Getting Started

Mini

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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:

1. Set up your wired or wireless network. For more information, refer to Networking on page 14.
2. Update your antivirus software. For more information, refer to the *HP Notebook Reference Guide*. For instructions on finding this guide, refer to Finding information on page 3.
3. Create recovery discs or a recovery flash drive. For more information, refer to Backup and recovery on page 34.
4. Get to know your computer. For more information, refer to Getting to know your computer on page 5 and Keyboard and pointing devices on page 18 for additional information.
5. Discover the software that is already loaded on the computer by selecting **Start > All Programs**.

What's new?

Beats Audio (select models only)

Beats Audio is an enhanced audio profile that provides a deep, controlled bass while maintaining a clear sound. Beats Audio is enabled by default.

▲ To enable or disable Beats Audio, press fn+b.

Select **Start > Control Panel > Hardware and Sound > Beats Audio**.

NOTE: You can view and control the bass settings through the Windows® operating system. Select **Start > Control Panel > Hardware and Sound > Beats Audio Control Panel** to view and control the bass properties.

The following table describes the Beats Audio icons that appear when you press fn+b.

Icon	Description
	Indicates that Beats Audio is enabled.
	Indicates that Beats Audio is disabled.

Finding information

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

Resources	For information about
Setup Instructions	• How to set up the computer • Help to identify computer components
Getting Started To access this guide: Select **Start > Help and Support > User Guides**.	• Computer features • Instructions for the following: ◦ Connecting to a wireless network ◦ Using the keyboard and pointing devices ◦ Replacing or upgrading the hard drive and memory modules ◦ Performing a backup and a recovery ◦ Contacting HP Customer Support • Computer specifications
HP Notebook Reference Guide To access this guide: Select **Start > Help and Support > User Guides**.	• Power management features • Instructions for the following: ◦ Maximizing battery life ◦ Using the multimedia features of the computer ◦ Protecting the computer ◦ Caring for the computer ◦ Updating 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 this guide: 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

Resources	For information about
Worldwide Telephone Numbers booklet This booklet is provided with your computer.	HP Customer Support telephone numbers
HP Web site To access this Web site, go to http://www.hp.com/support.	• Customer support information • Information for ordering parts • Software, driver, and BIOS updates • Information about accessories available for the computer
*Limited Warranty** To access the warranty: Select **Start > Help and Support > User Guides > View Warranty Information**. – or – Go to http://www.hp.com/go/orderdocuments.	Warranty information

*You can find the expressly provided HP Limited Warranty applicable to your product located with the user guides on your computer and/or on the CD/DVD provided in the box. In 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 from http://www.hp.com/go/orderdocuments or write to:

- **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

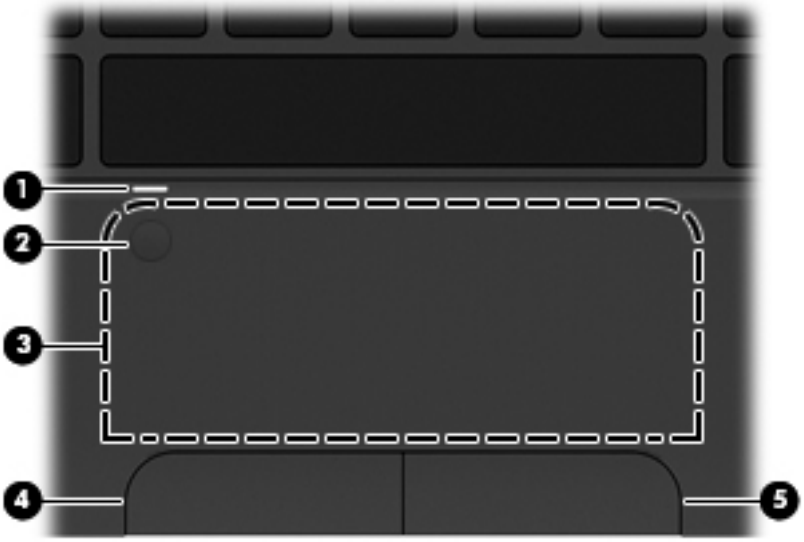
When you request a printed copy of your warranty, please include your product number, warranty period (found on your serial number label), name, and postal address.

IMPORTANT: Do NOT return your HP product to the addresses above. For product support, refer to your product home page at http://www.hp.com/go/contactHP.

