal components.</p> <p>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.</p>
(8)  Security cable slot	<p>Attaches an optional security cable to the computer.</p> <p>NOTE: The security cable is designed to act as a deterrent, but it may not prevent the computer from being mishandled or stolen.</p>

Left



Component	Description
(1)  Power connector	Connects an AC adapter
(2)  RJ-45 (network) jack	Connects a network cable. The RJ-45 jack has two activity indicator lights. <ul style="list-style-type: none">• Amber: The RJ-45 jack is active.• Green: The RJ-45 jack is on.
(3) RJ-11 (modem) jack (select models only)	Connects a modem cable.
(4) Optical drive	Reads and writes (select models only) to an optical disc.
(5) Optical drive light	<ul style="list-style-type: none">• On: The optical drive is being accessed.• Off: The optical drive is idle.
(6) Smart card reader	Supports optional smart cards.

Display






Component	Description
(1) WLAN antennas (3)*	Send and receive wireless signals to communicate with wireless local-area networks (WLAN).
(2) WWAN antennas (2)*	Send and receive wireless signals to communicate with wireless wide-area networks (WWAN).
(3) Internal microphone (2)	Records sound.
(4) Webcam light	White: The webcam is in use.
(5) Webcam (Select models only)	Records video and captures still photographs. To use the webcam, select Start > All Programs > HP > HP Webcam .
(6) Keyboard light button and ambient light sensor	Turns on the keyboard light and automatically adjusts the display brightness based on the lighting conditions in your environment.
(7) Keyboard light	Provides light for the keyboard.

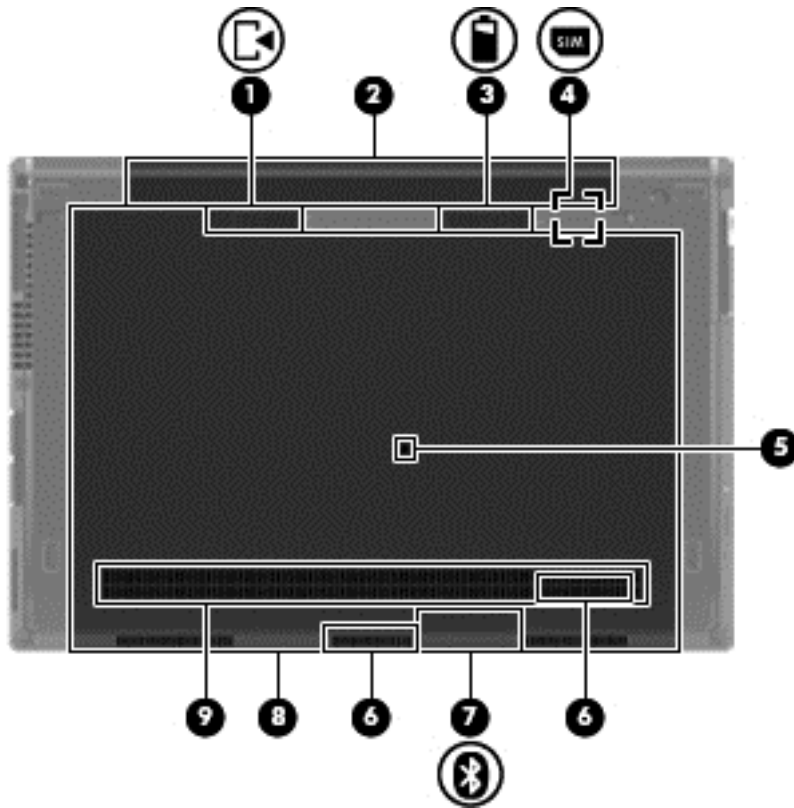
*The antennas are not visible from the outside of the computer. For optimal transmission, keep the areas immediately around the antennas free from obstructions. To see wireless regulatory notices, refer to the section of the *Regulatory, Safety, and Environmental Notices* that applies to your country or region. These notices are located in Help and Support.

Rear

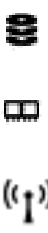


Component	Description
(1)  External monitor port	Connects an external VGA monitor or projector.
(2)  USB 2.0 port	Connects an optional USB device.
(3)  USB charging port	Connects an optional USB device.

Bottom



Component	Description
(1)	Service cover release latch Releases the cover for the hard drive bay and memory module slots. NOTE: A service cover screw is under the release latch.
(2)	Battery bay Holds the battery.
(3)	Battery release latch Releases the battery from the battery bay.
(4)	SIM slot Supports a wireless subscriber identity module (SIM) card. The SIM card slot is located inside the battery bay.
(5)	Drain hole A bottom-case drain helps prevent damage caused by minor accidental spills on the keyboard.
(6)	Speakers (2) Produce sound.
(7)	Bluetooth compartment Holds the Bluetooth device.

Component	Description
<p>(8)  Hard drive bay and memory module compartments</p>	<p>Contains the hard drive, the wireless LAN module slot, the WWAN module slot, and the memory module slots.</p> <p>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.</p>
<p>(9) Vents (4)</p>	<p>Enable airflow to cool internal components.</p> <p>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.</p>

3 HP QuickWeb

Getting Started

The HP QuickWeb environment provides a fun and engaging way to perform many of your favorite activities. Your computer is ready to go within seconds of starting QuickWeb, allowing you to rapidly access the Internet, widgets, and communication programs. Simply press the QuickWeb button on your computer, and then start browsing the Internet, communicating with Skype, and exploring other HP QuickWeb programs.

Your HP QuickWeb Home screen includes the following features:

- Web browser—Search and browse the Internet, and create links to your favorite Web sites.
- Skype—Communicate using Skype, an application that uses voice over Internet protocol (VoIP). Skype lets you make conference calls or have video chats with one or more people at a time. You can also make long-distance phone calls to land lines.
- QuickWeb E-Mail—Read and send e-mail by connecting to Web-based e-mail providers or to your own mail server.
- Widgets—Start using widgets for news, weather, social networking, stocks, a calculator, sticky notes, and more. You can also use Widget Manager to add more widgets to the HP QuickWeb Home screen.



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

Starting HP QuickWeb

- ▲ To start HP QuickWeb, press the QuickWeb button when the computer is off or in Hibernation. The following table explains the different behaviors of the QuickWeb button.


Button	Behavior
QuickWeb button	<ul style="list-style-type: none">• When the computer is off or in Hibernation, opens HP QuickWeb.• When the computer is in Microsoft Windows, opens the default Web browser.• When the computer is in HP QuickWeb, opens the default Web browser. <p>NOTE: If your computer does not have HP QuickWeb software, the button does not perform any action or function.</p>



NOTE: For more information, refer to the HP QuickWeb software Help.

4 Networking

- [Using an Internet service provider \(ISP\)](#)
- [Connecting to a wireless network](#)


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

Your computer may support one or both of the following types of Internet access:

- **Wireless**—For mobile Internet access, you can use a wireless connection. Refer to [Connecting to an existing WLAN on page 19](#) or [Setting up a new WLAN network on page 19](#).
- **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 > Control Panel > Network and Internet > Network and Sharing Center**.

 **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:

- **Windows 7**—Select **Start > Control Panel > Network and Internet > Network and Sharing Center > Set up a new connection or network > Set up a network**. Then follow the on-screen instructions.
- **Windows Vista**—Select **Start > Control Panel > Network and Internet > Network and Sharing Center > Set up a connection or network > Set up a wireless router or access point**. 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*.

