



startup and reference guide

hp compaq notebook series

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Part 1: Startup

The Startup part of this guide explains how to set up your notebook for the first time.

Part 2: Reference

The Reference part of this guide explains how to identify and use the hardware and software features on your notebook.

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Part 1

Startup

This *Startup and Reference Guide* provides information about setting up and using your notebook.

- To set up your notebook hardware and software for the first time, follow the procedures in this “Startup” part.
- To learn more about using your notebook, refer to the remaining “Reference” part of this book. To find information about a specific topic:
 - Refer to the chapter Contents on the first page of each chapter, or
 - Refer to the Index.

Startup

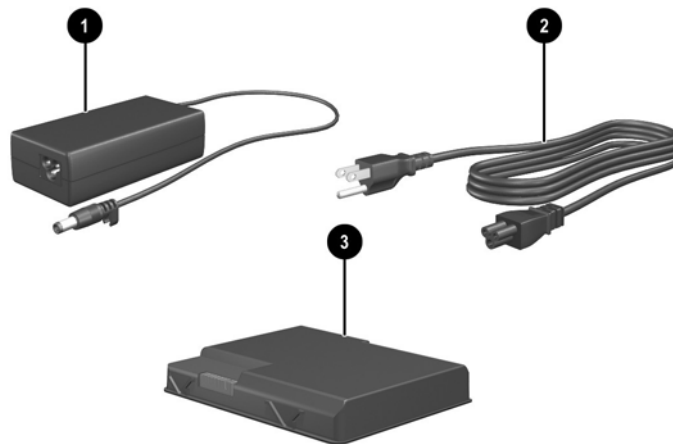
Setting Up the Hardware

To set up the notebook for the first time, you need the notebook, the AC adapter ❶, the power cord ❷, and the battery pack ❸.

During hardware setup, you will:

- Insert the battery pack into the notebook, so the battery can begin to charge as soon as the notebook is connected to external power.
- Open the notebook.
- Connect the notebook to external power and turn on the notebook.

You will then proceed to software setup.

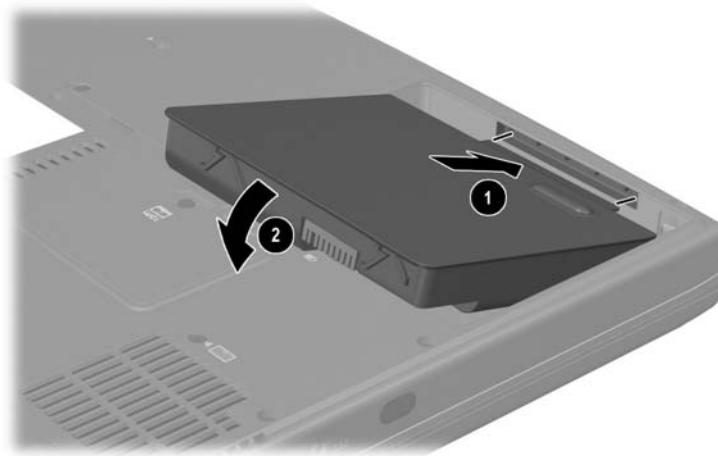


*Identifying the AC adapter, the power cord, and the battery pack
(Power cords vary by region and country.)*

Inserting a Battery Pack

To insert the battery pack into the battery bay:

1. Turn the notebook underside up on a flat surface.
2. Insert the alignment tab on the battery pack into the alignment slot on the notebook ❶.
3. Tilt the battery pack downward until it snaps into place ❷.



Inserting a battery pack



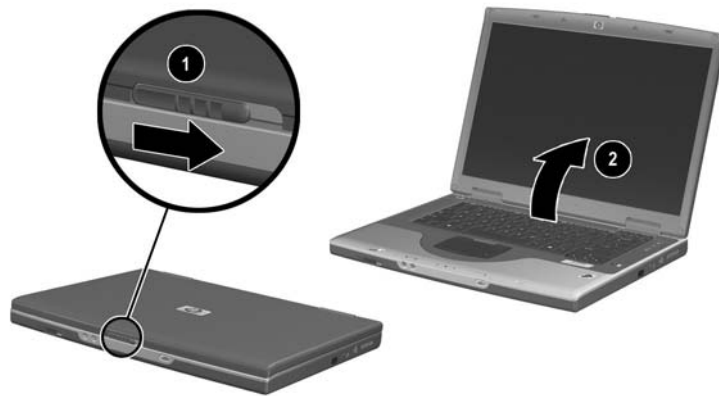
CAUTION: To ensure that the correct drivers load and to prevent file corruption or damage to components, do not remove the battery pack until the notebook has been connected to external AC power.

Startup

Opening the Notebook

To open the notebook:

1. Place the notebook display side up on a flat surface near an electrical outlet.
2. Slide the display release latch **1** as you raise the display **2**.



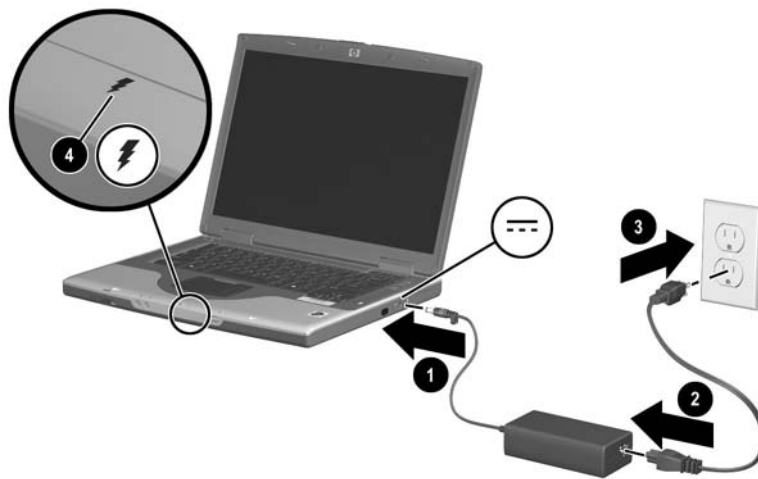
Opening the notebook

Connecting the Notebook to External Power

To connect the notebook to external AC power:

1. Plug the AC adapter cable into the power connector ❶.
2. Plug the power cord into the AC adapter ❷, then into an electrical outlet ❸.

