

Notebook Essentials



For more information about HP products and services, see the HP Web site at <http://www.hp.com>.

© Copyright 2010 Hewlett-Packard Development Company, L.P.

Windows and Windows Vista are U.S. registered trademarks of Microsoft Corporation.

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.

Part number: 635677-001

User Guides

HP is committed to reducing the environmental impact of our products. As part of this effort, we provide user guides and learning centers on your computer hard drive in Help and Support. Additional support and updates to the user guides are available on the Web.

Windows Users



Looking for more user guides? They are on your computer. Click: **Start > Help and Support > User Guides**

Linux Users



Looking for more user guides? You can find them on the *User Guides* disc that came with your computer.

Subscription Services for Business Notebook



E-mail Alert

Keep this product up to date with the latest drivers, patches, and notifications. Sign up now at www.hp.com/go/alerts to receive e-mail alert notifications.

End User License Agreement (EULA)

BY INSTALLING, COPYING, DOWNLOADING, OR OTHERWISE USING ANY SOFTWARE PRODUCT PRE-INSTALLED ON THIS PC, YOU AGREE TO BE BOUND BY THE TERMS OF THE HP 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 PC, please contact your local point of sale (the seller).

Contacting Customer Support

If the information provided in your User Guide or Learning Center does not address your questions, you can contact HP Customer Support at:

www.hp.com/go/contactHP

Here you can:

- Chat online with an HP technician.



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.

Serial Number Label Information

The serial number label, located on the bottom of the computer, provides important information that you may need when contacting technical support.



①	Product name	④	Warranty period
②	Serial number	⑤	Model description (select models)
③	Product number		

Warranty Information

You may find the expressly provided HP Limited Warranty applicable to your product in the start menu on your PC and/or in the CD/DVD provided in the box. Some countries/regions may provide a printed HP Limited Warranty in the box. In countries/regions where the warranty is not provided in printed format, you may request a printed copy from 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

Please include your product number, warranty period (found on your serial number label), name and postal address.

Contents

Chapter 1: What's next?

Introducing HP QuickWeb (select models only)	1
Creating recovery discs	1
Connecting to the Internet	1
Updating your antivirus software	1
Getting to know the computer	1

Chapter 2: What's new?

TouchPad	3
Touchscreen (select models only)	7

Chapter 3: Using HP QuickWeb (select models only)

Setting up HP QuickWeb for the first time	12
Using HP QuickWeb	12
Starting Microsoft Windows	13
Turning HP QuickWeb on and off	13
Identifying the Quick Web control buttons	13
Identifying the LaunchBar icons	14
Identifying the notification icons	14
Using the Settings panel	16
Configuring the network	16
Playing music	16
Browsing photos	17
Creating instant messages with Chat	17
Making Internet phone calls with Skype	17

Chapter 4: Finding information

Locating the electronic manuals	19
Finding more information	20

Chapter 5: Keeping the computer safe

Protecting the computer from viruses	21
Protecting your system files	21
Protecting your privacy	21
Protecting the computer from power surges	22
Turning off the computer	22
Using the computer safely	22

Chapter 6: Networking

Choosing the type of Internet access	25
Choosing an ISP	25

Connecting to an existing wireless network	26
Setting up a wireless network	27
Connecting to a wired network	29

Chapter 7: Using software

Identifying installed software	31
Using HP TouchSmart software or HP MediaSmart software	31
Installing software from an optical disc	32
Creating (burning) a CD or DVD	32
Updating the software installed on the computer	33

Chapter 8: Backup and recovery

Creating recovery discs	35
Backing up your information	36
Performing a recovery	38

Chapter 9: Routine care

Cleaning the display	41
Cleaning the TouchPad and keyboard	41
Traveling and shipping	41

Appendix A: Troubleshooting

Troubleshooting resources	43
Quick troubleshooting	43

Appendix B: Specifications

Operating environment	47
Input power	47
Expansion port 3 input/output signals (select models only)	48

Chapter 1: What's next?

After setting up and registering the computer, it is important to follow the steps in this guide before using the computer. This guide includes practical information to help you protect and maintain the computer. First, read this chapter completely, because it explains what to do and where to find additional information. Then, read specific chapters for additional information.

For help in identifying specific components of the computer, see the user guide, which is located in Help and Support. To access Help and Support, select **Start > Help and Support > User Guides**.

Introducing HP QuickWeb (select models only)

After you set up the computer, activate HP QuickWeb. It provides immediate access to your music, digital photos, and the Web without launching the Windows® operating system. For more information, see Chapter 3, “Using HP QuickWeb (select models only).”

Creating recovery discs

After setting up the computer, one of the first and most important steps to take is to create a set of recovery discs of the full factory image. The recovery discs are essential in case of system instability or failure, when they are used to recover the operating system and software to factory settings. For instructions, see Chapter 8, “Backup and recovery.”

Connecting to the Internet

After creating the recovery discs, set up your wired or wireless network and connect to the Internet. For more information, see Chapter 6, “Networking.”

Updating your antivirus software

After connecting to the Internet, be sure to update your antivirus software. The software is preinstalled on the computer and includes a limited subscription for free updates. Antivirus software helps protect the computer from damage caused by viruses. For more information, see Chapter 5, “Keeping the computer safe.”

Getting to know the computer

After completing the preceding steps, familiarize yourself with the features of the computer and set up any additional components, such as optional external audio devices.

Be sure to review the user guide located in Help and Support on the computer. The user guide provides detailed information about using the computer. For instructions on accessing the user guide, see Chapter 4, “Finding information.”

The following list highlights the entertainment features of the computer and explains where to get additional information for each feature.

- **Multimedia software**—The computer comes with preinstalled multimedia software, including HP TouchSmart (select models only) or MediaSmart, which turns the computer into a mobile entertainment center. For details, see Chapter 7, “Using software.”
- **Audio**—The computer includes integrated speakers. For more information on using the integrated speakers and setting up optional external audio devices, see the user guide in Help and Support.
- **Video**—Connect an optional display device or an HDMI (High Definition Multimedia Interface) device to the computer. Use the optical drive to watch a high-definition movie (select models only). For more information about the video features, see the user guide in Help and Support.



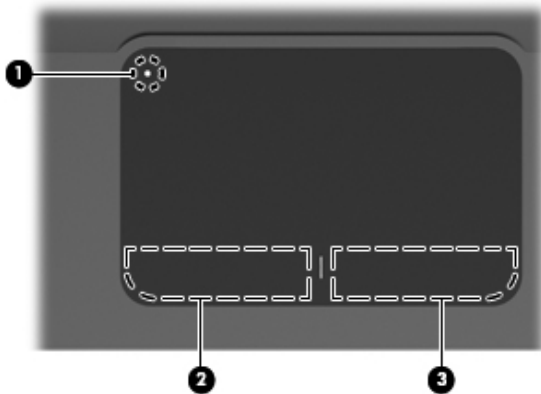
On select models, when watching movies, you must use TouchSmart (select models only) or MediaSmart software.


- **Webcam**—Adjustable camera with low-light image technology and built-in microphones that make the webcam a perfect companion to your instant messaging program. For more information on the webcam, see the user guide in Help and Support.

Chapter 2: What's new?

