

Pointing Devices and Keyboard

User Guide



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Antenna House XSL Formatter

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1 Using the Pointing Devices

Using the TouchPad

The following illustration and table describe the computer TouchPad.



Component		Description
(1)	TouchPad light	Blue: TouchPad is enabled. Amber: TouchPad is disabled.
(2)	TouchPad*	Moves the pointer and selects or activates items on the screen.
(3)	Left TouchPad button*	Functions like the left button on an external mouse.
(4)	Right TouchPad button*	Functions like the right button on an external mouse.
(5)	TouchPad scroll zone*	Scrolls up or down.
(6)	TouchPad on/off button	Enables/disables the TouchPad.
*This table describes factory settings. To view and change pointing device preferences, select Start > Control Panel > Hardware and Sound > Mouse . In the Windows Security dialog box, click Allow .		

To move the pointer, slide your finger across the TouchPad surface in the direction you want the pointer to go. Use the TouchPad buttons like the corresponding buttons on an external mouse. To scroll up and down using the TouchPad vertical scroll zone, slide your finger up or down over the lines.



NOTE If you are using the TouchPad to move the pointer, you must lift your finger off the TouchPad before moving it to the scroll zone. Simply sliding your finger from the TouchPad to the scroll zone will not activate the scrolling function.

Using the pointing stick

Press the pointing stick in the direction you want to move the pointer on the screen. Use the left and right pointing stick buttons as you would the left and right buttons on an external mouse.



Setting pointing device preferences

Mouse Properties in Microsoft® Windows® allows you to customize pointing device settings such as mouse speed preferences.

To access Mouse Properties, select **Start > Control Panel > Printers and Other Hardware > Mouse**.

Connecting an external mouse

You can connect an external USB mouse to the computer using one of the USB ports on the computer. A USB mouse can also be connected to the system using the ports on an optional docking device or expansion product.

Using the pen

You can write with the pen in pen-specific programs, such as the Tablet PC Input Panel [DOES SPUTNIK SUPPORT THIS?], in all Microsoft Office applications, and in most other Windows programs and utilities. The information you write on the screen with the pen can be filed, searched, and shared among most Windows programs.

Identifying the pen components

The pen interacts with the computer whenever the tip (1) of the pen is approximately 1.27 cm (0.5 inch) from the screen. [IS THIS TRUE FOR SPUTNIK OR DOES THE PEN HAVE TO TOUCH THE SCREEN?]

The pen tether eyelet (2) allows you to connect a tether from the pen to the computer.



Holding the pen

Hold the pen as if you were writing with a standard pen or pencil. Position the pen in your hand so that you will not accidentally press the pen button.

As you monitor the movements of the pen, focus on the pointer, not on the tip of the pen.

Performing mouse clicks with the pen

To select an item on the screen as you would with the left button of an external mouse:

- ☐ Tap the item with the tip of the pen.

To double-click an item on the screen as you would with the left button of an external mouse:

- ☐ Tap the item twice with the tip of the pen.

[HOW DOES ONE RIGHT-CLICK? DRAG & DROP?]

Performing other procedures with the pen

- To display the pointer location, hold the pen tip immediately over any location on the screen without touching the screen with the pen tip.
- To display the menu options related to an item on the screen, tap the screen with the pen tip.
- To write with the pen, write on the screen with the tip of the pen.
- To press a pen-activated button, tap the button with the tip of the pen.

Pressure-sensitivity

[DOES THIS SECTION APPLY?] The pen is equipped with a pressure-sensitive feature. This means that you can manipulate the pen to create lines of various thickness, depending upon the amount of pressure you use to write.



NOTE This feature is only available if the Tablet PC Input Panel software program is enabled.

Calibrating the pen

The pen can function at the default calibration or at a calibration set by another user. However, HP highly recommends that you use the pen only while it is calibrated to your personal handwriting and mouse action motions. Calibration optimizes pen performance for all users and particularly for left-handed users.

To calibrate the pen: **[THESE STEPS MAY CHANGE WITH VISTA]**

1. Select **Start > Control Panel > Printers and Other Hardware > Tablet and Pen Settings > Settings** tab.
2. Select **Calibrate**.
3. Follow the instructions on the screen.
 - Tap the pen in the exact center of each of the calibration markers. The calibration markers are displayed on the screen as plus signs (+).
 - Be sure to calibrate the pen for use in both portrait and landscape orientations.



NOTE You can display information about any setting in the Tablet and Pen Settings window by selecting the question mark button in the upper-right corner of the window, and then select a setting.

Using the pen holder

To protect the pen when you are not using it, insert the pen, tip first, into the pen holder on the computer.

[I JUST REALIZED THIS GRAPHIC SHOWS THE COMPUTER UPSIDE DOWN. I'LL HAVE IT CORRECTED FOR THE NEXT REVIEW.]



Setting pen preferences

[THESE STEPS MAY CHANGE WITH VISTA]

Pen preferences are set in the Tablet and Pen Settings window of the operating system. The preferences include settings that optimize handwriting recognition and the location of on-screen menus for either right-handed or left-handed users.

To access the pen settings:

- ☐ Select **Start > Control Panel > Printers and Other Hardware > Tablet and Pen Settings > Pen Options** tab.

The preferences you set in the Tablet and Pen Settings window are specific to the pen and the computer.

Pointing device preferences, such as pointer speed, click speed, and mouse trails, are set in the Mouse Properties window. These preferences apply to any pointing device in the system.

To access Mouse Properties:

- ☐ Select **Start > Control Panel > Printers and Other Hardware > Mouse**.

Using the touchscreen (select models only)

The touchscreen (select models only) allow you to make selections or activate items on the screen using your fingers.



CAUTION To prevent damage to the touchscreen:

Do not use your fingernails or other sharp objects to make selections.

Do not slide your finger or any other object across the screen.

To select an item on the screen as you would with the left button of an external mouse:

- ☐ Lightly tap the item with your finger.

To double-click an item on the screen as you would with the left button of an external mouse:

- ☐ Lightly tap the item twice with your finger.

I am assuming that finger touching is the same as pen touching. Please let me know where the differences are.

2 Using the keyboard

Using hotkeys

Hotkeys are combinations of the **fn** key (1) and either the **esc** key (2) or one of the function keys (3).

The icons on the **f1** through **f12** keys represent the hotkey functions. Hotkey functions and procedures are discussed in the following sections.



Function	Hotkey
Display system information.	fn+esc
Clear system information.	fn+esc or press enter
Open the Help and Support Center.	fn+f1
Open the Print Options window.	fn+f2
Open a Web browser.	fn+f3
Alternate between computer display and external display.	fn+f4
Initiate standby.	fn+f5
Initiate QuickLock.	fn+f6
Decrease screen brightness.	fn+f7
Increase screen brightness.	fn+f8
Play, pause, or resume an audio CD or a DVD.	fn+f9

Function	Hotkey
Stop an audio CD or a DVD.	fn+f10
Play the previous track or section on an audio CD or a DVD.	fn+f11
Play the next track on an audio CD or a DVD.	fn+f12

To use a hotkey command on the computer keyboard, follow either of these steps:

- Briefly press the **fn** key, and then briefly press the second key of the hotkey command.
— or —
- Press and hold down the **fn** key, briefly press the second key of the hotkey command, and then release both keys at the same time.

Displaying system information (fn+esc)

Press **fn+esc** to display information about system hardware components and the system BIOS version number.