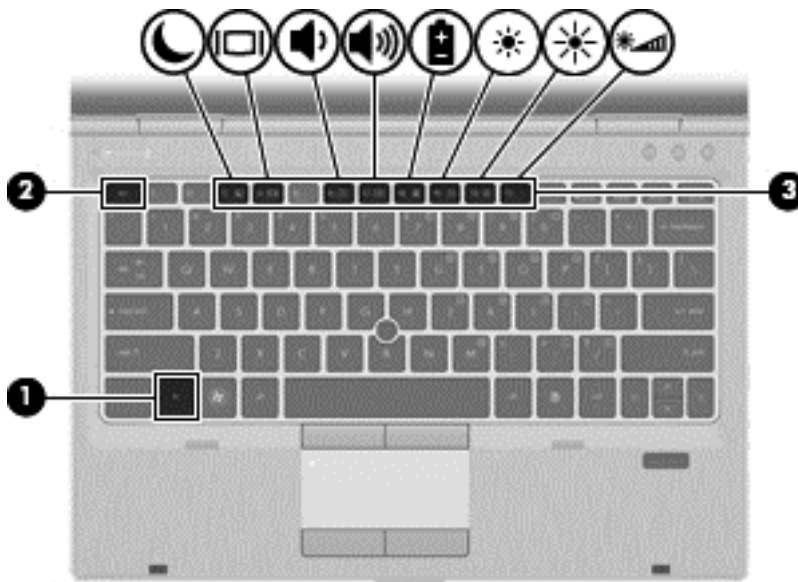
5 Keyboard and pointing devices

- [Using the keyboard](#)
- [Using pointing devices](#)

Using the keyboard


Identifying the hotkeys








A hotkey is a combination of the **fn** key (1) and either the **esc** key (2) or one of the function keys (3).



To use a hotkey:

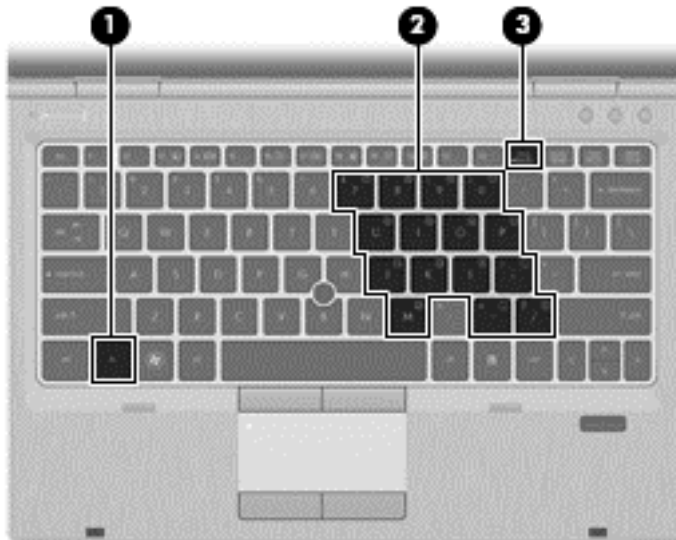
- ▲ Briefly press the **fn** key, and then briefly press the second key of the hotkey combination.

Hotkey combination	Description
fn+esc	Displays system information.
 fn+f3	Initiates Sleep, which stores your information in the computer memory. The display and other system components turn off and power is conserved. To exit Sleep, briefly press the power button. CAUTION: To reduce the risk of information loss, save your work before initiating Sleep. NOTE: If a critical battery level occurs while the computer is in the Sleep state, the computer initiates Hibernation and the information stored in memory is saved to the hard drive. The function of the fn+f3 hotkey can be changed. For example, you can set the fn+f3 hotkey to initiate Hibernation instead of Sleep. In all Windows operating system windows, references to the <i>sleep button</i> apply to the fn+f3 hotkey.

Hotkey combination	Description
 fn+f4	Switches the screen image among display devices connected to the computer. For example, if a monitor is connected to the computer, fn+f4 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 fn+f4 hotkey can also alternate images among other devices that are receiving video information from the computer.
 fn+f6	Decreases speaker volume.
 fn+f7	Increases speaker volume.
 fn+f8	Displays charge information for the installed battery.
 fn+f9	Decreases the screen brightness level.
 fn+f10	Increases the screen brightness level.
 fn+f11	Activates and deactivates the ambient light. When activated, the ambient light sensor automatically adjusts the display brightness based on the lighting conditions in your environment.

Using keypads


Using the embedded numeric keypad



Component	Description
(1) <code>fn</code> key	Turns the embedded numeric keypad on and off when pressed in combination with the <code>num lk</code> key. NOTE: The embedded numeric keypad will not function while an external keyboard or numeric keypad is connected to the computer.
(2) Embedded numeric keypad	When the keypad is turned on, it can be used like an external numeric keypad. NOTE: Each key on the keypad performs the function indicated by the icon in the upper-right corner of the key.
(3) <code>num lk</code> key	Turns the embedded numeric keypad on and off when pressed in combination with the <code>fn</code> key. On: Num lock is on. NOTE: The keypad function that is active when the computer is turned off is reinstated when the computer is turned back on.

Turning the embedded numeric keypad on and off

Press **fn+num lk** to turn on the embedded numeric keypad. Press **fn+num lk** again to turn off the keypad.


 **NOTE:** The embedded numeric keypad is turned off while an external keyboard or numeric keypad is connected to the computer.

Switching key functions on the embedded numeric keypad

You can temporarily alternate the functions of keys on the embedded numeric keypad between their standard keyboard functions and their keypad functions:

- To use the numeric function of a keypad key while the keypad is off, press and hold the **fn** key while pressing the keypad key.
- To use the standard function of a keypad key while the keypad is on:
 - Press and hold the **fn** key to type in lowercase.
 - Press and hold **fn+shift** to type in uppercase.

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:

Windows 7—Select **Start > Devices and Printers**. Then right-click the device representing your computer, and select **Mouse settings**.


Windows Vista—Select **Start > Control Panel > Hardware and Sound > Mouse**.

Using the pointing stick

Press the pointing stick in the direction you want to move the pointer on the screen. Use the left and right pointing stick buttons as you would the left and right buttons on an external mouse.


Using the TouchPad

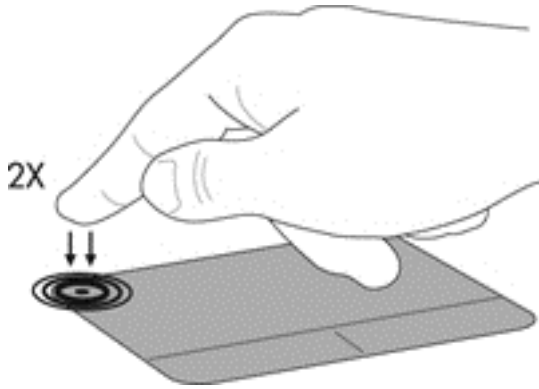
To move the pointer, slide one finger across the TouchPad in the direction you want the pointer to go. Use the left and right TouchPad buttons like the buttons on an external mouse.

 **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 off and on

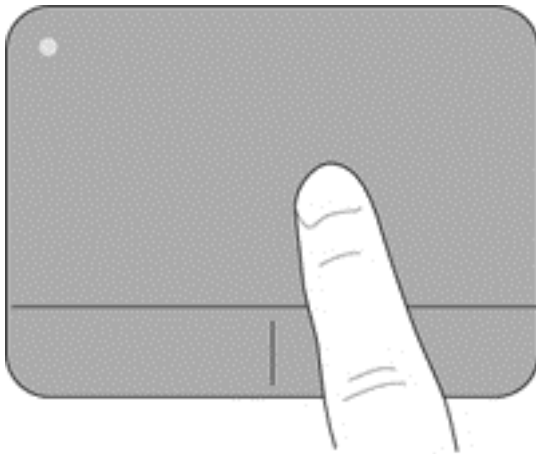
To turn the TouchPad off and on, quickly double-tap the TouchPad light.

