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Chapter 1: Getting started

After you set up and register your computer, there are important next steps to take before you begin using your computer. First read this chapter completely, because it explains what to do and where to find additional information. For example, this guide provides specific instructions for connecting to wired and wireless networks. You will also find practical information to help you protect, maintain, and back up the computer. Then, read the specific chapters for additional information.


For help in identifying specific components of the computer, refer to the user guide. Click **Start**, click **Help and Support**, and then click **User Guides**, or refer to the *User Guides* disc included with some models.

Introducing HP QuickWeb (select models only)

After you set up your computer, you can activate HP QuickWeb. QuickWeb provides immediate access to your music, digital photos, and the Web without waiting for the Windows® operating system to start. Refer to Chapter 3, “Using HP QuickWeb (select models only),” for additional information.


TouchPad


To move the pointer, slide your finger across the TouchPad surface in the direction you want the pointer to go. Use the TouchPad’s lower left and right buttons like the corresponding buttons on an external mouse. The TouchPad supports a variety of TouchPad gestures.

 TouchPad gestures are not available from within HP QuickWeb. For additional information about using the TouchPad and TouchPad gestures, refer to Chapter 2, “TouchPad,” for more information.

Sharing optical drives

Although your computer does not have an integrated optical drive, you can easily access software, install programs, and access information by sharing an optical drive connected to another computer in your network. Drive sharing is a feature of the Windows® operating system that allows a drive on one computer to be accessible to other computers on the same network.

 You must have a network set up in order to share an optical drive. Refer to Help and Support for information on setting up a network.

 Some discs, such as DVD movies and game discs, may be copy-protected and therefore unusable through DVD or CD sharing.

To share an optical drive:

1. From the computer with the optical drive you want to share, click **Start**, and then click **My Computer**.
2. Right-click the optical drive you want to share, and then click **Properties**.
3. Click the **Sharing** tab, and then click **Share this folder**.
4. Type a name for the optical drive in the **Share name** text box.
5. Click **Apply**, and then click **OK**.
6. To view the shared optical drive on your computer, click **Start**, click **Control Panel**, click **Network and Internet**, and then click **Network Connections**.

Connecting to the Internet

After you set up your computer, you can connect to a wireless or wired network so that you can connect to the Internet and send and receive e-mail. Refer to Chapter 4, “Connecting to the Internet,” for more information.

Protecting your computer from viruses

After you have connected to the Internet, manage your computer’s defenses with Norton Internet Security. HP also recommends that you always update the antivirus software. Antivirus software helps protect your computer from damage caused by viruses. Refer to Chapter 6, “Keeping your computer safe,” for more information.

Locating the electronic manuals

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



The desktop of your computer may look slightly different from the illustration in this section.



Finding more information

In addition to the user guide, Help and Support also provides information about the operating system, drivers, troubleshooting tools, and technical support. To access Help and Support, click **Start**, and then click **Help and Support**. For country- or region-specific support, go to <http://www.hp.com/support>, select your country or region, and 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 for HP computers. To access this document, click **Start**, click **Help and Support**, and then click **User Guides**, or refer to 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, refer to the *Regulatory, Safety and Environmental Notices*. To access the notices, click **Start**, click **Help and Support**, and then click **User Guides**, or refer to the *User Guides* disc included with some models.

Turning off the computer


To turn off the computer:

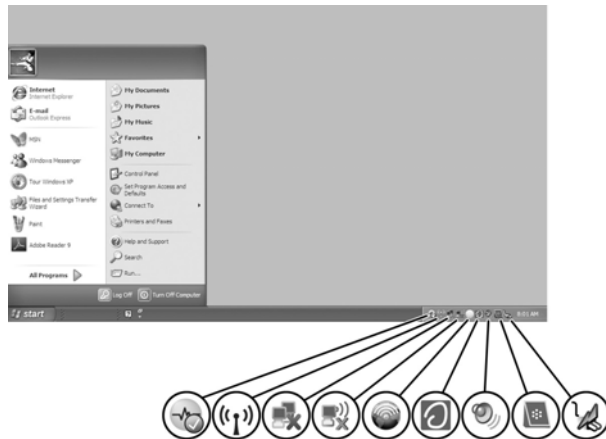
1. Save your work and close all programs.
2. Click **Start**, click **Turn Off Computer**, and then click **Turn Off**.






Chapter 2: Windows desktop

Identifying the Windows desktop features






The Windows desktop is where you start when you turn on your computer. It includes the notification area at the far right of the taskbar, icon shortcuts that are used to start programs, and the Start menu.

 The desktop of your computer may look slightly different from the illustration in this section.



Icon	Name	Description
	Norton Internet Security	Displays the status of Norton Internet Security antivirus software.
	HP Wireless Assistant (select models only)	Displays the status of your wireless device.
	Network status	Displays the status of your network connection.
	Wireless network status	Displays the status of your wireless network connection and opens the Wireless Network Connection window.
	HP Connection Manager (select models only)	Displays the status of HP Connection Manager and opens the HP Connection Manager window.


