Dell™ Dimension™ 4600 Series

- Service Tag
- CD or DVD drive activity light
- CD or DVD eject button
- CD or DVD volume control dial
- floppy drive light*
- power light
- power button
- USB 2.0 connectors (2)
- headphone connector

*On computers with an optional floppy drive.

- power connector
- voltage selection switch
- serial connector
- integrated video connector**
- keyboard connector
- center/LFE connector*
- line-out connector*
- microphone connector*
- USB 2.0 connectors (6)
- PCI card slots (3)
- parallel connector
- diagnostic lights (4)
- mouse connector
- surround connector*
- line-in connector*
- cover latch
- network adapter connector
- video connector***
- optional sound card connector (see the setup diagram)

*On computers with integrated sound.
**On computers with integrated video.
***On computers with a video card.

Model DMC, MTC2

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 *Tell Me How* help file. To access help files, see page 21.

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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See your Product Information Guide for safety instructions.
## Finding Information for Your Computer

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<tr>
<td>How to set up my computer</td>
<td><strong>Setup Diagram</strong></td>
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![Setup Diagram](image)

- Tips on using the Microsoft® Windows® operating system
- How to clean my computer
- How to use my mouse and keyboard

<table>
<thead>
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<tr>
<td><strong>Tell Me How Help File</strong></td>
</tr>
<tr>
<td>1 Click the Start button and click Help and Support.</td>
</tr>
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</tr>
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<td>3 Click Tell Me How.</td>
</tr>
</tbody>
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- Express Service Code and Service Tag
- Microsoft Windows License Label

<table>
<thead>
<tr>
<th>Find It Here</th>
</tr>
</thead>
<tbody>
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<td><strong>Express Service Code and Product Key Label</strong></td>
</tr>
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<td>These labels are located on your computer.</td>
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### What are you looking for?  
1. Latest drivers for my computer  
2. Answers to technical service and support questions  
3. Online discussions with other users and technical support  
4. Documentation for my computer

### Dell Support Website — support.dell.com
The Dell Support website provides several online tools, including:
1. Solutions — Troubleshooting hints and tips, articles from technicians, and online courses  
2. Community Forum — Online discussion with other Dell customers  
3. Upgrades — Upgrade information for components, such as memory, the hard drive, and the operating system  
4. Customer Care — Contact information, order status, warranty, and repair information  
5. Downloads — Drivers, patches, and software updates  
6. Reference — Computer documentation, product specifications, and white papers

### Windows XP 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.
Setting Up and Using Your 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 connects to your computer with either a USB cable or a parallel 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 Parallel Printer

1. Complete the operating system setup, if you have not already done so.
2. Shut down the computer through the Start menu (see page 18).

NOTICE: For best results, use a 3-m (10-ft) or shorter parallel cable.
3. Attach the parallel printer cable to the parallel connector on the computer and tighten the two screws. Attach the cable to the connector on the printer and snap the two clips into the two notches.
4  Turn on the printer and then turn on the computer. If the Add New Hardware Wizard window appears, click Cancel.

5  Install the printer driver if necessary. See the documentation that came with your printer.

**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.
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 the back of 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.

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 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 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.
Copy CDs and DVDs

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

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 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.

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

1. Click the **Start** button, point to **All Programs** → **Sonic** → **RecordNow!** → **RecordNow!**.
2. Click either the audio tab or the data tab, depending on the kind of CD 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 and CD-RWs

Your CD-RW drive can write to two different types of recording media—CD-Rs and 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.
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.

Hyper-Threading

Hyper-Threading is an Intel® technology that can enhance overall computer performance by allowing one physical microprocessor to function as two logical microprocessors, capable of performing certain tasks simultaneously. It is recommended that you use the Microsoft® Windows® XP operating system because Windows XP is optimized to take advantage of Hyper-Threading technology. While many programs can benefit from Hyper-Threading, some programs have not been optimized for Hyper-Threading and may require an update from the software manufacturer. Contact the software manufacturer for updates and information about using Hyper-Threading with your software.

To determine if your computer is using Hyper-Threading technology:

1. Click the Start button, right-click My Computer, and then click Properties.
2. Click Hardware and click Device Manager.
3. In the Device Manager window, click the plus (+) sign next to the processor type. If Hyper-Threading is enabled, the processor is listed twice.

You can enable or disable Hyper-Threading through system setup. For more information on Hyper-Threading, search the Knowledge Base on the Dell Support website at support.dell.com.
**Booting to a USB Device**

**NOTE:** To boot to a USB device, the device must be bootable. To make sure your device is bootable, check the device documentation.

To restart your computer to a USB device such as a floppy drive, memory key, or CD-RW drive:

1. Connect the USB device to a USB connector.
2. Shut down (see page 18) and restart the computer.
3. Turn on the computer. When the DELL™ logo appears, press <F12> immediately.
   - 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.

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

4. When the boot device list appears, highlight USB Flash Device and press <Enter>.
   - The computer restarts to the connected USB device.

**Turning Off Your Computer**

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

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.
## Finding Solutions

Sometimes it’s difficult to figure out where to go for answers. Use this chart to help you quickly find the answers to your questions.

<table>
<thead>
<tr>
<th>START HERE</th>
<th>YES</th>
<th>NO</th>
</tr>
</thead>
<tbody>
<tr>
<td>Is the power light on?</td>
<td>YES</td>
<td>NO</td>
</tr>
<tr>
<td>Is the power light blinking?</td>
<td>YES</td>
<td>NO</td>
</tr>
<tr>
<td>Did you hear more than one beep when you turned on the computer?</td>
<td>YES</td>
<td>NO</td>
</tr>
<tr>
<td>Are you seeing an error message before Windows starts?</td>
<td>YES</td>
<td>NO</td>
</tr>
</tbody>
</table>

- **NO**: See page 32.
- **YES**: Press a key or move the mouse. See the *Tell Me How* help file for information on standby mode. For more information, see page 32.
- **NO**: Get technical assistance from Dell. See page 88.
- **YES**: See page 25.
Are you having a problem with...

NO

- video or the monitor? YES See page 36.
- sound or the speakers? YES See page 35.
- the printer? YES See page 33.
- the modem? YES See page 24.
- the mouse? YES See page 30.
- the keyboard? YES See page 30.
- the hard drive or a disk drive? YES See page 21.
- the network adapter? YES See page 31.
- the scanner? YES See page 34.
- Windows error messages? YES See page 25.
- the Internet? YES See page 24.
- your e-mail? YES See page 24.

Are you having some other type of problem? YES See page 26.
Finding Help Information

**TO ACCESS THE TELL ME HOW 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 Tell Me How.

**TO ACCESS WINDOWS HELP —**
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 shown on the screen.

**TO LOCATE ADDITIONAL INFORMATION FOR YOUR COMPUTER —** See page 9.

Battery Problems

⚠️ **CAUTION:** There is a danger of a new battery exploding if it is incorrectly installed. Replace the battery only with the same or equivalent type recommended by the manufacturer. Discard used batteries according to the manufacturer’s instructions.

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

**REPLACE THE BATTERY —** If you have to repeatedly reset time and date information after turning on the computer, or if an incorrect time or date displays during start-up, replace the battery (see page 86). If the battery still does not work properly, contact Dell (see page 90).

Drive Problems

Floppy drive problems

**ENSURE THAT WINDOWS® RECOGNIZES THE DRIVE —** Click the Start button and click My Computer. If the floppy drive is not listed, perform a full scan with your antivirus software to check for and remove viruses. Viruses can sometimes prevent Windows from recognizing the drive.
**Test the drive**
- Insert another disk to eliminate the possibility that the original floppy disk is defective.
- Insert a bootable floppy disk and reboot the computer.

**Ensure that the disk is not full or write-protected** — Ensure that the disk has available space and that it is not write-protected (locked). See the following figure.

![Diagram showing the back of a floppy disk with write-protected and not write-protected labels]

**Notice**: Do not attempt to clean drive heads with a swab. You may accidentally misalign the heads, which can render the drive inoperable.

**Clean the drive** — Use a commercially available cleaning kit.

**CD drive problems**

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

**Adjust the Windows volume control** — Click the speaker icon in the lower-right corner of your screen.
- Ensure that the volume is turned up by clicking the slidebar and dragging it up.
- Ensure that the sound is not muted by clicking any boxes that are checked.
Problems writing to a CD-RW drive

**Test the drive with another CD** — Insert another CD to eliminate the possibility that the original CD is defective.

**Check the speakers and subwoofer** — See "Sound and Speaker Problems" on page 35.

**Ensure that Windows recognizes the drive** — Click the Start button and click My Computer. If the CD 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.

**Clean the disc** — See the Tell Me How help file for instructions on cleaning your CDs. To access help files, see page 21.

DVD drive problems

**Test the drive with another DVD** — Insert another DVD to eliminate the possibility that the original DVD is defective.

**Ensure that Windows recognizes the drive** — Click the Start button and click My Computer. If the DVD drive is not listed, perform a full scan with your antivirus software to check for and remove viruses. Viruses can sometimes prevent Windows from recognizing the drive.

**Clean the disc** — See the Tell Me How help file for instructions on cleaning your DVDs. To access help files, see page 21.

**Check for interrupt request conflicts** — See page 49.
Hard drive problems

**RUN CHECK DISK —**
1 Click the Start button and 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.

E-Mail, Modem, and Internet Problems

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

**CHECK THE TELEPHONE LINE CONNECTION —** Verify that the telephone line is connected to the jack on the modem. (The jack has either a green label or a connector-shaped icon next to it.) Ensure that you hear a click when you insert the telephone line connector into the modem.

**CHECK THE TELEPHONE JACK —** Disconnect the telephone line from the modem and connect it to a telephone. Listen for a dial tone.

**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 to connect the modem directly to the telephone wall jack.

**USE A DIFFERENT TELEPHONE LINE —** If you are using a line that is 3 m (10 ft) or more in length, try a shorter one.

**RUN THE MODEM HELPER DIAGNOSTICS —** Click the Start button, point to All Programs, and then click Modem Helper. Follow the instructions on the screen to identify and resolve modem problems. (Modem Helper is not available on all computers.)
VERIFY THAT THE MODEM IS COMMUNICATING WITH Windows® —
1 Click the Start button and click Control Panel.
2 Click Printers and Other Hardware.
3 Click Phone and Modem Options.
4 Click the Modems tab.
5 Click the COM port for your modem.
6 Click Properties, click the Diagnostics tab, and then click Query Modem to verify that the modem is communicating with Windows.
   If all commands receive responses, the modem is operating properly.

