

Dell™ Latitude™ D620

User's Guide

FILE LOCATION: C:\Documents and Settings\reggie_davis\Desktop\Projects-07\BEN\title.fm

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For information on other documentation included with your computer, see "Finding Information" on page 11.

HORIZONTAL RULE (HTML)

Notes, Notices, and Cautions



NOTE: A NOTE indicates important information that helps you make better use of your computer.



NOTICE: A NOTICE indicates either potential damage to hardware or loss of data and tells you how to avoid the problem.



CAUTION: A CAUTION indicates a potential for property damage, personal injury, or death.

Abbreviations and Acronyms

For a complete list of abbreviations and acronyms, see the "Glossary" on page 161.

If you purchased a Dell™ n Series computer, any references in this document to Microsoft® Windows® operating systems are not applicable.

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Model PP18L

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January 2006

P/N PC979

Rev. A01

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Finding Information

 **NOTE:** Some features or media may be optional and may not ship with your computer. Some features or media may not be available in certain countries.

 **NOTE:** Additional information may ship with your computer.

What Are You Looking For?

- A diagnostic program for my computer
- Drivers for my computer
- My device documentation
- Notebook System Software (NSS)

- How to set up my computer
- Basic troubleshooting information
- How to run the Dell Diagnostics
- How to remove and install parts

Find It Here

Drivers and Utilities CD (also known as ResourceCD)

NOTE: The *Drivers and Utilities* CD may be optional and may not ship with your computer.

Documentation and drivers are already installed on your computer. You can use the CD to reinstall drivers (see "Reinstalling Drivers and Utilities" on page 94) or to run the Dell Diagnostics (see "Dell Diagnostics" on page 67).



Readme files may be included on your CD to provide last-minute updates about technical changes to your computer or advanced technical-reference material for technicians or experienced users.

NOTE: Drivers and documentation updates can be found at support.dell.com.

Quick Reference Guide

NOTE: This document may be optional and may not ship with your computer.



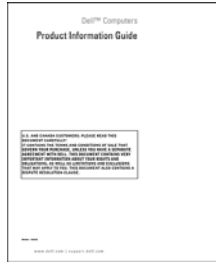
NOTE: This document is available as a PDF at support.dell.com.

What Are You Looking For?

- Warranty information
 - Terms and Conditions (U.S. only)
 - Safety instructions
 - Regulatory information
 - Ergonomics information
 - End User License Agreement
-
- How to remove and replace parts
 - Specifications
 - How to configure system settings
 - How to troubleshoot and solve problems
-
- Service Tag and Express Service Code
 - Microsoft Windows License Label

Find It Here

Dell™ Product Information Guide



Dell Latitude™ User's Guide

Microsoft Windows XP Help and Support Center

- 1 Click the **Start** button and click **Help and Support**.
- 2 Click **Dell User and System Guides** and click **System Guides**.
- 3 Click the *User's Guide* for your computer.

Service Tag and Microsoft® Windows® License

These labels are located on [the bottom of](#) your computer.

- Use the Service Tag to identify your computer when you use [support.dell.com](#) or contact support. It is recommended that you keep a copy of the Service Tag in a secure location in case your computer is lost or stolen.
- Enter the Express Service Code to direct your call when contacting support.



What Are You Looking For?

- Solutions — Troubleshooting hints and tips, articles from technicians, and online courses, frequently asked questions
 - Community — Online discussion with other Dell customers
 - Upgrades — Upgrade information for components, such as memory, the hard drive, and the operating system
 - Customer Care — Contact information, service call and order status, warranty, and repair information
 - Service and support — Service call status and support history, service contract, online discussions with support
 - Reference — Computer documentation, details on my computer configuration, product specifications, and white papers
 - Downloads — Certified drivers, patches, and software updates
 - Notebook System Software (NSS)— If you reinstall the operating system for your computer, you should also reinstall the NSS utility. NSS provides critical updates for your operating system and support for Dell™ 3.5-inch USB floppy drives, Intel® Pentium® M processors, optical drives, and USB devices. NSS is necessary for correct operation of your Dell computer. The software automatically detects your computer and operating system and installs the updates appropriate for your configuration.
 - Software upgrades and troubleshooting hints — Frequently asked questions, hot topics, and general health of your computing environment
-
- How to use Windows XP
 - How to work with programs and files
 - How to personalize my desktop

Find It Here


Dell Support Website — support.dell.com

NOTE: Select your region to view the appropriate support site.

To download Notebook System Software:

- 1 Go to support.dell.com and click **Downloads**.
- 2 Enter your Service Tag or product model.
- 3 In the **Download Category** drop-down menu, click **All**.
- 4 Select the operating system and operating system language for your computer, and click **Submit**.
- 5 Under **Select a Device**, scroll to **System and Configuration Utilities**, and click **Dell Notebook System Software**.

Dell Support Utility

The Dell Support Utility is an automated upgrade and notification system installed on your computer. This support provides real-time health scans of your computing environment, software updates, and relevant self-support information. Access the Dell Support Utility from the  icon in the taskbar. For more information, see "Accessing the Dell Support Utility" on page 70.

Windows Help and Support Center

- 1 Click the **Start** button and click **Help and Support**.
- 2 Type a word or phrase that describes your problem and click the arrow icon.
- 3 Click the topic that describes your problem.
- 4 Follow the instructions on the screen.


What Are You Looking For?

- Information on network activity, the Power Management Wizard, hotkeys, and other items controlled by Dell QuickSet

- How to reinstall my operating system

Find It Here

Dell QuickSet Help

To view *Dell QuickSet Help*, right-click the  icon in the Microsoft® Windows® taskbar.

For more information on Dell QuickSet, see "Dell™ QuickSet Features" on page 121.

Operating System CD

NOTE: The *Operating System CD* may be optional and may not ship with your computer.

The operating system is already installed on your computer. To reinstall your operating system, use the optional *Operating System CD*. See "Using the Operating System CD" on page 97.



After you reinstall your operating system, use the *Drivers and Utilities CD (ResourceCD)* to reinstall drivers for the devices that came with your computer.

NOTE: The color of your CD varies based on the operating system you ordered.

About Your Computer

Front View



1	display latch	2	display	3	power button
4	device status lights	5	keyboard	6	fingerprint reader (optional) (optional)
7	speaker	8	touch pad buttons/track stick	9	keyboard status lights
10	volume control buttons	11	ambient light sensor (ALS)	12	mute button

DISPLAY LATCH — Keeps the display closed.

DISPLAY — For more information about your display, see "Using the Display" on page 39.


POWER BUTTON — Press the power button to turn on the computer or exit a power management mode. See "Power Management Modes" on page 29.

➔ NOTICE: To avoid losing data, turn off your computer by performing a Microsoft® Windows® operating system shutdown rather than by pressing the power button.


If the computer stops responding, press and hold the power button until the computer turns off completely (which may take several seconds).


DEVICE STATUS LIGHTS





 Turns on when you turn on the computer and blinks when the computer is in a power management mode.


 Turns on when the computer reads or writes data.

➔ NOTICE: To avoid loss of data, never turn off the computer while the  light is flashing.

 Turns on steadily or blinks to indicate battery charge status.


 Turns on when wireless devices are enabled.

 Turns on when Bluetooth® wireless technology is enabled. To enable or disable Bluetooth wireless technology, move the wireless switch to the "on" position. See "wireless switch" on page 19 for more information.

NOTE: Bluetooth wireless technology is an optional feature on your computer, so the  icon turns on only if you ordered Bluetooth wireless technology with your computer. For more information, see the documentation that came with your Bluetooth wireless technology.

If the computer is connected to an electrical outlet, the  light operates as follows:

- Solid green: The battery is charging.
- Flashing green: The battery is almost fully charged.
- Off: The battery is adequately charged (or external power is not available to charge the battery).

If the computer is running on a battery, the  light operates as follows:

- Off: The battery is adequately charged (or the computer is turned off).
- Flashing orange: The battery charge is low.
- Solid orange: The battery charge is critically low.

KEYBOARD — The keyboard includes a numeric keypad as well as the Windows logo key. For information on supported keyboard shortcuts, see "Using the Keyboard" on page 33.

FINGERPRINT READER (OPTIONAL) — Helps to keep your Dell™ computer secure. When you slide your finger over the reader, it uses your unique fingerprint to authenticate your user identity. For information on how to activate and use the security management software that controls the fingerprint reader, see "Security Management Software" on page 64.

SPEAKER — To adjust the volume of the integrated speaker, press the volume control buttons, mute button, or volume-control keyboard shortcuts. For more information, see "Key Combinations" on page 33.

TOUCH PAD BUTTONS/TRACK STICK — Provide the functionality of a mouse. See "Touch Pad" on page 35 for more information.

AMBIENT LIGHT SENSOR (ALS) — Helps to control display brightness. See for more information, see "Using the Ambient Light Sensor" on page 41.

KEYBOARD STATUS LIGHTS



The green lights located above the keyboard indicate the following:



Turns on when the numeric keypad is enabled.



Turns on when the uppercase letter function is enabled.

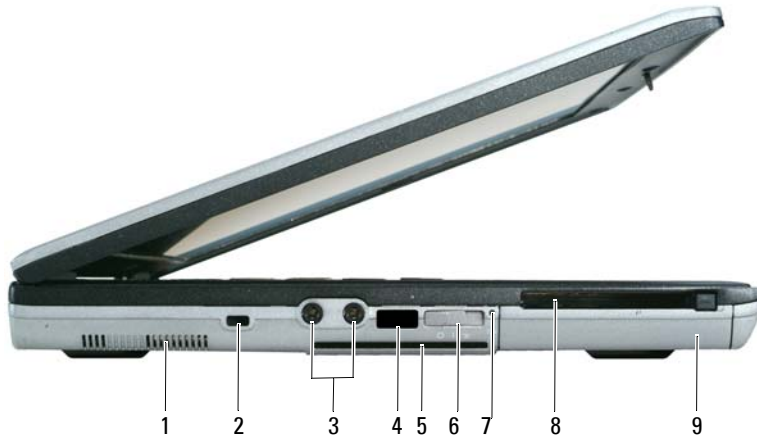


Turns on when the scroll lock function is enabled.

VOLUME CONTROL BUTTONS — Press these buttons to adjust the volume.

MUTE BUTTON — Press this button to turn off the volume.

Left Side View



1	air vents	2	security cable slot	3	audio connectors (2)
4	infrared sensor	5	smart card slot	6	wireless switch
7	Wi-Fi Catcher™ light	8	PC Card slot	9	hard drive

AIR VENTS — The computer uses an internal fan to create airflow through the vents, which prevents the computer from overheating.

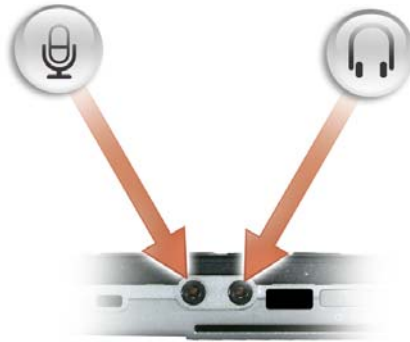
CAUTION: Do not block, push objects into, or allow dust to accumulate in the air vents. Do not store your Dell computer in a low-airflow environment, such as a closed briefcase, while it is running. Restricting the airflow can damage the computer or cause a fire.


NOTE: The computer turns on the fan when the computer gets hot. Fan noise is normal and does not indicate a problem with the fan or the computer.


SECURITY CABLE SLOT — Lets you attach a commercially available antitheft device to the computer. For more

information, see "Security Cable Lock" on page 59.

AUDIO CONNECTORS



Attach headphones to the  connector.

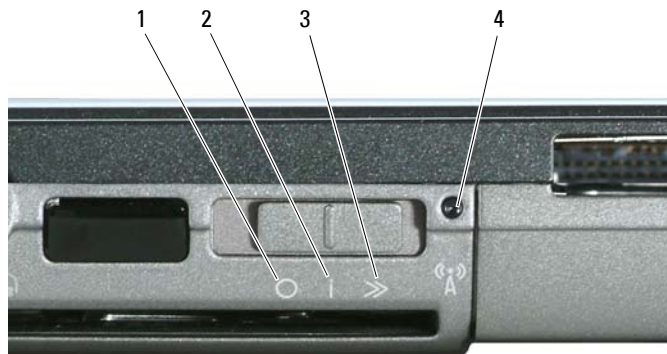
Attach a microphone to the  connector.

INFRARED SENSOR — Lets you transfer files from your computer to another infrared-compatible device without using cable connections.

When you receive your computer, the sensor is disabled. You can use the system setup program (see "System Setup Program" on page 89) to enable the sensor. For information on transferring data, see Windows Help, the Help and Support Center, or the documentation that came with your infrared-compatible device.

SMART CARD SLOT — Supports one smart card. See "Using Smart Cards" on page 59.

WIRELESS SWITCH — Turns on/off wireless devices such as Wi-Fi and internal cards with Bluetooth technology and scans for wireless networks. For more information about scanning for wireless networks, see "Dell™ Wi-Fi Catcher™ Network Locator" on page 54.



- | | | | | | |
|---|---------------------|---|---------------|---|----------------------|
| 1 | "off" position | 2 | "on" position | 3 | "momentary" position |
| 4 | Wi-Fi Catcher light | | | | |

WIRELESS SWITCH POSITIONS

"off"	Disables wireless devices
"on"	Enables wireless devices
"momentary"	Scans for Wi-Fi networks. See "Dell™ Wi-Fi Catcher™ Network Locator" on page 54 for more information.

WI-FI CATCHER™ LIGHT — The light operates as follows:

- Flashing green: Searching for networks
- Solid green: Strong network found
- Solid yellow: Weak network found
- Flashing yellow: Error
- Off: No signal found

PC CARD SLOT — Supports one PC Card, such as a modem or network adapter, or an ExpressCard (with a PCMIA adapter). The computer ships with a blank installed in the slot. For more information, see "Card Types" on page 55.

HARD DRIVE — Stores software and data.

Right Side View

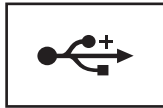


- 1 media bay 2 device latch release 3 USB connectors (2)

MEDIA BAY — Supports a floppy or an optical drive, second battery, second hard drive, or a Dell TravelLite™ module. See "Using Multimedia" on page 43.

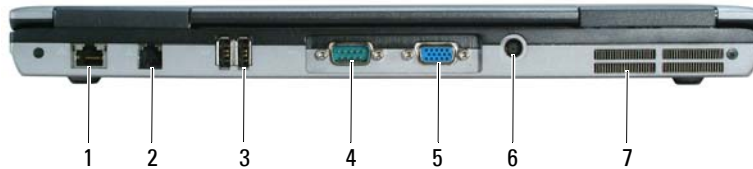
DEVICE LATCH RELEASE — Use the latch release to eject a device.

USB CONNECTORS



Connect USB devices, such as a mouse, keyboard, or printer.

Back View

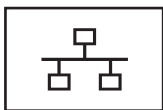


CAUTION: Do not block, push objects into, or allow dust to accumulate in the air vents. Do not store your computer in a low-airflow environment, such as a closed briefcase, while it is running. Restricting the airflow can damage the computer or cause a fire.

- | | | |
|-----------------------------|---------------------------|------------------------|
| 1 network connector (RJ-45) | 2 modem connector (RJ-11) | 3 USB connectors (2) |
| 4 serial connector | 5 video connector | 6 AC adapter connector |
| 7 air vents | | |

NETWORK CONNECTOR (RJ-45)

NOTICE: The network connector is slightly larger than the modem connector. To avoid damaging the computer, do not plug a telephone line into the network connector.



Connects the computer to a network. The two lights next to the connector indicate status and activity for wired network connections.

For information on using the network adapter, see the device user's guide supplied with your computer.

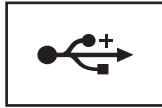
MODEM CONNECTOR (RJ-11)



If you ordered the optional internal modem, connect the telephone line to the modem connector.

For information on using the modem, see the online modem documentation supplied with your computer. See "Finding Information" on page 11.

USB CONNECTORS



Connect USB devices, such as a mouse, keyboard, or printer.

SERIAL CONNECTOR



Connects serial devices, such as a mouse or handheld device.

VIDEO CONNECTOR



Connects video devices, such as a monitor.

AC ADAPTER CONNECTOR — Connects an AC adapter to the computer.



The AC adapter converts AC power to the DC power required by the computer. You can connect the AC adapter with your computer turned either on or off.

⚠ CAUTION: The AC adapter works with electrical outlets worldwide. However, power connectors and power strips vary among countries. Using an incompatible cable or improperly connecting the cable to the power strip or electrical outlet may cause fire or equipment damage.