When the notebook is receiving external power, the battery light ❹ turns on.



Connecting the notebook to external power (Power cords and outlets vary by region and country.)

Startup

Charging a New Battery Pack

The battery pack you inserted earlier begins to charge as soon as the notebook is connected to external power. Charge status is indicated by the battery light.

- The battery light is on and *amber* while a battery pack inserted into the notebook is charging.
- The battery light is on and *green* when a battery pack inserted into the notebook is fully charged.

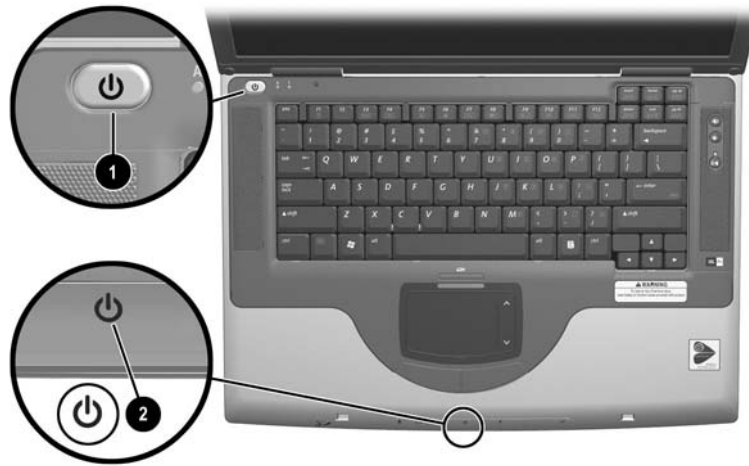
HP recommends that you leave the notebook connected to external power until the battery pack is fully charged and the battery light turns green. (A partially charged new battery pack can run the notebook after initial software setup is complete, but battery charge displays will not be accurate until the new battery pack has been fully charged.)



Identifying the battery light

Turning On the Notebook

To turn on the notebook, press the power button **1**. When the notebook turns on, the power/standby light **2** turns on, and you are prompted to begin software setup.



Turning on the notebook

If the notebook does not turn on:

- Make sure that the AC adapter is securely plugged into an electrical outlet.
- Make sure that the outlet is providing power. (To confirm that the outlet is providing power, plug another device into the outlet.)
- If you have installed a battery pack, make sure that the battery pack is firmly seated.
- Refer to the *Worldwide Telephone Numbers* booklet (English only) included with the notebook to contact an HP Customer Care Center.

Startup

Setting Up the Software



CAUTION: To prevent file corruption and ensure that the correct drivers are installed, install software only when the notebook is connected to external power through the AC adapter. During the installation:

- Do not unplug the notebook from external power.
- Do not shut down the notebook or initiate Standby or Hibernation.
- Do not insert, remove, connect, or disconnect any device, cable, or cord.

Installing Basic Software

When the notebook is connected to external power and turned on for the first time, a prompt to set up the operating system and other basic software is displayed on the screen.

Before responding to the prompt and proceeding through the on-screen instructions, read the following caution and other installation information.

- After beginning the software setup, you must complete the entire process without interruption. Setup time varies.
- If you are prompted to select a language, choose carefully. On some models, the languages that you do not choose are deleted from the system and cannot be restored during the installation.
- Regional settings and most other preferences that you may select as you set up the basic software can be selected or changed later, after the operating system is installed.
- When you are prompted to accept the End User License Agreement, you must choose Accept to continue the software setup.



During setup, it is normal for some notebook models to pause occasionally for up to 2 minutes and to restart several times. These pauses and restarts occur only during initial software setup. They will not occur during standard Windows startups.

Installing Optional Software

Step-by-step instructions for installing and using many of the applications and utilities included with the notebook are provided later in this guide. If you prefer to install optional software now, the following information may be helpful.

To install an application or a utility from a CD, refer to the instructions included with the CD. If printed instructions are not included in the CD package, they may be displayed on the screen when the CD is inserted.

To view or install preloaded utilities or applications, select **Start > All Programs > Software Setup**. Then:

- To display the descriptions and space requirements of a preloaded item without installing it, select the **Next** button, then select an item. After viewing the information that is displayed, select the **Cancel** button.
- To install a preloaded item, select the check box for the item, select the **Next** button, then follow the instructions on the screen.

Startup

Setting Regional and Display Preferences

Keyboard language and other regional preferences, such as time, date, and currency format, are set in the Regional Options window of the operating system. To access the Regional Options window, select Start > Control Panel > Date, Time, Language and Regional Options icon.

Screen appearance settings are accessed from the operating system Appearance and Themes window. To access the Appearance and Themes window, select Start > Control Panel > Appearance and Themes icon. To access the settings that control the size of the items displayed on the screen, select the Change Resolution task.

Turning Off the Notebook

Turn off the notebook by using the Windows shutdown procedure: Select Start > Turn Off Computer > Turn Off.

If the notebook does not respond, try the following emergency shutdown procedures in the sequence provided:

- If the notebook is running Microsoft Windows XP Professional: press **ctrl+alt+delete**. Select the Shut Down button, then select Shut down from the drop down list.
- Press and hold down the power button for at least 4 seconds.
- Unplug the notebook from external power and remove the battery pack. For instructions see “Replacing a Battery Pack” in Chapter 4.

Protecting the Notebook from Power Surges

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

- Plug the notebook power cord into an optional, high-quality surge protector. Surge protectors are available from most computer or electronics retailers.
- Provide surge protection on the cable that connects a modem to the telephone line.
- During an electrical storm, run the notebook on battery power or shut down the notebook and disconnect the power cord.

Protecting the Notebook Against Viruses

When you use the notebook for email, network, or Internet access, you expose the notebook to computer viruses. Computer viruses can disable the operating system, your applications, or your 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 protection against newly discovered viruses, antivirus software must be updated.