2 Getting to know your computer

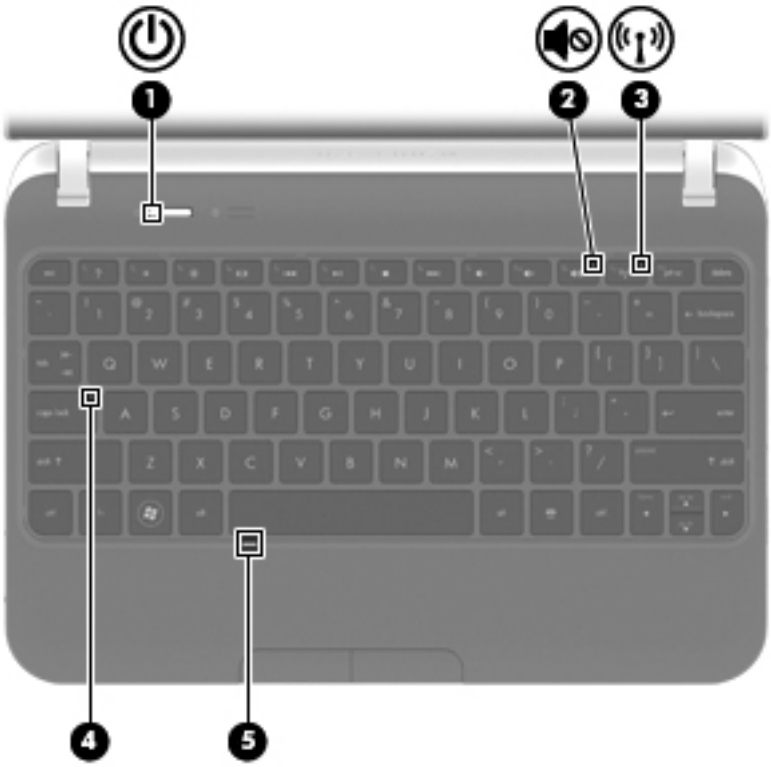
Top

TouchPad



Component		Description
(1)	TouchPad light	• On: The TouchPad is off. • Off: The TouchPad is on.
(2)	TouchPad on/off button	Quickly double-tap the TouchPad on/off button to turn the TouchPad off and on.
(3)	TouchPad zone	Moves the pointer and selects or activates items on the screen.
(4)	Left TouchPad button	Functions like the left button on an external mouse.
(5)	Right TouchPad button	Functions like the right button on an external mouse.

Lights

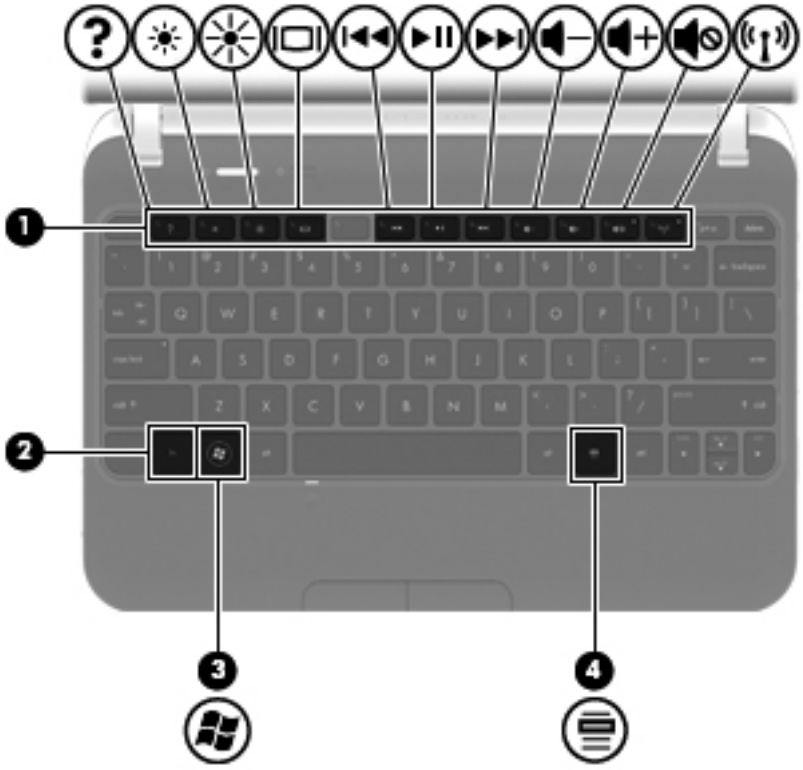


Component			Description
(1)		Power light	• White: The computer is on. • Blinking white: The computer is in the Sleep state. • Off: The computer is off or in Hibernation.
(2)		Mute light	• Amber: Computer sound is off. • Off: Computer sound is on.
(3)		Wireless light	• White: An integrated wireless device,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

Buttons

Component		Description
(1)	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*.
(2)	Web browser button	When the computer is in Microsoft Windows, press the button to open the default Web browser.

Keys

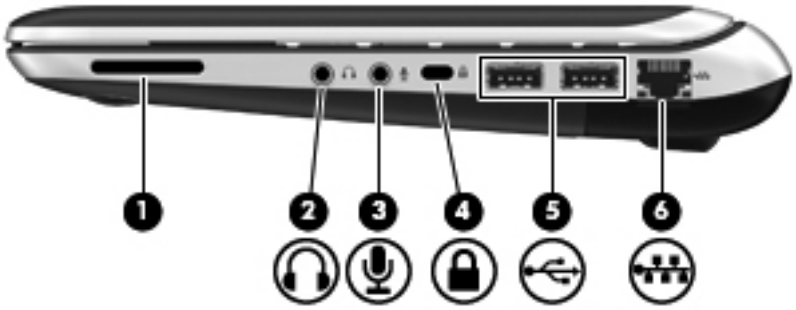


Component		Description
(1)	Action keys	Execute frequently used system functions.
(2)	fn key	Executes frequently used system functions when pressed in combination with a function key, the num lk key, or the esc key.
(3)	Windows logo key	Displays the Windows Start menu.
(4)	Windows applications key	Displays a shortcut menu for items beneath the pointer.