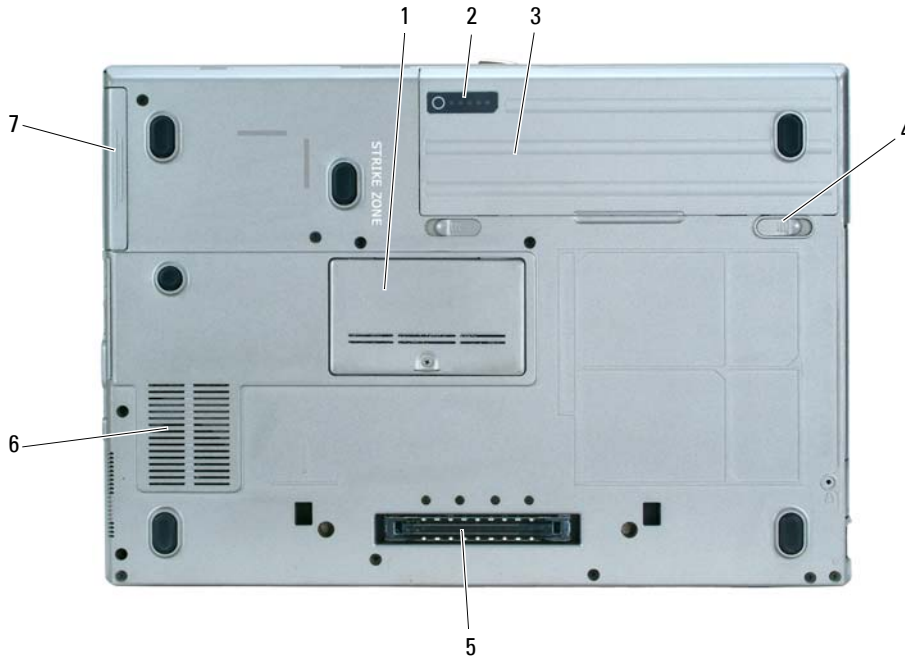
➡ NOTICE: When you disconnect the AC adapter cable from the computer, grasp the connector, not the cable itself, and pull firmly but gently to avoid damaging the cable. When you wrap the AC adapter cable, ensure that you follow the angle of the connector on the AC adapter to avoid damaging the cable.

AIR VENTS — The computer uses an internal fan to create airflow through the vents, which prevents the computer from overheating.

📌 NOTE: The computer turns on the fan when the computer gets hot. Fan noise is normal and does not indicate a problem with the fan or the computer.

⚠ CAUTION: Do not block, push objects into, or allow dust to accumulate in the air vents. Do not store your computer in a low-airflow environment, such as a closed briefcase, while it is running. Restricting the airflow can damage the computer or cause a fire.

Bottom View



1	memory module cover	2	battery charge gauge	3	battery
4	battery-bay latch releases (2)	5	docking-device connector	6	air vents
7	hard drive				

MEMORY MODULE COVER — Covers the compartment that contains the second memory module. See "Memory" on page 106.

BATTERY CHARGE GAUGE — Provides information on the battery charge. See "Checking the Battery Charge" on page 28.

BATTERY — When a battery is installed, you can use the computer without connecting the computer to an electrical outlet. See "Using a Battery" on page 27.

BATTERY-BAY LATCH RELEASES — Release the battery. See "Replacing the Battery" on page 31 for instructions.

DOCKING-DEVICE CONNECTOR — Lets you attach your computer to the Media Base or other docking device. See the Dell documentation that came with your docking device for more information.

AIR VENTS — The computer uses an internal fan to create airflow through the fan air vents, which prevents the computer from overheating.

 **NOTE:** The computer turns on the fan when the computer gets hot. Fan noise is normal and does not indicate a problem with the fan or the computer.

FILE LOCATION: C:\Documents and Settings\reggie_davis\Desktop\Projects-07\BEN\about.fm



CAUTION: Do not block, push objects into, or allow dust to accumulate in the air vents. Do not store your computer in a low-airflow environment, such as a closed briefcase, while it is running. Restricting the airflow can damage the computer or cause a fire.


HARD DRIVE — Stores software and data.

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Using a Battery


Battery Performance

 **NOTE:** For information about the Dell™ warranty for your computer, see the *Product Information Guide* or separate paper warranty document that shipped with your computer.

For optimal computer performance and to help preserve BIOS settings, operate your Dell portable computer with the main battery installed at all times. One battery is supplied as standard equipment in the battery bay.

 **NOTE:** Because the battery may not be fully charged, use the AC adapter to connect your new computer to an electrical outlet the first time you use the computer. For best results, operate the computer with the AC adapter until the battery is fully charged. To view battery charge status, click the **Start** button, click **Control Panel**, double-click **Power Options**, and then click the **Power Meter** tab.

Battery operating time varies depending on operating conditions.


 **NOTE:** Battery operating time (the time the battery can hold a charge) decreases over time. Depending on how often the battery is used and the conditions under which it is used, you may need to purchase a new battery during the life of your computer.


Operating time is significantly reduced when you perform operations including, but not limited to, the following:

- Using optical drives
- Using wireless communications devices, PC Cards, or USB devices
- Using high-brightness display settings, 3D screen savers, or other power-intensive programs such as 3D games
- Running the computer in maximum performance mode (see "Configuring Power Management Settings" on page 31)

 **NOTE:** It is recommended that you connect your computer to an electrical outlet when writing to a CD or DVD.


You can check the battery charge (see "Checking the Battery Charge" on page 28) before you insert the battery into the computer. You can also set power management options to alert you when the battery charge is low (see "Configuring Power Management Settings" on page 31).

 **CAUTION:** Using an incompatible battery may increase the risk of fire or explosion. Replace the battery only with a compatible battery purchased from Dell. The battery is designed to work with your Dell computer. Do not use a battery from other computers with your computer.

 **CAUTION:** Do not dispose of batteries with household waste. When your battery no longer holds a charge, call your local waste disposal or environmental agency for advice on disposing of a lithium-ion battery. See "Battery Disposal" in the *Product Information Guide*.


CAUTION: Misuse of the battery may increase the risk of fire or chemical burn. Do not puncture, incinerate, disassemble, or expose the battery to temperatures above 65°C (149°F). Keep the battery away from children. Handle damaged or leaking batteries with extreme care. Damaged batteries may leak and cause personal injury or equipment damage.

Checking the Battery Charge


The Dell QuickSet Battery Meter, the Microsoft Windows Power Meter window and  icon, the battery charge gauge, and the low-battery warning provide information on the battery charge.


Dell™ QuickSet Battery Meter

If Dell QuickSet is installed, press <Fn><F3> to display the QuickSet Battery Meter. The Battery Meter displays status, battery health, charge level, and charge completion time for the battery in your computer.

For more information about QuickSet, right-click the  icon in the taskbar, and click **Help**.

Microsoft® Windows® Power Meter

The Windows Power Meter indicates the remaining battery charge. To check the Power Meter, double-click the  icon on the taskbar.

If the computer is connected to an electrical outlet, a  icon appears.

Charge Gauge

Before you insert a battery, press the status button on the battery charge gauge to illuminate the charge-level lights. Each light represents approximately 20 percent of the total battery charge. For example, if the battery has 80 percent of its charge remaining, four of the lights are on. If no lights appear, the battery has no charge.




1 battery

2 battery charge gauge

Health Gauge

The battery operating time is largely determined by the number of times it is charged. After hundreds of charge and discharge cycles, batteries lose some charge capacity, or battery health. To check the battery health, press and hold the status button on the battery charge gauge for at least 3 seconds. If no lights appear, the battery is in good condition, and more than 80 percent of its original charge capacity remains. Each light represents incremental degradation. If five lights appear, less than 60 percent of the charge capacity remains, and you should consider replacing the battery. See "Specifications" on page 147 for more information about the battery operating time.

Low-Battery Warning  **NOTICE:** To avoid losing or corrupting data, save your work immediately after a low-battery warning. Then connect the computer to an electrical outlet, or install a second battery in the media bay. If the battery runs completely out of power, hibernate mode begins automatically.

A low-battery warning occurs when the battery charge is approximately 90 percent depleted. The computer beeps once, indicating that minimal battery operating time remains. During that time, the speaker beeps periodically. If two batteries are installed, the low-battery warning means that the combined charge of both batteries is approximately 90 percent depleted. The computer enters hibernate mode when the battery charge is at a critically low level. For more information about low-battery alarms, see "Configuring Power Management Settings" on page 31.

Conserving Battery Power

Perform the following actions to conserve battery power:

- Connect the computer to an electrical outlet when possible because battery life is largely determined by the number of times the battery is used and recharged.
- Place the computer in standby mode or hibernate mode (see "Power Management Modes" on page 29) when you leave the computer unattended for long periods of time.
- Use the Power Management Wizard (see "Configuring Power Management Settings" on page 31) to select options to optimize your computer's power usage. These options can also be set to change when you press the power button, close the display, or press <Fn><Esc>.




NOTE: See "Battery Performance" on page 27 for more information on conserving battery power.

Power Management Modes

Standby Mode

Standby mode conserves power by turning off the display and the hard drive after a predetermined period of inactivity (a time-out). When the computer exits standby mode, it returns to the same operating state it was in before entering standby mode.

 **NOTICE:** If your computer loses AC and battery power while in standby mode, it may lose data.


To enter standby mode:

- Click the **Start** button, click **Turn off computer**, and then click **Stand by**.
or
- Depending on how you set the power management options on the Advanced tab in the **Power Options Properties** window, use one of the following methods:
 - Press the power button.
 - Close the display.
 - Press <Fn><Esc>.

To exit standby mode, press the power button or open the display depending on how you set the options on the Advanced tab. You cannot make the computer exit standby mode by pressing a key or touching the touch pad or track stick.

Hibernate Mode


Hibernate mode conserves power by copying system data to a reserved area on the hard drive and then completely turning off the computer. When the computer exits hibernate mode, it returns to the same operating state it was in before entering hibernate mode.

 **NOTICE:** You cannot remove devices or undock your computer while your computer is in hibernate mode.

Your computer enters hibernate mode if the battery charge level becomes critically low.


To manually enter hibernate mode:

- Click the **Start** button, click **Turn off computer**, press and hold <Shift>, and then click **Hibernate**.
or
- Depending on how you set the power management options on the Advanced tab in the **Power Options Properties** window, use one of the following methods to enter hibernate mode:
 - Press the power button.
 - Close the display.
 - Press <Fn><Esc>.

 Some PC Cards or ExpressCards may not operate correctly after the computer exits hibernate mode. Remove and reinsert the card (see "Card Types" on page 55), or simply restart (reboot) your computer. To exit hibernate mode, press the power button. The computer may take a short time to exit hibernate mode. You cannot make the computer exit hibernate mode by pressing a key or touching the touch pad or track stick. For more information on hibernate mode, see the documentation that came with your operating system.


Configuring Power Management Settings

You can use the QuickSet Power Management Wizard or Windows Power Options Properties to configure the power management settings on your computer.

To access the QuickSet Power Management Wizard, double-click the  icon in the taskbar. For more information about QuickSet, click the **Help** button in the Power Management Wizard.

To access the **Power Options Properties** window, click the Start button → Control Panel → Performance and Maintenance → Power Options. For information on any field in the **Power Options Properties** window, click the question mark icon on the title bar and then click on the area where you need information.


Charging the Battery

 **NOTE:** With Dell™ ExpressCharge™, when the computer is turned off, the AC adapter charges a completely discharged battery to 80 percent in about 1 hour and to 100 percent in approximately 2 hours. Charge time is longer with the computer turned on. You can leave the battery in the computer for as long as you like. The battery's internal circuitry prevents the battery from overcharging.


 **NOTE:** If you want to use a 9-cell battery to obtain Dell ExpressCharge, you need to use it in conjunction with a 90-W AC adapter.


When you connect the computer to an electrical outlet or install a battery while the computer is connected to an electrical outlet, the computer checks the battery charge and temperature. If necessary, the AC adapter then charges the battery and maintains the battery charge.


If the battery is hot from being used in your computer or being in a hot environment, the battery may not charge when you connect the computer to an electrical outlet.

The battery is too hot to start charging if the  light flashes alternately green and orange. Disconnect the computer from the electrical outlet and allow the computer and the battery to cool to room temperature. Then connect the computer to an electrical outlet to continue charging the battery.

Replacing the Battery

 **CAUTION:** Before performing these procedures, turn off the computer, disconnect the AC adapter from the electrical outlet and the computer, disconnect the modem from the wall connector and computer, and remove any other external cables from the computer.

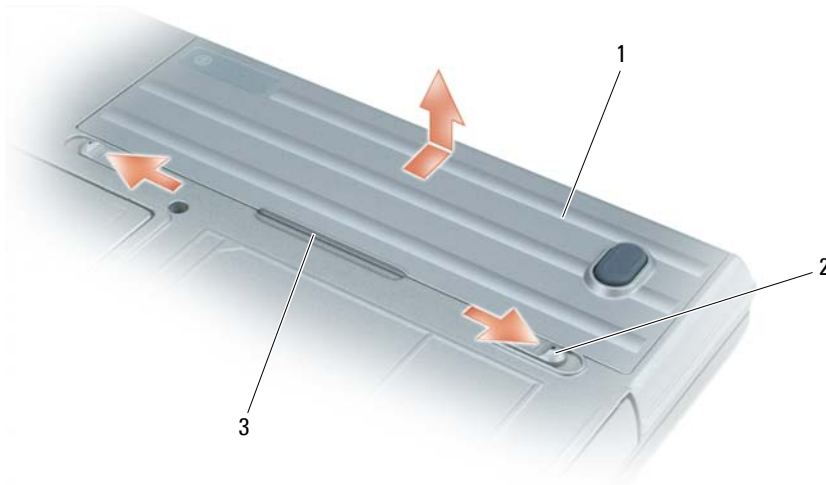
 **CAUTION:** Using an incompatible battery may increase the risk of fire or explosion. Replace the battery only with a compatible battery purchased from Dell. The battery is designed to work with your Dell™ computer. Do not use a battery from other computers with your computer.

 **NOTICE:** You must remove all external cables from the computer to avoid possible connector damage.

For information about replacing the second battery, if applicable, see "Media Bay" on page 119.

To remove the battery:

- 1 If the computer is connected to a docking device (docked), undock it. See the documentation that came with your docking device for instructions.
- 2 Ensure that the computer is turned off or in hibernate mode (see "Hibernate Mode" on page 30). Slide the two battery-bay latch releases on the bottom of the computer toward the sides of the computer until they are engaged.
- 3 Grasp the battery by the battery tab and slide the battery horizontally toward the front of the computer.
- 4 Lift to remove the battery from the bay.



1 battery 2 battery-bay latch release (2) 3 battery tab

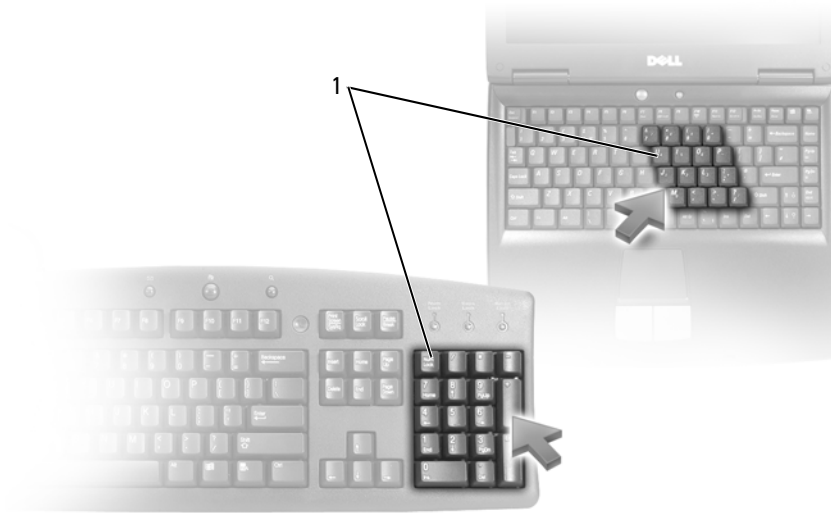
To replace the battery, follow the removal procedure in reverse order.

Storing a Battery

Remove the battery when you store your computer for an extended period of time. A battery discharges during prolonged storage. After a long storage period, recharge the battery fully before you use it (see "Charging the Battery" on page 31).


Using the Keyboard

Numeric Keypad



1 numeric keypad

The numeric keypad functions like the numeric keypad on an external keyboard. Each key on the keypad has multiple functions. The keypad numbers and symbols are marked in blue on the right of the keypad keys. To type a number or symbol, hold down <Fn> and press the desired key.