In the Windows **fn+esc** display, the version of the system BIOS (basic input-output system) is displayed as the BIOS date. On some computer models, the BIOS date is displayed in decimal format. The BIOS date is sometimes called the system ROM version number.

Opening the Help and Support Center (fn+f1)

Press **fn+f1** to open the Help and Support Center.

In addition to providing information about your Windows operating system, the Help and Support Center provides

- Information about your computer, such as model and serial number, installed software, hardware components, and specifications.
- Answers to questions about using your computer.
- Tutorials to help you learn to use the computer and Windows features.
- Updates for the Windows operating system, drivers, and the software provided on your computer.
- Checkups for computer functionality.
- Automated and interactive troubleshooting, repair solutions, and system recovery procedures.
- Links to HP support specialists.

Opening the Print Options window (fn+f2)

Press **fn+f2** to open the Print Options window of the active Windows application.

Opening a Web browser (fn+f3)

Press **fn+f3** to open your Web browser.

Until you have set up your Internet or network services, the **fn+f3** hotkey opens the Windows Internet Connection Wizard.

After you have set up your Internet or network services and your Web browser home page, you can press **fn+f3** to quickly access your home page and the Internet.

Switching the screen image (fn+f4)

Press **fn+f4** to switch the screen image among display devices connected to the system. For example, if a monitor is connected to the computer, pressing **fn+f4** alternates the screen image from computer display to monitor display to simultaneous display on both the computer and the monitor.

Most external monitors receive video information from the computer using the external VGA video standard. The **fn+f4** hotkey can also alternate images among other devices receiving video information from the computer.

The following video transmission types, with examples of devices that use them, are supported by the **fn+f4** hotkey:

- LCD (computer display)
- External VGA (most external monitors)
- S-Video (televisions, camcorders, VCRs, and video capture cards with S-Video-in jacks)
- Composite video (televisions, camcorders, VCRs, and video capture cards with composite-video-in jacks)



NOTE Composite video devices can be connected to the system only by using an optional expansion product.

Initiating standby (fn+f5)

Press **fn+f5** to initiate standby.

When standby is initiated, your information is stored in random access memory (RAM), the screen is cleared, and power is conserved. While the computer is in standby, the power light blinks.



CAUTION To reduce the risk of information loss, save your work before initiating standby.

The computer must be turned on before you can initiate standby. If the computer is in hibernation, you must restore from hibernation before you can initiate standby.



NOTE To restore from hibernation, briefly press the power button.

To resume from standby, briefly press the power button, press any key on the keyboard, or press a Quick Launch button.

The function of the **fn+f5** hotkey can be changed. For example, you can set the **fn+f5** hotkey to initiate hibernation instead of standby.



NOTE In all Windows operating system windows, references to the *sleep button* apply to the **fn+f5** hotkey.

Initiating QuickLock (fn+f6)

Press **fn+f6** to initiate the QuickLock security feature.

QuickLock protects your information by displaying the operating system Log On window. While the Log On window is displayed, the computer cannot be accessed until a Windows user password or a Windows administrator password is entered.



NOTE Before you can use QuickLock, you must set a Windows user password or a Windows administrator password. For instructions, refer to the Help and Support Center.

To use QuickLock, press **fn+f6** to display the Log On window and lock the computer. Then follow the instructions on the screen to enter your Windows user password or your Windows administrator password and access the computer.

Decreasing screen brightness (fn+f7)

Press **fn+f7** to decrease screen brightness. Hold down the hotkey to decrease the brightness level incrementally.

Increasing screen brightness (fn+f8)

Press **fn+f8** to increase screen brightness. Hold down the hotkey to increase the brightness level incrementally.

Playing, pausing or resuming an audio CD or a DVD (fn+f9)

The **fn+f9** hotkey functions only when an audio CD or a DVD is inserted:

- If the audio CD or the DVD is not playing, press **fn+f9** to begin or resume the play.
- If the audio CD or the DVD is playing, press **fn+f9** to pause the play.

Stopping an audio CD or a DVD (fn+f10)

Press **fn+f10** to stop the play of an audio CD or a DVD.

Playing previous track or section of an audio CD or a DVD (fn+f11)

While an audio CD or a DVD is playing, press **fn+f11** to play the previous track of the CD or the previous section of the DVD.

Playing next track or section of an audio CD or a DVD (fn+f12)

While an audio CD or a DVD is playing, press **fn+f12** to play the next track of the CD or the next section of the DVD.

Using the HP Quick Launch Buttons control panel

The HP Quick Launch Buttons control panel manages the following settings:

- Programming of the Media button and the DVD button
- Preferences for the operating system and program font and icon settings
- Preferences for the display of the HP Quick Launch Buttons icon on the taskbar
- Button assignments for non-administrator users
- Button assignments for the Easy Access buttons on an optional external keyboard



NOTE Quick Launch buttons are called Easy Access buttons on an optional external keyboard.

The following sections provide instructions for setting preferences within the control panel. For additional on-screen information about any item on the control panel, click the Help button in the upper-right corner of the window. The Help button is identified with a question mark icon.

Opening the HP Quick Launch Buttons control panel

You can open the HP Quick Launch Buttons control panel in any of the following ways:

- Select **Start > Control Panel > Printers and Other Hardware > Quick Launch Buttons**.
- Double-click the **HP Quick Launch Buttons** icon in the notification area, at the far right of the taskbar.
- Right-click the **HP Quick Launch Buttons** icon in the notification area, and select **Adjust HP Quick Launch Buttons Properties**.

Setting button preferences

You can program the Media button to open the Media Menu, or you can program the Media button to open media programs from a defined list when the button is pressed. You can also program the DVD button to open media programs from a defined list when the button is pressed.

To program the Media button to open the Media Menu when the button is pressed, follow these steps:

1. In the HP Quick Launch Buttons control panel, click the **Media** tab.
2. Click the button next to **Open the Media Menu and let you select an application from the list**.
3. To save your preferences and close the control panel, click **OK**.

To program the Media button or the DVD button to open a media program from a defined list, follow these steps:

1. In the HP Quick Launch Buttons control panel, click the **Media** tab.
2. Click the down arrow next to the button you want to set, and click a program from the list.

3. To add a program, click the **Add** button.
 - a. In the **Add media applications** dialog box, enter the program file name or click **Browse** to search for available programs.
 - b. Click **OK**.
4. To save your preferences and close the control panel, click **OK**.

Setting Zoom preferences

To change operating system and application font and icon settings:

1. In the HP Quick Launch Buttons control panel, click the **Zoom** tab.
2. Use the sliders to adjust the font and icon size in the operating system, and to adjust title and menu font size in programs.
3. To synchronize operating system and program settings, click the **Synchronize OS and application settings** box.
4. To save your preferences and close the control panel, click **OK**.



NOTE To restore the factory settings, click the **Default** button.

Setting other preferences

You can set icon and external keyboard assignments in the Quick Launch Button control panel.



NOTE Some of the preferences listed on the Preferences tab may not be supported by your computer.

To set a preference:

1. In the HP Quick Launch Buttons control panel, click the **Preferences** tab.
2. To display or enable a preference, select the check box next to the item.