Front

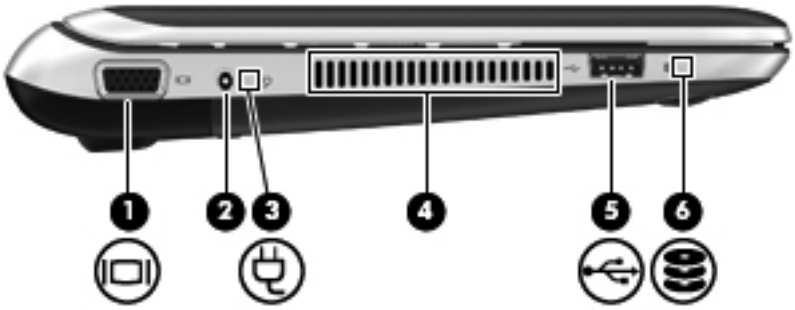
Component	Description
Speakers (2)	Produce sound.

Right side



Component			Description
(1)		Digital Media Slot	Supports the following digital card formats: • MultiMediaCard • Secure Digital (SD) Card • Secure Digital High Capacity Card (SDHC) • Secure Digital Extended Capacity (SDxC) Supports mini versions by use of an adapter (adapter is not included).
(2)		Audio-out (headphone) jack	Produces sound when connected to optional powered stereo speakers, headphones, earbuds, a headset, or television audio. **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 *Regulatory, Safety and Environmental Notices*. **NOTE:** When a device is connected to the headphone jack, the computer speakers are disabled.
(3)		Audio-in (microphone) jack	Connects an optional computer headset microphone, stereo array microphone, or monaural microphone.
(4)		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.
(5)		USB ports (2)	Connect optional 2.0 USB devices.
(6)		RJ-45 (network) jack	Connects a network cable.

Left side



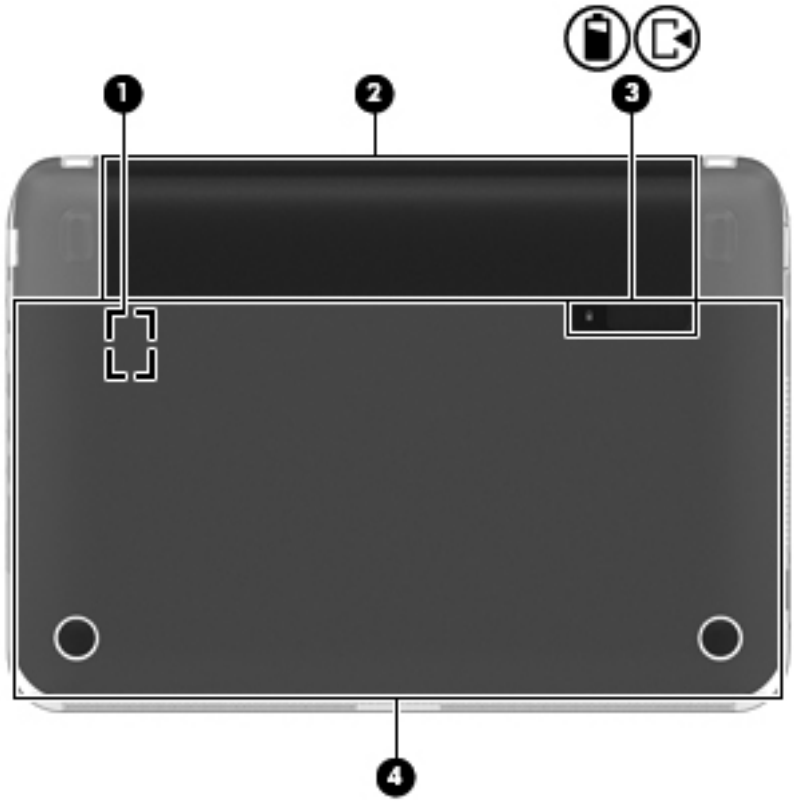
Component			Description
(1)		External monitor port	Connects an external VGA monitor or projector.
(2)		Power connector	Connects an AC adapter.
(3)		AC adapter/battery light	• Amber: The computer is connected to external power, and the battery is charging. • White: The computer is connected to external power, and the battery is fully charged. • Blinking white: The computer is in the Sleep state, or the battery charge level is 10% or less (recharge the battery as soon as possible). • Off: The computer is not connected to external power.
(4)		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.
(5)		USB port	Connects an optional USB device.
(6)		Hard drive light	On: The hard drive is being accessed.

Display

Component		Description
(1)	WLAN antennas (2)	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	Records sound.
(4)	Webcam	Records video and captures still photographs. To use the webcam, select **Start > All Programs > CyberLink > CyberLink YouCam**.
(5)	Webcam light	On: The webcam is in use.

*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)	SIM slot	Supports a wireless subscriber identity module (SIM) (select models only). The SIM slot is located inside the battery bay. For more information, refer to the *HP Notebook Reference Guide*.
(2)	Battery bay	Holds the battery and the subscriber identity module (SIM) slot.
(3)	Battery/Service door latch	Releases the battery from the battery bay and the service door from the computer.
(4)	Service door	Provides access to the hard drive bay, a memory module slot, and the wireless local area network (WLAN) module.

3 Networking

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 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 account with an Internet service provider (ISP). To purchase Internet service and a modem, contact a local ISP. 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 the 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.

