Software Guide

HP Compaq Notebook Series

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This guide provides settings and procedures for managing notebook power and security. It also provides instructions for obtaining system information and using setup utilities to help detect, solve, and prevent problems.

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1

Setup

Setting Up the Software

A prompt to set up your software displays on the screen when the notebook is turned on for the first time. Before responding to the prompt and proceeding through the online instructions, read the following caution and other installation information contained in this chapter.

CAUTION: To prevent file corruption and to ensure that the correct device drivers install, follow these guidelines during software setup:

- Do not unplug the notebook from the electrical outlet.
- Do not shut down the notebook.
- Do not remove or insert a drive.

- After you begin the software setup, you must complete the entire process without interruption. Setup time varies.
- If you are prompted to select a language, choose carefully. The languages you do *not* choose are deleted from the system and cannot be restored once the setup process has begun.
- If you are prompted to accept the End User License Agreement, you must choose Accept to continue the software setup.
- *Preloaded* software applications are included with the notebook but must be installed through the Software Setup utility. *Preinstalled* software applications have already been installed on the notebook and require no further installation procedures.

- This guide does not take into account any variation that may result from the notebook being connected to a network.
- This guide documents the Windows 2000, Windows XP Professional, and Windows XP Home operating systems. Any other operating systems installed on this notebook after purchase may not match the descriptions and procedures provided in this guide.
- This guide documents the category view that is used by default in Windows XP. If your notebook is set to classic view, you may notice discrepancies between your notebook and this documentation. For information on switching views, see Windows XP Help and Support.

Installing Optional Software

You can install third-party software or preloaded utilities any time after initial setup is complete.

- To install third-party software, refer to the documentation included with the software.
- To install a preloaded utility:
  - **In Windows 2000,** select Start > Programs > Software Setup.
  - **In Windows XP,** select Start > All Programs > Software Setup.

A setup wizard loads and a list of applications is displayed. Select the application you want to install and follow the instructions on the screen.

To view the descriptions and space requirements of preloaded HP utilities without installing them:

- **In Windows 2000,** select Start > Programs > Software Setup.
- **In Windows XP,** select Start > All Programs > Software Setup.

After viewing the utility information, select Cancel.

Selecting Regional Settings

Keyboard language and other regional preferences such as time, date, and currency format, are set in the operating system. To access these settings:

- **In Windows 2000,** select Start > Settings > Control Panel > Date/Time, or select Start > Settings > Control Panel > Regional Options.
- **In Windows XP,** select Start > Control Panel > Date, Time, Language, and Regional Options > Date and Time, or select Start > Control Panel > Date, Time, Language, and Regional Options > Regional and Language options.

For information about selecting regional settings, open the Regional Options window, then use context-sensitive Help. To use context-sensitive Help, select the question mark button in the upper right corner of the window, then select an item. A definition, explanation, or procedure is displayed.

Selecting Screen Settings

If you would like to see more items on your screen or to see the items on your screen displayed larger, change the screen resolution setting in your operating system. To access the screen resolution settings:

- **In Windows 2000,** select Start > Settings > Control Panel > Display > Settings tab.
- **In Windows XP,** select Start > Control Panel > Appearance and Themes > Display > Settings tab.

Setting Up Wireless LAN and Bluetooth

If your notebook is equipped with wireless LAN (WLAN) or Bluetooth, you must configure these devices before using them.

For information on configuring and using your WLAN device, refer to the Startup guide that shipped with your notebook. The Startup guide contains information to help you set up your WLAN and locate the correct documentation.

For information on configuring and using Bluetooth, refer to the Documentation Library—Bluetooth CD included with your notebook.

WLAN and Bluetooth options are not supported in all countries.

Safeguarding the Notebook

Turning Off the Notebook

Whenever possible, shut down the notebook by following the appropriate Windows shutdown procedure:

- **In Windows 2000,** select Start > Shut Down > Shut Down, then select the OK button.
- **In Windows XP,** select Start > Turn off computer > Turn off.

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 and electronics retailers.
- Provide surge protection on the cable that connects a modem to the telephone line.
- 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 repair damage they have caused. To provide protection against newly discovered viruses, antivirus software must be installed and updated periodically.

2

Power

Selecting a Power Source

The notebook can run on internal or external AC power. The following table indicates the best power sources for common tasks.

Task	Recommended Power Source
Work in most software applications	■ Charged battery pack in the notebook ■ External power supplied through one of the following devices: ❒ AC adapter ❒ Optional Port Replicator ❒ Optional Aircraft Adapter ❒ Optional Automobile Power Adapter/Charger
Charge or calibrate a battery pack in the notebook	External power supplied through: ■ AC adapter ■ Optional Automobile Power Adapter/Charger ■ Optional Port Replicator
Install or modify system software or write to a CD	External power supplied through: ■ AC adapter ■ Optional Port Replicator

Understanding Standby and Hibernation

Standby and Hibernation are energy-saving features that conserve power and reduce startup time. They can be initiated by you or by the system. Refer in this chapter to the "Initiating Standby, Hibernation or Shutdown," section for details about when to use each setting.

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

- HP recommends that you save your work before initiating Standby.
- When the notebook is in Standby, the power/standby light flashes.

CAUTION: To avoid a complete battery discharge, do not leave your notebook in Standby for extended periods. Connect the notebook to an external power source.

Hibernation

Hibernation saves your work to a Hibernation file on the hard drive, then shuts down the notebook. When you resume from Hibernation, your work returns to the screen where you left off. If a power-on password has been set, the password must be entered to resume from Hibernation.

You can disable Hibernation. However, if Hibernation is disabled, and the system reaches a low-battery condition, the system will not automatically save your work while power is on or Standby has been initiated.

In the Power Options window, Hibernation is not displayed as an option if it has been disabled. You must enable Hibernation in order to select it in the Power Options window. To verify that Hibernation is enabled:

- **In Windows 2000**, select Start > Settings > Control Panel > Power Options icon > Hibernate tab. Make sure that the Enable hibernate support check box is selected.
- **In Windows XP**, select Start > Control Panel > Performance and Maintenance > Power Options > Hibernate tab. Make sure that the Enable hibernate support check box is selected.

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

- Do not dock or undock the notebook in a Port Replicator.
- Do not add or remove memory modules.
- Do not insert or remove any hard drives.
- Do not connect or disconnect external devices.
- Do not insert or remove a PC Card or a Secure Digital (SD) card.

Initiating Standby, Hibernation or Shutdown

The following sections explain when to initiate Standby or Hibernation and when to shut down your notebook.

When You Leave Your Work

Initiating Standby clears the screen and uses less power than leaving the notebook on. Your work returns instantly to the screen when you resume from Standby.

Initiating Hibernation clears the screen, saves your work to the hard drive, and uses much less power than Standby.

Shutting down the notebook and removing the battery pack is recommended to extend the life of the battery pack when the notebook will be disconnected from external power for an extended period. For details on battery pack storage, refer on the *Documentation Library* CD to the *Hardware Guide*, "Battery Packs" chapter.

When the Power Supply Is Uncertain

Make sure that Hibernation remains enabled, especially if you are operating the notebook on battery power and do not have access to an external power supply. If the battery pack fails, Hibernation saves your work to a Hibernation file and shuts down the notebook.

HP recommends that if you pause your work when the power supply is uncertain, initiate Hibernation, shut down the notebook, or save your work and then initiate Standby.

When Using Infrared Communication or Drive Media

Standby and Hibernation interfere with the use of infrared communication and drive media. Note the following guidelines:

- If the notebook is in Standby or Hibernation, you cannot initiate an infrared transmission.
- If Standby or Hibernation is accidentally initiated while a drive medium (such as a diskette, CD, or DVD) is in use:
  - Your playback may be interrupted.
  - You may see a warning message: "Putting the computer into Hibernation or Standby may stop the playback. Do you want to continue?" Select No.
  - You may need to restart the playback to resume audio and video.

CAUTION: Do not initiate Standby or Hibernation while using drive media. Doing so may result in possible video and audio degradation and loss of audio or video playback functionality.

Using the Default Power Settings

The following tables describe the factory power settings on the notebook. You can change many of these settings according to your preference. For more information on changing power settings, refer in this chapter to "Managing Power Options."

Turning the Notebook or Display On or Off

Task	Procedure	Result
Turn on the notebook	Press the power button. ✎ Pressing the power button returns the notebook to “on” from Standby, Hibernation, or shutdown.	■ The power/standby light turns on. ■ The operating system loads.
Shut down the notebook*	Save your work and close all open applications. Then: ■ Press the power button and follow the on screen directions (if displayed) for shutting down the notebook. ■ Shut down the notebook through the operating system: ❒ **In Windows 2000,** select Start > Shut Down > Shut Down, then select the OK button. ❒ **In Windows XP,** select Start > Turn Off computer > Turn Off.	■ The power/standby light turns off. ■ The operating system shuts down. ■ The notebook turns off.
Turn off the display while the power is on	Close the notebook.	Closing the notebook activates the display switch, which turns off the display. This conserves battery power.

*If the system is unresponsive and you are unable to shut down the notebook with these procedures, refer in this chapter to “Using Emergency Shutdown Procedures.”

Initiating or Resuming from Hibernation

Task	Procedure	Result
Initiate Hibernation	■ **In Windows 2000,** select Start > Shut down > Hibernate, then select the OK button. ■ **In Windows XP,** select Start > Turn Off Computer > Hibernate. (If the Hibernate option is not displayed, press and hold the **shift** key.) ■ If Hibernation has been configured, briefly press the power button.	■ The power/standby light turns off. ■ The screen clears.
Allow the system to initiate Hibernation (with Hibernation enabled)	No action required. ■ If the notebook is running on battery power, the system initiates Hibernation after 30 minutes of notebook inactivity or when the battery pack(s) reaches a critical low battery condition. ■ If the notebook is attached to external power, the system will not initiate Hibernation. ■ Power settings and timeouts can be changed in the Power Options window.	■ The power/standby light turns off. ■ The screen clears.