 **NOTE:** The TouchPad light is off when the TouchPad is on.



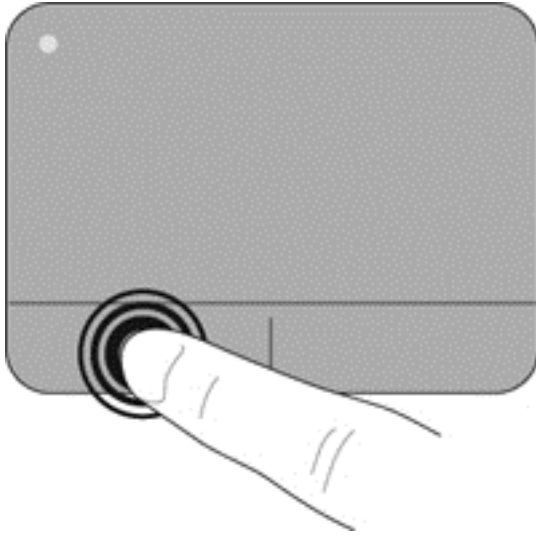
Navigating

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.

 **NOTE:** TouchPad gestures are not supported in all programs.

To view the demonstration of a gesture:


1. Click the **Show hidden icons** icon in the notification area, at the far right of the taskbar.
2. Click the **Synaptics icon**  and then click **Pointing Device Properties**.
3. Click the **Device Settings** tab, and then double-click **Synaptics LuxPad**.
4. Select the check box next to a gesture to activate the demonstration.


To turn the gestures on and off:

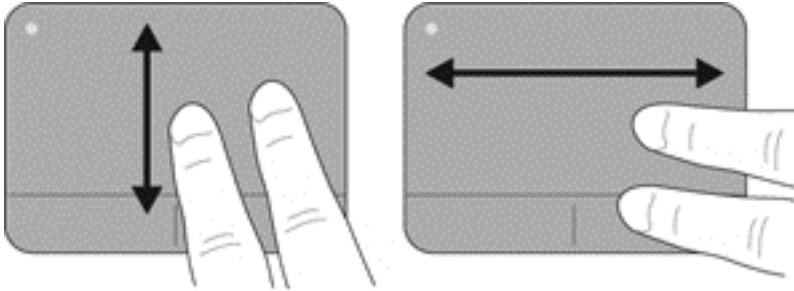
1. Click the **Show hidden icons** icon in the notification area, at the far right of the taskbar.
2. Right-click the **Synaptics icon**  and then click **Pointing Device Properties**.
3. Click the **Device Settings** tab, and then double-click **Synaptics LuxPad**.
4. Select the check box for the gesture that you want to turn on or off.
5. Click **Apply**, and then click **OK**.

Scrolling

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

 **NOTE:** Scrolling speed is controlled by finger speed.


 **NOTE:** Two-finger scrolling is enabled at the factory.

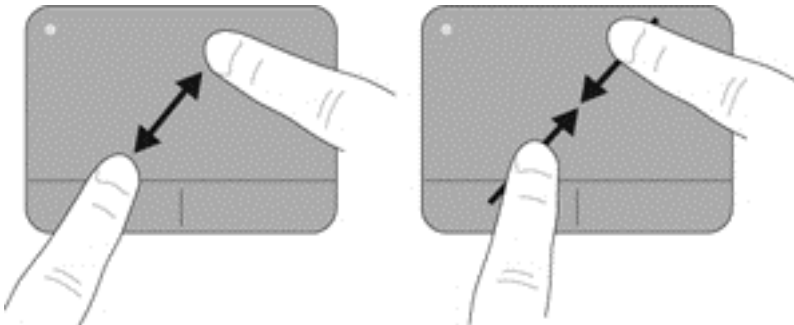


Pinching/Zooming

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.


 **NOTE:** Pinching/zooming is enabled at the factory.

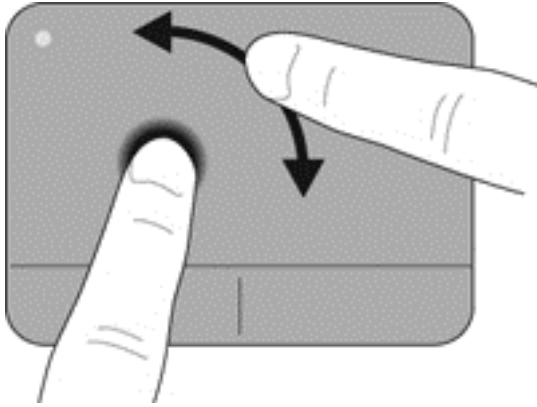


Rotating

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.


 **NOTE:** Rotating is disabled at the factory.



6 Maintenance

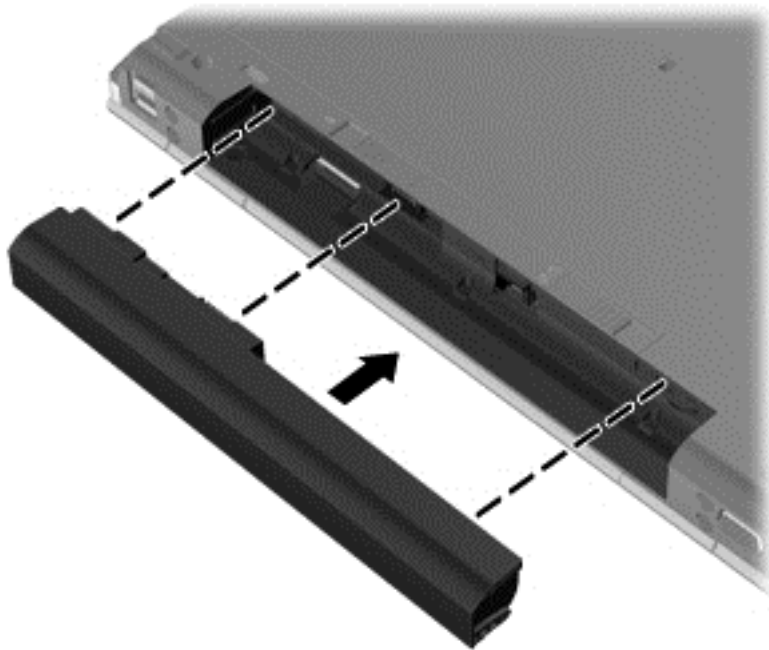
- [Inserting or removing the battery](#)
- [Replacing or upgrading the hard drive](#)
- [Adding or replacing memory modules](#)
- [Updating programs and drivers](#)

Inserting or removing the battery


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

To insert the battery:

- ▲ Insert the battery into the battery bay until it is seated.
The battery release latch automatically locks the battery into place.