TouchPad

Identifying TouchPad components



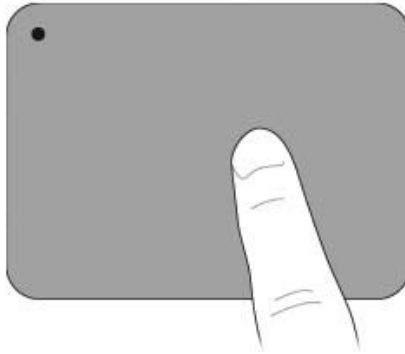
Component	Description
❶ TouchPad off indicator	Turns the TouchPad on and off. Press and hold the button for two seconds to turn the TouchPad on and off.  When the TouchPad zone is active, the light is off.
❷ Left TouchPad button	Functions like the left button on an external mouse.
❸ Right TouchPad button	Functions like the right button on an external mouse.

Turning the TouchPad on and off

The TouchPad is turned on at the factory. When the TouchPad zone is active, the light is off. To turn the TouchPad on and off, press and hold the TouchPad off indicator for two seconds.

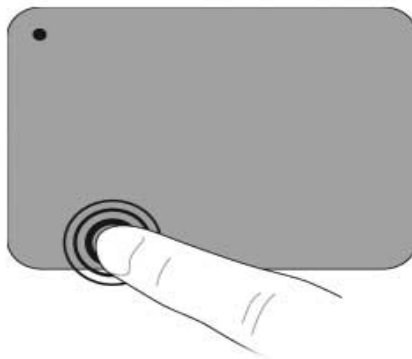
Navigating

To move the pointer, touch and slide one finger across the TouchPad surface 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

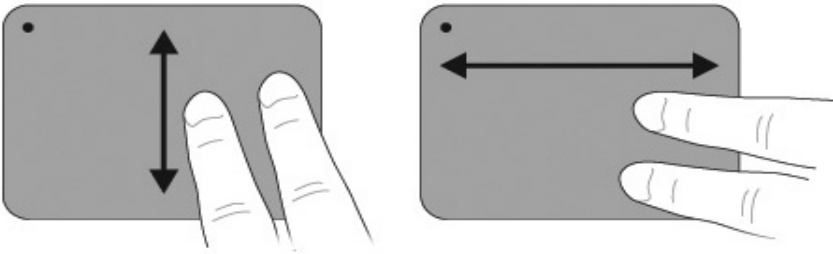
The TouchPad supports a variety of gestures that make it easy and fun to work with images or pages of text. To activate the TouchPad gestures, place two fingers on the TouchPad at the same time as described in the following sections.

 Scroll and pinch anywhere on the TouchPad surface. The rotate gesture must be done within the TouchPad zone.

Scrolling

Scrolling is useful for moving around 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.

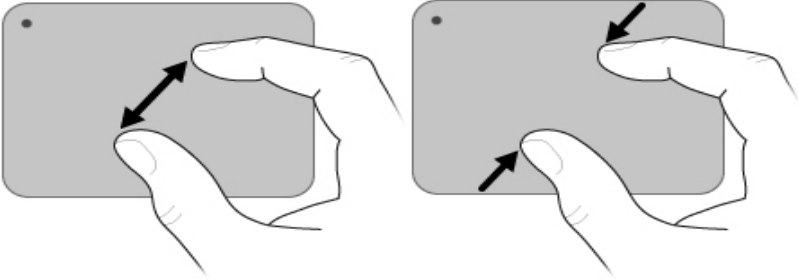
 Scrolling speed is controlled by finger speed.



Pinching/Zooming

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

- Zoom in by placing two fingers together on the TouchPad, and then moving them apart to gradually increase the object's size.
- Zoom out by placing two fingers apart on the TouchPad, and then moving them together to gradually decrease the object's size.



Setting TouchPad preferences

Scrolling and pinching are enabled at the factory. The computer also supports additional TouchPad gestures that are disabled at the factory.

To disable or reenable TouchPad gestures, or to explore other TouchPad gestures:

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



For additional information about using the TouchPad, see the user guide. To access this guide, select **Start > Help and Support > User Guides**.

Touchscreen (select models only)

Use your fingers to perform certain actions on the touchscreen.



The instructions in this section are based on the preferences set at the factory. To modify settings for recognized clicks and flicks, select **Start > Control Panel > Hardware and Sound > Pen and Touch**.



Some gestures are not supported in all programs.

Using touchscreen gestures

Tapping (or clicking)

Tap or double-tap an item on the screen as you would click or double-click with the TouchPad or an external mouse. Tap and hold an item to see the context menu as you would with the right TouchPad button.



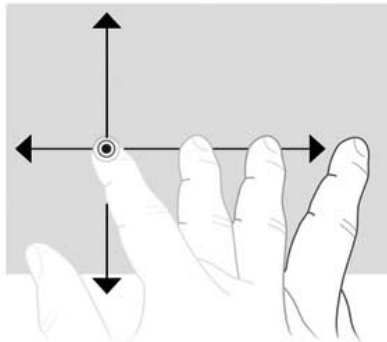
Tap and hold your finger until the operating system draws a circle around the area you are touching, and then the context menu appears.

Flicking

Touch the screen in a light, quick flicking motion up, down, left, or right to navigate through screens or quickly scroll through documents.

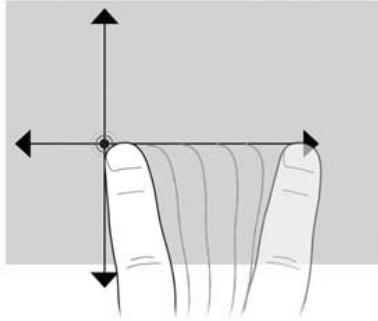


For the flick movement to work, a scrollbar must be present in the active window.




Dragging

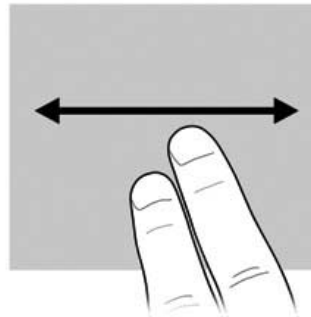
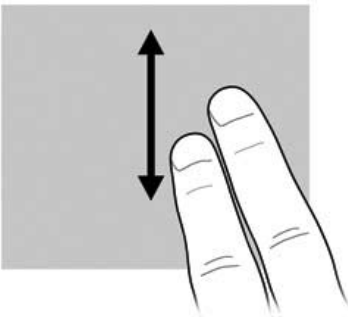
Press your finger on an item on the screen, and then move your finger to drag the item to a new location. Also use this motion to slowly scroll through documents.



Scrolling

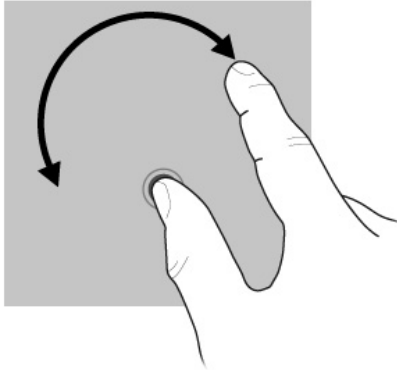
Scrolling is useful for moving up or down on a page or image. To scroll, place two fingers on the screen, and then drag them across the screen in an up, down, left, or right motion.

 Scrolling speed is controlled by finger speed.