- To enable the keypad, press <Num Lk>. The  light indicates that the keypad is active.
- To disable the keypad, press <Num Lk> again.

Key Combinations

System Functions

<Ctrl><Shift><Esc>	Opens the Task Manager window
--------------------	--------------------------------------

Battery

<Fn><F3>	Displays the Dell™ QuickSet Battery Meter (see "Dell™ QuickSet Battery Meter" on page 28).
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Display Functions

<Fn><F8>	Switches the video image to the next display option. The options include the integrated display, an external monitor, and both displays simultaneously.
<Fn><F7>	Scales between wide-screen and standard aspect ratio video resolutions.
<Fn> and left-arrow key	Activates the ambient light sensor (ALS), which controls brightness of the display based on light level in the current environment.
<Fn> and up-arrow key	Increases brightness on the integrated display only (not on an external monitor).
<Fn> and down-arrow key	Decreases brightness on the integrated display only (not on an external monitor).

Power Management

<Fn><Esc>	Activates a power management mode. You can reprogram this keyboard shortcut to activate a different power management mode using the Advanced tab in the Power Options Properties window.
<Fn><F1>	Puts the computer into hibernate mode. Dell QuickSet is required (see "Dell™ QuickSet Features" on page 121).

Microsoft® Windows® Logo Key Functions

Windows logo key and <m>	Minimizes all open windows
Windows logo key and <Shift><m>	Restores all minimized windows. This key combination functions as a toggle to restore minimized windows following the use of the Windows logo key and <m> key combination.
Windows logo key and <e>	Runs Windows Explorer
Windows logo key and <r>	Opens the Run dialog box
Windows logo key and <f>	Opens the Search Results dialog box

Windows logo key and <Ctrl> <f>	Opens the Search Results-Computer dialog box (if the computer is connected to a network)
Windows logo key and <Pause>	Opens the System Properties dialog box


To adjust keyboard operation, such as the character repeat rate, open the Control Panel, click **Printers and Other Hardware**, and click **Keyboard**. For information about the Control Panel, see the Windows Help and Support Center. To access the Help and Support Center, see "Windows Help and Support Center" on page 13.

Touch Pad

The touch pad detects the pressure and movement of your finger to allow you to move the cursor on the display. Use the touch pad and touch pad buttons as you would use a mouse.



1 touch pad buttons 2 fingerprint reader (optional) 3 touch pad

 **NOTE:** The fingerprint reader is optional and may not be installed on your computer. For information on how to activate and use the security management software that controls the fingerprint reader, see "Security Management Software" on page 64.

- To move the cursor, lightly slide your finger over the touch pad.
- To select an object, lightly tap once on the surface of the touch pad or use your thumb to press the left touch-pad button.
- To select and move (or drag) an object, position the cursor on the object and tap twice on the touch pad. On the second tap, leave your finger on the touch pad and move the selected object by sliding your finger over the surface.

- To double-click an object, position the cursor on the object and tap twice on the touch pad or use your thumb to press the left touch-pad button twice.

You can also use the track stick to move the cursor. Press the track stick left, right, up, or down to change the direction of the cursor on the display. Use the track stick and track stick buttons as you would use a mouse.

Customizing the Touch Pad and Track Stick

You can use the **Mouse Properties** window to disable the touch pad and track stick or adjust their settings.

- 1 Open the Control Panel and click **Mouse**. For information about the Control Panel, see the Windows Help and Support Center. To access the Help and Support Center, see "Windows Help and Support Center" on page 13.
- 2 In the **Mouse Properties** window:
 - Click the **Device Select** tab to disable the touch pad and track stick.
 - Click the **Pointer** tab to adjust touch pad and track stick settings.
- 3 Click **OK** to save the settings and close the window.

Changing the Track Stick Cap

You can replace your track stick cap if it wears down from prolonged use or if you prefer a different color. You can purchase additional caps by visiting the Dell website at www.dell.com.



- 1 Pull the cap off the track stick.

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- 2 Align the new cap over the square track-stick post and gently press the cap down onto the post.
- ➡ **NOTICE:** The track stick can damage the display if it is not properly seated on the post.
- 3 Test the track stick to ensure that the cap is seated properly.


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Using the Display

Adjusting Brightness

When a Dell™ computer is running on battery power, you can conserve power by setting the brightness to the lowest comfortable setting by pressing <Fn> and the up- or down-arrow key on the keyboard.

 **NOTE:** Brightness key combinations only affect the display on your portable computer, not monitors or projectors that you attach to your portable computer or docking device. If your computer is connected to an external monitor and you try to change the brightness level, the Brightness Meter may appear, but the brightness level on the external device does not change.

You can press the following keys to adjust display brightness:

- Press <Fn> and the up-arrow key to increase brightness on the integrated display only (not on an external monitor).
- Press <Fn> and the down-arrow key to decrease brightness on the integrated display only (not on an external monitor).

Switching the Video Image


When you start the computer with an external device (such as an external monitor or projector) attached and turned on, the image may appear on either the computer display or the external device.

Press <Fn><F8> to switch the video image between the display only, the external device only, or the display and the external device simultaneously.

Setting Display Resolution and Refresh Rate

To display a program at a specific resolution, both the graphics card and the display must support the program, and the necessary video drivers must be installed.


Before you change any of the default display settings, make a note of the default settings for future reference.

 **NOTE:** Use only the Dell-installed video drivers, which are designed to offer the best performance with your Dell-installed operating system.


If you choose a resolution or color palette that is higher than the display supports, the settings adjust automatically to the closest supported values.

- 1 Click the **Start** button and click **Control Panel**.
- 2 Under **Pick a category**, click **Appearance and Themes**.
- 3 Under **Pick a task...**, click the area you want to change, or under **or pick a Control Panel icon**, click **Display**.
- 4 In the Display Properties window, click the **Settings** tab.

- 5 Try different settings for **Color quality** and **Screen resolution**.

 **NOTE:** As the resolution increases, icons and text appear smaller on the screen.


If the video resolution setting is higher than that supported by the display, the computer enters pan mode. In pan mode, the entire screen cannot be displayed at one time. For example, the taskbar that usually appears at the bottom of the desktop may no longer be visible. To view the rest of the screen, use the touch pad or track stick to pan up, down, left, and right.

 **NOTICE:** You can damage an external monitor by using an unsupported refresh rate. Before adjusting the refresh rate on an external monitor, see the user's guide for the monitor.

Dual Independent Display Mode

You can attach an external monitor or projector to your computer and use it as an extension of your display (known as "dual independent display" or "extended desktop" mode). This mode allows you to use both screens independently and drag objects from one screen to the other, effectively doubling the amount of viewable work space.

- 1 Connect the external monitor, TV, or projector to the computer.
- 2 Under **Pick a category**, click **Appearance and Themes**.
- 3 Under **Pick a task...**, click the area you want to change, or under **or pick a Control Panel icon**, click **Display**.
- 4 In the **Display Properties** window, click the **Settings** tab.

 **NOTE:** If you choose a resolution or color palette that is higher than the display supports, the settings adjust automatically to the closest supported values. For more information, see your operating system documentation.

- 5 Click the monitor 2 icon, click the **Extend my Windows desktop onto this monitor** check box, and then click **Apply**.
- 6 Change **Screen resolution** to the appropriate sizes for both displays and click **Apply**.
- 7 If prompted to restart the computer, click **Apply the new color setting without restarting** and click **OK**.
- 8 If prompted, click **OK** to resize your desktop.
- 9 If prompted, click **Yes** to keep the settings.
- 10 Click **OK** to close the **Display Properties** window.

To disable dual independent display mode:

- 1 Click the **Settings** tab in the **Display Properties** window.
- 2 Click the monitor 2 icon, uncheck the **Extend my Windows desktop onto this monitor** option, and then click **Apply**.

If necessary, press <Fn><F8> to bring the screen image back to the computer display.

Swapping Primary and Secondary Displays

To swap your primary and secondary display designations (for example, to use your external monitor as your primary display after docking):


- 1 Click the **Start** button and click **Control Panel**.
- 2 Under **Pick a category**, click **Appearance and Themes**.
- 3 Under **Pick a task...**, click the area you want to change, or under **or pick a Control Panel icon**, click **Display**.
- 4 Click the **Settings** tab → **Advanced** → **Displays** tab.

See the documentation that came with your video card for additional information.

Using the Ambient Light Sensor

The ambient light sensor (ALS) is located on the bottom of the computer display panel. The ALS detects available environmental light and automatically increases or decreases the display backlighting to compensate for low-light and high-light environments.

You can enable or disable the ALS feature by pressing the <Fn> and left-arrow key combination.


 **NOTE:** Do not cover the ALS with any adhesive labels. If covered up, the ALS automatically sets the display brightness to the minimum level.





1 ambient light sensor

The ALS is disabled when your computer is shipped to you. If you enable the ALS and then use any of the display brightness key combinations, the ALS is disabled and the display brightness is increased or decreased accordingly.

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Dell™ QuickSet allows you to enable or disable the ALS feature. You can also adjust maximum and minimum brightness settings that are activated when you enable the ALS feature. For more information about QuickSet, right-click the  icon in the taskbar, and click **Help**.

 **NOTE:** Rebooting the computer returns the ambient light sensor to the last setting of enabled or disabled.

 **NOTE:** The ambient light sensor adjusts the display backlighting on your portable computer only. It does not control the brightness on any external monitors or projectors.

Using Multimedia

Playing CDs or DVDs

- ➔ **NOTICE:** Do not press down on the CD or DVD tray when you open or close it. Keep the tray closed when you are not using the drive.
- ➔ **NOTICE:** Do not move the computer while playing CDs or DVDs.
 - 1 Press the eject button on the front of the drive.
 - 2 Pull out the tray.




- 3 Place the disc, label side up, in the center of the tray and snap the disc onto the spindle.

- 🔍 **NOTE:** If you use a module that shipped with another computer, you need to install the drivers and software necessary to play DVDs or write data. For more information, see the *Drivers and Utilities* CD (the *Drivers and Utilities* CD is optional and may not be available for your computer or in certain countries).


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- 4 Push the tray back into the drive.

To format CDs for storing data, to create music CDs, or to copy CDs, see the CD software that came with your computer.

 **NOTE:** Ensure that you follow all copyright laws when you create CDs.

Adjusting the Volume

 **NOTE:** When the speakers are muted, you do not hear the CD or DVD playing.

Volume Control Window

- 1 Click the **Start** button, point to **All Programs** (or **Programs**)→ **Accessories**→ **Entertainment** (or **Multimedia**), and then click **Volume Control**.
- 2 In the **Volume Control** window, click and drag the bar in the **Volume Control** column and slide it up or down to increase or decrease the volume.

For more information on volume control options, click **Help** in the **Volume Control** window.

Volume Control Buttons

You can adjust the volume with the volume control buttons on your computer. See "volume control buttons" on page 18.

Volume Control Keys

You can adjust the volume by pressing the following keys:

- Press <Fn> <PageUp> to increase volume.
- Press <Fn> <PageDn> to decrease volume.
- Press <Fn> <End> to mute volume.

Adjusting the Picture

If an error message notifies you that the current resolution and color depth are using too much memory and preventing DVD playback, adjust the display properties.

- 1 Click the **Start** button, point to **Settings**→ **Control Panel**, and then click **Display**.
- 2 In the **Display Properties** window, click the **Settings** tab.
- 3 Under **Pick a category**, click **Appearance and Themes**.
- 4 Under **Pick a task...**, click **Change the screen resolution**.
- 5 Under **Screen resolution**, click and drag the bar in **Screen resolution** to change the setting to 1024 by 768 pixels.
- 6 Click the drop-down menu under **Color quality**, and then click **Medium (16 bit)**.

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7 Click OK.

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Using a Network

Physically Connecting to a Network or Broadband Modem


Before you connect your computer to a network that is not wireless, the computer must have a network cable connected to it.

To connect a network cable:

- 1 Connect the network cable to the network adapter connector on the back of your computer.

 **NOTE:** Insert the cable connector until it clicks into place, and then gently pull the cable to ensure that it is securely attached.

- 2 Connect the other end of the network cable to a network connection device or a network wall connector.


 **NOTE:** Do not use a network cable with a telephone wall connector.



Network Setup Wizard

The Microsoft® Windows® XP operating system provides a Network Setup Wizard to guide you through the process of sharing files, printers, or an Internet connection between computers in a home or small office.

- 1 Click the **Start** button, point to **Programs**→ **Accessories**→ **Communications**, and then click **Network Setup Wizard**.
- 2 On the welcome screen, click **Next**.
- 3 Click **Checklist** for creating a network.

 **NOTE:** Selecting the connection method labeled **This computer connects directly to the Internet** enables the integrated firewall provided with Windows XP Service Pack 2 (SP2).

- 4 Complete the checklist.
- 5 Return to the Network Setup Wizard and follow the instructions on the screen.

Wireless Local Area Network (WLAN)

A WLAN is a series of interconnected computers that communicate with each other over the air waves rather than through a network cable connected to each computer. In a WLAN, a radio communications device called an access point or wireless router connects network computers and provides Internet, or network, access. The access point or wireless router and the wireless network card in the computer communicate by broadcasting data from their antennas over the air waves.

What You Need to Establish a WLAN Connection

Before you can set up a WLAN, you need:

- High-speed (broadband) Internet access (such as cable or DSL)
- A broadband modem that is connected and working
- A wireless router or access point
- A wireless network card for each computer that you want to connect to your WLAN
- A network cable with the network (RJ-45) connector

Checking Your Wireless Network Card

Depending on what you selected when you purchased your computer, the computer has a variety of configurations. To confirm that your computer has a wireless network card and to determine the type of card, use one of the following:

- The **Start** button and the **Connect To** option
- Your original computer invoice


Start Button and Connect To Option

- 1 Click the **Start** button.
- 2 Point to **Connect To**, and then click **Show all connections**.

If **Wireless Network Connection** does not appear under **LAN or High-Speed Internet**, you may not have a wireless network card.

If **Wireless Network Connection** appears, you have a wireless network card. To view detailed information about the wireless network card:

- 1 Right-click **Wireless Network Connection**.
- 2 Click **Properties**. The **Wireless Network Connection Properties** window appears. The wireless network card's name and model number are listed on the **General** tab.

 **NOTE:** If your computer is set to the **Classic Start** menu option, you can view network connections by clicking the **Start** button, pointing to **Settings**, and then pointing to **Network Connections**. If **Wireless Network Connection** does not appear, you may not have a wireless network card.

Order Confirmation

The order confirmation that you received when you ordered your computer lists the hardware and software that shipped with your computer.

Setting Up a New WLAN


Contact your Internet service provider (ISP) to obtain specific information about the connection requirements for your broadband modem.

Connecting a Wireless Router and a Broadband Modem

- 1 Ensure that you have wired Internet access through your broadband modem before you attempt to set up a wireless Internet connection. See "Physically Connecting to a Network or Broadband Modem" on page 47.
- 2 Install any software required for your wireless router. Your wireless router may have been shipped with an installation CD. Such CDs usually contain installation and troubleshooting information. Install the required software according to the manufacturer's instructions.
- 3 Shut down your computer and any other wireless-enabled computers in the vicinity through the **Start** menu.
- 4 Disconnect your broadband modem power cable from the electrical outlet.
- 5 Disconnect the network cable from the computer and the modem.

 **NOTE:** Wait for a minimum of 5 minutes after disconnecting your broadband modem before you continue with the network setup.


- 6 Disconnect the AC adapter cable from your wireless router to ensure that there is no power connected to the router.
- 7 Insert a network cable into the network (RJ-45) connector on the unpowered broadband modem.
- 8 Connect the other end of the network cable into the Internet network (RJ-45) connector on the unpowered wireless router.
- 9 Ensure that no network or USB cables, other than the network cable connecting the modem and the wireless router, are connected to the broadband modem.


 **NOTE:** Restart your wireless equipment in the order described below to prevent a potential connection failure.

- 10 Turn on *only* your broadband modem and wait for at least 2 minutes for the broadband modem to stabilize. After 2 minutes, proceed to step 11.
- 11 Turn on your wireless router and wait for at least 2 minutes for the wireless router to stabilize. After 2 minutes, proceed to step 12.
- 12 Start your computer and wait until the boot process completes.

- 13 See the documentation that came with your wireless router to do the following in order to set up the wireless router:
 - Establish communication between your computer and your wireless router.
 - Configure your wireless router to communicate with your broadband router.
 - Find out your wireless router's broadcast name. The technical term for the name of your router's broadcast name is Service Set Identifier (SSID) or network name.
- 14 If necessary, configure your wireless network card to connect to the wireless network. See "Connecting to a Wireless Local Area Network" on page 50.