– or –

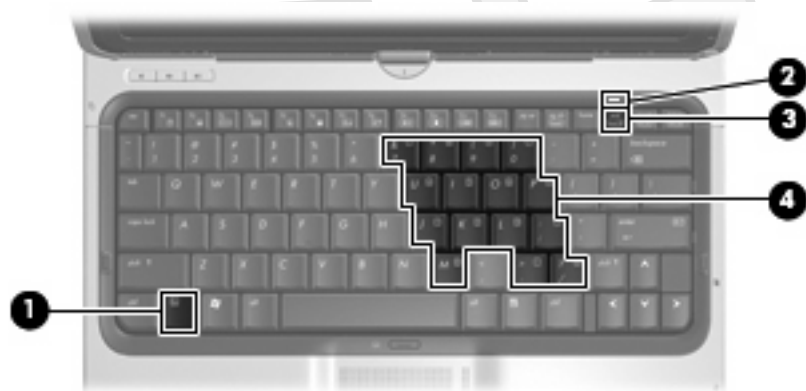
To clear or disable a preference, clear the check box next to the item.
3. To save your preferences and close the control panel, click **OK**.



NOTE For on-screen information about any item on the Preferences tab, click the Help button in the upper-right corner of the window, and then click the item. The Help button is identified with a question mark icon.

3 Using the keypads

The computer has an embedded numeric keypad and also supports an optional external numeric keypad or an optional external keyboard that includes a numeric keypad.



Component		Description
(1)	fn key	Executes frequently used system functions when pressed in combination with a function key or the esc key.
(2)	num lock light	On: Num lock is on.
(3)	num lk key	Press with the fn key to enable the embedded numeric keypad.
(4)	Embedded numeric keypad	Can be used like the keys on an external numeric keypad.

Using the embedded numeric keypad

The 15 keys of the embedded numeric keypad can be used like the keys on an external keypad. When the embedded numeric keypad is turned on, each key on the keypad performs the function indicated by the icon in the upper-right corner of the key.

Enabling and disabling the embedded numeric keypad

Press **fn+num lk** to enable the embedded numeric keypad. The num lock light is turned on. Press **fn+num lk** again to return the keys to their standard keyboard functions.



NOTE The embedded numeric keypad will not function while an external keyboard or numeric keypad is connected to the computer or to an optional A USB mouse can also be connected to the system using the ports on an optional docking device or expansion product.

Switching key functions on the embedded numeric keypad

You can temporarily alternate the functions of keys on the embedded numeric keypad between their standard keyboard functions and their keypad functions by using the **fn** key or the **fn+shift** key combination.

- To change the function of a keypad key to keypad functions while the keypad is off, press and hold the **fn** key while pressing the keypad key.
- To use the keypad keys temporarily as standard keys while the keypad is on:
 - Press and hold the **fn** key to type in lowercase.
 - Press and hold **fn+shift** to type in uppercase.

Using an external numeric keypad

Most keys on most external numeric keypads function differently according to whether num lock is on or off. (Num lock is turned off at the factory.) For example:

- When num lock is on, most keypad keys type numbers.
- When num lock is off, most keypad keys function like the arrow, page up, or page down keys.

When num lock on an external keypad is turned on, the num lock light on the computer is turned on. When num lock on an external keypad is turned off, the num lock light on the computer is turned off.

If an external keypad is connected, the embedded numeric keypad cannot be turned on.

To turn num lock on or off on an external keypad as you work:

- ☐ Press the **num lk** key on the external keypad, not on the computer.

4 Cleaning the TouchPad, keyboard, and touchscreen (select models only)

Clean the touchscreen (select models only) regularly with non-abrasive wipes intended for this purpose.

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.



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Power Management

User Guide

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1 Setting power options

Using power-saving states



CAUTION To prevent possible audio and video degradation, or loss of audio or video playback functionality, or loss of information, do not initiate Sleep or Hibernation while reading from or writing to a disc or an external media card.



NOTE You cannot initiate any type of networking communications or perform any computer functions while the computer is in the Sleep state or in Hibernation.

The computer has two power-saving states enabled at the factory: Sleep and Hibernation.

When you initiate Sleep, the power lights blink and the screen clears. Your work is saved to memory, letting you exit Sleep faster than exiting Hibernation. If the computer is in the Sleep state for an extended period or the battery reaches a critical low-battery state while in the Sleep state, your work is saved to the hard drive.

When you initiate Hibernation, your work is saved to a hibernation file on the hard drive and the computer turns off.

Initiating or exiting Sleep

The system is set at the factory to initiate Sleep after 10 minutes of inactivity when running on battery power and 25 minutes of inactivity when running on external power.



NOTE Power settings and timeouts can be changed using Power Options in Windows Control Panel.

With the computer on, you can initiate Sleep in any of the following ways:

- Press **fn+f5**.
- Close the display.
- Click **Start**, click the icon next to the Lock button, and then click **Sleep**.

To exit Sleep, press the power button. When the computer exits Sleep, the power lights turn on and your work returns to the screen where you stopped working.



NOTE If you have set a password to be required upon wakeup, you must enter your Windows password before your work will return to the screen.

Initiating or exiting Hibernation

The system is set at the factory to initiate Hibernation after minutes of inactivity or if the battery reaches a critical low-battery state.



NOTE Power settings and timeouts can be changed using Power Options in Windows Control Panel.

To initiate Hibernation:

- ☐ Press the power button.

– or –

- a. Click **Start**, and then click the arrow next to the Lock button.
- b. Click **Hibernate**.

To exit Hibernation, press the power button. The power lights turn on and your work returns to the screen where you stopped working.



NOTE If you have set a password to be required upon wakeup, you must enter your Windows password before your work will return to the screen.

Using power plans

A power plan is a collection of system settings that manages how the computer uses power. Power plans can help you conserve power and maximize performance.

Windows Vista provides 3 power plans:

- **Balanced**—Balances energy consumption and system performance.
- **Power saver**—Conserves power by reducing system performance.
- **High performance**—Provides the highest level of system performance.

You can change the settings of these power plans or create your own power plan.

Viewing the current power plan

- ☐ Move the pointer over the battery meter icon in the notification area, at the far right of the taskbar.

– or –

Select **Start > Control Panel > System and Maintenance > Power Options**.

Selecting a different power plan

- ☐ Click the battery meter icon in the notification area, at the far right of the taskbar, and then select a power plan from the list.

– or –

Select **Start > Control Panel > System and Maintenance > Power Options**, and then select a power plan from the list.

Customizing power plans

1. Click the battery meter icon in the notification area and then click **More power options**.

– or –

Click **Start > Control Panel > System and Maintenance > Power Options**.

2. Under the computer's selected power plan, click **Change plan settings**.
3. Change the **Turn off display** and **Put computer to sleep** timeout settings, as needed.
4. To change additional settings, click **Change advanced power settings** and make your changes.

Setting a password prompt on wakeup

To set the computer to prompt for a password when the computer exits Sleep:

1. Select **Start > Control Panel > System and Maintenance > Power Options**.
2. Click **Require a password**.
3. Click **Save changes**.

2 Using battery power

When a charged battery is in the computer and the computer is not plugged into external power, the computer runs on battery power. When the computer is plugged into external AC power, the computer runs on AC power.

If the computer contains a charged battery and is running on external AC power supplied through the AC adapter, the computer switches to battery power if the AC adapter is disconnected from the computer.



NOTE The display brightness is decreased to save battery life when you disconnect AC power. To increase display brightness, use the **fn+f8** hotkey or reconnect the AC adapter.