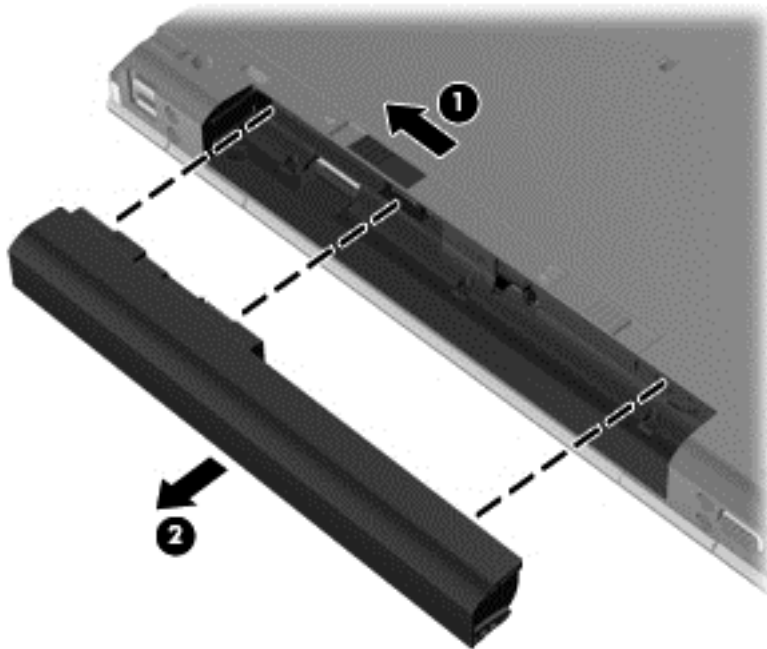


To remove the battery:

 **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. Slide the battery release latch **(1)** to release the battery.

2. Remove the battery from the computer **(2)**.



Replacing or upgrading the hard drive

CAUTION: To prevent information loss or an unresponsive system:

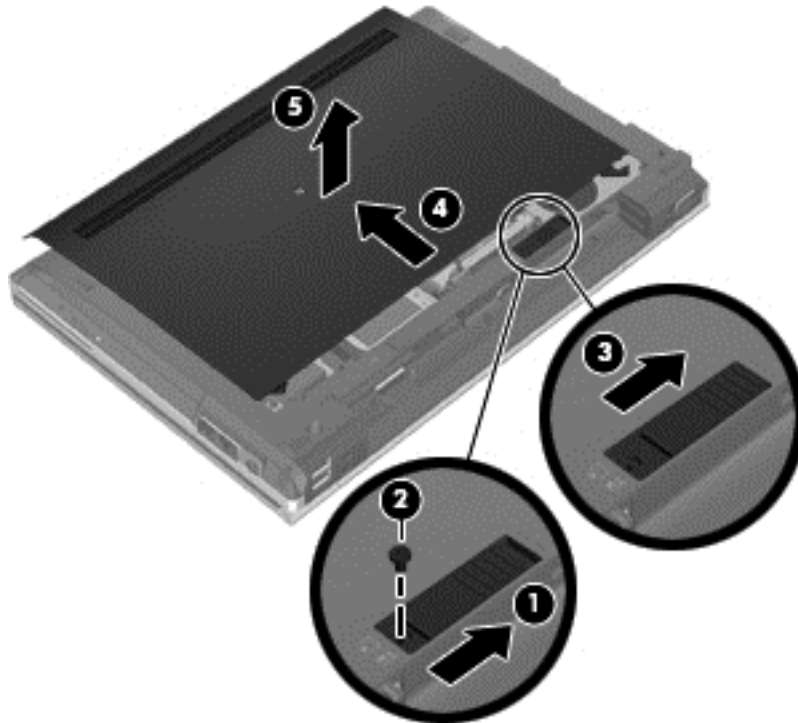
Shut down the computer before removing the hard drive from the hard drive bay. Do not remove the hard drive while the computer is on, in the Sleep state, or in Hibernation.

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.

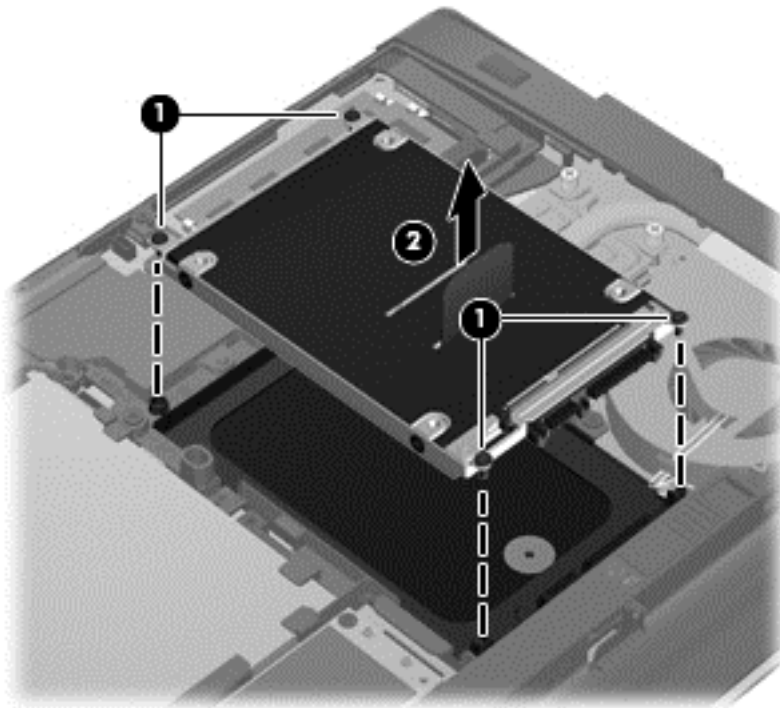
Removing the hard drive

1. Save your work and shut down the computer.
2. Disconnect the AC power and any external devices that are connected to the computer.
3. Remove the battery.
4. Slide the service cover release latch to the right **(1)** to reveal the service cover screw.
5. Loosen and remove the screw **(2)**.
6. Slide the service cover release latch **(3)** completely to the right to release the service cover.