(Continued)

Task	Procedure	Result
Resume from user-initiated or system-initiated Hibernation	Press the power button. ✎ If the system initiated Hibernation because of a critical low-battery condition, connect external power or insert a charged battery pack before you press the power button.	■ The power/standby light turns on. ■ Your work returns to the screen.

Initiating or Resuming from Standby

Task	Procedure	Result
Initiate Standby	■ With the notebook on, press **fn+f3.** ■ Through the operating system: ❒ **In Windows 2000,** select Start > Shut Down > Standby, then select the OK button. ❒ **In Windows XP,** select Start > Turn Off Computer > Standby. (If the Standby option is not displayed, press the **shift** key.)	■ The power/standby light blinks. ■ The screen clears.
Allow the system to initiate Standby	No action required. ■ If the notebook is running on battery power, the system initiates Standby after 10 minutes of notebook inactivity. (Default setting) ■ If the notebook is attached to external power, the system will not initiate Standby. ■ Power settings and timeouts can be changed in the Power Options window.	■ The power/standby light blinks. ■ The screen clears.
Resume from user-initiated or system-initiated Standby	■ Briefly press the power button. ■ If the display was closed while the notebook was in Standby, open the display.	■ The power/standby light turns on. ■ Your work returns to the screen.

Using Emergency Shutdown Procedures

If the notebook 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.** Select Shutdown.
- Press and hold the power button for at least 5 seconds.
- Disconnect the notebook from external power and remove the battery pack. For more information about removing and storing the battery pack, refer to the *Hardware Guide,* "Battery Packs" chapter.

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

Managing Power Options

Many default power settings can be changed in the Power Options window. For example, you can set an audio alert to warn you when the battery pack reaches a low-power condition, or you can change the default settings for the power button.

By default, when the notebook is on:

- Briefly pressing the power button initiates Hibernation.
- Pressing the **fn+f5** hotkey, called the "sleep button" in the operating system, initiates Standby.
- The display switch turns off the display. The display switch is activated by closing the display. (By default and when using custom settings, the display switch also turns on the notebook if the display is opened while the notebook is in Standby.)

Accessing the Power Options Window

To access the Power Options window, double-click the Power Meter icon on the taskbar, or:

- **In Windows 2000,** select Start > Settings > Control Panel > Power Options.
- **In Windows XP,** select Start > Control Panel > Performance and Maintenance > Power Options.

Displaying the Power Meter Icon

The Power Meter icon is on your taskbar by default. The icon changes shape to indicate whether the notebook is running on a battery pack or external power. Double-click the icon to display the Power Options window.

To hide or show the Power Meter icon on the taskbar:

1. Access the Power Options window.
2. Select the Advanced tab.
3. Select or clear the Always show icon on the taskbar check box.
4. Select the OK button.

If you cannot see an icon you have placed on the taskbar in Windows XP, the icon may be hidden. Select the arrow or vertical bar on the taskbar and expand it to view hidden icons.

Setting or Changing a Power Scheme

The Power Schemes tab in the Power Options window assigns power levels to system components. You can assign different schemes depending on whether the notebook is running on a battery pack or external power.

You can also set a power scheme that initiates Standby or turns off the display or hard drive after a time interval that you specify.

To set a power scheme:

- **In Windows 2000:**
  1. Access the Power Options window > Power Schemes tab.
  2. Select options from the lists on the screen.
  3. Select Save As to name the new power scheme.
- **In Windows XP:**
  1. Access the Power Options window > Power Schemes tab.
  2. Select the power scheme you wish to modify, and adjust options in the lists on the screen.
  3. Select Apply.

Using a Security Password

You can add a security feature that prompts you for a password when the notebook turns on or resumes from Standby or Hibernation.

To set a password prompt, access the Power Options window > Advanced tab. Select the check box for Prompt For Password When the Computer resumes from Standby, and select OK.

For more information about using security passwords, refer in this guide to the "Security" chapter.

Processor Performance Controls

On select notebook models, Windows 2000 and Windows XP support software that enables the user to control processor performance. The central processing unit (CPU) speed can be set for optimal performance or for optimal power conservation.

For example, the software can be set to trigger an automatic change in processor speed when the power source changes from external power to battery pack power, or when the notebook use changes between active and idle.

Processor performance controls vary depending on the operating system.

Windows 2000 Processor Controls

Windows 2000 notebooks with Intel Mobile processor with SpeedStep technology enable the user to adjust the processor speed. Intel SpeedStep functions independently from the power management settings available through the operating system. You must install SpeedStep separately.

Installing Intel SpeedStep (Windows 2000)

To install Intel SpeedStep technology, select Start > Programs > Software Setup.

A setup wizard loads and displays a list of available applications. Select Intel SpeedStep and follow the instructions on the screen. When installation is complete, you will be prompted to restart the notebook.

After you install SpeedStep, a tab is added to the Power Options window, an icon is added to the taskbar, and SpeedStep is automatically enabled.

The default SpeedStep settings are Maximum Performance for external power and Battery Optimized mode for battery power. For details on each setting, refer in this chapter to the "Choosing a Performance Mode (Windows 2000)."

To access the utility after installation, select the SpeedStep icon on the taskbar, or select Start > Settings > Control Panel > Power Options > Intel SpeedStep technology tab.

The SpeedStep icon on the taskbar indicates which SpeedStep mode is active. Hover the mouse pointer over the icon to display the current performance mode. Right-click the icon to change the performance mode.

Choosing a Performance Mode (Windows 2000)

The SpeedStep technology offers 3 preset performance modes:

- **Maximum Performance mode**–the processor runs at full speed to provide maximum performance.
- **Automatic mode–**the processor speed increases when the notebook is being used and decreases when the notebook is idle.
- **Battery Optimized mode**–the processor runs at reduced speed to provide an optimal balance between energy conservation and performance.

The notebook can run in any of the performance modes while it is operating on external power or on battery power.

Setting SpeedStep Preferences (Windows 2000)

SpeedStep settings can be accessed from the SpeedStep window or the SpeedStep icon. SpeedStep can be enabled or disabled in Computer Setup.

If the SpeedStep window and icon are not accessible, they can be enabled in Computer Setup. To enable the window icon and other settings, refer to "Enabling SpeedStep in Computer Setup (Windows 2000)," later in this chapter.

Using the SpeedStep Window (Windows 2000)

To open the SpeedStep window in Windows 2000, select Start > Settings > Control Panel > Power Options > Intel SpeedStep technology tab. Then set your preferences according to the following table.

Preference	Procedure
Assign a performance mode that applies when the notebook is running on battery power.	Select a performance mode from the Running on Batteries list, then select OK.
Assign a performance mode that applies when the notebook is running on external power.	Select a performance mode from the Plugged In list, then select OK.
Set the notebook to remain in the same performance mode even when the power source changes.	Select the same performance mode from the Running on Batteries and Plugged In lists, then select OK.
Remove the SpeedStep icon from the taskbar.	1. Select the check box for Remove Icon from Taskbar. 2. Select OK in the Advanced window. 3. Select OK or Apply in the main SpeedStep window.

Enabling SpeedStep in Computer Setup (Windows 2000)

Computer Setup, a non-Windows utility, includes settings to enable or disable SpeedStep. For more information about Computer Setup, refer in this guide to the "Computer Setup" chapter.

To access the SpeedStep settings in Computer Setup:

1. Open Computer Setup, by turning on or restarting the notebook. Press **f10** while the F10 = ROM Based Setup message is displayed in the lower left of the screen.
   - ❏ To change the language, press **f2.**
   - ❏ For navigation instructions, press **f1.**
2. Use the arrow keys to select Advanced > Device Options. Under Intel SpeedStep Technology:
   - ❏ Select Automatic to enable all SpeedStep settings in the SpeedStep window.
   - ❏ Select Disable to set the notebook to run in Battery Optimized mode and disable all SpeedStep settings in the SpeedStep window.
3. Save your preferences. Use the arrow keys to select File > Save Changes and Exit, then follow the instructions on the screen.

Your preferences are set when you exit Computer Setup and take effect when the notebook restarts.

Windows XP Processor Controls

In Windows XP, processor performance controls are included with the operating system and are managed in the Power Options window.

Accessing XP Processor Controls

To access Windows XP processor performance controls, select Start > Control Panel > Performance and Maintenance > Power Options > Power Schemes tab.

The power scheme you select determines how the processor performs when the notebook is connected to external power or running on battery power. Each power scheme for external power or battery power sets a specific processor state.

Different states may be used, depending on whether the notebook is running on external or battery power. Once a power scheme has been set, no other intervention is required to control the performance of your notebook processor.

Power Scheme	Processor Performance while on External Power	Processor Performance while on Battery Power
Home/Office Desk	Always runs at the highest performance state.	Performance state is determined based on CPU demand.
Portable/Laptop	Performance state is determined based on CPU demand.	Performance state is determined based on CPU demand.
Presentation	Performance state is determined based on CPU demand.	Starts at lowest performance state, then uses linear performance reduction (stop-clock throttling) as the battery discharges.

(Continued)

Power Scheme	Processor Performance while on External Power	Processor Performance while on Battery Power
Always On	Always runs at the highest performance state.	Always runs at the highest performance state.
Minimal Power Management	Performance state is determined based on CPU demand.	Performance state is determined based on CPU demand.
Max Battery	Performance state is determined based on CPU demand.	Starts at lowest performance state, then uses linear performance reduction (stop-clock throttling) as the battery discharges.

3

Security

Security Features Quick Reference

The purpose of security solutions is to act as a deterrent. These solutions do not prevent the product from being mishandled or stolen.

In addition to the Windows operating system security measures, the notebook provides the following security features, most of which can be configured in Computer Setup. For more information, refer to the "Computer Setup" chapter in this guide.