Connecting to a Wireless Local Area Network

 **NOTE:** Before you connect to a WLAN, ensure that you have followed the instructions in "Wireless Local Area Network (WLAN)" on page 48.

 **NOTE:** The following networking instructions do not apply to internal cards with Bluetooth® wireless technology or cellular products.

This section provides general procedures for connecting to a network via wireless technology. Specific network names and configuration details vary. See "Wireless Local Area Network (WLAN)" on page 48 for more information about how to prepare for connecting your computer to a WLAN.

Your wireless network card requires specific software and drivers for connecting to a network. The software is already installed if you ordered the card at the same time you ordered your computer.

 **NOTE:** If the software is removed or corrupted, follow the instructions in the user documentation for your wireless network card. Verify the type of wireless network card installed in your computer and then search for that name on the Dell Support website at support.dell.com. For information on the type of wireless network card that is installed in your computer, see "Checking Your Wireless Network Card" on page 48.

Determining the Wireless Network Device Manager

Depending on the software installed on your computer, different wireless configuration utilities may manage your network devices:

- Your wireless network card's client utility
- The Windows XP operating system

To determine which wireless configuration utility is managing your wireless network card:

- 1 Click the **Start** button, point to **Settings**, and then click **Control Panel**.
- 2 Double-click **Network Connections**.
- 3 Right-click the **Wireless Network Connection** icon, and then click **View Available Wireless Networks**.
 - If the **Choose a wireless network** window states **Windows cannot configure this connection**, the wireless network card's client utility is managing the wireless network card.

- If the Choose a wireless network window states Click an item in the list below to connect to a wireless network in range or to get more information, the Windows XP operating system is managing the wireless network card.

For specific information about the wireless configuration utility installed on your computer, see your wireless network documentation in the Windows Help and Support Center.

To access the Help and Support Center:

- 1 Click the Start button and click Help and Support.
- 2 Under Pick a Help topic, click Dell User and System Guides.
- 3 Under Device Guides, select the documentation for your wireless network card.

Completing the Connection to the WLAN

When you turn on your computer and a network (for which your computer is not configured) is detected in the area, a pop-up appears near the network icon in the notification area (in the lower-right corner of the Windows desktop).

Follow the instructions provided in any utility prompts that appear on your screen.

Once you have configured your computer for the wireless network that you selected, another pop-up notifies you that your computer is connected to that network.

Thereafter, whenever you log on to your computer within the range of the wireless network that you selected, the same pop-up notifies you of the wireless network connection.



NOTE: If you select a secure network, you must enter a WEP or WPA key when prompted. Network security settings are unique to your network. Dell cannot provide this information.



NOTE: Your computer can take up to 1 minute to connect to the network.

Monitoring the Status of Wireless Network Connections Through Dell™ QuickSet

The wireless activity indicator provides an easy way to monitor the status of your computer's wireless devices. Right-click the Dell QuickSet icon in your taskbar to select or deselect **Wireless Activity Indicator Off** to turn the wireless activity indicator on or off.


The wireless activity indicator indicates whether your computer's wireless devices are enabled or disabled. When you turn the wireless networking function on or off, the wireless activity indicator changes to display the status.

For more information about the wireless activity indicator, see the *Dell QuickSet Help* file. For information about QuickSet and how to access the *Dell QuickSet Help* file, see "Dell™ QuickSet Features" on page 121.


Mobile Broadband Network

Much like a WLAN, a Mobile Broadband network is a series of interconnected computers that communicate with each other through wireless technology. However, a Mobile Broadband network uses cellular technology and therefore provides Internet access in the same varied locations from which cellular telephone service is available. Your computer can maintain the Mobile Broadband network connection regardless of its physical location, as long as the computer remains in the service area of your cellular service provider.

What You Need to Establish a Mobile Broadband Network Connection

 **NOTE:** Depending on your computer, you can use either a Mobile Broadband ExpressCard or Mini-Card, but not both, to establish a Mobile Broadband network connection.

To set up a Mobile Broadband network connection, you need:

 **NOTE:** Mobile Broadband cards may not be available in all regions.

- A Mobile Broadband ExpressCard or Mini-Card (depending on your computer's configuration)
- For instructions on using ExpressCards, see "Card Types" on page 55.
- The Dell Mobile Broadband Card Utility (already installed on your computer if you purchased the card when you purchased your computer, or on the CD that accompanied your card if purchased separately from your computer)

If the utility is corrupted or deleted from your computer, see the Dell Mobile Broadband Card Utility user's guide for instructions. The user's guide is available through the Windows Help and Support Center (or on the CD that accompanied your card if you purchased it separately from your computer). To access the Help and Support Center, see "Windows Help and Support Center" on page 13.

Checking Your Dell Mobile Broadband Card


Depending on what you selected when you purchased your computer, the computer has a variety of configurations. To determine your computer configuration, see one of the following:

- Your order confirmation
- Microsoft® Windows® Help and Support Center


To check your Mobile Broadband card in the Help and Support Center:


- 1 Click the **Start** button and click **Help and Support**.
- 2 Under **Pick a task**, click **Use Tools** to view your computer information and diagnose problems.
- 3 Under **Tools**, click **My Computer Information** and then click **Find information about the hardware installed on this computer**.

On the **My Computer Information - Hardware** screen, you can view the type of Mobile Broadband card installed in your computer as well as other hardware components.

 **NOTE:** The Mobile Broadband card is listed under **Modems**.


Connecting to a Mobile Broadband Network

 **NOTE:** These instructions only apply to Mobile Broadband ExpressCards or Mini-Cards. They do not apply to internal cards with Bluetooth® wireless technology or WLAN Mini-Cards.

 **NOTE:** Before you connect to the Internet, you must activate Mobile Broadband service through your cellular service provider. For instructions and for additional information about using the Dell Mobile Broadband Card Utility, see the user's guide available through the Windows Help and Support Center. To access the Help and Support Center, see "Windows Help and Support Center" on page 13. The user's guide is also available on the Dell Support website at support.dell.com and on the CD included with your Mobile Broadband card if you purchased the card separately from your computer.

Use the Dell Mobile Broadband Card Utility to establish and manage a Mobile Broadband network connection to the Internet:

- 1 Click the Dell Mobile Broadband Card Utility icon, , on your Windows desktop, to run the utility.
- 2 Click **Connect**.


 **NOTE:** The **Connect** button changes to the **Disconnect** button.

- 3 Follow the instructions on the screen to manage the network connection with the utility.

OR

- 1 Click the **Start** button, point to **All Programs**→ **Dell Wireless**.
- 2 Click **Dell Wireless Broadband** and follow the instructions on the screen.

Enabling/Disabling the Dell Mobile Broadband Card

 **NOTE:** If you are unable to connect to a Mobile Broadband network, ensure that you have all the components for establishing a Mobile Broadband connection (see "What You Need to Establish a Mobile Broadband Network Connection" on page 52), and then verify that your Mobile Broadband card is enabled by verifying the setting of the wireless switch.

You can turn your computer's wireless devices on and off with the wireless switch on the left side of the computer (see "Left Side View" on page 18).

If the switch is in the "on" position, move the switch to the "off" position to disable the switch and the Mobile Broadband card. If the switch is in the "off" position, move the switch to the "on" position to enable the switch and the Dell Mobile Broadband card. For information about the wireless switch positions, see "wireless switch" on page 19.

To monitor the status of your wireless device, see "Monitoring the Status of Wireless Network Connections Through Dell™ QuickSet" on page 51.


Managing Your Network Settings Through the Dell QuickSet Location Profiler

The QuickSet Location Profiler helps you create profiles for accessing the Internet with your computer in your office, home, or other public places with Internet services. You can also change the way network connections are handled.

For more information about the Location Profiler, see the *Dell QuickSet Help* file. For information about QuickSet and how to access the *Dell QuickSet Help* file, see "Dell™ QuickSet Features" on page 121.


Dell™ Wi-Fi Catcher™ Network Locator

The wireless switch on your Dell computer uses the Dell Wi-Fi Catcher™ Network Locator to scan specifically for Wi-Fi wireless local area networks (LAN) in your vicinity.

 **NOTE:** For more information about the wireless switch, see "wireless switch" on page 19.


To scan for Wi-Fi wireless LAN, slide and hold the switch in the "momentary" position for a few seconds. The Wi-Fi Catcher Network Locator functions regardless of whether your computer is turned on or off, in hibernate mode, or in standby mode, as long as the switch is configured through QuickSet or the BIOS (system setup program) to control Wi-Fi network connections.

Because the Wi-Fi Catcher Network Locator is disabled and not configured for use when your computer is shipped to you, you must first use Dell QuickSet to enable and configure the switch to control Wi-Fi network connections.

For more information on the Wi-Fi Catcher Network Locator and to enable the feature through QuickSet, see the *Dell QuickSet Help*. To access the *Help* file, right-click the  icon in the taskbar.


Internet Connection Firewall

The Internet Connection Firewall provides basic protection from unauthorized access to the computer while the computer is connected to the Internet. The firewall is automatically enabled when you run the Network Setup Wizard. When the firewall is enabled for a network connection, the firewall icon appears with a red background in the **Network Connections** section of the Control Panel.

 **NOTE:** Enabling the Internet Connection Firewall does not reduce the need for virus-checking software.

For more information, see the Help and Support Center for the Microsoft® Windows® XP operating system. To access the Help and Support Center, see "Windows Help and Support Center" on page 13.


Using Cards

 **NOTE:** Electrical and electronic devices are sensitive to electrostatic discharge (ESD). If a substantial ESD occurs, the device may reset and the device software may attempt to reinitialize a connection. If the software is not operational after an ESD occurrence, restart the modem software program.

Card Types

PC Cards


See "Specifications" on page 147 for information on supported PC Cards.

 **NOTE:** A PC Card is not a bootable device.

The PC Card slot has one connector that supports a single Type I or Type II card. The PC Card slot supports CardBus technology and extended PC Cards. "Type" of card refers to its thickness, not its functionality.

ExpressCards

See "Specifications" on page 147 for information on supported ExpressCards.

 **NOTE:** An ExpressCard is not a bootable device.

ExpressCards leverage PC Card technology to provide a fast and convenient way to add memory, wired and wireless network communications (including Mobile Broadband network [also known as WWAN] communications), multimedia, and security features to your computer. To use an ExpressCard in the PC Card slot, you must use an adapter.

Card Blanks

Your computer shipped with a plastic blank installed in the card slots. Blanks protect unused slots from dust and other particles. Save the blank for use when no PC card is installed in the slot; blanks from other computers may not fit your computer.

To remove the blank, see "Removing a Card or Blank" on page 57.

Extended Cards

An extended PC Card (for example, a wireless network adapter) is longer than a standard PC Card and extends outside the computer. Follow these precautions when using extended PC Cards:

- Protect the exposed end of an installed card. Striking the end of the card can damage the system board.
- Always remove an extended PC Card before you pack the computer in its carrying case.

Installing a PC Card or ExpressCard

You can install a PC Card in the computer while the computer is running. The computer automatically detects the card.

PC Cards are generally marked with a symbol (such as a triangle or an arrow) to indicate which end to insert into the slot. The cards are keyed to prevent incorrect insertion. If card orientation is not clear, see the documentation that came with the card.

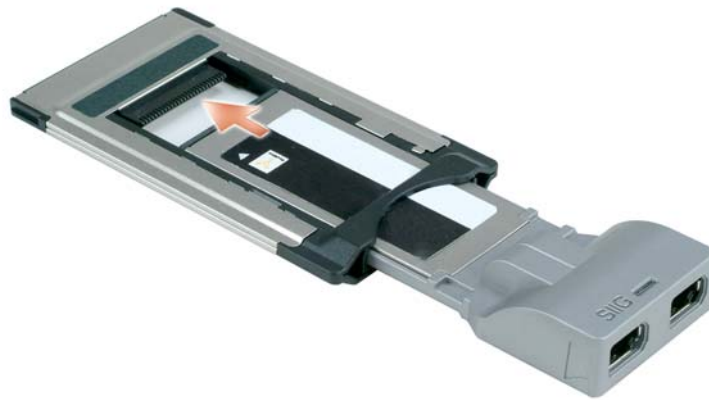
⚠ CAUTION: Before you begin any of the procedures in this section, follow the safety instructions in the *Product Information Guide*.

To install a PC Card:

- 1 Hold the card with its orientation symbol pointing into the slot and the top side of the card facing up. The latch may need to be in the "in" position before you insert the card.
- 2 Slide the card into the slot until the card is completely seated in its connector.
If you encounter too much resistance, do not force the card. Check the card orientation and try again.



The computer recognizes most PC Cards and automatically loads the appropriate device driver. If the configuration program tells you to load the manufacturer's drivers, use the floppy disk or CD that came with the PC Card.



To install an ExpressCard:


- 1 Place the ExpressCard in the adapter.
- 2 Install the ExpressCard with adapter the same way as a PC Card. See the instructions for installing a PC Card.

Removing a Card or Blank



CAUTION: Before you begin any of the procedures in this section, follow the safety instructions in the *Product Information Guide*.




NOTICE: Click the  icon in the taskbar to select a card and stop it from functioning before you remove it from the computer. If you do not stop the card in the configuration utility, you could lose data. Do not attempt to eject a card by pulling its cable, if one is attached.


Press the latch and remove the card or blank. For some latches, you must press the latch twice: once to pop the latch out, and then a second time to pop the card out.

Securing Your Computer

Security Cable Lock


 **NOTE:** Your computer does not ship with a security cable lock.


A security cable lock is a commercially available antitheft device. To use the lock, attach it to the security cable slot on your Dell™ computer. For more information, see the instructions included with the device.

 **NOTICE:** Before you buy an antitheft device, ensure that it works with the security cable slot on your computer.



Using Smart Cards

 **NOTE:** For information on how to secure your computer while traveling, see "Traveling With Your Computer" on page 123.

 **NOTE:** The smart card feature may not be available on your computer.

About Smart Cards

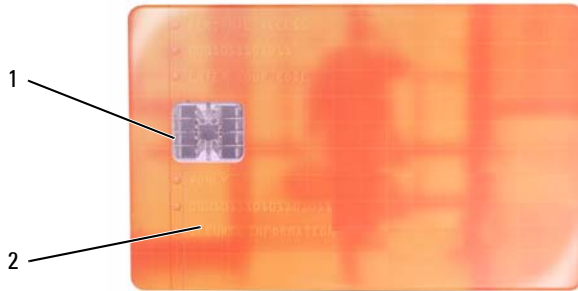
Smart cards are portable credit-card shaped devices with internal integrated circuits. The top surface of the smart card usually contains an embedded processor under the gold contact pad. The combination of the small size and integrated circuits make smart cards valuable tools for security, data storage, and special programs. Using smart cards can improve system security by combining something a user has (the smart card) with something only the user should know (a PIN) to provide more secure user-authentication than passwords alone.

Installing a Smart Card

You can install a smart card in the computer while the computer is running. The computer automatically detects the card.

To install a smart card:

- 1 Hold the card so that the gold contact pad is facing upward and pointing toward the smart card slot.



- 1 gold contact pad
- 2 smart card (top)

- 2 Slide the smart card into the smart card slot until the card is completely seated in its connector. The smart card will protrude approximately 1/2 inch from the slot. The smart card slot is located below the PC Card slot.

If you encounter too much resistance, do not force the card. Check the card orientation and try again.




Passwords


About Passwords

 **NOTE:** Passwords are disabled when you receive your computer.

A primary (or system) password, an administrator password, and a hard drive password all prevent unauthorized access to your computer in different ways. The following table identifies types and features of passwords available on your computer.


Type of Password	Features
Primary	<ul style="list-style-type: none"> Protects the computer from unauthorized access
Administrator	<ul style="list-style-type: none"> Gives system administrators or service technicians access to computers for repair or reconfiguration Allows you to restrict access to system setup in the same way a primary password restricts access to the computer Can be used instead of the primary password
Hard drive	<ul style="list-style-type: none"> Helps protect the data on your hard drive or external hard drive (if one is being used) from unauthorized access

 **NOTE:** Some hard drives do not support hard drive passwords.

 **NOTICE:** Passwords provide a high level of security for data in your computer or hard drive. However, they are not foolproof. If you require more security, obtain and use additional forms of protection, such as smart cards, data encryption programs, or PC Cards with encryption features.

When using passwords, observe the following guidelines:

- Choose passwords that you can remember, but not ones that are easy to guess. For example, do not use the names of family members or pets for passwords.
- It is recommended that you do not write down passwords. If you do write it down, however, ensure that the password is stored in a secure place.
- Do not share passwords with other people.
- Ensure that people are not watching you when you type your password(s).