7. Remove the service cover by sliding the service cover out (4) and lifting it (5).

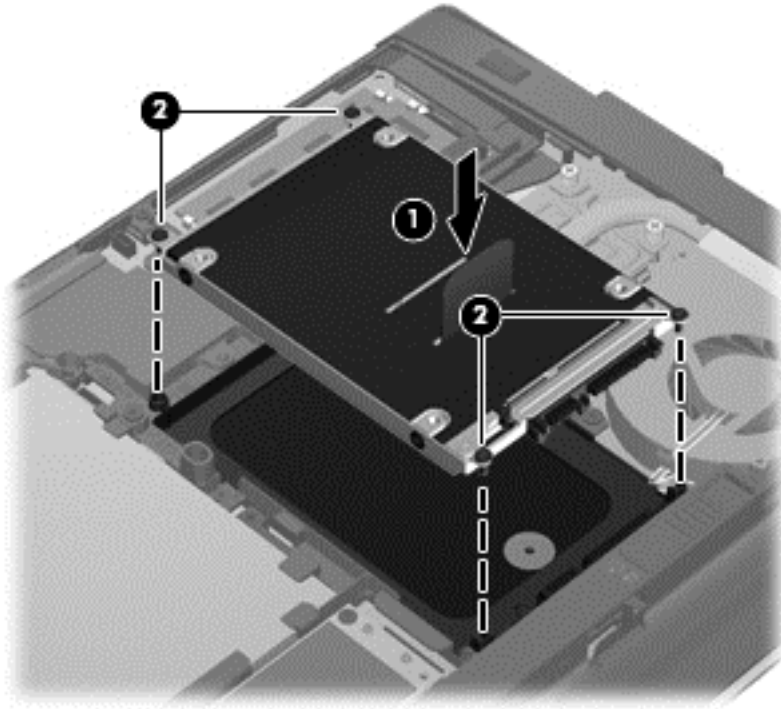


8. Remove the four hard drive screws (1).
9. Lift the hard drive by the tab (2) and pull away from the connection



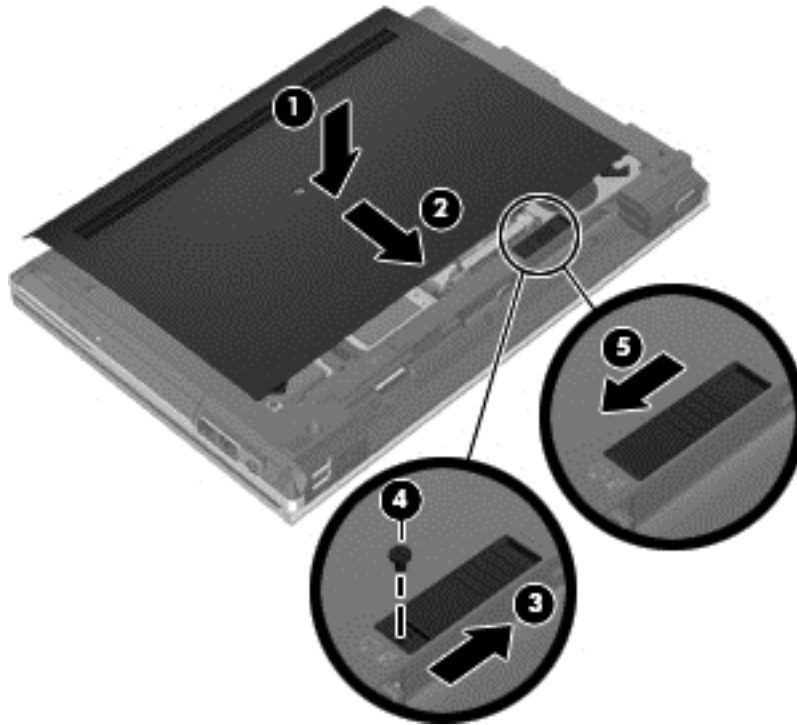
Installing a hard drive

1. Slide the hard drive into the hard drive bay until it is seated **(1)**.
2. Replace the four hard drive screws **(2)**.



3. Slide the service cover onto the computer **(2)**.
4. Slide the service cover release latch to the right **(3)** to replace the service cover screw **(4)**.

5. Slide the release latch to the left **(5)** to secure the service cover.



6. Replace the battery.
7. Connect AC power and external devices to the computer.
8. Turn on the computer.

Adding or replacing memory modules

The computer has two memory module slots. The 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 identical.

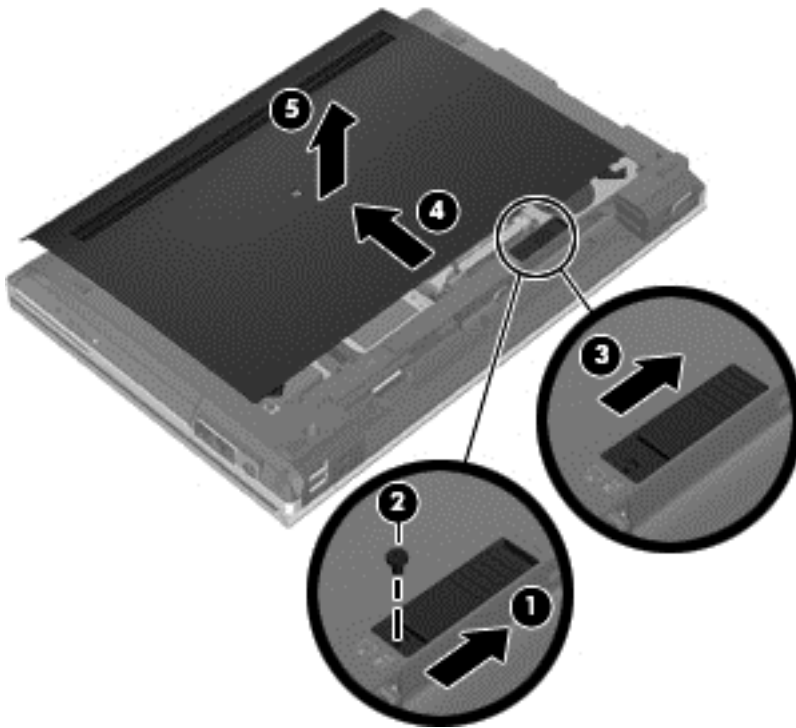
To add or replace a memory module:

⚠ 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.

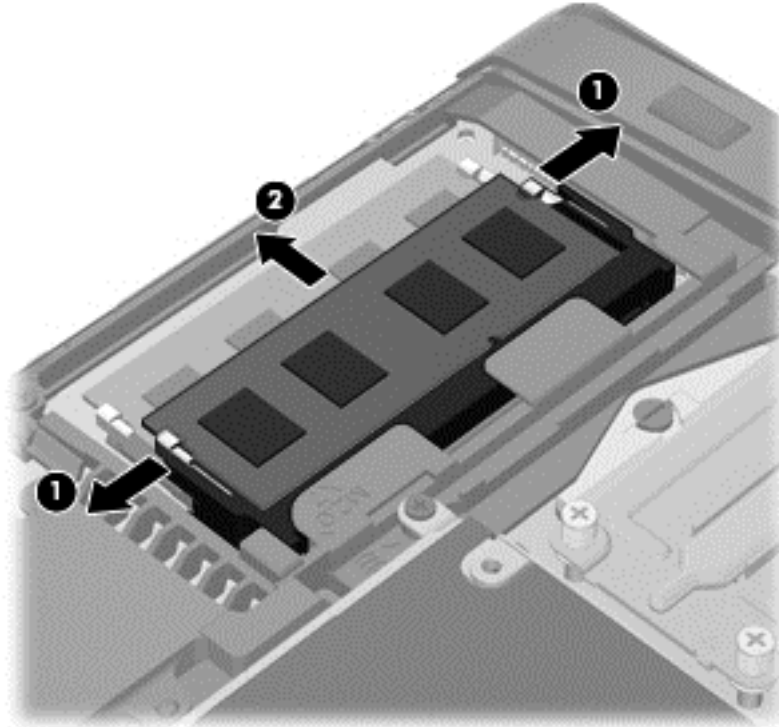
1. Save your work and shut down the computer.
2. Disconnect the AC power and any external devices that are connected to the computer.
3. Remove the battery.
4. Slide the service cover release latch to the right **(1)** to reveal the service cover screw.
5. Loosen and remove the screw **(2)**.
6. Slide the service cover release latch **(3)** completely to the right to release the service cover.



7. Remove the service cover by sliding the service cover out **(4)** and lifting it **(5)**.
8. 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.

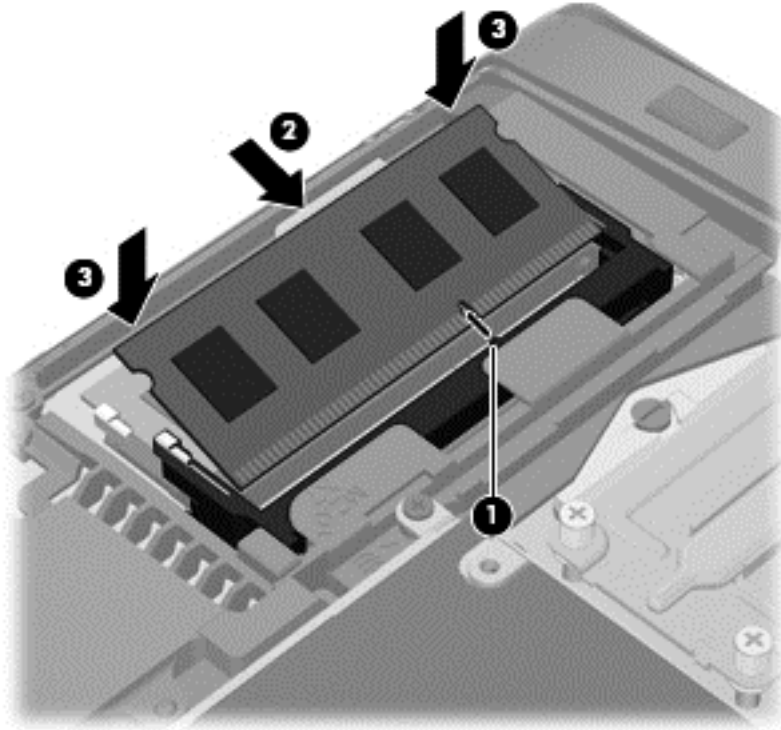
9. Insert a new memory module:

⚠ 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.