TURN OFF CALL WAITING (catch-phone) — See your telephone directory for instructions on deactivating this feature. Then adjust the dial-up networking connection properties.
1 Click the Start button and click Control Panel.
2 Click Printers and Other Hardware, and then click Phone and Modem Options.
3 Click your connection type to highlight it.
4 Click the Dialing Rules tab and click Edit.
5 Click the To Disable Call Waiting box to place a checkmark in it.
6 Select the disable code from the drop-down menu (for example, *70).
7 Click Apply and click OK.

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

ENSURE THAT YOU HAVE SUBSCRIBED TO AN INTERNET SERVICE PROVIDER — Contact an Internet service provider to subscribe.

CONTACT YOUR INTERNET SERVICE PROVIDER — Contact your Internet service provider for assistance.

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

A FILENAME CANNOT CONTAIN ANY OF THE FOLLOWING CHARACTERS: \\
/ * ? " < > | — Do not use these characters in filenames.
A required .DLL file was not found — The program that you are trying to open is missing an essential file. To remove and then reinstall the program:
1 Click the Start button and click Control Panel.
2 Click Add or Remove Programs.
3 Select the program you want to remove.
4 Click the Change or Remove Program icon.
5 See the program documentation for installation instructions.

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

Non-system disk error — A floppy disk is in the floppy drive. Remove the floppy disk and restart the computer.

Not enough memory or resources. Close some programs and try again — You have too many programs open. Close all windows and open the program that you want to use. In some cases, you might have to restart your computer to restore computer resources. If so, run the program that you want to use first.

Operating system not found — Contact Dell (see page 90).

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. Try copying the file to a blank disk or using a larger-capacity disk.

X:\ is not accessible. The device is not ready — The floppy drive cannot read the disk. Insert a floppy disk into the drive and try again.

General Problems

The computer stops responding

Turn the computer off — If your computer locks up and you are unable to get a response by pressing a key on your keyboard or moving your mouse, press and hold the power button for at least 8 to 10 seconds until the computer turns off. Then press the power button again to turn on the computer. You might lose data if you are unable to perform an operating system shutdown.
A program stops responding

**END THE PROGRAM —**
1. Press `<Ctrl>`<Shift><Esc> simultaneously.
2. Click Applications.
3. Click the program that is no longer responding.
4. Click End Task.

A program crashes repeatedly

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

**CHECK 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. If necessary, uninstall and then reinstall the program.

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

**RUN THE PROGRAM COMPATIBILITY WIZARD —**
Windows XP provides a Program Compatibility Wizard that configures a program so it runs in an environment similar to non-Windows XP operating system environments.
1. Click the Start button, point to All Programs→Accessories, and then click Program Compatibility Wizard.
2. In the welcome screen, click Next.
3. Follow the instructions on the screen.

A solid blue screen appears

**TURN THE COMPUTER OFF —** If the computer does not respond to a keystroke or a proper shutdown, press the power button for at least 8 to 10 seconds until the computer turns off. Press the power button again to restart the computer. The chkdsk program automatically runs during the start-up process. Follow the instructions on the screen.

Other software problems

**CHECK THE SOFTWARE DOCUMENTATION OR CONTACT THE SOFTWARE MANUFACTURER FOR TROUBLESHOOTING INFORMATION**
Solving Problems

**Other technical problems**

- **Go to the Dell Support website** — Go to support.dell.com for help with general usage, installation, and troubleshooting questions. The support website offers several different tools to help you, such as Dell Forum—a chat room where you can communicate with other Dell customers about their computers and gain access to technical support through e-mail. See "Dell Technical Support Policy (U.S. Only)" on page 88 for a description of the hardware and software support provided by Dell.

- **Call Dell** — If you cannot solve your problem using the Dell Support website or e-mail service, call Dell for technical assistance (see page 90). See "Dell Technical Support Policy (U.S. Only)" on page 88 for a description of the hardware and software support provided by Dell.

**General hardware problems**

If your computer exhibits one or more of the following symptoms, a device conflict may exist:

- Your computer locks up, particularly while using a specific device.
- A recently added device does not work.
- A sound card emits noise or demonstrates other problems.

**Back up your files immediately** — If your computer has a CD-RW drive or a zip drive installed, see the drive’s documentation for instructions.

**Ensure that you have not made an error while entering data** — See the program documentation to ensure that the values or characters you are entering are valid.

**Check for viruses** — Use a virus-scanning program to check the hard drive, floppy disks, or CDs.

**Restart the computer** — Save and close any open files, exit any open programs, and then shut down your computer through the Start menu instead of by pressing the power button. Otherwise, you may lose data.

**Check for compatibility** —
- Ensure that the program is compatible with the operating system installed on your computer and that your computer meets the minimum hardware requirements needed to run the software. See the software documentation for information.
- If necessary, uninstall and then reinstall the program.

**Ensure that you properly installed and configured the program** — See the software documentation for information. If necessary, uninstall and then reinstall the program.
- Unintelligible characters print from the printer.
- The mouse pointer does not move or "stutters" when it moves.
- Messages appear stating that the computer is not operating at maximum performance.
- Errors occur and programs crash for no apparent reason.
- Nothing displays on the monitor.

**IEEE 1394 Device Problems**

**NOTE:** Check Windows Explorer to see if your device is listed as a drive.

**CHECK THE IEEE 1394 DEVICE** — Ensure that the IEEE 1394 device is properly inserted into the connector.

**ENSURE THAT THE IEEE 1394 DEVICE IS RECOGNIZED BY WINDOWS®** —
1. Click the Start button.
2. Click Control Panel.
3. Click Printers and Other Hardware.
   - If your IEEE 1394 device is listed, Windows recognizes the device.

**IF YOU HAVE PROBLEMS WITH A DELL-PROVIDED IEEE 1394 DEVICE** — Contact Dell (see page 90).

**IF YOU HAVE PROBLEMS WITH AN IEEE 1394 DEVICE NOT PROVIDED BY DELL** — Contact the IEEE 1394 device manufacturer.
Keyboard Problems

**RESTART THE COMPUTER** —
- If the mouse is functioning, shut down the computer through the **Start** menu (see page 13). After the computer shuts down, press the power button to restart the computer.
- If the computer does not respond to a keystroke or the mouse, press the power button for at least 8 to 10 seconds until the computer turns off. Press the power button again to restart the computer.

**CHECK THE KEYBOARD CABLE** —
- Ensure that the keyboard cable is firmly connected to the computer.
- Shut down the computer (see page 13), reconnect the keyboard cable as shown on the setup diagram for your computer, and then restart the computer.
- Check the cable connector for bent or broken pins and for damaged or frayed cables. Straighten bent pins.
- Remove keyboard extension cables and connect the keyboard directly to the computer.

**TEST THE KEYBOARD** — Connect a properly working keyboard to the computer, and try using the keyboard. If the new keyboard works, the original keyboard is faulty.

**CHECK FOR INTERRUPT REQUEST CONFLICTS** — See page 49.

Mouse Problems

**RESTART THE COMPUTER** —
1. Simultaneously press `<Ctrl><Esc>` to display the **Start** menu.
2. Type `u`, press the keyboard arrow keys to highlight **Shut down** or **Turn Off**, and then press `<Enter>`.
3. After the computer turns off, press the power button to restart the computer.

**IF YOU CONNECTED THE MOUSE BEFORE TURNING ON THE COMPUTER, RECONNECT THE MOUSE CABLE** —
1. Simultaneously press `<Ctrl><Esc>` to display the **Start** menu.
2. Type `u`, press the keyboard arrow keys to highlight **Shut down** or **Turn Off**, and then press `<Enter>`.
3. After the computer turns off, reconnect the mouse cable as shown on the setup diagram for your computer.
4. Start the computer.
If you connected the mouse after turning on the computer, remove the power cable, and then reconnect the mouse cable — If the mouse is connected after the power is turned on, the mouse appears to be nonfunctional. To make the mouse function properly:

1 While your computer is on, remove the power cable from the back of the computer.
2 Connect the mouse to the computer.
3 Reconnect the power cable.
4 Turn on your computer.

Pressing the power button does not clear the computer’s settings and does not restore mouse functionality.

Check the mouse cable —

- Check the cable connector for bent or broken pins and for damaged or frayed cables. Straighten bent pins.
- Ensure that the cable is firmly connected to the computer.

Test the mouse — Connect a properly working mouse to the computer, and try using the mouse. If the new mouse works, the original mouse was faulty.

Check the mouse settings —

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

Reinstall the mouse driver — See page 45.

Check for interrupt request conflicts — See page 49.

Network Problems

Check the network cable connector — Ensure that the network cable is connected as shown on page 14.

Check the network lights on the back of the computer — No light indicates that no network communication exists. Replace the network cable.
Power Problems

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

ADJUST THE POWER PROPERTIES — Your computer may be in standby or hibernate mode. For information on power conservation modes, see the Tell Me Help file, or search for the keyword standby or hibernate in Windows® Help. To access help files, see page 21.

IF THE POWER LIGHT IS BLINKING GREEN — The computer is in standby mode. Press a key on the keyboard or move the mouse to resume normal operation.

IF THE POWER LIGHT IS OFF — The computer is either turned off or is not receiving power.
- Reseat the power cable into both the power connector on the back of the computer and the electrical outlet.
- If the computer is plugged into a power strip, ensure that the power strip is plugged into an electrical outlet and that the power strip is turned on.
- Ensure that the electrical outlet is working by testing it with another device, such as a lamp.
- Bypass power protection devices, power strips, and power extension cables to verify that the computer turns on.
- Ensure that the main power cable is securely connected to the system board.
- Ensure that the front panel cable is securely connected to the system board.
- If the problem persists, contact Dell (see page 90).
NOTE: If you need technical assistance for your printer, call the printer’s manufacturer. See the printer documentation for the correct phone number.

