



Quick Reference

HP Pavilion Entertainment PC

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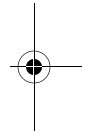
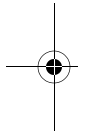


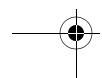
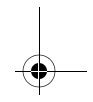
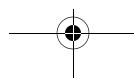
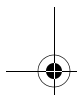
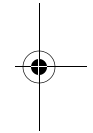
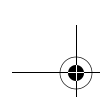
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1

Finding information

Finding Help and Support

You can access Help and Support by selecting **Start > Help and Support**. In addition to providing information about the operating system, Help and Support covers these topics:

- Information about your computer, such as model and serial number, installed software, hardware components, and specifications
- How to help safeguard your computer
- How to get the best performance from the battery
- How to set up a wireless network
- Links to community forums of IT experts

Finding the user guides

User guides, regulatory and safety notices, and other information resources about using the computer are available through Help and Support.

To access the user guides:

- » Select **Start > Help and Support > User Guides**.


Finding information

Identifying installed software and hardware

The computer includes software that is preinstalled on the hard drive. To see a list of the software:

» Select **Start > All Programs**.


 Double-click the program you want to open.


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

To see a list of hardware installed on the computer:

1. Select **Start > Computer > System properties**.

2. In the left pane, click **Device Manager**.

 You can modify your device configurations using Device Manager.

 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 applications, running utilities, or changing Windows settings. Refer to Windows online Help for more information.

2

Next steps

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 “Creating recovery discs” in Chapter 4.

Protecting the computer

The information in this section is designed to protect your computer from damage caused by a virus, a security breach, a power surge, unsafe operation, or system failure.

Protecting the computer from viruses

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

Next steps

- For information about using and updating Norton Internet Security and for purchasing extended update service, select **Start > All Programs > Norton Internet Security**.
- To access Norton Internet Security, select **Start > All Programs > Norton Internet Security**.

Protecting your system files

The operating system and Recovery Manager software provide several ways to back up the system and to recover optimal system functionality. For additional information, refer to Chapter 4, "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 your computer.

To optimize the privacy protection features:

- Keep the operating system and software updated. Many software applications contain security enhancements.
- Use a firewall. A firewall is software that monitors incoming traffic on the computer. Some firewalls also monitor outgoing traffic. To check the status of the firewall, select **Start > Control Panel > Security**.

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.

Next steps

- 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 available from computer or electronics retailers in some regions.

Using the computer safely



WARNING: To reduce the risk of electric shock or damage to your equipment:

- 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 and Comfort Guide*. It describes proper workstation setup and proper posture, health, and work habits for computer users. The *Safety and Comfort Guide* also provides important electrical and mechanical safety information. This guide is available on the Web at <http://www.hp.com/ergo> and in Help and Support. To access this document, select **Start > Help and Support > User Guides**, or refer to a *User Guides* disc included with some models.



WARNING: To avoid potential discomfort or burns, do not block the air vents or place the computer on your lap for extended periods. Also, do not allow the AC adapter to contact the skin for extended periods during operation. The computer is designed to run demanding applications at full power. As a result of increased power consumption, it is normal for the computer and the AC adapter to feel warm or hot when used continuously. 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).

Next steps



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* located in Help and Support. To access this document, select **Start > Help and Support > User Guides**.

Connecting to the Internet

Your computer includes hardware and software that allows you to connect to the Internet. The following sections of this guide give more information about these tasks:

- Choosing the type of Internet connection you want, such as broadband, wireless, or dial-up, and connecting to the hardware.
- Choosing an Internet service provider (ISP).



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

Choosing the type of Internet access available

There are 3 basic types of Internet access:

- **Broadband**—High-speed Internet service providers include the following types of connections:
 - ☐ Cable modem
 - ☐ Digital Subscriber Line (DSL)
 - ☐ Satellite
 - ☐ Other services

For broadband access, additional hardware and/or software must be provided by your ISP.

- **Wireless**—For high-speed mobile Internet access, you can use a wireless connection.

To learn about setting up a wireless network or adding your notebook to an existing network using the Wireless Home Network Setup software (available in select regions only), select **Start > Help and Support > Troubleshooting Tools > Wireless Home Network Setup**.

- **Dial-up**—You can access the Internet by dialing into a service provider using a modem cable connected to the RJ-11 (modem) jack.