(Continued)

Icon	Name	Description
	Synaptics Pointing Devices	Opens the Mouse Properties window.
	Volume control	Opens the Volume Control window.
	QuickSync	Synchronizes and migrates e-mail, contacts, calendars, files, folders, and browser bookmarks to your mobile storage devices.
	Intel® Graphics Media Accelerator Driver for Mobile	Opens the Intel Graphics window.
	Power Meter	Displays the current power status and opens the Power Meter window.

Identifying the software on the computer

To see a list of the software preinstalled on the computer, follow these steps:

» Click **Start**, and then click **All Programs**. Click the name of a program to open it.

 For details about using software included with the computer, refer to the software manufacturer's instructions, which may be provided with the software or on the manufacturer's Web site.

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 may have been released since the computer left the factory.

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

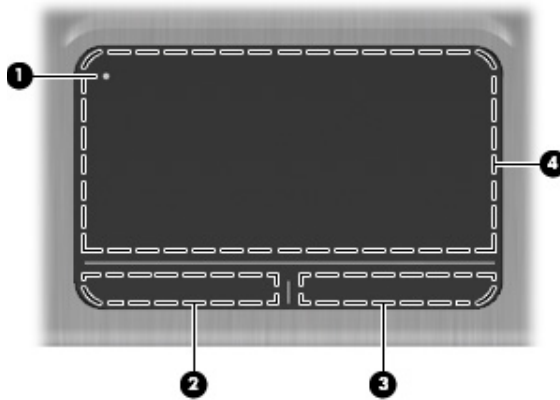
Update the operating system and other software installed on the computer as soon as the computer is connected to the Internet. To access links for updating installed software, refer to Help and Support.

Installing software from the Internet

To install software from the Internet, go to the software manufacturer's Web site and follow the instructions.

 **CAUTION:** Software downloaded from the Internet may contain viruses. Refer to Chapter 6, "Keeping your computer safe," for more information.

TouchPad

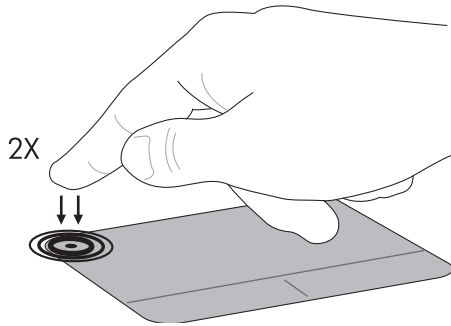


Component	Description
❶ TouchPad off indicator	To turn the TouchPad on and off, quickly double-tap the TouchPad off indicator. ✎ When the light is off, the TouchPad is enabled. When the light is on (amber), the TouchPad is disabled.
❷ Left TouchPad button	Functions like the left button on an external mouse.
❸ Right TouchPad button	Functions like the right button on an external mouse.
❹ TouchPad zone	Moves the pointer and selects or activates items on the screen.

Turning the TouchPad on and off

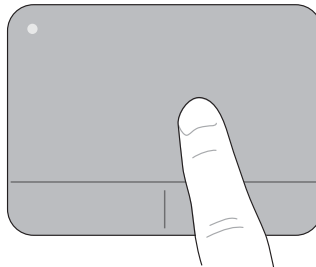
The TouchPad is turned on at the factory. When the TouchPad is on, the light is off. When the TouchPad is off, the light is on (amber).

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



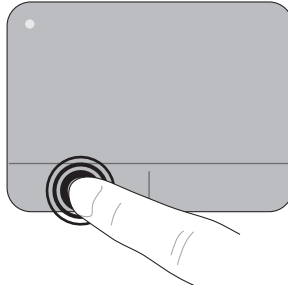
Navigating

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




Clicking

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




Using TouchPad gestures

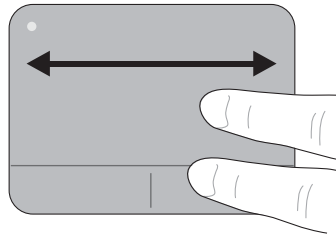
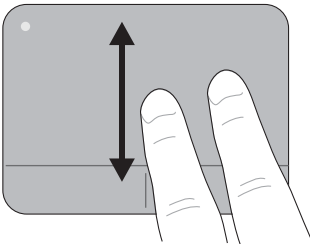
The TouchPad supports a variety of gestures that make it easy and fun to work with images or pages of text. To activate the TouchPad gestures, place two fingers on the TouchPad at the same time as described in the following sections.

 You can scroll and pinch anywhere on the TouchPad surface.

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.

