

Dell™ Latitude™ 100L

Owner's Manual

Model PP08L

www.dell.com | support.dell.com

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 *Dell Latitude 100L Help* file. To access the help file, see page 16.

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 PP08L

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CAUTION: Safety Instructions

Use the following safety guidelines to help ensure your own personal safety and to help protect your computer and working environment from potential damage.

SAFETY: General

- Do not attempt to service the computer yourself unless you are a trained service technician. Always follow installation instructions closely.
- If you use an extension power cable with your AC adapter, ensure that the total ampere rating of the products plugged in to the extension power cable does not exceed the ampere rating of the extension cable.
- Do not push objects into air vents or openings of your computer. Doing so can cause fire or electric shock by shorting out interior components.
- Do not store your computer in a low-airflow environment, such as a carrying case or a closed briefcase, while the computer is turned on. Restricting airflow can damage the computer or cause a fire.
- Keep your computer away from radiators and heat sources. Also, do not block cooling vents. Avoid placing loose papers underneath your computer; do not place your computer in a closed-in wall unit or on a bed, sofa, or rug.
- Place the AC adapter in a ventilated area, such as a desk top or on the floor, when you use it to run the computer or to charge the battery. Do not cover the AC adapter with papers or other items that will reduce cooling; also, do not use the AC adapter inside a carrying case.
- The AC adapter may become hot during normal operation of your computer. Use care when handling the adapter during or immediately after operation.
- Do not allow your portable computer to operate with the base resting directly on exposed skin for extended periods of time. The surface temperature of the base will rise during normal operation (particularly when AC power is present). Allowing sustained contact with exposed skin can cause discomfort or, eventually, a burn.
- Do not use your computer in a wet environment, for example, near a bath tub, sink, or swimming pool or in a wet basement.
- If your computer includes an integrated or optional (PC Card) modem, disconnect the modem cable if an electrical storm is approaching to avoid the remote risk of electric shock from lightning via the telephone line.
- To help avoid the potential hazard of electric shock, do not connect or disconnect any cables or perform maintenance or reconfiguration of this product during an electrical storm. Do not use your computer during an electrical storm unless all cables have been disconnected and the computer is operating on battery power.
- If your computer includes a modem, the cable used with the modem should be manufactured with a minimum wire size of 26 American wire gauge (AWG) and an FCC-compliant RJ-11 modular plug.
- Before you open the memory module cover or modem/Mini PCI card cover on the bottom of your computer, disconnect all cables from their electrical outlets and disconnect the telephone cable.
- If your computer has both a *modem* RJ-11 connector and a *network* RJ-45 connector, which look alike, make sure you insert the telephone cable into the RJ-11 connector, not the RJ-45 connector.
- PC Cards may become very warm during normal operation. Use care when removing PC Cards after their continuous operation.
- Before you clean your computer, disconnect the computer from the electrical outlet. Clean your computer with a soft cloth dampened with water. Do not use liquid or aerosol cleaners, which may contain flammable substances.

SAFETY: Power

- Use only the Dell-provided AC adapter approved for use with this computer. Use of another AC adapter may cause a fire or explosion.
- Before you connect the computer to an electrical outlet, check the AC adapter voltage rating to ensure that the required voltage and frequency match the available power source.
- To remove the computer from all power sources, turn the computer off, disconnect the AC adapter from the electrical outlet, and remove any battery installed in the battery bay or module bay.
- To help prevent electric shock, plug the AC adapter and device power cables into properly grounded power sources. These power cables may be equipped with 3-prong plugs to provide an earth grounding connection. Do not use adapter plugs or remove the grounding prong from the power cable plug. If you use a power extension cable, use the appropriate type, 2-prong or 3-prong, to mate with the AC adapter power cable.
- Be sure that nothing rests on your AC adapter's power cable and that the cable is not located where it can be tripped over or stepped on.
- If you are using a multiple-outlet power strip, use caution when plugging the AC adapter's power cable into the power strip. Some power strips may allow you to insert the plug incorrectly. Incorrect insertion of the power plug could result in permanent damage to your computer, as well as risk of electric shock and/or fire. Ensure that the ground prong of the power plug is inserted into the mating ground contact of the power strip.

SAFETY: Battery

- Use only Dell™ battery modules that are approved for use with this computer. Use of other types may increase the risk of fire or explosion.
- Do not carry a battery pack in your pocket, purse, or other container where metal objects (such as car keys or paper clips) could short-circuit the battery terminals. The resulting excessive current flow can cause extremely high temperatures and may result in damage to the battery pack or cause fire or burns.
- The battery poses a burn hazard if you handle it improperly. Do not disassemble it. Handle a damaged or leaking battery pack with extreme care. If the battery is damaged, electrolyte may leak from the cells and may cause personal injury.
- Keep the battery away from children.
- Do not store or leave your computer or battery pack near a heat source such as a radiator, fireplace, stove, electric heater, or other heat-generating appliance or otherwise expose it to temperatures in excess of 60°C (140°F). When heated to excessive temperatures, battery cells could explode or vent, posing a risk of fire.
- Do not dispose of your computer's battery in a fire or with normal household waste. Battery cells may explode. Discard a used battery according to the manufacturer's instructions or contact your local waste disposal agency for disposal instructions. Dispose of a spent or damaged battery promptly.

SAFETY: Air Travel

- Certain Federal Aviation Administration regulations and/or airline-specific restrictions may apply to the operation of your Dell computer while you are on board an aircraft. For example, such regulations/restrictions may prohibit the use of any personal electronic device (PED) that has the capacity for intentional transmission of radio frequency or other electromagnetic signals while on an aircraft.
 - In order to best comply with all such restrictions, if your Dell portable computer is equipped with Dell TrueMobile™ or some other wireless communication device, please disable this device before you board the aircraft and follow all instructions provided by airline personnel with regard to such device.

- Additionally, the use of any PED, such as a portable computer, may be prohibited in aircraft during certain critical phases of flight, for example, takeoff and landing. Some airlines may further define the critical flight phase as any time the aircraft is below 3050 m (10,000 ft). Please follow the airline's specific instructions as to when the use of a PED is allowed.

SAFETY: EMC Instructions

Use shielded signal cables to ensure that you maintain the appropriate electromagnetic compatibility (EMC) classification for the intended environment. For parallel printers, a cable is available from Dell. If you prefer, you can order a cable from Dell at its worldwide website at www.dell.com.

Static electricity can harm electronic components inside your computer. To prevent static damage, discharge static electricity from your body before you touch any of your computer's electronic components, such as a memory module. You can do so by touching an unpainted metal surface on the computer's input/output panel.

WARNING: Handling the cord on this product, or cords associated with accessories sold with this product, will expose you to lead, a chemical known to the State of California to cause birth defects or other reproductive harm. ***Wash your hands after handling the cord.***

When Using Your Computer

Observe the following safe-handling guidelines to prevent damage to your computer:

- When setting up the computer for work, place it on a level surface.
- When traveling, do not check the computer as baggage. You can put your computer through an X-ray security machine, but never put your computer through a metal detector. If you have the computer checked by hand, be sure to have a charged battery available in case you are asked to turn on the computer.
- When traveling with the hard drive removed from the computer, wrap the drive in a nonconducting material, such as cloth or paper. If you have the drive checked by hand, be ready to install the drive in the computer. You can put the hard drive through an X-ray security machine, but never put the drive through a metal detector.
- When traveling, do not place the computer in overhead storage compartments where it could slide around. Do not drop your computer or subject it to other mechanical shocks.
- Protect your computer, battery, and hard drive from environmental hazards such as dirt, dust, food, liquids, temperature extremes, and overexposure to sunlight.
- When you move your computer between environments with very different temperature and/or humidity ranges, condensation may form on or within the computer. To avoid damaging the computer, allow sufficient time for the moisture to evaporate before using the computer.



NOTICE: When taking the computer from low-temperature conditions into a warmer environment or from high-temperature conditions into a cooler environment, allow the computer to acclimate to room temperature before turning on power.

- When you disconnect a cable, pull on its connector or on its strain-relief loop, not on the cable itself. As you pull out the connector, keep it evenly aligned to avoid bending any connector pins. Also, before you connect a cable make sure both connectors are correctly oriented and aligned.
- Handle components with care. Hold a component such as a memory module by its edges, not its pins.
- When preparing to remove a memory module from the system board or disconnect a device from the computer, turn off the computer, disconnect the AC adapter cable, remove any battery installed in the battery bay, and then wait 5 seconds before proceeding to help avoid possible damage to the system board.

- Clean the display with a soft, clean cloth and water. Apply the water to the cloth; then stroke the cloth across the display in one direction, moving from the top of the display to the bottom. Remove moisture from the display quickly and keep the display dry. Long-term exposure to moisture can damage the display. *Do not* use a commercial window cleaner to clean your display.
- If your computer gets wet or is damaged, follow the procedures described in "If Your Computer Gets Wet" on page 67 or "If You Drop or Damage Your Computer" on page 68. If, after following these procedures, you confirm that your computer is not operating properly, contact Dell (see page 106 for the appropriate contact information).

SAFETY: Ergonomic Computing Habits



CAUTION: Improper or prolonged keyboard use may result in injury.



CAUTION: Viewing the display or external monitor screen for extended periods of time may result in eye strain.

For comfort and efficiency, observe the ergonomic guidelines in the *Dell Latitude 100L Help* file when setting up and using your computer. To access the help file, see page 16.

This portable computer is not designed for continuous operation as office equipment. For extended use in an office, it is recommended that you connect an external keyboard.

SAFETY: When Working Inside Your Computer

Before removing or installing memory modules, Mini PCI cards, or modems, perform the following steps in the sequence indicated.



NOTICE: The only time you should ever access the inside of your computer is when you are installing memory modules, a Mini PCI card, a modem, a CD or DVD drive, or a keyboard.



NOTICE: Wait 5 seconds after turning off the computer before disconnecting a device or removing a memory module, Mini PCI card, modem, CD or DVD drive, or keyboard to help prevent possible damage to the system board.

- 1 Shut down your computer and turn off any attached devices.
- 2 Disconnect your computer and devices from electrical outlets to reduce the potential for personal injury or shock. Also, disconnect any telephone or telecommunication lines from the computer.
- 3 Remove the main battery from the battery bay.
- 4 Ground yourself by touching any unpainted metal surface on the back of the computer.
- 5 While you work, periodically touch the unpainted metal surface to dissipate any static electricity that might harm internal components.

SAFETY: Protecting Against Electrostatic Discharge

Static electricity can harm electronic components inside your computer. To prevent static damage, discharge static electricity from your body before you touch any of your computer's electronic components, such as a memory module. You can do so by touching any unpainted metal surface on the back of the computer.

As you continue to work inside the computer, periodically touch any unpainted metal surface on the back of the computer to remove any static charge your body may have accumulated.

You can also take the following steps to prevent damage from electrostatic discharge (ESD):

- When unpacking a static-sensitive component from its shipping carton, do not remove the component from the antistatic packing material until you are ready to install the component. Just before unwrapping the antistatic packaging, be sure to discharge static electricity from your body.

- When transporting a sensitive component, first place it in an antistatic container or packaging.
- Handle all sensitive components in a static-safe area. If possible, use antistatic floor pads and workbench pads.




SAFETY: Battery Disposal



Your computer uses an lithium-ion battery and a reserve battery. For instructions about replacing the lithium-ion battery in your computer, refer to "Removing a Battery" on page 39. The reserve battery is a long-life battery, and it is very possible that you will never need to replace it. However, should you need to replace it, the procedure must be performed by an authorized service technician.

Do not dispose of the battery along with household waste. Contact your local waste disposal agency for the address of the nearest battery deposit site.

Finding Information

What Are You Looking For?	Find It Here
<ul style="list-style-type: none">• How to access tutorials and other how to information• How to get a copy of my invoice• How to extend my warranty• How to access Dell Support on my Microsoft® Windows® desktop (U.S. only)• Additional documentation, tools, troubleshooting information, and links to online support resources	<p>Dell Solution Center</p> <p> On your Windows desktop</p>
<ul style="list-style-type: none">• A diagnostic program for my computer• Drivers for my computer• My computer documentation• My device documentation	<p>Drivers and Utilities CD (also known as the ResourceCD)</p> <p>Documentation and drivers are already installed on your computer. You can use the CD to reinstall drivers, run the Dell Diagnostics, or access your documentation.</p> <p></p> <p>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.</p>
<ul style="list-style-type: none">• How to set up a printer• Additional information about setting up my computer• How to troubleshoot and solve problems• How to remove and install parts• Technical specifications• How to contact Dell	<p>Owner's Manual</p> <p></p> <p>NOTE: This document is available as a PDF at support.dell.com.</p>

What Are You Looking For?

- How to set up my computer

Find It Here

Setup Diagram



- Tips on using Microsoft® Windows®
- How to play CDs and DVDs
- How to use standby mode and hibernate mode
- How to change my display resolution
- How to clean my computer

Dell Latitude 100L Help File

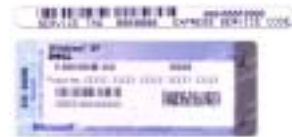
- 1 Click the **Start** button and click **Help and Support**.
- 2 Click **User and system guides** and click **User's guides**.
- 3 Click **Dell Latitude 100L Help**.

- Service Tag and Express Service Code
- Microsoft Windows License Label

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 technical support.
- Enter the Express Service Code to direct your call when contacting technical support. The Express Service Code is not available in all countries.
- Use the number on the Microsoft Windows License Label if you reinstall your operating system.



What Are You Looking For?

- Latest drivers for my computer
- Answers to technical service and support questions
- Online discussions with other users and technical support
- Documentation for my computer

Find It Here

Dell Support Website — support.dell.com

NOTE: Select the appropriate region on the support.dell.com welcome page.

The Dell Support website provides several online tools, including:

- Solutions — Troubleshooting hints and tips, articles from technicians, and online courses
- 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, order status, warranty, and repair information
- Downloads — Drivers, patches, and software updates
- Reference — Computer documentation, product specifications, and white papers

-
- How to use Windows XP
 - Documentation for my computer
 - Documentation for devices (such as a modem)

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.

-
- How to reinstall my operating system

Operating System CD

The operating system is already installed on your computer. To reinstall your operating system, use the *Operating System CD*. See page 73 for reinstallation instructions.

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

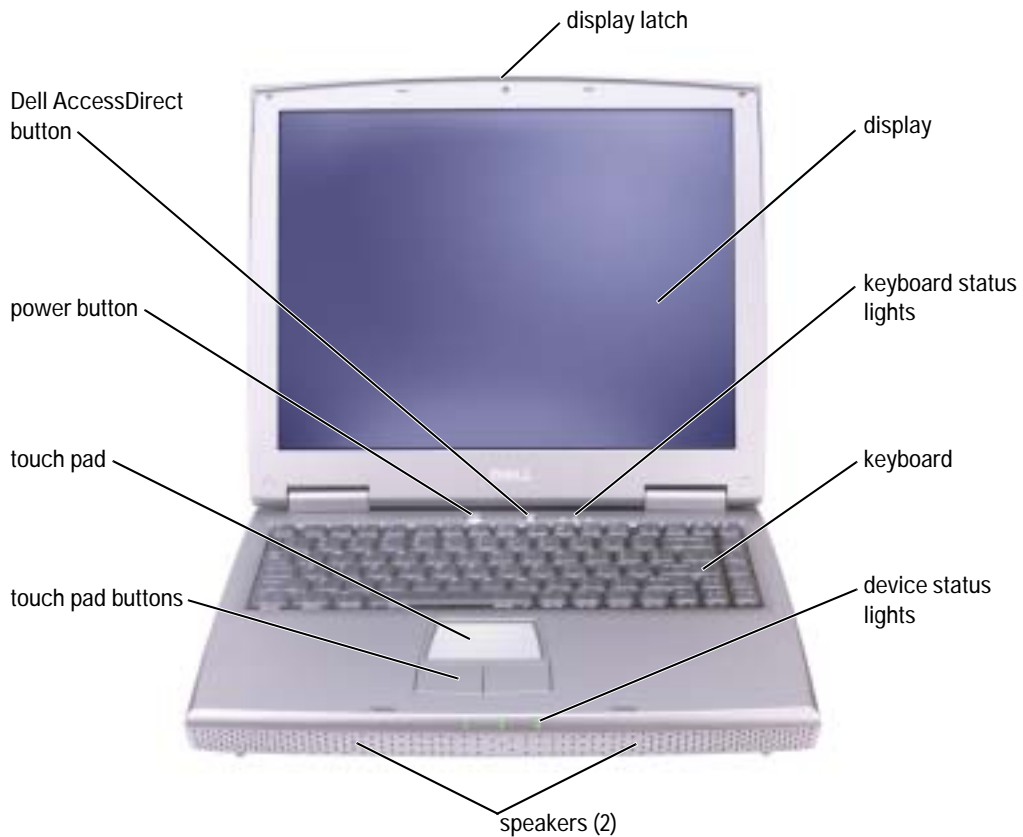


Your operating system product key label is located on your computer.

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

A Tour of Your Computer

Front View



DISPLAY LATCH — Keeps the display closed.

DISPLAY — For more information about your display, see "Using the Display" in the *Dell Latitude 100L Help* file. To access the help file, see page 16.

KEYBOARD STATUS LIGHTS



The green lights located above the keyboard indicate the following:



Turns on when the numeric keypad is enabled.



Turns on when Caps Lock is enabled.

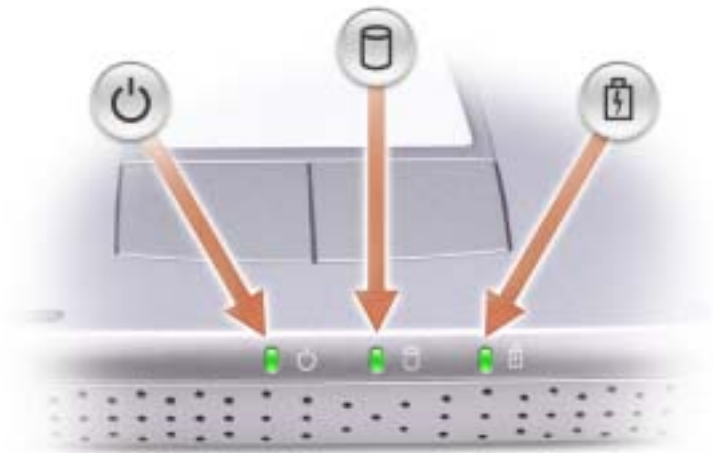







Turns on when the scroll lock function is enabled.

KEYBOARD — The keyboard includes a numeric keypad as well as the Microsoft® Windows® logo key. For information on supported keyboard shortcuts, see page 42.

SPEAKERS — To adjust the volume of the integrated speakers, press the volume-control keyboard shortcuts. For more information, see page 43.

DEVICE STATUS LIGHTS



	Turns on when you turn on the computer. Blinks or turns off in 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.
	Blinks to indicate battery charge status.

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

- Solid green: The battery is charging.

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.

TOUCH PAD BUTTONS — Touch pad buttons provide the functionality of a mouse. See page 44 for more information.

TOUCH PAD — The touch pad and touch pad buttons provide the functionality of a mouse. See page 44 for more information.

POWER BUTTON — Press the power button to turn on the computer or to enter or exit a power management mode. For more information, see "Power Management" in the *Dell Latitude 100L Help* file. To access the help file, see page 16.

NOTICE: To avoid losing data, save and close any open files and exit any open programs before you shut down the computer (see page 36).

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

DELL™ ACCESSDIRECT™ BUTTON — Press this button to launch a frequently used program, such as support and educational tools. You can reprogram the button to launch a program of your choice. For more information, see page 41.


Left Side View




PC CARD SLOT — Supports one PC Card, such as a modem or network adapter. For more information, see "Using PC Cards" in the *Dell Latitude 100L Help* file. To access the help file, see page 16.

AUDIO CONNECTORS



Attach headphones or speakers to the  connector.

Attach a microphone to the  connector.

CD OR DVD DRIVE — Accommodates a CD drive, DVD drive, CD-RW drive, or CD-RW/DVD combo drive.

Right Side View



BATTERY/BATTERY BAY — When a battery is installed, you can use the computer without connecting the computer to an electrical outlet. See page 37.


MODEM CONNECTOR




Connect the telephone line to the modem connector.


For information on using the modem, see the online modem documentation supplied with your computer.

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

 **NOTE:** The fan may run constantly, and fan speed may vary depending on usage. Fan noise is normal and does not indicate a problem with the fan or the computer.

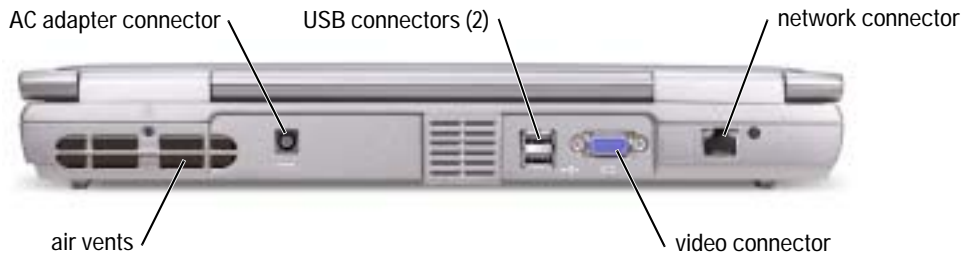
 **CAUTION:** Do not block, push objects into, or allow dust to accumulate in the air vents. Do not store your computer in a low-airflow environment, such as a closed briefcase, while it is running. Restricting the airflow can damage the computer or cause a fire.

SECURITY CABLE SLOT — Lets you attach a commercially available antitheft device to the computer. For more information, see the instructions included with the device.


 **NOTICE:** Before you buy an antitheft device, ensure that it will work with the security cable slot.




Back View



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

 **NOTE:** The fan may run constantly, and fan speed may vary depending on usage. 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.