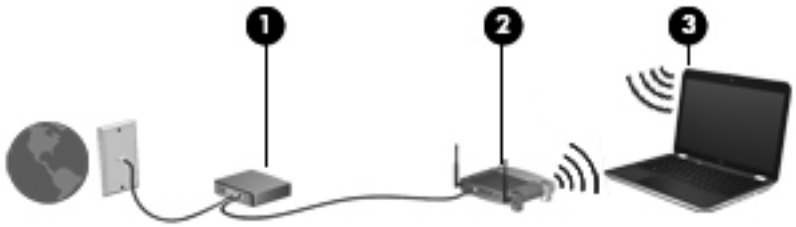
Setting up a new WLAN network

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.

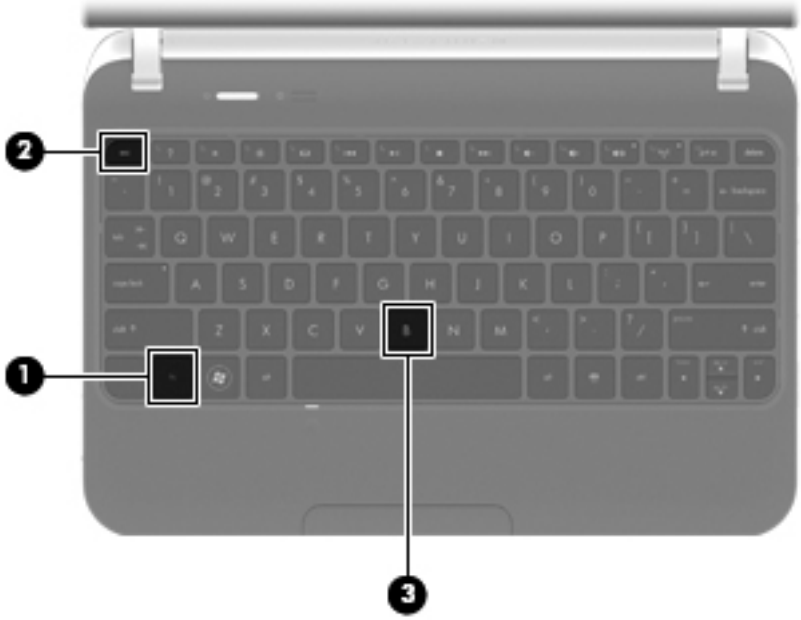
For information on protecting your WLAN, refer to the *HP Notebook Reference Guide*.

4 Keyboard and 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 the b key **(3)**.



To use a hotkey:

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

	Description
fn+esc	Displays system information.
fn+b	Enables or disables Beats Audio (select models only). Beats Audio is an enhanced audio profile that provides a deep, controlled bass while maintaining a clear sound. Beats Audio is enabled by default. You can view and control the bass settings through the Windows operating system. To view and control the bass properties: Select **Start > Control Panel > Hardware and Sound > Beats Audio Control Panel**.

Using the action keys

An action key performs an assigned function. The icon on each of the f1 through f12 keys illustrates the assigned function for that key.

To use an action key function, press and hold the key.

The action key feature is enabled at the factory. You can disable this feature in Setup Utility (BIOS) and revert back to standard settings by pressing the fn key and one of the function keys to activate the assigned function. Refer to the “Setup Utility (BIOS) and System Diagnostics” chapter in the *HP Notebook Reference Guide* for instructions.

⚠ **CAUTION:** Use extreme care when making changes in Setup Utility. Errors can prevent the computer from operating properly.

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 tools and access to customer support.
☼	f2	Decreases the screen brightness level incrementally as long as you hold down this key.
☼	f3	Increases the screen brightness level incrementally as long as 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 the computer display to the monitor display to a simultaneous display on both the computer and the monitor. Most external monitors receive video information from the computer using the external VGA video standard. This action key can also alternate images among other devices that are receiving video information from the computer.
⏮	f6	Plays the previous track of an audio CD or the previous section of a DVD or a BD.
⏯	f7	Plays, pauses, or resumes a track of an audio CD or a section of a DVD or a BD.
⏭	f8	Plays the next track of an audio CD or the next section of a DVD or a BD.
🔉	f9	Decreases speaker volume incrementally as long as you hold down this key.
🔊	f10	Increases speaker volume incrementally as long as you hold down this key.

Icon	Key	Description
	f11	Mutes or restores speaker sound.
	f12	Turns the wireless feature on or off. **NOTE:** A wireless network must be set up before a wireless connection is possible.

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 pointing device settings, button configuration, click speed, and pointer options.

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

Using the TouchPad

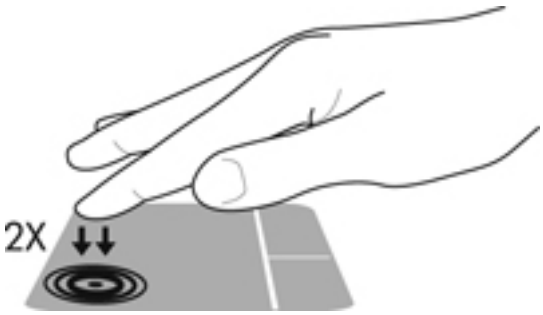
NOTE: The TouchPad on your computer may look slightly different from the illustrations in this section. Refer to Getting to know your computer on page 5 for specific information about the TouchPad on your computer.

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 as you would use the buttons on an external mouse.