You can keep a battery in the computer or in storage, depending on how you work. Keeping the battery in the computer whenever the computer is plugged into AC power charges the battery and also protects your work in case of a power outage. However, a battery in the computer slowly discharges when the computer is off and unplugged from external power.



WARNING! To avoid potential safety issues, use only the battery provided with the computer, a replacement battery provided by HP, or a compatible battery purchased as an accessory from HP.

Using the battery meter

The battery meter allows you to quickly access power settings and select a different power plan. To display the percentage of remaining battery charge and the current power plan, move the pointer over the battery meter icon, located in the notification area at the far right of the taskbar. To access Power Options or the Mobility Center, or to change the power plan, click the battery meter icon.

The battery meter icon changes shape to indicate whether the computer is running on battery or external power. The icon also displays a message if the battery has reached a critically low level.

Displaying the remaining battery charge

- ☐ Move the pointer over the battery meter icon in the notification area, at the far right of the taskbar.

You can view the estimated number of minutes of charge remaining in the Mobility Center. To open Mobility Center.

The time indicates the approximate running time remaining *if the computer continues to consume power at the current level*. For example, the time remaining decreases when playing a DVD and increases when a DVD stops playing.

Hiding or displaying the battery meter icon

1. Right-click the taskbar, and then click **Properties**.
2. Click the **Notification Area** tab.
3. Under System icon, clear the **Power** check box to hide the battery meter icon, or select the **Power** check box to display the battery meter icon.
4. Click **OK**.

TBD - I do not have a unit with Mobility Center working, so this will be updated at a later date.

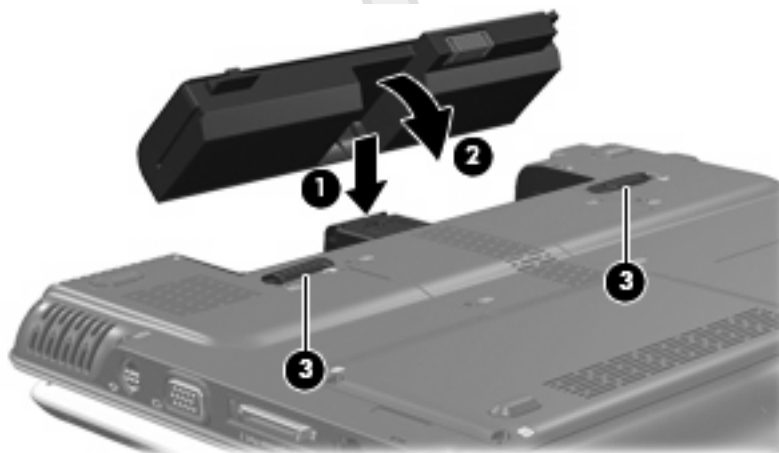
Inserting or removing the battery



CAUTION To prevent loss of information when removing a battery that is the sole power source, initiate Hibernation or turn off the computer before removing the battery.

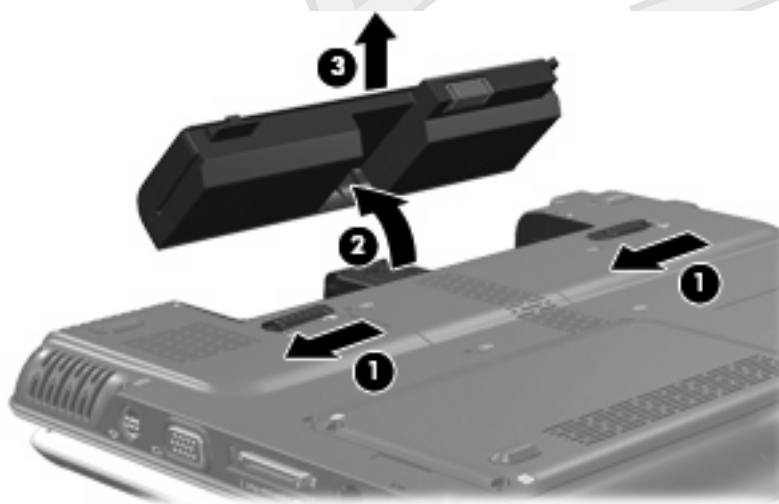
To insert the battery:

1. Turn the computer upside down on a flat surface.
2. Insert the battery into the battery bay (1) and rotate it downward until it is seated (2).
The battery release latches (3) automatically lock the battery into place.



To remove the battery:

1. Turn the computer upside down on a flat surface.
2. Slide the battery release latches (1) to release the battery.
3. Pivot the battery (2) away from the computer and remove it from the computer (3).



Charging a battery



WARNING! Do not charge the computer battery while you are onboard aircraft.

The battery charges whenever the computer is plugged into external power through an AC adapter, an optional expansion product, or an optional power adapter.

The battery charges whether the computer is off or in use, but it charges faster while the computer is off.

Charging may take longer if a battery is new, has been unused for 2 weeks or more, or is much warmer or cooler than room temperature.

To prolong battery life and optimize the accuracy of battery charge displays, follow these recommendations:

- If you are charging a new battery, charge it fully before turning on the computer.
- Charge the battery until the battery light turns off.



NOTE If the computer is on while the battery is charging, the battery meter in the notification area may show 100 percent charge before the battery is fully charged.

- Allow the battery to discharge below 5 percent of a full charge through normal use before charging it.
- If the battery has been unused for one month or more, calibrate the battery instead of simply charging it.

The battery light displays charge status:

- On: The battery is charging.
- Blinking: The battery has reached a low-battery condition and is not charging.
- Off: The battery is fully charged or not installed.

Managing low-battery conditions

The information in this section describes the alerts and system responses set at the factory. Some low-battery condition alerts and system responses can be changed using Power Options in Windows Control Panel. Preferences set using Power Options do not affect lights.

Identifying low-battery conditions

When a battery that is the sole power source for the computer reaches a low-battery condition, the battery light blinks.

If a low-battery condition is not resolved, the computer enters a critical low-battery condition, and the battery light continues to blink.

In a critical low-battery condition:

- If Hibernation is enabled and the computer is on or in the Sleep state, the computer initiates Hibernation.
- If Hibernation is disabled and the computer is on or in the Sleep state, the computer remains briefly in the Sleep state, and then shuts down and loses any unsaved information.

Resolving a low-battery condition



CAUTION To reduce the risk of losing information when the computer reaches a critical low-battery condition and has initiated Hibernation, do not restore power until the power lights turn off.

Resolving a low-battery condition when external power is available

Connect one of the following devices:

- AC adapter
- Optional expansion product
- Optional power adapter

Resolving a low-battery condition when a charged battery is available

1. Turn off the computer or initiate Hibernation.
2. Remove the discharged battery, and then insert a charged battery.
3. Turn on the computer.

Resolving a low-battery condition when no power source is available

- ☐ Initiate Hibernation.

– or –

Save your work and shut down the computer.

Resolving a low-battery condition when the computer cannot exit Hibernation

When the computer lacks sufficient power to exit Hibernation:

1. Insert a charged battery or plug the computer into external power.
2. Exit Hibernation by pressing the power button.

Calibrating a battery



NOTE It is not necessary to calibrate a new battery.

Even if a battery is heavily used, it should not need to be calibrated more than once a month. Calibrate a battery under the following conditions:

- When battery charge displays seem inaccurate
- When you observe a significant change in battery run time
- When the battery has been unused for one month or more

Three steps are involved in calibrating a battery: fully charging, discharging, and then fully recharging.