 **NOTICE:** Passwords provide a high level of security for data in your computer or hard drive. However, they are not foolproof. If you require more security, obtain and use additional forms of protection, such as smart cards, data encryption programs, or PC Cards with encryption features.

If you forget any of your passwords, contact Dell (see "Contacting Dell" on page 128). For your protection, Dell technical support staff will ask you for proof of your identity to ensure that only an authorized person can use the computer.

Using a Primary (or System) Password

The primary password allows you to protect the computer from unauthorized access.

When you first start your computer, you must assign a primary password at the prompt.

If you do not enter a password within 2 minutes, the computer returns to its previous operating state.



NOTICE: If you disable the administrator password, the primary password is also disabled.

To add or change passwords, access **User Accounts** from the **Control Panel**.

If you have assigned an administrator password, you can use it instead of the primary password. The computer does not specifically prompt you for the administrator password.

Using an Administrator Password

The administrator password is designed to give system administrators or service technicians access to computers for repair or reconfiguration. The administrators or technicians can assign identical administrator passwords to groups of computers, allowing you to assign a unique primary password.

To set or change administrator passwords, access **User Accounts** from the **Control Panel**.

When you set an administrator password, the **Configure Setup** option becomes available in system setup. The **Configure Setup** option allows you to restrict access to system setup in the same way that a primary password restricts access to the computer.

The administrator password can be used instead of the primary password. Whenever you are prompted to enter the primary password, you can enter the administrator password.



NOTICE: If you disable the administrator password, the primary password is also disabled.



NOTE: The administrator password provides access to the computer, but it does not provide access to the hard drive when a hard drive password is assigned.

If you forget the primary password and do not have an administrator password assigned, or if you have both a primary and an administrator password assigned but forget them both, contact your system administrator or Dell (see "Contacting Dell" on page 128).

Using a Hard Drive Password

The hard drive password helps protect the data on your hard drive from unauthorized access. You can also assign a password for an external hard drive (if one is being used) that can be the same as or different from the password for the primary hard drive.

To assign or change a hard drive password, enter the system setup program (see "System Setup Program" on page 89).

After assigning a hard drive password, you must enter it each time you turn on the computer and each time you restore the computer to normal operation from standby mode.


If the hard drive password is enabled, you must enter it each time you turn on the computer: A message appears asking for the hard drive password.

To continue, enter your password (with no more than eight characters) and press <Enter>.


If you do not enter a password within 2 minutes, the computer returns to its previous operating state. If you enter the wrong password, a message tells you that the password is invalid. Press <Enter> to try again.


If you do not enter the correct password in three attempts, the computer tries to start from another bootable device if the **Boot First Device** option in system setup is set to allow start-up from another device. If the **Boot First Device** option is not set to allow the computer to start from another device, the computer returns to the operating state it was in when you turned it on.

If the hard drive password, the external hard-drive password, and the primary password are the same, the computer prompts you only for the primary password. If the hard drive password is different from the primary password, the computer prompts you for both. Two different passwords provide greater security.


 **NOTE:** The administrator password provides access to the computer, but it does not provide access to the hard drive when a hard drive password is assigned.

Trusted Platform Module (TPM)

 **NOTE:** The TPM feature is not available in all regions.

 **NOTE:** The TPM feature supports encryption only if the operating system supports TPM. For more information, see the TPM software documentation and the help files that came with the software.


TPM is a hardware-based security feature that can be used to create and manage computer-generated encryption keys. When combined with security software, the TPM enhances existing network and computer security by enabling features such as file protection capabilities and protected e-mail. The TPM feature is enabled through a system setup option.

 **NOTICE:** To secure your TPM data and encryption keys, follow the backup procedures documented in the *Broadcom Secure Foundation Getting Started Guide*. In the event of these backups being incomplete, lost, or damaged, Dell will be unable to assist in the recovery of encrypted data.

Enabling the TPM Feature

- 1 Enable the TPM software:
 - a Restart the computer and press <F2> during the Power On Self Test to enter the system setup program.
 - b Select **Security**→**TPM Security** and press <Enter>.
 - c Under **TPM Security**, select **On**.
 - d Press <Esc> to exit the setup program.
 - e If prompted, click **Save/Exit**.
- 2 Activate the TPM setup program:
 - a Restart the computer and press <F2> during the Power On Self Test to enter the system setup program.
 - b Select **Security**→**TPM Activation** and press <Enter>.

- c Under **TPM Activation**, select **Activate** and press <Enter>.

 **NOTE:** You only need to activate the program once.


- d Once the process is complete, the computer either restarts automatically or prompts you to restart your computer.


Security Management Software

The security management software is designed to utilize four different features to help you secure your computer:

- Log-in management
- Pre-boot authentication (using a fingerprint reader, smart card, or password)
- Encryption
- Private information management

Activating the Security Management Software

 **NOTE:** The TPM feature is not available in all regions.

 **NOTE:** You must first enable the TPM in order for the security management software to have full functionality.

- 1 Enable the TPM feature (see "Enabling the TPM Feature" on page 63).
- 2 Load the security management software:
 - a Turn on (or restart) your computer.
 - b When the **DELL™** logo appears, press <F2> immediately. If you wait too long and the Windows logo appears, continue to wait until you see the Windows desktop. Then shut down your computer and try again.
 - c In the drop-down menu, select **Wave EMBASSY Trust Suite** and press <Enter> to create the icons for the software components on the computer desktop.
 - d Press <Esc> to exit the setup program.
 - e If prompted, click **Save/Exit**.


Using the Security Management Software


For information about how to use the software and the different security features, see the *Getting Started Guide* for the software:

Click **Start**→ **All Programs**→ **Wave EMBASSY Trust Suite**→ **Getting Started Guide**.

Computer Tracking Software


Computer tracking software may enable you to locate your computer if it is lost or stolen. The software is optional and may be purchased when you order your Dell™ computer, or you can contact your Dell sales representative for information about this security feature.

 **NOTE:** Computer tracking software may not be available in certain countries.

 **NOTE:** If you have computer tracking software and your computer is lost or stolen, you must contact the company that provides the tracking service to report the missing computer.

If Your Computer Is Lost or Stolen

- Call a law enforcement agency to report the lost or stolen computer. Include the Service Tag in your description of the computer. Ask that a case number be assigned and write down the number, along with the name, address, and phone number of the law enforcement agency. If possible, obtain the name of the investigating officer.

 **NOTE:** If you know where the computer was lost or stolen, call a law enforcement agency in that area. If you do not know, call a law enforcement agency where you live.

- If the computer belongs to a company, notify the security office of the company.
- Contact Dell customer service to report the missing computer. Provide the computer Service Tag, the case number, and the name, address, and phone number of the law enforcement agency to which you reported the missing computer. If possible, give the name of the investigating officer.

The Dell customer service representative will log your report under the computer Service Tag and record the computer as missing or stolen. If someone calls Dell for technical assistance and gives your Service Tag, the computer is identified automatically as missing or stolen. The representative will attempt to get the phone number and address of the caller. Dell will then contact the law enforcement agency to which you reported of the missing computer.

FILE LOCATION: C:\Documents and Settings\reggie_davis\Desktop\Projects-07\BEN\security.fm

Troubleshooting

Dell Technical Update Service

The Dell Technical Update service provides proactive e-mail notification of software and hardware updates for your computer. The service is free and can be customized for content, format, and how frequently you receive notifications.

To enroll for the Dell Technical Update service, go to support.dell.com/technicalupdate.


Dell Diagnostics


 **CAUTION:** Before you begin any of the procedures in this section, follow the safety instructions in the *Product Information Guide*.

When to Use the Dell Diagnostics

If you experience a problem with your computer, perform the checks in "Lockups and Software Problems" on page 78 and run the Dell Diagnostics before you contact Dell for technical assistance.

It is recommended that you print these procedures before you begin.


 **NOTICE:** The Dell Diagnostics works only on Dell™ computers.

 **NOTE:** The *Drivers and Utilities* CD is optional and may not ship with your computer.

Start the Dell Diagnostics from either your hard drive or from the *Drivers and Utilities* CD (also known as the *ResourceCD*).

Starting the Dell Diagnostics From Your Hard Drive


The Dell Diagnostics is located on a hidden diagnostic utility partition on your hard drive.

 **NOTE:** If your computer cannot display a screen image, contact Dell (See "Contacting Dell" on page 128).


- 1 Shut down the computer.
- 2 If the computer is connected to a docking device (docked), undock it. See the documentation that came with your docking device for instructions.
- 3 Connect the computer to an electrical outlet.
- 4 Diagnostics can be invoked one of two ways:

FILE LOCATION: C:\Documents and Settings\reggie_davis\Desktop\Projects-07\BEN\trouble.fm
DELL CONFIDENTIAL – PRELIMINARY 1/25/07 – FOR PROOF ONLY

- Turn on the computer. When the DELL™ logo appears, press <F12> immediately. Select Diagnostics from the boot menu and press <Enter>.

 **NOTE:** If you wait too long and the operating system logo appears, continue to wait until you see the Microsoft® Windows® desktop. Then shut down your computer and try again.

- Press and hold the <Fn> key while powering the computer on.

 **NOTE:** If you see a message stating that no diagnostics utility partition has been found, run the Dell Diagnostics from the *Drivers and Utilities CD*.

The computer runs the Pre-boot System Assessment, a series of initial tests of your system board, keyboard, hard drive, and display.

- During the assessment, answer any questions that appear.
- If a failure is detected, the computer stops and beeps. To stop the assessment and restart the computer, press <Esc>; to continue to the next test, press <y>; to retest the component that failed, press <r>.
- If failures are detected during the Pre-boot System Assessment, write down the error code(s) and contact Dell (see "Contacting Dell" on page 128).

If the Pre-boot System Assessment completes successfully, you receive the message `Booting Dell Diagnostic Utility Partition`. Press any key to continue.


- 5 Press any key to start the Dell Diagnostics from the diagnostics utility partition on your hard drive.

Starting the Dell Diagnostics From the Drivers and Utilities CD

- 1 Insert the *Drivers and Utilities CD*.
- 2 Shut down and restart the computer.

When the DELL logo appears, press <F12> immediately.

If you wait too long and the Windows logo appears, continue to wait until you see the Windows desktop. Then shut down your computer and try again.

 **NOTE:** The next steps change the boot sequence for one time only. On the next start-up, the computer boots according to the devices specified in system setup.

- 3 When the boot device list appears, highlight `CD/DVD/CD-RW Drive` and press <Enter>.
- 4 Select the `Boot from CD-ROM` option from the menu that appears and press <Enter>.
- 5 Type 1 to start the menu and press <Enter> to proceed.
- 6 Select `Run the 32 Bit Dell Diagnostics` from the numbered list. If multiple versions are listed, select the version appropriate for your computer.
- 7 When the Dell Diagnostics `Main Menu` appears, select the test you want to run.


Dell Diagnostics Main Menu

- 1 After the Dell Diagnostics loads and the **Main Menu** screen appears, click the button for the option you want.

Option	Function
Express Test	Performs a quick test of devices. This test typically takes 10 to 20 minutes and requires no interaction on your part. Run Express Test first to increase the possibility of tracing the problem quickly.
Extended Test	Performs a thorough check of devices. This test typically takes 1 hour or more and requires you to answer questions periodically.
Custom Test	Tests a specific device. You can customize the tests you want to run.
Symptom Tree	Lists the most common symptoms encountered and allows you to select a test based on the symptom of the problem you are having.

- 2 If a problem is encountered during a test, a message appears with an error code and a description of the problem. Write down the error code and problem description and follow the instructions on the screen.

If you cannot resolve the error condition, contact Dell (see "Contacting Dell" on page 128).

 **NOTE:** The Service Tag for your computer is located at the top of each test screen. If you contact Dell, technical support will ask for your Service Tag.

- 3 If you run a test from the **Custom Test** or **Symptom Tree** option, click the applicable tab described in the following table for more information.

Tab	Function
Results	Displays the results of the test and any error conditions encountered.
Errors	Displays error conditions encountered, error codes, and the problem description.
Help	Describes the test and may indicate requirements for running the test.


Tab	Function
Configuration	<p>Displays your hardware configuration for the selected device.</p> <p>The Dell Diagnostics obtains configuration information for all devices from system setup, memory, and various internal tests, and it displays the information in the device list in the left pane of the screen. The device list may not display the names of all the components installed on your computer or all devices attached to your computer.</p>
Parameters	<p>Allows you to customize the test by changing the test settings.</p>

- 4 When the tests are completed, if you are running the Dell Diagnostics from the *Drivers and Utilities* CD, remove the CD.
- 5 When the tests are complete, close the test screen to return to the **Main Menu** screen. To exit the Dell Diagnostics and restart the computer, close the **Main Menu** screen.

Dell Support Utility

The Dell Support Utility is installed on your computer and available from the Dell Support icon on the taskbar or from the **Start** button. Use this support utility for self-support information, software updates, and health scans of your computing environment.

Accessing the Dell Support Utility

Access the Dell Support Utility from the Dell Support icon () on the taskbar or from the **Start** menu.


If the icon does not appear in your taskbar:

- 1 Click the **Start** button and point to **Programs**.
- 2 Click **Dell Support** and point to **Dell Support Settings**.
- 3 Ensure that the **Show icon on the taskbar** option is checked.




NOTE: If the Dell Support Utility is not available from the **Start** menu, go to support.dell.com and download the software.

Clicking the Dell Support Icon

Click or right-click the  icon to perform the following tasks:

- Check your computing environment
- View the Dell Support Utility settings
- Access the help file for the Dell Support Utility
- View frequently asked questions
- Learn more about the Dell Support Utility
- Turn the Dell Support Utility off

Double-Clicking the Dell Support Icon

Double-click the  icon to manually check your computing environment, view frequently asked questions, access the help file for the Dell Support Utility, and view Dell Support settings.

For more information about the Dell Support Utility, click the question mark (?) at the top of the Dell Support screen.

Drive Problems

 **CAUTION:** Before you begin any of the procedures in this section, follow the safety instructions in the *Product Information Guide*.

Fill out the Diagnostics Checklist (see "Diagnostics Checklist" on page 128) as you complete these checks.

ENSURE THAT MICROSOFT® WINDOWS® RECOGNIZES THE DRIVE — Click the Start button and click My Computer. If the floppy, CD, or DVD drive, is not listed, perform a full scan with your antivirus software to check for and remove viruses. Viruses can sometimes prevent Windows from recognizing the drive.

TEST THE DRIVE —

- Insert another floppy disk, CD, or DVD to eliminate the possibility that the original one is defective.
- Insert a bootable floppy disk and restart the computer.

CLEAN THE DRIVE OR DISK — See "Cleaning Your Computer" on page 157.


ENSURE THAT THE CD IS SNAPPED ONTO THE SPINDLE


CHECK THE CABLE CONNECTIONS

CHECK FOR HARDWARE INCOMPATIBILITIES — See "Resolving Software and Hardware Incompatibilities" on page 95.

RUN THE DELL DIAGNOSTICS — See "Dell Diagnostics" on page 67.

CD and DVD drive problems

 **NOTE:** High-speed CD or DVD drive vibration is normal and may cause noise, which does not indicate a defect in the drive or the CD or DVD.

 **NOTE:** Because of different regions worldwide and different disc formats, not all DVD titles work in all DVD drives.

Problems writing to a CD/DVD-RW drive

CLOSE OTHER PROGRAMS — The CD/DVD-RW drive must receive a steady stream of data when writing. If the stream is interrupted, an error occurs. Try closing all programs before you write to the CD/DVD-RW.

TURN OFF STANDBY MODE IN WINDOWS BEFORE WRITING TO A CD/DVD-RW DISC — See "Standby Mode" on page 29 or search for the keyword *standby* in the Windows Help and Support Center for information on power management modes.

CHANGE THE WRITE SPEED TO A SLOWER RATE — See the help files for your CD or DVD creation software.

If you cannot eject the CD, CD-RW, DVD, or DVD+RW drive tray

- 1 Ensure that the computer is shut down.
- 2 Straighten a paper clip and insert one end into the eject hole at the front of the drive; push firmly until the tray is partially ejected.
- 3 Gently pull out the tray until it stops.

If you hear an unfamiliar scraping or grinding sound

- Ensure that the sound is not caused by the program that is running.
- Ensure that the disk or disc is inserted properly.

Hard drive problems


ALLOW THE COMPUTER TO COOL BEFORE TURNING IT ON — A hot hard drive may prevent the operating system from starting. Try allowing the computer to return to room temperature before turning it on.

RUN CHECK DISK —

- 1 Click the Start button and click My Computer.
- 2 Right-click Local Disk C:.
- 3 Click Properties.
- 4 Click the Tools tab.
- 5 Under Error-checking, click Check Now.
- 6 Click Scan for and attempt recovery of bad sectors.
- 7 Click Start.