Rotating

Rotating allows you to rotate items such as photos and pages. To rotate, anchor your thumb on the screen, and then move your forefinger in a semicircular motion around your thumb.

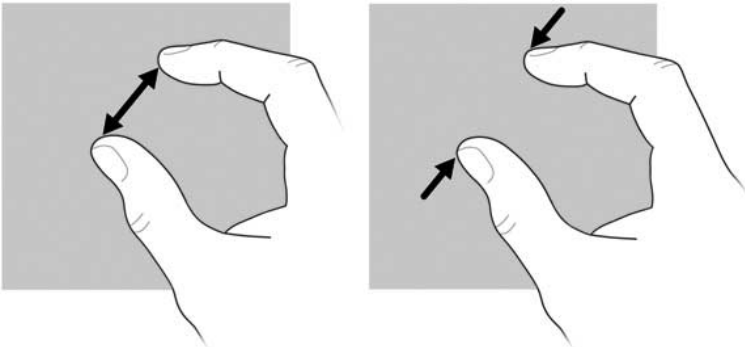


Pinching/Zooming

Pinching allows you to zoom in or out on items such as .pdf files, images, and photos.

To pinch:

- Zoom out by holding two fingers apart on the screen, and then pull the fingers together to decrease an object's size.
- Zoom in by holding two fingers together on the screen, and then pull the fingers apart to increase an object's size.



Setting touchscreen preferences

To set touchscreen preferences:

- For clicks, flicks, and visual feedback, select **Start > Control Panel > Hardware and Sound > Pen and Touch**. These preferences are specific to the touch screen and the computer.
- For left-handed or right-handed users, select **Start > Control Panel > Hardware and Sound > Tablet PC Settings > General** tab. These preferences are specific to the touch screen and the computer.
- For pointer speed, click speed, and mouse trails, select **Start > Control Panel > Hardware and Sound > Mouse**. These preferences apply to any pointing device in the system.

To change or test click settings:

1. Select **Start > Control Panel > Hardware and Sound > Pen and Touch > Pen Options** tab.
2. Under Pen Actions, select the action, and then click **Settings**.
3. Make changes or test the settings, and then click **OK**.

To change or create flick assignments:

1. Select **Start > Control Panel > Hardware and Sound > Pen and Touch > Flicks** tab.
2. Click **Navigational flicks and editing flicks**, and then click **Customize**.
3. Follow the on-screen instructions to change or create a flick assignment.
4. Click **OK**.


Chapter 3: Using HP QuickWeb (select models only)

HP QuickWeb is an optional, instant-on environment that is separate from your Windows operating system. QuickWeb allows you to rapidly access a Web browser, and other communication and multimedia programs without the need to start Windows. QuickWeb is ready to go within seconds of pressing the power button and includes the following features:


- Web browser—Search and browse the Internet, and create links to your favorite Web sites.
- Chat—Chat with friends on multiple instant messaging programs, such as Google Talk, Windows Live Messenger, Yahoo! Messenger, or other providers.
- Skype—Skype is a voice over Internet protocol (VoIP) that lets you communicate free of charge with other Skype users. Skype offers conference calling and video chat, as well as long-distance phone calls to land lines.
- Web e-mail—View and send e-mail using Yahoo, Gmail, and other Web e-mail providers.
- Web calendar—Display, edit, and organize your schedule using your favorite online calendar program.
- Music Player—Listen to your favorite music and create playlists.
- Photo Viewer—Browse through photos, create albums, and view slide shows.

Setting up HP QuickWeb for the first time

The first time you start your system after completing the Windows setup process, the QuickWeb setup screens appear. Follow the on-screen instructions to activate QuickWeb. Click an icon on the QuickWeb Home screen to launch a program.

 The QuickWeb Home screen might look slightly different from the illustration in this section.




 The following sections assume that you have completed the QuickWeb setup process and enabled QuickWeb. For more information, see the HP QuickWeb software Help.


Using HP QuickWeb

QuickWeb allows you to access a Web browser, and other communication and multimedia programs, within seconds, without starting Windows. To start QuickWeb when the computer is turned off:

1. Turn on the computer. The HP QuickWeb Home screen appears.
2. Click an icon on the QuickWeb Home screen to launch a program.

 If QuickWeb has been activated, it starts every time you turn on the computer and displays an automatic timer above the **Start Windows** icon. If you do not move the mouse or press a key for 15 seconds, the computer starts Microsoft® Windows. For more information on the QuickWeb timer and changing the timer settings, see the HP QuickWeb software Help.

Starting Microsoft Windows

 If QuickWeb has been activated, it starts every time you turn on the computer. For more information on the QuickWeb timer and changing the timer settings, see the HP QuickWeb software Help.

To start Microsoft Windows:

1. Turn on the computer. The HP QuickWeb Home screen appears.
2. Do not move the mouse and do not press a key for 15 seconds, and the computer starts Microsoft Windows or click the **Start Windows** icon, on the far left of the QuickWeb Home screen. A dialog box appears, asking if you are sure you want to start Windows. Click **Yes**.

 Clicking **Make Windows your default Power On experience** in this dialog box disables QuickWeb. To reenable QuickWeb, see the next section, “Turning HP QuickWeb on and off.”

Turning HP QuickWeb on and off




To disable or reenable QuickWeb from within the Windows operating system:

1. Click **Start > All Programs > HP QuickWeb > HP QuickWeb Configuration Tool**.
2. Click the **Status** tab, and then click the **Enable** or **Disable** check box.
3. Click **OK**.

The HP QuickWeb Configuration Tool can also be accessed by clicking **Start > Control Panel**, and then clicking the **View by** arrow. Select **Large icons** or **Small icons** to locate the HP QuickWeb Configuration Tool.








Identifying the Quick Web control buttons

The following table shows and describes the QuickWeb control buttons.

Icon	Description
	Launches the Windows operating system.
	Shuts the computer down.
	Returns to the Home screen (select models only).



Identifying the LaunchBar icons

The following table shows and describes HP QuickWeb icons.








Icon	Description
	Launches the Web browser. You can bookmark your favorite Web sites and view Web pages.
	Launches the Chat application. This is compatible with Google Talk, Windows Live Messenger, Yahoo! Messenger, and other providers.
	Launches Skype. This is a voice over Internet protocol (VoIP) that lets you communicate free of charge with other Skype users.
	Launches Web e-mail so you can view your Web-based e-mail programs such as Gmail, Yahoo, and other Web e-mail providers.
	Launches the Web calendar so you can schedule and manage your activities using your favorite online calendar program.
	Launches the Music Player. Select and play music stored on your hard drive or external drives. Supports .mp3, .aac (MPEG-4), and audio CD formats.
	Launches the Photo Viewer. Browse photos stored on the hard drive or external drive. Supports .jpg, .png, .gif, .tiff, and select .raw formats.

Identifying the notification icons

The following table identifies and describes the notification icons.

Icon	Description
	Indicates that a USB drive is present. If a USB drive is inserted, the File Manager window containing a USB icon opens. Click the USB icon to open the File Manager window. Right-click the USB icon to open a menu to safely eject the device.
	Indicates that the network is connected. Click the Network icon to open the Network dialog box.