The Norton AntiVirus 2003 software installed on your notebook provides 60 days of free virus updates.

For Norton AntiVirus 2003 instructions and more information about virus updates, refer to the Help file within the application or select Start > Help and Support.

Using the Notebook Safely

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules.

For more safety and regulatory information, as well as instructions for protecting the notebook against electrostatic discharge, refer on the *Documentation Library* CD to the *Regulatory and Safety Notices* guide.

The *Documentation Library* CD is included with your notebook.



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

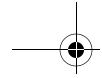
- Plug the power cord into an electrical outlet that is easily accessible at all times.
- Disconnect power from the product by unplugging the power cord from the electrical outlet.
- If provided with a three-conductor power cord with a three-pin attachment plug, plug the cord into a grounded (earthed) outlet. Do not disable the power cord grounding pin. The grounding pin is an important safety feature.



WARNING: To reduce the risk of serious injury, read the *Safety & Comfort Guide*. It describes proper workstation setup and proper posture, health, and work habits for computer users. The *Safety & Comfort Guide* also provides important electrical and mechanical safety information. This guide is available on the Web at <http://www.hp.com/ergo>, on the hard drive, or on the *Documentation Library* CD that is included with the product.

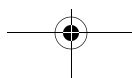
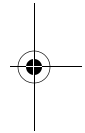
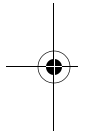


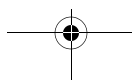
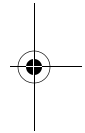
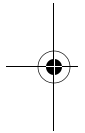
WARNING: This notebook is designed to run demanding applications at full power. As a result of increased power consumption, it is normal for the notebook to feel warm or hot when used continuously. To avoid potential discomfort or burns, do not block the air vents or use the notebook on your lap for extended periods. The notebook complies with the user-accessible surface temperature limits defined by the International Standard for Safety of Information Technology Equipment (IEC 60950).



Part 2

Reference





2

Hardware

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Hardware

Display



Display

Display release latch	Opens the notebook.
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Top

TouchPad



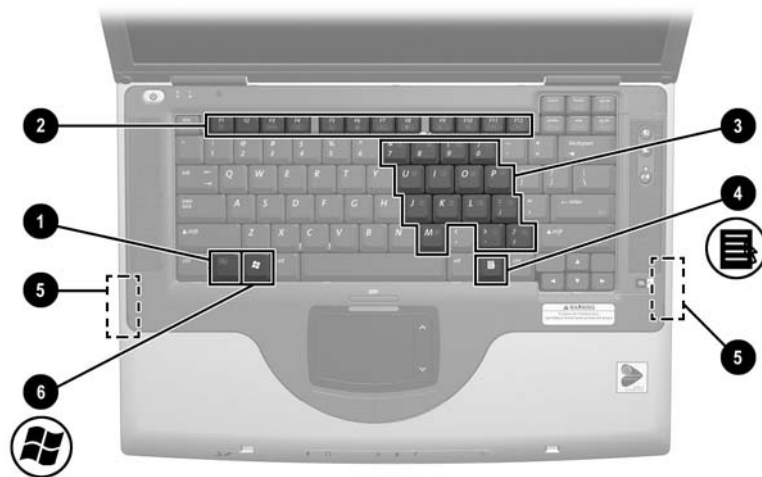
Top: TouchPad

❶	TouchPad on/off button	Enables/disables the TouchPad.
❷	TouchPad*	Moves the pointer and selects or activates items on the screen.
❸	TouchPad light	On: TouchPad is enabled.
❹	TouchPad scroll zones (2)*	Scroll upward or downward.
❺	Left and right TouchPad buttons*	Function like the left and right buttons on an external mouse.

*This table describes default settings. For information about changing the functions of TouchPad features, see "Setting TouchPad Preferences" in Chapter 3.

Hardware

Keys and Antenna

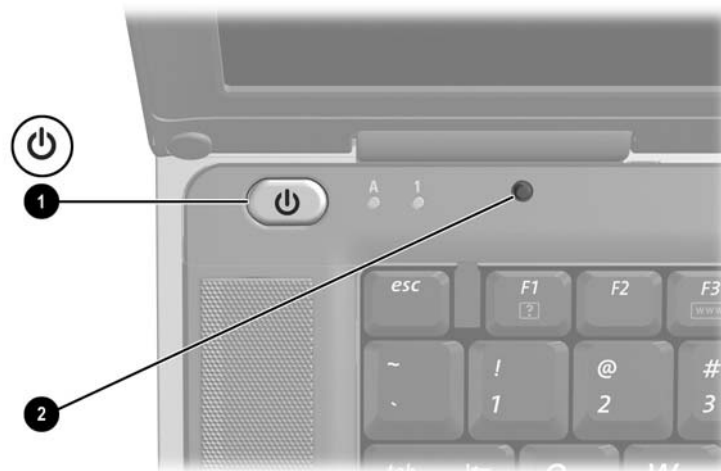


Top: Keys and Antenna

❶	Fn key	Combines with other keys to perform system tasks. For example, pressing Fn+F7 increases screen brightness.
❷	Function keys (12)	Perform system and application tasks. When combined with the Fn key, the function keys F1 and F3 through F12 perform additional tasks as hotkeys.
❸	Keypad keys (15)	Can be used like the keys on an external numeric keypad.
❹	Applications key	Displays a shortcut menu for items beneath the pointer.
❺	Antenna (available on select models and not visible from outside the notebook)*	Sends and receives wireless device signals.
❻	Microsoft logo key	Displays the Windows Start menu.

*The notebook has 2 antennas. The second is on the right side of the notebook. For optimal transmissions, keep the areas immediately over the antennas free from obstructions.