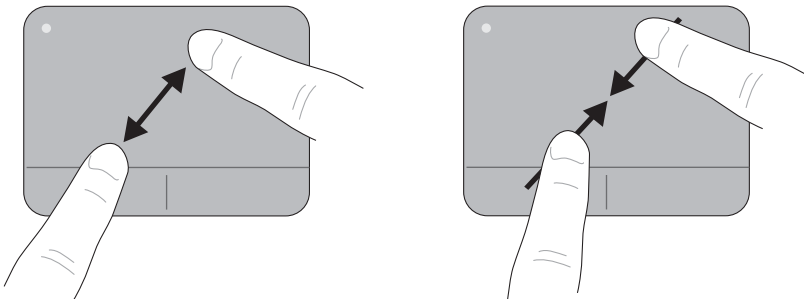
 Scrolling speed is controlled by finger speed.



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. Your computer also supports additional TouchPad gestures that are disabled at the factory.

To disable or enable 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 enable.
4. Click **Apply**, and then click **OK**.

 For additional information about using the TouchPad, refer to the user guide. To access this guide, click **Start**, click **Help and Support**, and then click **User Guides**, or refer to the *User Guides* disc included with some models.


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 sliding the power switch 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, and other providers.
- Skype (select models only)—Skype is a voice over Internet protocol (VoIP) that lets you communicate free of charge with other Skype users. With Skype, you can have a conference call or a video chat with one or more people at a time. You can also make 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 turn on your computer after completing the Windows setup process, the QuickWeb setup screens appear. Follow the on-screen instructions to activate QuickWeb. At the end of the setup process, you are given the choice to start Windows or to continue to QuickWeb for the current session. If you select the option to start QuickWeb, the QuickWeb Home screen appears. Click an icon on the QuickWeb Home screen to launch a program.

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




 The following section assumes that you have completed the QuickWeb setup process and enabled QuickWeb. For more information, refer to the HP QuickWeb software Help.

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

Starting Microsoft Windows

 If QuickWeb is activated, it starts every time you turn on your computer. To start Microsoft® Windows, you must click the **Windows Start** icon in the QuickWeb Home screen.




To start Microsoft Windows:

1. Turn on your computer. The HP QuickWeb Home screen appears.
2. Click the **Windows Start** icon at the far left of the QuickWeb Home screen.
3. 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 enable QuickWeb, refer to the section “Disabling and enabling QuickWeb,” later in this chapter.








Identifying the QuickWeb 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.










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 (select models only). 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, Hotmail, 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 Music Player. Select and play music stored on your hard drive or external drives. Supports .mp3 files.
	Launches Photo Viewer. Browse photos stored on your hard drive or external drive. Supports .bmp, .gif, .jpg, and .png file types.

Identifying the notification icons

The following table shows 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 appears. 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.
	Indicates that the network is disconnected.
	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 computer is not connected to AC power. When the computer is running on battery power, the icon is a battery. The state of charge is indicated by the color of the 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, refer to the HP QuickWeb software Help.

Configuring the network

QuickWeb can be configured to set up a wireless connection by using the HP QuickWeb Configuration Tool. To access this 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, refer to Chapter 4, “Connecting to the Internet,” and 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 your 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 your 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, 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 (select models only)

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, refer to the software Help.

Disabling and enabling HP QuickWeb


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

1. Click **Start**, click **All Programs**, and then click **HP QuickWeb**. The **HP QuickWeb Installer** folder is displayed. Click **HP QuickWeb Configuration Tool**.
2. Select the **Enable QuickWeb** check box.
3. Click **OK**.



The HP QuickWeb Configuration Tool can also be accessed by clicking **Start**, clicking **Control Panel**, and then clicking **Switch to Classic View**.

Chapter 4: Connecting to the Internet

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

Choosing the type of Internet access

The computer supports the following types of Internet access:

- **Wired**—You can access the Internet by connecting to a broadband network using the RJ-45 (network) jack. To learn how to connect to a wired network, refer to the “Connecting to a wired network” section.
- **Wireless**—For mobile Internet access, you can use a wireless connection, such as a WLAN, WWAN, or Bluetooth®. To learn about these connections, and about adding the computer to an existing network or setting up a wireless network, refer to the “Connecting to an existing wireless network” section or the “Setting up a new wireless network” section.



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 may require additional hardware or software provided by your Internet service provider (ISP).

Using an ISP

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


- **Choosing an ISP:** You must set up Internet service before you can connect to the Internet. Contact a local ISP to purchase Internet service and a modem. The ISP will help set up the modem, install a network cable to connect your wireless computer to the modem, and test the Internet service.
 -  Your ISP will give you a user ID and password to access the Internet. Record this information and store it in a safe place.
- **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, click **Start**, click **All Programs**, click **Online Services**, and then click **Get Online**.
 -  This utility is not available from within HP QuickWeb.


- **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.

 These icons are not available from within QuickWeb.

- **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 have a disc from 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, click **Start**, click **Help and Support**, and then search for **Connect to the Internet wizard**.

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


 The Windows Connect to the Internet Wizard is not available from within HP QuickWeb.

Connecting to a wired network

Connecting to a wired network requires a network cable (purchased separately). 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 plug a modem or telephone cable into the RJ-45 (network) jack.

1. Connect the network cable to the RJ-45 (network) jack ❶ on the computer.
2. Connect the other end of the network cable to a network wall jack ❷.