(Continued)

Icon	Description
	Indicates that the network is disconnected. Click the Network icon to open the Network dialog box.
	Controls volume for speakers and the microphone. Click the Volume Control icon to open the Volume Control dialog box.
	Indicates that sound is muted. Click the icon to restore sound.
	Launches the Settings panel. Use the Settings panel to modify QuickWeb settings such as date and time.
	Indicates that the computer is connected to AC power. When the computer is connected to AC power, the icon is a battery with a power cord. This icon also controls power settings.
	Indicates the charge state of the battery and that the battery is not connected to AC power. When the computer is running on battery power, the icon is a battery. <ul style="list-style-type: none">■ When the computer is connected to AC power, the icon appears with an AC power cord.■ When the computer is running on battery power, the icon appears as only a battery. The state of charge is indicated by the color of the Battery icon: <ul style="list-style-type: none">■ Green—charged■ Yellow—low■ Red—critical low Click the Battery icon to display a menu for controlling power settings and to see information about battery capacity.
	Displays the QuickWeb software Help.

Using the Settings panel

1. After turning on the computer, click the **Settings** icon. The Settings panel selection box is displayed.
2. Click the icon that corresponds to the system setting you want to modify. Choose from any of the following:
 - Date and Time**
 - Input Language**
 - Language and Keyboard**
 - Network**
 - Environment Settings**
 - Screen Settings**
 - Volume Control**
 - Applications**



For more information on changing settings in the Settings panel, see the HP QuickWeb software Help.

Configuring the network

HP QuickWeb is configured to set up a wireless connection by using the HP QuickWeb Configuration Tool. To access the tool, click the **Settings** icon, click **Network**, and then select the **Enable Wi-Fi** check box. For more information on setting up a wireless connection using HP QuickWeb and Windows, see Chapter 6, “Networking,” and refer to the HP QuickWeb software Help.

Playing music

To play music:

1. Click the **Music** icon on the LaunchBar. Music Player is displayed.
2. On the left side of the Music Player window, navigate to the directory that contains your music files. The directory can be on either the hard drive or an external drive.
3. Click a music file you want to play from the list on the right side of the window.
4. When you are finished making your music selection, click the **Play** icon at the bottom right of the window.

Browsing photos

To view photos:

1. Click the **Photos** icon on the LaunchBar. Photo Viewer is displayed.
2. On the left side of the Photo Viewer window, navigate to the directory that contains your photos. The directory can be on either the hard drive or an external drive. The right side of the Photo Viewer window displays thumbnail views of all the photos in the selected directory.
3. Double-click the thumbnail of the photo you want to view.
The photo thumbnail views appear at the bottom right of the Photo Viewer window. A larger view of the selected photo appears above the thumbnails.
4. Navigate the thumbnail views by pressing the right arrow key or left arrow key, or by clicking the next thumbnail image you want to see enlarged.

Creating instant messages with Chat

Chat is an instant messaging program that is compatible with Google Talk, Windows Live Messenger, Yahoo! Messenger, and other providers.

To start an instant messaging session:

1. Click the **Chat** icon on the LaunchBar. The buddy list window and a configuration tool are displayed.
2. In the buddy list window, click **Help** to get information on configuring Chat for your instant messaging protocol and setting up your account. You can also configure Chat to work with an existing instant messaging account.

Making Internet phone calls with Skype

Skype is a voice over Internet protocol (VoIP) that lets you communicate free of charge with other Skype users. You can also make long-distance phone calls to land lines at lower costs than many long-distance carriers charge.

To start a conference call or video chat with Skype if you already have a Skype account set up:

1. Click the **Skype** icon on the LaunchBar. A Sign in to Skype window is displayed.
2. Type your Skype name and password, and then click **Sign in**.
3. Follow the on-screen instructions to begin your conference call or video chat.

To start a conference call or video chat with Skype if you do not have a Skype account set up:

1. Click the **Skype** icon on the LaunchBar. A Sign in to Skype window is displayed.
2. Click the **Don't have a Skype Name yet?** link.

3. Before you proceed, read the information provided by the links at the bottom of the Create Account window, to be sure that you understand the terms and possible charges you can incur from using Skype.

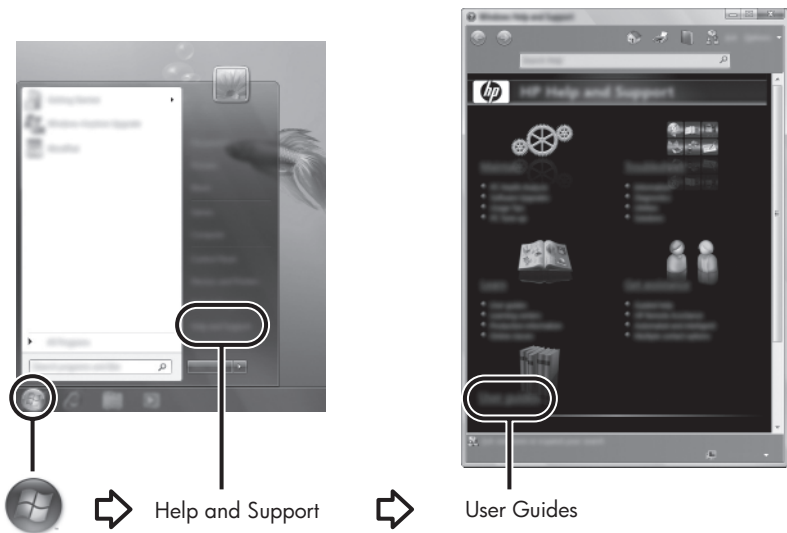


For more information on using Skype, see the software Help.

Chapter 4: Finding information

Locating the electronic manuals


For detailed information about the features and components of the computer, such as power management, drives, memory, security, and other features, select **Start > Help and Support > User Guides**. You do not need to connect to the Internet to access the user guides in Help and Support.



User guides for select models might also be provided on a *User Guides* disc.

Finding more information

In addition to the user guides, Help and Support also provides information about the operating system, drivers, troubleshooting tools, and accessing technical support. To access Help and Support, select **Start > Help and Support**. For country- or region-specific support, go to <http://www.hp.com/support>, select your country or region, and then follow the on-screen instructions.

 **WARNING:** To reduce the risk of serious injury, read the *Safety & Comfort Guide*. It describes proper workstation setup and proper posture, health, and work habits for computer users. The *Safety & Comfort Guide* also provides important electrical and mechanical safety information. To access this document, select **Start > Help and Support > User Guides**, or see the *User Guides* disc included with some models. The *Safety & Comfort Guide* is also available on the web at <http://www.hp.com/ergo>.

For more safety and regulatory information, and for battery disposal information, see the *Regulatory, Safety and Environmental Notices*. To access the notices, select **Start > Help and Support > User Guides**, or see the *User Guides* disc included with some models.

Chapter 5: Keeping the computer safe

Protecting the computer from viruses

When using the computer for e-mail or Internet access, the computer is exposed to viruses that can disable the operating system, programs, or utilities or cause them to function abnormally.

Antivirus software detects most viruses, destroys them, and in most cases, repairs damage they have caused. To provide ongoing protection against newly discovered viruses, keep antivirus software up-to-date.

Norton Internet Security is preinstalled on the computer.

- Your version of Norton Internet Security includes 60 days of free updates. HP recommends protecting the computer against new viruses beyond 60 days by purchasing extended update service.
- To access Norton Internet Security, or to get more information, select **Start > All Programs > Norton Internet Security**.