E-Mail, Modem, and Internet Problems

 **CAUTION:** Before you begin any of the procedures in this section, follow the safety instructions in the *Product Information Guide*.

 **NOTE:** Connect the modem to an analog telephone jack only. The modem does not operate while it is connected to a digital telephone network.

CHECK THE MICROSOFT OUTLOOK® EXPRESS SECURITY SETTINGS — If you cannot open your e-mail attachments:

- 1 In Outlook Express, click **Tools**, click **Options**, and then click **Security**.
- 2 Click **Do not allow attachments** to remove the checkmark.

CHECK THE TELEPHONE LINE CONNECTION

CHECK THE TELEPHONE JACK

CONNECT THE MODEM DIRECTLY TO THE TELEPHONE WALL JACK

USE A DIFFERENT TELEPHONE LINE —

- Verify that the telephone line is connected to the jack on the modem. (The jack has either a green label or a connector-shaped icon next to it.)
- Ensure that you insert the telephone line connector into the modem until it clicks.
- Disconnect the telephone line from the modem and connect it to a telephone. Listen for a dial tone.
- If you have other telephone devices sharing the line, such as an answering machine, fax machine, surge protector, or line splitter, then bypass them and connect the modem directly to the telephone wall jack. If you are using a line that is 3 m (10 ft) or more in length, try a shorter one.

RUN THE MODEM HELPER DIAGNOSTICS — Click the **Start** button, point to **All Programs** and then click **Modem Helper**. Follow the instructions on the screen to identify and resolve modem problems. (Modem Helper is not available on all computers.)

VERIFY THAT THE MODEM IS COMMUNICATING WITH WINDOWS —

- 1 Click the **Start** button and click **Control Panel**.
- 2 Click **Printers and Other Hardware**.
- 3 Click **Phone and Modem Options**.
- 4 Click the **Modems** tab.
- 5 Click the COM port for your modem.
- 6 Click **Properties**, click the **Diagnostics** tab, and then click **Query Modem** to verify that the modem is communicating with Windows.

If all commands receive responses, the modem is operating properly.

ENSURE THAT YOU ARE CONNECTED TO THE INTERNET — Ensure that you have subscribed to an Internet provider. With the Outlook Express e-mail program open, click **File**. If **Work Offline** has a checkmark next to it, click the checkmark to remove it and connect to the Internet. For help, contact your Internet service provider.

SCAN THE COMPUTER FOR SPYWARE — If you are experiencing slow computer performance, you frequently receive pop-up advertisements, or you are having problems connecting to the Internet, your computer might be infected with spyware. Use an anti-virus program that includes anti-spyware protection (your program may require an upgrade) to scan the computer and remove spyware. For more information, go to support.dell.com and search for the keyword *spyware*.

Error Messages

Fill out the Diagnostics Checklist (see "Diagnostics Checklist" on page 128) as you complete these checks.

 **CAUTION:** Before you begin any of the procedures in this section, follow the safety instructions in the *Product Information Guide*.

If the message is not listed, see the documentation for the operating system or the program that was running when the message appeared.

AUXILIARY DEVICE FAILURE — The touch pad, track stick, or external mouse may be faulty. For an external mouse, check the cable connection. Enable the Pointing Device option in the system setup program. If the problem persists, contact Dell (see "Contacting Dell" on page 128).

BAD COMMAND OR FILE NAME — Ensure that you have spelled the command correctly, put spaces in the proper place, and used the correct pathname.

CACHE DISABLED DUE TO FAILURE — The primary cache internal to the microprocessor has failed. Contact Dell (see "Contacting Dell" on page 128).

CD DRIVE CONTROLLER FAILURE — The CD drive does not respond to commands from the computer (see "Dell Support Utility" on page 70).

DATA ERROR — The hard drive cannot read the data (see "Dell Support Utility" on page 70).

DECREASING AVAILABLE MEMORY — One or more memory modules may be faulty or improperly seated. Reinstall the memory modules and, if necessary, replace them (see "Memory" on page 106).

DISK C: FAILED INITIALIZATION — The hard drive failed initialization. Run the hard drive tests in the Dell Diagnostics (see "Dell Diagnostics" on page 67).

DRIVE NOT READY — The operation requires a hard drive in the bay before it can continue. Install a hard drive in the hard drive bay (see "Hard Drive" on page 117).

ERROR READING PCMCIA CARD — The computer cannot identify the PC Card. Reinsert the card or try another PC Card (see "Using Cards" on page 55).

EXTENDED MEMORY SIZE HAS CHANGED — The amount of memory recorded in NVRAM does not match the memory installed on your computer. If the error appears again, contact Dell (see "Contacting Dell" on page 128).

THE FILE BEING COPIED IS TOO LARGE FOR THE DESTINATION DRIVE — The file that you are trying to copy is too large to fit on the disk, or the disk is too full. Try copying the file to a different disk or use a larger capacity disk.

A FILENAME CANNOT CONTAIN ANY OF THE FOLLOWING CHARACTERS: \ / : * ? " < > | — Do not use these characters in filenames.

GATE A20 FAILURE — A memory module may be loose. Reinstall the memory modules and, if necessary, replace them. See "Memory" on page 106.

GENERAL FAILURE — The operating system is unable to carry out the command. The message is usually followed by specific information—for example, *Printer out of paper*. Take the appropriate action.

HARD-DISK DRIVE CONFIGURATION ERROR — The computer cannot identify the drive type. Shut down the computer, remove the hard drive (see "Hard Drive" on page 117), and boot the computer from a CD. Then shut down the computer, reinstall the hard drive, and restart the computer. Run the Hard-Disk Drive tests in the Dell Diagnostics (see "Dell Diagnostics" on page 67).

HARD-DISK DRIVE CONTROLLER FAILURE 0 — The hard drive does not respond to commands from the computer. Shut down the computer, remove the hard drive (see "Hard Drive" on page 117), and boot the computer from a CD. Then shut down the computer, reinstall the hard drive, and restart the computer. If the problem persists, try another drive. Run the Hard-Disk Drive tests in the Dell Diagnostics (see "Dell Diagnostics" on page 67).

HARD-DISK DRIVE FAILURE — The hard drive does not respond to commands from the computer. Shut down the computer, remove the hard drive (see "Hard Drive" on page 117), and boot the computer from a CD. Then shut down the computer, reinstall the hard drive, and restart the computer. If the problem persists, try another drive. Run the Hard-Disk Drive tests in the Dell Diagnostics (see "Dell Diagnostics" on page 67).

HARD-DISK DRIVE READ FAILURE — The hard drive may be defective. Shut down the computer, remove the hard drive (see "Hard Drive" on page 117), and boot the computer from a CD. Then shut down the computer, reinstall the hard drive, and restart the computer. If the problem persists, try another drive. Run the Hard-Disk Drive tests in the Dell Diagnostics (see "Dell Diagnostics" on page 67).

INSERT BOOTABLE MEDIA — The operating system is trying to boot to a nonbootable CD. Insert a bootable CD.

INVALID CONFIGURATION INFORMATION-PLEASE RUN SYSTEM SETUP PROGRAM — The system configuration information does not match the hardware configuration. The message is most likely to occur after a memory module is installed. Correct the appropriate options in the system setup program (see "System Setup Program" on page 89).

KEYBOARD CLOCK LINE FAILURE — For external keyboards, check the cable connection. Run the Keyboard Controller test in the Dell Diagnostics (see "Dell Diagnostics" on page 67).

KEYBOARD CONTROLLER FAILURE — For external keyboards, check the cable connection. Restart the computer, and avoid touching the keyboard or the mouse during the boot routine. Run the Keyboard Controller test in the Dell Diagnostics (see "Dell Diagnostics" on page 67).

KEYBOARD DATA LINE FAILURE — For external keyboards, check the cable connection. Run the Keyboard Controller test in the Dell Diagnostics (see "Dell Diagnostics" on page 67).

KEYBOARD STUCK KEY FAILURE — For external keyboards or keypads, check the cable connection. Restart the computer, and avoid touching the keyboard or keys during the boot routine. Run the Stuck Key test in the Dell Diagnostics (see "Dell Diagnostics" on page 67).

LICENSED CONTENT IS NOT ACCESSIBLE IN MEDIADIRECT — Dell MediaDirect™ cannot verify the Digital Rights Management (DRM) restrictions on the file, so the file cannot be played (see "Dell MediaDirect™ problems" on page 79).

MEMORY ADDRESS LINE FAILURE AT ADDRESS, READ VALUE EXPECTING VALUE — A memory module may be faulty or improperly seated. Reinstall the memory modules and, if necessary, replace them (see "Memory" on page 106).

MEMORY ALLOCATION ERROR — The software you are attempting to run is conflicting with the operating system, another program, or a utility. Shut down the computer, wait 30 seconds, and then restart it. Try to run the program again. If the error message still appears, see the software documentation.

MEMORY DATA LINE FAILURE AT ADDRESS, READ VALUE EXPECTING VALUE — A memory module may be faulty or improperly seated. Reinstall the memory modules (see "Memory" on page 106) and, if necessary, replace them.

MEMORY DOUBLE WORD LOGIC FAILURE AT ADDRESS, READ VALUE EXPECTING VALUE — A memory module may be faulty or improperly seated. Reinstall the memory modules (see "Memory" on page 106) and, if necessary, replace them.

MEMORY ODD/EVEN LOGIC FAILURE AT ADDRESS, READ VALUE EXPECTING VALUE — A memory module may be faulty or improperly seated. Reinstall the memory modules (see "Memory" on page 106) and, if necessary, replace

them.

MEMORY WRITE/READ FAILURE AT ADDRESS, READ VALUE EXPECTING VALUE — A memory module may be faulty or improperly seated. Reinstall the memory modules (see "Memory" on page 106) and, if necessary, replace them.

NO BOOT DEVICE AVAILABLE — The computer cannot find the hard drive. If the hard drive is your boot device, ensure that the drive is installed, properly seated, and partitioned as a boot device.

NO BOOT SECTOR ON HARD DRIVE — The operating system may be corrupted. Contact Dell (see "Contacting Dell" on page 128).

NO TIMER TICK INTERRUPT — A chip on the system board may be malfunctioning. Run the System Set tests in the Dell Diagnostics (see "Dell Diagnostics" on page 67).

NOT ENOUGH MEMORY OR RESOURCES. EXIT SOME PROGRAMS AND TRY AGAIN — You have too many programs open. Close all windows and open the program that you want to use.

OPERATING SYSTEM NOT FOUND — Reinstall the hard drive (see "Hard Drive" on page 117). If the problem persists, contact Dell (see "Contacting Dell" on page 128).

OPTIONAL ROM BAD CHECKSUM — The optional ROM apparently failed. Contact Dell (see "Contacting Dell" on page 128).

A REQUIRED .DLL FILE WAS NOT FOUND — The program that you are trying to open is missing an essential file. Remove and then reinstall the program.

- 1 Click the **Start** button and click **Control Panel**.
- 2 Click **Add or Remove Programs**.
- 3 Select the program you want to remove.
- 4 Click **Remove** or **Change/Remove** and follow the prompts on the screen.
- 5 See the program documentation for installation instructions.

SECTOR NOT FOUND — The operating system cannot locate a sector on the hard drive. You may have a defective sector or corrupted FAT on the hard drive. Run the Windows error-checking utility to check the file structure on the hard drive. See the Help and Support Center (see "Windows Help and Support Center" on page 13) for instructions. If a large number of sectors are defective, back up the data (if possible), and then reformat the hard drive.

SEEK ERROR — The operating system cannot find a specific track on the hard drive.

SHUTDOWN FAILURE — A chip on the system board may be malfunctioning. Run the System Set tests in the Dell Diagnostics (see "Dell Diagnostics" on page 67).

TIME-OF-DAY CLOCK LOST POWER — System configuration settings are corrupted. Connect your computer to an electrical outlet to charge the battery. If the problem persists, try to restore the data by entering the system setup program. Then immediately exit the program. If the message reappears, contact Dell (see "Contacting Dell" on page 128).

TIME-OF-DAY CLOCK STOPPED — The reserve battery that supports the system configuration settings may require recharging. Connect your computer to an electrical outlet to charge the battery. If the problem persists, contact Dell (see "Contacting Dell" on page 128).

TIME-OF-DAY NOT SET-PLEASE RUN THE SYSTEM SETUP PROGRAM — The time or date stored in the system setup program does not match the system clock. Correct the settings for the **Date** and **Time** options (see "System Setup Program" on page 89).

TIMER CHIP COUNTER 2 FAILED — A chip on the system board may be malfunctioning. Run the System Set tests in the Dell Diagnostics (see "Dell Diagnostics" on page 67).

UNEXPECTED INTERRUPT IN PROTECTED MODE — The keyboard controller may be malfunctioning, or a memory module may be loose. Run the System Memory tests and the Keyboard Controller test in the Dell Diagnostics (see "Dell Diagnostics" on page 67).

X:\ IS NOT ACCESSIBLE. THE DEVICE IS NOT READY — Insert a disk into the drive and try again.

WARNING: BATTERY IS CRITICALLY LOW — The battery is running out of charge. Replace the battery, or connect the computer to an electrical outlet. Otherwise, activate hibernate mode or shut down the computer.

Keyboard Problems



CAUTION: Before you begin any of the procedures in this section, follow the safety instructions in the *Product Information Guide*.

Fill out the Diagnostics Checklist (see "Diagnostics Checklist" on page 128) as you perform the various checks.



NOTE: Use the integrated keyboard when running Dell Diagnostics or the System Setup program.

External Keyboard problems

CHECK THE KEYBOARD CABLE — Shut down the computer. Disconnect the keyboard cable and check it for damage, and firmly reconnect the cable.

If you are using a keyboard extension cable, disconnect it and connect the keyboard directly to the computer.

CHECK THE EXTERNAL KEYBOARD —

- 1 Shut down the computer, wait 1 minute, and turn it on again.
- 2 Verify that the numbers, capitals, and scroll lock lights on the keyboard blink during the boot routine.
- 3 From the Windows desktop, click the **Start** button, point to **Programs**, point to **Accessories**, and click **Notepad**.
- 4 Type some characters on the external keyboard and verify that they appear on the display.
If you cannot verify these steps, you may have a defective external keyboard.

TO VERIFY THAT THE PROBLEM IS WITH THE EXTERNAL KEYBOARD, CHECK THE INTEGRATED KEYBOARD —

- 1 Shut down the computer.
- 2 Disconnect the external keyboard.
- 3 Turn on the computer.
- 4 From the Windows desktop, click the **Start** button, point to **Programs**, point to **Accessories**, and click **Notepad**.
- 5 Type some characters on the internal keyboard and verify that they appear on the display.

If the characters appear now but did not with the external keyboard, you may have a defective external keyboard. Contact Dell (see "Contacting Dell" on page 128).

RUN THE KEYBOARD DIAGNOSTICS TESTS — Run the PC-AT Compatible Keyboards tests in the Dell Diagnostics (see "Dell Diagnostics" on page 67). If the tests indicate a defective external keyboard, contact Dell (see "Contacting Dell" on page 128).

Unexpected characters

DISABLE THE NUMERIC KEYPAD — Press <Num Lk> to disable the numeric keypad if numbers are displayed instead of letters. Verify that the numbers lock light is not lit.

Lockups and Software Problems



CAUTION: Before you begin any of the procedures in this section, follow the safety instructions in the *Product Information Guide*.

The computer does not start up

ENSURE THAT THE AC ADAPTER IS FIRMLY CONNECTED TO THE COMPUTER AND TO THE ELECTRICAL OUTLET.

The computer stops responding



NOTICE: You might lose data if you are unable to perform an operating system shutdown.

TURN THE COMPUTER OFF — If you are unable to get a response by pressing a key on your keyboard or moving your mouse, press and hold the power button for at least 8 to 10 seconds until the computer turns off. Then restart your computer.

A program stops responding

A program crashes repeatedly



NOTE: Software usually includes installation instructions in its documentation or on a floppy disk or CD.

END THE PROGRAM —

- 1 Press <Ctrl> <Shift> simultaneously.
- 2 Click Task Manager.
- 3 Click the program that is no longer responding.
- 4 Click End Task.

CHECK THE SOFTWARE DOCUMENTATION — If necessary, uninstall and then reinstall the program.

A program is designed for an earlier Microsoft® Windows® operating system

RUN THE PROGRAM COMPATIBILITY WIZARD — The Program Compatibility Wizard configures a program so it runs in an environment similar to non-Windows XP operating system environments.