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




 **NOTE:** Use only the AC adapter that came with your 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.

 **CAUTION:** Place the AC adapter in a ventilated area, such as a desk top or on the floor, when you use it to run the computer or to charge the battery. Do not cover the AC adapter with papers or other items that will reduce cooling; also, do not use the AC adapter inside a carrying case.

 **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.

USB CONNECTORS



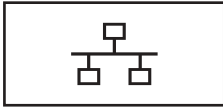
Connects USB devices, such as a mouse, keyboard, or printer.

VIDEO CONNECTOR



Connects an external monitor. For more information, see "Using the Display" in the *Dell Latitude 100L Help* file. To access the help file, see page 16.

NETWORK CONNECTOR



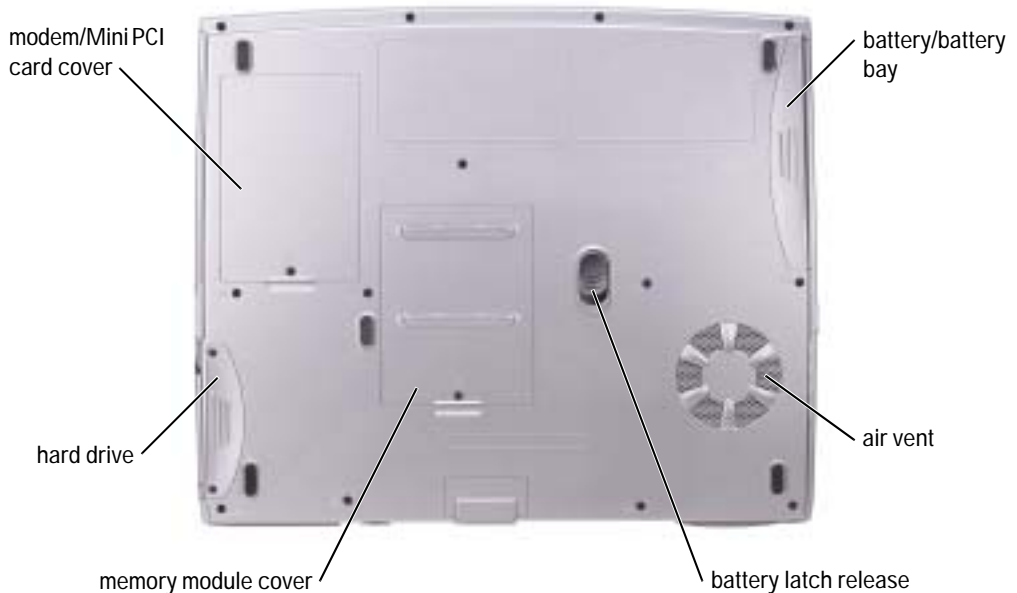
Connects the computer to a network. The lights next to the connector indicate activity for both wired and wireless network communications.

For information on using the network adapter, see the online network-adapter documentation supplied with your computer.



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.


Bottom View




MODEM/MINI PCI CARD COVER — Covers the compartment that contains the modem and Mini PCI card. See page 82.

BATTERY/BATTERY BAY — When a battery is installed, you can use the computer without connecting the computer to an electrical outlet. See page 37.

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

 **NOTE:** The fan may run constantly, and fan speed may vary depending on usage. 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.


BATTERY LATCH RELEASE — Releases the battery. See page 39 for instructions.

MEMORY MODULE COVER — Covers the compartment that contains the memory module(s) (see page 80) and the CD or DVD drive latch release (see page 86).

HARD DRIVE — Stores software and data.

Setting Up Your Computer

Connecting to the Internet

 **NOTE:** ISPs and ISP offerings vary by country.

To connect to the Internet, you need a modem or network connection and an Internet service provider (ISP), such as AOL or MSN. Your ISP will offer one or more of the following Internet connection options:

- Dial-up connections that provide Internet access through a phone line. Dial-up connections are considerably slower than DSL and cable modem connections.
- DSL connections that provide high-speed Internet access through your existing phone line. With a DSL connection, you can access the Internet and use your phone on the same line simultaneously.
- Cable modem connections that provide high-speed Internet access through your local cable TV line.

If you are using a dial-up connection, connect a telephone line to the modem connector on your computer and to the telephone wall jack before you set up your Internet connection. If you are using a DSL or cable modem connection, contact your ISP for setup instructions.


Setting Up Your Internet Connection

To set up an AOL or MSN connection:

- 1 Save and close any open files, and exit any open programs.
- 2 Double-click the **MSN Explorer** or **AOL** icon on the Microsoft® Windows® desktop.
- 3 Follow the instructions on the screen to complete the setup.




If you do not have an **MSN Explorer** or **AOL** icon on your desktop or if you want to set up an Internet connection with a different ISP:

- 1 Save and close any open files, and exit any open programs.
- 2 Click the **Start** button and click **Internet Explorer**.
The **New Connection Wizard** appears.
- 3 Click **Connect to the Internet**.

- 4 In the next window, click the appropriate option:
 - If you do not have an ISP and want to select one, click **Choose from a list of Internet service providers (ISPs)**.
 - If you have already obtained setup information from your ISP but you did not receive a setup CD, click **Set up my connection manually**.
 - If you have a CD, click **Use the CD I got from an ISP**.
 - 5 Click **Next**.
If you selected **Set up my connection manually**, continue to step 6. Otherwise, follow the instructions on the screen to complete the setup.
-  **NOTE:** If you do not know which type of connection to select, contact your ISP.
- 6 Click the appropriate option under **How do you want to connect to the Internet?**, and then click **Next**.
 - 7 Use the setup information provided by your ISP to complete the setup.

If you are having problems connecting to the Internet, see "Modem and Internet Connection Problems." If you cannot connect to the Internet but have successfully connected in the past, the ISP might have a service outage. Contact your ISP to check the service status, or try connecting again later.

Modem and Internet Connection Problems

-  **NOTICE:** Connect the modem to an analog telephone wall jack only. Connecting the modem to a digital telephone network damages the modem.
-  **NOTICE:** Modem and network connectors look similar. Do not plug a telephone line into the network connector.
-  **NOTE:** If you can connect to your Internet service provider (ISP), your modem is functioning properly. If you are sure that your modem is working properly and you still experience problems, contact your ISP.

CHECK THE TELEPHONE WALL JACK — Disconnect the telephone line from the modem and connect it to a telephone. Listen for a dial tone. Ensure that you have touchtone telephone service. Try connecting the modem to a different telephone wall jack.

Slow connection speeds can be caused by telephone noise as well as by telephone line or network conditions. Contact your telephone company or network administrator for more information.

CONNECT THE MODEM DIRECTLY TO THE TELEPHONE WALL JACK — 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 use the telephone line to connect the modem directly to the telephone wall jack.

CHECK THE CONNECTION — Verify that the telephone line is connected to the modem.

CHECK THE TELEPHONE LINE — Try using a different telephone line. If you are using a line that is 3 m (10 ft) or more in length, try a shorter one.

IRREGULAR DIAL TONE — If you have voice mail service, you might hear an irregular dial tone when you have messages. Contact your telephone company for instructions on restoring a dial tone.

TURN OFF CALL WAITING (CATCH-PHONE) — See your telephone directory for instructions on deactivating this feature. Then adjust the dial-up networking connection properties.

Windows XP

- 1 Click the **Start** button and click **Control Panel**.
- 2 Click **Printers and Other Hardware**, click **Phone and Modem Options**, click the **Dialing Rules** tab, and then click **Edit**.
- 3 In the **Edit Location** window, ensure that **To disable call waiting, dial:** is checked, and then select the proper code as listed in your telephone directory.
- 4 Click **Apply** and click **OK**.
- 5 Close the **Phone and Modems Options** window.
- 6 Close the **Control Panel** window.

Windows 2000

- 1 Click the **Start** button, point to **Settings**, and then click **Control Panel**.
- 2 Click **Phone and Modem Options**.
- 3 Click the **Dialing Rules** tab and click **Edit**.
- 4 Ensure that **To disable call waiting, dial:** is checked, and then select the proper code as listed in your telephone directory.
- 5 Click **Apply** and click **OK**.
- 6 Close the **Phone and Modem Options** window.

VERIFY THAT THE MODEM IS COMMUNICATING WITH WINDOWS —

Windows XP

- 1 Click the **Start** button and click **Control Panel**.
- 2 Click **Printers and Other Hardware** and click **Phone and Modem Options**.
- 3 Click the **Modems** tab.
- 4 Click the COM port for your modem.
- 5 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.

Windows 2000

- 1 Click the **Start** button, point to **Settings**, and then click **Control Panel**.
- 2 Double-click **Phone and Modem Options**.
- 3 Click the **Modems** tab.
- 4 Click the COM port for your modem.
- 5 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.

E-Mail Problems

ENSURE THAT YOU ARE CONNECTED TO THE INTERNET — With the Outlook Express e-mail program open, click **File**. If **Work Offline** has a check mark next to it, click the check mark to remove it and connect to the Internet.

Transferring Information to a New Computer

The Microsoft® Windows® XP operating system provides a Files and Settings Transfer wizard to move data from the source computer to the new computer. You can move data such as:

- E-mails
- Toolbar settings
- Window sizes
- Internet bookmarks

You can transfer the data to the new computer over a network connection, or you can store it on a removable medium, such as a writable CD or floppy disk.

To prepare the new computer for the file transfer:

- 1 Click the **Start** button, point to **All Programs**→**Accessories**→**System Tools**, and then click **Files and Settings Transfer Wizard**.
- 2 When the **Files and Settings Transfer Wizard** welcome screen appears, click **Next**.
- 3 On the **Which computer is this?** screen, click **New Computer** and click **Next**.
- 4 On the **Do you have a Windows XP CD?** screen, click **I will use the wizard from the Windows XP CD** and click **Next**.
- 5 When the **Now go to your old computer** screen appears, go to your old or source computer. Do not click **Next** at this time.

To copy data from the old computer:

- 1 On the old computer, insert the Windows XP *Operating System CD*.
- 2 On the **Welcome to Microsoft Windows XP** screen, click **Perform additional tasks**.
- 3 Under **What do you want to do?**, click **Transfer files and settings**.
- 4 On the **Files and Settings Transfer Wizard** welcome screen, click **Next**.
- 5 On the **Which computer is this?** screen, click **Old Computer** and click **Next**.
- 6 On the **Select a transfer method** screen, click the transfer method you prefer.
- 7 On the **What do you want to transfer?** screen, select the items you want to transfer and click **Next**.

After the information has been copied, the **Completing the Collection Phase** screen appears.

- 8 Click **Finish**.

To transfer data to the new computer:


- 1 On the **Now go to your old computer** screen on the new computer, click **Next**.
- 2 On the **Where are the files and settings?** screen, select the method you chose for transferring your settings and files and click **Next**.

The wizard reads the collected files and settings and applies them to your new computer.

When all of the settings and files have been applied, the **Finished** screen appears.

- 3 Click **Finished** and restart the new computer.

Setting Up a Printer

 **NOTICE:** Complete the operating system setup before you connect a printer to the computer.

See the documentation that came with the printer for setup information, including how to:

- Obtain and install updated drivers.
- Connect the printer to the computer.
- Load paper and install the toner or ink cartridge.
- Contact the printer manufacturer for technical assistance.

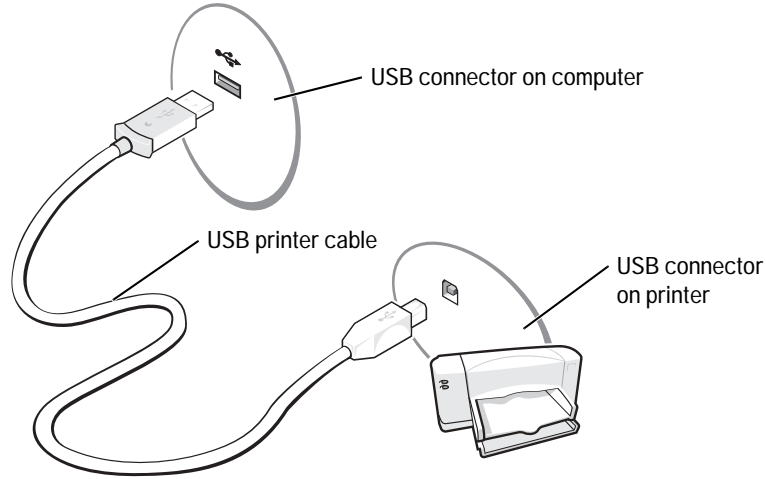
Printer Cable

Your printer may not come with a printer cable, so if you purchase a cable separately, ensure that it is compatible with your printer. If you purchased a printer cable at the same time you purchased your computer, the cable may arrive in the computer box.

Connecting a USB Printer

 **NOTE:** You can connect USB devices while the computer is turned on.

- 1 Complete the operating system setup if you have not already done so.
- 2 Install the printer driver if necessary. See the documentation that came with your printer.
- 3 Attach the USB printer cable to the USB connectors on the computer and the printer. The USB connectors fit only one way.



Printer Problems

CHECK THE PRINTER CABLE CONNECTIONS — Ensure that the printer cable is properly connected to the computer (see page 33).

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

ENSURE THAT THE PRINTER IS TURNED ON — See the documentation supplied with the printer.

VERIFY THAT WINDOWS RECOGNIZES THE PRINTER —

Windows XP

- 1 Click the **Start** button and click **Control Panel**.
- 2 Click **Printers and Other Hardware**.
- 3 Click **View installed printers or fax printers**. If the printer model is listed, right-click the printer icon.
- 4 Click **Properties** and click the **Ports** tab. Ensure that the **Print to the following port(s):** setting is **LPT1 (Printer Port)**.

Windows 2000

- 1 Click the **Start** button, point to **Settings**, and then click **Printers**.
If the printer model is listed, right-click the printer icon.
- 2 Click **Properties** and click the **Ports** tab.
- 3 Ensure that the **Print to the following port:** option is set for your printer type:
 - For a parallel printer: **LPT1 (Printer Port)**
 - For a USB printer: **USB**

REINSTALL THE PRINTER DRIVER — See page 69.


Power Protection Devices

Several devices are available to protect against power fluctuations and failures:


- Surge protectors
- Line conditioners
- Uninterruptible power supplies (UPS)

Surge Protectors


Surge protectors and power strips equipped with surge protection help to prevent damage to your computer from voltage spikes that can occur during electrical storms or following power interruptions. The level of protection is usually commensurate with the cost of the surge protector. Some surge protector manufacturers include warranty coverage for certain types of damage. Carefully read the device warranty when choosing a surge protector. A device with a higher joule rating offers more protection. Compare joule ratings to determine the relative effectiveness of different devices.

 **NOTICE:** Most surge protectors do not protect against power fluctuations or power interruptions caused by nearby lightning strikes. When lightning occurs in your area, disconnect the telephone line from the telephone wall jack and disconnect your computer from the electrical outlet.

Many surge protectors have a telephone jack for modem protection. See the surge protector documentation for modem connection instructions.


 **NOTICE:** Not all surge protectors offer network adapter protection. Disconnect the network cable from the network wall jack during electrical storms.


Line Conditioners

 **NOTICE:** Line conditioners do not protect against power interruptions.

Line conditioners are designed to maintain AC voltage at a fairly constant level.

Uninterruptible Power Supplies

 **NOTICE:** Loss of power while data is being saved to the hard drive may result in data loss or file damage.

 **NOTE:** To ensure maximum battery operating time, connect only your computer to a UPS. Connect other devices, such as a printer, to a separate power strip that provides surge protection.

A UPS protects against power fluctuations and interruptions. UPS devices contain a battery that provides temporary power to connected devices when AC power is interrupted. The battery charges while AC power is available. See the UPS manufacturer documentation for information on battery operating time and to ensure that the device is approved by Underwriters Laboratories (UL).

Turning Off Your Computer



NOTICE: To avoid losing data, save and close any open files and exit any open programs before you shut down the computer.




NOTE: As an alternative to turning off your computer, you can set your computer to enter standby or hibernate mode. For more information, see the *Dell Latitude 100L Help* file. To access the help file, see page 16.

- 1 Save and close any open files, exit any open programs, click the **Start** button, and then click **Turn Off Computer**.
- 2 In the **Turn off computer** window, click **Turn off**.
The computer turns off after the shutdown process finishes.


Using a Battery

Battery Performance


 **NOTE:** Batteries for portable computers are covered only during the initial one-year period of the limited warranty for your computer. For more information about the Dell warranty for your computer, see page 127 or the separate paper warranty document that shipped with your computer.


Use a battery to power the computer when it is not connected to an electrical outlet. One battery is supplied as standard equipment in the battery bay.


Battery operating time varies depending on operating conditions. Operating time may be significantly reduced when you perform operations including, but not limited to, the following:

-  **NOTE:** It is recommended that you connect your computer to an electrical outlet when writing to a CD.
- Using optical drives, especially DVD and CD-RW drives.
 - Using wireless communications devices, PC Cards, or USB devices.
 - Using high-brightness display settings.
 - Using 3D screen savers or other power-intensive programs such as 3D games and engineering programs.
 - Running the computer in maximum performance mode. See "Power Management" in the *Dell Latitude 100L Help* file for more information. To access the help file, see page 16.


You can set power management options to alert you when the battery charge is low.

 **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 lithium-ion 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 "SAFETY: Battery Disposal" on page 13.


 **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 Microsoft® Windows® power meter window and  icon, the battery charge gauge, and the low-battery warning provide information on the battery charge.

Power Meter

The Windows power meter indicates the remaining battery charge. To check the power meter, double-click the  icon on the taskbar. For more information on the **Power Meter** tab, see "Power Management" in the *Dell Latitude 100L Help* file. To access the help file, see page 16.


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

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. If the battery runs completely out of power, hibernate mode begins automatically.


A pop-up window warns you when the battery charge is approximately 90 percent depleted. For more information on low-battery alarms, see "Power Management" in the *Dell Latitude 100L Help* file. To access the help file, see page 16.


Charging the Battery

 **NOTE:** The AC adapter charges a completely discharged battery in approximately 3 hours with the computer turned off. Charge time is significantly longer if the computer is on and running at high processor speeds and system activity levels. Running the computer at high system activity levels for extended periods of time may prevent the battery from charging.

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.

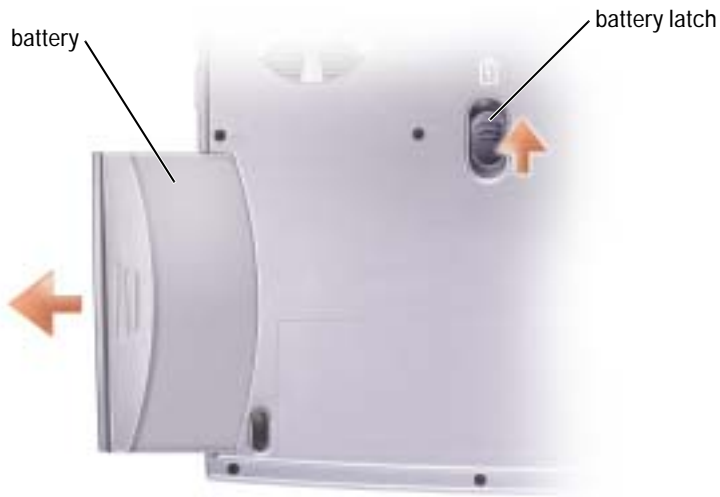
 **NOTE:** You can leave the battery in the computer as long as you like. The battery internal circuitry prevents the battery from overcharging.

For more information on resolving problems with a battery, see "Power Management" in the *Dell Latitude 100L Help* file. To access the help file, see page 16.

Removing a Battery

 **CAUTION:** Before performing these procedures, disconnect the modem from the telephone wall jack.

- 1 Ensure that the computer is turned off or connected to an electrical outlet.
- 2 Slide and hold the battery latch.
- 3 Remove the battery.




Installing a Battery

Slide the battery into the battery bay until the latch clicks.

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.

Battery and Power Problems

 **NOTE:** See the *Dell Latitude 100L Help* file for information on standby mode. To access the help file, see page 16.

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 or exit a power management mode. If the computer does not turn on, press and hold the power button for several seconds.

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.

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. Turn off the computer (see page 36), 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 page 106).

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 the *Dell Latitude 100L Help* file or search for the keyword *standby* in the Help and Support Center. To access help, see page 16.

RESEAT THE MEMORY MODULES — If the computer power light turns on but the display remains blank, reseat the memory modules (see page 80).

If the battery is not charging

SHUT DOWN THE COMPUTER — Charge time is significantly longer if the computer is on and running at high processor speeds and system activity levels. Running the computer at high system activity levels for extended periods of time may prevent the battery from charging.

If battery life is short

SEE "BATTERY PERFORMANCE" ON PAGE 37 — Operating time may be significantly reduced under certain conditions.

OPTIMIZE PROCESSOR PERFORMANCE AND POWER CONSUMPTION — See page 100.

Using the Keyboard and Touch Pad

Dell™ AccessDirect™ Button

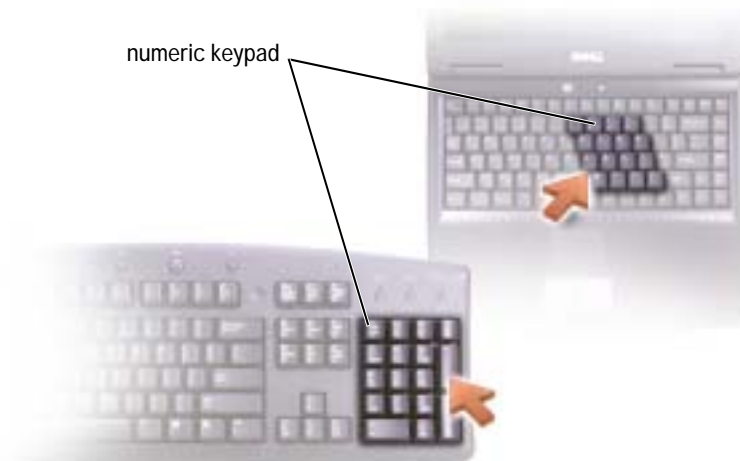
Press this button to launch a frequently used program, such as support and educational tools or your default Internet browser.