To Protect Against	Use This Security Feature
Unauthorized use of the notebook	Power-on password
Unauthorized access to the Computer Setup utility (**f10**)	HP Administrator password
Unauthorized access to the contents of a hard drive	DriveLock

(Continued)

To Protect Against	Use This Security Feature
Unauthorized access to a Windows user account	Optional Smart Cards An enabled Smart Card can store the Windows User and Windows Administrator passwords; therefore, both the password and the Smart Card are required to access the account. ✎ This feature is only supported on certain Smart Card Readers. For more information on Smart Cards, refer to "Using the Smart Card Reader," later in this chapter.
Unauthorized access of data	Embedded Security Chip ✎ This feature is only available on select notebook models. For more information, refer to the *HP ProtectTools Embedded Security Getting Started* guide, included with notebooks containing this chip.
Unauthorized access to the processor serial number and other system identification information	HP Administrator password, which protects the system information in Computer Setup
Unauthorized removal of the notebook	Security cable slot (used with an optional cable lock) For more information on the security cable slot, refer on the *Documentation Library* CD to the *Hardware Guide,* "External Devices" chapter.

Setting Security Preferences in Computer Setup

Most security preferences are set in Computer Setup. Because Computer Setup is a non-Windows utility, it does not support the pointing devices on your notebook. When using Computer Setup, you must use the keys on your notebook to navigate and make selections.

Refer in this guide to the "Computer Setup" chapter for details.

Using Passwords

Most security features use passwords. Whenever you set a password, write down the password and store it in a secure location away from the notebook.

- If you forget your power-on or HP Administrator password, you cannot start up the notebook or resume from Hibernation until an authorized service provider resets the notebook. To contact an authorized service provider, refer to the *Worldwide Telephone Numbers* booklet included with the notebook.
- If you forget the DriveLock user password but know your DriveLock master password, you can remove DriveLock protection from the drive. For instructions, see "Understanding DriveLock" in this chapter.

CAUTION: If you forget both your DriveLock user and DriveLock master passwords, the hard drive is permanently locked and can no longer be used.

Understanding HP and Windows Passwords

HP security features and Windows operating system security features work independently from one another. For example, a device disabled in Computer Setup cannot be enabled in Windows.

HP passwords and Windows passwords are also independent of one another. The following table lists the different passwords used by HP and Windows and describes their functions.

HP passwords*	Function
HP Administrator password	Used to access Computer Setup.
Power-on password	Used to access the notebook during Startup.
DriveLock user password	Used by the day-to-day user to access drives protected by DriveLock at startup.
DriveLock master password	Used by the HP administrator to access drives protected by DriveLock and to remove DriveLock protection from the drive.
Smart Card password	Stores the Windows Administrator and User passwords and is used to access Windows during startup on notebooks. Power-on and HP Administrator passwords can be stored on Smart Cards if the Smart Card Reader supports this functionality.

*HP Passwords must be enabled in Computer Setup. For more information, refer in this guide to the "Computer Setup" chapter.

(Continued)

Windows passwords	
Administrator password	Used to log on to the notebook as the Windows Administrator once Windows has been configured to prompt for a password at startup.
User password	Used to log on to the notebook as a user once Windows has been configured to prompt for a password at startup.

HP and Windows Password Guidelines

HP and Windows passwords are not interchangeable. You must use an HP password at an HP password prompt and a Windows password at a Windows password prompt. For example:

- If a power-on password is set, the power-on password (not a Windows password) must be entered when the notebook starts up or resumes from Hibernation.
- If you set Windows to prompt for a password before resuming from Standby, a Windows password (not a power-on password) must be entered to resume from Standby.

The same word or series of letters, numbers, or slashes used for an HP password can be used for another HP password or for a Windows password, with these considerations:

- HP passwords can be any combination of up to 32 letters and numbers and are not case-sensitive.
- An HP password must be set and entered with the same type of keys. For example, an HP password set with keyboard number keys will not be recognized if it is entered with embedded numeric keypad number keys. (For information about the embedded numeric keypad, refer on the *Documentation Library* CD to the *Hardware Guide*, "Pointing Devices and Keyboard" chapter.)

Understanding Power-On Passwords

A power-on password prevents unauthorized use of the notebook. Once set, a power-on password must be entered each time the notebook is turned on or restarted. A power-on password:

- Does not display as it is set, entered, changed, or deleted.
- Must be set and entered with the same keys. For example, a power-on password set with keyboard number keys will not be recognized if you enter it with keypad number keys.
- Can include any combination of up to 32 letters and numbers and is not case-sensitive.

Setting Power-On Passwords

A power-on password is set, changed, or deleted in Computer Setup. To manage the password:

1. Open Computer Setup by turning on or restarting the notebook. Press **f10** while the F10 = ROM Based Setup message is displayed in the lower left of the screen.
   - ❏ To change the language, press **f2.**
   - ❏ For navigation instructions, press **f1.**

2. Use the arrow keys to select Security > Power-On password, then press **enter.** Then:

   - ❏ To set a power-on password, type the password in the New Password field, then in the Verify New Password field, then press **f10.**
   - ❏ To change a power-on password, type the current password in the Old Password field, type the new password in the New Password and Verify New Password fields, then press **f10.**
   - ❏ To delete a power-on password, type the current password in the Old Password field, then press **f10.**

3. To save your preferences, use the arrow keys to select File > Save Changes and Exit, then follow the instructions on the screen.

Your preferences are set when you exit Computer Setup and take effect when the notebook restarts.

Entering Power-On Passwords

At the power-on password prompt, type your password, then press **enter.** After 3 unsuccessful attempts to enter the password, you must restart the notebook and try again.

Understanding HP Administrator Passwords

The HP Administrator password protects the configuration settings and system identification information in Computer Setup. After it is set, this password must be entered to access Computer Setup. The HP Administrator password:

- Is not interchangeable with a Windows Administrator password, although both can use the same word or series of letters, numbers, or slashes.
- Does not display as it is set, entered, changed, or deleted.
- Must be set and entered with the same keys. For example, an HP Administrator password set with keyboard number keys will not be recognized if you enter it with embedded numeric keypad number keys.
- Can include any combination of up to 32 letters and numbers and is not case-sensitive.

Setting HP Administrator Passwords

An HP Administrator password is set, changed, or deleted in Computer Setup. To manage the password:

1. Open Computer Setup by turning on or restarting the notebook. Press **f10** while the F10 = ROM Based Setup message is displayed in the lower left of the screen.
   - ❏ To change the language, press **f2.**
   - ❏ For navigation instructions, press **f1.**
2. Use the arrow keys to select the Security menu > Administrator Password, then press **enter.** Then:
   - ❏ To set an HP Administrator password, type your password in the New Password and Verify New Password fields, then press **f10.**
   - ❏ To change an HP Administrator password, type your current password in the Old Password field, type the new password in the New Password and Verify New Password fields, then press **f10.**
   - ❏ To delete an HP Administrator password, type your current password in the Old Password field, then press **f10.**
3. To save your preferences and exit Computer Setup, use the arrow keys to select File > Save Changes and Exit, then follow the instructions on the screen.

   Your preferences are set when you exit Computer Setup and take effect when the notebook restarts.

Entering HP Administrator Passwords

At the Computer Setup prompt, type your Administrator Password (using the same type of keys you used to set the password), then press **enter.** After 3 unsuccessful attempts to enter the HP Administrator password, you must restart the notebook and try again.

Understanding DriveLock

CAUTION: If you forget the DriveLock user and DriveLock master passwords, the hard drive is permanently unusable.

DriveLock prevents unauthorized access to the contents of a hard drive. After DriveLock protection is applied to a drive, a password must be entered to access the drive. The drive must be inserted into the notebook, not an optional Port Replicator or external MultiBay, in order for it to be accessed by the DriveLock passwords.

DriveLock involves a user password and a master password:

- A hard drive protected by DriveLock can be accessed with either the user or the master password.
- You can delete a user password or master password only by removing DriveLock protection from the drive. DriveLock protection can be removed from the drive only with the master password.
- The owner of the user password should be the day-to-day user of the protected hard drive. The owner of the master password may be a system administrator or the day-to-day user.
- A user password and a master password can be the same word.

When you start the notebook from a hard drive protected with DriveLock, and your power-on and DriveLock passwords are identical, you will be prompted to enter only a power-on password instead of both a power-on and a DriveLock password.

Setting DriveLock Passwords

CAUTION: If you forget the DriveLock user and the DriveLock master passwords, the hard drive is permanently unusable.

CAUTION: To prevent loss of work and damage to the notebook and the hard drive, shut down the notebook before inserting or removing a primary hard drive. (The primary hard drive is any hard drive used in the hard drive bay.)

To access the DriveLock settings in Computer Setup, you must shut down, then turn on the notebook. If you open Computer Setup from a Windows restart, DriveLock settings are not accessible.

1. Verify that the notebook is off and not in Hibernation by pressing the power button. If your work returns to the screen, shut down the notebook.
2. Insert the hard drive into the notebook (not an optional Port Replicator or external MultiBay).
3. Open Computer Setup by turning on (not restarting) the notebook. Press **f10** while the F10 = ROM Based Setup message is displayed in the lower left of the screen.
   - ❏ To change the language, press **f2.**
   - ❏ For navigation instructions, press **f1.**
4. Use the arrow keys to select the Security menu > DriveLock passwords, then press **enter.**
5. Select the location of the hard drive, then press **f10.**
6. Toggle the Protection field to Enable.
7. Read the warning. To continue, press **f10**.
8. Type your user password in the New Password and Verify New Password fields, then press **f10.**
9. Type your master password in the New Password and Verify New Password fields, then press **f10.**

10. To confirm DriveLock protection on the drive you have selected, type DriveLock in the confirmation field, then press **f10.**
11. To save your DriveLock settings, select File > Save Changes and Exit, then follow the instructions on the screen.