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:

- Easy Internet Sign-up (available in some locations)
- ISP-provided icons (available in some locations)
- Windows Connect to the Internet Wizard (available in all locations)

Using Easy Internet Sign-up

If the Easy Internet Sign-up utility is supported in the country in which you purchased the computer, you can access the utility by using either of the following methods:

- Double-click the **Easy Internet Sign-up** icon on the Windows desktop.

– or –

- Select **Start > All Programs > Online Services > Easy Internet Sign-up**.

The Easy Internet Sign-up utility provides these tasks:

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

Next steps

Using ISP-provided icons

If ISP-provided icons are supported in the country 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, follow this step:

- » 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, follow this step:

- » Select **Start > Help and Support**.



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

Installing additional software and hardware

To install any additional software from a CD or DVD, follow these steps:

1. Insert the disc into the optical drive.

2. When the installation wizard opens, follow the on-screen instructions.
3. Restart the computer if prompted to do so.



For details about using the software, refer to the manufacturer's instructions, which may be provided on disc, as online Help files, or on the manufacturer's Web site.

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.

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 provided on the computer as soon as the computer is connected to the Internet.

To access update links for the operating system and other software provided on the computer, follow this step:

- » Select **Start > Help and Support**.

Turning off the computer correctly

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

1. Save your work and close all open applications.
2. Shut down the computer through the operating system by clicking **Start**, clicking the arrow next to the Lock button, and then clicking **Shut Down**.

Next steps

If you are unable to turn off the computer with these procedures, try the following emergency procedures in the sequence provided:



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 the **Power** button.
- Press and hold the power button for at least 5 seconds.
- Disconnect the computer from external power and remove the battery.


3

Troubleshooting

Troubleshooting resources

If you experience computer problems, follow the troubleshooting steps below:

1. Refer to “Quick troubleshooting,” next in this chapter.
2. Access additional information about the computer and Web site links through Help and Support. Select **Start > Help and Support**.

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

3. For further assistance, contact technical support by selecting **Start > Help and Support > Contact support**.

Quick troubleshooting

The computer is unable to start up

To turn on the computer, press the power button. When the computer is turned on, the power lights are turned on.

If the computer and the power lights are not turned on when you press the power button, adequate power may not be available to the computer.

The suggestions below may help you determine the reason the computer will not start up:

- If the computer is plugged into an AC outlet, be sure that the AC outlet is providing adequate power by plugging another electrical device into the outlet.

Troubleshooting

- 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.
- If the computer is running on battery power, try these suggestions:
 - Remove the primary battery and plug the computer into an AC outlet using the AC adapter. If the computer starts up, one of the batteries may need to be replaced.
 - If the battery light on the front of the computer is blinking, the battery has reached a low battery level, which may not allow the computer to start up. Plug the computer into an AC outlet using the AC adapter to start the computer and allow the battery to charge.

The computer screen is blank

If you have not turned off the computer but the screen is blank, one or more of the following may be the cause:

- The computer may be in the Sleep state or in Hibernation.
- The computer may not be set to display the image on the computer screen.
- The display switch may not be functioning properly.

The suggestions below may help you determine the reason the computer screen is blank.

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

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

- To transfer the image to the computer screen, press **fn+f4**.
On most models, when an optional external display device, 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 **fn+f4** repeatedly, the image alternates among the computer display, one or more external display devices, and simultaneous display on all devices.

Software is functioning abnormally

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

- Restart the computer by clicking **Start**, clicking the arrow next to the Lock button, and then clicking **Restart**.
If you cannot restart the computer using this procedure, refer to the next section, "The computer is turned on but not responding."
- Run a virus scan. For information about using the antivirus resources on the computer, refer to "Protecting the computer from viruses" in Chapter 2.

The computer is turned on but not responding

If the computer is turned on but not responding to software or keyboard commands, try turning off the computer by using the standard shutdown procedure:

1. Save your work and close all open applications.
2. Shut down the computer through the operating system by clicking **Start**, clicking the arrow next to the Lock button, and then clicking **Shut Down**.

Troubleshooting

If you are unable to use the standard shutdown procedure, try the following emergency shutdown procedure:



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 the **Power** button.
- or –
- Press and hold the power button for at least 5 seconds.
- or –
- 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.