Connecting to an existing wireless network

To connect the computer to an existing wireless network in Windows, follow these steps:

1. Click **Start**, click **Connect To**, and then click **Wireless Network Connection**.
2. Select the network to which you want to connect.
3. Click **Connect**.
4. If required, enter the security key.

To connect the computer to an existing wireless network in HP QuickWeb, follow these steps:

1. Click the **Network** icon in the notification area.
2. Select the **Enable Wi-Fi** check box, if Wi-Fi is not enabled. Select the network to which you want to connect.
3. Click **Connect**.
4. If required, enter the password.

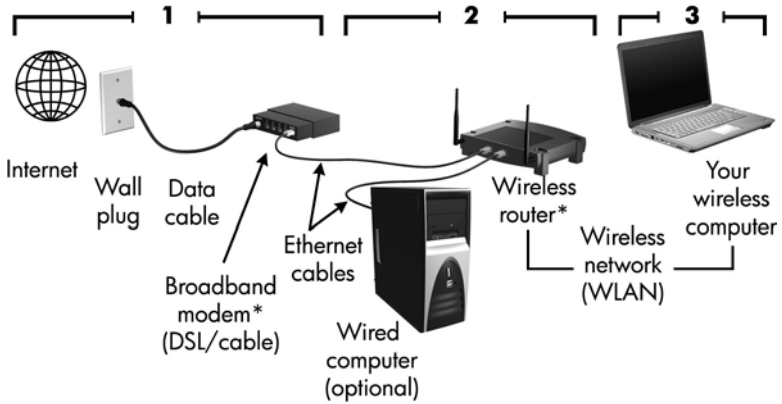
Setting up a new wireless network

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

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)
- Your new wireless computer


The following 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 and install a wireless router


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

 It is recommended that you temporarily connect your new wireless computer to the router by using the network cable provided with the router. This will ensure that the computer can access the Internet.

 If HP QuickWeb has been activated, it starts every time you turn on your computer. To start Microsoft Windows, you must click the **Windows Start** icon in the QuickWeb Home screen. The following section assumes that QuickWeb is enabled. To disable QuickWeb, refer to Chapter 3, “Using HP QuickWeb (select models only).”

1. If the computer is off, turn it on. The HP QuickWeb Home screen appears. Start the Windows operating system either by waiting until the automatic timer above the **Start Windows** icon counts to zero, or by clicking the **Start Windows** icon on the far left of the QuickWeb Home screen.
 -  For more information on the QuickWeb timer and changing the timer settings, refer to the HP QuickWeb software Help.
2. Be sure that the wireless light on the computer is off. If the wireless device is on (white), press the wireless action key (**f12**) to turn it off. For help locating the wireless light, refer to the *Mini User Guide* in Help and Support, or refer to the *User Guides* disc included with some models.
3. 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. You will need this information when you configure the computer and any other existing computers to access the router.


-  If you do not enable security, an unauthorized wireless user can access the information on the computer and use your Internet connection without your knowledge. For more information on securing your wireless network, refer to the *Mini User Guide* in Help and Support, or refer to the *User Guides* disc included with some models.

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, click **Start**, click **Control Panel**, click **Network and Internet Connections**, click **Network Connections**, and then click **Create a new connection**. Click **Wireless networks in range** to view the available wireless connections.


Step 2: Configure the computer to connect to the wireless network

To connect the computer to an existing wireless network in Windows, follow these steps:

-
-  If QuickWeb is enabled, it starts every time you turn on your computer. To start Microsoft Windows, you must click the **Windows Start** icon in the QuickWeb Home screen. The following section assumes that QuickWeb is enabled. To disable QuickWeb, refer to Chapter 3, “Using HP QuickWeb (select models only).”
-

1. If the computer is off, turn it on. The HP QuickWeb Home screen appears. Start Windows either by waiting until the automatic timer above the **Start Windows** icon counts to zero, or by clicking the **Windows Start** icon on the far left of the QuickWeb Home screen.
 -  For more information on the QuickWeb timer and changing the timer settings, refer to the HP QuickWeb software Help.
2. Be sure that the wireless light on your computer is on (white). If the wireless light is off, press the wireless action key (**f12**) to turn the wireless device on. For help locating the wireless light, refer to the *Mini User Guide* in Help and Support, or refer to the *User Guides* disc included with some models.
3. Connect the computer to the wireless network:
 - a. Click **Start**, click **Connect To**, and then click **Wireless Network Connection**.
 - b. Select the network to which you want to connect.
 - c. Click **Connect**.
 - d. If required, enter the security key.
4. Test the wireless network by opening your Web browser and accessing a Web site.


To connect the computer to an existing wireless network in HP QuickWeb, follow these steps:

1. If the computer is off, turn it on. HP QuickWeb starts if it is enabled.
 -  For more information on enabling QuickWeb, refer to Chapter 3, “Using HP QuickWeb (select models only).”