Reprogramming the Button


To change the reprogrammable button settings or to find information on using the button:

- 1 Click the **Start** button→ **Control Panel**→ **Printers and Other Hardware**→ **Keyboard** icon.
- 2 Click the **AccessDirect** tab.
- 3 Click the **Help** button and follow the instructions on the screen.

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 enable the keypad, press < Fn> < F11>. The  light indicates that the keypad is active.
 To use the numeric function when the keypad is enabled, press < Fn> and the desired key.
 To disable the keypad, press < Fn> < F11> again.

Keyboard Shortcuts

System Functions

< Ctrl> < Shift> < Esc>	Opens the Task Manager window
< Fn> < F11>	Enables and disables the numeric keypad
< Fn> < F12>	Enables and disables the scroll lock

CD or DVD Tray

< Fn> < F10>	Ejects the tray out of the drive.
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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. If you are playing a DVD or watching a streaming video, < Fn> < F8> is disabled.
< 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. See "Power Management" in the <i>Dell Latitude 100L Help</i> file for more information. To access the help file, see page 16.
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Speaker Functions

< Fn> < PageUp>	Increases the volume of the integrated speakers and external speakers, if attached
< Fn> < PageDn>	Decreases the volume of the integrated speakers and external speakers, if attached
< Fn> < End>	Enables and disables the integrated speakers and external speakers, if attached

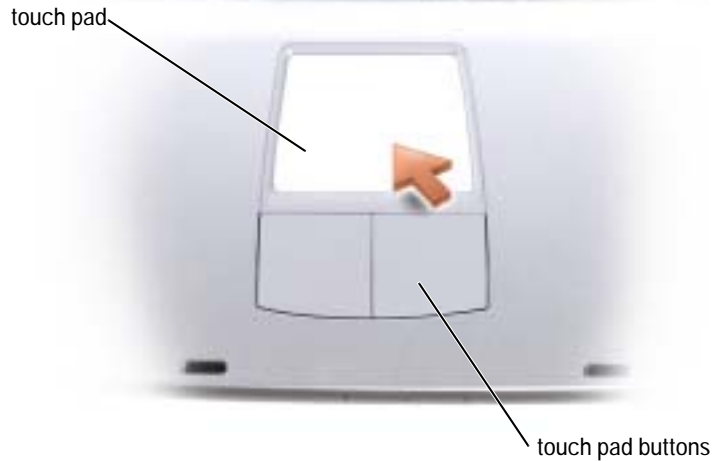
Microsoft® Windows® Logo Key Functions

Windows logo key and < m>	Minimizes all open windows
Windows logo key and < Shift> < m>	Maximizes all windows
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, click the **Start** button→ **Control Panel**→ **Printers and Other Hardware**→ **Keyboard**. Follow the instructions on the screen.

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.



- 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 down-up-down on the touch pad. On the second down motion, 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.

Customizing the Touch Pad

You can use the **Mouse Properties** window to disable the touch pad or adjust its settings.

- 1 Click the **Start** button, click **Control Panel**, and then click **Printers and Other Hardware**.
- 2 Click **Mouse**.
- 3 In the **Mouse Properties** window, click the **Device Settings** tab.

*To disable the touch pad or mouse, highlight the device and click **Disable**.*

To change the touch pad or mouse settings, highlight the device, click **Settings**, select the desired setting(s), and then click **Apply**.

- 4 Click **OK** to save the settings and close the window, and then click **OK** again to exit the **Mouse Properties** window.

Touch Pad or Mouse Problems

CHECK THE TOUCH PAD SETTINGS —

Windows XP

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

Windows 2000

- 1 Click the **Start** button, point to **Settings**, and then click **Control Panel**.
- 2 Double-click the **Mouse** icon.
- 3 Try adjusting the settings.

CHECK THE MOUSE CABLE — Shut down the computer (see page 36). Disconnect the mouse cable and check it for damage. 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 (see page 36).
- 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.

REINSTALL THE TOUCH PAD DRIVER — See page 69.

External Keyboard Problems



NOTE: When you attach an external keyboard, the integrated keyboard remains fully functional.

CHECK THE KEYBOARD CABLE — Shut down the computer (see page 36). Disconnect the keyboard cable and check it for damage. 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 (see page 36), 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 **All Programs** (Programs in Windows 2000), 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 (see page 36).

2 Disconnect the external keyboard.

3 Turn on the computer.

4 From the Windows desktop, click the **Start** button, point to **All Programs** (Programs in Windows 2000), point to **Accessories**, and click **Notepad**.

5 Type some characters on the external 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 page 106).

Unexpected Characters

DISABLE THE NUMERIC KEYPAD — Press <Fn><F11> to disable the numeric keypad if numbers are displayed instead of letters. Verify that the numbers lock light is not lit.

Using CDs, DVDs, and Other Multimedia

Using CDs and DVDs

For information about using CDs and DVDs in your computer, see the *Dell Latitude 100L Help* file. To access the help file, see page 16.

CD or DVD Problems

If you cannot play a CD, CD-RW, or DVD



NOTE: Because of different worldwide file types, not all DVD titles work in all DVD drives.

High-speed CD drive vibration is normal and may cause noise. This noise does not indicate a defect with the drive or the CD.

ENSURE THAT WINDOWS® RECOGNIZES THE DRIVE — *In Windows XP*, click the **Start** button and click **My Computer**. *In other operating systems*, double-click **My Computer**. If the 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. Insert a bootable disk and restart the computer.

TRY ANOTHER DISC — Insert another disc to eliminate the possibility that the original disc is defective.

ENSURE THAT THE CD IS SNAPPED TO THE SPINDLE ON THE CD DRIVE TRAY

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.

CLEAN THE DRIVE OR DISC — See "Cleaning Your Computer" in the *Dell Latitude 100L Help* file for instructions. To access the help file, see page 16.

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

- 1 Ensure that the computer is shut down and turned off (see page 36).
- 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.

If the CD-RW drive stops writing

DISABLE STANDBY MODE IN WINDOWS BEFORE WRITING TO A CD-RW — Search for the keyword *standby* in the Help and Support Center. To access help, see page 16.

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

EXIT ALL OTHER OPEN PROGRAMS — Exiting all other open programs before writing to the CD-RW may alleviate the problem.

Sound and Speaker Problems

If you have a problem with 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 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 page 69.

If you have a problem with external speakers



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

CHECK THE SPEAKER CABLE CONNECTIONS — See the setup diagram supplied with the speakers.

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

ENSURE THAT THE SPEAKERS ARE TURNED ON — See the setup diagram supplied with the 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 controls to eliminate distortion.

TEST THE SPEAKERS — Plug the speaker audio cable into the line-out connector on the computer. Ensure that the headphone volume control is turned up. Play a music CD.

RUN THE SPEAKER SELF-TEST — Some speaker systems have a self-test button on the subwoofer. See the speaker documentation for self-test instructions.

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

REINSTALL THE SOUND (AUDIO) DRIVER — See page 69.


Copying CDs and DVDs

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


This section applies only to computers that have a CD-R, CD-RW, DVD+ RW, DVD+ R, or DVD/CD-RW combo drive.

The following instructions show how to make an exact copy of a CD or DVD. You can also use Sonic RecordNow for other purposes, including creating CDs from audio files on your computer and creating MP3 CDs. For instructions, see the Sonic RecordNow documentation that came with your computer. Open Sonic RecordNow, click the question mark icon in the upper-right corner of the window, and then click **RecordNow Help** or **RecordNow Tutorial**.

How to Copy a CD or DVD

 **NOTE:** If you have a DVD/CD-RW combo drive and you experience recording problems, check for available software patches at the Sonic support website at support.sonic.com.

Currently, there are five DVD writable disc formats available: DVD+ R, DVD+ RW, DVD-R, DVD-RW and DVD-RAM. The DVD-writable drives installed in Dell™ computers will write to DVD+ R and DVD+ RW media, as well as read DVD-R and DVD-RW media, but the drives will not write to and may not read DVD-RAM media. The commercially available DVD players for home theater systems may or may not read all five formats.

 **NOTE:** Most commercial DVDs have copyright protection and cannot be copied using Sonic RecordNow.

- 1 Click the **Start** button, point to **All Programs (Programs in Windows 2000)→ Sonic→ RecordNow!→ RecordNow!**
- 2 Click either the audio tab or the data tab, depending on the kind of CD or DVD you are planning to copy.
- 3 Click **Exact Copy**.
- 4 To copy the CD or DVD:
 - *If you have one CD or DVD drive*, ensure that the settings are correct and click **Copy**. The computer reads your source CD or DVD and copies it to a temporary folder on your computer hard drive.
When prompted, insert a blank CD or DVD into the CD or DVD drive and click **OK**.
 - *If you have two CD or DVD drives*, select the drive into which you have inserted your source CD or DVD and click **Copy**. The computer copies the data on the CD or DVD to the blank CD or DVD.

Once you have finished copying the source CD or DVD, the CD or DVD that you have created automatically ejects.

Using Blank CD-Rs, CD-RWs, DVD+Rs, and DVD+RWs

Your CD-RW drive can write to two different types of recording media—CD-Rs and CD-RWs (including High-Speed CD-RWs). Use blank CD-Rs to record music or permanently store data files. After creating a CD-R, you cannot write to that CD-R again without changing your method of recording (see the Sonic documentation for more information). Use blank CD-RWs to write to CDs or to erase, rewrite, or update data on CDs.

Your DVD writable drive can write to four different types of recording media—CD-Rs, CD-RWs (including High-Speed CD-RWs), DVD+Rs, and DVD+RWs. Blank DVD+Rs can be used to permanently store large amounts of information. After creating a DVD+R disc, you may not be able to write to that disc again, depending on whether or not the disc is "finalized" or "closed" (the final stage of the disc creation process). Use blank DVD+RWs when you will need to erase, rewrite, or update the information on that disc later.

Helpful Tips

- Use Microsoft® Windows® Explorer to drag and drop files to a CD-R or CD-RW only after you start Sonic RecordNow and open a RecordNow project.
- You must use CD-Rs to burn music CDs that you want to play in regular stereos. CD-RWs do not play in most home or car stereos.
- You cannot create audio DVDs with Sonic RecordNow.
- Music MP3 files can be played only on MP3 players or on computers that have MP3 software installed.
- Do not burn a blank CD-R or CD-RW to its maximum capacity; for example, do not copy a 650-MB file to a 650-MB blank CD. The CD-RW drive needs 1 or 2 MB of the blank CD to finalize the recording.
- Use a blank CD-RW to practice CD recording until you are familiar with CD recording techniques. If you make a mistake, you can erase the data on the CD-RW and try again. You can also use blank CD-RWs to test music file projects before you record the project permanently to a blank CD-R.
- See the Sonic support website at support.sonic.com for additional information.

Setting Up a Home and Office Network

Connecting to a Network Adapter

Before you connect your computer to a network, the computer must have a network adapter installed and a network cable connected to it.


To connect a network cable:

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

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

- 2 Connect the other end of the network cable to a network connection device, such as a network wall jack.




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

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 **All 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 **This computer connects directly to the Internet** enables the integrated firewall provided with Windows XP.

- 4 Complete the checklist and required preparations, and return to the Network Setup Wizard.
- 5 Follow the instructions on the screen.

Network Problems

 **NOTE:** A green or blinking link light could also indicate the presence of an active wireless network link in the area.

CHECK THE NETWORK CABLE CONNECTOR — Ensure that the network cable connector is firmly connected to the connector on the computer and the network wall jack.


CHECK THE NETWORK LIGHTS ON THE NETWORK CONNECTOR — Green indicates that the network connection is active. If the status light is not green, try replacing the network cable. Amber indicates that the network adapter driver is loaded and the adapter is detecting activity.

REPLACE THE NETWORK CABLE — Try using a different cable. If there is more than one available network connector, try plugging the cable into a different connector.

RESTART THE COMPUTER — Try to log on to the network again.

CONTACT YOUR NETWORK ADMINISTRATOR — Verify that your network settings are correct and that the network is functioning.

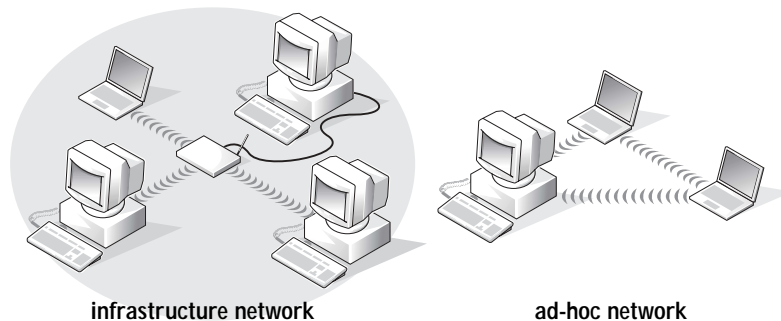
Connecting to a Wireless Local Area Network

 **NOTE:** These networking instructions do not apply to Bluetooth™ or cellular products.

Determining Your Network Type

 **NOTE:** Most wireless networks are of the infrastructure type.

Wireless networks fall into two categories—infrastructure networks and ad-hoc networks. An infrastructure network uses routers or access points to connect several computers. An ad-hoc network does not use routers or access points and consists of computers that broadcast to one another.




Connecting to a Wireless Network in Microsoft® Windows® XP

Your wireless network card requires specific software and drivers in order to connect to a network. The software is already installed. If the software is removed or corrupted, follow the instructions included in the user's guide for your wireless network card. The user's guide is located on your *Drivers and Utilities* CD (that came with your computer) in the "User's Guides-Network User's Guides" category. The user's guide is also available on the Dell Support website at support.dell.com.

- 1 Click the **Start** button, click **Control Panel**, and then click **Switch to Classic View**.
- 2 Double-click **Network Connections**.
- 3 Click **Wireless Network Connection**.

The **Wireless Network Connection** icon is highlighted.

- 4 Under **Network Tasks** in the left-hand pane, click **Change settings of this connection**.
The **Wireless Network Connection Properties** window appears.
- 5 Click the **Wireless Networks** tab.

 **NOTE:** The names of wireless networks that your computer can detect are listed under **Available Networks**.



6 Click **Add**.

The **Wireless network properties** window appears.



NOTE: If you are using a WPA-protected network, and the **Association** tab does not give you the option to select WPA, download the WPA wireless security update from the Microsoft support site.

7 Enter the name of your network in the **Network name (SSID)** field.

8 *If you do not need to configure security settings, go to step 9.*

If you choose to configure security settings (optional), go to "Configuring Security Settings (Optional)" on page 55.

9 Click **OK**.


Your new network name appears in the **Preferred networks** field, and your network setup is complete.



Configuring Security Settings (Optional)

Choose one of the following connection options based on the security settings for your network:

- Connecting to a Network with Wired Equivalent Protocol (WEP) Security Requirements
- Connecting to a Network with Wi-Fi Protected Access (WPA) Security Requirements


 **NOTE:** Network security settings are unique to your network. Dell cannot provide this information.

Connecting to a Network With Wired Equivalent Protocol (WEP) Security Requirements

- 1 In the **Preferred networks** field, click the name of your wireless network.
- 2 Click **Properties**.
- 3 From the **Network Authentication** drop-down menu, select **Open**.

Earlier versions of Dell™ wireless network software may not contain the drop-down menu. If you are using an earlier version, click to check the **Data encryption (WEP enabled)** check box and go to step 5.




- 4 From the **Data encryption** drop-down menu, select **WEP**.
 - 5 If the wireless network does not require a network key, such as a password, go to step 9.
 - 6 Click to uncheck the **The key is provided for me automatically** check box.
 - 7 Enter the WEP network key in the **Network key** field.
 - 8 Enter the WEP network key again in the **Confirm network key** field.
-  **NOTE:** Your computer can take up to 1 minute to connect to the network.
- 9 Click **OK**.

Your network setup is complete.

Connecting to a Network With Wi-Fi Protected Access (WPA) Security Requirements

The following instructions are basic steps for connecting to a WPA network. If your network requires a user name, password, or domain settings, consult the setup instructions in the user's guide for your wireless network card.


-  **NOTE:** WPA protocols require that you know the network authentication and data encryption settings for your wireless network. In addition, your WPA-protected network may require special settings such as a network key, user name, password, and domain name.

- 1 In the **Preferred networks** field, click the name of your wireless network.
- 2 Click **Properties**.
- 3 From the **Network Authentication** drop-down menu, select your network authentication type.

If you are using a WPA-protected network, and the **Association** tab does not give you the option to select WPA, download the WPA wireless security update from the Microsoft support site.



- 4 From the **Data encryption** drop-down menu, select your data encryption type.
- 5 If your wireless network requires a key, enter it in the **Network key** field.

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

- 6 Click **OK**.

Your network setup is complete.

Solving Problems

Dell Diagnostics



CAUTION: Before you begin any of the procedures in this section, follow the safety instructions at the front of this document (see page 9).

When to Use the Dell Diagnostics

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



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

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.

- 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 Turn on the computer. When the DELL™ logo appears, press <F12> immediately.



NOTE: If you cannot see anything on your display, hold down <Fn> and press the computer's power button to begin the Dell Diagnostics. The computer automatically runs the Pre-boot System Assessment.



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

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

- 5 When the boot device list appears, highlight **Diagnostics** and press <Enter> .
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 <n> ; 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 before continuing on to the Dell Diagnostics.

If the Pre-boot System Assessment completes successfully, you receive the message `Booting Dell Diagnostic Utility Partition`. Press any key to continue.
- 6 Press any key to start the Dell Diagnostics from the diagnostics utility partition on your hard drive.
- 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 an 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.



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.
Configuration	Displays your hardware configuration for the selected device. 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.
Parameters	Allows you to customize the test by changing the test settings.

- 4 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.

Error Messages

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

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.

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

INVALID CONFIGURATION INFORMATION-PLEASE RUN SYSTEM SETUP PROGRAM — The system configuration information does not match the hardware configuration. This message is most likely to occur after a memory module is installed. Correct the appropriate options in the system setup program. See "Using the System Setup Program" on page 98.

KEYBOARD CLOCK LINE FAILURE — For external keyboards, check the cable connection. Run the Keyboard Controller test as described in "Dell Diagnostics."


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 as described in "Dell Diagnostics" (see page 59).

KEYBOARD DATA LINE FAILURE — For external keyboards, check the cable connection. Run the Keyboard Controller test as described in "Dell Diagnostics" (see page 59).




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 as described in "Dell Diagnostics" (see page 59).

Video and Display Problems

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  LIGHT — When the  light is blinking, the computer has power.

- If the  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.
- If the  light is on, your power management settings may have caused the display to turn off. Try pressing any key or move the cursor to exit standby mode.

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 it 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. To access the help file, see page 16.

ADJUST THE POWER PROPERTIES — Search for the keyword *standby* in the Windows Help and Support Center. To access the help file, see page 16.

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

NOTE: If you are playing a DVD or watching a streaming video, <Fn> <F8> is disabled.

If the display is difficult to read

ADJUST THE BRIGHTNESS — See the *Dell Latitude 100L Help* file for instructions on adjusting the brightness. To access the help file, see page 16.

MOVE THE 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 —

Windows XP

- 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**.

Windows 2000

- 1 Click the **Start** button, point to **Settings**, and then click **Control Panel**.
- 2 Double-click the **Display** icon and click the **Settings** tab.
- 3 Try different settings for **Colors**, **Screen area**, and **Advanced Settings**.

SEE "ERROR MESSAGES" — If an error message appears, see page 61.

If only part of the display is readable

CONNECT AN EXTERNAL MONITOR —

- 1 Turn off 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 page 106).

Scanner Problems


CHECK THE POWER CABLE CONNECTION — Ensure that the scanner power cable is firmly connected to a working electrical power source and that the scanner is turned on.

CHECK THE SCANNER CABLE CONNECTION — Ensure that the scanner cable is firmly connected to the computer and to the scanner.

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

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

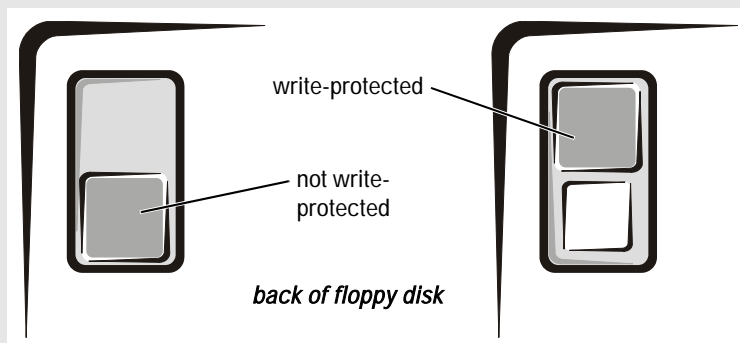
Drive Problems

 **NOTE:** For information on saving files to a floppy disk, see the *Dell Latitude 100L Help* file. To access the help file, see page 16.

If you cannot save a file to a floppy drive

ENSURE THAT WINDOWS RECOGNIZES THE DRIVE — *In Windows XP*, click the **Start** button and click **My Computer**. *In other operating systems*, double-click **My Computer**. If the 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. Insert a bootable disk and restart the computer.

ENSURE THAT THE DISK IS NOT WRITE-PROTECTED — You cannot save data to a write-protected disk. See the following figure.



TRY ANOTHER FLOPPY DISK — Insert another disk to eliminate the possibility that the original disk is defective.

RECONNECT THE DRIVE —

- 1 Save and close any open files, exit any open programs, and shut down the computer.
- 2 Disconnect and reconnect the drive.
- 3 Turn on the computer.

CLEAN THE DRIVE — See "Cleaning Your Computer" in the *Dell Latitude 100L Help* file for instructions. To access the help file, see page 16.

If you have problems with a hard drive

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.

CHECK THE DRIVE FOR ERRORS

- 1 *In Windows XP*, click the **Start** button and click **My Computer**. *In Windows 2000*, double-click **My Computer**.
- 2 Right-click the drive letter (local disk) that you want to scan for errors, and then click **Properties**.
- 3 Click the **Tools** tab.
- 4 Under **Error-checking**, click **Check Now**.
- 5 Click **Start**.