Protecting your system files

The operating system and the backup and recovery software provide several ways to back up the system and to recover optimal system functionality. For more information, see Chapter 8, “Backup and recovery.”

Protecting your privacy

When using the computer for e-mail, network, or Internet access, it is possible for unauthorized persons to obtain information about you or the computer.

To optimize the privacy protection features of the computer:

- Keep the operating system and software updated. Many software updates contain security enhancements.
- Use a firewall. Firewall software monitors incoming traffic on the computer to block messages that do not meet specific security criteria. Some firewalls also monitor outgoing traffic.

Protecting the computer from power surges

To protect the computer from the power surges that might be caused by an uncertain power supply or an electrical storm:


- Connect the computer power cord into an optional, high-quality surge protector. Surge protectors are available from most computer or electronics retailers.
- During an electrical storm, either run the computer on battery power or shut down the computer and disconnect the power cord.
- If applicable to your location, provide surge protection on the modem cable that connects the modem to a telephone line. Telephone line surge protectors are commonly available from computer or electronics retailers in many regions.

Turning off the computer


To shut down the computer:


1. Save your work, and then close all programs.
2. Select **Start > Shut down**.


Using the computer safely

 **WARNING:** To reduce the risk of electric shock or damage to your equipment, observe these practices:

- Connect the power cord into an AC outlet that is easily accessible at all times.
- Disconnect power from the computer by disconnecting the power cord from the AC outlet (not by disconnecting the power cord from the computer).
- If provided with a 3-pin attachment plug on the power cord, connect the cord into a grounded (earthed) 3-pin outlet. Do not disable the power cord grounding pin, for example, by attaching a 2-pin adapter. The grounding pin is an important safety feature.

 **WARNING:** To reduce the risk of serious injury, read the *Safety & Comfort Guide*. It describes proper workstation setup and proper posture, health, and work habits for computer users. The *Safety & Comfort Guide* also provides important electrical and mechanical safety information. To access this document, select **Start > Help and Support > User Guides**, or see the *User Guides* disc included with some models. The *Safety & Comfort Guide* is also available on the web at <http://www.hp.com/ergo>.

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

 **WARNING:** To reduce potential safety issues, use only the AC adapter or battery provided with the computer, a replacement AC adapter or battery provided by HP, or a compatible AC adapter or battery purchased as an accessory from HP.

For more safety and regulatory information, and for battery disposal information, see the *Regulatory, Safety and Environmental Notices*. To access the notices, select **Start > Help and Support > User Guides**, or see the *User Guides* disc included with some models.

Chapter 6: Networking



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

Choosing the type of Internet access

The computer supports 2 types of Internet access:

- **Wireless**—For mobile Internet access, use a wireless connection. To learn about adding the computer to an existing network or setting up a wireless network, see the “Connecting to an existing wireless network” section or the “Setting up a wireless network” section.
- **Wired**—Access the Internet by dialing in to a service provider using a modem cable (purchased separately) connected to the RJ-11 (modem) jack (select models only), or connect to a broadband network using the RJ-45 (network) jack.

The networking features of the computer enable you to access high-speed broadband Internet service providers with the following types of connections:

- Cable modem
- Digital Subscriber Line (DSL)
- Satellite
- Other services

Broadband access might require additional hardware or software provided by your Internet service provider (ISP).

Choosing an ISP

Set up Internet service before connecting to the Internet. The computer includes the following software features to help you set up a new Internet account or configure the computer to use an existing account:

- Internet Services & Offers (available in some locations)
- ISP-provided icons (available in some locations)
- Windows Connect to the Internet wizard (available in all locations)

Using Internet Services & Offers

If the Internet Services & Offers utility is supported in the country or region in which you purchased the computer, access the utility by selecting **Start > All Programs > Online Services > Get Online**.

The Internet Services & Offers utility assists with these tasks:

- Signing up for a new Internet account
- Configuring the computer to use an existing account

Using ISP-provided icons

If ISP-provided icons are supported in the country or region where you purchased the computer, the icons might 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 instructions on the screen.

Using the Windows Connect to the Internet wizard

Use the Windows Connect to the Internet wizard to connect to the Internet if you:

- Already have an account with an ISP.
- Have a disc from an ISP.
- Do not have an Internet account and would like to select an ISP from the list provided within the wizard. (The list of ISP providers is not available in all regions.)
- Selected an unlisted ISP and the ISP has provided you with such information as a specific IP address and POP3 and SMTP settings.

To access the Windows Connect to the Internet wizard and instructions for using the wizard, select **Start > Help and Support > Connect to the Internet wizard**.



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

Connecting to an existing wireless network

To connect the computer to an existing wireless network:

1. Click the network icon in the notification area, at the far right of the taskbar.
2. Select a network.
3. Click **Connect**.
4. If required, enter the security key.

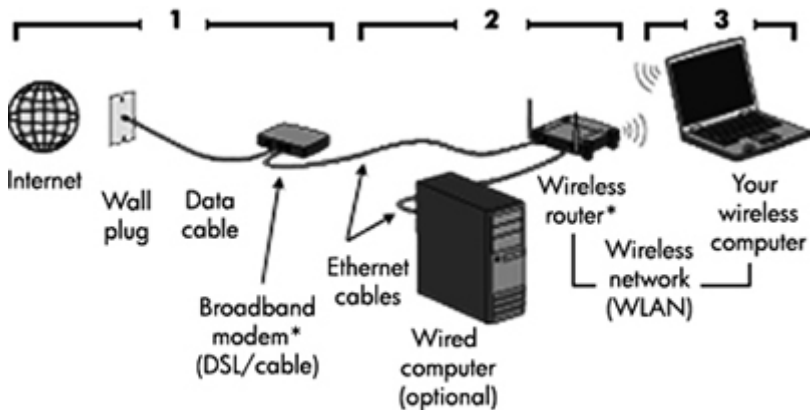
Setting up a wireless network

This section describes the steps necessary to set up a typical home or small office wireless network, which is also called a wireless local area network (WLAN), using a wireless computer.

To set up a wireless network and to connect to the Internet, you need the following equipment:

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

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



*Installation procedure varies based on manufacturer.


Step 1: Purchase high-speed Internet service

If you already have high-speed Internet service (DSL, cable, or satellite), begin with the “Step 2: Purchase and install a wireless router” section. If you do not have high-speed Internet service:


1. Contact a local ISP to purchase high-speed Internet service and a DSL or cable modem. The ISP helps set up the modem, install a network cable to connect the wireless computer to the modem, and test the Internet service.
2. The ISP gives you a User ID and password to access the Internet. Record this information and store it in a safe place.

Step 2: Purchase and install a wireless router

Read this section carefully before installing the wireless router using the router manufacturer's instructions and the wireless computer. If you need technical assistance during the router installation, contact the router manufacturer.

 HP recommends temporarily connecting the new wireless computer to the router by using the network cable provided with the router. This ensures that the computer can access the Internet.

1. Be sure that the wireless light on the computer is off. If the wireless light is illuminated, turn it off by pressing the wireless button. For help locating the wireless button or light, see the user guide in Help and Support.
2. During the router installation, the router manufacturer's software allows you to change the network name (SSID) and enable security to protect the privacy of your wireless network. Many routers are shipped with a default network name and with security disabled. If you change the default network name or enable security during the router setup, record the information and store it in a safe place. This information is necessary when configuring the computer and any other existing computers to access the router.