2. Click the **Network** icon in the notification area.
3. Select the **Enable Wi-Fi** check box, if Wi-Fi is not enabled. Select the network to which you want to connect.
4. Click **Connect**.
5. If required, enter the password.
6. Test the wireless network by opening your Web browser and accessing a Web site.

Connecting to a WWAN (select models only)

A WWAN is a wireless technology that provides access to information wherever mobile network operator service is available. In a WWAN, each mobile device communicates to a mobile network operator's base station. Mobile network operators install networks of base stations (similar to cell phone towers) throughout large geographic areas, effectively providing coverage across entire states, regions, or even countries.

 WWAN service must be configured in Windows before it can be accessed in HP QuickWeb.

To activate WWAN service in Windows, follow these steps:

1. Click **Start**, click **All Programs**, click **HP**, and then click **HP Connection Manager**.
2. Select your WWAN provider and follow the onscreen instructions.

To enable WWAN service in HP QuickWeb, after WWAN service has been successfully activated in Windows, follow these steps:

1. Click the **Network** icon in the notification area.
2. Click the **WWAN (3G)** pane on the left side of the Network configuration dialog box.
3. Click **Connect**.

 For more information, refer to the Connection Manager software help or to your WWAN provider's software Help.

Bluetooth connections (select models only)

The Bluetooth module in your computer is a device that creates a personal area network (PAN) to connect to other Bluetooth-enabled devices such as computers, phones, printers, headsets, speakers, and cameras. In a PAN, each device communicates directly with other devices, and devices must be relatively close together—typically within **10 meters** (approximately 33 feet) of each other.

A Bluetooth device provides short-range wireless communications that replace the physical cable connections that traditionally link electronic devices such as the following:

- Computers (desktop, notebook, PDA)
- Phones (cellular, cordless, smart phone)
- Imaging devices (printer, camera)
- Audio devices (headset, speakers)

Bluetooth devices provide peer-to-peer capability that allows you to set up a personal area network (PAN) of Bluetooth devices. For information on configuring and using Bluetooth devices, refer to the Bluetooth software Help.

Bluetooth and Internet Connection Sharing (ICS)

HP does not recommend setting up one computer with Bluetooth as a host and using it as a gateway through which other computers may connect to the Internet. When two or more computers are connected using Bluetooth, and Internet Connection Sharing (ICS) is enabled on one of the computers, the other computers may not be able to connect to the Internet using the Bluetooth network. The strength of Bluetooth is in synchronizing information transfers between your computer and wireless devices including cellular phones, printers, cameras, and PDAs. The inability to consistently connect two or more computers to share the Internet through Bluetooth is a limitation of Bluetooth and the Windows operating system.



Bluetooth technology is not supported in HP QuickWeb. Your Windows operating system supports Bluetooth. For more information, refer to the *Mini User Guide* in Help and Support in Windows, or refer to the *User Guides* disc included with some models.

Chapter 5: Backup and recovery

To protect your information, back up your files and folders. In case of system failure, you can use the backup files to restore your computer.



CAUTION: In the event of a hard drive failure, you cannot use your computer to access the Disaster Recovery utility. Therefore, HP recommends that you download the Disaster Recovery utility SoftPak, and then extract it to a USB flash drive as soon as possible after software setup. For details, refer to “Downloading and extracting the Disaster Recovery utility” later in this chapter. For detailed information, perform a search for this topic in Help and Support.

Note the following guidelines when backing up your information:

- Store personal files in the My Documents folder and back up this folder regularly.
- Back up templates stored in their associated programs.
- Save customized settings in a window, toolbar, or menu bar by taking a screen shot of your settings. The screen shot can be a time-saver if you have to reset your preferences.

To copy the screen and paste it into a word-processing document, follow these steps:

- a. Display the screen.
- b. Copy the screen:
 - To copy the active window, press **alt+fn+prt sc**.
 - To copy the entire screen, press **fn+prt sc**.
- c. Open a word-processing document, click **Edit**, and then click **Paste**.
- d. Save the document.

Depending on your computer model, you may have one or more of the following backup and recovery solutions:

- Roxio BackOnTrack
- HP Recovery Manager
- Windows Backup and Restore



For detailed information, perform a search for these topics in Help and Support.


Using Roxio BackOnTrack

Successful recovery after a system failure depends on whether you have completely backed up your files. If Roxio BackOnTrack is preinstalled on your computer, BackOnTrack allows you to create a backup of your computer image. You should create the initial backup immediately after software setup. As you add new software and data files, you should continue to back up your system on a regular basis to maintain a reasonably current backup.


Creating a copy of the hard drive

The *back up drive* function of BackOnTrack creates a Disaster Recovery Set that is an exact image of your hard drive data. You can back up the image to an external hard drive (purchased separately).


To create a Disaster Recovery Set using BackOnTrack, follow these steps:

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

1. Click **Start**, click **All Programs**, and then click **Roxio**.
2. Click **BackOnTrack**, click **BackOnTrack Home**, and then click **Disaster Recovery**.
3. Click **Backup drive**.
4. Select a drive to back up.
5. Add a comment to describe the backup.