To prevent overheating, do not obstruct vents. Use the computer only on a hard, flat surface. Do not allow another hard surface, such as an adjoining printer, or a soft surface, such as pillows or thick rugs or clothing, to block airflow.

- 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.



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 routine operation.

An external device is not working

If an external device does not function as expected, follow these suggestions:

- Turn on the device as instructed in the device user guide. Some devices may not be powered by the computer, and must be turned on before the computer is turned on.
- Check the following conditions:
 - All device connections are secure.
 - The device is receiving electrical power.
 - The device, especially if it is an older one, is compatible with the operating system. For compatibility information, refer to the device manufacturer's Web site.
 - The correct drivers are installed and updated. Drivers may be available on a CD included with the device or on the device manufacturer's Web site. For more information about updating drivers, select **Start > Help and Support**.

The home wireless network connection is not working

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

- Be sure that the wireless device is turned on and the wireless light on the computer is blue. If the light is amber, slide the wireless switch to turn on the wireless device.
- Be sure that the computer wireless antennae 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 (access point) is properly connected to its power adapter and the cable modem, and that the lights are on.
- Disconnect and then reconnect all cables, and turn the power off and then back on.

Troubleshooting

Contacting technical support

If you are unable to find the help you need by using Help and Support, you may need to contact technical support.

For the fastest possible resolution of your problem, have the computer and the following information available when you call or e-mail:

- Product name located on the display or keyboard.
- Serial number (s/n) listed on the service tag.
 - The service tag label is on the bottom of the computer.
 - To display the service tag information on the computer screen, select **Start > Help and Support > System Information**.
- Date the computer was purchased.
- Conditions under which the problem occurred.
- Error messages that have been displayed.
- The manufacturer and model of a printer or other accessories connected to the computer.
- Operating system version number and registration number.

To display the operating system version number and registration number, select **Start > Help and Support > System Information**. (On some models, the registration number may be identified in the Operating System table as the *Product Id*).

Contact technical support by selecting **Start > Help and Support > Contact support**.

4


Backup and recovery

Tools provided by the operating system and 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 regularly to protect your important system files.
- Making a set of recovery discs (Recovery Manager software feature). Recovery discs are used to start up (boot) your computer and restore the operating system and software programs to factory settings in case of system failure or instability.
- Creating system restore points (operating system feature). System restore points allow you to reverse undesirable changes to your computer by restoring the computer to an earlier state.
- Recovering a program or driver (Recovery Manager software feature). This feature helps you reinstall a program or driver without performing a full system recovery.
- Performing a full system recovery (Recovery Manager software feature). With Recovery Manager, you can recover your full factory image if you experience system failure or instability. Recovery Manager works from a dedicated recovery partition on the hard drive or from recovery discs you create.

Backing up your information

When to back up

- On a regularly scheduled basis
 -  Set reminders to back up your information regularly.
- Before the computer is repaired or restored
- Before you add or modify hardware or software

Backup suggestions

- Create system restore points using the Windows System Restore feature.
- Store personal files in the Documents folder and back up these folders 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 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 only the active window, press **alt+fn+prt sc**.
 - To copy the entire screen, press **fn+prt sc**.
- c. Open a word-processing document, and then select **Edit > Paste**.

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.

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. Select **Start > Control Panel > System and Maintenance > System**.
2. In the left pane, click **System protection**.
3. Click the **System protection** tab.
4. Under **Automatic restore points**, select the disk for which you want to create a restore point.
5. Click **Create**.

The System Protection window opens.

6. Follow the on-screen instructions.

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. Select **Start > Control Panel > System and Maintenance > System**.
2. In the left pane, click **System protection**.
3. Click the **System protection** tab.
4. Click the **System Restore** button, and then click **Next**.

The System Restore window opens.

5. Follow the on-screen instructions.


Creating recovery discs

Recovery Manager creates a set of recovery CDs or DVDs for the computer. Use recovery discs to restore the operating system and software programs to factory settings, in case of system failure or instability.



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 CD-R, DVD-R, or DVD+R (purchased separately).
 -  Read-write discs, such as CD-RW, DVD±RW, and DVD±RW double-layer 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, follow these steps:

1. Select **Start > All Programs > Recovery Manager > Recovery Manager**.

The Recovery Manager tool opens.