Step 1: Fully charge the battery



WARNING! Do not charge the computer battery while you are onboard aircraft.



NOTE A battery can charge whether the computer is off or in use, but it will charge faster when the computer is off.

To fully charge the battery:

1. Insert the battery into the computer.
2. Connect the computer to an AC adapter, optional power adapter, optional expansion product, or optional docking device, and then plug the adapter or device into external power.

The battery light on the computer turns on.

3. Leave the computer plugged into external power until the battery is fully charged.

The battery light on the computer is turns off.

Step 2: Disable Hibernation and Sleep

1. Click the battery meter icon in the notification area, and then click **More power options**.

– or –

Click **Start > Control Panel > System and Maintenance > Power Options**.

2. Under the current power plan, click **Change this plan**.
3. Record the **Turn off display** and **Put computer to sleep** settings listed in the **On battery** column so that you can reset them after the calibration.
4. Change the **Turn off display** and **Put computer to sleep** settings to **Never**.
5. Click **Change advanced power settings**.
6. Click the plus sign next to **Sleep**, and then click the plus sign next to **Hibernate after**.
7. Record the **On battery** setting under **Hibernate after** so that you can reset it after the calibration.
8. Change the **On battery** setting to **Never**.

9. Click **OK**.
10. Click **Save settings**.

Step 3: Discharge the battery

The computer must remain on while the battery is being discharged. The battery can discharge whether or not you are using the computer but will discharge faster while the computer is in use.

- If you plan to leave the computer unattended during the discharge, save your information before beginning the discharge procedure.
- If you use the computer occasionally during the discharge procedure and have set energy-saving timeouts, expect the following performance from the system during the discharge process:
 - The monitor will not turn off automatically.
 - Hard drive speed will not decrease automatically when the computer is idle.
 - System-initiated Hibernation will not occur.

To discharge a battery:

1. Unplug the computer from its external power source, but do *not* turn off the computer.
2. Run the computer on battery power until the battery is discharged. The battery light begins to blink when the battery has discharged to a low-battery condition. When the battery is discharged, the battery light turns off and the computer shuts down.

Step 4: Fully recharge the battery

To recharge the battery:

1. Plug the computer into external power and maintain external power until the battery is fully recharged. When the battery is recharged, the battery light on the computer turns off.

You can use the computer while the battery is recharging, but the battery will charge faster if the computer is off.
2. If the computer is off, turn it on when the battery is fully charged and the battery light has turned off.

Step 5: Reenable Hibernation and Sleep



CAUTION Failure to reenable Hibernation after calibration may result in a full battery discharge and potential information loss.

1. Right-click the **Power Meter** icon in the notification area, at the far right of the taskbar, and then click **Adjust Power Properties**.

– or –

Select **Start > Control Panel > Performance and Maintenance > Power Options**.
2. Reenter the settings that you recorded for the items in the **On battery** column.
3. Click **Change advanced power settings**.
4. Click the plus sign next to **Sleep**, and then the plus sign next to **Hibernate after**.
5. Reenter the setting that you recorded for **On battery**.
6. Click **OK**.
7. Click **Save settings**.

Conserving battery power

- Use the operating system to select a power plan with low power-use settings.
- Turn off wireless and local area network (LAN) connections and exit modem applications when you are not using them.
- Disconnect external devices that are not plugged into an external power source, if you are not using them.
- Stop, disable, or remove any external media cards that you are not using.
- Use the **fn+f8** and **fn+f7** hotkeys to adjust screen brightness as needed.
- Use optional powered speakers instead of the internal speakers, or adjust speaker volume as you needed.
- If an external display device is connected to the computer, press **fn+f4** to switch the screen image from the computer display to the external display.
- If you leave your work, initiate Sleep or Hibernation, or shut down the computer.

Storing a battery



CAUTION To prevent damage to a battery, do not expose it to high temperatures for extended periods of time.

If a computer will be unused and unplugged from external power for more than 2 weeks, remove the battery and store it separately.

To prolong the charge of a stored battery, place it in a cool, dry place.

Calibrate a battery before using it if it has been stored for one month or more.

Disposing of a used battery



WARNING! To reduce the risk of fire or burns, do not disassemble, crush, or puncture a battery; short the external contacts on a battery; or dispose of a battery in fire or water. Do not expose a battery to temperatures above 60°C (140°F). Replace the battery only with a battery approved for this computer.

Refer to the *Regulatory, Safety, and Environmental Notices* for battery disposal information.

3 Using external AC power

External AC power is supplied through one of the following devices:

- AC adapter included with the computer
- Optional docking device or expansion product
- Optional power adapter

Connect the computer to external AC power under any of the following conditions:

- When you are charging or calibrating a battery pack.



WARNING! Do not charge the computer battery while you are onboard aircraft.

- When you are installing or modifying system software.
- When you are writing information to a CD or DVD.

When you connect the computer to external AC power, the following events occur:

- The battery begins to charge.
- If the computer is turned on, the battery meter icon in the notification area changes appearance.

When you disconnect external AC power, the following events occur:

- The computer switches to battery power.
- The display brightness is automatically decreased to save battery life. To increase display brightness, press the **fn+f8** hotkey or reconnect the AC adapter.

Connecting the AC adapter



WARNING! To reduce the risk of electric shock or damage to the 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 the 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.

To connect the computer to external AC power:

1. Plug the AC adapter into the power connector **(1)** on the computer.
2. Plug the power cord into the AC adapter **(2)**.
3. Plug the other end of the power cord into an AC outlet **(3)**.



4 Shutting down the computer



CAUTION Shutting down the computer results in the loss of unsaved information.

The Shut Down command closes all open programs, including the operating system, and then turns off the display and computer.

Shut down the computer under any of the following conditions:

- When you need to replace the battery or access components inside the computer.
- When you are connecting an external hardware device that does not connect to a USB port or a 1394 port.
- When you have installed a program or update that requires Windows to restart to complete the installation.
- When the computer will be unused and disconnected from external power for an extended period.

To shut down the computer:



NOTE If the computer is in the Sleep state or in Hibernation, you must first exit Sleep or Hibernation before shutdown is possible.

1. Save your work and close all open programs.
2. Click **Start**, and then click the arrow next to the Lock button.
3. Click **Shut Down**.

If the computer is unresponsive and you are unable to use normal Windows shutdown procedures, try the following emergency procedures in the sequence provided:

- Press **ctrl+alt+delete**. Then, click the arrow next to the power button icon and click **Shut Down**.
- Press and hold the power button for at least 5 seconds.
- Disconnect the computer from external power and remove the battery.



Quick Reference

HP Entertainment PC

For more information about your computer, select **Start > Help and Support > User Guides**.

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Quick Reference

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Finding Information

Finding the Help and Support Center (Start > Help and Support)

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

- 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 (Start > Help and Support > User Guides)

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

To access the user guides:

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

Identifying installed software and hardware

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

1. Select **Start > All Programs**.
2. 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**.
2. Click the **Properties** tab and, in the left pane, click **Device Manager**.
3. In the User Account Control dialog box, click **Continue**.



You can modify your device configurations using Device Manager.

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 Chapter 4, “Creating recovery discs.”

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

Protecting your system files

The operating system and PC Recovery software provide several ways to back up the system and to recover optimal system functionality. For additional information, refer to Chapter 4, “Software 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.

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 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 the Help and Support Center. To access the Help and Support Center, 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).