**Printer Problems**

**If the Power Light is Steady Amber** — The computer is receiving electrical power, but an internal power problem might exist.
- Ensure that the microprocessor power cable is securely connected to the system board.
- Remove and then reinstall the memory modules.
- Remove and then reinstall any cards.
- If the problem persists, contact Dell (see page 90).

**If the Power Light is Blinking Amber** — A device might be malfunctioning or incorrectly installed.
- Ensure that the main power cable is securely connected to the system board.
- If the problem persists, contact Dell (see page 90).

**Eliminate Interference** — Electrical appliances on the same circuit or operating near the computer can cause interference. Other causes of interference are:
- Power extension cables
- Keyboard and mouse extension cables
- Too many devices on a power strip
- Multiple power strips connected to the same electrical outlet

**Check the Printer Documentation** — See the printer documentation for setup and troubleshooting information.

**Ensure that the Printer is Turned On** — See the printer documentation for power button information.

**Verify the Printer Cable Connections** —
- See the printer documentation for cable connection information.
- Ensure that the printer cables are securely connected to the printer and the computer (see page 11).

**Test the Electrical Outlet** — Ensure that the electrical outlet is working by testing it with another device, such as a lamp.
Scanner Problems

**NOTE**: Dell does not cover the scanner's warranty. If you need technical assistance for your scanner, call the scanner's manufacturer. See the scanner documentation for the correct phone number.

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

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

**RESTART THE COMPUTER AND TRY THE SCANNER AGAIN**

**CHECK THE CABLE CONNECTIONS** —
- If your scanner has a power cable, ensure that the power cable is firmly connected to a working electrical outlet and that the scanner is turned on.
- Ensure that the scanner cable is firmly connected to the computer and to the scanner.

**VERIFY THAT THE SCANNER IS RECOGNIZED BY MICROSOFT® WINDOWS®** —
1 Click the Start button and click Control Panel.
2 Click Printers and Other Hardware.
3 Click Scanners and Cameras.
   If your scanner is listed, Windows recognizes the scanner.

**REINSTALL THE SCANNER DRIVER** — See the scanner documentation for instructions.
Sound and Speaker Problems

No sound from speakers

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

**CHECK THE SPEAKER CABLE CONNECTIONS** — Ensure that the speakers are connected as shown on the setup diagram supplied with the speakers. If you purchased a sound card, ensure that the speakers are connected to the card.

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

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

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

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

**ENABLE DIGITAL MODE** — Your speakers do not work if the CD drive is operating in analog mode. To enable digital mode:

1. Click the Start button, click Control Panel, and then click Sounds, Speech, and Audio Devices.
2. Click Sounds and Audio Devices.
3. Click the Hardware tab.
4. Double-click the name of your CD drive.
5. Click the Properties tab.
6. Check the Enable digital CD audio for this CD-ROM device box.

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

**RUN THE SPEAKER DIAGNOSTICS** — Some speaker systems have self-diagnostics. See the speaker documentation for diagnostics instructions.
No sound from headphones

**Check the Headphone Cable Connection** — Ensure that the headphone cable is securely inserted into the headphone connector (see page 49).

**Disable Digital Mode** — Your CD or DVD drive headphones do not work if the CD or DVD drive is operating in digital mode. To disable digital mode:

1. Click the Start button, click Control Panel, and then click Sounds, Speech, and Audio Devices.
2. Click Sounds and Audio Devices.
3. Click the Hardware tab.
4. Double-click the name of your CD drive.
5. Click the Properties tab.
6. Uncheck the Enable digital CD audio for this CD-ROM device box.

**Adjust the Windows Volume Control** — Click or double-click the speaker icon in the lower-right corner of your screen. Ensure that the volume is turned up and that the sound is not muted.

Video and Monitor Problems

**If the screen is blank**

- **NOTE:** See the monitor documentation for troubleshooting procedures.

**Check the Monitor Power Light** — If the power light is off, firmly press the button to ensure that the monitor is turned on. If the power light is lit or blinking, the monitor has power. If the power light is blinking, press a key on the keyboard or move the mouse.

**Check the Monitor Cable Connection** — Check the connector for bent or broken pins. (It is normal for monitor cable connectors to have missing pins.) Ensure that the video cable is connected as shown on the setup diagram for your computer.

**Test the Electrical Outlet** — Ensure that the electrical outlet is working by testing it with another device, such as a lamp.
Swap the Power Cables — Swap the computer and monitor power cables to determine if the power cable is defective.

Test the Video Extension Cable (If Used) — If you are using a video extension cable and removing the cable solves the problem, the cable is defective.

Test Another Monitor — If another monitor is available, connect it to the computer.

Check the Diagnostic Lights — See page 44.

If the screen is difficult to read

Check the Monitor Settings — See the monitor documentation for instructions on adjusting the contrast and brightness, demagnetizing (degaussing) the monitor, and running the monitor self-test.

Move the Subwoofer Away from the Monitor — If your speaker system includes a subwoofer, ensure that the subwoofer is at least 60 cm (2 ft) away from the monitor.

Move the Monitor Away from External Power Sources — Fans, fluorescent lights, halogen lamps, and other electrical devices can cause the screen image to appear "shaky." Turn off nearby devices to check for interference.

Rotate the Monitor to Face a Different Direction — Eliminate sunlight glare, which can cause poor picture quality.

Adjust the Windows® Display Settings —
1 Click the Start button and click Control Panel.
2 Click Appearance and Themes.
3 Click Display and click the Settings tab.
4 Try different settings for Screen resolution and Color quality.

Restore the Recommended Settings — Restore the original resolution and refresh rate settings. See the Tell Me How help file for instructions. To access help files, see page 21.
Advanced Troubleshooting

Diagnostic Lights

To help you troubleshoot a problem, your computer is equipped with four lights on the back panel labeled "A," "B," "C," and "D" (see page 39). These lights can be yellow or green. When the computer starts normally, the lights flash. After the computer starts, the lights remain green. If the computer malfunctions, the color and sequence of the lights identify the problem.

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

<table>
<thead>
<tr>
<th>Light Pattern</th>
<th>Problem Description</th>
<th>Suggested Resolution</th>
</tr>
</thead>
<tbody>
<tr>
<td>A B C D</td>
<td>The computer is in a normal off condition or a possible pre-BIOS failure has occurred.</td>
<td>Verify that the computer is plugged into a working electrical outlet and that you have pressed the power button.</td>
</tr>
</tbody>
</table>

= yellow
= green
= off
Memory modules are detected, but a memory failure has occurred.

If you have one memory module installed, reinstall it (see page 75) and restart the computer.

If you have two or more memory modules installed, remove the modules, reinstall one module (see page 75), and then restart the computer. If the computer starts normally, reinstall an additional module. Continue until you have identified a faulty module or reinstalled all modules without error.

If available, install properly working memory of the same type into your computer (see page 75).

If the problem persists, contact Dell (see page 90).

---

A possible expansion card failure has occurred.

1 Determine if a conflict exists by removing a card (not the video card) (see page 62) and then restarting the computer.

2 If the problem persists, reinstall the card that you removed, remove a different card, and then restart the computer.

3 Repeat this process for each card. If the computer starts normally, troubleshoot the last card removed from the computer for resource conflicts (see “Resolving Software and Hardware Incompatibilities” on page 49).

4 If the problem persists, contact Dell (see page 90).

<table>
<thead>
<tr>
<th>Light Pattern</th>
<th>Problem Description</th>
<th>Suggested Resolution</th>
</tr>
</thead>
<tbody>
<tr>
<td><img src="image" alt="Memory Module Light Pattern" /></td>
<td>Memory modules are detected, but a memory failure has occurred.</td>
<td>• If you have one memory module installed, reinstall it (see page 75) and restart the computer.</td>
</tr>
<tr>
<td><img src="image" alt="Expansion Card Light Pattern" /></td>
<td>A possible expansion card failure has occurred.</td>
<td>• If you have two or more memory modules installed, remove the modules, reinstall one module (see page 75), and then restart the computer. If the computer starts normally, reinstall an additional module. Continue until you have identified a faulty module or reinstalled all modules without error.</td>
</tr>
<tr>
<td><img src="image" alt="Light Pattern" /></td>
<td></td>
<td>• If available, install properly working memory of the same type into your computer (see page 75).</td>
</tr>
<tr>
<td><img src="image" alt="Light Pattern" /></td>
<td></td>
<td>• If the problem persists, contact Dell (see page 90).</td>
</tr>
</tbody>
</table>

- = yellow
- = green
- = off
A possible video card failure has occurred.  

- If the computer has a video card, remove the card and reinstall it (see page 62), and restart the computer.  
- If the problem still exists, install a video card that you know works and restart the computer.  
- If the problem persists or the computer has integrated video, contact Dell (see page 90).

A possible floppy or hard drive failure has occurred.  

Reseat all power and data cables and restart the computer.

A possible USB failure has occurred.  

Reinstall all USB devices, check cable connections, and then restart the computer.

No memory modules are detected.  

- Reinstall all memory modules (see page 75) and restart the computer.  
- To eliminate the possibility of a faulty memory connector, remove all memory modules (see page 75), reinstall one memory module (if the computer supports a single module), and then restart the computer. If the computer starts normally, move the memory module to a different connector and restart the computer. Continue until you have identified a faulty connector or reinstalled all modules without error.

