Notebook Essentials

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.

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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.

❶	Product name	❹	Warranty period
❷	Serial number	❺	Model description (select models)
❸	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.

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Chapter 1: Finding information

Introducing HP QuickWeb

After you set up your computer, you can activate HP QuickWeb. It provides immediate access to your music, digital photos, and the Web without launching the Windows® operating system. Refer to Chapter 2, "Using HP QuickWeb," for additional information.

Finding Help and Support

✎ Help and Support is preinstalled on the computer. Access to Help and Support does not require an Internet connection.

You can access Help and Support by clicking **Start**, and then clicking **Help and Support**. In addition to providing information about the Windows® operating system, Help and Support includes these topics:

■ Information about the computer, such as model and serial number, installed software, hardware components, and specifications
■ How to help safeguard the computer
■ How to get the best performance from the battery
■ How to set up a wireless network

Finding the user guides

User guides and regulatory and safety information are provided on the computer and are available through Help and Support.

» To access the user guides in Help and Support, click **Start**, click **Help and Support**, and then click **User Guides**.

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

Identifying installed software and hardware

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

» Click **Start**, and then click **All Programs**.

✎ Double-click the name of a program if you want 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, on disc, or on the manufacturer's Web site.

To see a list of hardware installed in the computer, follow these steps:

1. Click **Start**, click **Control Panel**, and then click **System and Security**.
2. In the **System** area, click **Device Manager**.

You can also use Device Manager to add hardware or modify device configurations.

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

Chapter 2: Using HP QuickWeb

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, 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 start your system 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.

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 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 has been activated, it will start 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, on 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 reenable QuickWeb, refer to the section "Disabling and enabling HP 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 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 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.
	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.

(Continued)

Icon	Description
	Controls power settings: ■ When the computer is connected to AC power, the icon appears with an AC power cord. ■ When the computer is running on battery power, the icon appears as only a battery. The state of charge is indicated by the color of the Battery icon: ■ Green: charged ■ Yellow: low ■ Red: critical low Click the **Battery** icon to display a menu for controlling power settings, and to see information about battery capacity.
	Launches the Settings panel. Use the Settings panel to modify QuickWeb settings such as date and time. Refer to the following section, "Using the Settings panel," for more information.
	Displays the QuickWeb software Help.

Using the Settings panel

1. After turning on your 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 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, refer to Chapter 3, "What's next?," 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 Skype:

1. Click the **Skype** icon on the LaunchBar.

    A Sign in to Skype window is displayed.

2. Click the **Create a new Skype Account** tab.

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 HP QuickWeb** check box.

3. Click **OK**.

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

Chapter 3: What's next?

Creating recovery discs

After setting up the computer for the first time, it is recommended that you create a set of recovery discs of the full factory image. The recovery discs are used to start up (boot) the computer and recover the operating system and software to factory settings in case of system failure or instability.

For information on how to create a set of recovery discs, refer to Appendix A, "Backup and recovery."

Protecting the computer

The information in this section explains how to protect the computer from damage caused by a virus, a security breach, a power surge, or system failure.

Protecting your computer from viruses

When you use the computer for e-mail or Internet access, you expose it to computer viruses that can disable the 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 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.

■ To access Norton Internet Security or get more information about it, click **Start**, click **All Programs**, and then click **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 additional information, refer to Appendix A, "Backup and recovery."

Protecting your privacy

When you use 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 computers privacy protection features, follow these guidelines:

■ 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 may be caused by an uncertain power supply or an electrical storm, observe these practices:

■ Plug 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 unplug 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.

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 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, 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.

⚠ **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.

Connecting to the Internet

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

Choosing the type of Internet access available

The computer supports 2 types of Internet access:

■ **Wireless**—For mobile Internet access, you can use a wireless connection. To learn 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 wireless network" section.

■ **Wired**—You can 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 you can 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 may require additional hardware or software provided by your Internet service provider (ISP).

Choosing an ISP

You must set up Internet service before you can connect 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, you can access the utility as follows: click **Start**, click **All Programs**, click **Online Services**, and then click **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 in which you purchased the computer, the 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 instructions on the screen.