Power Controls



Top: Power Controls

- | | |
|--------------------------|--|
| 1 Power button* | When the notebook is: <ul style="list-style-type: none"> ■ Off, press to turn on the notebook. ■ On, briefly press to initiate Hibernation. ■ In Standby, briefly press to resume from Standby. ■ In Hibernation, briefly press to restore from Hibernation. <p>  If the system has stopped responding and Windows shutdown procedures cannot be used, press and hold for at least 4 seconds to turn off the notebook. </p> |
| 2 Display switch* | <ul style="list-style-type: none"> ■ If the notebook is closed while on, turns off the display. ■ If the notebook is opened while in Standby, turns on the notebook (resumes from Standby). |

*This table describes default settings. For information about changing the function of the power button or display switch, see "Setting Power Control Preferences" in Chapter 4.

Hardware

Lights



Top: Lights

❶	Num lock light	On: Num lock or the internal keypad is on.
❷	Caps lock light	On: Caps lock is on.
❸	Mute light	On: Volume is muted.
❹	Wireless device light (available on select models)	On: An optional internal wireless device is turned on.
❺	Battery light	On: The notebook is receiving adequate external power. ■ On amber: A battery pack is charging. ■ On green: A battery pack is fully charged. ■ Flashing: A battery pack is malfunctioning and may need to be replaced.
❻	IDE (Integrated Drive Electronics) drive light	On: The internal hard drive or optical drive is being accessed.
❼	Power/standby light	On: Notebook is turned on. Flashing: Notebook is in Standby.

Audio Buttons and Speakers

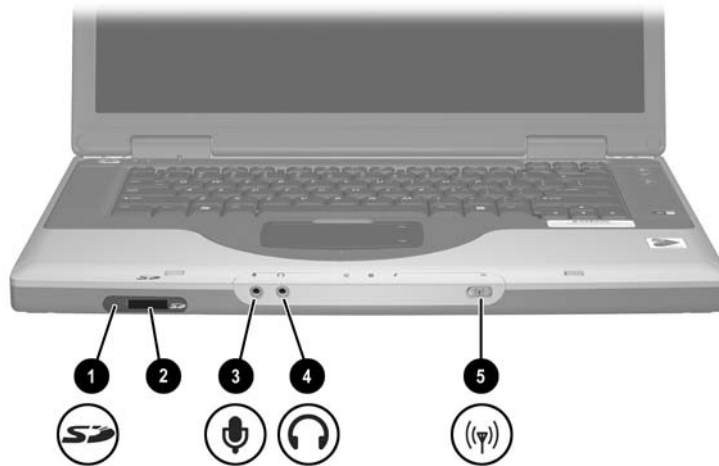


Top: Audio Buttons and Speakers

❶	Increase volume button	Increases system volume.
❷	Decrease volume button	Decreases system volume.
❸	Mute button	Mutes or restores volume.
❹	Stereo speakers (2)	Produce stereo sound.

Hardware

Front Panel

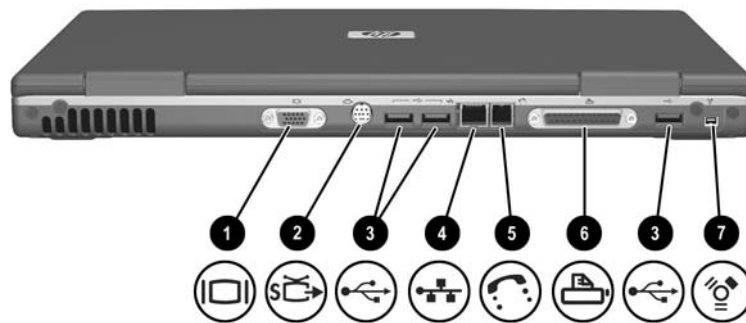


Front Panel

❶	SD Card light	On: An SD Card or MMC is being accessed.
❷	SD (Secure Digital) Card slot	 Supports SD Cards and MMCs (multimedia cards).
❸	Microphone jack	Connects an optional monaural or stereo microphone.
❹	Audio-out jack	Connects optional headphones or powered stereo speakers. Also connects the audio function of an audio/video device such as a television or VCR.
❺	Wireless device button (available on select models)	Turns an optional internal wireless device on or off.

Rear Panel

Connectors and Jacks



Rear Panel: Connectors and Jacks

❶	External monitor connector	Connects an optional VGA external monitor or projector.
❷	S-Video jack	Connects an optional S-Video device, such as a television, VCR, camcorder, projector, or video capture card.
❸	USB connectors (3)	Connect optional 2.0-compliant USB devices.
❹	RJ-45 network jack	Connects an Ethernet network cable. (An Ethernet network cable is included with select models.)
❺	RJ-11 telephone jack	Connects a modem cable. (A modem cable is included with select models.)
❻	Parallel connector (available on select models)	Connects an optional parallel device such as a printer.
❼	1394 connector	Connects an optional 1394 device such as a camcorder.

Hardware

Vent



Rear Panel: Vent

Exhaust vent*

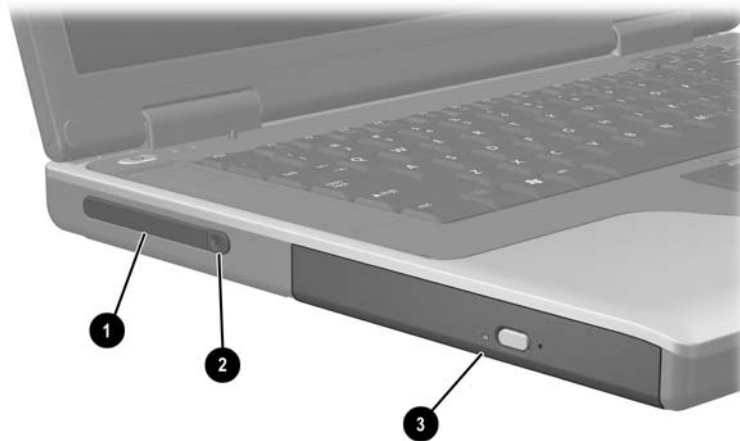
Provides airflow to cool internal components.



To prevent overheating, do not obstruct vents. Do not allow a hard surface, such as a printer, or a soft surface, such as pillows or thick rugs or clothing, to block airflow.