<table>
<thead>
<tr>
<th>Light Pattern</th>
<th>Problem Description</th>
<th>Suggested Resolution</th>
</tr>
</thead>
</table>
| A B C D       | A possible video card failure has occurred. | - If the computer has a video card, remove the card and reinstall it (see page 62), and restart the computer.  
- If the problem still exists, install a video card that you know works and restart the computer.  
- If the problem persists or the computer has integrated video, contact Dell (see page 90). |
| A B C D       | A possible floppy or hard drive failure has occurred. | Reseat all power and data cables and restart the computer. |
| A B C D       | A possible USB failure has occurred. | Reinstall all USB devices, check cable connections, and then restart the computer. |
| A B C D       | No memory modules are detected. | - Reinstall all memory modules (see page 75) and restart the computer.  
- To eliminate the possibility of a faulty memory connector, remove all memory modules (see page 75), reinstall one memory module (if the computer supports a single module), and then restart the computer. If the computer starts normally, move the memory module to a different connector and restart the computer. Continue until you have identified a faulty connector or reinstalled all modules without error. |

Yellow = yellow  
Green = green  
Off = off
<table>
<thead>
<tr>
<th>Light Pattern</th>
<th>Problem Description</th>
<th>Suggested Resolution</th>
</tr>
</thead>
</table>
| A B C D      | Memory modules are detected, but a memory configuration or compatibility error exists. | • Ensure that there are no special memory module/memory connector placement requirements (see page 75).  
• Verify that the memory modules that you are installing are compatible with your computer (see page 75).  
• If the problem persists, contact Dell (see page 90). |
| A B C D      | A possible expansion card failure has occurred. | 1 Determine if a conflict exists by removing a card and then restarting the computer.  
2 If the problem persists, reinstall the cards that you removed, remove a different card, and then restart the computer.  
3 Repeat this process for each card. If the computer starts normally, troubleshoot the last card removed from the computer for resource conflicts (see "Resolving Software and Hardware Incompatibilities" on page 49).  
4 If the problem persists, contact Dell (see page 90). |
| A B C D      | Other failure has occurred. | • Ensure that the cables are properly connected from the hard drive, CD drive, and DVD drive to the system board (see page 70).  
• If the problem persists, contact Dell (see page 90). |

- = yellow  
= green  
= off
If you experience a problem with your computer, perform the checks in "Solving Problems" (see page 19) and run the Dell Diagnostics before you contact Dell for technical assistance. Running the Dell Diagnostics may help you resolve the problem without contacting Dell. If you do contact Dell, the test results can provide important information for Dell's service and support personnel.

The Dell Diagnostics allows you to:

- Perform express, extended, or custom tests on one or all devices
- Select tests based on a symptom of the problem you are having
- Choose how many times a test is run
- Display test results
- Suspend testing if an error is detected
- Access online help information that describes the tests and devices
- Receive status messages that tell you whether tests completed successfully
- Receive error messages if problems are detected

### Starting the Dell Diagnostics

**NOTICE:** Only use the Dell Diagnostics to test your Dell™ computer. Using this program with other computers can result in error messages.

1. Shut down and restart the computer.
2. When the DELL™ logo appears, press <F12> immediately.
3. 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.
4. When the boot device list appears, highlight **Boot to Utility Partition** and press <Enter>.
5. When the Dell Diagnostics Main Menu appears, select the test you want to run (see page 44).
Dell Diagnostics Main Menu

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

   **NOTE:** The Service Tag for your computer is located at the top of each test screen.

<table>
<thead>
<tr>
<th>Option</th>
<th>Function</th>
</tr>
</thead>
<tbody>
<tr>
<td>Express Test</td>
<td>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.</td>
</tr>
<tr>
<td>Extended Test</td>
<td>Performs a thorough check of devices. This test typically takes an hour or more and requires you to answer questions periodically.</td>
</tr>
<tr>
<td>Custom Test</td>
<td>Tests a specific device. You can customize the tests you want to run.</td>
</tr>
<tr>
<td>Symptom Tree</td>
<td>Lists the most common symptoms encountered and allows you to select a test based on the symptom of the problem you are having.</td>
</tr>
</tbody>
</table>

2. If a problem is encountered during a test, a message displaying the error code and a description of the problem appear. Write down the error code and problem description and follow the instructions on the screen.

   If you cannot resolve the error condition, contact Dell (see page 90).

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.

<table>
<thead>
<tr>
<th>Tab</th>
<th>Function</th>
</tr>
</thead>
<tbody>
<tr>
<td>Results</td>
<td>Displays the results of the test and any error conditions encountered.</td>
</tr>
<tr>
<td>Errors</td>
<td>Displays error conditions encountered, error codes, and problem description.</td>
</tr>
<tr>
<td>Help</td>
<td>Describes the test and may indicate requirements for running the test.</td>
</tr>
<tr>
<td>Configuration</td>
<td>Displays your hardware configuration for the selected device. The Dell Diagnostics obtains your configuration information for all devices from system setup, memory, and various internal tests and displays it 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.</td>
</tr>
<tr>
<td>Parameters</td>
<td>Allows you to customize the test by changing the test settings.</td>
</tr>
</tbody>
</table>

4. 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.
Drivers

What Is a Driver?
A driver is a program that controls a device such as a printer, mouse, or keyboard. All devices require a driver program.
A driver acts like a translator between the device and any other programs that use the device. Each device has its own set of specialized commands that only its driver recognizes.
Dell ships your computer to you with required drivers already installed—no further installation or configuration is needed.
Many drivers, such as the keyboard driver, come with your Microsoft® Windows® operating system. You may need to install drivers if you:
- Upgrade your operating system.
- Reinstall your operating system.
- Connect or install a new device.

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

Windows XP
1 Click the Start button and click Control Panel.
2 Under Pick a Category, click Performance and Maintenance.
3 Click System.
4 In the System Properties window, click the Hardware tab.
5 Click Device Manager.
6 Scroll down the list to see if any device has an exclamation point (a yellow circle with a [!]) on the device icon.
   If an exclamation point is next to the device name, you may need to reinstall the driver or install a new driver (see page 45).

Reinstalling Drivers

NOTICE: The Dell Support website at support.dell.com provides approved drivers for Dell™ computers. If you install drivers obtained from other sources, your computer might not work correctly.
Using Windows XP Device Driver Rollback

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

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

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

Manually Reinstalling Drivers

1. After copying the required driver files to your hard drive, 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.
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.

Restoring Your Operating System

You can restore your operating system in the following ways:

- Microsoft Windows XP System Restore returns your computer to an earlier operating state without affecting data files.
- Dell PC Restore by Symantec restores your hard drive to the operating state it was in when you purchased the computer. Dell PC Restore permanently deletes all data on the hard drive and removes any applications installed after you received the computer.
Using Microsoft Windows XP System Restore

The Microsoft Windows XP operating system provides System Restore to allow you to return your computer to an earlier operating state (without affecting data files) if changes to the hardware, software, or other system settings have left the computer in an undesirable operating state. See the Windows Help and Support Center for information on using System Restore. To access help, see page 10.

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

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

Creating a Restore Point

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

Restoring the Computer to an Earlier Operating State

If problems occur after you install a device driver, use Device Driver Rollback (see page 47) 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 any open files and exit any open programs. Do not alter, open, or delete any files or programs until the system restoration is complete.

1. Click the **Start** button, point to **All Programs** → **Accessories** → **System Tools**, and then click **System Restore**.
2. Ensure that **Restore my computer to an earlier time** is selected and click **Next**.
3. Click a calendar date to which you want to restore your computer.
   - The **Select a Restore Point** screen provides a calendar that allows you to see and select restore points. All calendar dates with available restore points appear in boldface type.
4. Select a restore point and click **Next**.
   - If a calendar date has only one restore point, then that restore point is automatically selected. If two or more restore points are available, click the restore point that you prefer.
5. Click **Next**.
   - The **Restoration Complete** screen appears after System Restore finishes collecting data and then the computer restarts.
6. After the computer restarts, click **OK**.

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

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

1. Click the **Start** button, point to **All Programs**→**Accessories**→**System Tools**, and then click **System Restore**.
2. Click **Undo my last restoration** and click **Next**.

Using Dell PC Restore by Symantec

Use Dell PC Restore by Symantec only as the last method to restore your operating system. PC Restore restores your hard drive to the operating state it was in when you purchased the computer. Any programs or files added since you received your computer—including data files—are permanently deleted from the hard drive. Data files include documents, spreadsheets, e-mail messages, digital photos, music files, and so on. If possible, back up all data before using PC Restore.

**NOTICE:** Using PC Restore permanently deletes all data on the hard drive and removes any applications or drivers installed after you received your computer. If possible, back up the data before using PC Restore.

To use PC Restore:

1. Turn on the computer.
   - During the boot process, a blue bar with www.dell.com appears at the top of the screen.
2. Immediately upon seeing the blue bar, press **<Ctrl><F11>**.
   - If you do not press **<Ctrl><F11>** in time, let the computer finish restarting, and then restart the computer again.

**NOTICE:** If you do not want to proceed with PC Restore, click **Reboot** in the following step.

3. On the next screen that appears, click **Restore**.
4. On the next screen, click **Confirm**.
   - The restore process takes approximately 6–10 minutes to complete.
5. When prompted, click **Finish** to reboot the computer.

**NOTE:** Do not manually shut down the computer. Click **Finish** and let the computer completely reboot.

6. When prompted, click **Yes**.
   - The computer restarts. Because the computer is restored to its original operating state, the screens that appear, such as the End User License Agreement, are the same ones that appeared the first time the computer was turned on.
7 Click Next.
   The System Restore screen appears and the computer restarts.
8 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.