    Your preferences are set when you exit Computer Setup and take effect when the notebook restarts.

Entering DriveLock Passwords

1. Be sure that the drive is inserted into the notebook (not an optional Port Replicator or external MultiBay).
2. When prompted for a DriveLock password, type your user or master password (using the same type of keys you used to set the password), then press **enter.**
3. After 2 attempts to enter the password incorrectly, you must restart the notebook and try again.

Changing DriveLock Passwords

CAUTION: To prevent loss of work and damage to the notebook and the hard drive, shut down the notebook before inserting or removing a primary hard drive. (The primary hard drive is any hard drive used in the hard drive bay.)

To access the DriveLock settings in Computer Setup, you must shut down, then turn on the notebook. If you open Computer Setup from a Windows restart, DriveLock settings are not accessible.

1. Verify that the notebook is off and not in Hibernation by pressing the power button. If your work returns to the screen, shut down the notebook.
2. Be sure that the hard drive is inserted into the notebook (not an optional Port Replicator or external MultiBay).

3. Open Computer Setup by turning on (not restarting) the notebook. Press **f10** while the F10 = ROM Based Setup message is displayed in the lower left of the screen.

   ❏ To change the language, press **f2.**

   ❏ For navigation instructions, press **f1.**

4. Use the arrow keys to select the Security Menu > DriveLock passwords, then press **enter.**
5. Use the arrow keys to select the location of the hard drive, then press **f10.**
6. Use the arrow keys to select the field for the password you want to change, type your current password in the Old Password field, type the new password in the New Password and Verify New Password fields, then press **f10.**
7. To save your preferences, use arrow keys to select File > Save Changes and Exit, then follow the instructions on the screen.

   Your preferences are set when you exit Computer Setup and take effect when the notebook restarts.

Removing DriveLock Protection

To access the DriveLock settings in Computer Setup, you must shut down, then turn on the notebook. If you open Computer Setup from a Windows restart, DriveLock settings are not accessible.

1. Verify that the notebook is off and not in Hibernation by pressing the power button. If your work returns to the screen, shut down the notebook.
2. Be sure that the hard drive is inserted into the notebook (not an optional Port Replicator or external MultiBay).
3. Open Computer Setup by turning on (not restarting) the notebook. Press **f10** while the F10 = ROM Based Setup message is displayed in the lower left of the screen.

   ❏ To change the language, press **f2.**

   ❏ For navigation instructions, press **f1.**

4. Use the arrow keys to select the Security Menu > DriveLock passwords, then press **enter.**
5. Use the arrow keys to select the location of the hard drive, then press **f10.**
6. Toggle the Protection field to Disable, then press **f10.**
7. Type your master password in the Old Password field, then press **f10.**
8. To save your preferences, use arrow keys to select File > Save Changes and Exit, then follow the instructions on the screen.

   Your preferences are set when you exit Computer Setup and take effect when the notebook restarts.

Disabling a Device

From the Computer Setup Device Security menu, you can disable or partially disable most ports and drives.

1. Open Computer Setup by turning on or restarting the notebook. Press **f10** while the F10 = ROM Based Setup message is displayed in the lower left of the screen.

   ❏ To change the language, press **f2.**

   ❏ For navigation instructions, press **f1.**
2. Select the Security menu > Device Security, then enter your preferences.
3. To confirm your preferences, press **f10.**
4. To save your preferences, select File > Save Changes and Exit, then follow the instructions on the screen.

Your preferences are set when you exit Computer Setup and take effect when the notebook restarts.

Using HP ProtectTools Embedded Security Manager

HP ProtectTools Embedded Security Manager is the interface that allows you to configure settings for the optional Embedded Security Chip that is available on select notebooks. HP ProtectTools Embedded Security Manager is not provided in all languages.

In order to use HP ProtectTools Embedded Security Manager, the Embedded Security Chip must first be enabled and the appropriate software and drivers must be installed. For information on installing software and drivers, enabling the Embedded Security Chip and using Embedded Security, refer to the *HP ProtectTools Embedded Security Getting Started* guide, included with notebooks containing the Embedded Security Chip. (This guide is not provided in all languages.)

Using System Information

System information provides details about your notebook and battery pack. The following sections explain how to prevent other users from viewing system information and how to configure system information options in Computer Setup.

System Information options allow you to:

- Display or enter the notebook serial number, asset tag, and ownership tag.
- Display a battery pack serial number.

To prevent unauthorized access to this information, you must create an HP Administrator password. For instructions, see "Setting HP Administrator Passwords," earlier in this chapter.

Setting System Information Options

1. To open Computer Setup, turn on or restart the notebook. Press **f10** while the F10 = ROM Based Setup message is displayed in the lower left of the screen.
   - ❏ To change the language, press **f2.**
   - ❏ For navigation instructions, press **f1.**
2. Access or set your preferences by following these directions:
   - ❏ To view general system information, select the File menu > System Information.
   - ❏ To view or enter identification values for system components, select the Security menu > System IDs.
3. To confirm the information or your preferences, press **f10.**
4. To save your information or preferences, use the arrow keys to select File > Save Changes and Exit, then follow the instructions on the screen.

   Your preferences are set when you exit Computer Setup and take effect when the notebook restarts.

Using the Smart Card Reader

Select notebooks models are equipped with an embedded Smart Card Reader. On these models, the driver for your Smart Card Reader is preinstalled. No action is necessary to install the driver.

The Smart Card Reader is used with industry-standard Smart Cards designed to work with Windows 2000 and Windows XP Professional operating systems.

Smart Cards are available from a variety of manufacturers and service providers. Smart Cards can provide functions such as protecting a Windows user account and securing online transactions. Card capabilities depend on the Smart Card itself as well as the Smart Card application being used.

In addition, you can use a personal digital certificate with the Smart Card Reader. To do so, ensure that the personal digital certificate and software you purchase are compliant with the Microsoft PC/SC Smart Card standard.

Safeguarding your Smart Card Reader

The HP ProtectTools Smart Card Manager utility can be used with selected notebooks to provide a way to safeguard your Smart Card Reader. This utility allows you to restrict unauthorized access to your Smart Card and Smart Card Reader. To download this utility and find out more about ProtectTools, visit the HP Web site at http://www.hp.com/products/security.

For instructions on using HP ProtectTools Smart Card Manager, refer to the Help menu in the utility. This utility and Web site are available in English only.

4

Optical Drive Software

Using CDs and DVDs

This chapter provides guidelines for playing CDs and DVDs using software that has been preloaded and preinstalled on select notebooks. This software supports optical drives in an optional external MultiBay or optional Advanced Port Replicator with built-in MultiBay, as well as the integrated optical drive on your notebook.

Protecting Playback

CAUTION: Do not insert or remove a device while running multimedia applications, because the application may pause or stop playing.

CAUTION: To prevent possible video and audio degradation and loss of audio or video playback functionality, do not initiate Standby or Hibernation while using drive media.

If Hibernation or Standby is accidentally initiated while an audio or video disc is in use:

- Your playback may be interrupted.
- You may see a warning message: "Putting the computer into Hibernation or Standby may stop the playback. Do you want to continue?" Select No.

Resume from Hibernation or Standby by pressing the power button. Audio and video may resume automatically or you may need to restart the media.

Observing the Copyright Warning

It is a criminal offense, under applicable copyright laws, to make unauthorized copies of copyright-protected material, including computer programs, films, broadcasts, and sound recordings. This notebook should not be used for such purposes.

Playing Audio and Video CDs with Windows Media Player

The Windows Media Player application is a program included with the operating system.

Playing a CD

To play a CD, follow these steps:

1. Insert the CD into the drive, then close the tray. Wait several seconds. Then:
   - ❏ If Autorun is enabled, Windows Media Player opens. Proceed to step 2.
   - ❏ If Windows Media Player does not open:
     - ◆ **In Windows 2000,** select Start > Programs > Accessories > Entertainment > Windows Media Player.
     - ◆ **In Windows XP,** select Start > All Programs > Windows Media Player.
2. Select the Play button to play the CD.

Accessing Windows Media Player Help

To open Windows Media Player Help:

1. Select the Windows Media Player icon on the taskbar, or:
   - ❑ **In Windows 2000,** select Start > Programs > Accessories > Entertainment > Windows Media Player.
   - ❑ **In Windows XP,** select Start > All Programs > Windows Media Player.
2. Select Help on the Windows Media Player menu bar.

Playing Video CDs and DVDs with Intervideo WinDVD

InterVideo WinDVD is an application that enables you to play video CDs and DVD movies. WinDVD is preloaded, but not preinstalled, on the notebook.

Installing WinDVD

HP recommends that you install WinDVD from the Software Setup utility before inserting a DVD.

This application will not install successfully unless your notebook is equipped with an optical drive (integrated or attached through the MultiBay or an optional Advanced Port Replicator) that has DVD+R capability.

To install WinDVD, open the Software Setup utility:

- **In Windows 2000,** select Start > Programs > Software Setup.
- **In Windows XP,** select Start > All Programs > Software Setup.

A setup wizard loads, and a list of applications is displayed. Select WinDVD and follow the instructions on the screen.

Some DVDs contain third-party DVD player programs such as PCFriendly. If you insert a DVD that contains a non-HP player program *before you have installed WinDVD,* you are prompted to install the non-HP player program and not WinDVD. If you prefer to install WinDVD, decline the non-HP player installation, then close the installation window.

To open the WinDVD application if Autorun has been disabled:

- **In Windows 2000,** select Start > Programs > InterVideo WinDVD > InterVideo WinDVD.
- **In Windows XP,** select Start > All Programs > InterVideo WinDVD > InterVideo WinDVD

For more information about using WinDVD, select Help on the WinDVD menu bar.