*The notebook has 3 vents. The other vents are on the underside of the notebook.

Left Side



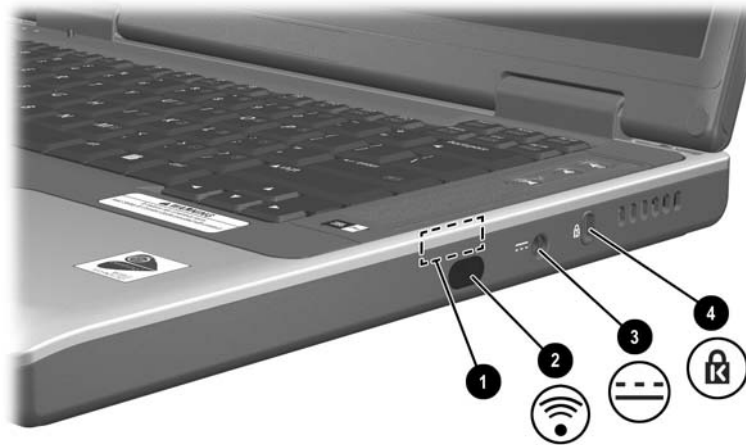
Left Side

❶	PC Card slot	Supports an optional Type I or Type II 32-bit (CardBus) or 16-bit PC Card.
❷	PC Card eject button	Ejects an optional PC Card from the PC Card slot.
❸	Optical drive*	Supports an optical disc.

*The type of optical drive, for example a CD, DVD, or combination CD/DVD drive, varies by model.

Hardware

Right Side



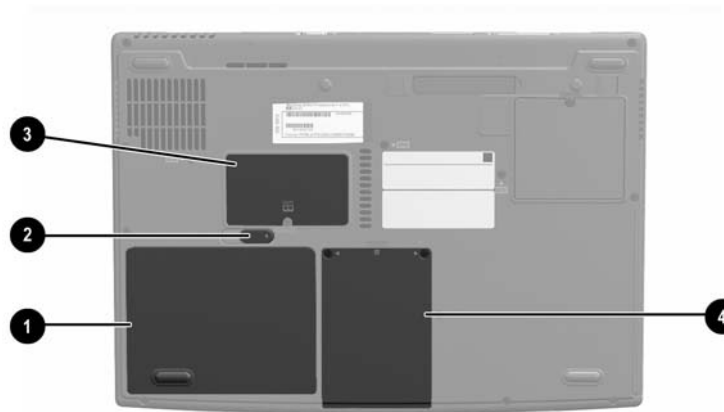
Right Side

❶	Antenna (available on select models and not visible from outside the notebook)*	Sends and receives wireless device signals.
❷	Infrared port	Provides wireless communication between the notebook and an optional IrDA-compliant device.
❸	Power connector	Connects an AC adapter cable.
❹	Security cable slot	Attaches an optional security cable to the notebook.

*The notebook has 2 antennas. The second is on the right side of the notebook. For optimal transmissions, keep the areas immediately over the antennas free from obstructions.

Underside

Bays and Memory Compartment

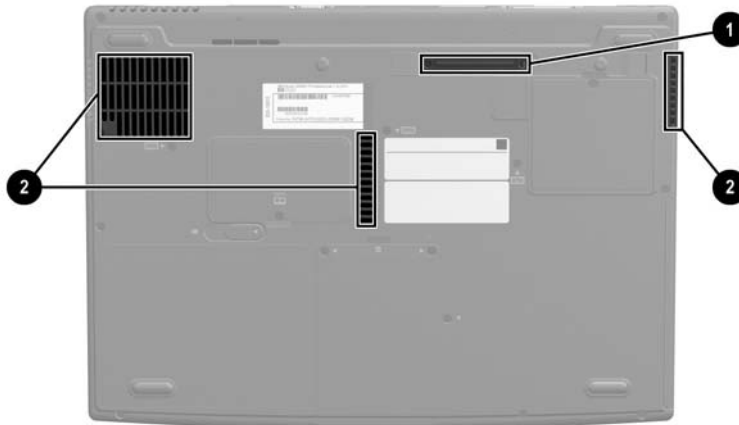


Underside: Bays and Memory Compartment

❶	Battery bay	Holds a battery pack.
❷	Battery pack release latch	Releases a battery pack from the battery bay.
❸	Memory compartment	Contains 1 memory slot for an optional 128-MB, 256-MB, 512-MB, or 1024-MB memory module. As shipped, the memory slot may be filled with a replaceable memory module or vacant, depending on the notebook model.
❹	Hard drive bay	Holds the internal hard drive.

Hardware

Docking Connector and Vents



Underside: Docking Connector and Vent

- | | |
|-----------------------------|---|
| ❶ Docking connector* | Connects the notebook to an optional port replicator. |
| ❷ Vents (3) | Allow airflow to cool internal components. |

⚠ To prevent overheating, use the notebook only on hard surfaces which cannot obstruct the vents. Do not allow a soft surface, such as bedding, clothing or a thick rug, to block airflow.

*As shipped, the docking connector is not visible. The docking connector is beneath the docking connector cover, which protects the connector when the connector is not in use.

Labels

The labels affixed to the notebook and some notebook components provide information you may need when troubleshooting system problems or traveling internationally with the notebook.

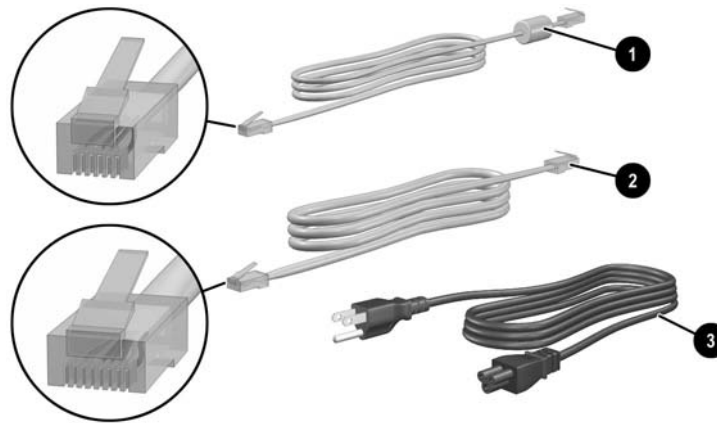
- The Microsoft Certificate of Authenticity label contains the Product Key number. You may need this number to update or troubleshoot the operating system.
- The system label provides regulatory information about the notebook.
- The product identification label contains the serial number of the notebook and a code describing the original configuration of the notebook. You will need the notebook serial number if you call customer support.
- The modem approvals label, which is affixed to an optional internal modem, provides regulatory information.
- Wireless certification labels, which are specific to various types of optional wireless devices, are affixed to the notebook and provide regulatory information.