Turning the TouchPad off and on

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

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

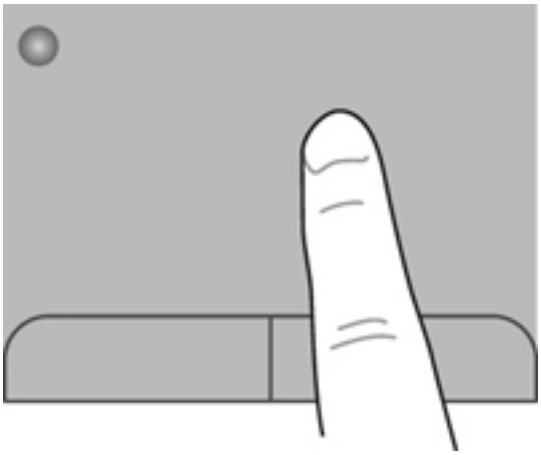


The TouchPad light and on-screen display icons indicate the TouchPad status. The following table shows and describes the TouchPad display icons.

TouchPad light	Icon	Description
Amber		Indicates that the TouchPad is off.
Off		Indicates that the TouchPad is on.

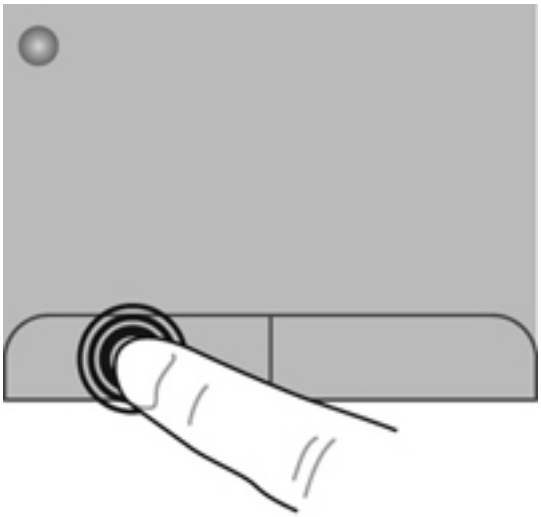
Navigating

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 as you would use 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 **Start > Control Panel > Hardware and Sound > Synaptics > Settings**.
2. Click a gesture to activate the demonstration.

To turn a gesture on or off:

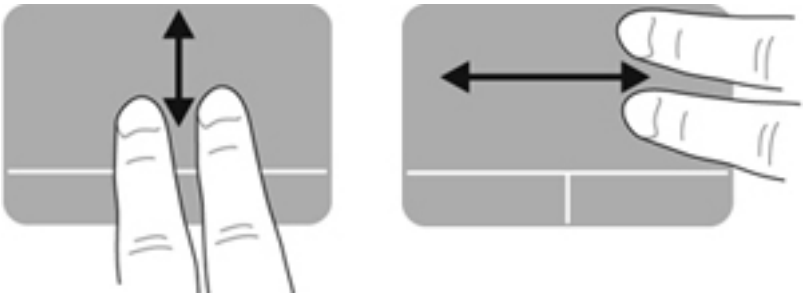
1. Click **Start > Control Panel > Hardware and Sound > Synaptics > Settings**.
2. Select the check box next to the gesture that you want to turn on or off.
3. Click **Apply**, and then click **OK**.

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.

5 Maintenance

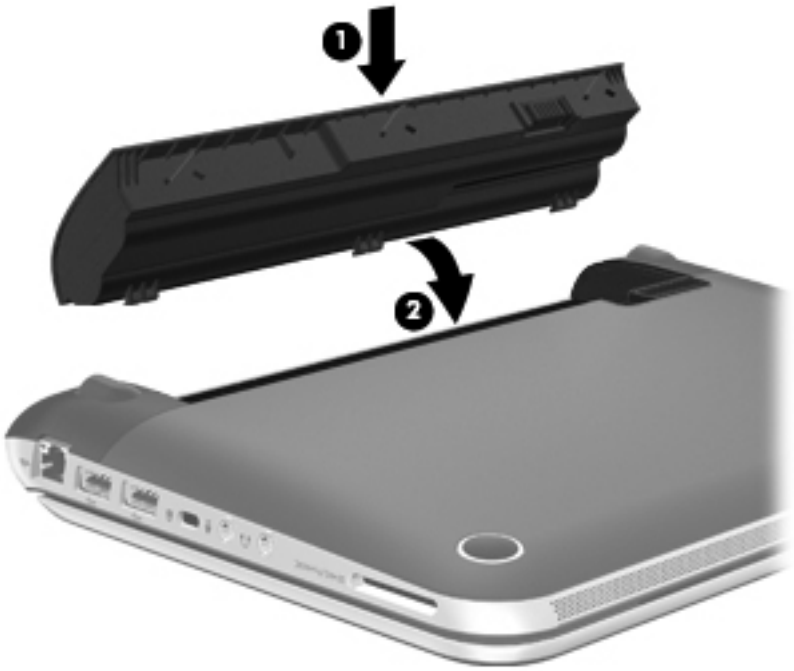
Inserting or removing the battery

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

Inserting the battery

To insert the battery:

- Align the battery **(1)** with the outer edge of the battery bay, and then rotate the battery into the battery bay **(2)** until it is firmly seated.