Playing Video CDs and DVDs

In addition to the instructions in the WinDVD Player Help file, the following tips may be useful:

- If your system includes an optional Advanced Port Replicator, dock or undock the notebook *before* playing a DVD (not *while* playing a DVD).
- For best playback quality, save your files and close all open applications before playing a DVD.
- If the DVD displays a Playback Of Content From This Region Is Not Permitted error message, change the region setting as described in the next section, then restart the DVD.

After you insert a DVD, a short pause is normal before Autorun opens the DVD and WinDVD Player.

Changing DVD Region Settings

Most DVDs that contain copyrighted files also contain region codes. The region codes help protect copyrights internationally.

You can play a DVD containing a region code only if the region code on the DVD matches the region setting on your DVD drive.

If the region code on a DVD does not match the region setting on your drive, a Playback Of Content From This Region Is Not Permitted message is displayed when you insert the DVD. To play the DVD, you must change the region setting on your DVD drive.

CAUTION: The region setting on your DVD drive can be changed only 5 times.

- The region setting you select the fifth time becomes the permanent region setting on the DVD drive.
- The number of allowable region changes remaining on the drive is displayed in the Remaining Times Until Permanent field in the WinDVD window. The number in the field includes the fifth and permanent change.

To change the region setting on a drive medium:

1. Open WinDVD by doing one of the following.
   - ❏ Select the WinDVD Player icon on the taskbar.
   - ❏ **In Windows 2000,** select Start > Programs > InterVideo WinDVD > InterVideo WinDVD.
   - ❏ **In Windows XP,** select Start > All Programs > InterVideo WinDVD > InterVideo WinDVD.
2. Right-click on the WinDVD player window.
3. Select Setup.
4. Select the button for the region.
5. Select OK.

Creating CDs with Roxio Easy CD & DVD Creator 6

Roxio Easy CD & DVD Creator 6 is a data transfer utility that enables you to create or copy optical drive media. Before you can create CDs, you must install this application using the installation CD provided with your notebook.

If your optical drive has DVD+RW capability, DVDs can be used with Easy CD and DVD Creator 6 to store large amounts of data on a disc. To build DVDs containing movies, refer to "Creating DVDs Using InterVideo WinDVD Creator," later in this chapter.

When Easy CD & DVD Creator is installed on your notebook model, a Roxio Easy CD and DVD Creator 6 icon is displayed at the following location:

- **In Windows 2000,** Start > Programs > Roxio Easy CD and DVD Creator 6.
- **In Windows XP,** Start > All Programs > Roxio Easy CD and DVD Creator 6.

Understanding Easy CD & DVD Creator 6 Features

Easy CD & DVD Creator 6 includes the following 4 applications:

Application	Allows you to
Disc Copier	create backup copies of personal discs.
Creator Classic	create CD backups or archives of files on your hard drive.
Drag-to-Disc	"drag and drop" files to a CD or DVD and automatically record data as you would with a floppy disk. Drag-to-Disc does not copy and burn audio files.
Roxio Label Creator	create personalized labels for your discs.

Additional applications that appear in the Roxio Easy CD & DVD Creator 6 online User's Guide are not available on this notebook model, as purchased.

These applications can be accessed through the start menu or through the Home window. To open the Home window:

- **In Windows 2000,** select Start > Programs > Roxio Easy CD and DVD Creator 6 > Home.
- **In Windows XP,** select Start > All Programs > Roxio Easy CD and DVD Creator 6 > Home.

For a more information concerning Easy CD & DVD Creator 6 applications, features, or use, refer to the Roxio Easy CD & DVD Creator 6 online User's Guide. To access the guide:

- **In Windows 2000,** select Start > Programs > Roxio Easy CD and DVD Creator 6 > User's Guide.
- **In Windows XP,** select Start > All Programs > Roxio Easy CD and DVD Creator 6 > User's Guide.

Preparing to Use Easy CD & DVD Creator 6

CAUTION: To prevent loss of work and damage to a CD or DVD:

- Before writing to a CD, connect the notebook to a reliable external power source. Do not write to a CD while the notebook is running on battery power.
- Before writing to a CD, close all open applications (including screen savers and antivirus software) except Easy CD and DVD Creator 6.
- Do not copy directly from a CD to another CD or from a network drive to a CD. Instead, copy from a CD or network drive to your hard drive, then copy from your hard drive to the CD.
- Do not type on the notebook keyboard or move the notebook while the notebook is writing to a CD. The write process is sensitive to vibration.

Choosing Recording Media

HP recommends using high-quality media that correspond to the maximum speed of the optical drive. The notebook can write or copy to CDs which provide one-time, non-erasable recording (CD-R) or to CDs which provide erasable recording (CD-RW).

In order to write data to a CD, you must use a blank CD-R or disc or a CD-RW disc on which the format has not been finalized. For more information about choosing media for use with Easy CD & DVD Creator 6, refer to the Roxio Easy CD & DVD Creator 6 online User's Guide.

Responding to the UDF Prompt

The first time you insert a CD into an optical drive, you may be prompted to install Universal Disk Format (UDF) Reader.

The UDF Reader is preinstalled on select notebook models. If UDF Reader is installed on your notebook, a CD created with the Drag-to-Disc application can be used in a compatible optical drive on a computer without Drag-to-Disc, provided you select the Make this disc readable on any CD-ROM or DVD-ROM drive option during the eject process.

Formatting Recording Media

To record information to a disc using Drag-to-Disc, use a CD formatted for Drag-to-Disc. Drag-to-Disc will automatically format blank discs.

Formatting a disc in Drag-to-Disc may take up to 45 minutes to complete.

To record information to a CD using Creator Classic or Disc Copier, do not use a CD formatted for Drag-to-Disc or erase the information from a rewriteable disc to use it again.

To manually format a disc so that it can be used in Creator Classic or Disc Copier:

1. Insert a disc into the optical drive.
2. Open Drag-to-Disc:
   - ❏ **In Windows 2000,** select Start > Programs > Roxio Easy CD and DVD Creator 6 > Drag-to-Disc.
   - ❏ **In Windows XP,** select Start > All Programs > Roxio Easy CD and DVD Creator 6 > Drag-to-Disc.
3. Open the Drag-to-Disc menu.
4. Select Manually Format Disc, and choose the format settings.
   - ❏ To format a disc for use with only Drag-to-Disc, select Quick Format.
   - ❏ To format a disc for use with another application, select Full Format.
5. Select OK.

Creating CDs

Refer to the Roxio Easy CD and DVD Creator 6 online User's Guide for details on burning CDs.

Erasing Recorded Media with Roxio Easy CD & DVD Creator 6

You cannot erase data from a CD-R or DVD+R disc. Only CD-RW or DVD+RW discs can be used in the following process.

Erasing recorded media in Drag-to-Disc or Creator Classic may take up to 45 minutes to complete.

Erasing Recorded Media with Drag-to-Disc

To erase recorded media created with Drag-to-Disc:

1. Insert the CD into the optical drive.
2. Open the Drag-to-Disc window:
   - ❑ **In Windows 2000,** select Start > Programs > Roxio Easy CD and DVD Creator 6 > Drag-to-Disc.
   - ❑ **In Windows XP**, select Start > All Programs > Roxio Easy CD Creator 6 > Drag-to-Disc.
3. Open the Drag-to-Disc menu.
4. Select Erase Disc.
5. Select OK.

Erasing Recorded Media with Creator Classic

To erase recorded media formatted with Creator Classic:

1. Insert the CD into the optical drive.
2. Open the Creator Classic window:
   - ❑ **In Windows 2000,** select Start > Programs > Roxio Easy CD and DVD Creator 6 > Creator Classic.
   - ❑ **In Windows XP,** select Start > All Programs > Roxio Easy CD and DVD Creator 6 > Creator Classic.
3. In the Source window, select the optical drive containing the disc you wish to erase.
4. On the Creator Classic menu bar, select Disc > Erase Disc.

Selecting Easy CD & DVD Creator 6 Settings

To use Drag-to-Disc, Creator Classic, or Disc Copier, the default settings shown in the following table must be selected. These settings are compatible; for example, the settings for Drag-to-Disc do not conflict with the settings for Disc Copier.

Application	Required Settings
Drag-to-Disc	Enable Auto Insert Notification*
Creator Classic	Disable Disc-at-Once** and Enable Track-at-Once**
Disc Copier	Disable Disc-at-Once

*Auto Insert Notification settings are selected through the operating system.
**Disk-at-Once and Track-at-Once are recording methods that appear in the Record Setup window after you begin burning a CD.

The following table describes the Track-at-Once and Disc-at-Once recording methods.

Option	Description
Track-at-Once	Writes data to the disc in multiple passes and allows you to copy one track or data file at a time to the disc. Additional options allow you to choose whether the session is finalized at the end of recording.
Disc-at-Once	Writes all information to the disc at once and finalizes both the session and the disc at the end of recording.

For additional information about Track-at-Once or Disc-at-Once settings, refer to the *Roxio Easy CD and DVD Creator 6* online User's Guide.

Creating DVDs Using InterVideo WinDVD Creator

InterVideo WinDVD Creator allows you to create, author, and edit movies and burn them to a DVD. Before you can create DVDs, you must install this application using the installation CD, included with select notebooks. This application will not install successfully unless your notebook is equipped with an optical drive (integrated or attached through the MultiBay or an optional Advanced Port Replicator) that has DVD+RW capability.

Preparing to Use InterVideo WinDVD Creator

CAUTION: To prevent loss of work and damage to a DVD:

- Before writing to a DVD, connect the notebook to a reliable external power source. Do not write to a DVD while the notebook is running on battery power.
- Before writing to a DVD, close all open applications (including screen savers and antivirus software) except InterVideo WinDVD Creator.
- Do not copy directly from a DVD to another DVD or from a network drive to a DVD. Instead, copy from a DVD or network drive to your hard drive, then copy from your hard drive to the DVD.
- Do not type on the notebook keyboard or move the notebook while the notebook is writing to a DVD. The write process is sensitive to vibration.