PC Card Problems


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

ENSURE THAT THE CARD IS RECOGNIZED BY WINDOWS — Double-click the **Safely Remove Hardware (Unplug or Eject Hardware in Windows 2000)** icon in the Windows taskbar. Ensure that the card is listed.

IF YOU HAVE PROBLEMS WITH A DELL-PROVIDED PC CARD — Contact Dell (see page 106).

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

General Program Problems

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

A program crashes

SEE THE SOFTWARE DOCUMENTATION — Many software manufacturers maintain websites with information that may help you solve the problem. Ensure that you properly installed and configured the program. Reinstall the program if necessary.

A program stops responding

END THE PROGRAM —

- 1 Simultaneously press < Ctrl> < Shift> < Esc> .
- 2 Click the **Applications** tab, and then select the program that is no longer responding.
- 3 Click **End Task**.

Error messages appear

REVIEW "ERROR MESSAGES" ON PAGE 61 — Look up the message and take the appropriate action. See the software documentation.

Resolving Other Technical Problems

GO TO THE DELL SUPPORT WEBSITE — Go to **support.dell.com** for help with general usage, installation, and troubleshooting questions.

E-MAIL DELL — Go to **support.dell.com** and then click **E-Mail Dell** in the **Communicate** list. Send an e-mail message to Dell about your problem; you can expect to receive an e-mail message from Dell within hours.

CONTACT DELL — If you cannot solve your problem using the Dell™ Support website or e-mail service, call Dell for technical assistance (see page 106).

If Your Computer Gets Wet



CAUTION: Perform this procedure only after you are certain that it is safe to do so. If the computer is connected to an electrical outlet, it is recommended that you turn off AC power at the circuit breaker before attempting to remove the power cables from the electrical outlet. Use the utmost caution when removing wet cables from a live power source.

- 1 Shut down the computer (see page 36), disconnect the AC adapter from the computer, and then disconnect the AC adapter from the electrical outlet.
- 2 Turn off any attached external devices, and disconnect them from their power sources and then from the computer.
- 3 Ground yourself by touching one of the metal connectors on the back of the computer.
- 4 Remove any installed PC Cards, and put them in a safe place to dry.
- 5 Remove the battery.

- 6 Wipe off the battery and put it in a safe place to dry.
- 7 Wipe off the display.
- 8 Remove the hard drive (see page 78).
- 9 Remove the memory module(s) (see page 80).
- 10 Open the display and place the computer right-side up across two books or similar props to let air circulate all around it. Let the computer dry for at least 24 hours in a dry area at room temperature.



NOTICE: Do not use artificial means, such as a hair dryer or a fan, to speed the drying process.



CAUTION: To help prevent electrical shock, verify that the computer is thoroughly dry before continuing with the rest of this procedure.

- 11 Ground yourself by touching one of the metal connectors on the back of the computer.
- 12 Replace the memory module(s), the memory module cover, and the screw(s).
- 13 Replace the hard drive.
- 14 Replace any PC Cards you removed.
- 15 Replace the battery.
- 16 Turn on the computer and verify that it is working properly.



NOTE: For information on your warranty coverage, see page 127 or the separate paper warranty document that shipped with your computer.

If the computer does not start, or if you cannot identify the damaged components, contact Dell (see page 106).

If You Drop or Damage Your Computer

- 1 Save and close any open files, exit any open programs, and shut down the computer (see page 36).
- 2 Disconnect the AC adapter from the computer and from the electrical outlet.
- 3 Turn off any attached external devices, and disconnect them from their power sources and then from the computer.
- 4 Remove and reinstall the battery.
- 5 Turn on the computer.



NOTE: For information on your warranty coverage, see page 127 or the separate paper warranty document that shipped with your computer.

If the computer does not start, or if you cannot identify the damaged components, contact Dell (see page 106).

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 the programs that use the device. Each device has its own set of specialized commands that only its driver recognizes.

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.
- You reinstall your operating system.
- You connect or install a new device.

If you experience a problem with any device, perform the steps in the following sections to identify whether the driver is the source of your problem and to update the driver, if necessary.

Identifying Drivers

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

If an exclamation point is next to the device name, you may need to reinstall the driver or install a new driver.

Reinstalling Drivers



NOTICE: The Dell Support website and your *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.

To use Device Driver Rollback:

- 1 Click the **Start** button and click **Control Panel**.
- 2 In the **Control Panel** window, under **Pick a Category**, click **Performance and Maintenance**.
- 3 In the **Performance and Maintenance** window, click **System**.
- 4 In the **System Properties** screen, click the **Hardware** tab.
- 5 Click **Device Manager**.
- 6 In the **Device Manager** window, right-click the device for which the new driver was installed, and then 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 (see page 72) to return your operating system to the operating state it was in before you installed the new driver.

Using the Drivers and Utilities CD

If using Device Driver Rollback or System Restore (see page 72) does not resolve the problem, then reinstall the driver from the *Drivers and Utilities* CD.

- 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.

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.

- 5 Click the link of a specific driver or utility to display information about the driver or utility that you want to install.

- 6 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 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 for Windows XP

- 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**:
- 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.

To resolve incompatibilities using the Hardware Troubleshooter:

- 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 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 Help and Support Center for information on using System Restore. To access help, see page 17.


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

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

If problems occur after you install a device driver, use Device Driver Rollback (see page 69) to resolve the problem. If that is unsuccessful, then use System Restore.

 **NOTICE:** Before you restore the computer to an earlier operating state, save and close all open files and close all 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 bold.

- 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 close all 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.

Reinstalling Microsoft® Windows® XP

Before You Reinstall



If you are reinstalling the Windows XP operating system to correct a problem with a newly installed driver, use Windows XP Device Driver Rollback (see page 69) to replace the device driver with the previously installed version.

If Device Driver Rollback does not resolve the problem, then use System Restore (see page 72) to return your operating system to the operating state it was in before you installed the new device driver.

Reinstalling Windows XP

To reinstall Windows XP, perform the steps in the following sections in the order in which they are listed.

The reinstallation process can take 1 to 2 hours to complete. After the reinstallation is complete, you need to 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 instructed to do so by a Dell technical support representative.
-  **NOTICE:** To prevent conflicts with Windows XP, disable any virus protection software installed on your computer before you reinstall Windows XP. See the documentation that came with the software for instructions.

Preparing to Boot From the Operating System CD

- 1 Insert the *Operating System* CD.
- 2 Exit any program or utility that might run after you insert the CD.
- 3 Shut down (see page 36) and 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 Use the arrow keys to select **CD-ROM** and press <Enter>.
- 6 When the `Press any key to boot from CD` message appears on the screen, press any key.


Starting Windows XP Setup

- 1 When the **Windows XP Setup** screen appears, press <Enter> to select **To set up Windows now**.
- 2 Read the information in the **Microsoft Windows Licensing Agreement** screen, and then press <F8> to accept the license agreement.
- 3 If your computer already has Windows XP installed and you want to recover your current Windows XP data, type `r` to select the repair option, and then remove the CD from the drive.
- 4 If you want to install a new copy of Windows XP, press <Esc> to select the fresh copy option.
- 5 Press <Enter> to select the highlighted partition (recommended), and then follow the instructions on the screen.

 **NOTE:** The time required to complete the setup depends on the size of the hard drive and the speed of your computer.

The **Windows XP Setup** screen appears, and the operating system begins to copy files and install the devices. The computer restarts multiple times.

Completing the GUI Setup

-  **NOTICE:** When the computer restarts, do not press a key when the following message appears: `Press any key to boot from the CD`.
- 1 When the **Regional and Language Options** screen appears, select the settings for your location and click **Next**.

- 2 Enter your name and organization (optional) in the **Personalize Your Software** screen and click **Next**.
- 3 *If you are reinstalling Windows XP Home Edition*, at the **What's your computer's name** window, enter a name for your computer (or accept the name provided) and click **Next**.
If you are reinstalling Windows XP Professional, at the **Computer Name and Administrator Password** window, enter a name for your computer (or accept the one provided) and a password, and then click **Next**.
- 4 If you have a modem installed, enter the requested information and click **Next** when the **Modem Dialing Information** screen appears.
- 5 Enter the date, time, and time zone in the **Date and Time Settings** window and click **Next**.
- 6 *If your computer has a network adapter*, click **Typical** in the **Networking Settings** screen and click **Next**.
If your computer does not have a network adapter, this option does not appear.
- 7 If you are reinstalling Windows XP Professional, you may be prompted to provide further network information regarding your network configuration, such as the domain name or workgroup name. If you are unsure of your settings, accept the default selections.
Windows XP installs the operating system components, configures the computer, and then restarts the computer.

Completing the Operating System Setup



NOTICE: When the computer restarts, do not press a key when the following message appears: *Press any key to boot from the CD.*

- 1 When the **Welcome to Microsoft** screen appears, click **Next**.
- 2 When the *How will this computer connect to the Internet?* message appears, click **Skip**.
- 3 When the **Ready to register with Microsoft?** screen appears, click **No, not at this time** and click **Next**.
When the **Who will use this computer?** screen appears, you can enter up to five users.
- 4 Click **Next**.
- 5 Click **Finish** to complete the setup and remove the CD from the drive.

Reinstalling Drivers and Software

- 1 Reinstall the appropriate drivers (see page 69).
- 2 Reinstall your virus protection software. See the documentation that came with the software for instructions.
- 3 Reinstall your other software programs. See the documentation that came with the software for instructions.

Adding and Replacing Parts

Before You Begin

This section provides procedures for removing and installing the components in your computer. Unless otherwise noted, each procedure assumes that the following conditions exist:

- You have performed the steps in "Shutting Down Your Computer."
- You have read the safety information at the front of this document (see page 9).

Recommended Tools

The procedures in this document may require the following tools:

- Small flat-blade screwdriver
- Phillips screwdriver
- Small plastic scribe
- Flash BIOS update program floppy disk or CD

Shutting Down Your Computer

Use the following safety guidelines to help protect your computer from potential damage and to ensure your own personal safety.



CAUTION: Before you begin any of the procedures in this section, follow the safety instructions at the front of this document (see page 9).



NOTICE: Only a certified service technician should perform repairs on your computer. Damage due to servicing that is not authorized by Dell is not covered by your warranty.



CAUTION: Handle components and cards with care. Do not touch the components or contacts on a card. Hold a card by its edges or by its metal mounting bracket. Hold a component such as a processor by its edges, not by its pins.






NOTICE: When you disconnect a cable, pull on its connector or on its strain-relief loop, not on the cable itself. Some cables have a connector with locking tabs; if you are disconnecting this type of cable, press in on the locking tabs before you disconnect the cable. As you pull connectors apart, keep them evenly aligned to avoid bending any connector pins. Also, before you connect a cable, ensure that both connectors are correctly oriented and aligned.



NOTICE: To avoid damaging the computer, perform the following steps before you begin working inside the computer.

- 1 Ensure that the work surface is flat and clean to prevent the computer cover from being scratched.
- 2 Shut down the computer.
- 3 Ensure that the computer and any attached devices are turned off. If your computer and attached devices did not automatically turn off when you shut down your computer, press and hold the power button for 4 seconds.
- 4 If the computer is connected to a docking device (docked), undock it. See the documentation that came with your docking device for instructions.
- ➡ **NOTICE:** To disconnect a network cable, first unplug the cable from your computer and then unplug it from the network wall jack.
- 5 Disconnect any telephone or telecommunication lines from the computer.
- 6 Disconnect your computer and all attached devices from their electrical outlets, and then press the power button to ground the system board.
- ➡ **NOTICE:** To connect a network cable, first plug the cable into the network wall jack and then plug it into the computer.
- 7 Remove any installed PC Cards from the PC Card slot.
- 8 Close the display and turn the computer upside down on a flat work surface.
- ➡ **NOTICE:** To avoid damaging the system board, you must remove the main battery before you service the computer.
- 9 Slide and hold the battery-bay latch release on the bottom of the computer, and then remove the battery from the bay.
- 10 Remove any installed modules.
- 11 Remove the hard drive.

Hard Drive

-  **NOTE:** You need the *Operating System* CD to install the Microsoft® Windows® operating system. You also need the *Drivers and Utilities* CD for your computer to install the drivers and utilities on the new hard drive.
-  **CAUTION:** If you remove the hard drive from the computer when the drive is hot, *do not touch* the metal housing of the hard drive.
- ➡ **NOTICE:** To prevent data loss, shut down your computer (see page 36) before removing the hard drive. Do not remove the hard drive while the computer is on, in standby mode, or in hibernate mode.
- ➡ **NOTICE:** Hard drives are extremely fragile; even a slight bump can damage the drive.
-  **NOTE:** Dell does not guarantee compatibility or provide support for hard drives from sources other than Dell.

To replace the hard drive in the hard drive bay:

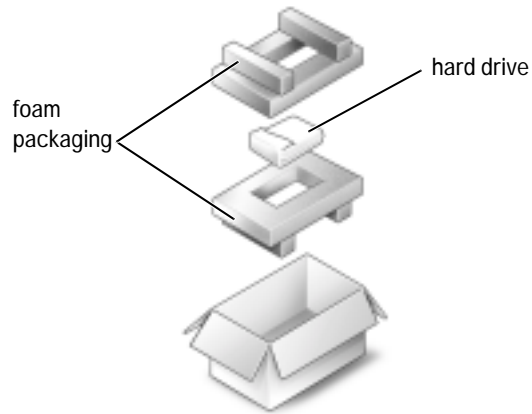
- 1 Complete the instructions in "Before You Begin" on page 77.
- 2 Turn the computer over, and remove the hard drive screws.



- 3 Slide the hard drive out of the computer.
 - 4 Remove the new drive from its packaging.
Save the original packaging for storing or shipping the hard drive.
- ➡ **NOTICE:** When the hard drive is not in the computer, store it in protective antistatic packaging. See "SAFETY: Protecting Against Electrostatic Discharge" on page 12.
- 5 Insert the drive into the bay, and push the hard drive until it is fully seated in the bay.
 - 6 Replace and tighten the screws.
 - 7 Use the *Operating System* CD to install the operating system for your computer (see page 73).
 - 8 Use the *Drivers and Utilities* CD to install the drivers and utilities for your computer (see page 69).

Returning a Hard Drive to Dell

Return your old hard drive to Dell in its original or comparable foam packaging. Otherwise, the hard drive may be damaged in transit.



Memory

You can increase your computer memory by installing memory modules on the system board. See page 92 for information on the memory supported by your computer. Install only memory modules that are intended for your computer.

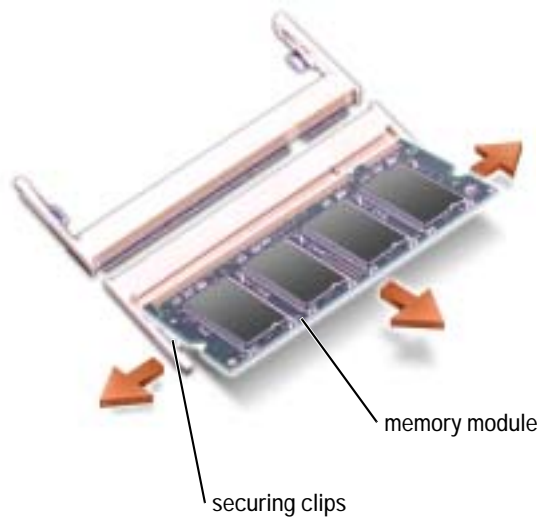
- 1 Complete the instructions in "Before You Begin" on page 77.
- 2 Turn the computer over, loosen the captive screw in the memory module cover, and lift the cover away from the computer.



 **NOTE:** Memory modules purchased from Dell are covered under your computer warranty.

3 If you are replacing a memory module, remove the existing module:

- a Use your fingertips to carefully spread apart the securing clips on each end of the memory module connector until the module pops up.
- b Remove the module from the connector.

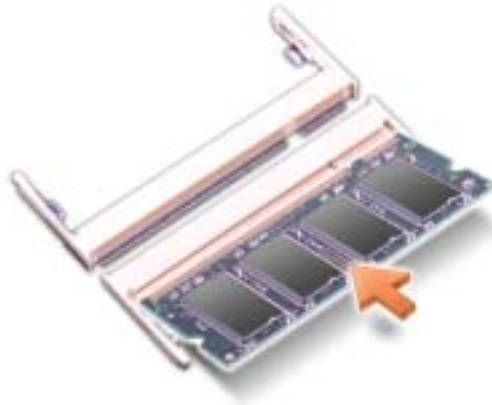


4 Ground yourself and install the new memory module:



NOTE: If the memory module is not installed properly, the computer may not boot properly. No error message indicates this failure.

- a Align the notch in the module edge connector with the tab in the connector slot.
- b Slide the module firmly into the slot at a 45-degree angle, and rotate the module down until it clicks into place. If you do not feel the click, remove the module and reinstall it.



5 Replace the cover.



NOTICE: If the memory module cover is difficult to close, remove the module and reinstall it. Forcing the cover to close may damage your computer.

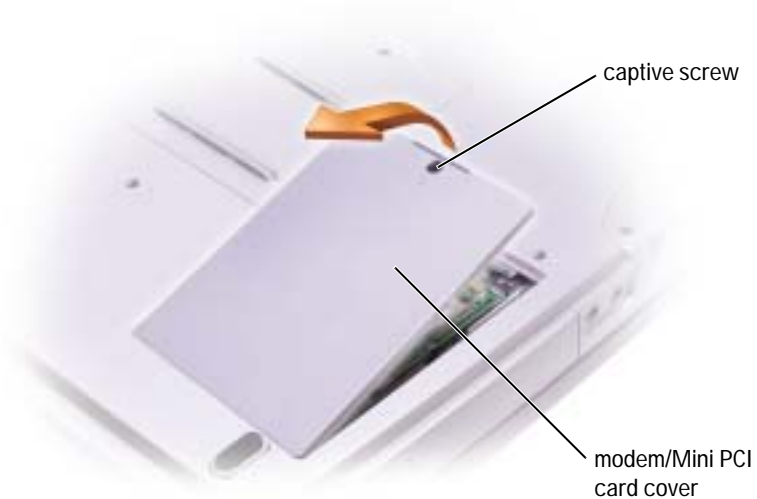
- 6 Insert the battery into the battery bay, or connect the AC adapter to your computer and an electrical outlet.
- 7 Turn on the computer.

As the computer boots, it detects the additional memory and automatically updates the system configuration information.

To confirm the amount of memory installed in the computer, click the **Start** button, click **Help and Support**, and then click **Computer Information**.

Modem and Mini PCI Card

- 1 Complete the instructions in "Before You Begin" on page 77.
- 2 Turn the computer over, loosen the captive screw on the modem/Mini PCI card cover, and lift the cover away from the computer.



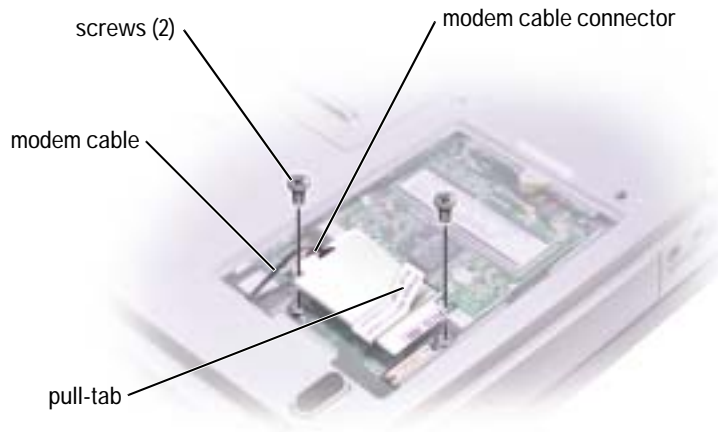
3 Continue to the appropriate section:

- To add a modem, see the following section, "Replacing the Modem."
- To add a Mini PCI card, see page 84.

Replacing the Modem

1 Remove the existing modem:

- a Remove the screws securing the modem to the system board, and set them aside.
- b Pull straight up on the attached pull-tab to lift the modem out of its connector on the system board and disconnect the modem cable.



2 Connect the modem cable to the replacement modem.

⚠ NOTICE: The cable connectors are keyed for correct insertion; do not force the connections.

3 Align the modem with the screw holes, and press the modem into the connector on the system board.

4 Install the screws to secure the modem to the system board.

5 Replace the cover.

Adding a Mini PCI Card

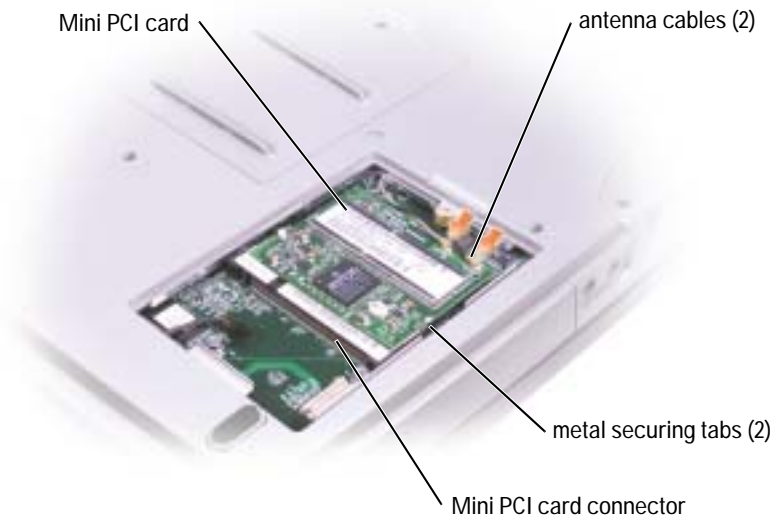
⚠ CAUTION: FCC rules strictly prohibit users from installing 5 GHz (802.11a, 802.11a/b, 802.11a/b/g) Wireless LAN Mini PCI cards. Under no circumstances should the user install such a device. Only trained Dell service personnel are authorized to install a 5 GHz Wireless LAN Mini PCI card.