 Comments are optional, but adding comments can help you remember the purpose of the backup. The date and list of drives being backed up are automatically included in the description.

6. Select a destination for the Disaster Recovery Set.


 The destination cannot be a network drive.

7. Click the action button at the bottom-right of the computer screen.
8. Follow the on-screen instructions.


Performing a recovery

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


- **BackOnTrack Disaster Recovery utility:** You can use Disaster Recovery to recover your hard drive image (including your files, programs, and operating system) after a hard drive failure.
- **BackOnTrack Instant Restore utility:** You can use Instant Restore to quickly restore your computer to a working state if a software-related problem occurs. The Instant Restore utility automatically creates working states periodically. You can also define a working state by saving the current computer state manually.

 For more information about computer system states, refer to the BackOnTrack software Help.

Using the Disaster Recovery utility

 To perform a recovery with Disaster Recovery, you need a USB flash drive (purchased separately). For optimum performance, the capacity of the drive should be no larger than 2 GB.

Disaster Recovery recovers data from a Disaster Recovery Set that you previously created with Roxio BackOnTrack. Disaster Recovery is available from the HP Web site in a compressed file called a *SoftPaq*.

 Running the SoftPaq makes the USB drive bootable.

Before performing a disaster recovery, you must download the Disaster Recovery utility and extract it to a USB flash drive.


Downloading and extracting the Disaster Recovery utility

To download and extract Disaster Recovery, follow these steps:

1. Connect a bootable USB flash drive or external drive to a USB port on your computer.
2. Open your Web browser, go to <http://www.hp.com/support>, and select your country or region.
3. Enter the **Roxio BackOnTrack 3 Disaster Recovery Boot Utility** in the **Search** box, press **enter**, and then select **Roxio BackOnTrack 3 Disaster Recovery Boot Utility** from the Search results.
4. Click **Download only** to save the file to your computer.
5. When prompted, click **Save**, and then select the external drive from the list of storage locations.
6. After the file is downloaded, navigate to the location where you saved the SoftPaq, and then double-click the SoftPaq file to format the USB flash drive and extract the Disaster Recovery files.
7. If prompted to do so, restart your computer after the installation is complete.

Restoring your hard drive image

To restore your hard drive image using Disaster Recovery, follow these steps:

1. Connect the external hard drive containing the Disaster Recovery Set to your computer.
2. Connect the bootable USB flash drive containing the extracted Disaster Recovery utility to a USB port on your computer.
3. Change the boot device order by turning on or restarting the computer, and then pressing **f9**.
4. Use the arrow keys to select the USB flash drive, and then press **enter**.
5. At the Roxio BackOnTrack Disaster Recovery screen, select **Disaster Recovery**, and then click **Next**.
6. Browse to the external hard drive containing the Disaster Recovery Set, and then click **Next**.
7. Click **Next** to proceed with the recovery.
 This process may take several minutes.
8. After a message on the screen reports a successful recovery, click **Finish**.

Using the Instant Restore utility

You can restore your computer from Windows when the operating system is functioning. If the operating system is not functioning, you can also access the utility by restarting your computer.

 For more information about the Instant Restore utility, refer to the BackOnTrack software Help.

Using the Instant Restore utility when the operating system is functioning


To recover information when the operating system is functioning properly, follow these steps:

1. Save and close all open documents and close any open programs.
2. Click **Start**, click **All Programs**, and then click **Roxio**.
3. Click **BackOnTrack**, click **BackOnTrack Home**, and then click **Instant Restore**.
4. Click **Restore State**, and then select a restore state.
5. Click the action button in the bottom-right corner of the computer screen.
6. Click **Yes** to confirm your selected restore state.

When the restore process is complete, the computer restarts and a notification message is displayed.

Using the Instant Restore utility when the operating system is not functioning

To recover information when the operating system is not functioning, follow these steps:

1. Restart the computer.
 -  If the operating system has stopped responding and the computer screen is blue, restart the computer by sliding the power switch off and then on.
2. When the computer logo is displayed on the screen, press the **f6** key repeatedly until the Windows status bar is displayed.
3. When the Roxio BackOnTrack screen is displayed, follow the on-screen instructions.


Using HP Recovery Manager

If your computer includes HP Recovery Manager, 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



Backing up your information

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

- At regularly scheduled times
 -  Set reminders to back up your information periodically.


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

Note the following when backing up:

- Create system restore points using the Windows System Restore feature, and periodically copy them to a disc.
- Store personal files in the Documents library, and periodically back up this folder.
- 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 can be 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+prt sc**.
 - To copy the entire screen, press **prt sc**.
 - c. Open a word-processing document, click **Edit**, and then click **Paste**.
 - d. Save the document.
- You can back up your information to an optional external hard drive, thumb drive, or discs.
- When backing up to discs, use any of the following types of discs (purchased separately): CD-R, DVD+R, or DVD-R. The discs you use depend on the type of optical drive you are using.
 -  The external optical drive must be connected to the USB port *on the computer*, not to a USB port on another external device, such as a hub or docking station.
 -  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 an optical drive.