Choosing Recording Media

HP recommends using high-quality media that correspond to the maximum speed of the optical drive. The notebook can write or copy to DVDs which provide one-time, non-erasable recording (DVD+R) or to DVDs which provide erasable recording (DVD+RW).

In order to write data to a DVD, you must use a blank DVD+R disc or a DVD+RW disc on which the format has not been finalized. For more information about choosing media for use with WinDVD Creator, select Help on the WinDVD Creator menu bar.

Creating DVDs

To open InterVideo WinDVD Creator:

- **In Windows 2000,** select Start > Programs > InterVideo WinDVD Creator> InterVideo WinDVD Creator.
- **In Windows XP,** select Start > All Programs > InterVideo WinDVD Creator> InterVideo WinDVD Creator.

For instructions on creating DVDs, select Help on the WinDVD Creator menu bar.

5

Intelligent Manageability

HP Intelligent Manageability provides standards-based solutions for managing client (user) desktop, workstation, and notebook computers in a networked environment.

The key capabilities and features of client management are:

- Initial software image deployment
- Remote system software installation
- Software management and updates
- ROM updates
- Tracking and security of computer assets (the hardware and software installed on the computer)
- Fault notification and recovery of certain system software and hardware components

Support for specific features described in this chapter may vary, depending on the computer model and/or version of management software installed on your computer.

Configuration and Deployment

HP computers come with a preinstalled system software image. The initial software image is configured during the first time setup of the computer. After a brief software "unbundling" occurs, the computer is ready to be used.

A customized software image can be deployed (distributed) by:

- Installing additional software applications after unbundling the preinstalled software image.
- Using software deployment tools, such as Altiris Deployment Solutions, to replace the preinstalled software with a customized software image.
- Using a disk cloning process to copy the contents from one hard drive to another.

The deployment method you should use depends on your organization's technology environment and processes. Visit the HP Web site at http://www.hp.com/go/pcsolutions for more information on selecting the best deployment method for your organization.

The system recovery CDs, Computer Setup utility, and other system features provide further assistance with recovery of system software, configuration management and troubleshooting, and power management.

Software Management and Updates

HP provides several tools for managing and updating software on client PCs—HP Client Manager Software, an Altiris solution; Altiris PC Transplant Pro; and System Software Manager.

HP Client Manager Software

HP Client Manager Software (HP CMS) integrates HP Intelligent Manageability technology within Altiris software. HP CMS provides superior hardware management capabilities for HP devices that include:

- Detailed views of hardware inventory for asset management.
- *PC health check* monitoring and diagnostics.
- Web-accessible reporting of business critical details such as machines with thermal warnings, and memory alerts.
- Remote updating of system software such as device drivers and ROM BIOS.

Additional functionality can be added when HP CMS is used with optional Altiris Solutions software (purchased separately). For more information, see "Altiris Solutions" later in this chapter.

For more information on HP Client Manager, visit the HP Web site at: http://www.hp.com/go/easydeploy.

Altiris Solutions

When HP Client Manager Software (installed on a client computer) is used with Altiris Solution software (installed on an administrator computer), HP CMS provides increased management functionality. HP Client Manager provides centralized hardware management of HP client devices for the following IT lifecycle areas:

- Inventory and Asset Management
  - Software license compliance
  - Computer tracking and reporting
  - Computer lease contract information and fixed asset tracking
- System software Deployment and Migration
  - Windows 2000/XP migration
  - System deployment
  - Personality (personal user settings) migration
- Help Desk and Problem Resolution
  - Managing help desk tickets
  - Remote troubleshooting
  - Remote problem resolution
  - Client disaster recovery
- Software and Operations Management
  - Ongoing client management
  - HP system software deployment
  - Application self-healing (the ability to identify and repair certain application problems)

Altiris Solutions software provides easy-to-use software distribution capabilities. On selected desktop and notebook models, an Altiris management agent is included as part of the preloaded software. This agent enables communication with the Altiris Solutions software, which can be used to complete new hardware deployment or personality migration to a new operating system using easy-to-follow wizards.

When Altiris Solutions software is used in conjunction with System Software Manager or the HP Client Manager, administrators can also update ROM BIOS and device driver software from a central console.

For more information, visit the HP Web site at: http://www.hp.com/go/easydeploy.

Altiris PC Transplant Pro

Altiris PC Transplant Pro allows you to preserve old settings, preferences, and data and migrate them to a new environment quickly and easily.

For more information, visit the HP Web site at: http://www.hp.com/go/easydeploy.

System Software Manager

System Software Manager (SSM) lets you remotely update system-level software on multiple systems simultaneously. When executed on a client computer, SSM detects both hardware and software versions, then updates the appropriate software from a central repository, known as a file store. Driver versions that are supported by SSM are denoted with a special icon on the HP driver download Web site and on the *Support Software* CD. To download the utility or to obtain more information on SSM, visit the HP Web site at: http://www.hp.com/go/ssm.

6

MultiBoot

A bootable medium or network interface card (NIC) contains files that the notebook needs to in order to start and operate properly. The MultiBoot utility, disabled by default, allows you to identify the devices and control the sequence in which the system attempts to boot from those devices, as it starts up your notebook.

Bootable devices include optical drive discs, such as CDs or DVDs, bootable diskettes, or a network interface card (NIC).

Some devices, including USB devices and network interface cards (NICs), must be enabled in Computer Setup before they can be included in the boot sequence. For more information, refer in this chapter to "Enabling Bootable Devices in Computer Setup."

Understanding the Default Boot Sequence

By default, when more than one bootable device is in the system, the notebook chooses the startup device by searching enabled devices and locations in a predetermined sequence.

On every boot, the system looks for bootable drive A devices first. If it fails to find a bootable drive A device, it searches for bootable drive C devices. Drive A devices include optical drives and diskette drives. Drive C devices include optical drives and primary hard drives.

The primary hard drive can only boot as drive C. The network interface card (NIC) does not have a drive letter assigned to it.

An optical drive device (such as a CD-ROM) can boot either as drive A or drive C, depending on the format of the CD. Most bootable CDs boot as drive A. If you have a CD that boots as the C drive, the system will boot the diskette drive before it boots the CD.

By default, the notebook selects the startup device by searching enabled devices and locations in a predetermined sequence.

You can change the sequence in which the notebook searches for a startup device by enabling MultiBoot and entering a new startup sequence, also called a *boot order.* Or, you can use MultiBoot Express to set the notebook to prompt you for a startup location each time the notebook is started or restarted.

The list below describes the default sequence in which drive numbers are assigned. (The actual startup sequence varies by configuration.)

- Default sequence for devices that boot as drive A:
  1. Optical drive in a Port Replicator MultiBay or in an external MultiBay that contains a disc that boots as drive A.
  2. Diskette drive in a Port Replicator MultiBay or in an external MultiBay.
- Default sequence for devices that boot as drive C:
  1. Integrated optical drive or an optical drive in a Port Replicator MultiBay or in an external MultiBay that contains a disc that boots as drive C.
  2. Hard drive in the notebook hard drive bay.
  3. Hard drive in a Port Replicator MultiBay or in an external MultiBay.

Since no drive letter is associated with the NIC, changing the boot order of a NIC does not affect drive letters of the other devices.

Enabling Bootable Devices in Computer Setup

The notebook can only start up from a USB device or the NIC if that device has been *enabled* for inclusion in MultiBoot.

To enable a device or location for inclusion in MultiBoot:

1. To open Computer Setup, turn on or restart the notebook. Press **f10** while the f10 = ROM Based Setup message is displayed in the lower left of the screen.
   - ❏ To change the language, press **f2.**
   - ❏ For navigation instructions, press **f1.**

2. Use the arrow keys to select the Advanced menu > Device Options.
   - ❏ To enable bootable media in USB drives or in drives inserted into a Port Replicator, select Enable USB legacy support.
   - ❏ To enable a NIC, select Internal Network adapter boot.
3. To save your preferences and exit Computer Setup, use the arrow keys to select File > Save Changes and Exit, then follow the instructions on the screen.

   Your preferences are set when you exit Computer Setup and take effect when the notebook restarts.

To connect a NIC to a Preboot eXecution Environment (PXE) or Remote Program Load (RPL) server during startup *without* using MultiBoot, quickly press **f12** when the Network Service Boot message appears in the lower right corner of the screen.

Understanding MultiBoot Results

Before changing the startup sequence, consider the following:

- When the notebook restarts after the boot order has been changed, it considers only the first device of each drive type when searching for a startup device.

  For example, the notebook is connected to a Port Replicator with an optical drive and a diskette drive. In the default boot sequence, the optical drive comes before the diskette drive. If the system fails to boot to the optical drive (either because it does not contain a disc or because the disc is not bootable) it does not try to boot the diskette drive. Instead, it tries to boot the first hard drive device present in the system.

- Changing the boot sequence also changes the logical drive designations. For example, if you start up from a CD-ROM drive with a disc that boots as drive C, that CD-ROM drive becomes drive C, and the hard drive in the hard drive bay becomes drive D.

- Starting up from a NIC does not affect logical drive designations because no drive letter is associated with the NIC.
- Drives in an optional Port Replicator are treated like external USB devices in the boot sequence and must be enabled in Computer Setup.

Setting MultiBoot Preferences

There are two ways to set MultiBoot sequences:

- Set a new default boot sequence that the notebook uses each time it starts up.
- Use variable boot sequences using MultiBoot Express. This feature prompts you for a startup device each time the notebook is started or restarted.

Setting a New Default Boot Sequence

To set a startup sequence that the notebook uses each time it is started or restarted with Computer Setup:

1. Open Computer Setup by turning on or restarting the notebook. Press **f10** while the F10 = ROM Based Setup message is displayed in the lower left of the screen.
   - ❏ To change the language, press **f2.**
   - ❏ For navigation instructions, press **f1.**
2. Use the arrow keys to select Advanced > Boot Options, then press **enter.**
3. Toggle the MultiBoot field to Enable.
4. Toggle the Boot Order fields to the boot sequence that you prefer.
5. To save your preferences and exit Computer Setup, use the arrow keys to select File > Save Changes and Exit, then follow the instructions on the screen.