Hardware

Additional Standard Components

The components included with the notebook vary by region, country, notebook model, and the optional hardware ordered. The following sections identify the standard external accessories and components included with most notebook models.

Cables and Cord



Additional Standard Components: Cables and Cord

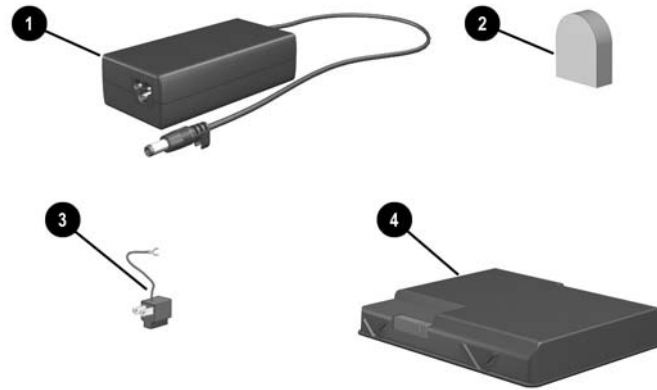
- | | | |
|----------|--|--|
| 1 | Modem cable
(included with select models) | Connects a modem to an RJ-11 telephone jack or to a country-specific modem adapter.

✎ A modem cable has a <i>6-pin</i> , RJ-11 telephone connector at each end. |
| 2 | Network cable
(included with select models) | Connects the notebook to an Ethernet network jack.

✎ A network cable has an <i>8-pin</i> , RJ-45 network connector at each end. |
| 3 | Power cord* | Connects an AC adapter to an AC electrical outlet. |

*Power cords vary in appearance by region and country.

Adapters and Battery Pack



Additional Standard Components: Adapters and Battery Pack

❶	AC adapter	Converts AC power to DC power.
❷	Country-specific modem adapter (included by region as required)	Adapts the modem cable to a non-RJ-11 telephone jack.
❸	Japan-specific outlet adapter (Japan only)	Connects the AC adapter to a 2-prong electrical outlet.
❹	Battery pack	Runs the notebook when the notebook is not connected to external power.

Hardware

Restoration and Documentation CDs

CDs for repairing or reinstalling software and for obtaining supplementary information about the notebook are included with the notebook.

- For information about restoring, repairing, or reinstalling software, refer to Chapter 9, “Software Updates, Restorations and Utilities.”
- For supplementary information about the notebook, refer to the *Documentation Library* CD. The *Documentation Library* CD included with all models includes the following guides. Additional guides—for example, instruction manuals for using an optional wireless device—are included with select models.

For Information About These Topics	Select This Guide
■ Caring for the notebook and drives ■ Preparing the notebook for transport ■ Traveling with the notebook internationally	<i>Maintenance, Shipping and Travel</i>
■ Solving notebook problems yourself ■ Getting help	<i>Troubleshooting</i>
■ Governmental and safety information ■ Protecting the notebook from static electricity	<i>Regulatory and Safety Notices</i>
Ergonomic and safety information	<i>Safety & Comfort Guide</i>
General instructions for using modem AT commands	<i>Modem Command Guidelines (Advanced Users Only)</i>
AT commands supported by a Lucent/Agere modem. (An optional internal modem supports the Lucent/Agere command set.)	<i>Lucent/Agere Command Set (Advanced Users Only)*</i>
*Available in English only.	

3

Keyboard

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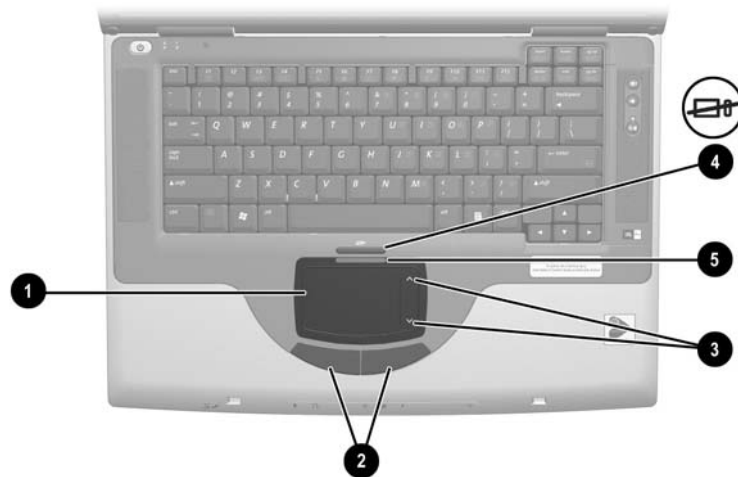
Keyboard

TouchPad

Identifying TouchPad Components

The TouchPad includes the following components:

- ❶ TouchPad
- ❷ Left and right TouchPad buttons
- ❸ TouchPad scroll zones (2)
- ❹ TouchPad on/off button
- ❺ TouchPad light



Identifying TouchPad components

Using the TouchPad

The TouchPad provides the navigation, selection, and scroll functions of an optional external mouse.

- To move the pointer, slide your finger across the TouchPad surface in the direction you want to move the pointer.
- If the pointer continues to move after you lift your finger from the TouchPad surface, wait a few seconds and the pointer will stop moving.
- To execute the click functions of the left or right button on an external mouse, press the left or right TouchPad button.
- To scroll upward, press the icon in the upward scroll zone. To scroll downward, press the icon in the downward scroll zone.
- To enable or disable the TouchPad, press the TouchPad button. When the TouchPad is enabled, the TouchPad light is on.