 If you do not enable security, an unauthorized wireless user can access the data on the computer and use your Internet connection without your knowledge. For more information on securing your wireless network, see the user guide in Help and Support.

The Windows operating system also provides tools to help you set up your wireless network for the first time. 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**, and then follow the on-screen instructions.

Step 3: Configure the computer to connect to the wireless network

1. If the wireless computer is off, turn it on.
2. If the wireless light is off, turn on the wireless function by pressing the wireless button. For help locating the wireless button or light, see the user guide in Help and Support.
3. Connect the computer to the wireless network:
 - a. Click the network icon in the notification area, at the far right of the taskbar.
 - b. Select a network.
 - c. Click **Connect**.
 - d. If required, enter the security key.
 - e. Test the wireless network by opening your Internet browser and accessing a website.

Connecting to a wired network

Connecting to a wired network requires an RJ-11 modem cable (not included with the computer) or an RJ-45 network cable (not included with the computer). If the cable contains noise suppression circuitry ❶, which prevents interference from TV and radio reception, orient the circuitry end of the cable ❷ toward the computer.



To connect the cable:

⚠ WARNING: To reduce the risk of electric shock, fire, or damage to the equipment, do not connect a modem or telephone cable into the RJ-45 (network) jack.

1. Connect the cable to the jack ❶ on the computer.
2. Connect the other end of the cable to a wall jack ❷.



Chapter 7: Using software

The computer includes preinstalled software. Some models also include additional software on an optical disc.

Use the software on the computer to perform these and many more tasks:

- Playing digital media, including audio and video CDs, audio and video DVDs, Blu-ray discs (BD)
- Listening to Internet radio
- Creating (burning) data CDs
- Burning and editing audio CDs
- Burning and editing video DVDs or video CDs

This chapter explains how to perform some of these tasks, and how to identify and update the software on the computer.

Identifying installed software

To see a list of the software that is preinstalled on the computer, select **Start > All Programs**.



Double-click the name of a program to open it.



For details about using software included with the computer, see the software manufacturer's instructions, which might be provided with the software, on disc, or on the manufacturer's website.



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

Using HP TouchSmart software or HP MediaSmart software

Depending on your computer model, the computer has preinstalled HP TouchSmart or HP MediaSmart software. TouchSmart and MediaSmart turn the computer into a mobile entertainment center. You can enjoy music and DVD and BD movies. You can also manage and edit your photo collections.

TouchSmart and MediaSmart include the following features:

- Internet TV—View a range of TV shows and channels, as well as the HP-TV channel streamed in full-screen mode to computers with an Internet connection.

- Photo and video upload support, for example:
 - Upload your MediaSmart photos to Internet photo storage sites, such as Snapfish.
 - Upload your home videos (for example, fun videos created with the integrated webcam) directly to YouTube.
- Pandora Internet radio (North America only)—Listen to music selected just for you, streamed from the Internet.


To start TouchSmart or MediaSmart, double-tap the **TouchSmart** icon or the **MediaSmart** icon on the taskbar.

For information about using MediaSmart, click **Start**, click **Help and Support**, and then type **MediaSmart** in the Search box.

Installing software from an optical disc

To install any software from an optical disc:

1. Insert the disc into the optical drive.
2. When the installation wizard appears, follow the on-screen instructions.
3. Restart the computer, if prompted.

 For information about using software included with the computer, see the software manufacturer's instructions. These instructions might be provided with the software, on disc, or on the manufacturer's website.

Creating (burning) a CD or DVD

If the computer includes an optical drive that supports CD-RW, DVD-RW, or DVD+RW discs, you can burn data, video, and audio files, including MP3 and WAV music files, using software such as Cyberlink Power2Go.

 You cannot create an audio DVD with Cyberlink Power2Go.

When burning a CD or DVD follow these tips:

- Before burning a disc, save and close any open files, and close all programs.
- A CD-RW or DVD-RW is generally best for burning data files or for testing audio or video recordings before burning them to a CD or DVD that cannot be changed.
- A CD-R or DVD-R is usually best for burning audio files because after the information is copied, it cannot be changed.
- Because some home and car stereos do not play CD-RWs, use CD-R to burn music CDs.
- DVD players used in home systems usually do not support all DVD formats. For a list of supported formats, see the manufacturer's instructions that came with your DVD player.

- An MP3 file uses less space than other music file formats, and the process for creating an MP3 disc is the same as the process for creating a data file. MP3 files are played only on MP3 players or on computers with MP3 software installed.

To burn a CD or DVD:

1. Download or copy the source files into a folder on your hard drive.
2. Insert a blank CD or DVD into the optical drive.
3. Select **Start > All Programs**, and then click the name of the program you want to use.
4. Select the kind of CD or DVD you want to create—data, audio, or video.
5. Right-click **Start**, click **Open Windows Explorer**, and then navigate to the folder where the source files are stored.
6. Open the folder, and then drag the files to the drive that contains the blank optical disc.
7. Initiate the burning process as directed by the program you have selected.



CAUTION: To prevent loss of information or damage to a disc:

- Before writing to a disc, connect the computer to a reliable external power source. Do not write to a disc while the computer is running on battery power.
 - Before writing to a disc, close all open programs except the disc software you are using. Do not copy directly from a source disc to a destination disc or from a network drive to a destination disc. Instead, copy from a source disc or network drive to your hard drive, and then copy from your hard drive to the destination disc.
 - Do not use the computer keyboard or move the computer while the computer is writing to a disc. The write process is sensitive to vibration.
-



CAUTION: Observe the copyright warning. It is a criminal offense, under applicable copyright laws, to make unauthorized copies of copyright-protected material, including computer programs, films, broadcasts, and sound recordings. Do not use this computer for such purposes.

Updating the software installed on the computer

Most software, including the operating system, is updated frequently by the manufacturer or provider. Important updates to the software included with the computer might have been released since the computer left the factory.

Some updates might affect the way the computer responds to optional software or external devices. Many updates provide security enhancements.

Update the operating system and other software installed on the computer as soon as the computer is connected to the Internet. To access links for updating installed software, see Help and Support.

Chapter 8: Backup and recovery

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


- Backing up your information
- Creating a set of recovery discs
- Creating system restore points
- Recovering a program or driver
- Performing a full system recovery

Creating recovery discs

HP recommends creating recovery discs to be sure that you can restore your system to its original factory state if you experience serious system failure or instability. Create these discs after setting up the computer for the first time.

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

Before creating recovery discs:


- Use high-quality DVD-R, DVD+R, or CD-R discs. All these discs are purchased separately. DVDs have a much larger storage capacity than CDs. If using CDs, up to 20 discs might be required, whereas only a few DVDs are required.
 -  Double-layer discs and read-write discs—such as CD-RW, and DVD±RW discs—are not compatible with the Recovery Manager software.
- The computer must be connected to AC power during this process.
- Only one set of recovery discs can be created per computer.
- Number each disc before inserting it into the computer optical drive.
- If necessary, you can exit the program before you have finished creating the recovery discs. The next time you open Recovery Manager, you are prompted to continue the disc creation process.