   Your preferences are set when you exit Computer Setup and take effect when the notebook restarts.

Setting a MultiBoot Express Prompt

To set the notebook to display the MultiBoot startup location menu each time the notebook is started or restarted with Computer Setup:

1. Open Computer Setup by turning on or restarting the notebook. Press **f10** while the F10 = ROM Based Setup message is displayed in the lower left of the screen.

   - ❏ To change the language, press **f2.**
   - ❏ For navigation instructions, press **f1.**

2. Use the arrow keys to select Advanced > Boot Options, then press **enter.**
3. In the Express Boot Popup Delay (Sec) field, select the length of time in seconds that you want the notebook to display the startup location menu before it defaults to the current MultiBoot setting. (When 0 is selected, the Express Boot startup location menu is not displayed.)
4. To save your settings and exit Computer Setup, use the arrow keys to select File > Save Changes and Exit, then follow the instructions on the screen.

   Your preferences are set when you exit Computer Setup and take effect when the notebook restarts.

Entering MultiBoot Express Preferences

When the Express Boot Menu is displayed during startup:

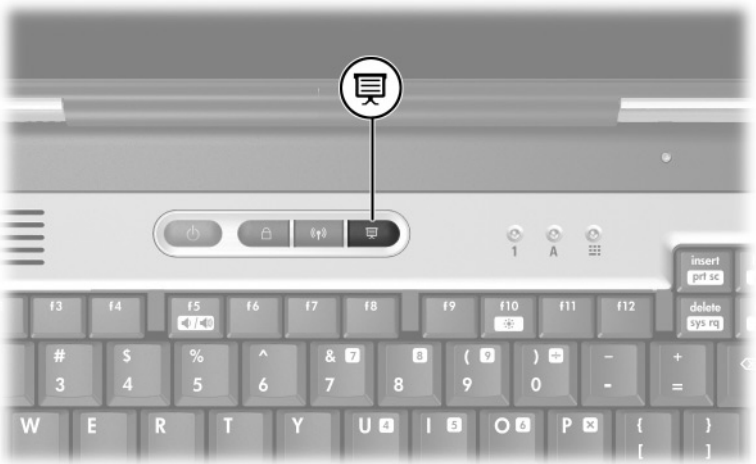
- To specify a startup location from the Express Boot menu, select your preference within the timeout, then press **enter.**
- To prevent the notebook from defaulting to the current MultiBoot setting, press any key before the timeout occurs. The notebook will not start up until you select a startup location and press **enter.**
- To allow the notebook to start up according to the current MultiBoot setting, wait for the timeout to expire.

7

Presentation Mode

Presentation Mode is the only Quick Launch button that can be programmed by the user. The remaining Quick Launch buttons—QuickLock and Wireless On/Off—are programmed at the factory, and the button settings cannot be configured by the user.

The Presentation Mode Quick Launch button toggles Presentation Mode on and off. Turning Presentation Mode on opens an application, folder, file, or Web site that you specify. The image simultaneously displays on the notebook screen and an external device connected to the external monitor connector or S-Video out jack on the rear panel or to connectors on an optional Port Replicator. For more information on Quick Launch buttons, refer on the *Documentation Library* CD to the *Hardware Guide,* "Pointing Devices and Keyboard" chapter.



You can modify the Presentation Mode settings using the Quick Launch Button software. Quick Launch Button software provides support for the Quick Launch buttons and the hotkeys on the notebook keyboard and external keyboard. An external keyboard can be attached to a USB connector on the notebook or to an optional Port Replicator.

Opening Quick Launch Button Software

The first time you press the Presentation Mode button, a Presentation Mode welcome dialog box opens. This dialog enables you to program the Presentation Mode button to automatically open an item and adjust the video and power settings for optimum viewing. This box also enables you to control whether the welcome box is opened each time you press the Presentation Mode button.

If you check Don't Show me this Dialog Box Again in the welcome dialog box, you must open the Quick Launch Button software to change settings. To open the Quick Launch Button software:

- **In Windows 2000,** select Start > Control Panel > Quick Launch Buttons.
- **In Windows XP,** select Start > Control Panel > Printers and Other Hardware > Quick Launch Buttons.

You can also open Quick Launch Buttons software using an icon in the taskbar or on the desktop. To add an icon to the system tray or desktop, open the Quick Launch Buttons software. Select the Advanced tab. Place a check mark next to Show icon on the taskbar to add an icon to the taskbar. You can double-click the icon to start Quick Launch Buttons software. You can left-click it to change the current scheme. Right-clicking the icon displays the following menu items:

- **Adjust Quick Launch Buttons Properties:** opens the Quick Launch Button software
- **Hide Icon:** removes the icon from the system tray

To place a shortcut to Quick Launch Buttons software on your desktop, place a check mark next to Show icon on the desktop. To open Quick Launch Buttons software from the desktop, double-click the shortcut.

Changing Presentation Mode Settings

The Item to Open field enables you to indicate a file, an application, a Web site, or a folder to open when the Presentation Mode button is pressed. You can browse for an item by clicking the Browse button, or you can indicate a recently programmed item by clicking the down arrow in the Item to Open field.

The Video Mode and Power Schemes fields enable you to control the video and power properties for Presentation Mode. Click the down arrow to indicate a video mode. The default video settings are 800 x 600, 32bit, 60 Hertz. Click the down arrow to choose a power options profile. The Adjust Power Properties button next to the Power Scheme field launches Microsoft Power Options, where you can view or change the power scheme.

Using Presentation Mode

To use Presentation Mode, press the Presentation Mode Quick Launch button. When Presentation Mode is on, it turns off if you:

- Press the Presentation Mode button again.
- Log off from your user account.
- Shut down the notebook.

If Presentation Mode is on and Standby is initiated by you or the system, Presentation Mode remains on. Your display and power settings remain; however, depending on the application you are using, you may need to reopen your file or application.

CAUTION: If Standby is initiated while Presentation Mode is on and a CD, CD-RW, or DVD is in use, your playback may be interrupted. To prevent possible video and audio degradation and loss of audio or video playback functionality, do not initiate Standby while using drive media.

For more information regarding the playback function of your application or optical drive, refer to the documentation included with the product.

8

Computer Setup

Using Computer Setup

Computer Setup is a preinstalled, ROM-based utility that can be used even when the operating system is not working or will not load. If the operating system is working, the notebook restarts the operating system after you exit Computer Setup.

Pointing devices are not supported in Computer Setup; you must use the keyboard to navigate and make selections.

An external keyboard connected by USB can be used with Computer Setup only if USB legacy support is enabled. For more information about USB, refer on the *Documentation Library* CD to the *Hardware Guide,* "External Devices" chapter.

The menu tables later in this chapter provide an overview of Computer Setup options.

Accessing Computer Setup

The information and settings in Computer Setup are accessed from the File, Security, Tools, and Advanced menus.

1. Open Computer Setup by turning on or restarting the notebook. Press **f10** while the F10 = ROM Based Setup message is displayed in the lower left of the screen.
   - ❏ To change the language, press **f2.**
   - ❏ To view navigation information, press **f1.**
   - ❏ To return to the Computer Setup menu, press **esc.**
2. Select the File, Security, Tools, or Advanced menu.
3. To exit Computer Setup, choose one of the following:
   - ❏ To exit without saving any changes, use the arrow keys to select File > Ignore Changes and Exit, then follow the instructions on the screen.
   - ❏ To exit and save all the settings you have entered, use the arrow keys to select File > Save Changes and Exit, then follow the instructions on the screen.

   Your preferences are set when you exit Computer Setup and take effect when the notebook restarts.

Restoring Computer Setup Defaults

To return all settings in Computer Setup to the values that were set at the factory:

1. Open Computer Setup by turning on or restarting the notebook. Press **f10** while the F10 = ROM Based Setup message is displayed in the lower left of the screen.
   - ❏ To change the language, press **f2.**
   - ❏ To view navigation information, press **f1.**
2. Use the arrow keys to select File > Restore defaults.
3. Select the Restore Defaults check box.

4. To confirm the restoration, press **f10.**
5. Select File > Save Changes and Exit, then follow the instructions on the screen.

When the computer restarts, the factory settings are restored, and any identification information you may have entered is saved.

Selecting from the File Menu

Select	To Do This
System information	■ View identification information about the notebook and any battery packs in the system. ■ View specification information about the processor, memory and cache size, video revision, keyboard controller version, and system ROM.
Save to floppy	Save system configuration settings to a diskette.
Restore from floppy	Restore system configuration settings from a diskette.
Restore defaults	Replace configuration settings in Computer Setup with factory default settings. (Identification information is retained.)
Ignore changes and exit	Cancel changes entered during the current session, then exit and restart the notebook.
Save changes and exit	Save changes entered during the current session, then exit and restart the notebook. The changes you save are in effect when the notebook restarts.

Selecting from the Security Menu

Select This Option	To Do This
Administrator password	Enter, change, or delete an HP Administrator password.
Power-on password	Enter, change, or delete a power-on password.
DriveLock passwords	Enable/disable DriveLock; change a DriveLock user or master password. ✎ DriveLock settings are accessible only when you enter Computer Setup by turning on (not restarting) the notebook.
SmartCard passwords	Enable/disable support for Smart Card passwords. ✎ This feature is only supported by certain Smart Card Readers. Refer in this guide to the "Security" chapter.
Embedded Security	■ Enable/Disable the Embedded Security Chip. ■ Restore Embedded Security Chip to factory settings. ✎ Embedded Security settings are only accessible if the notebook is equipped with an Embedded Security Chip.
Device security	■ Enable/disable devices in the system. ■ Enable NIC for inclusion in MultiBoot.
System IDs	Enter user-defined identification values.