If you are removing and/or installing a 2.4 GHz (802.11b, 802.11b/g) Mini PCI Card, please follow the instructions noted below. Only products approved for use in your portable computer may be installed. Approved Mini PCI Cards may be purchased only from Dell.

🔧 NOTE: 2.4 GHz Wireless LAN PC Cards may be removed and installed by the user.

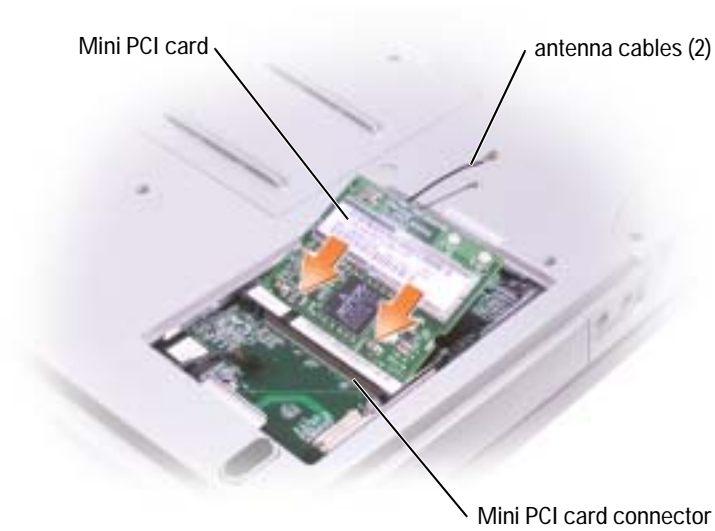
If you ordered a Mini PCI card with your computer, the card is already installed.

- 1 If a Mini PCI card is not already installed, go to step 2. If you are replacing a Mini PCI card, remove the existing card:
 - a Disconnect the Mini PCI card from any attached cables.
 - b Release the Mini PCI card by spreading the metal securing tabs until the card pops up slightly.
 - c Lift the Mini PCI card out of its connector.



- ⓘ **NOTICE:** To avoid damaging the Mini PCI card, never place cables on top of or under the card.
- ⓘ **NOTICE:** The connectors are keyed to ensure correct insertion. If you feel resistance, check the connectors and realign the card.

- 2 Align the Mini PCI card with the connector at a 45-degree angle, and press the Mini PCI card into the connector until it clicks.



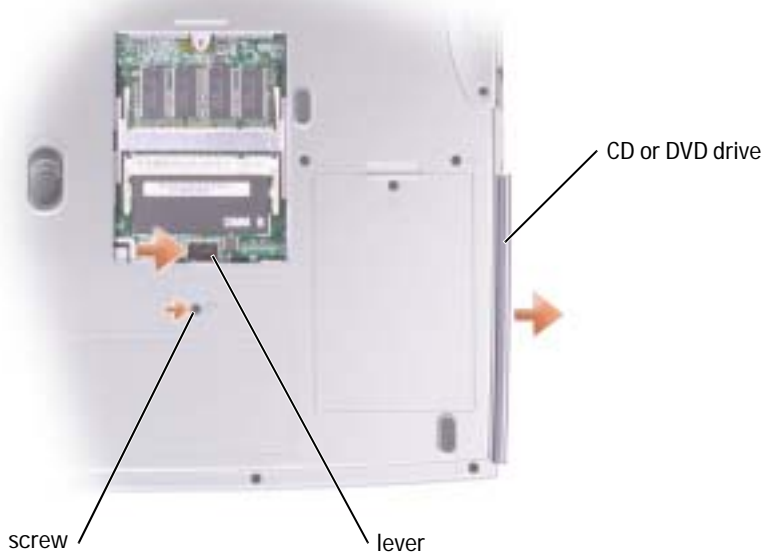
- 3 Connect the antenna cables to the Mini PCI card.
- 4 Replace the cover.

CD or DVD Drive

- 1 Complete the instructions in "Before You Begin" on page 77.
- 2 Turn the computer over, loosen the captive screw in the memory module cover, and lift the cover away from the computer.



- 3 Remove the screw labeled "O" next to the memory module cover.



- 4 Press the lever next to the memory module connectors in the direction of the arrow on the lever (towards the drive) to release the drive.
- 5 Pull the drive out of the bay.

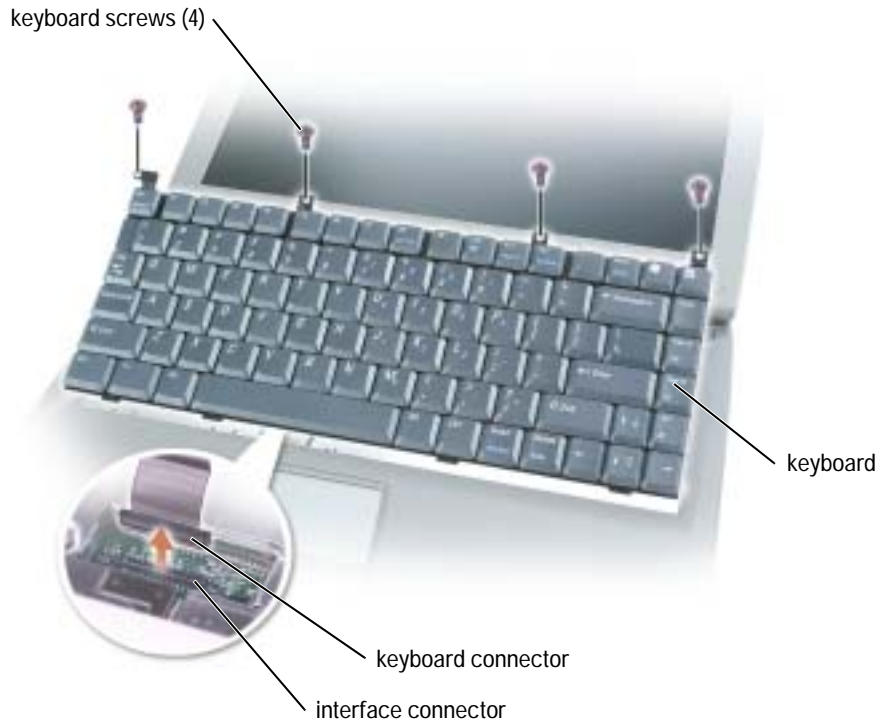
- 6 Slide the new drive into the bay until the drive is fully seated.
- 7 Replace the screw that you removed in step 3.
- 8 Replace the memory module cover and screw.

Keyboard

- 1 Complete the instructions in "Before You Begin" on page 77.
- 2 Use a small flat-blade screwdriver or plastic scribe to lift the notched right edge of the hinge cover, and pry the cover loose from the hinges and bottom case.



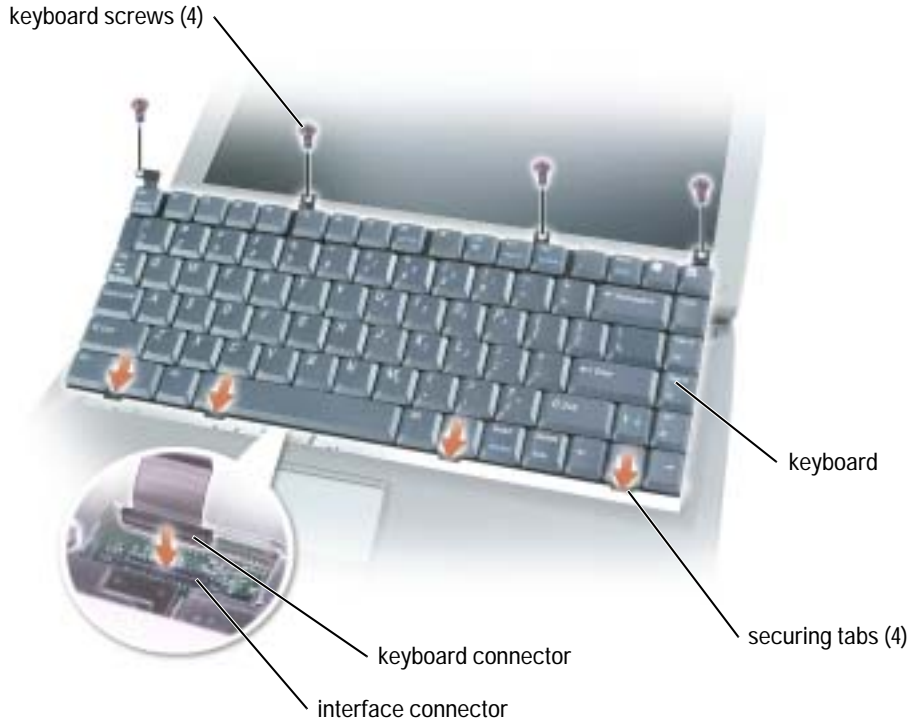
- 3 Lift the hinge cover up and away from the hinges and bottom case.
- 4 Remove the four keyboard screws.
- ➡ **NOTICE:** The keycaps on the keyboard are fragile, easily dislodged, and time-consuming to replace. Be careful when removing and handling the keyboard.
- 5 Lift the keyboard out of the bottom case, and rest it on the display hinges so that the keyboard connector is exposed.
- 6 Pull up on the keyboard connector to disconnect it from the interface connector on the system board.



7 Remove the keyboard from the bottom case.

⚠ NOTICE: To avoid damage to the connector pins, press the keyboard connector evenly into the interface connector on the system board, and do not reverse the keyboard connector.


8 Connect the keyboard connector of the replacement keyboard to the interface connector on the system board.



- 9** Insert the four securing tabs on the keyboard into their respective slots in the palm rest, and lower the keyboard into the bottom case.
Ensure that all four securing tabs are engaged before trying to completely seat the keyboard.
- 10** Replace the four keyboard screws.
- 11** Replace the hinge cover.

Appendix

Specifications

 **NOTE:** Power management features limit the processor speed when the computer is running on battery power, to maintain system cooling requirements, and/or to maintain system power requirements.

Microprocessor

Microprocessor	Mobile Intel® Pentium® 4 processor or Intel Celeron® processor
L1 cache	8 KB (internal)
L2 cache	512 KB (Intel Pentium 4); 128 KB (Intel Celeron)
External bus frequency	400/533 MHz

System Information

System chip set	Intel 852GMV
Data bus width	64 bits
DRAM bus width	64 bits
Microprocessor address bus width	32 bits

PC Card

CardBus controller	TI PCI1510
PC Card connector	supports one Type I or Type II card
Cards supported	3.3 V and 5 V
PC Card connector size	68 pins
Data width (maximum)	PCMCIA 16 bits CardBus 32 bits

Memory	
Memory module connector	2 user-accessible SODIMM sockets
Memory module capacities	64, 128, 256, and 512 MB
Memory type	2.5-V SODIMM
Standard memory	128 MB
Maximum memory	1 GB
Memory access time: clock speed	266 MHz
Ports and Connectors	
Video	15-hole connector
Audio	microphone connector, stereo headphone/speakers connector
USB (2)	4-pin USB 2.0-compliant connector
Modem	RJ-11 connector
Ethernet LAN	RJ-45 connector (optional in some countries)
Communications	
Modem:	
Type	v.92 56K MDC
Controller	softmodem
Interface	internal AC'97 bus
Network adapter	10/100 Ethernet LAN on system board

Video	
Video type	direct AGP integrated graphics
Host interface	integrated direct AGP
Video controller	Intel UMA integrated
Video memory	1 MB with Intel DVMPT up to 32 MB (with 128 MB of system memory) or 64 MB (with 256 MB or more of system memory)
LCD interface	SPWG-B

Audio	
Audio type	AC'97 (soft audio)
Audio controller	Sigmatel 9750
Stereo conversion	18-bit (analog-to-digital) and 20-bit (digital-to-analog)
Interfaces:	
Internal	PCI bus /AC'97
External	microphone-in connector, stereo headphones/speakers connector
Speaker	two 8-ohm speakers
Internal speaker amplifier	1.0-W channel into 8 ohms
Volume controls	keyboard shortcuts, program menus

Display	
Type (active-matrix TFT)	XGA
Dimensions:	14.1 inch or 15 inch
Height:	
14.1 inch	214.3 mm (8.4 inches)
15 inch	228.1 mm (8.99 inches)
Width:	
14.1 inch	285.7 mm (11.2 inches)
15 inch	304.1 mm (11.97 inches)
Diagonal:	
14.1 inch	359.16 mm (14.1 inches)
15 inch	382.4 mm (15.1 inches)
Maximum resolutions	1024 x 768 at 16.8 million colors
Response time (typical)	20-ms rise (maximum), 30-ms fall (maximum)
Refresh rate	60 Hz
Operating angle	0° (closed) to 180°
Viewing angles:	
Horizontal	± 40°
Vertical	+ 10°/-30°
Pixel pitch	0.28 x 0.28 mm
Power consumption:	
Panel with backlight (typical)	5.2 W
Controls	brightness can be controlled through keyboard shortcuts

Keyboard	
Number of keys	85 (U.S. and Canada); 86 (Europe); 90 (Japan)
Key travel	2.7 mm ± 0.3 (0.11 inch ± 0.016 inch)
Key spacing	19.05 mm ± 0.3 mm (0.75 inch ± 0.012 inch)
Layout	QWERTY/AZERTY/Kanji
Touch Pad	
X/Y position resolution (graphics table mode)	240 cpi
Size:	
Width	64.88-mm (2.55-inch) sensor-active area
Height	48.88-mm (1.92-inch) rectangle
Battery (8-cell)	
Type	8-cell (65Whr) "smart" lithium ion
Dimensions:	
Depth	122.5 mm (4.8 inches)
Height	19.2 mm (0.76 inch)
Width	147.5 mm (5.8 inches)
Weight	0.470 kg (1.03 lb)
Voltage	14.8 VDC
Capacity	4300 mAH
Operating life	can be significantly reduced under certain power-intensive conditions See page 37 for more information on battery life.
Life span (approximate)	300 discharge/charge cycles
Temperature range:	
Charge/Discharge	0° to 35°C (32° to 95°F)
Storage	-40° to 65°C (-40° to 149°F)

Battery (12-cell)	
Type	12-cell (96Whr) "smart" lithium ion
Dimensions:	
Depth	122.5 mm (4.8 inches)
Height	19.2 mm (0.76 inch)
Width	147.5 mm (5.8 inches)
Weight	0.615 kg (1.35 lb)
Voltage	14.8 VDC
Capacity	6450 mAH
Operating life	can be significantly reduced under certain power-intensive conditions See page 37 for more information on battery life.
Life span (approximate)	300 discharge/charge cycles
Temperature range:	
Charge/Discharge	0° to 35°C (32° to 95°F)
Storage	-40° to 65°C (-40° to 149°F)
AC Adapter	
Input voltage	100 to 240 VAC
Input current (maximum)	1.5 A
Input frequency	50 to 60 Hz
Output current	5.62 A (maximum at 4-second pulse); 4.62 A (continuous)
Output power	90 W standard
Rated output voltage	19.5 VDC
Dimensions:	
Height	34.2 mm (1.35 inches)
Width	60.9 mm (2.4 inches)
Depth	153.4 mm (6.04 inches)
Weight (with cables)	0.46 kg (1.0 lb)

AC Adapter

Temperature range:

Operating	0° to 35°C (32° to 95°F)
Storage	-40° to 65°C (-40° to 149°F)

Physical

Height

14.1-inch display	44.5–47.95 mm (1.75 inches–1.89 inches)
15-inch display	46.5–48.3 mm (1.83 inches–1.90 inches)

Width

14.1-inch display	329 mm (12.9 inches)
15-inch display	335 mm (13.1 inches)

Depth

14.1-inch display	275 mm (10.8 inches)
15-inch display	275 mm (10.8 inches)

Weight:

With CD drive, 8-cell battery, and 14.1-inch display	3.3 kg (7.17 lb)
With CD drive, 12-cell battery, and 14.1-inch display	3.4 kg (7.57 lb)
With CD drive, 8-cell battery, and 15-inch display	3.5 kg (7.66 lb)
With CD drive, 12-cell battery, and 15-inch display	3.7 kg (8.07 lb)

Environmental

Temperature range:

Operating	0° to 35°C (32° to 95°F)
Storage	-40° to 65°C (-40° to 149°F)

Relative humidity (maximum):

Operating	10% to 90% (noncondensing)
Storage	5% to 95% (noncondensing)

Environmental (continued)

Maximum vibration:

Operating	0.6 GRMS
Storage	1.3 GRMS

Maximum shock (measured with the hard drive in head-parked position and 2-ms half-sine pulse):


Operating	122 G
Storage	163 G

Altitude (maximum):

Operating	-15.2 to 3048 m (-50 to 10,000 ft)
Storage	-15.2 to 10,668 m (-50 to 35,000 ft)


Using the System Setup Program

Overview

 **NOTE:** Your operating system may automatically configure most of the options available in the system setup program, thus overriding options that you set through the system setup program. For more information on configuring features for your operating system, see the Help and Support Center. To access help, see page 17.

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 settings for the system setup program. 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 (see page 36) and try again.

System Setup Screens

 **NOTE:** For information about a specific item on a system setup screen, highlight the item and see the **Help** area on the screen.

On each screen, the system setup options are listed at the left. To the right of each option is the setting or value for that option. You can change settings that appear as white type on the screen. Options or values that you cannot change (because they are determined by the computer) appear less bright.


The upper-right corner of the screen displays help information for the currently highlighted option; the lower-right corner displays information about the computer. System setup key functions are listed across the bottom of the screen.

Commonly Used Options

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

Changing the Boot Sequence

The *boot sequence*, or *boot order*, 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 Order** page of the system setup program.

 **NOTE:** To change the boot sequence on a one-time-only basis, see page 100.

The **Boot Order** 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 up-arrow or down-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. Enabled items appear as white and display an arrow to the left; disabled items appear blue or dimmed without a triangle.
- Press the left- or right-arrow key to change the option.
- 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 the system setup program.

Performing a One-Time Boot

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

- 1 Turn off 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 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.

System and Battery Performance Optimization

System Performance Overview

System performance may be reduced under specific conditions to prevent automatic system shutdown and potential data loss. Conditions under which performance is reduced include:

PROCESSOR GETS HOT — Performance is reduced when system temperature exceeds established thermal parameters. This performance reduction helps to regulate the system and surface temperatures, which prevents the computer from shutting down due to excessive processor temperatures.

AC ADAPTER THROUGHPUT — Performance is reduced when the computer is running on AC power and power consumption exceeds the established parameters of the AC Adapter. This performance reduction ensures that the system does not try to consume more power than the AC adapter can provide.

BATTERY CAPACITY — Performance is reduced when the computer is running on battery power and power consumption exceeds the battery's rated capacity or exceeds allowable safe discharge levels, or when the battery surface temperature exceeds 60°C.

Optimizing Power Consumption and Battery Charge Time

The AC adapter charges a completely discharged battery in approximately 3 hours with the computer turned off. Charge time is significantly longer if the computer is on and running at high processor speeds and system activity levels. If you run your computer at high system activity levels for extended periods of time and your battery is not charging, try running your system in Low Power Mode.

Low Power Mode can improve battery charge time and battery life. Depending on system activity levels, system performance may be reduced. To set Low Power Mode:



NOTE: You can also click the power meter icon on the taskbar.

- 1 Click the **Start** button→ **Control Panel**→ **Performance and Maintenance**→ **Power Options**.
- 2 Click the **Power Schemes** tab.
- 3 In the **Power schemes** drop-down menu, click **Low Power Mode**.

For more information on power management, see the *Dell Latitude 100L Help* file. To access the help file, see page 16.

Variable Speed Fan

The computer uses a variable speed fan to prevent the computer from overheating. The fan runs constantly, and fan speed may vary depending on usage. Fan noise is normal and does not indicate a problem with the fan or the computer.

Getting Help

Technical Assistance

If you need help with a technical problem, Dell is ready to assist you.



CAUTION: If you need to remove the computer covers, first disconnect the computer power and modem cables from all electrical outlets.

- 1 Complete the procedures in "Solving Problems" on page 59."
- 2 Run the "Dell Diagnostics" on page 59.
- 3 Make a copy of the Diagnostics Checklist and fill it out.
- 4 Use Dell's extensive suite of online services available at Dell Support (support.dell.com) for help with installation and troubleshooting procedures.
- 5 If the preceding steps have not resolved the problem, contact Dell.

NOTE: Call technical support from a telephone near or at the computer so that technical support can assist you with any necessary procedures.

NOTE: Dell's Express Service Code system may not be available in all countries.

When prompted by Dell's automated telephone system, enter your Express Service Code to route the call directly to the proper support personnel. If you do not have an Express Service Code, open the **Dell Accessories** folder, double-click the **Express Service Code** icon, and follow the directions.

For instructions on using the technical support service, see "Technical Support Service."

NOTE: Some of the following services are not always available in all locations outside the continental U.S. Call your local Dell representative for information on availability.

Online Services

You can access Dell Support at **support.dell.com**. Select your region on the **WELCOME TO DELL SUPPORT** page, and fill in the requested details to access help tools and information.

You can contact Dell electronically using the following addresses:

- World Wide Web
www.dell.com/
www.dell.com/ap/ (Asian/Pacific countries only)
www.dell.com/jp (Japan only)
www.euro.dell.com (Europe only)
www.dell.com/la/ (Latin American countries)
www.dell.ca (Canada only)
- Anonymous file transfer protocol (FTP)
ftp.dell.com/
 Log in as user: `anonymous`, and use your e-mail address as your password.
- Electronic Support Service
mobile_support@us.dell.com
support@us.dell.com
apsupport@dell.com (Asian/Pacific countries only)
support.jp.dell.com (Japan only)
support.euro.dell.com (Europe only)
- Electronic Quote Service
sales@dell.com
apmarketing@dell.com (Asian/Pacific countries only)
sales_canada@dell.com (Canada only)
- Electronic Information Service
info@dell.com

AutoTech Service

Dell's automated technical support service—AutoTech—provides recorded answers to the questions most frequently asked by Dell customers about their portable and desktop computers.