Resolving Software and Hardware Incompatibilities
Windows XP IRQ conflicts occur if a device either is not detected during the operating system
setup or is detected but incorrectly configured.
To check for conflicts on a computer running Windows XP:
   1 Click the Start button and click Control Panel.
   2 Click Performance and Maintenance and click System.
   3 Click the Hardware tab and click Device Manager.
   4 In the Device Manager list, check for conflicts with the other devices.
      Conflicts are indicated by a yellow exclamation point (!) beside the conflicting device or a red
      x if the device has been disabled.
   5 Double-click any conflict to display the Properties window.
      If an IRQ conflict exists, the Device status area in the Properties window reports the cards or
devices that share the device’s IRQ.
   6 Resolve conflicts by reconfiguring the devices or removing the devices from the Device
Manager.
To use the Windows XP 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.
Adding Parts

Front and Back View of the Computer

Front View

*On computers with an optional floppy drive.
<table>
<thead>
<tr>
<th></th>
<th>Feature</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>CD or DVD drive activity light</td>
<td>The drive activity light is on when the computer reads data from the CD or DVD drive.</td>
</tr>
<tr>
<td>2</td>
<td>CD or DVD eject button</td>
<td>Press to eject your CD from the CD or DVD drive.</td>
</tr>
<tr>
<td>3</td>
<td>floppy-drive eject button</td>
<td>Press to eject a disk from the floppy drive.</td>
</tr>
<tr>
<td></td>
<td>(On computers with an optional floppy drive.)</td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>hard-drive activity light</td>
<td>The hard-drive light is on when the computer reads data from or writes data to the hard drive. The light might also be on when a device such as your CD player is operating.</td>
</tr>
<tr>
<td>5</td>
<td>headphone connector</td>
<td>Use the headphone connector to attach headphones and most speakers for listening to all sounds in your computer, including your CD player and system sounds such as beeps.</td>
</tr>
<tr>
<td>6</td>
<td>USB 2.0 connectors (2)</td>
<td>Use the front USB connectors for devices that you connect occasionally, such as joysticks or cameras. It is recommended that you use the back USB connectors for devices that typically remain connected, such as printers and keyboards.</td>
</tr>
<tr>
<td>7</td>
<td>power button</td>
<td>Press to turn on the computer.</td>
</tr>
<tr>
<td></td>
<td><strong>NOTICE:</strong> To avoid losing data, do not use the power button to turn off the computer. Instead, perform an operating system shutdown.</td>
<td></td>
</tr>
<tr>
<td>8</td>
<td>power light</td>
<td>The power light illuminates and blinks or remains solid to indicate different states. For more information, see page 32.</td>
</tr>
<tr>
<td>9</td>
<td>floppy-drive activity light</td>
<td>The floppy-drive light is on when the computer reads data from or writes data to the floppy drive. Wait until this light turns off before you remove the floppy disk from the drive.</td>
</tr>
<tr>
<td></td>
<td>(On computers with an optional floppy drive.)</td>
<td></td>
</tr>
<tr>
<td>10</td>
<td>CD or DVD volume control dial</td>
<td>Move the dial to adjust the volume of your CD or DVD disc.</td>
</tr>
<tr>
<td>11</td>
<td>CD or DVD headphone connector</td>
<td>Use the headphone connector to attach headphones to the CD or DVD drive. Your headphones will not work if the drive is operating in digital mode. To disable digital mode, see “No sound from headphones” on page 36.</td>
</tr>
<tr>
<td>12</td>
<td>Service Tag</td>
<td>The tag is used to identify your computer when you access the Dell Support website or call technical support.</td>
</tr>
</tbody>
</table>
### Back View

<table>
<thead>
<tr>
<th>Number</th>
<th>Component</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>parallel connector</td>
<td>Connect a parallel device, such as a printer, to the parallel connector. If you have a USB printer, plug it into a USB connector.</td>
</tr>
<tr>
<td>2</td>
<td>diagnostic lights (4)</td>
<td>Use the lights to help you troubleshoot a computer problem based on the diagnostic code. For more information, see &quot;Diagnostic lights&quot; on page 39.</td>
</tr>
<tr>
<td>3</td>
<td>mouse connector</td>
<td>Plug a standard mouse into the green mouse connector. Turn off the computer and any attached devices before you connect a mouse to the computer. If you have a USB mouse, plug it into a USB connector.</td>
</tr>
</tbody>
</table>
| 4      | surround connector | Use the black surround connector (available on computers with integrated sound) to attach multichannel-capable speakers.  
(On computers with a sound card, use the connector on the card.) |
| 5      | line-in connector | Use the blue line-in connector (available on computers with integrated sound) to attach a record/playback device such as a cassette player, CD player, or VCR.  
(On computers with a sound card, use the connector on the card.) |
| 6      | cover latch | Releases the cover from the computer. |

*On computers with integrated sound.  
**On computers with integrated video.  
***On computers with a video card.
| 7  | network adapter connector | To attach your computer to a network or modem, connect one end of a network cable to either a network jack or your network device. Connect the other end of the network cable to the network adapter connector on the back panel of your computer. A click indicates that the network cable has been securely attached.

   - On computers with a network connector card, use the connector on the card.
   - It is recommended that you use Category 5 wiring and connectors for your network. If you must use Category 3 wiring, force the network speed to 10 Mbps to ensure reliable operation. |

| 8  | video connector | Plug the cable from your monitor into the blue connector.

   - (On computers with a video card.) |

| 9  | optional sound card connector | If you purchased the optional sound card, plug your sound equipment (speakers, microphone, and so on) into the appropriate sound card connectors. |

| 10 | card slots (3) | Access connectors for any installed PCI cards. |

| 11 | USB 2.0 connectors (6) | Use the back USB connectors for devices that typically remain connected, such as printers and keyboards.

   - It is recommended that you use the front USB connectors for devices that you connect occasionally, such as joysticks or cameras. |

| 12 | microphone connector | Use the pink microphone connector (available on computers with integrated sound) to attach a personal computer microphone for voice or musical input into a sound or telephony program.

   - (On computers with a sound card, the microphone connector is on the card.) |

| 13 | line-out connector | Use the green line-out connector (available on computers with integrated sound) to attach headphones and most speakers with integrated amplifiers.

   - (On computers with a sound card, use the connector on the card.) |

| 14 | center/LFE connector | Use the yellow center/Low-Frequency Effects (LFE) connector (available on computers with integrated sound) to attach your subwoofer.

   - (On computers with a sound card, use the connector on the card.) |

| 15 | keyboard connector | If you have a standard keyboard, plug it into the purple keyboard connector. If you have a USB keyboard, plug it into a USB connector. |
Removing the Computer Cover

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

1. Shut down the computer through the Start menu (see page 18).

2. Ensure that your computer and attached devices are turned off. If your computer and attached devices did not automatically turn off when you shut down your computer, turn them off now.

⚠️ NOTICE: To disconnect a network cable, first unplug the cable from your computer and then unplug it from the network wall jack.

3. Disconnect any telephone or telecommunication lines from the computer.

4. Disconnect your computer and all attached devices from their electrical outlets, and then press the power button to ground the system board.

⚠️ CAUTION: To guard against electrical shock, always unplug your computer from the electrical outlet before opening the cover.

5. Lay your computer on its side with the computer cover facing up.

6. If your computer cover has a cover latch, slide and hold the cover latch.

7. Grip the indents on the computer cover, and slide the computer cover toward the back of the computer.
Place the computer cover on a level surface.
Looking Inside Your Computer

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

⚠️ CAUTION: To guard against electrical shock, always unplug your computer from the electrical outlet before opening the computer cover.
Adding Parts

System Board
Adding Cards

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

1. Shut down the computer through the Start menu (see page 18).
2. Ensure that your computer and attached devices are turned off. If your computer and attached devices did not automatically turn off when you shut down your computer, turn them off now.

⚠️ NOTICE: To disconnect a network cable, first unplug the cable from your computer and then unplug it from the network wall jack.

3. Disconnect any telephone or telecommunication lines from the computer.
4. Disconnect your computer and all attached devices from their electrical outlets, and then press the power button to ground the system board.

⚠️ CAUTION: To guard against electrical shock, always unplug your computer from the electrical outlet before opening the cover.

5. Remove the computer cover (see page 55).
6. Lay the computer on its side so that the system board is on the bottom of the inside of the computer.
7. Unscrew and remove the filler bracket for the card slot you want to use.

⚠️ CAUTION: Some network adapters automatically start the computer when they are connected to a network. To guard against electrical shock, be sure to unplug your computer from its electrical outlet before installing any cards.

8. Align the cutout on the bottom of the card with the crossbar in the system board connector. Gently rock the card into the connector until it is fully seated.
Ensure that the card is fully seated and that its bracket is within the card slot.

9 Secure the filler bracket onto the end of the card with the screw you removed in step 7.
10 Connect any cables that should be attached to the card.
   See the documentation for the card for information about the card’s cable connections.
   
   **NOTICE:** Do not route card cables over or behind the cards. Cables routed over the cards can cause damage to the equipment.

11 Replace the computer cover (see page 78).
   
   **NOTICE:** To connect a network cable, first plug the cable into the network wall jack and then plug it into the computer.

12 Connect your computer and devices to electrical outlets, and turn them on.

13 Install any drivers required for the card as described in the card documentation.

### Adding or Replacing the AGP Card

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

Your Dell™ computer provides a connector for an AGP card.

1 Shut down the computer through the **Start** menu (see page 18).

2 Ensure that your computer and attached devices are turned off. If your computer and attached devices did not automatically turn off when you shut down your computer, turn them off now.

   **NOTICE:** To disconnect a network cable, first unplug the cable from your computer and then unplug it from the network wall jack.

3 Disconnect any telephone or telecommunication lines from the computer.

4 Disconnect your computer and all attached devices from their electrical outlets, and then press the power button to ground the system board.

**CAUTION:** To guard against electrical shock, always unplug your computer from the electrical outlet before opening the cover.

5 Remove the computer cover (see page 55).

6 Lay the computer on its side so that the system board is on the bottom of the inside of the computer.
Removing an AGP Card

1. Press the card lever toward the PCI connector.
2. Pull the card up and out of the card clip.

Installing an AGP Card

1. To add or replace the card, press the card lever toward the PCI connector and gently press the card into the AGP connector until it clicks into place.
2. Release the card lever, ensuring that the tab fits into the notch on the front end of the card.
3. Secure the card with the securing screw.
4. If your computer did not previously have an AGP card installed, move the monitor cable to the VGA connector on the new card.

5. Replace the computer cover (see page 78).

**NOTICE:** To connect a network cable, first plug the cable into the network wall jack and then plug it into the computer.

6. Connect your computer and devices to electrical outlets, and turn them on.

### Adding or Replacing a Second Hard Drive

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

**CAUTION:** To avoid damage to the drive, do not set it on a hard surface. Instead, set the drive on a soft surface, such as a foam pad, that will sufficiently cushion it.

1. Shut down the computer through the *Start* menu (see page 18).

2. Ensure that your computer and attached devices are turned off. If your computer and attached devices did not automatically turn off when you shut down your computer, turn them off now.

**NOTICE:** To disconnect a network cable, first unplug the cable from your computer and then unplug it from the network wall jack.

3. Disconnect any telephone or telecommunication lines from the computer.

4. Disconnect your computer and all attached devices from their electrical outlets, and then press the power button to ground the system board.

**CAUTION:** To guard against electrical shock, always unplug your computer from the electrical outlet before opening the cover.
5 Remove the computer cover.

**NOTICE:** Before touching anything inside your computer, ground yourself by touching an unpainted metal surface, such as the metal at the back of the computer. While you work, periodically touch an unpainted metal surface to dissipate any static electricity that could harm internal components.