Using the 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:

■ If you already have an account with an ISP.

■ If you have a disc from an ISP.

■ If you 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.)

■ If you have 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, 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.

Connecting to an existing wireless network

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

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)

■ Your 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.
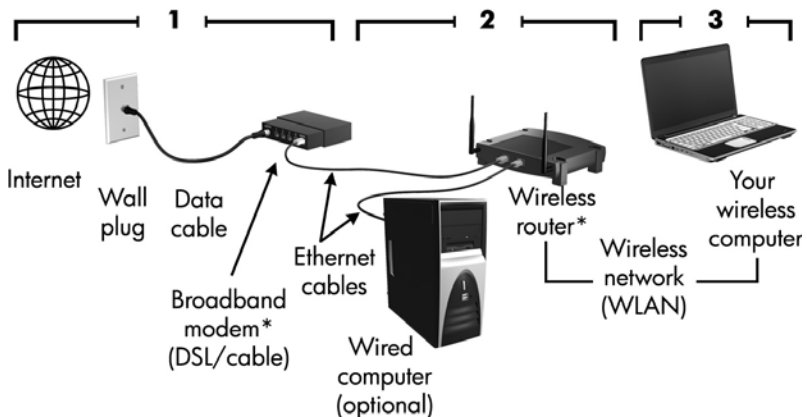
*Installation procedure varies based on manufacturer.

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, follow these steps:

1. Contact a local ISP to purchase high-speed Internet service and a DSL or cable modem. The ISP will help you to set up the modem, install a network cable to connect your wireless computer to the modem, and test the Internet service.

2. Your ISP will give 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 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.

1. Be sure that the wireless light on the computer is amber. If the wireless light is white, turn it amber by pressing the wireless action key. For help locating the wireless action key or light, refer to the *Notebook Tour* 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. 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 data on the computer and use your Internet connection without your knowledge. For more information on securing your wireless network, refer to the *Wireless* 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, click **Start**, click **Control Panel**, click **Network and Internet**, click **Network and Sharing Center**, click **Set up a new connection or network**, and then click **Set up a new network**. 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 amber, turn on the wireless function by pressing the wireless action key. For help locating the wireless action key or light, refer to the *Notebook Tour* in Help and Support.
3. Connect your 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.
4. Test the wireless network by opening your Web browser and accessing a Web site.

Connecting to a wired network

Connecting to a wired network requires an RJ-11 modem cable (purchased separately) or an RJ-45 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. Plug the cable into the jack ❶ on the computer.
2. Plug the other end of the cable into a wall jack ❷.

Installing additional hardware and software

Installing hardware

To install additional hardware, such as an optional printer, follow the instructions provided by the hardware manufacturer to install the device and any required drivers.

Locating and installing software

Software on the computer is provided in the following forms:

■ **Preinstalled software**. To see a list of ready-to-use programs or to start a program, follow these steps:

1. Click **Start**, and then click **All Programs**.

   A list of programs is displayed.

2. Click the name of a program to start the program.

■ **Preloaded software**. This software cannot be used until it is installed. To locate and install a preloaded program or driver, follow these steps:

1. Click **Start**, click **All Programs**, click **Recovery Manager**, and then click **Recovery Manager**.

2. Follow the on-screen instructions.

■ **Software on disc**. To install software from a disc, follow these steps:

1. Insert the disc into your optical drive.

2. When the installation wizard opens, follow the on-screen instructions.

   ✎ Restart the computer if you are prompted to do so.

✎ For details about using the software provided with the computer, refer to the software manufacturer's instructions, which may be provided with the software, on disc, 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.

Turning off the computer

Whenever possible, turn off the computer by using the standard shutdown procedure:

1. Save your work and close all open programs.
2. Click **Start**, and then click **Shut down**.

If you are unable to turn off the computer with these steps, 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 **ctrl+alt+delete**. Then, in the lower-right corner of the screen, click **Shut down**.
- Press and hold the power button for at least 5 seconds.
- Disconnect the computer from external power and remove the battery.