2. Click **Advanced Options**.

 If you are operating the computer on battery power, you are prompted to connect to AC power before you can go to the next step.

3. Select **Recovery disc creation**, and then click **Next**.


4. Select the type of disc you want to use, and then click **Next**.


The software examines the image and displays the number of blank discs needed to create your recovery discs.

5. Insert the first disc and follow the on-screen instructions.

Reinstalling software programs and drivers

If a program or driver preinstalled at the factory is accidentally erased or is damaged, the Recovery Manager tool allows you to reinstall it.

 Software not provided with this computer must be reinstalled from the disc provided by the manufacturer or be downloaded from the manufacturer's Web site.

 Before reinstalling the program, be sure it is fully uninstalled.

The Recovery Manager tool replaces corrupted system files and reinstalls deleted system files within the program.


Backup and recovery

Expect the following results when using this tool:

- In most cases, if the program you are reinstalling is still on your computer, the reinstallation process does not affect your personal settings.
- In all cases, if a program has been deleted from your computer, the reinstallation process reinstalls the program or utility to the factory image but cannot restore your personal settings.

Reinstalling a preinstalled program or driver

1. Remove the program or driver:

 In some cases, drivers are not listed in the Programs and Features list. If the driver is not listed, it does not need to be removed.

- a. Select **Start > Control Panel > Programs > Uninstall a program**.
- b. Right-click the program or driver you want to remove, and then click **Uninstall**.

2. Reinstall a program or driver:


- a. Select **Start > All Programs > Recovery Manager > Recovery Manager**.
The Recovery Manager tool opens.
- b. Click **Advanced Options**.
- c. Click either **Software program re-installation** or **Hardware driver re-installation**, and then click **Next**.
- d. Follow the on-screen instructions.
- e. Restart the computer if prompted.


Reinstalling a program from a disc

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

Performing a recovery

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 on the hard drive.

 Windows has its own built-in repair features, such as System Restore and driver roll-back capabilities. If you have not already tried these features, try them before using Recovery Manager.

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

Recovering from the recovery discs

To restore the system from the recovery discs, follow these steps:

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 from the partition on the hard drive

You can perform a recovery from the partition on the hard drive from either the Start button or **f11**.

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


1. Access the Recovery Manager tool in either of the following ways:
 - ❑ Select **Start > All Programs > Recovery Manager > Recovery Manager**.
 - ❑ Restart the computer and press **f11** while the "Press <F11> for recovery" message is displayed on the screen. Then use the arrow keys to select **Recovery Manager**.

The Recovery Manager tool opens.

2. Click **Advanced Options**.
3. Click **System Recovery**, and then click **Next**.
4. Follow the on-screen instructions to complete the system recovery.

Deleting the recovery partition on the hard drive

The Recovery Manager Advanced Options menu allows you to increase space on the hard drive by deleting the recovery partition.

 **CAUTION:** After you create the recovery discs, you can increase space on the hard drive by deleting the recovery partition. However, doing this is not recommended. If you delete this partition, you will lose any information that is on the partition, including the Recovery Manager software. Thereafter, you must use the recovery discs to access the Recovery Manager software.

When you delete this partition, you lose any information that is on the partition, including the Recovery Manager software itself. Thereafter, you must use the recovery discs to access Recovery Manager.

To delete the recovery partition:

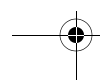
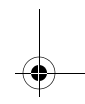
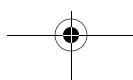
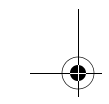
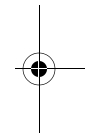
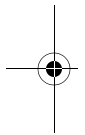
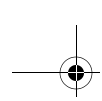
1. If you have not already created recovery discs, create them now. Then go on to step 2.
2. Select **Start > All Programs > Recovery Manager > Recovery Manager**.
The Recovery Manager tool opens.
3. Click **Advanced Options**.
4. Click **Remove recovery partition**, and then click **Next**.
5. Follow the on-screen instructions.

Updating reinstalled software

After you perform a system recovery, connect to the Internet to update all reinstalled software.

- » To access update links for the operating system and other software provided on your computer, select **Start > Help and Support**.

To update optional software, follow the instructions provided by the software manufacturer. Some programs include an update feature you can access from a Help button or menu within the program.