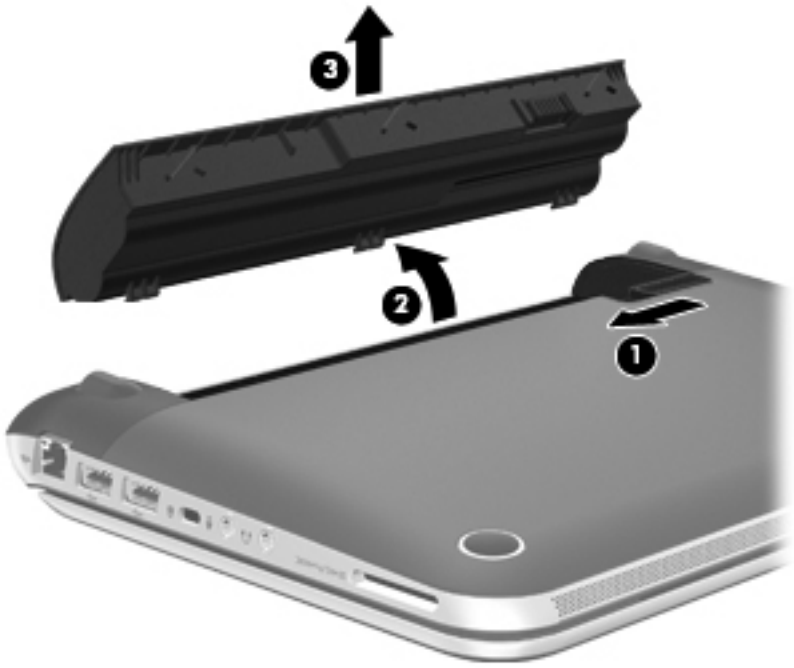


Removing the battery

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/service door latch **(1)** to release the battery.
2. Pivot the battery **(2)** upward, and then remove it 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.

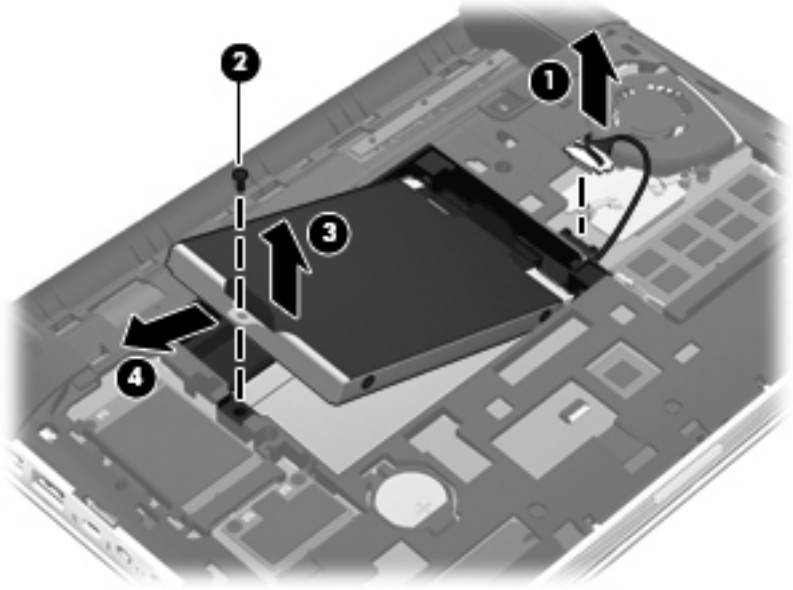
If you are not sure whether the computer is off or in Hibernation, turn the computer on by pressing the power button. Then shut down the computer through the operating system.

Removing the hard drive

1. Save your work and shut down the computer.
2. Disconnect AC power and external devices connected to the computer.
3. Turn the computer upside down on a flat surface.
4. Remove the battery.
5. Slide the battery/service door latch **(1)** to release the service door.
6. Slide the service door toward the front of the computer **(2)**, and then lift the door to remove it **(3)**.

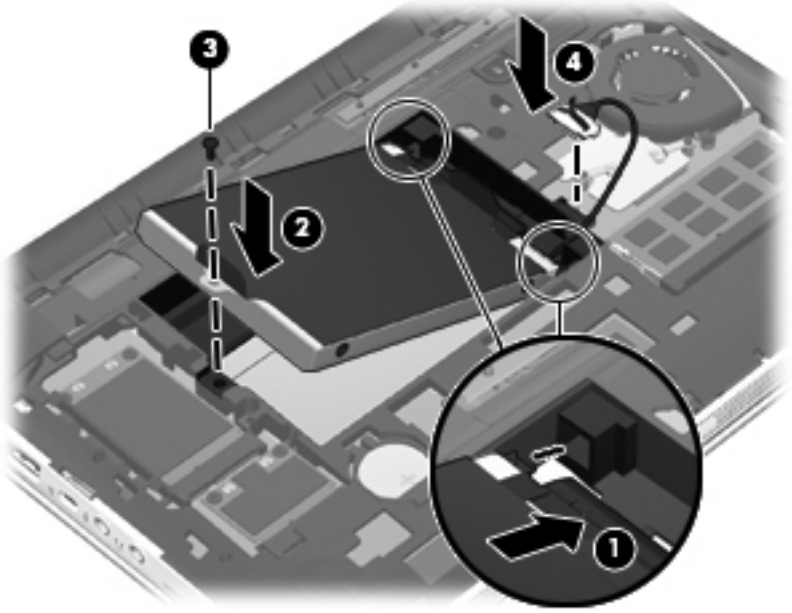
7. Lift the hard drive connector cable **(1)** until it disconnects from the computer.
8. Remove the Phillips screw **(2)** that secures the hard drive to the computer.