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 the Help and Support Center. To access the Help and Support Center, 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 connect 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 wireless access, visit the HP Network Assistant at <http://www.hp.com/go/techcenter/wireless> (English only).
 - ☐ To access Wireless Home Network Setup and for instructions on using this software, select **Start > Help and Support**.
- **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 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)
- Microsoft® Windows® New Connection 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 provides 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 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 New Connection Wizard

You can use the Windows New Connection 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 New Connection 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:
 - a. Click **Start**.
 - b. Click the arrow next to the Lock button, and then click **Shut Down**.

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.

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 the Help and Support Center. 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. Contact Customer Care for further assistance.

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.
- 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 optional accessory battery (if applicable) 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 condition, 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 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 condition. 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:
 - a. Click **Start**.
 - b. Click the arrow next to the Lock button, and then click **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:
 - a. Click **Start**.
 - b. Click the arrow next to the Lock button, and then click **Shut Down**.

 If you have been registered to a network domain, the button you click will be called Shut Down instead of Turn Off Computer.

If you are unable to shut down the computer with this procedure, try the following emergency shutdown procedures:



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

1. 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.
2. Disconnect the computer from external power and remove the battery.

The computer is unusually warm

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

 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, press the wireless button 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.



For information on setting up a home wireless network connection, visit <http://www.hp.com/go/techcenter/wireless> (English only).

Contacting Customer Care

If you are unable to find the help you need by using the Help and Support Center, you may need to contact Customer Care.

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 > My HP Computer**.
- 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 > My HP Computer**. (On some models, the registration number may be identified in the Operating System table as the *Product Id*).

If the computer is connected to the Internet, select **Start > Help and Support** to get help by e-mail or to access Customer Care telephone numbers.

Software backup and recovery

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

- Back up your information regularly to protect your important system files.
- Make a set of recovery discs (PC Recovery 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.
- Create 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.
- Recover a program or driver (PC Recovery software feature). This feature helps you reinstall a program or driver without performing a full system recovery.
- Perform a full system recovery (PC Recovery software feature). With PC Recovery, you can recover your full factory image if you experience system failure or instability. PC Recovery 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.

Back up suggestions

- Create system restore points using the Windows XP Professional System Restore feature.
- Store personal files in the My 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:

- 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. To paste the copied images into a document, 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.

Create a system restore point

1. Select **Start > Help and Support**, and then click **System Restore**.
The System Restore window opens.
2. Click **Create a restore point**, and then click **Next**.
3. Follow the on-screen instructions.

Restore to a previous date and time

To revert to a restore point (created at a previous date and time), when the computer was functioning optimally:

1. Select **Start > Help and Support**, and then click **System Restore**.

The System Restore window opens.

2. Click **Restore my computer to an earlier time**, and then click **Next**.
3. Follow the on-screen instructions.

Creating recovery discs

PC Recovery Disc Creator 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 media (purchased separately).



Formatted DVD±RW and DVD±RW double-layer discs are not compatible with the PC Recovery Disc Creator 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 PC Recovery Disc Creator, you will be prompted to continue the disc creation process.

To create a set of recovery discs:

1. Select **Start > All Programs > System Recovery > PC Recovery Disc Creator**.

The PC Recovery Disc Creator tool opens.

2. Click **Next**.



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

3. 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.

4. Insert the first disc and follow the on-screen instructions to complete the creation of the recovery discs.

Reinstalling software programs and drivers

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



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



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

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

- 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 preinstalled programs or drivers

1. Remove the program or driver:



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

- a. Select **Start > Control Panel > Add or Remove Programs**.
 - b. Click the program or driver you want to remove, and then click **Change/Remove**.
2. Select **Start > All Programs > System Recovery > Application and Driver Recovery**.
The Application and Driver Recovery tool opens.
 3. Select **Application Installation** or **Driver Installation**, and then click **Next**.
 4. Follow the on-screen instructions to complete the program or driver recovery.
 5. Restart the computer if prompted.

Reinstalling programs from discs

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

PC Recovery software allows you to repair or restore the system if you experience system failure or instability. PC Recovery works from recovery discs that you create or from a dedicated recovery partition on the hard drive.



Windows XP 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 PC Recovery.



PC Recovery 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 downloaded from the manufacturer's Web site.

Recovering from 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 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:

1. Access the PC Recovery tool:

- ❑ To access PC Recovery from the Start button, select **Start > All Programs > System Recovery > PC Recovery**.
- ❑ To access PC Recovery from **f11**, restart the computer and press **f11** while the “Press <F11> for recovery” message is displayed on the screen.

The PC Recovery tool opens.

2. Select **PC Recovery**, and then click **Next**.

The computer restarts and the PC Recovery tool opens.

3. Click **OK**.

4. Follow the on-screen instructions to complete the system recovery.

If you want to perform a *destructive* recovery:

-  A destructive recovery formats the hard drive and restores the computer to its factory state. Select this option only as a last resort.
- a. Click **Advanced Options** in the System Recovery screen.
- b. Select **Destructive Recovery** and follow the on-screen instructions.

Deleting the recovery partition on the hard drive

The PC Recovery Advanced Options menu provides the option of deleting the recovery partition, which will increase space on the hard drive. Delete the recovery partition only if you have already created recovery discs.



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 PC Recovery software. Thereafter, you must use the recovery discs to access PC Recovery software.

To delete the recovery partition:

1. If you have not already created recovery discs, create them now.
2. Select **Start > All Programs > System Recovery > PC Recovery**.
The PC Recovery tool opens.
3. Select **PC Recovery**, and then click **Next**.
The computer restarts and the PC Recovery tool opens.
4. Click **OK**.
5. At the System Recovery screen, click **Advanced Options**.
6. Select **Delete Recovery Partition (not recommended)** and 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.

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.

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.

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

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 - 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

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.

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 medium 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 802.11b/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, 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 Customer Care 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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431182-001