To create a set of recovery discs:

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

Backing up your information


As you add software and data files, back up your system on a regular basis to maintain a reasonably current backup. Back up your system at the following times:

- At a regularly scheduled times
 -  Set reminders to back up your information periodically.
- Before the computer is repaired or restored
- Before adding or modifying hardware or software

When backing up:

- Create system restore points using the Windows System Restore feature, and periodically copy them to disc.
- Store personal files in the Documents library and back up this folder periodically.
- Back up templates stored in their associated programs.
- Save the customized settings in a window, toolbar, or menu bar by taking a screen shot of the settings. The screen shot is a time-saver if you have to reset your preferences.


To copy the screen and paste the image into a word-processing document:

- a. Display the screen.
 - b. Copy the screen.
 - To copy only the active window, press **alt+fn+prt sc**.
 - To copy the entire screen, press **fn+prt sc**.
 - c. Open a word-processing document, select **Edit > Paste**.
 - d. Save the document.
- Back up your information to an optional external hard drive, a network drive, or discs.
 - When backing up to discs, use any of the following types of discs (purchased separately): CD-R, CD-RW, DVD+R, DVD-R, or DVD±RW. The discs used depend on the type of optical drive installed in the computer.
 -  DVDs 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.


Using Windows Backup and Restore

To create a backup using Windows Backup and Restore:

 Be sure that the computer is connected to AC power before starting the backup process.


 The backup process might 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 and create a backup.
-

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

Using system restore points

When backing up your system, you are creating a system restore point. 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 made to your system.


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

Create additional restore points to provide increased protection for your system files and settings.

When to create restore points

Create restore points:

- Before adding or extensively modifying software or hardware.
 - Periodically, whenever the system is performing optimally.
-

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

Create a system restore point

To 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. Under Protection Settings, select the disk for which you want to create a restore point.
5. Click **Create**.
6. 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:

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.

Performing a recovery



Recover only files that you have previously backed up. HP recommends using Recovery Manager to create a set of recovery discs (entire drive backup) as soon as you set up the computer.

Recovery Manager software allows you to repair or restore the system if you experience system failure or instability. Recovery Manager works from recovery discs that you create or from a dedicated recovery partition (select models only) on the hard drive. However, computers that include a solid-state drive (SSD) might not have a recovery partition. If that is the case, recovery discs are included with the computer. Use these discs to recover your operating system and software.



Windows has its own built-in repair features, such as System Restore. If you have not already tried these features, try them before using Recovery Manager. For more information on these built-in repair features, select **Start > Help and Support**.



Recovery Manager recovers only the software that was preinstalled at the factory. Software not provided with this computer must be downloaded from the manufacturer's website or reinstalled from the disc provided by the manufacturer.


Recovering using the recovery discs

To restore the system from the recovery discs:


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

Recovering using the partition on the hard drive (select models only)

Perform a recovery from the partition on the hard drive, accessed by pressing either the Start button or the **f11** key. This restores the computer to its factory condition.


 Computers with an SSD might not have a recovery partition. If the computer does not have a recovery partition, you cannot recover using this procedure. Recovery discs are included for computers that do not have a partition. Use these discs to recover your operating system and software.

To restore the system from the partition:

1. Access Recovery Manager in either of the following ways:
Select **Start > All Programs > Recovery Manager > Recovery Manager**.
– or –
 - a. Turn on or restart the computer, and then press the **esc** key when the Press the ESC key for Startup Menu message appears at the bottom of the screen.
 - b. Press the **f11** key when the Press <F11> for recovery message appears on the screen.
 It might take several minutes for Recovery Manager to load.
2. In the Recovery Manager window, click **System Recovery**.
3. Follow the on-screen instructions.

Chapter 9: Routine care


Cleaning the display

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

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

Cleaning the TouchPad and keyboard


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

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

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

Traveling and shipping

For best results when traveling and shipping:


- Prepare the computer by:
 1. Backing up your information.
 2. Removing all optical discs and all external media cards, such as digital cards and ExpressCards.
 -  To reduce the risk of damage to the computer, damage to a drive, or loss of information, remove the media from a drive before removing the drive from a drive bay, and before shipping, storing, or traveling with a drive.
 3. Shutting down and then disconnecting all external devices.
 4. Shutting down the computer.

- Taking along a backup of your information. Keep the backup separate from the computer.
- When traveling by air, carrying the computer as hand luggage, and do not check it in with the rest of your bags.
 - △ Avoid exposing a drive to magnetic fields. Security devices with magnetic fields include airport walk-through devices and security wands. The airport security devices that check carry-on luggage, such as conveyor belts, use X-rays instead of magnetism and do not damage a drive.
- In-flight computer use is at the discretion of the airline. If you plan to use the computer during a flight, check with the airline in advance.
- If the computer is unused and disconnected from external power for more than 2 weeks, remove the battery pack and store it separately.
- If shipping the computer or a drive, use suitable protective packaging and label the package “FRAGILE.”
- If the computer has a wireless device or a cell phone device installed, such as an 802.11b/g device, a Global System for Mobile Communications (GSM) device, or a General Packet Radio Service (GPRS) device, the use of these devices might be restricted in some environments. Such restrictions might apply onboard aircraft, in hospitals, near explosives, and in hazardous locations. If you are uncertain of the policy that applies to the use of a particular device, ask for authorization to use it before you turn it on.
- If you are traveling internationally:
 - Check the computer-related customs regulations for each country on your itinerary.
 - Check the power cord and adapter requirements for each location in which you plan to use the computer. Voltage, frequency, and plug configurations vary.
 - △ To reduce the risk of electric shock, fire, or damage to the equipment, do not attempt to power the computer with a voltage converter kit sold for appliances.

Appendix A: Troubleshooting

Troubleshooting resources


If you experience computer problems, perform these troubleshooting steps in the order provided until the problem is resolved:

- See “Quick troubleshooting.”
- Access website links and additional information about the computer through Help and Support. Select **Start > Help and Support**.
 -  Although many checkup and repair tools require an Internet connection, other tools, like Help and Support, help you fix a problem when the computer is offline.

Quick troubleshooting

The computer is unable to start up

If the computer does not turn on when you press the Power button:

- If the computer is connected an AC outlet, connect another electrical device into the outlet to be sure that the outlet is providing adequate power.
-
-  Use only the AC adapter provided with the computer or one approved by HP for this computer.
-
- If the computer is running on battery power or is connected to an external power source other than an AC outlet, connect the computer into an AC outlet using the AC adapter. Be sure that the power cord and AC adapter connections are secure.

The computer screen is blank

If the screen is blank, but the computer is on and the power light is illuminated, the computer might not be set to display the image on the computer screen. To transfer the image to the computer screen, press **fn+f4**.

Software is functioning abnormally

If the software is unresponsive or responds abnormally:

- Restart the computer by selecting **Start > Shut Down > Restart**.
If you cannot restart the computer using this procedure, see the next section, “The computer is on but is not responding.”
- Run a virus scan. For information about using the antivirus resources on the computer, see the “Protecting the computer from viruses” section in Chapter 5.

The computer is on but is not responding

If the computer is on but is not responding to software or keyboard commands, try the following emergency shutdown procedures, in the sequence provided, until shutdown occurs:



CAUTION: Emergency shutdown procedures result in the loss of unsaved information.