When you call AutoTech, use your touch-tone telephone to select the subjects that correspond to your questions.

The AutoTech service is available 24 hours a day, 7 days a week. You can also access this service through the technical support service. For the telephone number to call, see the contact numbers for your region.

Automated Order-Status Service

To check on the status of any Dell™ products that you have ordered, you can go to **support.dell.com**, or you can call the automated order-status service. A recording prompts you for the information needed to locate and report on your order. For the telephone number to call, see the contact numbers for your region.

Technical Support Service

Dell's technical support service is available 24 hours a day, 7 days a week, to answer your questions about Dell hardware. Our technical support staff uses computer-based diagnostics to provide fast, accurate answers.

To contact Dell's technical support service, see "Technical Assistance" and then call the number for your country as listed in "Contacting Dell."

Problems With Your Order

If you have a problem with your order, such as missing parts, wrong parts, or incorrect billing, contact Dell for customer assistance. Have your invoice or packing slip handy when you call. For the telephone number to call, see the contact numbers for your region.

Product Information

If you need information about additional products available from Dell, or if you would like to place an order, visit the Dell website at **www.dell.com**. For the telephone number to call to speak to a sales specialist, see the contact numbers for your region.

Returning Items for Warranty Repair or Credit

Prepare all items being returned, whether for repair or credit, as follows:

- 1 Call Dell to obtain a Return Material Authorization Number, and write it clearly and prominently on the outside of the box.
For the telephone number to call, see the contact numbers for your region.
- 2 Include a copy of the invoice and a letter describing the reason for the return.
- 3 Include a copy of the Diagnostics Checklist indicating the tests you have run and any error messages reported by the Dell Diagnostics.
- 4 Include any accessories that belong with the item(s) being returned (power cables, software floppy disks, guides, and so on) if the return is for credit.
- 5 Pack the equipment to be returned in the original (or equivalent) packing materials.

You are responsible for paying shipping expenses. You are also responsible for insuring any product returned, and you assume the risk of loss during shipment to Dell. Collect On Delivery (C.O.D.) packages are not accepted.

Returns that are missing any of the preceding requirements will be refused at Dell's receiving dock and returned to you.

Before You Call

NOTE: Have your Express Service Code ready when you call. The code helps Dell's automated-support telephone system direct your call more efficiently.

Remember to fill out the Diagnostics Checklist. If possible, turn on your computer before you call Dell for technical assistance and call from a telephone at or near the computer. You may be asked to type some commands at the keyboard, relay detailed information during operations, or try other troubleshooting steps possible only at the computer itself. Ensure that the computer documentation is available.



CAUTION: Before working inside your computer, read the safety instructions in your *Owner's Manual*.

Diagnostics Checklist

Name:

Date:

Address:

Phone number:

Service Tag (bar code on the back of the computer):

Express Service Code:

Return Material Authorization Number (if provided by Dell support technician):

Operating system and version:

Devices:

Expansion cards:

Are you connected to a network? Yes No

Network, version, and network adapter:

Programs and versions:

See your operating system documentation to determine the contents of the system's start-up files. If the computer is connected to a printer, print each file. Otherwise, record the contents of each file before calling Dell.

Error message, beep code, or diagnostic code:

Description of problem and troubleshooting procedures you performed:

Contacting Dell

To contact Dell electronically, you can access the following websites:

- **www.dell.com**
- **support.dell.com** (technical support)
- **premiersupport.dell.com** (technical support for educational, government, healthcare, and medium/large business customers, including Premier, Platinum, and Gold customers)

For specific web addresses for your country, find the appropriate country section in the table below.

NOTE: Toll-free numbers are for use within the country for which they are listed.

When you need to contact Dell, use the electronic addresses, telephone numbers, and codes provided in the following table. If you need assistance in determining which codes to use, contact a local or an international operator.

Country (City) International Access Code Country Code City Code	Department Name or Service Area, Website and E-Mail Address	Area Codes, Local Numbers, and Toll-Free Numbers
Anguilla	General Support	toll-free: 800-335-0031
Antigua and Barbuda	General Support	1-800-805-5924
Argentina (Buenos Aires)	Website: www.dell.com.ar	
International Access Code: 00	Tech Support and Customer Care	toll-free: 0-800-444-0733
Country Code: 54	Sales	0-810-444-3355
City Code: 11	Tech Support Fax	11 4515 7139
	Customer Care Fax	11 4515 7138
Aruba	General Support	toll-free: 800-1578
Australia (Sydney)	E-mail (Australia): au_tech_support@dell.com	
International Access Code: 0011	E-mail (New Zealand): nz_tech_support@dell.com	
Country Code: 61	Home and Small Business	1-300-65-55-33
City Code: 2	Government and Business	toll-free: 1-800-633-559
	Preferred Accounts Division (PAD)	toll-free: 1-800-060-889
	Customer Care	toll-free: 1-800-819-339
	Corporate Sales	toll-free: 1-800-808-385
	Transaction Sales	toll-free: 1-800-808-312
	Fax	toll-free: 1-800-818-341

Country (City) International Access Code Country Code City Code	Department Name or Service Area, Website and E-Mail Address	Area Codes, Local Numbers, and Toll-Free Numbers
Austria (Vienna)	Website: support.euro.dell.com	
International Access Code: 900	E-mail: tech_support_central_europe@dell.com	
Country Code: 43	Home/Small Business Sales	0820 240 530 00
City Code: 1	Home/Small Business Fax	0820 240 530 49
	Home/Small Business Customer Care	0820 240 530 14
	Preferred Accounts/Corporate Customer Care	0820 240 530 16
	Home/Small Business Technical Support	0820 240 530 14
	Preferred Accounts/Corporate Technical Support	0660 8779
	Switchboard	0820 240 530 00
Bahamas	General Support	toll-free: 1-866-278-6818
Barbados	General Support	1-800-534-3066
Belgium (Brussels)	Website: support.euro.dell.com	
International Access Code: 00	E-mail: tech_be@dell.com	
Country Code: 32	E-mail for French Speaking Customers: support.euro.dell.com/be/fr/emaildell/	
City Code: 2	Technical Support	02 481 92 88
	Customer Care	02 481 91 19
	Corporate Sales	02 481 91 00
	Fax	02 481 92 99
	Switchboard	02 481 91 00
Bermuda	General Support	1-800-342-0671
Bolivia	General Support	toll-free: 800-10-0238
Brazil	Website: www.dell.com/br	
International Access Code: 00	Customer Support, Technical Support	0800 90 3355
Country Code: 55	Tech Support Fax	51 481 5470
City Code: 51	Customer Care Fax	51 481 5480
	Sales	0800 90 3390
British Virgin Islands	General Support	toll-free: 1-866-278-6820
Brunei	Customer Technical Support (Penang, Malaysia)	604 633 4966
Country Code: 673	Customer Service (Penang, Malaysia)	604 633 4949
	Transaction Sales (Penang, Malaysia)	604 633 4955

Country (City) International Access Code Country Code City Code	Department Name or Service Area, Website and E-Mail Address	Area Codes, Local Numbers, and Toll-Free Numbers
Canada (North York, Ontario)	Online Order Status: www.dell.ca/ostatus	
International Access Code: 011	AutoTech (automated technical support)	toll-free: 1-800-247-9362
	TechFax	toll-free: 1-800-950-1329
	Customer Care (Home Sales/Small Business)	toll-free: 1-800-847-4096
	Customer Care (med./large business, government)	toll-free: 1-800-326-9463
	Technical Support (Home Sales/Small Business)	toll-free: 1-800-847-4096
	Technical Support (med./large bus., government)	toll-free: 1-800-387-5757
	Sales (Home Sales/Small Business)	toll-free: 1-800-387-5752
	Sales (med./large bus., government)	toll-free: 1-800-387-5755
	Spare Parts Sales & Extended Service Sales	1 866 440 3355
Cayman Islands	General Support	1-800-805-7541
Chile (Santiago)	Sales, Customer Support, and Technical Support	toll-free: 1230-020-4823
Country Code: 56		
City Code: 2		

Country (City) International Access Code Country Code City Code	Department Name or Service Area, Website and E-Mail Address	Area Codes, Local Numbers, and Toll-Free Numbers
China (Xiamen) Country Code: 86 City Code: 592	Tech Support website: support.dell.com.cn Tech Support E-mail: cn_support@dell.com Tech Support Fax Technical Support (Dimension™ and Inspiron™) Technical Support (OptiPlex™, Latitude™, and Dell Precision™) Technical Support (servers and storage) Technical Support (projectors, PDAs, printers, switches, routers, and so on) Customer Experience Home and Small Business Preferred Accounts Division Large Corporate Accounts GCP Large Corporate Accounts Key Accounts Large Corporate Accounts North Large Corporate Accounts North Government and Education Large Corporate Accounts East Large Corporate Accounts East Government and Education Large Corporate Accounts Queue Team Large Corporate Accounts South Large Corporate Accounts West Large Corporate Accounts Spare Parts	818 1350 toll-free: 800 858 2969 toll-free: 800 858 0950 toll-free: 800 858 0960 toll-free: 800 858 2920 toll-free: 800 858 2060 toll-free: 800 858 2222 toll-free: 800 858 2557 toll-free: 800 858 2055 toll-free: 800 858 2628 toll-free: 800 858 2999 toll-free: 800 858 2955 toll-free: 800 858 2020 toll-free: 800 858 2669 toll-free: 800 858 2222 toll-free: 800 858 2355 toll-free: 800 858 2811 toll-free: 800 858 2621
Colombia	General Support	980-9-15-3978
Costa Rica	General Support	0800-012-0435

Country (City) International Access Code Country Code City Code	Department Name or Service Area, Website and E-Mail Address	Area Codes, Local Numbers, and Toll-Free Numbers
Czech Republic (Prague)	Website: support.euro.dell.com	
International Access Code: 00	E-mail: czech_dell@dell.com	
Country Code: 420	Technical Support	02 2186 27 27
City Code: 2	Customer Care	02 2186 27 11
	Fax	02 2186 27 14
	TechFax	02 2186 27 28
	Switchboard	02 2186 27 11
Denmark (Copenhagen)	Website: support.euro.dell.com	
International Access Code: 00	E-mail Support (portable computers): den_nbk_support@dell.com	
Country Code: 45	E-mail Support (desktop computers): den_support@dell.com	
	E-mail Support (servers): Nordic_server_support@dell.com	
	Technical Support	7023 0182
	Customer Care (Relational)	7023 0184
	Home/Small Business Customer Care	3287 5505
	Switchboard (Relational)	3287 1200
	Fax Switchboard (Relational)	3287 1201
	Switchboard (Home/Small Business)	3287 5000
	Fax Switchboard (Home/Small Business)	3287 5001
Dominica	General Support	toll-free: 1-866-278-6821
Dominican Republic	General Support	1-800-148-0530
Ecuador	General Support	toll-free: 999-119
El Salvador	General Support	01-899-753-0777

Country (City) International Access Code Country Code City Code	Department Name or Service Area, Website and E-Mail Address	Area Codes, Local Numbers, and Toll-Free Numbers
Finland (Helsinki)	Website: support.euro.dell.com	
International Access Code: 990	E-mail: fin_support@dell.com	
Country Code: 358	E-mail Support (servers): Nordic_support@dell.com	
City Code: 9	Technical Support	09 253 313 60
	Technical Support Fax	09 253 313 81
	Relational Customer Care	09 253 313 38
	Home/Small Business Customer Care	09 693 791 94
	Fax	09 253 313 99
	Switchboard	09 253 313 00
France (Paris) (Montpellier)	Website: support.euro.dell.com	
International Access Code: 00	E-mail: support.euro.dell.com/fr/fr/emaildell/	
Country Code: 33	Home and Small Business	
City Codes: (1) (4)	Technical Support	0825 387 270
	Customer Care	0825 823 833
	Switchboard	0825 004 700
	Switchboard (calls from outside of France)	04 99 75 40 00
	Sales	0825 004 700
	Fax	0825 004 701
	Fax (calls from outside of France)	04 99 75 40 01
	Corporate	
	Technical Support	0825 004 719
	Customer Care	0825 338 339
	Switchboard	01 55 94 71 00
	Sales	01 55 94 71 00
	Fax	01 55 94 71 01

Country (City) International Access Code Country Code City Code	Department Name or Service Area, Website and E-Mail Address	Area Codes, Local Numbers, and Toll-Free Numbers
Germany (Langen)	Website: support.euro.dell.com	
International Access Code: 00	E-mail: tech_support_central_europe@dell.com	
Country Code: 49	Technical Support	06103 766-7200
City Code: 6103	Home/Small Business Customer Care	0180-5-224400
	Global Segment Customer Care	06103 766-9570
	Preferred Accounts Customer Care	06103 766-9420
	Large Accounts Customer Care	06103 766-9560
	Public Accounts Customer Care	06103 766-9555
	Switchboard	06103 766-7000
Greece	Website: support.euro.dell.com	
International Access Code: 00	E-mail: support.euro.dell.com/gr/en/emailldell/	
Country Code: 30	Technical Support	080044149518
	Gold Technical Support	08844140083
	Switchboard	2108129800
	Sales	2108129800
	Fax	2108129812
Grenada	General Support	toll-free: 1-866-540-3355
Guatemala	General Support	1-800-999-0136
Guyana	General Support	toll-free: 1-877-270-4609
Hong Kong	Website: support.ap.dell.com	
International Access Code: 001	E-mail: ap_support@dell.com	
Country Code: 852	Technical Support (Dimension™ and Inspiron™)	2969 3189
	Technical Support (OptiPlex™, Latitude™, and Dell Precision™)	2969 3191
	Technical Support (PowerApp™, PowerEdge™, PowerConnect™, and PowerVault™)	2969 3196
	Gold Queue EEC Hotline	2969 3187
	Customer Advocacy	3416 0910
	Large Corporate Accounts	3416 0907
	Global Customer Programs	3416 0908
	Medium Business Division	3416 0912
	Home and Small Business Division	2969 3105

Country (City) International Access Code Country Code City Code	Department Name or Service Area, Website and E-Mail Address	Area Codes, Local Numbers, and Toll-Free Numbers
India	Technical Support	1600 33 8045
	Sales	1600 33 8044
Ireland (Cherrywood)	Website: support.euro.dell.com	
International Access Code: 16	E-mail: dell_direct_support@dell.com	
Country Code: 353	Technical Support	1850 543 543
City Code: 1	U.K. Technical Support (dial within U.K. only)	0870 908 0800
	Home User Customer Care	01 204 4014
	Small Business Customer Care	01 204 4014
	U.K. Customer Care (dial within U.K. only)	0870 906 0010
	Corporate Customer Care	1850 200 982
	Corporate Customer Care (dial within U.K. only)	0870 907 4499
	Ireland Sales	01 204 4444
	U.K. Sales (dial within U.K. only)	0870 907 4000
	Fax/SalesFax	01 204 0103
	Switchboard	01 204 4444
Italy (Milan)	Website: support.euro.dell.com	
International Access Code: 00	E-mail: support.euro.dell.com/it/it/emaildell/	
Country Code: 39	Home and Small Business	
City Code: 02	Technical Support	02 577 826 90
	Customer Care	02 696 821 14
	Fax	02 696 821 13
	Switchboard	02 696 821 12
	Corporate	
	Technical Support	02 577 826 90
	Customer Care	02 577 825 55
	Fax	02 575 035 30
	Switchboard	02 577 821
Jamaica	General Support (dial from within Jamaica only)	1-800-682-3639

Country (City) International Access Code Country Code City Code	Department Name or Service Area, Website and E-Mail Address	Area Codes, Local Numbers, and Toll-Free Numbers
Japan (Kawasaki)	Website: support.jp.dell.com	
International Access Code: 001	Technical Support (servers)	toll-free: 0120-198-498
Country Code: 81	Technical Support outside of Japan (servers)	81-44-556-4162
City Code: 44	Technical Support (Dimension™ and Inspiron™)	toll-free: 0120-198-226
	Technical Support outside of Japan (Dimension and Inspiron)	81-44-520-1435
	Technical Support (Dell Precision™, OptiPlex™, and Latitude™)	toll-free: 0120-198-433
	Technical Support outside of Japan (Dell Precision, OptiPlex, and Latitude)	81-44-556-3894
	Technical Support (Axim™)	toll-free: 0120-981-690
	Technical Support outside of Japan (Axim)	81-44-556-3468
	Faxbox Service	044-556-3490
	24-Hour Automated Order Service	044-556-3801
	Customer Care	044-556-4240
	Business Sales Division (up to 400 employees)	044-556-1465
	Preferred Accounts Division Sales (over 400 employees)	044-556-3433
	Large Corporate Accounts Sales (over 3500 employees)	044-556-3430
	Public Sales (government agencies, educational institutions, and medical institutions)	044-556-1469
	Global Segment Japan	044-556-3469
	Individual User	044-556-1760
	Switchboard	044-556-4300
Korea (Seoul)	Technical Support	toll-free: 080-200-3800
International Access Code: 001	Sales	toll-free: 080-200-3600
Country Code: 82	Customer Service (Seoul, Korea)	toll-free: 080-200-3800
City Code: 2	Customer Service (Penang, Malaysia)	604 633 4949
	Fax	2194-6202
	Switchboard	2194-6000

Country (City) International Access Code Country Code City Code	Department Name or Service Area, Website and E-Mail Address	Area Codes, Local Numbers, and Toll-Free Numbers
Latin America	Customer Technical Support (Austin, Texas, U.S.A.)	512 728-4093
	Customer Service (Austin, Texas, U.S.A.)	512 728-3619
	Fax (Technical Support and Customer Service) (Austin, Texas, U.S.A.)	512 728-3883
	Sales (Austin, Texas, U.S.A.)	512 728-4397
	SalesFax (Austin, Texas, U.S.A.)	512 728-4600 or 512 728-3772
Luxembourg	Website: support.euro.dell.com	
International Access Code: 00	E-mail: tech_be@dell.com	
Country Code: 352	Technical Support (Brussels, Belgium)	3420808075
	Home/Small Business Sales (Brussels, Belgium)	toll-free: 080016884
	Corporate Sales (Brussels, Belgium)	02 481 91 00
	Customer Care (Brussels, Belgium)	02 481 91 19
	Fax (Brussels, Belgium)	02 481 92 99
	Switchboard (Brussels, Belgium)	02 481 91 00
Macao	Technical Support	toll-free: 0800 582
Country Code: 853	Customer Service (Penang, Malaysia)	604 633 4949
	Transaction Sales	toll-free: 0800 581
Malaysia (Penang)	Technical Support (Dell Precision, OptiPlex, and Latitude)	toll-free: 1 800 88 0193
International Access Code: 00		
Country Code: 60	Technical Support (Dimension and Inspiron)	toll-free: 1 800 88 1306
City Code: 4	Customer Service	04 633 4949
	Transaction Sales	toll-free: 1 800 888 202
	Corporate Sales	toll-free: 1 800 888 213

Country (City) International Access Code Country Code City Code	Department Name or Service Area, Website and E-Mail Address	Area Codes, Local Numbers, and Toll-Free Numbers
Mexico	Customer Technical Support	001-877-384-8979
International Access Code: 00		or 001-877-269-3383
Country Code: 52	Sales	50-81-8800
		or 01-800-888-3355
	Customer Service	001-877-384-8979
		or 001-877-269-3383
	Main	50-81-8800
		or 01-800-888-3355
Montserrat	General Support	toll-free: 1-866-278-6822
Netherlands Antilles	General Support	001-800-882-1519
Netherlands (Amsterdam)	Website: support.euro.dell.com	
International Access Code: 00	E-mail (Technical Support):	
Country Code: 31	(Enterprise): nl_server_support@dell.com	
City Code: 20	(Latitude): nl_latitude_support@dell.com	
	(Inspiron): nl_inspiron_support@dell.com	
	(Dimension): nl_dimension_support@dell.com	
	(OptiPlex): nl_optiplex_support@dell.com	
	(Dell Precision): nl_workstation_support@dell.com	
	Technical Support	020 674 45 00
	Technical Support Fax	020 674 47 66
	Home/Small Business Customer Care	020 674 42 00
	Relational Customer Care	020 674 4325
	Home/Small Business Sales	020 674 55 00
	Relational Sales	020 674 50 00
	Home/Small Business Sales Fax	020 674 47 75
	Relational Sales Fax	020 674 47 50
	Switchboard	020 674 50 00
	Switchboard Fax	020 674 47 50

Country (City) International Access Code Country Code City Code	Department Name or Service Area, Website and E-Mail Address	Area Codes, Local Numbers, and Toll-Free Numbers
New Zealand	E-mail (New Zealand): nz_tech_support@dell.com	
International Access Code: 00	E-mail (Australia): au_tech_support@dell.com	
Country Code: 64	Home and Small Business	0800 446 255
	Government and Business	0800 444 617
	Sales	0800 441 567
	Fax	0800 441 566
Nicaragua	General Support	001-800-220-1006
Norway (Lysaker)	Website: support.euro.dell.com	
International Access Code: 00	E-mail Support (portable computers):	
Country Code: 47	nor_nbk_support@dell.com	
	E-mail Support (desktop computers):	
	nor_support@dell.com	
	E-mail Support (servers):	
	nordic_server_support@dell.com	
	Technical Support	671 16882
	Relational Customer Care	671 17514
	Home/Small Business Customer Care	23162298
	Switchboard	671 16800
	Fax Switchboard	671 16865
Panama	General Support	001-800-507-0962
Peru	General Support	0800-50-669
Poland (Warsaw)	Website: support.euro.dell.com	
International Access Code: 011	E-mail: pl_support_tech@dell.com	
Country Code: 48	Customer Service Phone	57 95 700
City Code: 22	Customer Care	57 95 999
	Sales	57 95 999
	Customer Service Fax	57 95 806
	Reception Desk Fax	57 95 998
	Switchboard	57 95 999