- 1 Click the **Start** button, point to **All Programs**→**Accessories**, and then click **Program Compatibility Wizard**.
- 2 In the welcome screen, click **Next**.
- 3 Follow the instructions on the screen.

A solid blue screen appears

TURN THE COMPUTER OFF — If you are unable to get a response by pressing a key on your keyboard or moving your mouse, press and hold the power button for at least 8 to 10 seconds until the computer turns off. Then restart your computer.

Dell MediaDirect™ problems

CHECK THE DELL MEDIADIRECT HELP FILE FOR INFORMATION — Click the ? icon at the bottom of the Dell MediaDirect screen to access Help.

TO PLAY MOVIES WITH DELL MEDIADIRECT, YOU MUST HAVE A DVD DRIVE AND THE DELL DVD PLAYER — If you purchased a DVD drive with your computer, this software should already be installed.

VIDEO QUALITY PROBLEMS — Turn off the **Use Hardware Acceleration** option. This feature takes advantage of the special processing in some graphics cards to reduce processor requirements when playing DVDs and certain types of video files.

CANNOT PLAY SOME MEDIA FILES — Because Dell MediaDirect provides access to media files outside the Windows XP operating system environment, access to licensed content is restricted. Licensed content is digital content that has Digital Rights Management (DRM) applied to it. The Dell MediaDirect environment cannot verify the DRM restrictions, so the licensed files cannot be played. Licensed music and video files have a lock icon next to them. You can access licensed files in the Windows XP operating system environment.

ADJUSTING THE COLOR SETTINGS FOR MOVIES THAT CONTAIN SCENES THAT ARE TOO DARK OR TOO BRIGHT — Click **EagleVision** to use a video enhancement technology that detects video content and dynamically adjusts the brightness/contrast/saturation ratios.



NOTICE: You cannot reinstall the Dell MediaDirect feature if you reformat the hard drive. Contact Dell for assistance (see "Contacting Dell" on page 128).

Other software problems

CHECK THE SOFTWARE DOCUMENTATION OR CONTACT THE SOFTWARE MANUFACTURER FOR TROUBLESHOOTING INFORMATION —

- Ensure that the program is compatible with the operating system installed on your computer.
- Ensure that your computer meets the minimum hardware requirements needed to run the software. See the software documentation for information.
- Ensure that the program is installed and configured properly.
- Verify that the device drivers do not conflict with the program.
- If necessary, uninstall and then reinstall the program.

BACK UP YOUR FILES IMMEDIATELY.

USE A VIRUS-SCANNING PROGRAM TO CHECK THE HARD DRIVE, FLOPPY DISKS, OR CDS.

SAVE AND CLOSE ANY OPEN FILES OR PROGRAMS AND SHUT DOWN YOUR COMPUTER THROUGH THE **Start MENU.**

SCAN THE COMPUTER FOR SPYWARE — If you are experiencing slow computer performance, you frequently receive pop-up advertisements, or you are having problems connecting to the Internet, your computer might be infected with spyware. Use an anti-virus program that includes anti-spyware protection (your program may require an upgrade) to scan the computer and remove spyware. For more information, go to support.dell.com and search for the keyword *spyware*.

RUN THE DELL DIAGNOSTICS — See "Dell Diagnostics" on page 67. If all tests run successfully, the error condition is related to a software problem.

Memory Problems

Fill out the Diagnostics Checklist (see "Diagnostics Checklist" on page 128) as you complete these checks.

 **CAUTION:** Before you begin any of the procedures in this section, follow the safety instructions in the *Product Information Guide*.

IF YOU RECEIVE AN INSUFFICIENT MEMORY MESSAGE —

- Save and close any open files and exit any open programs you are not using to see if that resolves the problem.
- See the software documentation for minimum memory requirements. If necessary, install additional memory (see "Memory" on page 106).
- Reseat the memory modules (see "Memory" on page 106) to ensure that your computer is successfully communicating with the memory.
- Run the Dell Diagnostics (see "Dell Diagnostics" on page 67).

IF YOU EXPERIENCE OTHER MEMORY PROBLEMS —

- Reseat the memory modules (see "Memory" on page 106) to ensure that your computer is successfully communicating with the memory.
- Ensure that you are following the memory installation guidelines (see "Memory" on page 106).
- Run the Dell Diagnostics (see "Dell Diagnostics" on page 67).

Network Problems

Fill out the "Diagnostics Checklist" on page 128 as you complete these checks.

 **CAUTION:** Before you begin any of the procedures in this section, follow the safety instructions in the *Product Information Guide*.

General

CHECK THE NETWORK CABLE CONNECTOR — Ensure that the network cable is firmly inserted into both the


network connector on the back of the computer and the network connector.



CHECK THE NETWORK LIGHTS ON THE NETWORK CONNECTOR — No light indicates that no network communication exists. Replace the network cable.


RESTART THE COMPUTER AND LOG ON TO THE NETWORK AGAIN.

CHECK YOUR NETWORK SETTINGS — Contact your network administrator or the person who set up your network to verify that your network settings are correct and that the network is functioning.

Mobile Broadband Network


 **NOTE:** The Dell Mobile Broadband Card Utility user's guide is located under Help and Support. You can also download the user's guide from support.dell.com.

 **NOTE:** The  icon appears in the notification area if the computer has a Dell Mobile Broadband card installed. Double-click the icon to launch the utility.

CANNOT CONNECT — The Dell Mobile Broadband Card must be activated on the network in order to connect. Position the mouse over the  icon in the notification area to read the status of the connection. If the status indicates the mobile broadband card is not activated, see "Activate your Mobile Broadband card" on page 81 for more information. If problems persist, contact your Mobile Broadband service carrier for details on your plan.

CHECK YOUR MOBILE BROADBAND NETWORK SERVICE — Contact your Mobile Broadband service carrier to verify coverage plan and supported services.

CHECK THE STATUS IN THE DELL MOBILE BROADBAND CARD UTILITY — Click the  icon in the taskbar to launch the utility. Check the status in the main window:

- **No card detected** – Restart the computer and launch the utility again.
- **Wireless Disabled** – Ensure that the Dell Wi-Fi Catcher™ switch is in the "on" position. Additionally, right-click the  icon and ensure that the switch is enabled.
- **Searching** – The Dell Mobile Broadband Card Utility has not yet located a Mobile Broadband network. If the searching state persists, ensure that the signal strength is adequate.
- **No service** – The Dell Mobile Broadband Card Utility did not locate a Mobile Broadband network. Ensure that the signal strength is adequate. Restart the Dell wireless utility or contact your Mobile Broadband network provider.
- **Check your WWAN service** – Contact your Mobile Broadband network service provider to verify coverage plan and supported services.

ACTIVATE YOUR MOBILE BROADBAND CARD — Before you connect to the Internet, you must activate the Mobile Broadband service through your cellular service provider. For instructions and for additional information about using the Dell Mobile Broadband Card Utility, see the user's guide available through the Windows Help and Support Center. To access the Help and Support Center, see "Windows Help and Support Center" on page 13. The user's guide is also available on the Dell Support website at support.dell.com and on the CD included with your Mobile Broadband card if you purchased the card separately from your computer.

PC Card or ExpressCard Problems

 **CAUTION:** Before you begin any of the procedures in this section, follow the safety instructions in the *Product Information Guide*.

CHECK THE CARD — Ensure that the card is properly inserted into the connector.

ENSURE THAT THE CARD IS RECOGNIZED BY WINDOWS — Double-click the Safely Remove Hardware icon in the Windows taskbar. Ensure that the card is listed.

IF YOU HAVE PROBLEMS WITH A DELL-PROVIDED CARD — Contact Dell (see "Contacting Dell" on page 128).

IF YOU HAVE PROBLEMS WITH A CARD NOT PROVIDED BY DELL — Contact the PC Card manufacturer.

Power Problems


Fill out the Diagnostics Checklist (see "Diagnostics Checklist" on page 128) as you complete these checks.

 **CAUTION:** Before you begin any of the procedures in this section, follow the safety instructions in the *Product Information Guide*.

CHECK THE POWER LIGHT — When the power light is lit or blinking, the computer has power. If the power light is blinking, the computer is in standby mode—press the power button to exit standby mode. If the light is off, press the power button to turn on the computer.

CHARGE THE BATTERY — The battery charge may be depleted.

- 1 Reinstall the battery.
- 2 Use the AC adapter to connect the computer to an electrical outlet.
- 3 Turn on the computer.

 **NOTE:** Battery operating time (the time the battery can hold a charge) decreases over time. Depending on how often the battery is used and the conditions under which it is used, you may need to purchase a new battery during the life of your computer.

CHECK THE BATTERY STATUS LIGHT — If the battery status light flashes orange or is a steady orange the battery charge is low or depleted. Connect the computer to an electrical outlet.

If the battery status light flashes green and orange, the battery is too hot to charge. Shut down the computer, disconnect the computer from the electrical outlet, and then let the battery and computer cool to room temperature.

If the battery status light rapidly flashes orange, the battery may be defective. Contact Dell (see "Contacting Dell" on page 128).

CHECK THE BATTERY TEMPERATURE — If the battery temperature is below 0° C (32° F), the computer will not start up.

TEST THE ELECTRICAL OUTLET — Ensure that the electrical outlet is working by testing it with another device, such as a lamp.

CHECK THE AC ADAPTER — Check the AC adapter cable connections. If the AC adapter has a light, ensure that the light is on.

CONNECT THE COMPUTER DIRECTLY TO AN ELECTRICAL OUTLET — Bypass power protection devices, power strips, and the extension cable to verify that the computer turns on.

ELIMINATE POSSIBLE INTERFERENCE — Turn off nearby fans, fluorescent lights, halogen lamps, or other appliances.

ADJUST THE POWER PROPERTIES — See "Configuring Power Management Settings" on page 31.

RESEAT THE MEMORY MODULES — If the computer power light turns on but the display remains blank, reinstall the memory modules (see "Memory" on page 106).

Ensuring Sufficient Power for Your Computer

Your computer is designed to use a 65-W or 90-W AC adapter. However, for optimum system performance, you should always use a 90-W adapter.

Using less-powerful AC adapters, including the 65-W AC adapter, will cause you to receive a WARNING message.

Docking Power Considerations

Due to the extra power consumption when a computer is docked to the Dell D/Dock, normal computer operation is not possible on battery power alone. Ensure that the AC adapter is connected to your computer when the computer is docked to the Dell D/Dock.

Docking While the Computer Is Running

If a computer is connected to the Dell D/Dock or Dell D/Port while the computer is running, presence of the docking device is ignored until the AC adapter is connected to the computer.

AC Power Loss While the Computer Is Docked

If a computer loses AC power while docked to the Dell D/Dock or Dell D/Port, the computer immediately goes into low-performance mode.

Printer Problems

Fill out the Diagnostics Checklist (see "Diagnostics Checklist" on page 128) as you complete these checks.



CAUTION: Before you begin any of the procedures in this section, follow the safety instructions in the *Product Information Guide*.



NOTE: If you need technical assistance for your printer, contact the printer's manufacturer.

ENSURE THAT THE PRINTER IS TURNED ON.

CHECK THE PRINTER CABLE CONNECTIONS —

- See the printer documentation for cable connection information.
- Ensure that the printer cables are securely connected to the printer and the computer.

TEST THE ELECTRICAL OUTLET — Ensure that the electrical outlet is working by testing it with another device, such

as a lamp.


VERIFY THAT THE PRINTER IS RECOGNIZED BY WINDOWS —

- 1 Click the Start button, click Control Panel, and then click Printers and Other Hardware.
- 2 Click View installed printers or fax printers.
If the printer is listed, right-click the printer icon.
- 3 Click Properties and click the Ports tab. For a parallel printer (connected through a docking station), ensure that the Print to the following port(s): setting is LPT1 (Printer Port). For a USB printer, ensure that the Print to the following port(s): setting is USB.

REINSTALL THE PRINTER DRIVER — See the printer documentation for instructions

Scanner Problems

 **CAUTION:** Before you begin any of the procedures in this section, follow the safety instructions in the *Product Information Guide*.

 **NOTE:** If you need technical assistance for your scanner, contact the scanner's manufacturer.

CHECK THE SCANNER DOCUMENTATION — See the scanner documentation for setup and troubleshooting information.

UNLOCK THE SCANNER — Ensure that your scanner is unlocked if it has a locking tab or button.

RESTART THE COMPUTER AND TRY THE SCANNER AGAIN.

CHECK THE CABLE CONNECTIONS —

- See the scanner documentation for cable connection information.
- Ensure that the scanner cables are securely connected to the scanner and the computer.

VERIFY THAT THE SCANNER IS RECOGNIZED BY MICROSOFT WINDOWS —

- 1 Click the Start button, click Control Panel, and then click Printers and Other Hardware.
- 2 Click Scanners and Cameras.
If your scanner is listed, Windows recognizes the scanner.

REINSTALL THE SCANNER DRIVER — See the scanner documentation for instructions.

Sound and Speaker Problems

Fill out the Diagnostics Checklist (see "Diagnostics Checklist" on page 128) as you complete these checks.

 **CAUTION:** Before you begin any of the procedures in this section, follow the safety instructions in the *Product Information Guide*.

No sound from integrated speakers

ADJUST THE WINDOWS VOLUME CONTROL — Double-click the speaker icon in the lower-right corner of your

screen. Ensure that the volume is turned up and that the sound is not muted. Adjust the volume, bass, or treble controls to eliminate distortion.

ADJUST THE VOLUME USING KEYBOARD SHORTCUTS — Press <Fn><End> to disable (mute) or reenable the integrated speakers.

REINSTALL THE SOUND (AUDIO) DRIVER — See "Reinstalling Drivers and Utilities" on page 94.

No sound from external speakers

ENSURE THAT THE SUBWOOFER AND THE SPEAKERS ARE TURNED ON — See the setup diagram supplied with the speakers. If your speakers have volume controls, adjust the volume, bass, or treble to eliminate distortion.

ADJUST THE WINDOWS VOLUME CONTROL — Click or double-click the speaker icon in the lower-right corner of your screen. Ensure that the volume is turned up and that the sound is not muted.

DISCONNECT HEADPHONES FROM THE HEADPHONE CONNECTOR — Sound from the speakers is automatically disabled when headphones are connected to the computer's front-panel headphone connector.

TEST THE ELECTRICAL OUTLET — Ensure that the electrical outlet is working by testing it with another device, such as a lamp.

ELIMINATE POSSIBLE INTERFERENCE — Turn off nearby fans, fluorescent lights, or halogen lamps to check for interference.

REINSTALL THE AUDIO DRIVER — See "Reinstalling Drivers and Utilities" on page 94.

RUN THE DELL DIAGNOSTICS — See "Dell Diagnostics" on page 67.



NOTE: The volume control in some MP3 players overrides the Windows volume setting. If you have been listening to MP3 songs, ensure that you did not turn the player volume down or off.

No sound from headphones

CHECK THE HEADPHONE CABLE CONNECTION — Ensure that the headphone cable is securely inserted into the headphone connector.

ADJUST THE WINDOWS VOLUME CONTROL — Click or double-click the speaker icon in the lower-right corner of your screen. Ensure that the volume is turned up and that the sound is not muted.

Touch Pad or Mouse Problems

CHECK THE TOUCH PAD SETTINGS —

- 1 Click the Start button, click Control Panel, and then click Printers and Other Hardware.
- 2 Click Mouse.
- 3 Try adjusting the settings.

CHECK THE MOUSE CABLE — Shut down the computer. Disconnect the mouse cable, check it for damage, and firmly reconnect the cable.

If you are using a mouse extension cable, disconnect it and connect the mouse directly to the computer.

TO VERIFY THAT THE PROBLEM IS WITH THE MOUSE, CHECK THE TOUCH PAD —

- 1 Shut down the computer.

- 2 Disconnect the mouse.
- 3 Turn on the computer.
- 4 At the Windows desktop, use the touch pad to move the cursor around, select an icon, and open it.

If the touch pad operates correctly, the mouse may be defective.

CHECK THE SYSTEM SETUP PROGRAM SETTINGS — Verify that the system setup program (see "System Setup Program" on page 89) lists the correct device for the pointing device option. (The computer automatically recognizes a USB mouse without making any setting adjustments.)

TEST THE MOUSE CONTROLLER — To test the mouse controller (which affects pointer movement) and the operation of the touch pad or mouse buttons, run the Mouse test in the **Pointing Devices** test group in the Dell Diagnostics (see "Dell Diagnostics" on page 67).


REINSTALL THE TOUCH PAD DRIVER — See "Reinstalling Drivers and Utilities" on page 94.

Video and Display Problems

Fill out the Diagnostics Checklist (see "Dell Diagnostics" on page 67) as you complete these checks.