6 Remove the existing hard drive.

7 Remove the additional hard drive bracket from the computer:
   a. Remove the bracket-securing screws for the additional drive.
   b. Remove the bracket for the additional drive from the computer.

8 If you are replacing the additional hard drive, remove the drive from the bracket:
   a. Remove the hard drive-securing screws.
   b. Remove the hard drive from the bracket.

**NOTICE:** Ground yourself by touching an unpainted metal surface on the back of the computer.

**NOTICE:** When you unpack the drive, do not set it on a hard surface, which may damage the drive. Instead, set the drive on a soft surface, such as a foam pad, that will sufficiently cushion it.
9 Unpack the additional hard drive.

10 Check the jumper setting on the back of the second drive.
   Ensure that the jumper setting on the new device is set for "cable select" (see the documentation that came with the drive for information).

11 Install the additional hard drive:
   a Insert hard-drive securing screws.
   b Place the two bracket tabs into the drive slots inside the computer’s front panel.
   c Swing the bracket forward so that it is flush with the computer’s front panel.
   d Replace the bracket-securing screws.

12 Reinstall the existing hard drive into the computer.

**CAUTION:** Match the colored strip on the cable with pin 1 on the drive (pin 1 is marked as "1").

13 Connect the power and data cables to the back of the drives.
Replace the computer cover.

**NOTICE:** To connect a network cable, first plug the cable into the network wall jack and then plug it into the computer.

Connect your computer and devices to electrical outlets, and turn them on.

See the documentation that came with the drive for instructions on installing any software required for drive operation.

### Adding a Floppy Drive

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

1. Shut down the computer through the Start menu (see page 18).
2. Ensure that your computer and attached devices are turned off. If your computer and attached devices did not automatically turn off when you shut down your computer, turn them off now.

**NOTICE:** To disconnect a network cable, first unplug the cable from your computer and then unplug it from the network wall jack.

3. Disconnect any telephone or telecommunication lines from the computer.
4. Disconnect your computer and all attached devices from their electrical outlets, and then press the power button to ground the system board.

**CAUTION:** To guard against electrical shock, always unplug your computer from the electrical outlet before opening the cover.

5. Remove the computer cover (see page 55).
6. Release and remove the front panel:
   a. Push the release lever to release the top tab.
   b. Reach inside the computer and push the bottom tab towards you to release it (the middle tab releases automatically).
   c. Rotate the front panel to separate it from the side hinges.
Press in the two insert tabs, and then push out the front-panel insert.
8 Connect the floppy-drive power cable to the back of the drive.

CAUTION: Match the colored strip on the cable with pin 1 on the drive (pin 1 is marked as “1”).
9 Connect the data cable to the back of the drive and to the floppy drive connector on the system board (see page 58).

10 Position the top of the floppy drive bracket so that it is completely flush with the bottom of the upper drive bay, and then slide the floppy drive bracket forward into position.

**NOTE:** The top of the floppy drive bracket has two slots that fit into two clips on the bottom of the upper drive bay. When the floppy drive bracket is properly mounted, it remains in place without support.

11 Secure the floppy drive bracket with the top bracket screw that came with your drive.

12 Reattach the front panel to the side hinges, and then rotate it until it snaps onto the front of the computer.

13 Check all cable connections, and fold cables out of the way to provide airflow for the fan and cooling vents.

14 Replace the computer cover (see page 78).

**NOTICE:** To connect a network cable, first plug the cable into the network wall jack and then plug it into the computer.
15 Connect your computer and devices to electrical outlets, and turn them on.
16 After you turn on your computer, press <F2> when you are prompted to enter setup mode.
17 Highlight Drive Configuration and press <Enter>.
18 Use the left and right arrows to change Diskette Drive A from Not Installed to 3.5 inch, 1.44MB.
19 Press <Enter>.
20 Highlight Integrated Devices (LegacySelect Options) and press <Enter>.
21 Make sure that the Diskette Interface entry is set to Auto. If necessary, use the left and right arrows to set it to Auto.
22 Press <Enter>.
23 Press <Esc>.
24 Press <Enter> to save changes and exit.

The computer restarts.

See the documentation that came with the drive for instructions on installing any software required for drive operation.

Adding a Second CD or DVD Drive

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

1 Shut down the computer through the Start menu (see page 18).

⚠️ NOTE: Drives sold by Dell come with their own operating software and documentation. After you install a drive, see the documentation that came with the drive for instructions on installing and using the drive software.

2 Ensure that your computer and attached devices are turned off. If your computer and attached devices did not automatically turn off when you shut down your computer, turn them off now.

⚠️ NOTICE: To disconnect a network cable, first unplug the cable from your computer and then unplug it from the network wall jack.

3 Disconnect any telephone or telecommunication lines from the computer.

4 Disconnect your computer and all attached devices from their electrical outlets, and then press the power button to ground the system board.

⚠️ CAUTION: To guard against electrical shock, always unplug your computer from the electrical outlet before opening the cover.

5 Remove the computer cover (see page 55).
6 Release and remove the front panel:
   a Push the release lever to release the top tab.
   b Reach inside the computer and push the bottom tab towards you to release it (the middle tab releases automatically).
   c Rotate the front panel to separate it from the side hinges.
7 Pull the two front-panel tabs towards you, and then push out the front-panel insert.

8 Ensure that the jumper setting on the new drive is set for "cable select" (see the documentation that came with the drive for information).

9 Remove two extra alignment screws, shown in the illustration on page 72, from the front of the computer and insert them into the drive.

**NOTE:** Some computers come with only two extra alignment screws; others come with four. You only need two alignment screws for this procedure.

10 Gently slide the drive into place.
11  Once the drive is in place, apply pressure to ensure that the drive is fully seated.
12  Use the securing screw that came with the drive to attach the drive to the computer.

**NOTICE:** Match the colored strip on the cable with pin 1 on the drive (pin 1 is marked as “1”).
13  Connect the power cable to the system board.
14  Locate the data cable from the CD or DVD drive in the upper drive bay and connect its middle data connector to the new drive.
15  Check all cable connections, and then fold the cables out of the way to provide airflow for the fan and cooling vents.
16  Reattach the front panel to the side hinges, and then rotate it until it snaps onto the front of the computer.
17 Replace the computer cover (see page 78).

**NOTICE:** To connect a network cable, first plug the cable into the network wall jack and then plug it into the computer.

18 Connect your computer and devices to electrical outlets, and then turn them on.

See the documentation that came with the drive for instructions on installing any software required for drive operation.
Adding Memory

You can increase your computer memory by installing memory modules on the system board.

NOTE: DDR 333 memory operates at 320 MHz when used with an 800-MHz front-side bus.

DDR Memory Overview

DDR memory modules should be installed in pairs of matched memory size. This means that if you purchased your computer with 128 MB of memory installed and you want to add another 128 MB of memory, you should install it in the appropriate connector. If the DDR memory modules are not installed in matched pairs, the computer will continue to operate, but with a slight reduction in performance.

NOTE: Always install DDR memory modules in the order indicated on the system board.

The recommended memory configurations are:

- Install a pair of matched memory modules in connectors DIMM1 and DIMM2.
- Install a pair of matched memory modules in connectors DIMM1 and DIMM2 and another matched pair in connectors DIMM3 and DIMM4.
- Do not install ECC memory modules.
- If you install mixed pairs PC2700 (DDR 333-MHz) and PC3200 (DDR 400-MHz) memory, the modules function at the slowest speed installed.
- Be sure to install a single memory module in DIMM 1 or the connector closest to the processor before you install modules in the other connectors.

Memory Installation Guidelines
NOTE: If you remove your original memory modules from the computer during a memory upgrade, keep them separate from any new modules that you may have, even if you purchased the new modules from Dell. You should install your original memory modules in pairs either in connectors DIMM1 and DIMM2 or connectors DIMM3 and DIMM4. If possible, do not pair an original memory module with a new memory module. Otherwise, your computer may not function at optimal performance.

NOTE: Memory purchased from Dell is covered under your computer warranty.

Installing Memory

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

1 Shut down the computer through the Start menu (see page 18).
2 Ensure that your computer and attached devices are turned off. If your computer and attached devices did not automatically turn off when you shut down your computer, turn them off now.

NOTICE: To disconnect a network cable, first unplug the cable from your computer and then unplug it from the network wall jack.

3 Disconnect any telephone or telecommunication lines from the computer.
4 Disconnect your computer and all attached devices from their electrical outlets, and then press the power button to ground the system board.

CAUTION: To guard against electrical shock, always unplug your computer from the electrical outlet before opening the cover.

5 Remove the computer cover (see page 55).
6 Lay the computer on its side so that the system board is on the bottom of the inside of the computer.

NOTE: For easier access to the memory modules, remove the AGP card (see page 62) first.

7 If necessary, remove a memory module:
   a Press out the securing clip at each end of the memory module connector.
   b Grasp the module and pull up.
      If the module is difficult to remove, gently ease the module back and forth to remove it from the connector.

8 To insert a module, press out the securing clip at each end of the memory module connector.
9 Align the notch on the bottom of the module with the crossbar in the connector.

**NOTICE:** To avoid breaking the memory module, do not press near the middle of the module.

10 Insert the module straight down into the connector, ensuring that it fits into the vertical guides at each end of the connector. Press firmly on the ends of the module until it snaps into place.

If you insert the module correctly, the securing clips snap into the cutouts at each end of the module.
Replace the computer cover (see page 78).

**NOTICE:** To connect a network cable, first plug the cable into the network wall jack and then plug it into the computer.

11 Connect your computer and devices to electrical outlets, and then turn them on.

12 Click the **Start** button, right-click **My Computer**, and then click **Properties**.

13 Click the **General** tab.

14 To verify that the memory is installed correctly, check the amount of memory (RAM) listed.

### Replacing the Computer Cover

1 Ensure that all cables are connected, and fold cables out of the way.

2 Ensure that no tools or extra parts are left inside the computer.

3 Place the cover on the computer.

4 Slide the cover towards the front of the computer until it fits completely into place.

**NOTICE:** To connect a network cable, first plug the cable into the network wall jack and then plug it into the computer.