Country (City) International Access Code Country Code City Code	Department Name or Service Area, Website and E-Mail Address	Area Codes, Local Numbers, and Toll-Free Numbers
Portugal	Website: support.euro.dell.com	
International Access Code: 00	E-mail: support.euro.dell.com/pt/en/emaildell/	
Country Code: 351	Technical Support	707200149
	Customer Care	800 300 413
	Sales	800 300 410 or 800 300 411 or 800 300 412 or 21 422 07 10
	Fax	21 424 01 12
Puerto Rico	General Support	1-800-805-7545
St. Kitts and Nevis	General Support	toll-free: 1-877-441-4731
St. Lucia	General Support	1-800-882-1521
St. Vincent and the Grenadines	General Support	toll-free: 1-877-270-4609
Singapore (Singapore)	Technical Support	toll-free: 800 6011 051
International Access Code: 005	Customer Service (Penang, Malaysia)	604 633 4949
Country Code: 65	Transaction Sales	toll-free: 800 6011 054
	Corporate Sales	toll-free: 800 6011 053
South Africa (Johannesburg)	Website: support.euro.dell.com	
International Access Code:	E-mail: dell_za_support@dell.com	
09/091	Technical Support	011 709 7710
Country Code: 27	Customer Care	011 709 7707
City Code: 11	Sales	011 709 7700
	Fax	011 706 0495
	Switchboard	011 709 7700
Southeast Asian and Pacific Countries	Customer Technical Support, Customer Service, and Sales (Penang, Malaysia)	604 633 4810

Country (City) International Access Code Country Code City Code	Department Name or Service Area, Website and E-Mail Address	Area Codes, Local Numbers, and Toll-Free Numbers
Spain (Madrid)	Website: support.euro.dell.com	
International Access Code: 00	E-mail: support.euro.dell.com/es/es/emaiddell/	
Country Code: 34	Home and Small Business	
City Code: 91	Technical Support	902 100 130
	Customer Care	902 118 540
	Sales	902 118 541
	Switchboard	902 118 541
	Fax	902 118 539
	Corporate	
	Technical Support	902 100 130
	Customer Care	902 118 546
	Switchboard	91 722 92 00
	Fax	91 722 95 83
Sweden (Upplands Vasby)	Website: support.euro.dell.com	
International Access Code: 00	E-mail: swe_support@dell.com	
Country Code: 46	E-mail Support for Latitude and Inspiron:	
City Code: 8	Swe-nbk_kats@dell.com	
	E-mail Support for OptiPlex: Swe_kats@dell.com	
	E-mail Support for Servers:	
	Nordic_server_support@dell.com	
	Technical Support	08 590 05 199
	Relational Customer Care	08 590 05 642
	Home/Small Business Customer Care	08 587 70 527
	Employee Purchase Program (EPP) Support	20 140 14 44
	Fax Technical Support	08 590 05 594
	Sales	08 590 05 185

Country (City) International Access Code Country Code City Code	Department Name or Service Area, Website and E-Mail Address	Area Codes, Local Numbers, and Toll-Free Numbers
Switzerland (Geneva) International Access Code: 00 Country Code: 41 City Code: 22	Website: support.euro.dell.com E-mail: swisstech@dell.com E-mail for French-speaking HSB and Corporate Customers: support.euro.dell.com/ch/fr/emaildell/	
	Technical Support (Home and Small Business)	0844 811 411
	Technical Support (Corporate)	0844 822 844
	Customer Care (Home and Small Business)	0848 802 202
	Customer Care (Corporate)	0848 821 721
	Fax	022 799 01 90
	Switchboard	022 799 01 01
Taiwan International Access Code: 002 Country Code: 886	Technical Support (portable and desktop computers) Technical Support (servers) Transaction Sales Corporate Sales	toll-free: 00801 86 1011 toll-free: 0080 60 1256 toll-free: 0080 651 228 toll-free: 0080 651 227
Thailand International Access Code: 001 Country Code: 66	Technical Support Customer Service (Penang, Malaysia) Sales	toll-free: 0880 060 07 604 633 4949 toll-free: 0880 060 09
Trinidad/Tobago	General Support	1-800-805-8035
Turks and Caicos Islands	General Support	toll-free: 1-866-540-3355

Country (City) International Access Code Country Code City Code	Department Name or Service Area, Website and E-Mail Address	Area Codes, Local Numbers, and Toll-Free Numbers
U.K. (Bracknell) International Access Code: 00 Country Code: 44 City Code: 1344	Website: support.euro.dell.com Customer Care website: support.euro.dell.com/uk/en/ECare/Form/Home.asp E-mail: dell_direct_support@dell.com Technical Support (Corporate/Preferred Accounts/PAD [1000+ employees]) Technical Support (direct/PAD and general) Global Accounts Customer Care Home and Small Business Customer Care Corporate Customer Care Preferred Accounts (500–5000 employees) Customer Care Central Government Customer Care Local Government & Education Customer Care Health Customer Care Home and Small Business Sales Corporate/Public Sector Sales Home and Small Business Fax	0870 908 0500 0870 908 0800 01344 373 186 0870 906 0010 01344 373 185 0870 906 0010 01344 373 193 01344 373 199 01344 373 194 0870 907 4000 01344 860 456 0870 907 4006
Uruguay	General Support	toll-free: 000-413-598-2521

Country (City) International Access Code Country Code City Code	Department Name or Service Area, Website and E-Mail Address	Area Codes, Local Numbers, and Toll-Free Numbers
U.S.A. (Austin, Texas)	Automated Order-Status Service	toll-free: 1-800-433-9014
International Access Code: 011 Country Code: 1	AutoTech (portable and desktop computers) Consumer (Home and Home Office) Technical Support Customer Service DellNet™ Service and Support	toll-free: 1-800-247-9362 toll-free: 1-800-624-9896 toll-free: 1-800-624-9897 toll-free: 1-877-Dellnet (1-877-335-5638)
	Employee Purchase Program (EPP) Customers Financial Services website: www.dellfinancialservices.com Financial Services (lease/loans) Financial Services (Dell Preferred Accounts [DPA])	toll-free: 1-800-695-8133 toll-free: 1-877-577-3355 toll-free: 1-800-283-2210
	Business Customer Service and Technical Support Employee Purchase Program (EPP) Customers Printers and Projectors Technical Support Public (government, education, and healthcare) Customer Service and Technical Support Employee Purchase Program (EPP) Customers Dell Sales	toll-free: 1-800-822-8965 toll-free: 1-800-695-8133 toll-free: 1-877-459-7298 toll-free: 1-800-456-3355 toll-free: 1-800-234-1490 toll-free: 1-800-289-3355 or toll-free: 1-800-879-3355
	Dell Outlet Store (Dell refurbished computers) Software and Peripherals Sales Spare Parts Sales Extended Service and Warranty Sales Fax Dell Services for the Deaf, Hard-of-Hearing, or Speech-Impaired	toll-free: 1-888-798-7561 toll-free: 1-800-671-3355 toll-free: 1-800-357-3355 toll-free: 1-800-247-4618 toll-free: 1-800-727-8320 toll-free: 1-877-DELLTTY (1-877-335-5889)
U.S. Virgin Islands	General Support	1-877-673-3355
Venezuela	General Support	8001-3605

Regulatory Notices

Electromagnetic Interference (EMI) is any signal or emission, radiated in free space or conducted along power or signal leads, that endangers the functioning of a radio navigation or other safety service or seriously degrades, obstructs, or repeatedly interrupts a licensed radio communications service. Radio communications services include but are not limited to AM/FM commercial broadcast, television, cellular services, radar, air-traffic control, pager, and Personal Communication Services (PCS). These licensed services, along with unintentional radiators such as digital devices, including computers, contribute to the electromagnetic environment.

Electromagnetic Compatibility (EMC) is the ability of items of electronic equipment to function properly together in the electronic environment. While this computer has been designed and determined to be compliant with regulatory agency limits for EMI, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause interference with radio communications services, which can be determined by turning the equipment off and on, you are encouraged to try to correct the interference by one or more of the following measures:

- Reorient the receiving antenna.
- Relocate the computer with respect to the receiver.
- Move the computer away from the receiver.
- Plug the computer into a different outlet so that the computer and the receiver are on different branch circuits.

If necessary, consult a Dell Technical Support representative or an experienced radio/television technician for additional suggestions.

For additional regulatory information, see the *Dell Latitude 100L Help* file that accompanied your computer. To access the help file, see page 16.

NOM Information (Mexico Only)

The following information is provided on the device(s) described in this document in compliance with the requirements of the official Mexican standards (NOM):

Exporter:	Dell Inc. One Dell Way Round Rock, TX 78682
Importer:	Dell Computer de México, S.A. de C.V. Paseo de la Reforma 2620 - 11° Piso Col. Lomas Altas 11950 México, D.F.
Ship to:	Dell Computer de México, S.A. de C.V. al Cuidado de Kuehne & Nagel de México S. de R.L. Avenida Soles No. 55 Col. Peñon de los Baños 15520 México, D.F.
Model number:	PP08L
Supply voltage:	100–240 VAC
Frequency:	50–60 Hz
Current consumption:	1.5 A
Output voltage:	19.5 VDC
Output current:	4.62 A

Dell Software License Agreement

This is a legal agreement between you, the user, and Dell Products, L.P. ("Dell"). This agreement covers all software that is distributed with the Dell product, for which there is no separate license agreement between you and the manufacturer or owner of the software (collectively the "Software"). This agreement is not for the sale of Software or any other intellectual property. All title and intellectual property rights in and to Software is owned by the manufacturer or owner of the Software. All rights not expressly granted under this agreement are reserved by the manufacturer or owner of the Software. By opening or breaking the seal on the Software packet(s), installing or downloading the Software, or using the Software that has been preloaded or is embedded in your product, you agree to be bound by the terms of this agreement. If you do not agree to these terms, promptly return all Software items (disks, written materials, and packaging) and delete any preloaded or embedded Software.

You may use one copy of the Software on only one computer at a time. If you have multiple licenses for the Software, you may use as many copies at any time as you have licenses. "Use" means loading the Software in temporary memory or permanent storage on the computer. Installation on a network server solely for distribution to other computers is not "use" if (but only if) you have a separate license for each computer to which the Software is distributed. You must ensure that the number of persons using the Software installed on a network server does not exceed the number of licenses that you have. If the number of users of Software installed on a network server will exceed the number of licenses, you must purchase additional licenses until the number of licenses equals the number of users before allowing additional users to use the Software. If you are a commercial customer of Dell or a Dell affiliate, you hereby grant Dell, or an agent selected by Dell, the right to perform an audit of your use of the Software during normal business hours, you agree to cooperate with Dell in such audit, and you agree to provide Dell with all records reasonably related to your use of the Software. The audit will be limited to verification of your compliance with the terms of this agreement.

The Software is protected by United States copyright laws and international treaties. You may make one copy of the Software solely for backup or archival purposes or transfer it to a single hard disk provided you keep the original solely for backup or archival purposes. You may not rent or lease the Software or copy the written materials accompanying the Software, but you may transfer the Software and all accompanying materials on a permanent basis as part of a sale or transfer of the Dell product if you retain no copies and the recipient agrees to the terms hereof. Any transfer must include the most recent update and all prior versions. You may not reverse engineer, decompile, or disassemble the Software. If the package accompanying your computer contains compact discs, 3.5", and/or 5.25" disks, you may use only the disks appropriate for your computer. You may not use the disks on another computer or network, or loan, rent, lease, or transfer them to another user except as permitted by this agreement.

LIMITED WARRANTY

Dell warrants that the Software disks will be free from defects in materials and workmanship under normal use for ninety (90) days from the date you receive them. This warranty is limited to you and is not transferable. Any implied warranties are limited to ninety (90) days from the date you receive the Software. Some jurisdictions do not allow limits on the duration of an implied warranty, so this limitation may not apply to you. The entire liability of Dell and its suppliers, and your exclusive remedy, shall be (a) return of the price paid for the Software or (b) replacement of any disk not meeting this warranty that is sent with a return authorization number to Dell, at your cost and risk. This limited warranty is void if any disk damage has resulted from accident, abuse, misapplication, or service or modification by someone other than Dell. Any replacement disk is warranted for the remaining original warranty period or thirty (30) days, whichever is longer.

Dell does NOT warrant that the functions of the Software will meet your requirements or that operation of the Software will be uninterrupted or error free. You assume responsibility for selecting the Software to achieve your intended results and for the use and results obtained from the Software.

DELL, ON BEHALF OF ITSELF AND ITS SUPPLIERS, DISCLAIMS ALL OTHER WARRANTIES, EXPRESS OR IMPLIED, INCLUDING, BUT NOT LIMITED TO, IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE, FOR THE SOFTWARE AND ALL ACCOMPANYING WRITTEN MATERIALS. This limited warranty gives you specific legal rights; you may have others, which vary from jurisdiction to jurisdiction.

IN NO EVENT SHALL DELL OR ITS SUPPLIERS BE LIABLE FOR ANY DAMAGES WHATSOEVER (INCLUDING, WITHOUT LIMITATION, DAMAGES FOR LOSS OF BUSINESS PROFITS, BUSINESS INTERRUPTION, LOSS OF BUSINESS INFORMATION, OR OTHER PECUNIARY LOSS) ARISING OUT OF USE OR INABILITY TO USE THE SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY OF SUCH DAMAGES. Because some jurisdictions do not allow an exclusion or limitation of liability for consequential or incidental damages, the above limitation may not apply to you.

U.S. GOVERNMENT RESTRICTED RIGHTS

The software and documentation are "commercial items" as that term is defined at 48 C.F.R. 2.101, consisting of "commercial computer software" and "commercial computer software documentation" as such terms are used in 48 C.F.R. 12.212. Consistent with 48 C.F.R. 12.212 and 48 C.F.R. 227.7202-1 through 227.7202-4, all U.S. Government end users acquire the software and documentation with only those rights set forth herein. Contractor/manufacturer is Dell Products, L.P., One Dell Way, Round Rock, Texas 78682.

GENERAL

This license is effective until terminated. It will terminate upon the conditions set forth above or if you fail to comply with any of its terms. Upon termination, you agree that the Software and accompanying materials, and all copies thereof, will be destroyed. This agreement is governed by the laws of the State of Texas. Each provision of this agreement is severable. If a provision is found to be unenforceable, this finding does not affect the enforceability of the remaining provisions, terms, or conditions of this agreement. This agreement is binding on successors and assigns. Dell agrees and you agree to waive, to the maximum extent permitted by law, any right to a jury trial with respect to the Software or this agreement. Because this waiver may not be effective in some jurisdictions, this waiver may not apply to you. You acknowledge that you have read this agreement, that you understand it, that you agree to be bound by its terms, and that this is the complete and exclusive statement of the agreement between you and Dell regarding the Software.

Limited Warranties and Return Policy

Dell-branded hardware products purchased in the U.S. or Canada come with either a 90-day, 1-year, 2-year, 3-year, or 4-year limited warranty. To determine which warranty came with your hardware product(s), see your packing slip or invoice. The following sections describe the limited warranties and return policy for the U.S., the limited warranties and return policy for Canada, the manufacturer guarantee for Latin America and the Caribbean, and the Intel® Pentium® and Celeron® warranty for the U.S. and Canada.

Limited Warranty for Dell-Branded Hardware Products (U.S. Only)

What is covered by this limited warranty?

This limited warranty covers defects in materials and workmanship in your—our end-user customer's—Dell-branded hardware products, including Dell-branded peripheral products.

What is not covered by this limited warranty?

This limited warranty does not cover:

- Software, including the operating system and software added to the Dell-branded hardware products through our factory-integration system, third-party software, or the reloading of software
- Non-Dell-branded and Solution Provider Direct products and accessories
- Problems that result from:
 - External causes such as accident, abuse, misuse, or problems with electrical power
 - Servicing not authorized by Dell
 - Usage that is not in accordance with product instructions
 - Failure to follow the product instructions or failure to perform preventive maintenance
 - Problems caused by using accessories, parts, or components not supplied by Dell
- Products with missing or altered Service Tags or serial numbers
- Products for which Dell has not received payment

THIS WARRANTY GIVES YOU SPECIFIC LEGAL RIGHTS, AND YOU MAY ALSO HAVE OTHER RIGHTS WHICH VARY FROM STATE TO STATE (OR JURISDICTION TO JURISDICTION). DELL'S RESPONSIBILITY FOR MALFUNCTIONS AND DEFECTS IN HARDWARE IS LIMITED TO REPAIR AND REPLACEMENT AS SET FORTH IN THIS WARRANTY STATEMENT. ALL EXPRESS AND IMPLIED WARRANTIES FOR THE PRODUCT, INCLUDING BUT NOT LIMITED TO ANY IMPLIED WARRANTIES AND CONDITIONS OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE, ARE LIMITED IN TIME TO THE TERM OF THE LIMITED WARRANTY PERIOD REFLECTED ON YOUR PACKING SLIP OR INVOICE. NO WARRANTIES, WHETHER EXPRESS OR IMPLIED, WILL APPLY AFTER THE LIMITED WARRANTY PERIOD HAS EXPIRED. SOME STATES DO NOT ALLOW LIMITATIONS ON HOW LONG AN IMPLIED WARRANTY LASTS, SO THIS LIMITATION MAY NOT APPLY TO YOU.

WE DO NOT ACCEPT LIABILITY BEYOND THE REMEDIES PROVIDED FOR IN THIS LIMITED WARRANTY OR FOR CONSEQUENTIAL OR INCIDENTAL DAMAGES, INCLUDING, WITHOUT LIMITATION, ANY LIABILITY FOR THIRD-PARTY CLAIMS AGAINST YOU FOR DAMAGES, FOR PRODUCTS NOT BEING AVAILABLE FOR USE, OR FOR LOST DATA OR LOST SOFTWARE. OUR LIABILITY WILL BE NO MORE THAN THE AMOUNT YOU PAID FOR THE PRODUCT THAT IS THE SUBJECT OF A CLAIM. THIS IS THE MAXIMUM AMOUNT FOR WHICH WE ARE RESPONSIBLE.

SOME STATES DO NOT ALLOW THE EXCLUSION OR LIMITATION OF INCIDENTAL OR CONSEQUENTIAL DAMAGES, SO THE ABOVE LIMITATION OR EXCLUSION MAY NOT APPLY TO YOU.

How long does this limited warranty last?

This limited warranty lasts for the time period indicated on your packing slip or invoice, except for the following Dell-branded hardware:

- Portable computer batteries carry a 1-year limited warranty.
- Projector lamps carry a 90-day limited warranty.
- Memory carries a lifetime limited warranty.
- Monitors carry the longer of either a 3-year limited warranty or the remainder of the warranty for the Dell computer to which the monitor will be connected.
- Other add-on hardware carries the longer of either a 1-year limited warranty for new parts and a 90-day limited warranty for reconditioned parts or, for both new and reconditioned parts, the remainder of the warranty for the Dell computer on which such parts are installed.

The limited warranty on all Dell-branded products begins on the date of the packing slip or invoice. The warranty period is not extended if we repair or replace a warranted product or any parts. Dell may change the availability of limited warranties, at its discretion, but any changes will not be retroactive.

What do I do if I need warranty service?

Before the warranty expires, please call us at the relevant number listed in the following table. Please also have your Dell Service Tag or order number available.

Individual Home Consumers:	U.S. Only
Technical Support	1-800-624-9896
Customer Service	1-800-624-9897
Individual Home Consumers who purchased through an Employee Purchase Program:	
Technical Support and Customer Service	1-800-822-8965
Home and Small Business Commercial Customers:	
Technical Support and Customer Service	1-800-456-3355
Medium, Large, or Global Commercial Customers, Healthcare Customers, and Value-Added Resellers (VARs):	
Technical Support and Customer Service	1-800-822-8965
Government and Education Customers:	
Technical Support and Customer Service	1-800-234-1490
Dell-Branded Memory	1-888-363-5150

What will Dell do?

During the 90 days of the 90-day limited warranty and the first year of all other limited warranties: During the 90 days of the 90-day limited warranty and the first year of all other limited warranties, we will repair any Dell-branded hardware products returned to us that prove to be defective in materials or workmanship. If we are not able to repair the product, we will replace it with a comparable product that is new or refurbished.

When you contact us, we will issue a Return Material Authorization Number for you to include with your return. You must return the products to us in their original or equivalent packaging, prepay shipping charges, and insure the shipment or accept the risk if the product is lost or damaged in shipment. We will return the repaired or replacement products to you. We will pay to ship the repaired or replaced products to you if you use an address in the United States (excluding Puerto Rico and U.S. possessions and territories). Otherwise, we will ship the product to you freight collect.

If we determine that the product is not covered under this warranty, we will notify you and inform you of service alternatives that are available to you on a fee basis.

NOTE: Before you ship the product(s) to us, make sure to back up the data on the hard drive(s) and any other storage device(s) in the product(s). Remove any confidential, proprietary, or personal information and removable media such as floppy disks, CDs, or PC Cards. We are not responsible for any of your confidential, proprietary, or personal information; lost or corrupted data; or damaged or lost removable media.

During the remaining years: For the remaining period of the limited warranty, we will replace any defective part with new or refurbished parts, if we agree that it needs to be replaced. When you contact us, we will require a valid credit card number at the time you request a replacement part, but we will not charge you for the replacement part as long as you return the original part to us within 30 days after we ship the replacement part to you. If we do not receive the original part within 30 days, we will charge to your credit card the then-current standard price for that part.

We will pay to ship the part to you if you use an address in the United States (excluding Puerto Rico and U.S. possessions and territories). Otherwise, we will ship the part freight collect. We will also include a prepaid shipping container with each replacement part for your use in returning the replaced part to us.

NOTE: Before you replace parts, make sure to back up the data on the hard drive(s) and any other storage device(s) in the product(s). We are not responsible for lost or corrupted data.

What if I purchased a service contract?

If your service contract is with Dell, service will be provided to you under the terms of the service agreement. Please refer to that contract for details on how to obtain service.

If you purchased through us a service contract with one of our third-party service providers, please refer to that contract for details on how to obtain service.

How will you fix my product?