The notebook turns on with the TouchPad enabled. Users who work with keystrokes rather than mouse actions may prefer to disable the TouchPad to prevent accidental TouchPad activity.

Setting TouchPad Preferences

Pointer speed and shape, click speed, mouse trails, and other pointing device preferences are set in the operating system Mouse Properties window. To access Mouse Properties, select Start > Control Panel > Printers and Other Hardware icon > Mouse icon.

Keyboard

Hotkeys

Identifying Hotkeys

Hotkeys are preset combinations of the **Fn** key ❶ and one of the function keys ❷.

The icons on the function keys **F1** and **F3** through **F12** represent the hotkey functions available on the notebook.



Identifying hotkeys

Hotkey Quick Reference

The following table identifies the default hotkey functions. For information about changing the function of the **Fn+F5** hotkeys, see the “Setting Power Control Preferences” section in Chapter 4.

Default Function	Hotkeys
Open Help and Support window.	Fn+F1
Open Microsoft Internet Explorer.	Fn+F3
Switch display and image.	Fn+F4
Initiate Standby.	Fn+F5
Initiate QuickLock.	Fn+F6
Decrease display brightness.	Fn+F7
Increase display brightness.	Fn+F8
Play, pause, or resume an audio CD or DVD.	Fn+F9
Stop an audio CD or DVD.	Fn+F10
Play the previous track or chapter on an audio CD or DVD.	Fn+F11
Play the next track on an audio CD or DVD.	Fn+F12

Hotkey Procedures

To use a hotkeys command on the notebook keyboard, use either of the following procedures:

- Briefly press the **Fn** key, then briefly press the second key of the hotkeys command.
- Press and hold down the **Fn** key, briefly press the second key of the hotkeys command, then release both keys at the same time.

Keyboard

Hotkey Commands

Open Help and Support Window (Fn+F1)

The **Fn+F1** hotkeys open the Help and Support window. From the Help and Support window you can access general information about your notebook, links to software updates and online technical support specialists, and other support features.

For more information about the Help and Support window, see the “Using the Help and Support Window” section in Chapter 9, “Software Updates, Restorations and Utilities.”

Open Internet Explorer (Fn+F3)

The **Fn+F3** hotkeys open Internet Explorer. After you have set up your Internet or network services and your Internet Explorer home page, you can use the **Fn+F3** hotkeys for quick access to your home page and the Internet.

Switch Image (Fn+F4)

The **Fn+F4** hotkeys switch the image among display devices connected to the external monitor connector or the S-Video jack on the notebook. For example, if an external monitor is connected to the notebook, pressing the **Fn+F4** hotkeys switches the image among the notebook display, the external monitor display, and a simultaneous display on both the notebook and the monitor.

Initiate Standby (Fn+F5)

The **Fn+F5** hotkeys are set by default to initiate Standby. Standby can be initiated only while the notebook is on. If the notebook is in Hibernation, you must restore from Hibernation before you can initiate Standby.

To restore from Hibernation or resume from Standby, briefly press the power button. For more information about using Standby and Hibernation, refer to Chapter 4, “Power.”

For information about changing the function of the **Fn+F5** hotkeys, refer in Chapter 4 to the “Setting Power Control Preferences” section.

Initiate QuickLock (Fn+F6)

The **Fn+F6** hotkeys initiate the operating system QuickLock security feature. The QuickLock feature disables the keyboard and displays the log on screen. QuickLock does not disable the TouchPad.

Before you can use the QuickLock feature, you must set a Windows system password. For instructions, refer to your operating system documentation.

After you have set a Windows system password:

- To initiate QuickLock, press **Fn+F6**.
- To exit QuickLock, enter your Windows system password.

Decrease Brightness (Fn+F7)

The **Fn+F7** hotkeys decrease notebook screen brightness.

Increase Brightness (Fn+F8)

The **Fn+F8** hotkeys increase notebook screen brightness.

Play, Pause, or Resume an Audio CD or DVD (Fn+F9)

The **Fn+F9** hotkeys function only when an audio CD or DVD is inserted. If the audio CD or DVD is

- Not playing, press the **Fn+F9** hotkeys to begin or resume the play.
- Playing, press the **Fn+F9** hotkeys to pause the play.

Keyboard

Stop an Audio CD or DVD (Fn+F10)

The **Fn+F10** hotkeys stop the play of an audio CD or DVD that is playing.

Play Previous Track of an Audio CD or DVD (Fn+F11)

The **Fn+F11** hotkeys play the previously played track of an audio CD or DVD that is playing.

Play Next Track of an Audio CD or DVD (Fn+F12)

The **Fn+F12** hotkeys play the next track of an audio CD or DVD that is playing.

Keypad

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



Identifying the keypad keys

Turning the Keypad On and Off

When the keypad is off, press **Fn+num lk** ❶ to turn the keypad on. When the keypad is on, press **Fn+num lk** to turn the keypad off. The num lock light ❷ turns on when the keypad is on.



Identifying the Fn and num lk keys and the num lock light

Switching the Functions of Keypad Keys

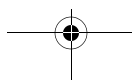
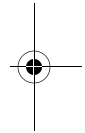
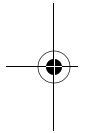
You can temporarily switch the functions of a keypad key between its standard function and its keypad function.

- To use a key on the keypad as a keypad key while the keypad is turned off, press and hold **Fn** while pressing the key.
- To use a key on the keypad as a standard key while the keypad is turned on:
 - Press and hold **Fn** to type with the key in lowercase.
 - Press and hold **Fn+shift** to type with the key in uppercase.

Releasing the **Fn** key returns a keypad key to its set function. For example, a keypad key returns to its keypad function if the keypad is turned on or to its standard function if the keypad is turned off.