Quick setup



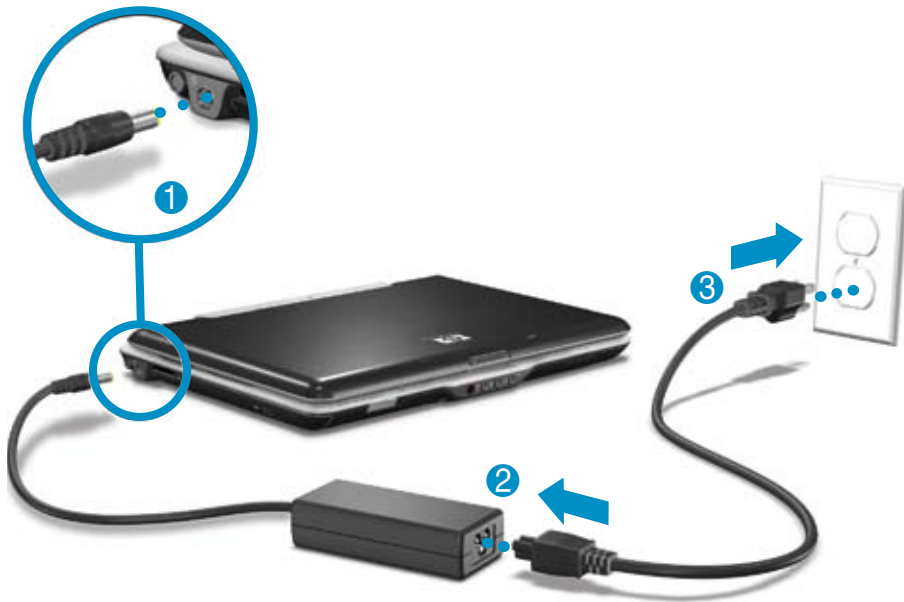
1 Unpack the box



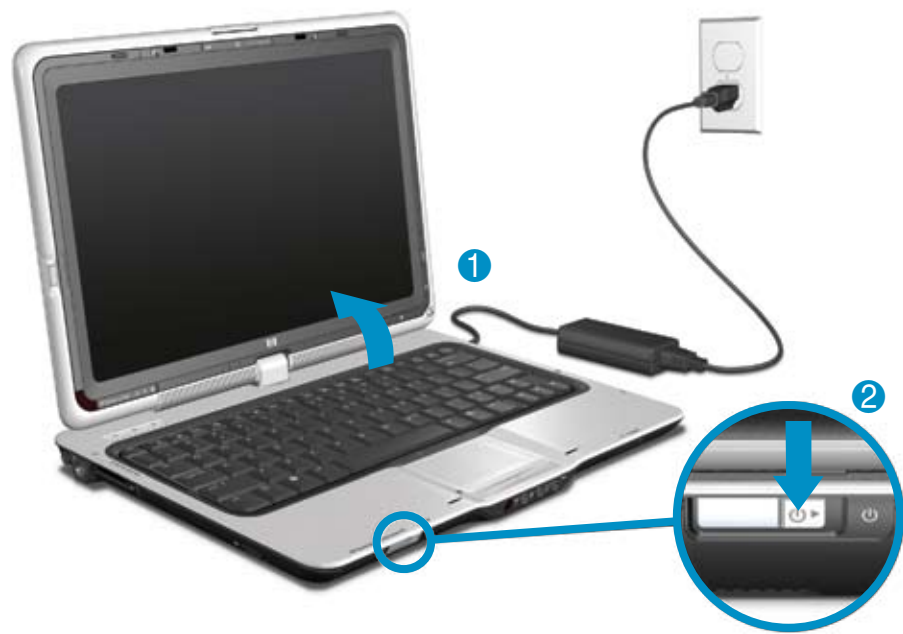
2 Insert the battery



3 Connect to external power



4 Turn on the computer



5 Follow the on-screen instructions

The instructions will guide you through setting up and registering your computer.

Be sure to pick your language carefully.

7 Rotate the display



6 Next steps

You are ready to use the computer to

- Watch movies.
- Play games.
- Connect to the Internet.
- Install additional software and hardware.
- Create recovery discs.
- Protect the computer from viruses.

For more information on these topics, refer to the *Quick Reference* guide.

Replace this box with PI statement as per spec.
Replace this box with PI statement as per spec.
Replace this box with PI statement as per spec.



433757.001



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.

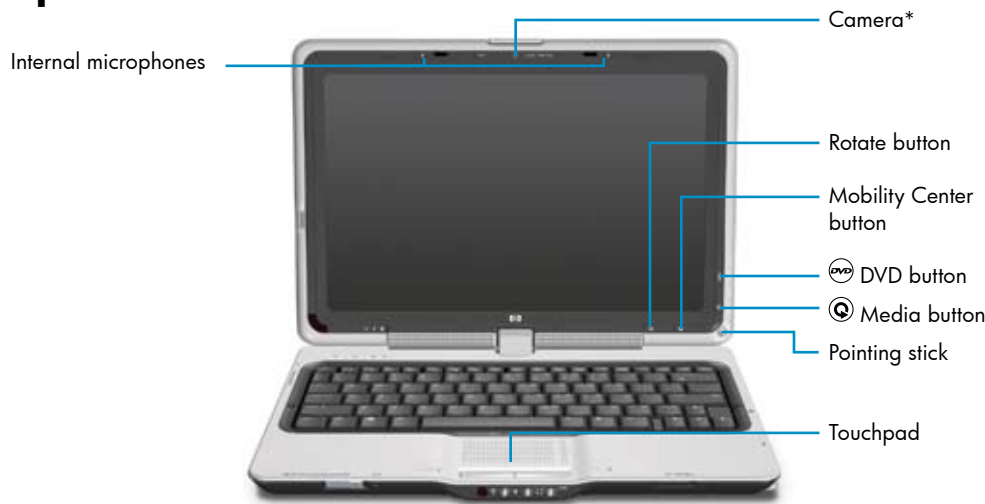
For more safety and regulatory information, and for battery disposal information, refer to the *Regulatory, Safety and Environmental Notices* located in the Help and Support Center. Select **Start > Help and Support > User Guides**.

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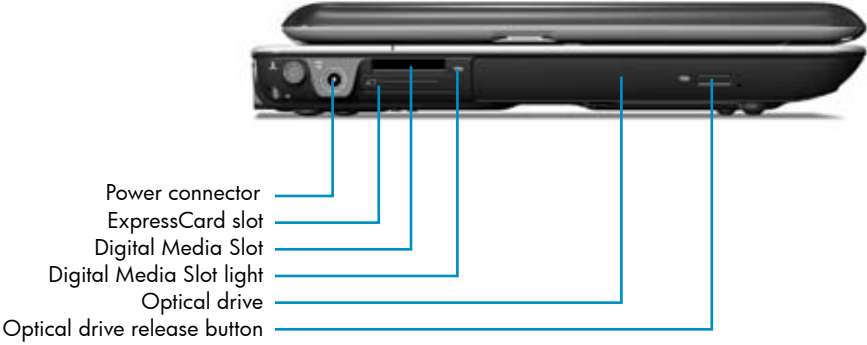
First Edition: January 2007

Quick tour

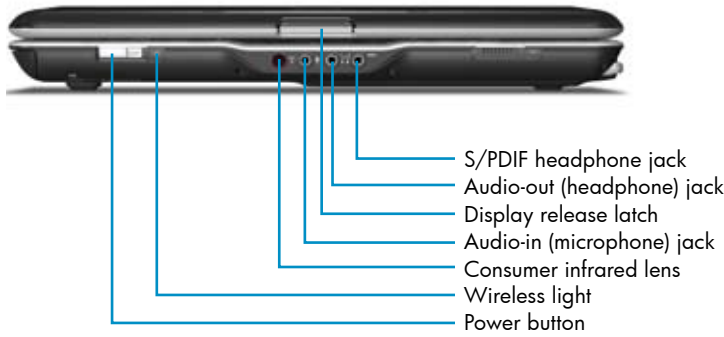
Top



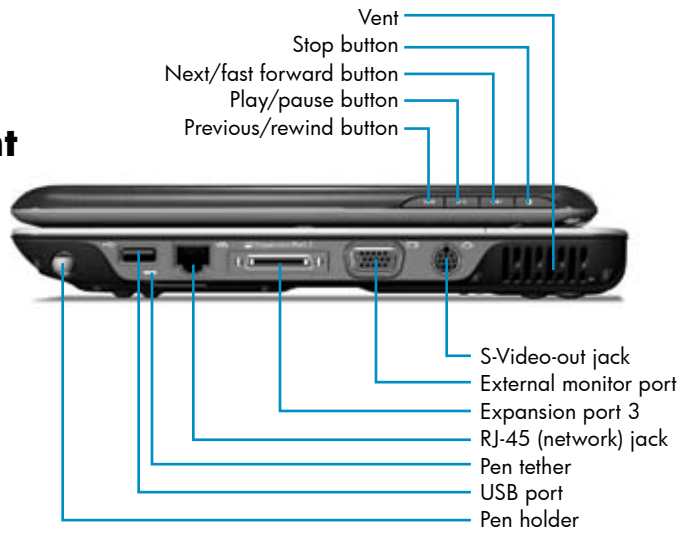
Left



Front



Right



* Select models only

Setup Instructions

Thank you for purchasing
an HP computer!