Creating a set of recovery discs

HP recommends that you create 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.

-  This task will require an optional external optical drive. The external optical drive must be connected to the USB port *on the computer*, not to a USB port on another external device, such as a hub or docking station.

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


Note the following guidelines before creating recovery discs:

- You will need high-quality DVD-R, DVD+R, or CD-R discs. All these discs are purchased separately. DVDs have a larger storage capacity than CDs. If you use CDs, up to 20 discs may 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 an optical drive.
- If necessary, you can exit the program before you have finished creating the recovery discs. The next time you open Recovery Manager, you will be prompted to continue the disc creation process.


To create a set of recovery discs:


1. Click **Start**, click **All Programs**, click **Recovery Manager**, and then click **Recovery Disc Creation**.
2. Follow the on-screen instructions.

Performing a recovery

 You can recover only files that you have previously backed up. HP recommends that you use Recovery Manager to create a set of recovery discs (entire drive backup) as soon as you set up your 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) may not have a recovery partition.


 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, click **Start**, and then click **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 Web site or reinstalled from the disc provided by the manufacturer.

Recovering using the recovery discs


To restore the system files from the recovery discs:


1. Back up all personal files.

2. Insert the first recovery disc into an optional optical drive, and restart the computer.
 -  The external optical drive must be connected to the USB port *on the computer*, not to a USB port on another external device, such as a hub or docking station.
3. Follow the on-screen instructions.


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

On some models, you can perform a recovery from the partition on the hard drive, which is accessed by pressing either the Start button or **f11**. This restores the computer to its factory condition.

 This method of recovery is also an HP Recovery Manager solution.


 Computers with an SSD may not have a recovery partition. If the computer does not have a recovery partition, you will not be able to recover using this procedure.


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

1. Access Recovery Manager in either of the following ways:
 - Click **Start**, click **All Programs**, click **Recovery Manager**, and then click **Recovery Manager**.
 - or –
 - a. Turn on or restart the computer.
 - b. Press **f11** (HP Recovery).
 -  It may take several minutes for Recovery Manager to load.
2. In the Recovery Manager window, click **System Recovery**.
3. Follow the on-screen instructions.

Using Windows Backup and Restore

To create a backup using Windows Backup and Restore, follow these steps:

 Be sure that the computer is connected to AC power before you start the backup process. The backup process may take over an hour, depending on file size and the speed of the computer.

1. Click **Start**, click **All Programs**, click **Accessories**, click **System Tools**, and then click **Backup**.
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 your computer. You may be prompted for your permission or password for tasks such as installing software, running utilities, or changing Windows settings. Refer to Help and Support for more information.

Using system restore points

When you back 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 revert 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.

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

When to create restore points

- Before you add or extensively modify 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.

Creating a system restore point

1. Click **Start**, click **All Programs**, click **Accessories**, click **System Tools**, and then click **System Restore**.
2. Select **Create a restore point** and then, click **Next**.
3. Enter a **Restore point description** and then, click **Create**.
4. When the new restore point is created, click **Close**.

Restoring 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. Click **Start**, click **All Programs**, click **Accessories**, click **System Tools**, and then click **System Restore**.
2. Select **Restore my computer to an earlier time** and then, click **Next**.
3. Choose a **date** and the **restore point** and then, click **Next**.
4. Follow the on-screen instructions.

Chapter 6: Keeping your computer safe

Your Windows files must be backed up on a regular basis and you must guard against viruses, privacy violations, and issues caused by power surges. The following sections address the importance of protecting your computer as you use your computer and the Windows operating system.

Protecting the computer from viruses

When you use the computer for e-mail or Internet access, you expose it to computer viruses that can disable the Windows operating system, programs, or utilities or cause them to function abnormally. Antivirus software can detect most viruses, destroy them, and in most cases, repair damage they have caused. To provide ongoing protection against newly discovered viruses, antivirus software must be kept up to date.

Norton Internet Security, an antivirus program, is preinstalled on the computer.

- Your version of Norton Internet Security includes 60 days of free updates. It is strongly recommended that you protect the computer against new viruses beyond 60 days by purchasing extended update service. Instructions for using and updating Norton Internet Security software and for purchasing extended update service are provided within the program.
- To access Norton Internet Security, or to get more information about it, click **Start**, click **All Programs**, and then click **Norton Internet Security**.



For more information about computer viruses, type **viruses** in the Search box in Help and Support.

Using Windows Security Center

Windows Security Center manages your computer's defenses. To manage Windows Firewall and automatic update settings, follow these steps:

1. Click **Start**, click **Control Panel**, and then click **Security Center**.
2. Click **Internet Options** to define the level of security your computer should employ.
3. Click the **Privacy** tab to determine which embedded programs your browser should allow.

Protecting your system files

The backup and recovery process allows you to back up your files and recover optimal system functionality. For information, refer to Chapter 5, "Backup and recovery."