We use new and refurbished parts made by various manufacturers in performing warranty repairs and in building replacement parts and systems. Refurbished parts and systems are parts or systems that have been returned to Dell, some of which were never used by a customer. All parts and systems are inspected and tested for quality. Replacement parts and systems are covered for the remaining period of the limited warranty for the product you bought. Dell owns all parts removed from repaired products.

May I transfer the limited warranty?

Limited warranties on systems may be transferred if the current owner transfers ownership of the system and records the transfer with us. The limited warranty on Dell-branded memory may not be transferred. You may record your transfer by going to Dell's website:

- If you are an Individual Home Consumer, go to www.dell.com/us/en/dhs/topics/sbtopic_015_ccare.htm
- If you are a Home Office, Small, Medium, Large, or Global Commercial Customer, go to www.dell.com/us/en/biz/topics/sbtopic_ccare_nav_015_ccare.htm
- If you are a Government, Education, or Healthcare Customer, or an Individual Home Consumer who purchased through an Employee Purchase Program, go to www.dell.com/us/en/pub/topics/sbtopic_015_ccare.htm

If you do not have Internet access, call your customer care representative or call 1-800-624-9897.

"Total Satisfaction" Return Policy (U.S. Only)

We value our relationship with you and want to make sure that you're satisfied with your purchases. That's why we offer a "Total Satisfaction" return policy for most products that you—the end-user customer—purchase directly from Dell. Under this policy, you may return to Dell products that you purchased directly from Dell for a credit or a refund of the purchase price paid, less shipping and handling and applicable return fees as follows:

- **New Hardware Products and Accessories** — All new hardware, accessories, parts, and unopened software still in its sealed package, excluding the products listed below, may be returned within 30 days from the date on the packing slip or invoice. To return applications software or an operating system that has been installed by Dell, you must return the entire computer. A different return policy applies to nondefective products purchased through Dell's Software and Peripherals division by customers of our Small and Medium Business divisions. Those products may be returned within 30 days from the date on the packing slip or invoice, but a fifteen percent (15%) return fee will be deducted from any refund or credit. The "Total Satisfaction" Return Policy and Software and Peripherals division return policy are not available for Dell | EMC storage products, EMC-branded products, Unisys-branded products, PowerVault™ 160T tape libraries, or enterprise software.
- **Reconditioned or Refurbished Dell-Branded Hardware Products and Parts** — All reconditioned or refurbished Dell-branded server and storage products may be returned within 30 days from the date on the packing slip or invoice. All other reconditioned or refurbished Dell-branded hardware products and parts may be returned within 14 days of the date on the packing slip or invoice.

To return products, e-mail or call Dell customer service to receive a Credit Return Authorization Number within the return policy period applicable to the product you want to return. You must obtain a Credit Return Authorization Number in order to return the product. See "Contacting Dell" or "Getting Help" in your customer documentation (or www.dell.com/us/en/gen/contact.htm) to find the appropriate contact information for obtaining customer assistance.

You must ship the products to Dell within 5 days of the date that Dell issues the Credit Return Authorization Number. You must also return the products to Dell in their original packaging, in as-new condition along with any media, documentation, and all other items that were included in the original shipment, prepay shipping charges, and insure the shipment or accept the risk of loss or damage during shipment.

Limited Warranty Terms for Dell-Branded Hardware Products (Canada Only)

What is covered by this limited warranty?

This limited warranty covers defects in materials and workmanship in your—our end-user customer's—Dell-branded hardware products, including Dell-branded peripheral products.

What is not covered by this limited warranty?

This limited warranty does not cover:

- Software, including the operating system and software added to the Dell-branded hardware products through our factory-integration system, or the reloading of the software
- Non-Dell branded and Solution Provider Direct products and accessories
- Problems that result from:
 - External causes such as accident, abuse, misuse, or problems with electrical power
 - Servicing not authorized by Dell
 - Usage that is not in accordance with product instructions
 - Failure to follow the product instructions or failure to perform preventive maintenance
 - Problems caused by using accessories, parts, or components not supplied by Dell

- Products with missing or altered Service Tags or serial numbers
- Products for which Dell has not received payment

THIS WARRANTY GIVES YOU SPECIFIC LEGAL RIGHTS, AND YOU MAY ALSO HAVE OTHER RIGHTS WHICH VARY FROM PROVINCE TO PROVINCE. DELL'S RESPONSIBILITY FOR MALFUNCTIONS AND DEFECTS IN PRODUCT IS LIMITED TO REPAIR AND REPLACEMENT AS SET FORTH IN THIS WARRANTY STATEMENT, FOR THE TERM OF THE WARRANTY PERIOD REFLECTED ON YOUR PACKING SLIP OR INVOICE. EXCEPT FOR THE EXPRESS WARRANTIES CONTAINED IN THIS WARRANTY STATEMENT, DELL DISCLAIMS ALL OTHER WARRANTIES AND CONDITIONS, EXPRESS OR IMPLIED, INCLUDING WITHOUT LIMITATION IMPLIED WARRANTIES AND CONDITIONS OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE, STATUTORY OR OTHERWISE. SOME PROVINCES DO NOT ALLOW THE EXCLUSION OF CERTAIN IMPLIED WARRANTIES OR CONDITIONS, OR LIMITATIONS ON HOW LONG AN IMPLIED WARRANTY OR CONDITION LASTS. THEREFORE, THE FOREGOING EXCLUSIONS AND LIMITATIONS MAY NOT APPLY TO YOU.

WE DO NOT ACCEPT LIABILITY BEYOND THE REMEDIES PROVIDED FOR IN THIS WARRANTY STATEMENT OR FOR SPECIAL, INDIRECT, CONSEQUENTIAL, OR INCIDENTAL DAMAGES, INCLUDING, WITHOUT LIMITATION, ANY LIABILITY FOR THIRD-PARTY CLAIMS AGAINST YOU FOR DAMAGES, FOR PRODUCTS NOT BEING AVAILABLE FOR USE, OR FOR LOST DATA OR LOST SOFTWARE. OUR LIABILITY WILL BE NO MORE THAN THE AMOUNT YOU PAID FOR THE PRODUCT THAT IS THE SUBJECT OF A CLAIM. THIS IS THE MAXIMUM AMOUNT FOR WHICH WE ARE RESPONSIBLE.

SOME PROVINCES DO NOT ALLOW THE EXCLUSION OR LIMITATION OF SPECIAL, INDIRECT, INCIDENTAL, OR CONSEQUENTIAL DAMAGES, SO THE ABOVE LIMITATION OR EXCLUSION MAY NOT APPLY TO YOU.

How long does this limited warranty last?

This limited warranty lasts for the time period indicated on your packing slip or invoice, except that the limited warranty on Dell-branded batteries lasts only 1 year and the limited warranty on the lamps for Dell-branded projectors lasts only 90 days. The limited warranty begins on the date of the packing slip or invoice. The warranty period is not extended if we repair or replace a warranted product or any parts. Dell may change the terms and availability of limited warranties, at its discretion, but any changes will not be retroactive (that is, the warranty terms in place at the time of purchase will apply to your purchase).

What do I do if I need warranty service?

Before the warranty expires, please call us at the relevant number listed in the following table. Please also have your Dell Service Tag or order number available.

Individual Home Consumers; Home Office and Small Business Customers:	Canada Only
Technical Support and Customer Service	1-800-847-4096
Medium, Large, and Global Commercial Customers; Government, Education, and Healthcare Customers; and Value-Added Resellers (VARs):	
Technical Support	1-800-387-5757
Customer Service	1-800-326-9463
Government or Education Customers, or Individual Home Consumers who purchased through an Employee Purchase Program:	
Technical Support	1-800-387-5757
Customer Service	1-800-326-9463 (Extension 8221 for Individual Consumers)
Dell-Branded Memory	1-888-363-5150

What will Dell do?

During the 90 days of the 90-day limited warranty and the first year of all other limited warranties: During the 90 days of the 90-day limited warranty and the first year of all other limited warranties, we will repair any Dell-branded hardware products returned to us that prove to be defective in materials or workmanship. If we are not able to repair the product, we will replace it with a comparable product that is new or refurbished.

When you contact us, we will issue a Return Material Authorization Number for you to include with your return. You must return the products to us in their original or equivalent packaging, prepay shipping charges, and insure the shipment or accept the risk if the product is lost or damaged in shipment. We will return the repaired or replacement products to you. We will pay to ship the repaired or replaced products to you if you use an address in Canada. Otherwise, we will ship the product to you freight collect.

If we determine that the problem is not covered under this warranty, we will notify you and inform you of service alternatives that are available to you on a fee basis.

NOTE: Before you ship the product(s) to us, make sure to back up the data on the hard drive(s) and any other storage device(s) in the product(s). Remove any confidential, proprietary or personal information, removable media, such as floppy disks, CDs, or PC Cards. We are not responsible for any of your confidential, proprietary or personal information; lost or corrupted data; or damaged or lost removable media.

During the remaining years following the first year of all limited warranties: We will replace any defective part with new or refurbished parts, if we agree that it needs to be replaced. When you contact us, we will require a valid credit card number at the time you request a replacement part, but we will not charge you for the replacement part as long as you return the original part to us within 30 days after we ship the replacement part to you. If we do not receive the original part within 30 days, we will charge to your credit card the then-current standard price for that part.

We will pay to ship the part to you if you use an address in Canada. Otherwise, we will ship the part freight collect. We will also include a prepaid shipping container with each replacement part for your use in returning the replaced part to us.

NOTE: Before you replace parts, make sure to back up the data on the hard drive(s) and any other storage device(s) in the product(s). We are not responsible for lost or corrupted data.

What if I purchased a service contract?

If your service contract is with Dell, service will be provided to you under the terms of the service contract. Please refer to that contract for details on how to obtain service. Dell's service contracts can be found online at www.dell.ca or by calling Customer Care at 1-800-847-4096. If you purchased through us a service contract with one of our third-party service providers, please refer to that contract (mailed to you with your packing slip or invoice) for details on how to obtain service.

How will you fix my product?

We use new and refurbished parts made by various manufacturers in performing warranty repairs and in building replacement parts and systems. Refurbished parts and systems are parts or systems that have been returned to Dell, some of which were never used by a customer. All parts and systems are inspected and tested for quality. Replacement parts and systems are covered for the remaining period of the limited warranty for the product you bought. Dell owns all parts removed from repaired products.

May I transfer the limited warranty?

Limited warranties on systems may be transferred if the current owner transfers ownership of the system and records the transfer with us. The limited warranty on Dell-branded memory may not be transferred. You may record your transfer by going to Dell's website:

- For Canada-purchased computers (in-country transfers) and to transfer from one customer to another, go to www.dell.ca/ca/en/gen/topics/segtopic_ccare_nav_013_ccare.htm
- For out-of-country transfers (outside of the original country of purchase), go to www.dell.com/us/en/biz/topics/sbtopic_ccare_nav_016_ccare.htm

If you do not have Internet access, call Dell at 1-800-847-4096 (Home Consumer customers) or 1-800-326-9463 (Corporate Commercial or Government customers).

"Total Satisfaction" Return Policy (Canada Only)

If you are an end-user customer who bought new products directly from Dell, you may return them to Dell up to 30 days after you receive them for a refund or credit of the product purchase price. If you are an end-user customer who bought reconditioned or refurbished products from Dell, you may return them to Dell within 14 days after the date on the packing slip or invoice for a refund or credit of the product purchase price. In either case, the refund or credit will not include any shipping and handling charges shown on your packing slip or invoice and will be subject to a fifteen percent (15%) restocking fee, unless otherwise prohibited by law. If you are an organization that bought the products under a written agreement with Dell, the agreement may contain different terms for the return of products than specified by this policy.

To return products, you must call Dell Customer Service at 1-800-847-4096 to receive a Credit Return Authorization Number. To expedite the process of your refund or credit, Dell expects you to return the products to Dell in their original packaging within 5 days of the date that Dell issues the Credit Return Authorization Number. You must also prepay shipping charges and insure the shipment or accept the risk of loss or damage during shipment. You may return software for a refund or credit only if the sealed package containing the floppy disk(s) or CD(s) is unopened. Returned products must be in as-new condition, and all of the manuals, floppy disk(s), CD(s), power cables, and other items included with a product must be returned with it. For customers who want to return, for refund or credit only, either application or operating system software that has been installed by Dell, the whole system must be returned, along with any media and documentation that may have been included in the original shipment.

The "Total Satisfaction" Return Policy does not apply to Dell | EMC storage products. It also does not apply to products purchased through Dell's Software and Peripherals division. For those products, please instead refer to Dell's Software and Peripheral's then-current return policy (see the following section, "Dell Software and Peripherals [Canada Only]").

Dell Software and Peripherals (Canada Only)

Third-Party Software and Peripherals Products

Similar to other resellers of software and peripherals, Dell does not warrant third-party products. Third-party software and peripheral products are covered by the warranties provided by the original manufacturer or publisher only. Third-party manufacturer warranties vary from product to product. Consult your product documentation for specific warranty information. More information may also be available from the manufacturer or publisher.

While Dell offers a wide selection of software and peripheral products, we do not specifically test or guarantee that all of the products we offer work with any or all of the various models of Dell computers, nor do we test or guarantee all of the products we sell on the hundreds of different brands of computers available today. If you have questions about compatibility, we recommend and encourage you to contact the third-party software and peripheral product manufacturer or publisher directly.

Dell-Branded Peripheral Products

Dell does provide a limited warranty for new Dell-branded peripheral products (products for which Dell is listed as the manufacturer) such as monitors, batteries, memory, docking stations, and projectors. To determine which limited warranty applies to the product you purchased, see the Dell packing slip or invoice and/or the product documentation that accompanied your product. Descriptions of Dell's limited warranties are described in preceding sections.

Return Policy

If you are an end-user customer who bought Dell Software and Peripherals products directly from a Dell company, you may return Dell Software and Peripherals products that are in as-new condition to Dell up to 30 days from the date on the packing slip or invoice for a refund of the product purchase price if already paid. This refund will not include any shipping and handling charges shown on your packing slip or invoice; you are responsible for those.

To return products, you must call Dell Customer Service at 1-800-387-5759 to receive a Credit Return Authorization Number. You must ship the Dell Software and Peripherals products back to Dell in their original manufacturer's packaging (which must be in as-new condition), prepay shipping charges, and insure the shipment or accept the risk of loss or damage during shipment.

To qualify for refund or replacement, returned products must be in as-new condition, software products must be unopened, and all of the manuals, floppy disk(s), CD(s), power cables, and other items included with a product must be returned with it.

1-Year End-User Manufacturer Guarantee (Latin America and the Caribbean Only)

Guarantee

Dell Computer Corporation ("Dell") warrants to the end user in accordance with the following provisions that its branded hardware products, purchased by the end user from a Dell company or an authorized Dell distributor in Latin America or the Caribbean, will be free from defects in materials, workmanship, and design affecting normal use, for a period of 1 year from the original purchase date. Products for which proper claims are made will, at Dell's option, be repaired or replaced at Dell's expense. Dell owns all parts removed from repaired products. Dell uses new and reconditioned parts made by various manufacturers in performing repairs and building replacement products.

Exclusions

This Guarantee does not apply to defects resulting from: improper or inadequate installation, use, or maintenance; actions or modifications by unauthorized third parties or the end user; accidental or willful damage; or normal wear and tear.

Making a Claim

Claims must be made in Latin America or the Caribbean by contacting the Dell point of sale within the guarantee period. The end user must always supply proof of purchase, indicating name and address of the seller, date of purchase, model and serial number, name and address of the customer, and details of symptoms and configuration at the time of malfunction, including peripherals and software used. Otherwise, Dell may refuse the guarantee claim. Upon diagnosis of a warranted defect, Dell will make arrangements and pay for ground freight and insurance to and from Dell's repair/replacement center. The end user must ensure that the defective product is available for collection properly packed in original or equally protective packaging together with the details listed above and the return number provided to the end user by Dell.

Limitation and Statutory Rights

Dell makes no other warranty, guarantee or like statement other than as explicitly stated above, and this Guarantee is given in place of all other guarantees whatsoever, to the fullest extent permitted by law. In the absence of applicable legislation, this Guarantee will be the end user's sole and exclusive remedy against Dell or any of its affiliates, and neither Dell nor any of its affiliates shall be liable for loss of profit or contracts, or any other indirect or consequential loss arising from negligence, breach of contract, or howsoever.

This Guarantee does not impair or affect mandatory statutory rights of the end user against and/or any rights resulting from other contracts concluded by the end user with Dell and/or any other seller.

Dell World Trade LP

One Dell Way, Round Rock, TX 78682, USA

Dell Computadores do Brasil Ltda (CNPJ No. 72.381.189/0001-10)

Avenida Industrial Belgraf, 400
92990-000 - Eldorado do Sul - RS - Brasil

Dell Computer de Chile Ltda

Coyancura 2283, Piso 3- Of.302,
Providencia, Santiago - Chile

Dell Computer de Colombia Corporation

Carrera 7 #115-33 Oficina 603
Bogota, Colombia

Dell Computer de Mexico SA de CV

Paseo de la Reforma 2620 - 11° Piso

Col. Lomas Altas

11950 México, D.F.

**Intel® Warranty Statement for Pentium® and Celeron® Processors Only
(U.S. and Canada Only)****Intel's Three Year Limited Warranty****Limited Warranty**

Intel warrants that its family of Pentium® and Celeron® processors, if properly used and installed, will be free from defects in materials and workmanship and will substantially conform to Intel's publicly available specifications for a period of three (3) years after the date the Pentium or Celeron processor was purchased (whether purchased separately or as part of a computer system).

If the Pentium or Celeron processor, which is the subject of this Limited Warranty, fails during the warranty period for reasons covered by this Limited Warranty, Intel, at its option, will:

- REPAIR the Pentium or Celeron processor by means of hardware and/or software; OR
 - REPLACE the Pentium or Celeron processor with another Pentium or Celeron processor; OR
- if Intel is unable to repair or replace the particular Pentium or Celeron processor,
- REFUND the then-current value of the Pentium or Celeron processor.

THIS LIMITED WARRANTY, AND ANY IMPLIED WARRANTIES THAT MAY EXIST UNDER STATE LAW, APPLY ONLY TO THE ORIGINAL PURCHASER OF THE PENTIUM OR CELERON PROCESSOR, OR PENTIUM OR CELERON PROCESSOR-BASED COMPUTER AND LAST ONLY FOR AS LONG AS SUCH PURCHASER CONTINUES TO OWN THE PROCESSOR.

Extent of Limited Warranty

Intel does not warrant that your Pentium or Celeron processor will be free from design defects or errors known as "errata." Current characterized errata are available upon request. This limited warranty is for purchasers in the United States and Canada only. The limited warranty does not cover any costs relating to removal or replacement of any Pentium or Celeron processors that are soldered or otherwise permanently affixed to your system's motherboard.

This limited warranty does not cover damages due to external causes, including accident, problems with electrical power, usage not in accordance with product instructions, misuse, neglect, alteration, repair, improper installation, or improper testing.

How to Obtain Warranty Service

To obtain warranty service for your Pentium or Celeron processor, you may contact your computer system manufacturer in accordance with its instructions, or you may contact Intel.

To request warranty service from Intel, you should call Intel at 1-800-628-8686 during the warranty period during normal business hours (Pacific Time), excluding holidays. Please be prepared to provide:

- (1) your name, address, and telephone numbers;
- (2) proof of purchase;
- (3) this Intel warranty card;
- (4) a description of the computer system including the brand and model; and
- (5) an explanation of the problem.

[Note: The Customer Service Representative may need additional information from you depending on the nature of the problem.]

The replacement processor is warranted under this written warranty and is subject to the same limitations and exclusions for the remainder of the original warranty period or one (1) year, whichever is longer.

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THE LIMITED WARRANTY GIVES YOU SPECIFIC LEGAL RIGHTS, AND YOU MAY ALSO HAVE OTHER RIGHTS THAT VARY FROM JURISDICTION TO JURISDICTION.

**Intel Pentium® and Celeron® Processors are backed by a three-year limited warranty.
Please refer to the reverse side of this card for complete warranty details.**

Intel's Commitment to Quality

Intel is committed to producing the highest quality processors available. That's why we have hundreds of people dedicated to continuously improve our design, manufacturing, and testing technology.

We put every one of our Pentium® and Celeron® processors through a rigorous battery of tests during the design and manufacturing processes.

To verify that the new chip will correctly run the software written for Intel Architecture processors, a team of Intel engineers is dedicated to compatibility testing. In a state-of-art lab, this group runs an extensive set of operating systems, applications, network tests and stress tests repeatedly to ensure that the processor is compatible with representative software.

Just as importantly, we work with hardware and software companies in the computer industry to ensure that our processors are compatible with their products.

Additionally, a sampling of Intel processors are subjected to a rigorous "burn-in" test whereby the chip is operated at higher-than-normal temperatures and voltages. During this burn-in period, the processor experiences the equivalent of weeks of normal usage. These units are monitored for failures as part of our ongoing quality assurance process.

As a result, today's microprocessors from Intel are among the most reliable components in computers.

What are "Errata"?

Exhaustive product testing can highlight differences between the actual behavior of the microprocessor and its specifications. Sometimes the discrepancies are caused by a design defect or error, which we call errata. Rigorous validation identifies most errata during the development of the processor, but we do detect additional errata during the life cycle of a microprocessor.

When an erratum is identified, our engineers work to characterize it and find a solution. We work with system designers and software developers to ensure that the discrepancy does not affect their products. If necessary, special software or hardware solutions (sometimes known as "work arounds") are implemented in the system design to prevent computer users from encountering the problem. Errata may then be corrected in future revisions of the microprocessor.

No microprocessor is perfect, and Intel recognizes that some consumers want to know about any errata, whether or not the errata affect them. Intel makes documentation of all characterized Pentium and Celeron processor errata publicly available through our Technical Documentation Service.

At Intel, our goal is to make every computer user satisfied with his or her Pentium or Celeron processor. Should you have any questions, comments or concerns about your Intel microprocessor, please call us at 1-800-628-8686.

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