9. Pull up the hard drive tab **(3)**, and then remove the hard drive **(4)** from the hard drive bay at an angle.



Installing the hard drive

1. Insert the rubber spacers on the drive into the openings **(1)** in the hard drive bay.
2. Lower the hard drive **(2)** into the hard drive bay.
3. Replace the Phillips screw **(3)**.
4. Connect the hard drive connector cable **(4)** to the computer.



5. Lower the service door onto the computer **(1)** and then slide the door **(2)** toward the battery bay until the battery/service door latch snaps into place.

6. Replace the battery.

7. Turn the computer right-side up, and then reconnect external power and external devices.
8. Turn on the computer.

Replacing the memory module

The computer has one memory module compartment. The capacity of the computer can be upgraded by upgrading the existing memory module in the 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.

To replace the memory module:

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

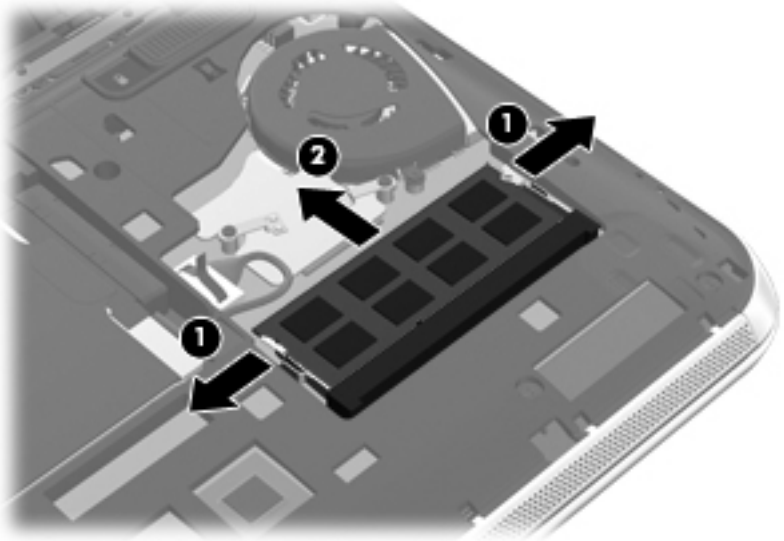
Shut down the computer before replacing the memory module. Do not remove the memory module while the computer is on, in the Sleep state, or in Hibernation.

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 AC power and all external devices connected to the computer.
3. Turn the computer upside down on a flat surface.
4. Remove the battery.
5. Remove the service door (see Removing the hard drive on page 27).
6. 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 the new memory module:

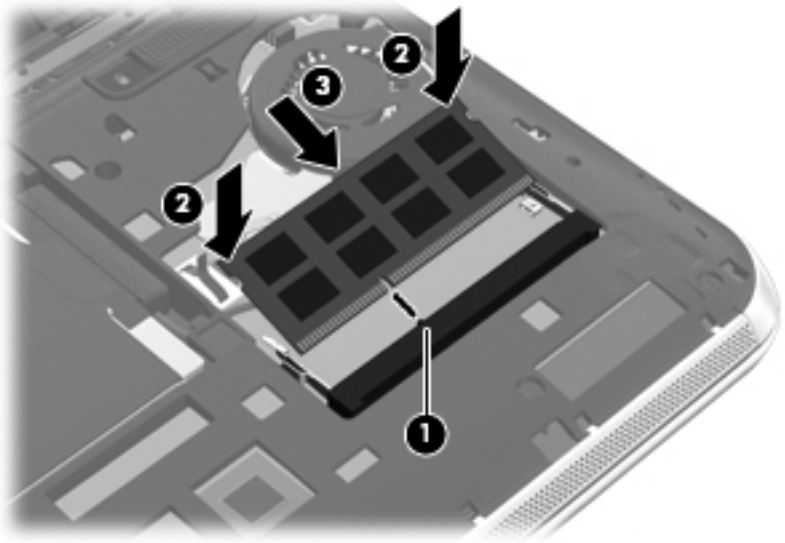
⚠ **CAUTION:** To prevent damage to the memory module, hold the memory module by the edges only. Do not touch the components on the memory module.

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 module.



8. Replace the service door (see Installing the hard drive on page 29).
9. Replace the battery.
10. Turn the computer right-side up, and then reconnect AC power and external devices to the computer.
11. Turn on the computer.

6 Backup and recovery

Your computer includes tools provided by the operating system and HP to help you safeguard your information and restore it if ever needed.

This chapter provides information on the following topics:

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

Restore

In the event of hard drive failure, to restore your system to its factory image you will need a set of recovery discs or a recovery flash drive that you can create using HP Recovery Manager. HP recommends that you use this software to create either a set of recovery discs or a recovery flash drive immediately after software setup.

If for some other reason you need to restore your system, this can be achieved using the HP Recovery partition (select models only), without the need for recovery discs or a recovery flash drive. To check for the presence of a recovery partition, click **Start**, right-click **Computer**, click **Manage**, and then click **Disk Management**. If the recovery partition is present, a Recovery drive is listed in the window.

CAUTION: HP Recovery Manager (partition or discs/flash drive) restores only software that was preinstalled at the factory. Software not provided with this computer must be reinstalled manually.

NOTE: Recovery discs have been included if your computer does not have a recovery partition.

Creating restore media

HP recommends that you create either a set of recovery discs or a recovery flash drive 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 restore using the recovery partition tools. Create these discs or the flash drive after setting up the computer for the first time.