Selecting from the Tools Menu

Select	To Do This
HDD Self Test Options	Run a quick or comprehensive self test on any hard drive in the system.

Selecting from the Advanced Menu

Select	To Do This
Language (or press **f2**)	Change the Computer Setup language.
Boot options	■ Enable/disable QuickBoot, which starts the notebook more quickly by eliminating some startup tests. (If you suspect a memory failure and want to test memory automatically during startup, disable QuickBoot.) ■ Enable/disable MultiBoot, which sets a startup sequence that can include most bootable devices and media in the system. For details, refer to the "MultiBoot" chapter. ■ Set the boot order.
Device options	■ Enable/disable Num lock mode at startup. ■ Enable/disable multiple standard pointing devices at startup. (To set the notebook to support only a single, usually nonstandard, pointing device at startup, select Disable.) ■ Select a parallel port mode: EPP (Enhanced Parallel Port), standard, bidirectional, or ECP (Enhanced Capabilities Port).

(Continued)

Select	To Do This
Device Options *(continued)*	■ Enable/disable USB legacy support for a USB keyboard, mouse, and hubs. When USB legacy support is enabled: ❒ A USB keyboard, mouse, and hubs work even when a Windows operating system is not loaded. ❒ The notebook starts from a bootable hard drive, diskette drive diskette, or CD-ROM, CD-RW, or DVD inserted into a drive connected by a USB connector to the notebook or an optional Port Replicator. ■ Enable/disable all settings in the SpeedStep window. (When Disable is selected, the notebook runs in Battery Optimized mode.) ■ Swap the functions of the **fn** key and left **ctrl** key.

9

Software Updates and Restorations

Preparing to Update Software

For optimal notebook performance and to make sure your notebook remains compatible with changing technologies, HP recommends that you install the latest versions of HP software as they become available.

To update HP software:

1. Prepare for any update by identifying your notebook type, series or family, and model; refer to "Accessing Notebook Information," later in this chapter. Prepare for a system ROM update by identifying (through the Computer Setup utility) the ROM versions currently installed on the notebook.
2. Access the updates through your local HP Web site or the *Support Software* CD (purchased separately).
3. Download and install the updates.

The notebook system ROM stores the BIOS. The BIOS determines how the notebook hardware interacts with the operating system and external devices and also supports such notebook services as time and date.

If your notebook connects to a network, HP recommends that you consult with your network administrator before installing any software updates, especially system ROM updates.

Obtaining the Support Software CD

The *Support Software* CD provides HP software updates and installation instructions. The CD includes device drivers, ROM updates, and utilities.

To purchase the current *Support Software* CD or a subscription that provides both the current version and future versions of the CD, visit the HP Web site at www.hp.com.

Accessing Notebook Information

To access the updates for your notebook, the following information will be needed:

- The product *category* is Notebook.
- The product *family* name and *series* number are printed in the lower right corner of the display bezel.
- *Model* information is provided on the serial number label on the bottom of the notebook.

To determine whether available ROM updates contain later ROM versions than those currently installed on the notebook, you need to know the version of the system ROM currently installed.

ROM version information can be displayed in Computer Setup. For information about using Computer Setup, refer to the "Computer Setup" chapter.

To display ROM information in Computer Setup:

1. Open Computer Setup by turning on or restarting the notebook. Press **f10** while the F10 = ROM Based Setup message is displayed in the lower left of the screen.
   - ❏ To change the language, press **f2.**
   - ❏ For navigation instructions, press **f1.**
2. Select the File menu > System Information. The system ROM information is displayed.
3. To exit Computer Setup without changing any settings, use the arrow keys to select File > Ignore Changes and Exit, then follow the instructions on the screen. After Computer Setup closes, the notebook restarts in Windows.

Downloading Software from the Internet

Most software on the HP Web site is packaged in a compressed file called a SoftPaq. Some ROM updates may be packaged in a compressed file called a ROMPaq. Other ROM updates may be provided as a CPQFlash SoftPaq.

Most download packages contain a file named Readme.txt. A Readme.txt file contains information regarding installing and troubleshooting the file. The Readme.txt files included with ROMPaqs are in English.

Downloading System ROM

CAUTION: To prevent an unsuccessful installation, download and install the system ROM only while the notebook is connected to reliable external power using the AC adapter. Do not download or install the system ROM while the notebook is running on battery power, docked in an optional Port Replicator, or connected to an optional power source. During the download and installation:

- Do not unplug the notebook from the electrical outlet.
- Do not shut down the notebook.
- Do not remove or insert a drive.

To download and install a system ROM:

1. Access the page on the HP Web site that provides software for your notebook.
2. Follow the instructions on the screen to locate the system ROM you want to download.
3. At the download area:
   a. Write down the information (date and name) of any update that is later than the system ROM currently installed on your notebook.
   b. Select the software you want and follow the download instructions on the screen.
4. When the download is complete, open Windows Explorer.
5. In Windows Explorer, select My Computer > the hard drive designation (usually, drive C) > the folder to which you saved the downloaded item.
6. In the folder, select the name or number of the software package containing the system ROM update. The system ROM installation begins.
7. To complete the installation, follow the instructions on the screen.

After a message on the screen reports a successful installation, you can delete the download package from the folder.

Downloading Other Software

To download and install other software:

1. Access the page at the HP Web site that provides software for your notebook.
2. Follow the instructions on the screen to find the software you want to update.
3. At the download area, select the software you want and follow the downloading instructions on the Web page.
4. When the download is complete, open Windows Explorer.
5. In Windows Explorer, select My Computer > the hard drive designation (usually, drive C) > the folder to which you saved the downloaded item.
6. In the folder, select the name or number of the software package containing the update.
7. Select the file that includes an .exe extension, for example, Filename.exe. The installation begins.
8. To complete the installation, follow the instructions on the screen.

After a message on the screen reports a successful installation, you can delete the download package from the folder.

System Recovery

The notebook system recovery process provides several ways to recover system functionality. The *Driver Recovery* and *Operating System* CDs enable you to recover or repair your notebook without losing personal data. The *Operating System* CD also allows you to reinstall the operating system software provided with the notebook.

For best results, attempt to recover optimal notebook functionality by using the following procedures *in the order described here.*

Safeguarding Your Data

Software or devices added to the notebook can cause your system to become unstable. To safeguard your documents, store personal files in the My Documents folder and periodically create a backup copy of My Documents.

Setting System Restore Points (Windows XP Only)

Notebooks with Windows XP operating systems provide the option of setting System Restore points (benchmarks) daily as you change your personal settings. The notebook may also set restore points when you add new software or devices. You should periodically set system restore points when the notebook is functioning at optimal performance and before installing new software or devices. This enables you to return to a previous configuration restore point if you encounter problems.

To set a system restore point:

1. Select Start > Help and Support. Select the task "Use Tools to view your computer information and diagnose problems." Select System Restore. A System Restore window opens.
2. Follow the on screen directions for setting a restore point.

To restore the notebook to a previous date and time when it was functioning optimally:

1. Select Start > Help and Support > Tools > System Restore.
2. Follow the on screen directions for restoring the notebook.

Repairing the Operating System

To attempt an operating system repair without deleting your personal data, use the *Operating System* CD that was shipped with the notebook:

1. Connect the notebook to external power and turn on the notebook.
2. Immediately insert the *Operating System* CD into the notebook.
3. Press and hold the power button for 5 seconds to turn off the notebook.
4. Press the power button again to start the notebook.
5. When prompted, press any key to boot from the CD. After a few minutes, the Welcome to Setup screen is displayed.
6. Press **enter** to continue. A Licensing Agreement screen is displayed.
7. Press **f8** to accept the agreement and continue. The Setup window is displayed.
8. Press **R** to repair the selected Windows installation. The repair process begins. This process may take 1–2 hours to complete. The notebook restarts in Windows after the process is complete.

Reinstalling the Operating System

If other recovery efforts do not successfully repair the notebook, you can reinstall the operating system.

CAUTION: Personal data and software you have installed on the notebook will be lost during the operating system reinstall. To protect your data, backup your data before reinstalling your operating system. See the Windows online Help utility to learn more about backing up your files.

To reinstall the operating system:

1. Connect the notebook to external power and turn on the notebook.
2. Immediately insert the *Operating System* CD into the notebook.
3. Press and hold the power button for 5 seconds to turn off the notebook.
4. Press the power button again to start the notebook.
5. When prompted, press any key to boot from the CD. After a few minutes, the Welcome to Setup screen is displayed.
6. Press **enter** to continue. A Licensing Agreement screen is displayed.
7. Press **f8** to accept the agreement and continue. The Setup window is displayed.
8. Press **esc** to continue installing a new copy of the operating system instead of repairing it.
9. Press **enter** to set up the operating system.
10. Press **C** to continue setup using this partition.
11. Select Format the partition using the NTFS file system (Quick) and press **enter**.

CAUTION: Formatting this drive will delete all current files.

12. Press **F** to format the drive. The reinstallation process begins. This process may take 1–2 hours to complete. The notebook restarts in Windows when the process is complete.

When prompted for the product key, refer to the Microsoft Certificate of Authenticity label located on the bottom of the notebook.

Reinstalling Device Drivers and Other Software

After the operating system installation process is complete, you must reinstall drivers.

To reinstall drivers, use the *Driver Recovery* CD included with the notebook:

1. While running Windows, insert the *Driver Recovery* CD into the optical drive.

   If you do not have Autorun enabled, select Start > Run. Then type D:\SWSETUP\APPINSTL\SETUP.EXE (where D indicates the optical drive).

2. Follow the on-screen instructions for installing the drivers.

After the drivers are reinstalled, you must reinstall any software you added to the notebook. Follow the installation instructions provided with the software.

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