Go to Help and Support today!

Select **Start > Help and Support** to become familiar with all of the tools available to help keep your computer running smoothly, from enhanced driver updates to online diagnostics. Help and Support is your personal technician!

Help and Support also provides the following resources:

Product information and user guides
Learn more about using your computer. Select **Start > Help and Support > User Guides**.

Security support for your computer
Learn how to protect your computer from threats and viruses.

HP Network Assistant
Learn about setting up wireless access. Visit the HP Network Assistant at <http://www.hp.com/go/techcenter/wireless> (English only).

Diagnostic tools
Learn how to scan your computer and troubleshoot problems.

Setup Utility

User Guide

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Antenna House XSL Formatter

1 Setup Utility access

The Setup Utility is a ROM-based information and customization utility that can be used even when your Microsoft® Windows® operating system is not working or will not load.

The utility reports information about the computer and provides settings for startup, security, and other preferences.

1. Turn on or restart the computer in Windows.
2. Before Windows opens and while the “Press <F10> to enter setup” prompt is displayed in the lower-left corner of the screen, press **F10**.

2 Using the Setup Utility

Changing the language of the Setup Utility

The following procedure explains how to change the language of the Setup Utility. If the computer is not in the Setup Utility, begin at step 1. If the computer is in the Setup Utility, begin at step 2.

1. To open the Setup Utility, turn on or restart the computer in Windows, and then press **f10** while the prompt, "Press <F10> to enter setup," is displayed in the lower-left corner of the screen.
2. Use the arrow keys to select **System Configuration > Language**, and then press **enter**.
3. Press **f5** or **f6** (or use the arrow keys) to select a language, and then press **enter** to select a language.
4. When a confirmation prompt with your preference selected is displayed, press **enter** to save your preference.
5. To set your preferences and exit the Setup Utility, press **f10** and then follow the instructions on the screen.

Your preferences go into effect when the computer restarts in Windows.

Navigating and selecting in the Setup Utility

Because the Setup Utility is not Windows-based, it does not support the TouchPad. Navigation and selection are by keystroke.

- To choose a menu or a menu item, use the arrow keys.
- To choose an item in a drop-down list or to toggle a field, for example an Enable/Disable field, use either the arrow keys or **f5** or **f6**.
- To select an item, press **enter**.
- To close a text box or return to the menu display, press **esc**.
- To display additional navigation and selection information while the Setup Utility is open, press **f1**.

Displaying system information

The following procedure explains how to display system information in the Setup Utility. If the Setup Utility is not open, begin at step 1. If the Setup Utility is open, begin at step 2.

1. To open the Setup Utility, turn on or restart the computer in Windows, and then press **f10** while the prompt, "Press <F10> to enter setup," is displayed in the lower-left corner of the screen.
2. Access the system information by using the **Main** menu.
3. To close the Setup Utility without changing any settings, use the arrow keys to select **Exit > Exit Discarding Changes**, and then press **enter**. (The computer restarts in Windows.)

Restoring default settings in the Setup Utility

The following procedure explains how to restore the Setup Utility default settings. If the computer is not in the Setup Utility, begin at step 1. If the computer is in the Setup Utility, begin at step 2.

1. To open the Setup Utility, turn on or restart the computer in Windows, and then press **f10** while the prompt, "Press <F10> to enter setup," is displayed in the lower-left corner of the screen.
2. Select **Exit > Load Setup Defaults**, and then press **f10**.
3. When the Setup Confirmation is displayed, press **enter** to save your preferences.
4. To set your preferences and exit the Setup Utility, press **f10**, and then follow the instructions on the screen.

The Setup Utility default settings are set when you exit the Setup Utility and go into effect when the computer restarts.



NOTE Your password, security, and language settings are not changed when you restore the factory default settings.

Using advanced Setup Utility features

This guide describes the Setup Utility features recommended for all users. For more information about the Setup Utility features recommended for advanced users only, refer to the Help and Support Center, which is accessible only when the computer is in Windows.

The Setup Utility features available for advanced users include a hard drive self-test, a Network Service Boot, and settings for boot order preferences.

The “<F12> to boot from LAN” message that is displayed in the lower-left corner of the screen each time the computer is started or restarted in Windows is the prompt for a Network Service Boot.

The “Press <ESC> to change boot order” message that is displayed in the lower-left corner of the screen each time the computer is started or restarted in Windows is the prompt to change the boot order.

Closing the Setup Utility

You can close the Setup Utility with or without saving changes.

- To close the Setup Utility and save your changes from the current session, use either of the following procedures:
 - Press **f10**, and then follow the instructions on the screen.
 - or –
 - If the Setup Utility menus are not visible, press **esc** to return to the menu display. Then use the arrow keys to select **Exit > Exit Saving Changes**, and then press **enter**.

When you use the **f10** procedure, you are offered an option to return to the Setup Utility. When you use the Exit Saving Changes procedure, the Setup Utility closes when you press **enter**.
- To close the Setup Utility without saving your changes from the current session:

If the Setup Utility menus are not visible, press **esc** to return to the menu display. Then use the arrow keys to select **Exit > Exit Discarding Changes**, and then press **enter**.

After the Setup Utility closes, the computer restarts in Windows.

3 Setup Utility menus

The menu tables in this section provide an overview of Setup Utility options.



NOTE Some of the Setup Utility menu items listed in this chapter may not be supported by your computer.

Main menu

Select	To Do This
System information	• View and change the system time and date. • View identification information about the computer. • View specification information about the processor, memory size, system BIOS, and keyboard controller version (select models only).

Security menu

Select	To Do This
Administrator password	Enter, change, or delete an administrator password.
Power-On Password	Enter, change, or delete a power-on password.

System Configuration menu

Select	To Do This
Language Support	Change the Setup Utility language.
Embedded WLAN Device Radio	Enable/disable an embedded wireless LAN device.
Embedded Bluetooth Device (select models only)	Enable/disable an embedded Bluetooth® device (select models only).
Enhanced SATA support (select models only)	Enable/disable enhanced SATA mode.
Boot Options	Set the following boot options: • f10 and f12 Delay (sec.)—Set the delay for the f10 and f12 functions of the Setup Utility in intervals of 5 seconds each (0, 5, 10, 15, 20). • CD-ROM boot—Enable/disable boot from CD-ROM. • Floppy boot—Enable/disable boot from Floppy. • Internal Network Adapter boot—Enable/disable boot from Internal Network Adapter. • Boot Order—Set the boot order for: • USB Floppy • ATAPI CD/DVD ROM Drive • Hard drive • USB Diskette on Key • USB Hard drive • Network adapter

Diagnostics menu

Select	To Do This
Hard Disk Self Test	Run a comprehensive self-test on the hard drive.  NOTE On models with two hard drives, this menu option is called the Primary Hard Disk Self Test.
Secondary Hard Disk Self Test (select models only)	Run a comprehensive self-test on a secondary hard drive.

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