NOTE: HP Recovery Manager allows the creation of only one set of recovery discs or one recovery flash drive. Handle these discs or flash drive carefully and keep them in a safe place.

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 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, DVD-R DL, or DVD+R DL discs.

  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 HP Recovery Manager software.

- The computer must be connected to AC power during this process.
- Only one set of recovery discs or one recovery flash drive can be created per computer.

  NOTE: If you are creating recovery discs, 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 or recovery flash drive. The next time you open HP Recovery Manager, you will be prompted to continue the backup creation process.

To create a set of recovery discs or a recovery flash drive:

1. Select **Start > All Programs > Security and Protection > HP Recovery Manager > HP Recovery Media Creation**.
2. Follow the on-screen instructions.

Performing a system restore

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

NOTE: A system restore needs to be performed if the computer hard drive has failed or if all attempts to correct any functional computer issues fail. A system restore should be used as a final attempt to correct computer issues.

Note the following when performing a system restore:

- You can restore only the system that you have previously backed up. HP recommends that you use HP Recovery Manager to create either a set of recovery discs or a recovery flash drive 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 HP Recovery Manager.
- HP Recovery Manager restores 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.

Restoring using the dedicated recovery partition (select models only)

When using the dedicated recovery partition, there is an option to back up pictures, music and other audio, videos and movies, recorded TV shows, documents, spreadsheets and presentations, e-mails, Internet favorites and settings during this process.

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

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

   - Select **Start > All Programs > Security and Protection > HP Recovery Manager > HP 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 (System Recovery)” message is displayed on the screen.

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

Restoring using the restore media

1. If possible, 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.

   – or –

   Insert the recovery flash drive into a USB port on your computer, and then restart the computer.

NOTE: If the computer does not automatically restart in the HP Recovery Manager, the computer boot order needs to be changed.

3. Press f9 at system bootup.
4. Select the optical drive or the flash drive.
5. Follow the on-screen instructions.

Changing the computer boot order

To change the boot order for recovery discs:

1. Restart the computer.
2. Press esc while the computer is restarting, and then press f9 for boot options.
3. Select **USB CD/DVD ROM Drive** from the boot options window if an external CD/DVD ROM drive is connected to the computer.

To change the boot order for recovery flash drive:

1. Insert the flash drive into a USB port.
2. Restart the computer.
3. Press esc while the computer is restarting, and then press f9 for boot options.
4. Select the flash drive from the boot options window.

Backing up and recovering your information

It is very important to back up your files and keep any new software in a safe place. As you add new software and data files, continue to create backups on a regular basis.

How completely you are able to recover your system depends on how recent your backup is.

NOTE: A recovery from your most recent backup needs to be performed if the computer has a virus attack or if any major system components fail. In order to correct computer issues, a recovery should first be attempted before a system restore is attempted.

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

  TIP: 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 Windows system restore points on page 40.
- 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 re-enter your preferences.

To create a screen shot:

1. Display the screen you want to save.
2. Copy the screen image:

   To copy only the active window, press alt+prt sc.

   To copy the entire screen, press prt sc.
3. Open a word-processing document, and then select **Edit > Paste**. The screen image is added to the document.
4. Save and print the document.

Using Windows Backup and Restore

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 Windows 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 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.

7 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.

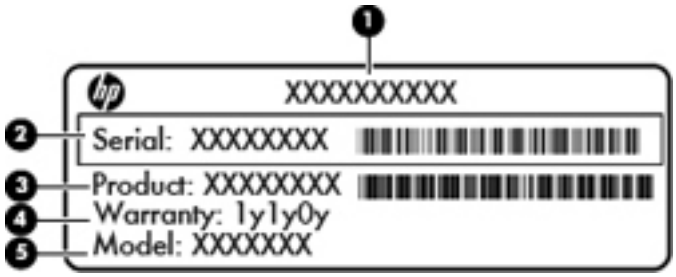
  NOTE: When technical support chat is not available in a particular language, it is available in English.

- 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:

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



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

  Have this information available when you contact technical support. The serial number label is located inside the battery bay.

- 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 inside the battery bay.
- Regulatory label—Provides regulatory information about the computer. The regulatory label is located in the battery bay or under the service door.
- 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. You may need this information when traveling internationally. If your computer model includes one or more wireless devices, one or more certification labels are included with your computer. Wireless certification labels are located under the service door.
- SIM (subscriber identity module) label (select models only)—Provides the ICCID (Integrated Circuit Card Identifier) of the SIM. This label is located under the service door.
- HP Mobile Broadband Module serial number label (select models only)—Provides the serial number of the HP Mobile Broadband Module. This label is located under the service door.

8 Specifications

Input power

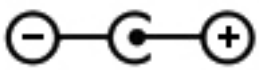
The power information in this section may be helpful if you plan to travel internationally with the computer.

The computer operates on DC power, which can be supplied by an AC or a DC power source. 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	19.5 V dc @ 2.05 A - 40W

DC plug of external HP power supply



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.

Operating environment

Factor	Metric	U.S.
Temperature		
Operating	**5°C to 35°C**	41°F to 95°F
Nonoperating	**-20°C to 60°C**	-4°F to 140°F
Relative humidity (noncondensing)		
Operating	**10% to 90%**	10% to 90%
Nonoperating	**5% to 95%**	5% to 95%
Maximum altitude (unpressurized)		
Operating	**-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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