- 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.

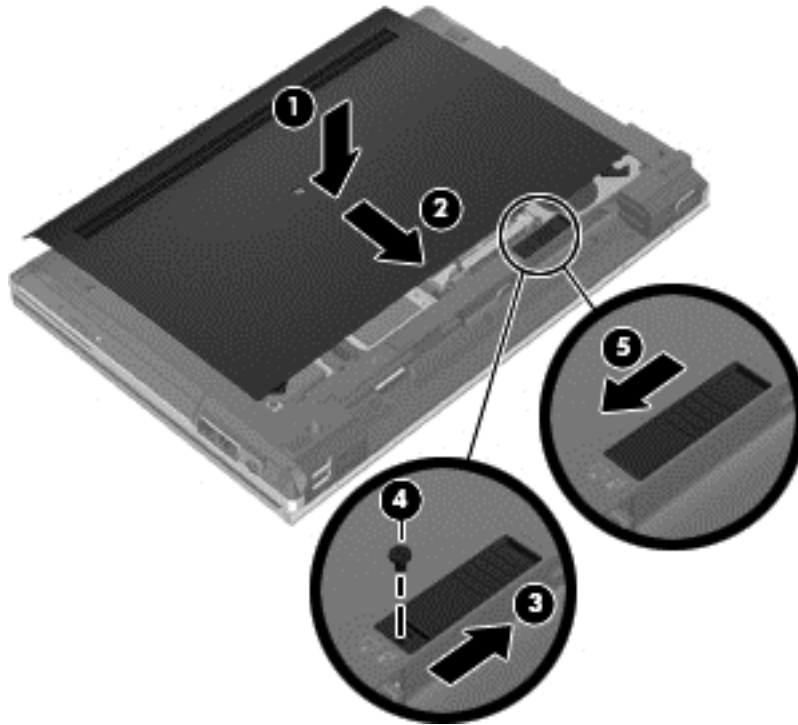
- c. Gently press the memory module **(3)** down, applying pressure to both the left and right edges of the memory module, until the retention clips snap into place.

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



10. Align the tabs **(1)** on the service cover with the notches on the computer.
11. Slide the service cover onto the computer **(2)**.
12. Slide the service cover release latch to the right **(3)** to replace the service cover screw **(4)**.

13. Slide the release latch to the left **(5)** to secure the service cover.



14. Replace the battery.
15. Connect the AC power and any external devices to the computer.
16. 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.

7 Backup and recovery


Windows 7

- [Backing up your information](#)
- [Performing a system recovery](#)


To protect your information, use Windows Backup and Restore to back up individual files and folders, back up your entire hard drive (select models only), create system repair discs (select models only) by using the installed optical drive (select models only) or an optional external optical drive, or create system restore points. In case of system failure, you can use the backup files to restore the contents of your computer.

Windows Backup and Restore provides the following options:

- Creating a system repair disc (select models only) by using the installed optical drive (select models only) or an optional external optical drive
- Backing up your information
- Creating a system image (select models only)
- Scheduling automatic backups (select models only)
- Creating system restore points
- Recovering individual files
- Restoring the computer to a previous state
- Recovering information using recovery tools

 **NOTE:** For detailed instructions, perform a search for these topics in Help and Support.

In case of system instability, HP recommends that you print the recovery procedures and save them for later use.

 **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 software, running utilities, or changing Windows settings. Refer to Help and Support for more information.


Backing up your information

Recovery after a system failure is as good as your most recent backup. You should create system repair discs (select models only) by using the installed optical drive (select models only) or an optional external optical drive, and your initial backup 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. The system repair discs (select models only) are used to start up (boot) the computer and repair the operating system in case of system instability or failure. Your initial and subsequent backups allow you to restore your data and settings if a failure occurs.

You can back up your information to an optional external hard drive, a network drive, or discs.


Note the following when backing up:


- Store personal files in the Documents library, and back it up regularly.
- Back up templates that are stored in their associated programs.
- Save customized settings that appear 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.
- When backing up to discs, use any of the following types of discs (purchased separately): CD-R, CD-RW, DVD+R, DVD+R DL, DVD-R, DVD-R DL, or DVD±RW. The discs you use will depend on the type of optical drive installed in your computer or the type of external optical drive you are using.

 **NOTE:** DVDs and DVDs with double-layer (DL) support store more information than CDs, so using them for backup reduces the number of recovery discs required.

- When backing up to discs, number each disc before inserting it into the optical drive of the computer.

To create a backup using Backup and Restore:

 **NOTE:** Be sure that the computer is connected to AC power before you start the backup process.


 **NOTE:** The backup process may take over an hour, depending on file size and the speed of the computer.

1. Select **Start > All Programs > Maintenance > Backup and Restore**.
2. Follow the on-screen instructions to set up your backup, create a system image (select models only), or create a system repair disc (select models only).

Performing a system recovery

In case of system failure or instability, the computer provides the following tools to recover your files:

- Windows recovery tools: You can use Windows Backup and Restore to recover information you have previously backed up. You can also use Windows Startup Repair to fix problems that might prevent Windows from starting correctly.
- **f11** recovery tools: You can use the **f11** recovery tools to recover your original hard drive image. The image includes the Windows operating system and software programs installed at the factory.

 **NOTE:** If you are unable to boot (start up) your computer and you cannot use the system repair discs you previously created (select models only), you must purchase a Windows 7 operating system DVD to reboot the computer and repair the operating system. For additional information, refer to [Using a Windows 7 operating system DVD \(purchased separately\) on page 41](#).

Using the Windows recovery tools

To recover information you previously backed up:

1. Select **Start > All Programs > Maintenance > Backup and Restore**.
2. Follow the on-screen instructions to recover your system settings, your computer (select models only), or your files.

To recover your information using Startup Repair, follow these steps:

⚠ CAUTION: Using Startup Repair completely erases hard drive contents and reformats the hard drive. All files you have created and any software installed on the computer are permanently removed. When reformatting is complete, the recovery process restores the operating system, as well as the drivers, software, and utilities from the backup used for recovery.

1. If possible, back up all personal files.
2. If possible, check for the presence of the Windows partition and the HP Recovery partition.

To check for the Windows partition, select **Start > Computer**.

To check for the HP Recovery partition, click **Start**, right-click **Computer**, click **Manage**, and then click **Disk Management**.

🔧 NOTE: If the Windows partition and the HP Recovery partition are not listed, you must recover your operating system and programs using the Windows 7 operating system DVD and the *Driver Recovery* disc (both purchased separately). For additional information, refer to [Using a Windows 7 operating system DVD \(purchased separately\) on page 41](#).

3. If the Windows partition and the HP Recovery partition are listed, restart the computer, and then press **f8** before the Windows operating system loads.
4. Select **Startup Repair**.
5. Follow the on-screen instructions.