A

Using the optical drive

Inserting an optical disc

To insert an optical disc:


1. Turn on the computer.
2. Press the optical drive release button on the drive bezel to release the media tray, and then pull out the tray.
3. Hold the CD or DVD by the edges to avoid touching the flat surfaces, and position the disc over the tray spindle, which is located in the center of the tray, with the label side up.
 If the tray is not fully accessible, tilt the disc carefully to position it over the spindle.
4. Gently press the disc down onto the tray spindle until the disc snaps into place.
5. Close the media tray.

 After you insert a disc, a short pause is normal. If you have not selected a default media player, an AutoPlay dialog box opens. It prompts you to select how you want to use the media content.

*Using the optical drive***Removing an optical disc (with power)**

To remove an optical disc if the computer is running on external or battery power, follow these steps:

1. Turn on the computer.
2. Press the optical drive release button on the drive bezel to release the media tray, and then pull out the tray.
3. Remove the disc from the tray by gently pressing down on the spindle while lifting the outer edges of the disc. Hold the disc by the edges and avoid touching the flat surfaces.

 If the tray is not fully accessible, tilt the disc carefully as you remove it.

4. Close the media tray and place the disc in a protective case.

Removing an optical disc (without power)

To remove an optical disc if external or battery power is unavailable, follow these steps:

1. Insert the end of a paper clip into the optical drive release access in the front bezel of the optical drive.
2. Press in gently until the media tray is released, and then pull out the tray.
3. Remove the disc from the tray by gently pressing down on the spindle while lifting the outer edges of the disc. Hold the disc by the edges and avoid touching the flat surfaces.

 If the tray is not fully accessible, tilt the disc carefully as you remove it.

4. Close the media tray and place the disc in a protective case.

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

Specifications

Rated input power

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

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

Input Power	Rating
Operating voltage	18.5 V dc or 19.0 V dc
Operating current	3.5 A or 4.74 A

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

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

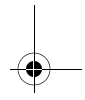
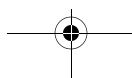
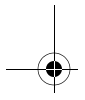
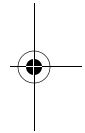
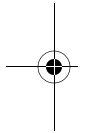
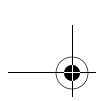
The signal information in this section may be helpful if you plan to use an optional docking device or expansion product that connects to the expansion port 3 on the computer. (The computer has only one expansion port. The term *expansion port 3* describes the type of expansion port.)

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

Feature	Support
USB 2.0	Yes
10/100/1000 Ethernet	Yes
IEEE 1394 (4-pin port)	No
Consumer infrared lens (for optional remote control only)	Yes
Power inputs	65-W to 90-W maximum
Composite TV	Yes
S-Video TV	Yes
Component TV	Yes
S/PDIF audio (select models only)	Yes
DVI	No
Headphone/speaker audio-out	Yes
Microphone audio-in	Yes
VGA	Yes
Power button	Yes
Volume control (up/down)	Yes
Mute/unmute status	Yes



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C

Routine care

Cleaning 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.



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

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 could 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.

Routine care

Traveling and shipping

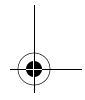
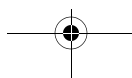
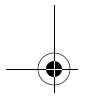
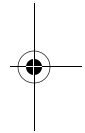
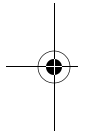
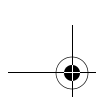
The computer is built to go with you for work and play. For best results, follow the traveling and shipping tips described here.

- To prepare the computer for traveling and shipping, follow these steps:
 - a. Back up your information.
 - b. 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.
 - c. Turn off and then disconnect all external devices.
 - d. 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.
- If you plan to use the computer during a flight, check with the airline in advance. In-flight computer use is at the discretion of the airline.
- If the computer will be unused and disconnected from external power for more than 2 weeks, remove the battery and store it separately.
- If you are shipping the computer or a drive, place it in a bubble-pack mailer or other suitable protective packaging and label the package "FRAGILE."

- If the computer has a wireless device or a cell phone device installed, such as an 802.11 b/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, in hazardous locations, and so on. 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 on your itinerary.
 - ❑ Consult with technical support about 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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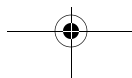
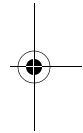
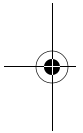
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