Chapter 4: Troubleshooting

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.

Quick troubleshooting

The computer is unable to start up

If the computer does not turn on when you press the power button, the following suggestions may help you determine the cause:

■ 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 but you have not turned off the computer, one or more of these settings may be the cause:

■ The computer may be in the Sleep state or in Hibernation.

To exit Sleep or Hibernation, briefly press the power button.

Sleep and Hibernation are energy-saving features that turn off the display. Sleep and Hibernation can be initiated by the system while the computer is on but is not in use, or when the computer has reached a low battery level. To change these and other power settings, click **Start**, click **Control Panel**, click **System and Security**, and then click **Power Options**.

■ 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.

On most models, when an optional external display, such as a monitor, is connected to the computer, the image can be displayed on the computer screen or the external display, or on both devices simultaneously. When you press the **f4** action key repeatedly, the image alternates among the computer display, one or more external displays, and simultaneous display on all devices.

Software is functioning abnormally

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

■   Restart the computer by clicking **Start**, clicking the arrow next to **Shut down**, 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 your computer from viruses" section in Chapter 3.

The computer is on but is not responding

If the computer is turned 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 **ctrl+alt+delete**. Then, in the lower-right corner of the screen, click **Shut down**.

■   Press and hold the power button for at least 5 seconds.

■   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:

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

■ Click **Start**, click **Control Panel**, click **Network and Internet**, click **Network and Sharing Center**, click **Troubleshoot problems**, click **Internet Connections**, and then follow the on-screen instructions.

■ Be sure that the wireless device is turned on and the wireless light on the computer is white. If the light is 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 on.

■ 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 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 information and the Web site links in Help and Support.

Appendix A: Backup and recovery

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

✎ 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 much higher capacity than CDs. If you use CDs, up to 20 discs may be required, whereas only a few DVDs are required.

  ✎ Read-write discs (such as CD-RW and DVD±RW) and double-layer DVD±R 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 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.

Backing up your information

Recovery after a system failure is as complete as your most current backup. You should create a set of recovery discs immediately after software setup. These discs will allow you to start up (boot) the computer in case of system instability or failure.

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. Back up your system at the following times:

■ On a regularly scheduled basis

✎ 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 recovery points using Recovery Manager, and periodically copy them to disc.

■ 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 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, follow these steps:

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, click **Edit**, and then click **Paste**.

d. Save the document.

■ You can 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 you use will depend on the type of optical drive installed in your computer.

✎ Double-layer DVD±R discs are not supported.

■ 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, 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 **Maintenance**, and then click **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 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 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.

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.

Create a system restore point

1. Click **Start**, click **Control Panel**, click **System and Security**, and then click **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, follow these steps:

1. Click **Start**, click **Control Panel**, click **System and Security**, and then click **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

✎ 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, if your computer includes a solid-state drive (SSD), you may not have a recovery partition. If that is the case, recovery discs have been included with your 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, 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 from the recovery discs:

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

Recovering using the partition on the hard drive

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

✎ If your computer includes an SSD, you 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. Recovery discs have been 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, 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, and then press **esc** while the "Press the ESC key for Startup Menu" message is displayed at the bottom of the screen.

   b. Press **f11** while the "Press <F11> for recovery" message is displayed on the screen.

      ✎ It may take several minutes for Recovery Manager to load.

2. Click **System Recovery** in the **Recovery Manager** window.

3. Follow the on-screen instructions.

Appendix B: 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 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 may be helpful if you plan to travel internationally with the computer.

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

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

Operating voltage	Operating current	Smart adapters
18.5 V	3.5 A	65 W
19.0 V	4.74 A	90 W

✎ The computer operating voltage and current, as well as the adapter wattage, can be found on the system regulatory label on the bottom of the computer.

Appendix C: Routine care

Cleaning the display

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

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

Cleaning the TouchPad and keyboard

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

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

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

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 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. 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.

⚠ 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.

⚠ 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.

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