🔧 NOTE: For additional information on recovering information using the Windows tools, perform a search for these topics in Help and Support.

Using f11 recovery tools

⚠ CAUTION: Using **f11** completely erases hard drive contents and reformats the hard drive. All files you have created and any software installed on the computer are permanently removed. The **f11** recovery tool reinstalls the operating system and HP programs and drivers that were installed at the factory. Software not installed at the factory must be reinstalled.

To recover the original hard drive image using **f11**:

1. If possible, back up all personal files.
2. If possible, check for the presence of the HP Recovery partition: click **Start**, right-click **Computer**, click **Manage**, and then click **Disk Management**.

🔧 NOTE: If the HP Recovery partition is not listed, you must recover your operating system and programs using the Windows 7 operating system DVD and the *Driver Recovery* disc (both purchased separately). For additional information, refer to [Using a Windows 7 operating system DVD \(purchased separately\) on page 41](#).


3. If the HP Recovery partition is listed, 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.
4. Press **f11** while the “Press <F11> for recovery” message is displayed on the screen.
5. Follow the on-screen instructions.

Using a Windows 7 operating system DVD (purchased separately)

To order a Windows 7 operating system DVD, go to <http://www.hp.com/support>, select your country or region, and follow the on-screen instructions. You can also order the DVD by calling technical support. For contact information, refer to the *Worldwide Telephone Numbers* booklet included with the computer.

CAUTION: Using a Windows 7 operating system DVD completely erases hard drive contents and reformats the hard drive. All files you have created and any software installed on the computer are permanently removed. When reformatting is complete, the recovery process helps you restore the operating system, as well as drivers, software, and utilities.

To initiate recovery using a Windows 7 operating system DVD:

 **NOTE:** This process takes several minutes.


1. If possible, back up all personal files.
2. Restart the computer, and then insert the Windows 7 operating system DVD into the optical drive before the Windows operating system loads.
3. When prompted, press any keyboard key.
4. Follow the on-screen instructions.
5. Click **Next**.
6. Select **Repair your computer**.
7. Follow the on-screen instructions.


Windows Vista


To protect your information, use the Backup and Restore Center to back up individual files and folders, back up your entire hard drive (select models only), or create system restore points. In case of system failure, you can use the backup files to restore the contents of your computer.

The Backup and Restore Center provides the following options:

- Backing up individual files and folders
- Backing up the entire hard drive (select models only)
- Scheduling automatic backups (select models only)
- Creating system restore points
- Recovering individual files
- Restoring the computer to a previous state
- Recovering information using recovery tools

 **NOTE:** For detailed instructions, perform a search for these topics in Help and Support.

 **NOTE:** In case of system instability, HP recommends that you print the recovery procedures and save them for later use.

 **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 software, running utilities, or changing Windows settings. Refer to Help and Support for more information.


Backing up your information

Recovery after a system failure is as complete as your most current backup. You should create your initial backup 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.

You can back up your information to an optional external hard drive, a network drive, or discs.


Note the following when backing up:


- Store personal files in the Documents folder, and back it up regularly.
- Back up templates that are stored in their associated programs.
- Save customized settings that appear 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.
- When backing up to discs, use any of the following types of discs (purchased separately): CD-R, CD-RW, DVD+R, DVD+R DL, DVD-R, DVD-R DL, or DVD±RW. The discs you use will depend on the type of optical drive installed in your computer.

 **NOTE:** DVDs and DVDs with double-layer (DL) support store more information than CDs, so using them for backup reduces the number of recovery discs required.

- When backing up to discs, number each disc before inserting it into the optical drive of the computer.

To create a backup using Backup and Restore Center:

 **NOTE:** Be sure that the computer is connected to AC power before you start the backup process.


 **NOTE:** The backup process may take over an hour, depending on file size and the speed of the computer.

1. Select **Start > All Programs > Maintenance > Backup and Restore Center**.
2. Follow the on-screen instructions to back up your entire computer (select models only) or your files.

Performing a recovery

In case of system failure or instability, the computer provides the following tools to recover your files:

- Windows recovery tools: You can use the Backup and Restore Center to recover information you have previously backed up. You can also use Windows Startup Repair to fix problems that might prevent Windows from starting correctly.
- f11 recovery tools: You can use the f11 recovery tools to recover your original hard drive image. The image includes the Windows operating system and software programs installed at the factory.

 **NOTE:** If you are unable to boot (start up) your computer, you must purchase a Windows Vista® operating system DVD to reboot the computer and repair the operating system. For additional information, refer to [Using a Windows Vista operating system DVD \(purchased separately\) on page 44](#).

Using the Windows recovery tools

To recover information you previously backed up:

1. Select **Start > All Programs > Maintenance > Backup and Restore Center**.
2. Follow the on-screen instructions to recover your entire computer (select models only) or your files.

To recover your information using Startup Repair, follow these steps:

CAUTION: Using Startup Repair completely erases hard drive contents and reformats the hard drive. All files you have created and any software installed on the computer are permanently removed. When reformatting is complete, the recovery process restores the operating system, as well as the drivers, software, and utilities from the backup used for recovery.

1. If possible, back up all personal files.
2. If possible, check for the presence of the Windows partition and the HP Recovery partition. To find the partitions, select **Start > Computer**.

NOTE: If the Windows partition and the HP Recovery partition have been deleted, you must recover your operating system and programs using the Windows Vista operating system DVD and the *Driver Recovery* disc (both purchased separately). For additional information, refer to [Using a Windows Vista operating system DVD \(purchased separately\) on page 44](#).

3. Restart the computer, and then press **f8** before the Windows operating system loads.
4. Select **Repair your computer**.
5. Follow the on-screen instructions.

NOTE: For additional information on recovering information using the Windows tools, perform a search for these topics in Help and Support.

Using f11 recovery tools

CAUTION: Using **f11** completely erases hard drive contents and reformats the hard drive. All files you have created and any software installed on the computer are permanently removed. The **f11** recovery tool reinstalls the operating system and HP programs and drivers that were installed at the factory. Software not installed at the factory must be reinstalled. Personal files must be restored from a backup.

NOTE: If your computer includes a solid-state drive (SSD), you may not have a recovery partition. Recovery discs have been included for computers that do 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 > Computer**. If the partition is present, an HP Recovery drive is listed in the Hard Disk Drives section of the window.

To recover the original hard drive image using **f11**, follow these steps:

1. If possible, back up all personal files.
2. If possible, check for the presence of the HP Recovery partition. To find the partition, select **Start > Computer**.


NOTE: If the HP Recovery partition has been deleted, you must recover your operating system and programs using the Windows Vista operating system DVD and the *Driver Recovery* disc (both purchased separately). For additional information, refer to [Using a Windows Vista operating system DVD \(purchased separately\) on page 44](#).

3. 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.
4. Press **f11** while the “Press <F11> for recovery” message is displayed on the screen.
5. Follow the on-screen instructions.


Using a Windows Vista operating system DVD (purchased separately)

To order a Windows Vista operating system DVD, go to <http://www.hp.com/support>, select your country or region, and follow the on-screen instructions. You can also order the DVD by calling

technical support. For contact information, refer to the *Worldwide Telephone Numbers* booklet included with the computer.

 **CAUTION:** Using a Windows Vista operating system DVD completely erases hard drive contents and reformats the hard drive. All files you have created and any software installed on the computer are permanently removed. When reformatting is complete, the recovery process helps you restore the operating system, as well as drivers, software, and utilities.