- Press and hold the Power button for at least five seconds.
- Disconnect the computer from external power, and then remove the battery.

The computer is unusually warm

It is normal for the computer to feel warm to the touch while it is in use. But if the computer feels *unusually* warm, it might be overheating because a vent is blocked.

If you suspect that the computer is overheating, allow the computer to cool to room temperature. Be sure to keep all vents free from obstructions while you are using the computer.



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



The fan in the computer starts automatically to cool internal components and prevent overheating. It is normal for the internal fan to cycle on and off during operation.

An external device is not working

Follow these suggestions if an external device does not function as expected:

- Turn on the device according to the manufacturer's instructions.
- All device connections are secure.
- The device is receiving electrical power.
- The device, especially if it is older, is compatible with the operating system.
- The correct drivers are installed and updated.

The wireless network connection is not working

If a wireless network connection is not working as expected:



If connecting to a corporate network, contact the IT administrator.

-
- Select **Start > Control Panel > Network and Internet > Network and Sharing Center > Troubleshoot problems**, and then follow the on-screen instructions.
 - Be sure that the wireless device is turned on and the wireless light on the computer is illuminated blue. If the light is illuminated amber, turn on the wireless device.
 - Be sure that the computer wireless antennas are free from obstructions.
 - Be sure that the cable or DSL modem and its power cord are properly connected and that the lights are illuminated.
 - Be sure that the wireless router or access point is properly connected to its power adapter and the cable or DSL modem, and that the lights are illuminated.
 - Disconnect and then reconnect all cables, and then turn the power off and then back on.



For more information on wireless technology, see the information and the website links in Help and Support.



For information on activating broadband wireless service, see the mobile network operator information included with the computer.

Appendix B: Specifications

Operating environment

The operating environment information in the following table might be helpful if you plan to use or transport the computer in extreme environments.

Factor	Metric	U.S.
Temperature		
Operating (writing to optical disc)	5°C to 35°C	41°F to 95°F
Nonoperating	-20°C to 60°C	-4°F to 140°F
Relative humidity (noncondensing)		
Operating	10% to 90%	10% to 90%
Nonoperating	5% to 95%	5% to 95%
Maximum altitude (unpressurized)		
Operating	-15 m to 3,048 m	-50 ft to 10,000 ft
Nonoperating	-15 m to 12,192 m	-50 ft to 40,000 ft


Input power


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

The computer operates on DC power, which is supplied by an AC or a DC power source. Although the computer can be powered from a standalone DC power source, it should be powered only with an AC adapter or a DC power source supplied and approved by HP for use with this computer.

The computer is capable of accepting DC power within the following specifications.

Input power	Rating
Operating voltage	18.5 V dc or 19.0 V dc
Operating current	3.5 A, 4.74 A, or 6.50 A

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

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

Expansion port 3 input/output signals (select models only)

The signal information in this section might be helpful if you plan to use an optional expansion product that connects to the expansion port 3 on the computer. (The computer has only one expansion port. The term *expansion port 3* describes the type of expansion port.)

The following table identifies the input and output signals supported by the expansion port 3 on the computer.

Feature	Support
USB 2.0	Yes
Gigabit Ethernet	Yes
IEEE 1394 (4-pin port)	No
Consumer infrared (for optional remote control only)	Yes
Power inputs	65 W to 90 W maximum
DVI	No
Headphone/speaker audio-out	Yes
Microphone audio-in	Yes
VGA	Yes
Power button	Yes
Volume control (up/down)	Yes
Mute/unmute status	Yes

Index

A

AC adapter 23
altitude specifications 47
antivirus software 21

B

blank screen, troubleshooting 43

C

cable, modem 25
Chat 17
cleaning the display 41
cleaning the keyboard 41
clicking, touch screen 7
computer viruses 21
computer, turning on 43
connect to a wired network 29
connect to an existing wireless network 26
connecting to the Internet 25, 26
creating a CD or DVD 32
customer support, user guides 20

D

devices, external, troubleshooting 45
dial-up Internet access 25
display, cleaning 41
documentation 20
dragging, touch screen 8

E

electric shock 22
environmental specifications 47
expansion port, specifications 48
external devices, troubleshooting 45

F

firewalls 21
flicking, touch screen 7

H

HP 11
HP QuickWeb 1
humidity specifications 47

I

identifying software 31
IEC 60950 compliance 22, 44
input power specifications 47
Internet
 choosing an ISP 25
 choosing type of access 25
 dial-up access 25
 wireless access 25
Internet Service Provider (ISP) 25
Internet Services & Offers 26

K

keyboard, cleaning 41

M

MediaSmart, using 31
Microsoft Windows, starting 13
modem
 connecting 25
 surge protection 22

N

Norton Internet Security 21
notification, identifying icons 14

O

operating environment specifications 47
overheating, computer 44

P

pinching
 touch screen 9
 TouchPad 6
posture 22
power cord 22
power specifications 47
power surges 22
power, turning on computer 43
privacy, protecting 21

Q

QuickWeb
 browsing photos 17

- configuring the network 16
- disabling or enabling 13
- identifying 13
- playing music 16
- setting up 12
- using 12
- QuickWeb icons, identifying 14
- QuickWeb, Settings Panel 16
- R**
- recovery discs 35
- recovery, system 35
- regulatory information notices 20, 22, 23
- Regulatory, Safety and Environmental Notices* 20, 22
- restore points 37
- rotating
 - touch screen 9
- S**
- safe computing practices 22
- Safety & Comfort Guide* 22
- scrolling
 - touch screen 8
 - TouchPad 5
- shipping the computer 41
- Skype 17
- software
 - antivirus 21
 - identifying 31
 - safeguarding information 35
 - troubleshooting 44
 - updating 33
- specifications
 - altitude 47
 - expansion port 48
 - humidity 47
 - input power 47
 - operating environment 47
 - temperature 47
- startup problems, troubleshooting 43
- surge protection 22
- system recovery 35
- system restore points 37
- T**
- tapping, touch screen 7
- temperature
 - safety considerations 22, 44
 - specifications 47
 - troubleshooting 44
- touch screen
 - dragging 8
 - flicking 7
 - pinching 9
 - rotating 9
 - scrolling 8
 - setting preferences 10
 - tapping 7
 - using 7
 - zooming 9
- TouchPad
 - identifying 3
 - navigating 4
 - selecting 4
 - turning on and off 4
- TouchPad buttons, identifying 3
- TouchPad gestures
 - pinching 6
 - scrolling 5
 - using 5
- TouchPad off indicator, identifying 3
- TouchPad, cleaning 41
- traveling with the computer 41, 47
- troubleshooting 43
 - blank screen 43
 - display problems 43
 - external device problems 45
 - overheating problems 44
 - resources 43
 - software problems 44
 - startup problems 43
 - unresponsive computer 44
 - virus problems 44
 - wireless network problems 45
- U**
- unresponsive computer, troubleshooting 44
- user guides 20
- V**
- vents, precautions 22, 44

viruses 21

W

Windows Connect to the Internet wizard
26

wired network connection 29

wireless Internet access 25

wireless network connection 26

wireless network problems,
troubleshooting 45

work habits 22

workstation setup 22

Z

zooming

touch screen 9

TouchPad 6