5 Connect your computer and devices to electrical outlets, and turn them on.
## Appendix

### Specifications

<table>
<thead>
<tr>
<th><strong>Microprocessor</strong></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Microprocessor type</td>
<td>Intel® Pentium® 4</td>
</tr>
<tr>
<td>Level 1 (L1) cache</td>
<td>8 KB first-level</td>
</tr>
<tr>
<td>Level 2 (L2) cache</td>
<td>512-KB or 1-GB pipelined-burst, eight-way set associative, write-back SRAM</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>System Information</strong></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>System chip set</td>
<td>Intel 865PE or 865G</td>
</tr>
<tr>
<td>DMA channels</td>
<td>eight</td>
</tr>
<tr>
<td>Interrupt levels</td>
<td>24 APIC mode</td>
</tr>
<tr>
<td>System BIOS chip</td>
<td>4 Mb (512 KB)</td>
</tr>
<tr>
<td>System clock</td>
<td>533- or 800-MHz data rate</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>Expansion Bus</strong></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Bus types</td>
<td>PCI</td>
</tr>
<tr>
<td>Bus speed</td>
<td>PCI: 33 MHz</td>
</tr>
<tr>
<td>PCI connectors</td>
<td>three</td>
</tr>
<tr>
<td>PCI connector size</td>
<td>120 pins</td>
</tr>
<tr>
<td>PCI connector data width</td>
<td>32 bits</td>
</tr>
<tr>
<td>(maximum)</td>
<td></td>
</tr>
<tr>
<td>AGP</td>
<td>AGP 1X, 4X, 8X</td>
</tr>
</tbody>
</table>
Memory

Architecture: Dual Channel DDR SDRAM
Memory connectors: Four
Memory capacities: 128-, 256-, 512-MB or 1-GB
Minimum memory: 128-MB DDR SDRAM

**NOTE:** Between 32 and 64 MB of system memory may be allocated to support graphics, depending on system memory size and other factors.

Maximum memory: 4 GB
Memory type: PC2700 (333-MHz) or PC3200 (400-MHz) DDR SDRAM (non-ECC)

Drives

Exterionally accessible: two 5.25-inch bays
one 3.5-inch bay

Internally accessible: Two bays for 1-inch–high IDE hard drives

Ports and Connectors

Exterionally accessible:

- **Serial:** 9-pin connector; 16550C-compatible
- **Parallel:** 25-hole connector (bidirectional)
- **Video:** 15-hole connector
- **Keyboard:** 6-pin mini-DIN connector
- **Mouse:** 6-pin mini-DIN connector
- **USB:** two front-panel and six back-panel USB 2.0–compliant connectors
- **Network:** RJ-45 connector
- **Audio:** Five back miniature connectors for line-in, line-out, microphone, surround and center/Low-Frequency Effects (LFE) channel
- **Headphone:** one front miniature connector for line-out
Ports and Connectors (continued)

Internally accessible:

- Primary IDE channel: 40-pin connector on PCI local bus
- Secondary IDE channel: 40-pin connector on PCI local bus
- Floppy drive: 34-pin connector
- Serial ATA: two 7-pin connectors

Video

Type: Integrated Intel Extreme Graphics controller

Audio

Audio controller: ADI 1980

Network

Network controller: Integrated Intel® PRO 10/100 Ethernet

Controls and Lights

- Power control: push button
- Front-panel power light: solid green for power-on state; blinking green for standby state
- Hard-drive access light: green
- Diagnostic code lights: four bicolor (amber and green) located on back panel

Power

DC power supply:

- Wattage: 250 W
- Heat dissipation: 853 BTU (fully-loaded computer without monitor)
- Voltage: 100 to 120 V at 60 Hz; 200 to 240 V at 50 Hz
  (see the safety instruction located in the Product Information Guide for important voltage setting information)

Backup battery: 3-V CR2032 coin cell

Physical

- Height x Width x Depth: 36.8 x 18.4 x 42.6 cm
  (14.5 x 7.25 x 16.75 inches)
- Weight: 10.4 kg (23 lb)
Environmental

<table>
<thead>
<tr>
<th>Temperature:</th>
<th>10° to 35°C (50° to 95°F)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Operating</td>
<td></td>
</tr>
<tr>
<td>Storage</td>
<td>–40° to 65°C (–40° to 149°F)</td>
</tr>
<tr>
<td>Relative humidity</td>
<td>20% to 80% (noncondensing)</td>
</tr>
</tbody>
</table>

Maximum vibration:

| Operating            | 0.25 G at 3 to 200 Hz |
| Storage              | 2.20 Grms at 10 to 500 Hz |

Maximum shock:

| Nonoperating (half-sine pulse) | 105 G, 2 ms |
| Nonoperating (faired-square wave) | 32 G with a velocity change of 596.9 cm/sec (235 inches/sec) |

Altitude:

| Operating            | –15.2 to 3048 m (–50 to 10,000 ft) |
| Storage              | –15.2 to 10,670 m (–50 to 35,000 ft) |

**System Setup**

**Overview**

Use system setup as follows:

- To change the system configuration information after you add, change, or remove any hardware in your computer
- To set or change a user-selectable option such as the user password
- To read the current amount of memory or set the type of hard drive installed

Before you use system setup, you must know the kind of floppy drive(s) and hard drive(s) installed in your computer. It is recommended that you write down the system setup screen information for future reference.

**NOTICE:** Unless you are an expert computer user, do not change the settings for this program. Certain changes can make your computer work incorrectly.
Viewing Settings

1. Turn on (or restart) your computer.

2. When the blue DELL™ logo appears, press <F2> immediately.

   If you wait too long and the operating system logo appears, continue to wait until you see the Microsoft® Windows® desktop. Then shut down your computer (see page 18) and try again.

System Setup Screens

System setup screens display the current configuration information for your computer. Information on the screen is divided into five areas:

- **Title** — The box at the top of all screens that lists the computer name.

- **Computer data** — Two boxes below the title box that display your computer processor, L2 cache, Service Tag, and the version number of the BIOS.

- **Options** — A scrollable box listing options that define the configuration of your computer, including installed hardware, power conservation, and security features.

  Fields to the right of the option titles contain settings or values. When <Enter> appears to the right of an option title, press <Enter> to access a pop-up menu of additional options.

- **Help** — A feature that gives you information on the option that is selected (highlighted) when you press <F1>.

- **Key functions** — A line of boxes across the bottom of all screens that lists keys and their functions within system setup.

<table>
<thead>
<tr>
<th>Keys</th>
<th>Action</th>
</tr>
</thead>
<tbody>
<tr>
<td>&lt;Tab&gt; or down arrow</td>
<td>Moves to the next field.</td>
</tr>
<tr>
<td>&lt;Shift&gt;, &lt;Tab&gt; or up</td>
<td>Moves to the previous field.</td>
</tr>
<tr>
<td>arrow</td>
<td></td>
</tr>
<tr>
<td>back arrow or forward</td>
<td>Cycles through the options in a field. In many fields, you</td>
</tr>
<tr>
<td>arrow</td>
<td>can also type the appropriate value.</td>
</tr>
<tr>
<td>&lt;Page Down&gt; or</td>
<td>Scrolls through help information.</td>
</tr>
<tr>
<td>&lt;Page Up&gt;</td>
<td></td>
</tr>
<tr>
<td>&lt;Enter&gt;</td>
<td>Enters the selected field’s pop-up options menu.</td>
</tr>
<tr>
<td>spacebar, &lt; = &gt; or</td>
<td>In the selected field’s pop-up options menu, cycles</td>
</tr>
<tr>
<td>&lt; &gt;</td>
<td>through the options in a field.</td>
</tr>
<tr>
<td>&lt;Alt&gt; &lt;x&gt;</td>
<td>Exits system setup without restarting the computer and</td>
</tr>
<tr>
<td></td>
<td>returns the computer to the boot routine.</td>
</tr>
<tr>
<td>&lt;Alt&gt; &lt;b&gt;</td>
<td>Exits system setup and restarts the computer, implementing</td>
</tr>
<tr>
<td></td>
<td>any changes you have made.</td>
</tr>
</tbody>
</table>
Boot Sequence
This feature allows you to change the boot sequence for devices.

Option Settings
- **Normal** — (Available only for the current boot process) The computer attempts to boot from the sequence of devices specified in system setup.
- **Diskette Drive** — The computer attempts to boot from the floppy drive. If the floppy disk in the drive is not bootable, or if no floppy disk is in the drive, the computer generates an error message.
- **Hard Drive** — The computer attempts to boot from the primary hard drive. If no operating system is on the drive, the computer generates an error message.
- **CD Drive** — The computer attempts to boot from the CD drive. If no CD is in the drive, or if the CD has no operating system, the computer generates an error message.
- **PXE** — (Available only for the future boot process) As the computer boots, it prompts the user to press <Ctrl><Alt><b>. Pressing this key combination causes a menu to display that allows you to select a method for booting from a network server. If a boot routine is not available from the network server, the system attempts to boot from the next device in the boot sequence list.
- **USB Flash Device** — Insert the memory device into a USB port and restart the computer. When F12 = Boot Menu appears in the upper-right corner of the screen, press <F12>. The BIOS detects the device and adds the USB flash option to the boot menu.

**NOTE:** To boot to a USB device, the device must be bootable. To make sure your device is bootable, check the device documentation.

Changing Boot Sequence for the Current Boot
You can use this feature, for example, to restart your computer to a USB device such as a floppy drive, memory key, or CD-RW drive.

1. Turn on (or restart) your computer.
2. When F2 = Setup, F12 = Boot Menu appears in the upper-right corner of the screen, press <F12>.
   - If you wait too long and the operating system logo appears, continue to wait until you see the Microsoft Windows desktop. Then shut down your computer (see page 18) and try again.

<table>
<thead>
<tr>
<th>Keys</th>
<th>Action</th>
</tr>
</thead>
<tbody>
<tr>
<td>&lt;Alt&gt; &lt;d&gt;</td>
<td>Resets the selected option to the default setting.</td>
</tr>
<tr>
<td>&lt;Alt&gt; &lt;f&gt;</td>
<td>Restores all system settings to the default configuration.</td>
</tr>
</tbody>
</table>
The Boot Device Menu appears, listing all available boot devices. Each device has a number next to it.