To initiate recovery using a Windows Vista operating system DVD:

 **NOTE:** This process takes several minutes.

1. If possible, back up all personal files.
2. Restart the computer, and then insert the Windows Vista operating system DVD into the optical drive before the Windows operating system loads.
3. When prompted, press any keyboard key.
4. Follow the on-screen instructions.
5. Click **Next**.
6. Select **Repair your computer**.
7. Follow the on-screen instructions.


8 Customer support

- [Contacting customer support](#)
- [Labels](#)

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.

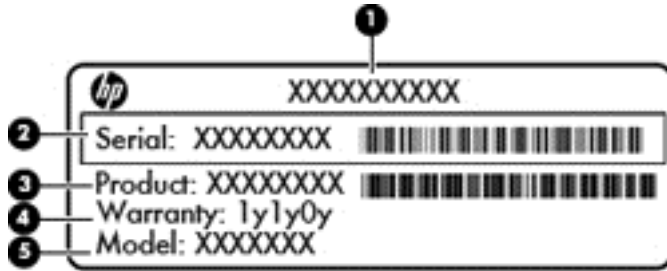
 **NOTE:** When technical support chat is not available in a particular language, it is available in English.

- 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:

- Serial number label—Provides important information, including the following:



Component

(1)	Product name
(2)	Serial number (s/n)
(3)	Part number/Product number (p/n)
(4)	Warranty period
(5)	Model description

- Have this information available when you contact technical support. The serial number 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. The Microsoft Certificate of Authenticity is located on the bottom of the computer.
 - Regulatory label—Provides regulatory information about the computer. The regulatory label is affixed inside the battery bay.
 - Wireless certification label or labels (select models only)—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. 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.
 - SIM (subscriber identity module) label (select models only)—Provides the ICCID (Integrated Circuit Card Identifier) of the SIM. This label is located inside the battery bay.
 - HP Mobile Broadband Module serial number label (select models only)—Provides the serial number of the HP Mobile Broadband Module. This label is located inside the battery bay.

9 Specifications

- [Input power](#)


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. The AC power source must be rated at 100–240 V, 50–60 Hz. 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 and current	18.5 V dc @ 3.5 A - 65W

 **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.

Index

A

audio-in (microphone) jack, identifying 11
audio-out (headphone) jack, identifying 11

B

Backup and Restore 40
Backup and Restore Center 42, 43
battery bay 15, 47
battery light 10
battery release latch 15
battery, replacing 29
Bluetooth label 47
Bluetooth, identifying compartment 15
button
 TouchPad 4
buttons
 display release 10
 left TouchPad 5
 power 7
 QuickLook 8
 right TouchPad 5
 wireless 7

C

caps lock light, identifying 6
Certificate of Authenticity label 47
components
 bottom 15
 display 13
 front 10
 left side 12
 rear 14
 right side 11
 top 4
connector, power 12

D

display image, switching 22
display port; identifying 11
docking connector; identifying 11
drain hole; identifying 15

drive light 10

E

embedded numeric keypad, identifying 9, 22
eSATA/USB 2.0 combo port, identifying 11
esc key, identifying 9
ExpressCard slot; identifying 11
external monitor port 14

F

f11 recovery 41, 44
fingerprint reader, identifying 8
fn key, identifying 9, 21, 23
function keys
 identifying 9

H

hard drive
 installing 32
 removing 30
hard drive bay, identifying 15
hard drive recovery 41, 44
headphone (audio-out) jack 11
hotkeys 21
 adjusting volume 22
 ambient light sensor 22
 battery information 22
 decrease screen brightness 22
 description 21
 increase screen brightness 22
 Sleep 21
 switching screen image 22
 using 21
HP QuickWeb light 6

I

input power 48
integrated webcam light, identifying 13
internal microphones, identifying 13
Internet connection setup 19

ISP, using 18

J

jacks 12
 audio-in (microphone) 11
 audio-out (headphone) 11
 RJ-11 (modem) 12

K

keyboard
 hotkeys; identifying 21
keyboard
 using keyboard 21
keyboard hotkeys, identifying 21
keyboard, identifying
 ambient light sensor 13
 light 13
 light button 13
keypad
 embedded numeric keypad, identifying 23
keypad, embedded numeric 9
keypad, identifying 22
keys
 applications 9
 esc 9
 fn 9, 23
 function 9
 num lk 9
 Windows logo 9

L

labels
 Bluetooth 47
 HP Mobile Broadband Module 47
 Microsoft Certificate of Authenticity 47
 regulatory 47
 serial number 47
 SIM 47
 wireless certification 47
 WLAN 47
latch, battery release 15

- lights
 - battery 10
 - caps lock 6
 - drive 10
 - HP QuickWeb 6
 - mute 6
 - num lock 5
 - power 5, 10
 - TouchPad 6
 - webcam 13
 - wireless 5, 10
- M**
- Media Card Reader, identifying 11
- memory module
 - inserting 35
 - removing 34
 - replacing 33
- memory module compartment cover
 - removing 34
 - replacing 36
- Menu key, identifying 9
- microphone (audio-in) jack, identifying 11
- Microsoft Certificate of Authenticity label 47
- mouse, external
 - setting preferences 24
- mute light, identifying 6
- N**
- num lk key, identifying 9, 23
- num lock light 5
- O**
- operating system
 - Microsoft Certificate of Authenticity label 47
 - Product Key 47
- optical drive light, identifying
 - optical drive light 12
- optical drive, identifying 12
- P**
- pinching TouchPad gesture 27
- pointing devices, setting preferences 24
- pointing stick 4
 - left button 4
 - right button 5
- ports
 - eSATA/USB 2.0 combo 11
 - external monitor 14
 - USB 2.0 14
 - USB charging 14
- power button, identifying 7
- power connector, identifying 12
- power light 5
- power light, identifying 10
- Product Key 47
- product name and number, computer 47
- Q**
- QuickWeb
 - Home Screen 17
 - starting 17
- QuickWeb button, identifying 8
- QuickWeb software 17
- R**
- recovery partition 41, 44
- regulatory information
 - regulatory label 47
 - wireless certification labels 47
- restoring the hard drive 41, 44
- RJ-11 (modem) jack, identifying 12
- RJ-45 (network) jack, identifying 12
- rotating TouchPad gesture 28
- S**
- screen brightness keys 22
- screen image, switching 22
- scrolling TouchPad gesture 27
- security 11
- serial number 47
- serial number, computer 47
- setup of WLAN 19
- SIM slot, identifying 15
- smart card reader; identifying 12
- speaker hole, identifying 10, 15
- Start key, identifying 9
- system repair disc 39
- system restore points 39
- T**
- TouchPad
 - buttons 5
 - using 24
- TouchPad button, identifying 4
- TouchPad gestures
 - pinching 27
 - rotating 28
 - scrolling 27
 - zooming 27
- TouchPad light, identifying 6
- TouchPad zone, identifying 5
- traveling with the computer 47
- U**
- USB charging port 14
- USB port, identifying 11, 14
- V**
- vents, identifying 10, 11, 16
- volume keys, identifying 22
 - mute button 8
- W**
- webcam 13
- webcam light, identifying 13
- webcam, identifying 13
- Windows 7 operating system
 - DVD 41
- Windows Backup and Restore 39
- Windows Vista operating system
 - DVD 44
- wireless antennas, identifying 13
- wireless button, identifying 7
- wireless certification label 47
- wireless light 5, 10
- wireless network (WLAN), equipment needed 19
- wireless network, connecting 19
- wireless router, configuring 20
- wireless set up 19
- WLAN
 - connecting 19
 - protecting 20
- WLAN antennas, identifying 13
- WLAN device 47
- WLAN label 47
- WWAN antennas, identifying 13
- Z**
- zooming TouchPad gesture 27