 **CAUTION:** Before you begin any of the procedures in this section, follow the safety instructions in the *Product Information Guide*.

If the display is blank

 **NOTE:** If you are using a program that requires a higher resolution than your computer supports, it is recommended that you attach an external monitor to your computer.

CHECK THE BATTERY — If you are using a battery to power your computer, the battery charge may be depleted. Connect the computer to an electrical outlet using the AC adapter, and turn on the computer.

TEST THE ELECTRICAL OUTLET — Ensure that the electrical outlet is working by testing it with another device, such as a lamp.

CHECK THE AC ADAPTER — Check the AC adapter cable connections. If the AC adapter has a light, ensure that the light is on.

CONNECT THE COMPUTER DIRECTLY TO AN ELECTRICAL OUTLET — Bypass power protection devices, power strips, and the extension cable to verify that the computer turns on.

ADJUST THE POWER PROPERTIES — Search for the keyword *standby* in the Windows Help and Support Center (see "Windows Help and Support Center" on page 13).

SWITCH THE VIDEO IMAGE — If your computer is attached to an external monitor, press <Fn><F8> to switch the video image to the display.

If the display is difficult to read

ADJUST THE BRIGHTNESS — Press <Fn> and the up- or down-arrow key

MOVE THE EXTERNAL SUBWOOFER AWAY FROM THE COMPUTER OR MONITOR — If your external speaker system includes a subwoofer, ensure that the subwoofer is at least 60 cm (2 ft) away from the computer or external monitor.

ELIMINATE POSSIBLE INTERFERENCE — Turn off nearby fans, fluorescent lights, halogen lamps, or other

appliances.

ROTATE THE COMPUTER TO FACE A DIFFERENT DIRECTION — Eliminate sunlight glare, which can cause poor picture quality.

ADJUST THE WINDOWS DISPLAY SETTINGS —

- 1 Click the **Start** button and then click **Control Panel**.
- 2 Click **Appearance and Themes**.
- 3 Click the area you want to change or click the **Display** icon.
- 4 Try different settings for **Color quality** and **Screen resolution**.

RUN THE VIDEO DIAGNOSTICS TESTS — If no error message appears and you still have a display problem, but the display is not completely blank, run the **Video** device group in the Dell Diagnostics. Then contact Dell (see "Contacting Dell" on page 128).

SEE "ERROR MESSAGES" — If an error message appears, see "Error Messages" on page 74.

If only part of the display is readable

CONNECT AN EXTERNAL MONITOR —


- 1 Shut down your computer and connect an external monitor to the computer.
- 2 Turn on the computer and the monitor and adjust the monitor brightness and contrast controls.

If the external monitor works, the computer display or video controller may be defective. Contact Dell (see "Contacting Dell" on page 128).

FILE LOCATION: C:\Documents and Settings\reggie_davis\Desktop\Projects-07\BEN\trouble.fm

System Setup Program

Overview

 **NOTE:** Your operating system may automatically configure most of the options available in system setup, thus overriding options that you set through system setup. (An exception is the **External Hot Key** option, which you can disable or enable only through system setup.) For more information on configuring features for your operating system, see the Help and Support Center. See "Windows Help and Support Center" on page 13.


You can use system setup as follows:

- To set or change user-selectable features—for example, your computer password
- To verify information about the computer's current configuration, such as the amount of system memory

After you set up the computer, run system setup to familiarize yourself with your system configuration information and optional settings. You may want to write down the information for future reference.

The system setup screens display the current setup information and settings for your computer, such as:

- System configuration
- Boot order
- Boot (start-up) configuration and docking-device configuration settings
- Basic device-configuration settings
- System security and hard-drive password settings

 **NOTICE:** Unless you are an expert computer user or are directed to do so by Dell technical support, do not change the system setup settings. Certain changes might make your computer work incorrectly.

Viewing the System Setup Screens

- 1 Turn on (or restart) your computer.
- 2 When the DELL™ logo appears, press <F2> immediately. If you wait too long and the Windows logo appears, continue to wait until you see the Windows desktop. Then shut down your computer and try again.

System Setup Screens

In System Setup, primary categories of settings are listed on the left. To view the types of settings in a category, highlight the category and press <Enter>. When you highlight a setting type, the right side of the screen displays the value for that setting type. You can change settings that appear as white type on the screen. Values that you cannot change (because they are determined by the computer) appear less bright.

System-setup key functions are listed across the bottom of the screen.

Commonly Used Settings

Certain settings require that you reboot the computer for new settings to take effect.

Changing the Boot Sequence

The *boot sequence* tells the computer where to look to find the software needed to start the operating system. You can control the boot sequence and enable/disable devices using the **Boot Sequence** page, which is located in the **System** category.



NOTE: To change the boot sequence on a one-time-only basis, see "Performing a One-Time Boot" on page 90.

The **Boot Sequence** page displays a general list of the bootable devices that may be installed in your computer, including but not limited to the following:

- Diskette Drive
- Modular bay HDD
- Internal HDD
- CD/DVD/CD-RW drive

During the boot routine, the computer starts at the top of the list and scans each enabled device for the operating system start-up files. When the computer finds the files, it stops searching and starts the operating system.

To control the boot devices, select (highlight) a device by pressing the down-arrow or up-arrow key, and then enable or disable the device or change its order in the list.

- To enable or disable a device, highlight the item and press the space bar. Enabled items appear as white and display a small triangle to the left; disabled items appear blue or dimmed without a triangle.
- To reorder a device in the list, highlight the device and then press <u> or <d> (not case-sensitive) to move the highlighted device up or down.

Boot sequence changes take effect as soon as you save the changes and exit system setup.

Performing a One-Time Boot

You can set a one-time-only boot sequence without entering system setup. (You can also use this procedure to boot the Dell Diagnostics on the diagnostics utility partition on your hard drive.)

- 1 Shut down the computer through the **Start** menu.
- 2 If the computer is connected to a docking device (docked), undock it. See the documentation that came with your docking device for instructions.
- 3 Connect the computer to an electrical outlet.
- 4 Turn on the computer. When the DELL logo appears, press <F12> immediately. If you wait too long and the Windows logo appears, continue to wait until you see the Windows desktop. Then shut down your computer and try again.

- 5 When the boot device list appears, highlight the device from which you want to boot and press <Enter>.

The computer boots to the selected device.

The next time you reboot the computer, the previous boot order is restored.

Changing COM Ports

Serial Port, which is located in the **Onboard Devices** category, allows you to map the serial port COM address or disable the serial port and its address, which frees computer resources for another device to use.

Enabling the Infrared Sensor

- 1 Locate **Fast IR** under **Onboard Devices**.




NOTE: Ensure that the COM port that you select is different from the COM port assigned to the serial connector.

- 2 Press <Enter>.
- 3 Use the arrow keys to select the infrared COM port setting.
- 4 Press <Enter>.
- 5 Follow the instructions on the screen.

After you enable the infrared sensor, you can use it to establish a link to an infrared device. To set up and use an infrared device, see the infrared device documentation and the Windows XP Help and Support Center (see "Windows Help and Support Center" on page 13).

FILE LOCATION: C:\Documents and Settings\reggie_davis\Desktop\Projects-07\BEN\setup.fm

Reinstalling Software

 **NOTE:** The *Drivers and Utilities* CD and the *Operating System* CD are optional and may not ship with your computer.


Drivers

What Is a Driver?

A driver is a program that controls a device such as a printer, mouse, or keyboard. All devices require a driver program.

A driver acts like a translator between the device and any other programs that use the device. Each device has its own set of specialized commands that only its driver recognizes.

Dell ships your computer to you with required drivers already installed—no further installation or configuration is needed.

 **NOTICE:** The *Drivers and Utilities* CD may contain drivers for operating systems that are not on your computer. Ensure that you are installing software appropriate for your operating system.

Many drivers, such as the keyboard driver, come with your Microsoft® Windows® operating system. You may need to install drivers if you:

- Upgrade your operating system.
- Reinstall your operating system.
- Connect or install a new device.

Identifying Drivers


If you experience a problem with any device, identify whether the driver is the source of your problem and, if necessary, update the driver.

- 1 Click the **Start** button and click **Control Panel**.
- 2 Under **Pick a Category**, click **Performance and Maintenance**.
- 3 Click **System**.
- 4 In the **System Properties** window, click the **Hardware** tab.
- 5 Click **Device Manager**.
- 6 Scroll down the list to see if any device has an exclamation point (a yellow circle with a [!]) on the device icon.

FILE LOCATION: C:\Documents and Settings\reggie_davis\Desktop\Projects-07\BEN\drivers.fm
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If an exclamation point is next to the device name, you may need to reinstall the driver or install a new driver.

Reinstalling Drivers and Utilities

 **NOTICE:** The Dell Support website at support.dell.com and the optional *Drivers and Utilities* CD provide approved drivers for Dell™ computers. If you install drivers obtained from other sources, your computer might not work correctly.


Using Windows XP Device Driver Rollback

If a problem occurs on your computer after you install or update a driver, use Windows XP Device Driver Rollback to replace the driver with the previously installed version.

- 1 Click the **Start** button and click **Control Panel**.
- 2 Under **Pick a Category**, click **Performance and Maintenance**.
- 3 Click **System**.
- 4 In the **System Properties** window, click the **Hardware** tab.
- 5 Click **Device Manager**.
- 6 Right-click the device for which the new driver was installed and click **Properties**.
- 7 Click the **Drivers** tab.
- 8 Click **Roll Back Driver**.

If Device Driver Rollback does not resolve the problem, then use System Restore to return your computer to the operating state that existed before you installed the new driver.

Using the Optional Drivers and Utilities CD

 **NOTE:** The *Drivers and Utilities* CD may be optional and may not ship with your computer.

If using Device Driver Rollback or System Restore does not resolve the problem, then reinstall the driver from the *Drivers and Utilities* CD (also known as the *ResourceCD*).

- 1 Save and close any open files, and exit any open programs.
- 2 Insert the *Drivers and Utilities* CD.

In most cases, the CD starts running automatically. If it does not, start Windows Explorer, click your CD drive directory to display the CD contents, and then double-click the **autorcd.exe** file. The first time that you run the CD, it might prompt you to install setup files. Click **OK**, and follow the instructions on the screen to continue.

- 3 From the **Language** drop-down menu in the toolbar, select your preferred language for the driver or utility (if available). A welcome screen appears.
- 4 Click **Next**.

The CD automatically scans your hardware to detect drivers and utilities used by your computer.

- 5 After the CD completes the hardware scan, you can also detect other drivers and utilities. Under **Search Criteria**, select the appropriate categories from the **System Model**, **Operating System**, and **Topic** drop-down menus.

A link or links appear(s) for the specific drivers and utilities used by your computer.

- 6 Click the link of a specific driver or utility to display information about the driver or utility that you want to install.
- 7 Click the **Install** button (if present) to begin installing the driver or utility. At the welcome screen, follow the screen prompts to complete the installation.

If no **Install** button is present, automatic installation is not an option. For installation instructions, either see the appropriate instructions in the following subsections, or click **Extract**, follow the extracting instructions, and then read the readme file.

If instructed to navigate to the driver files, click the CD directory on the driver information window to display the files associated with that driver.

Manually Reinstalling Drivers



NOTE: If you are reinstalling an infrared sensor driver, you must first enable the infrared sensor in system setup (see "Enabling the Infrared Sensor" on page 91) before continuing with the driver installation.

- 1 After extracting the driver files to your hard drive as described in the previous section, click the **Start** button and right-click **My Computer** on the desktop.
- 2 Click **Properties**.
- 3 Click the **Hardware** tab and click **Device Manager**.
- 4 Double-click the type of device for which you are installing the driver (for example, **Modems** or **Infrared devices**).
- 5 Double-click the name of the device for which you are installing the driver.
- 6 Click the **Driver** tab and click **Update Driver**.
- 7 Click **Install from a list or specific location (Advanced)** and click **Next**.
- 8 Click **Browse** and browse to the location to which you previously extracted the driver files.
- 9 When the name of the appropriate driver appears, click **Next**.
- 10 Click **Finish** and restart your computer.

Resolving Software and Hardware Incompatibilities


If a device is either not detected during the operating system setup or is detected but incorrectly configured, you can use the Hardware Troubleshooter to resolve the incompatibility:


- 1 Click the **Start** button and click **Help and Support**.
- 2 Type hardware troubleshooter in the **Search** field and click the arrow to start the search.
- 3 Click **Hardware Troubleshooter** in the **Search Results** list.

- 4 In the Hardware Troubleshooter list, click **I need to resolve a hardware conflict on my computer**, and click **Next**.

Using Microsoft® Windows® XP System Restore

The Microsoft® Windows® XP operating system provides System Restore to allow you to return your computer to an earlier operating state (without affecting data files) if changes to the hardware, software, or other system settings have left the computer in an undesirable operating state. See the Windows Help and Support Center for information on using System Restore.


 **NOTICE:** Make regular backups of your data files. System Restore does not monitor your data files or recover them.

 **NOTE:** The procedures in this document were written for the Windows default view, so they may not work if you set your Dell™ computer to the Windows Classic view.

Creating a Restore Point

- 1 Click the **Start** button and click **Help and Support**.
- 2 Click **System Restore**.
- 3 Follow the instructions on the screen.

Restoring the Computer to an Earlier Operating State

 **NOTICE:** Before you restore the computer to an earlier operating state, save and close any open files and exit any open programs. Do not alter, open, or delete any files or programs until the system restoration is complete.

- 1 Click the **Start** button, point to **All Programs**→**Accessories**→**System Tools**, and then click **System Restore**.
- 2 Ensure that **Restore my computer to an earlier time** is selected and click **Next**.
- 3 Click a calendar date to which you want to restore your computer.

The **Select a Restore Point** screen provides a calendar that allows you to see and select restore points. All calendar dates with available restore points appear in boldface type.

- 4 Select a restore point and click **Next**.

If a calendar date has only one restore point, then that restore point is automatically selected. If two or more restore points are available, click the restore point that you prefer.


- 5 Click **Next**.

The **Restoration Complete** screen appears after System Restore finishes collecting data and then the computer restarts.

- 6 After the computer restarts, click **OK**.

To change the restore point, you can either repeat the steps using a different restore point, or you can undo the restoration.

Undoing the Last System Restore

 **NOTICE:** Before you undo the last system restore, save and close all open files and exit any open programs. Do not alter, open, or delete any files or programs until the system restoration is complete.

- 1 Click the **Start** button, point to **All Programs**→**Accessories**→**System Tools**, and then click **System Restore**.
- 2 Click **Undo my last restoration** and click **Next**.
- 3 Click **Next**.
The **System Restore** screen appears and the computer restarts.
- 4 After the computer restarts, click **OK**.

Enabling System Restore

If you reinstall Windows XP with less than 200 MB of free hard-disk space available, System Restore is automatically disabled. To see if System Restore is enabled:

- 1 Click the **Start** button and click **Control Panel**.
- 2 Click **Performance and Maintenance**.
- 3 Click **System**.
- 4 Click the **System Restore** tab.
- 5 Ensure that **Turn off System Restore** is unchecked.

Using the Operating System CD


 **NOTICE:** You must use Windows XP Service Pack 1 (SP1) or later when you reinstall Windows XP.

Before You Begin

If you are considering reinstalling the Windows XP operating system to correct a problem with a newly installed driver, first try using Windows XP Device Driver Rollback. See "Using Windows XP Device Driver Rollback" on page 94. If Device Driver Rollback does not resolve the problem, then use System Restore to return your operating system to the operating state it was in before you installed the new device driver. See "Using Microsoft® Windows® XP System Restore" on page 96.

To reinstall Windows XP, you need the following items:

- Dell™ *Operating System* CD
- Dell *Drivers and Utilities* CD

 **NOTE:** The *Drivers and Utilities* CD contains drivers that were installed during assembly of the computer. Use the *Drivers and Utilities* CD to load any required, including the drivers required if your computer has a RAID controller. drivers. Depending

Reinstalling Windows XP

The reinstallation process can take 1 to 2 hours to complete. After you reinstall the operating system, you must also reinstall the device drivers, virus protection program, and other software.



NOTICE: The *Operating System* CD provides options for reinstalling Windows XP. The options can overwrite files and possibly affect programs installed on your hard drive. Therefore, do not reinstall Windows XP unless a Dell technical support representative instructs you to do so.

- 1 Save and close any open files and exit any open programs.
- 2 Insert the *Operating System* CD. Click **Exit** if the **Install Windows XP** message appears.
- 3 Restart the computer.
- 4 Press <F12> immediately after the DELL™ logo appears.

If the operating system logo appears, wait until you see the Windows desktop, and then shut down the computer and try again.

- 5 Follow the instructions on the screen to complete the installation.