Keyboard



4

Power

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Understanding Standby, Hibernation and Shutdown

This section describes Standby, Hibernation, and shutdown and explains when to implement them. Standby, Hibernation, and shutdown procedures are provided later in the chapter. Standby and Hibernation are energy-saving features that can be initiated by you or by the system.

Standby

Standby reduces power to system components that are not in use. When Standby is initiated, your work is saved in random access memory (RAM) and the screen is cleared.

- Saving your work before initiating Standby is not usually necessary, but is a recommended precaution.
- When the notebook is in Standby, the power/standby light flashes.

When you resume from Standby, your work returns to the screen where you left off.

Hibernation

Hibernation saves system memory to the hard drive, takes a snapshot of the notebook image, then shuts down the notebook. When you resume from Hibernation, your work returns to the screen exactly as you left it.

The following information may be useful as you manage Hibernation:

- Saving your work before initiating Hibernation is not usually necessary, but is a recommended precaution.

- To determine whether the notebook is in Hibernation or turned off, press the power button:
 - If the notebook is in Hibernation, your work returns to the screen.
 - If the notebook is off, Windows loads.
- Hibernation is enabled by default, but can be disabled. To prevent loss of work during a critical low-battery condition, disable Hibernation only during a battery pack calibration.

To verify that Hibernation is enabled, select Start > Control Panel > Performance and Maintenance > Power Options icon > Hibernate tab. If Hibernation is enabled, the Enable Hibernation check box is selected.



CAUTION: If the configuration of the notebook system is changed during Hibernation, it may not be possible to resume from Hibernation. When the notebook is in Hibernation:

- Do not add or remove a memory module.
- Do not connect or disconnect an external device.
- Do not insert or remove a CD, DVD, PC Card, SD Card, or MMC.

Shutdown

Shutdown procedures turn off the notebook. Whether to leave a battery pack in the notebook or in storage depends on how you work:

- Leaving the battery pack in the notebook enables the battery pack to charge whenever the notebook is connected to external power and also protects your work during a power outage.
- A battery pack in the notebook discharges more quickly, even when the notebook is turned off, than a battery pack that has been removed from the notebook and stored in a cool, dry location.

Choosing Standby, Hibernation or Shutdown

If you plan to resume shortly: Initiate Standby for shorter times and Hibernation for longer times or power conservation.

The amount of time a battery pack can support Standby or Hibernation or hold a charge varies by notebook configuration and the condition of the battery pack.

- Initiating Standby clears the screen, uses less power than leaving the notebook on, and your work returns quickly to the screen when you resume from Standby. A fully charged new battery pack can typically support Standby for up to 48 hours.
- Initiating Hibernation clears the screen and uses much less power than Standby. Returning to work saved in Hibernation takes longer than returning to work saved in Standby, but is faster than returning to your place manually after restarting the notebook. A fully charged new battery pack can typically support Hibernation for several weeks.

If you plan to resume within 2 weeks: Shut down the notebook. If possible, connect the notebook to external power to keep an inserted battery pack fully charged.

If the notebook will be disconnected from external power for more than 2 weeks: To extend the life of an inserted battery pack, shut down the notebook. Remove the battery pack and store it in a cool, dry location.

If an external power supply is uncertain, for example, because of an electrical storm, save your work, then initiate Hibernation or shut down the notebook.

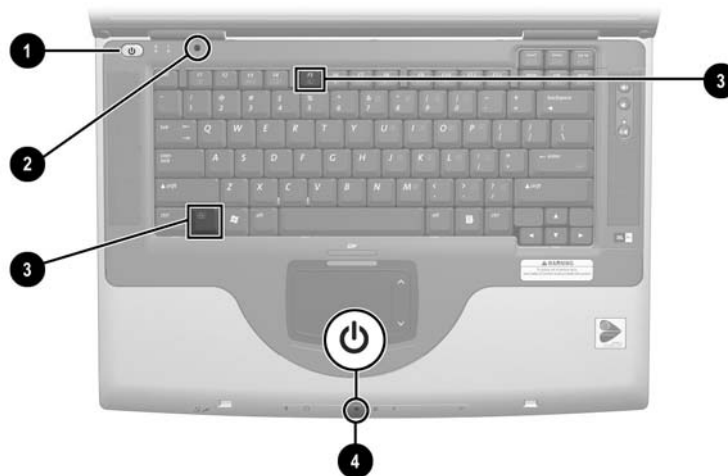
Using Standby, Hibernation and Shutdown Procedures

This section explains the default Standby, Hibernation, and shutdown procedures and includes information about turning the display on or off.

Identifying Power Controls and Indicators

Standby, Hibernation, shutdown, and display procedures use the following controls and indicators:

- | | |
|------------------|---------------------------------------|
| ❶ Power button | ❸ Fn+F5 hotkeys (to initiate Standby) |
| ❷ Display switch | ❹ Power/standby light |



Identifying Standby, Hibernation, shutdown, and display controls and indicators

Power

Turning the Notebook or Display On or Off

Task	Procedure	Results
Turn on the notebook.	Press the power button.  Pressing the power button turns on the notebook from Standby, Hibernation, or shutdown.	■ Power/standby light turns on. ■ Operating system loads.
Shut down the notebook.*	Select Start > Turn Off Computer > Turn Off.	■ Power/standby light turns off. ■ Operating system shuts down. ■ Notebook turns off.
Turn off the display when the notebook is closed.	Close the notebook.	When the notebook is closed, the display presses the display switch, which then turns off the display.

*If the system is unresponsive, and you are unable to shut down the notebook with this procedure, see "Using Emergency Shutdown Procedures" next in this section.

Using Emergency Shutdown Procedures

If the notebook does not respond to the Windows shutdown procedure (Start > Turn Off Computer > Turn Off), try the following emergency shutdown procedures in the sequence provided:

- If the notebook is running Windows XP Professional: Press **ctrl+alt+delete**. Select the Shut Down button, then select Shut down from the drop down list.
- Press and hold down the power button for at least 4 seconds.
- Unplug the notebook from external power and remove the battery pack. For battery pack removal instructions see the "Replacing a Battery Pack" section, later in this chapter.