Protecting your privacy

When you use the computer for e-mail, or for 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, follow these guidelines:

- Keep Windows and other software updated. Many software updates contain security enhancements.
- Use a firewall. Firewall software monitors incoming network 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 power surges that may be caused by an uncertain power supply or an electrical storm, observe these practices:

- Plug the computer power cord into a high-quality surge protector (purchased separately). Surge protectors are available from most consumer hardware or electronics retailers.
- During an electrical storm, either run the computer on battery power or shut down the computer and unplug the power cord.

Using the computer safely



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

- Plug the power cord into an AC outlet that is easily accessible at all times.
 - Disconnect power from the computer by unplugging the power cord from the AC outlet (not by unplugging the power cord from the computer).
 - If provided with a 3-pin attachment plug on your power cord, plug 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 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, refer to the *Regulatory, Safety and Environmental Notices*. To access the notices, click **Start**, click **Help and Support**, and then click **User Guides**, or refer to the *User Guides* disc included with some models.

Appendix A: Routine care


Cleaning the display

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

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

Cleaning the TouchPad and keyboard


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


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

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


Traveling and shipping

For best results, follow these traveling and shipping tips:

- Prepare the computer for traveling or shipping:
 1. Back up your information.
 2. Remove all digital cards.
 -  **CAUTION:** To reduce the risk of damage to the computer or loss of information, remove the digital card from the computer before shipping, storing, or traveling.
 3. Turn off and then disconnect all external devices.
 4. Shut down the computer.
- Take along a backup of your information. Keep the backup separate from the computer.
- When traveling by air, carry the computer as hand luggage, and do not check it in with the rest of your bags.

 **CAUTION:** 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 will 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 will be unused and disconnected from external power for more than 2 weeks, remove the battery pack and store it separately.
- If you are 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, a Global System for Mobile Communications (GSM), or a General Packet Radio Service (GPRS) device, the use of these devices may be restricted in some environments. Such restrictions may 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, follow these suggestions:
 - Check the computer-related customs regulations for each country or region 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.


 **WARNING:** 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 B: Problem meets solution


Troubleshooting resources

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

- Refer to “Quick troubleshooting,” the next section in this chapter.
- Access Web site links and additional information about the computer through Help and Support. Click **Start**, and then click **Help and Support**.

 Although many checkup and repair tools require an Internet connection, other tools, like Help and Support, can help you fix a problem when the computer is offline.

- Contact technical support:
 1. Click **Start**.
 2. Click **Help and Support**, click **Contact A Technician**, and then click **Chat with an online support technician after you buy**.
 3. Click **Notebook and Tablet PCs**.
 4. Follow the on-screen instructions to start a chat session with a support specialist.

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

– or –


Refer to the *Worldwide Telephone Numbers* booklet, included with the computer, for more contact information.

Quick troubleshooting

The computer is unable to start up

If the computer does not turn on when you slide the power switch, the following suggestions may help you determine why the computer will not start up:

- If the computer is plugged into an AC outlet, plug 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 plugged into an external power source other than an AC outlet, plug 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, the computer may not be set to display the image on the computer screen. To transfer the image to the computer screen, press the **f4** action key.

Software is functioning abnormally

If the software is unresponsive or responds abnormally, follow these suggestions:


- Restart the computer by clicking **Start**, clicking **Turn Off Computer**, and then clicking **Restart**.

If you cannot restart the computer using this procedure, refer to 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, refer to the “Protecting the computer from viruses” section in Chapter 6.

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.


1. Slide and hold the power switch on the computer for at least 5 seconds.
2. Disconnect the computer from external power and 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 may be overheating because a vent is blocked.

If you suspect that the computer is overheating, allow the computer to cool to room temperature. Then 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 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).

 The fan in the computer starts up 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.
- Be sure that all device connections are secure.
- Be sure that the device is receiving electrical power.
- Be sure that the device, especially if it is older, is compatible with the operating system.
- Be sure that the correct drivers are installed and updated.

The wireless network connection is not working

If a wireless network connection is not working as expected, follow these suggestions:

- Be sure that the wireless light on your computer is on (white). If the wireless light is off (white), press the **f12** action key to turn it on.
- Be sure that the device wireless antennas are free from obstructions.
- Be sure that the DSL or the cable modem and its power cord are properly connected and the lights are on.
- Be sure that the wireless router or access point is properly connected to its power adapter and the DSL or cable modem, and that the lights are on.
- Disconnect and then reconnect all cables, and turn the power off and then back on.



For more information on wireless technology, refer to the relevant help topics and Web site links in Help and Support.



For information on activating mobile broadband service (select models only), refer to the mobile network operator information included with your computer.

Appendix C: Specifications

Operating environment

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

Factor	Metric	U.S.
Temperature		
Operating	5°C to 35°C	41°F to 95°F
Nonoperating	-20°C to 65°C	-4°F to 149°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 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	19.5 V dc @ 2.05A - 40W
Operating current	2.05 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, located under the bottom panel of the computer.

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