3 At the bottom of the menu, enter the number of the device that is to be used for the current boot only.

**Changing Boot Sequence for Future Boots**

1 Enter system setup (see page 82).
2 Use the arrow keys to highlight the **Boot Sequence** menu option and press <Enter> to access the pop-up menu.

**NOTE:** Write down your current boot sequence in case you want to restore it.
3 Press the up- and down-arrow keys to move through the list of devices.
4 Press the spacebar to enable or disable a device (enabled devices have a checkmark).
5 Press plus (+) or minus (–) to move a selected device up or down the list.

**Clearing Forgotten Passwords**

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

⚠️ **CAUTION:** To guard against electrical shock, always unplug your computer from the electrical outlet before opening the cover.

1 Shut down the computer through the **Start** menu (see page 18).

**NOTICE:** To disconnect a network cable, first unplug the cable from your computer and then unplug it from the network wall jack.
2 Turn off any attached devices and disconnect them from their electrical outlets.
3 Disconnect the computer power cable from the wall outlet, and then press the power button to ground the system board.
4 Remove the computer cover (see page 55).
5 Locate the 3-pin password jumper (see page 58) on the system board, and then attach the jumper to both pins.
   When you receive your computer, the jumper is attached to only one pin.
6 Replace the computer cover (see page 78).

**NOTICE:** To connect a network cable, first plug the cable into the network wall jack and then plug it into the computer.
7 Connect your computer and devices to electrical outlets, and then turn them on.
8 If you are prompted to press <F1> to continue, press <F1>.
9. After the Microsoft Windows desktop appears on your computer, shut down the computer through the Start menu (see page 18).

Notice: To disconnect a network cable, first unplug the cable from your computer and then unplug it from the network wall jack.

10. Turn off any attached devices and disconnect them from their electrical outlets.

11. Disconnect the computer power cable from the wall outlet, and then press the power button to ground the system board.

12. Remove the computer cover (see page 78).

13. Remove the password jumper.

14. Replace the computer cover (see page 78).

Notice: To connect a network cable, first plug the cable into the network wall jack and then plug it into the computer.

15. Connect your computer and devices to electrical outlets, and turn them on.

16. If you are prompted to press <F1> to continue, press <F1>.

Replacing the Battery

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

Caution: To guard against electrical shock, always unplug your computer from the electrical outlet before opening the cover.

A coin-cell battery maintains computer configuration, date, and time information. The battery can last several years.

If you have to repeatedly reset time and date information after turning on the computer, replace the battery.

Caution: A new battery can explode if it is incorrectly installed. Replace the 3-V CR2032 battery only with the same or equivalent type recommended by the manufacturer. Discard used batteries according to the manufacturer’s instructions.

1. Record all the screens in system setup (see page 82) so that you can restore the correct settings when your perform step 11.

2. Shut down the computer through the Start menu (see page 18).

Notice: To disconnect a network cable, first unplug the cable from your computer and then unplug it from the network wall jack.

3. Turn off any attached devices and disconnect them from their electrical outlets.

4. Disconnect the computer power cable from the wall outlet, and then press the power button to ground the system board.
5 Remove the computer cover (see page 78).

6 Locate the battery socket (see page 82).

**NOTICE:** If you pry the battery out of its socket with a blunt object, be careful not to touch the system board with the object. Ensure that the object is inserted between the battery and the socket before you attempt to pry out the battery. Otherwise, you may damage the system board by prying off the socket or by breaking circuit traces on the system board.

7 Remove the battery by carefully prying it out of its socket with your fingers or with a blunt, nonconducting object such as a plastic screwdriver.

8 Insert the new battery into the socket with the side labeled "+" facing up, and snap the battery into place.

9 Replace the computer cover (see page 78).

**NOTICE:** To connect a network cable, first plug the cable into the network wall jack and then plug it into the computer.

10 Connect your computer and devices to electrical outlets, and turn them on.

11 Enter system setup (see page 82) and restore the settings you recorded in step 1.

12 Properly dispose of the old battery. See the **Product Information Guide** for battery disposal information.
Dell Technical Support Policy (U.S. Only)

Technician-assisted technical support requires the cooperation and participation of the customer in the troubleshooting process and provides for restoration of the operating system, software programs, and hardware drivers to the original default configuration as shipped from Dell, as well as the verification of appropriate functionality of the computer and all Dell-installed hardware. In addition to this technician-assisted technical support, online technical support is available at support.dell.com. Additional technical support options may be available for purchase.

Dell provides limited technical support for the computer and any "Dell-installed" software and peripherals1. Support for third-party software and peripherals is provided by the original manufacturer, including those purchased and/or installed through Dell Software and Peripherals, Readyware, and Custom Factory Integration2.

1 Repair services are provided pursuant to the terms and conditions of your limited warranty and any optional support service contract purchased with the computer.
2 All Dell-standard components included in a Custom Factory Integration (CFI) project are covered by the standard Dell limited warranty for your computer. However, Dell also extends a parts replacement program to cover all nonstandard, third-party hardware components integrated through CFI for the duration of the computer’s service contract.

Definition of "Dell-Installed" Software and Peripherals

Dell-installed software includes the operating system and some of the software program that is installed on the computer during the manufacturing process (Microsoft Office, Norton Antivirus, and so on).

Dell-installed peripherals include any internal expansion cards, or Dell-branded module bay or PC Card accessories. In addition, any Dell-branded monitors, keyboards, mice, speakers, microphones for telephonic modems, docking stations/port replicators, networking products, and all associated cabling are included.

Definition of "Third-Party" Software and Peripherals

Third-party software and peripherals include any peripheral, accessory, or software program sold by Dell not under the Dell brand (printers, scanners, cameras, games, and so on). Support for all third-party software and peripherals is provided by the original manufacturer of the product.

FCC Notices (U.S. Only)

Most Dell computer systems are classified by the Federal Communications Commission (FCC) as Class B digital devices. To determine which classification applies to your computer system, examine all FCC registration labels located on the bottom, side, or back panel of your computer, on card-mounting brackets, and on the cards themselves. If any one of the labels carries a Class A rating, your entire system is considered to be a Class A digital device. If all labels carry an FCC Class B rating as distinguished by either an FCC ID number or the FCC logo, ( ), your system is considered to be a Class B digital device.
Once you have determined your system’s FCC classification, read the appropriate FCC notice. Note that FCC regulations provide that changes or modifications not expressly approved by Dell could void your authority to operate this equipment.

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions:

This device may not cause harmful interference.

This device must accept any interference received, including interference that may cause undesired operation.

**Class A**

This equipment has been tested and found to comply with the limits for a Class A digital device pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the manufacturer’s instruction manual, may cause harmful interference with radio communications. Operation of this equipment in a residential area is likely to cause harmful interference, in which case you will be required to correct the interference at your own expense.

**Class B**

This equipment has been tested and found to comply with the limits for a Class B digital device pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the manufacturer’s instruction manual, may cause interference with radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, 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 or relocate the receiving antenna.
- Increase the separation between the equipment and the receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/television technician for help.
FCC Identification Information
The following information is provided on the device or devices covered in this document in compliance with FCC regulations:

- Model numbers: DMC, MTC2
  Company name:
  Dell Inc.
  One Dell Way
  Round Rock, Texas 78682 USA
  512-338-4400

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.

<table>
<thead>
<tr>
<th>Country (City)</th>
<th>International Access Code</th>
<th>Department Name or Service Area, Website and E-Mail Address</th>
<th>Area Codes, Local Numbers, and Toll-Free Numbers</th>
</tr>
</thead>
<tbody>
<tr>
<td>Anguilla</td>
<td></td>
<td>General Support</td>
<td>toll-free: 800-335-0031</td>
</tr>
<tr>
<td>Antigua and Barbuda</td>
<td></td>
<td>General Support</td>
<td>1-800-805-5924</td>
</tr>
<tr>
<td>Country (City)</td>
<td>International Access Code</td>
<td>Country Code</td>
<td>City Code</td>
</tr>
<tr>
<td>---------------</td>
<td>----------------------------</td>
<td>--------------</td>
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</tr>
</tbody>
</table>
| Argentina (Buenos Aires) | 00 | 54 | 11 | Website: [www.dell.com.ar](http://www.dell.com.ar)  
E-mail: us_latin_services@dell.com  
E-mail for desktop and portable computers: la-techsupport@dell.com  
E-mail for servers and EMC: la_enterprise@dell.com  
Customer Care  
Tech Support  
Tech Support Services  
Sales | toll-free: 0-800-444-0730  
toll-free: 0-800-444-0733  
toll-free: 0-800-444-0724  
0-810-444-3355 |
| Aruba | | | | General Support | toll-free: 800-1378 |
| Australia (Sydney) | 0011 | 61 | 2 | E-mail (Australia): au_tech_support@dell.com  
E-mail (New Zealand): nz_tech_support@dell.com  
Home and Small Business | 1-300-65-55-33  
toll-free: 1-800-633-559  
toll-free: 1-800-060-889  
toll-free: 1-800-505-095  
toll-free: 1-800-733-314  
toll-free: 1-800-819-339  
toll-free: 1-800-808-385  
toll-free: 1-800-808-312  
toll-free: 1-800-818-341 |
| Austria (Vienna) | 900 | 43 | 1 | Website: [support.euro.dell.com](http://support.euro.dell.com)  
E-mail: tech_support_central_europe@dell.com  
Home/Small Business Sales | 0820 240 530 00  
0820 240 530 49  
0820 240 530 14  
0820 240 530 16  
0820 240 530 14  
0660 8779  
0820 240 530 00 |
<p>| Bahamas | | | | General Support | toll-free: 1-866-278-6818 |</p>
<table>
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<tr>
<th>Country (City)</th>
<th>International Access Code</th>
<th>Department Name or Service Area, Website and E-Mail Address</th>
<th>Area Codes, Local Numbers, and Toll-Free Numbers</th>
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<tbody>
<tr>
<td>Barbados</td>
<td></td>
<td>General Support</td>
<td>1-800-534-3066</td>
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<tr>
<td>Belgium (Brussels)</td>
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<td>Website: support.euro.dell.com</td>
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<td>E-mail for French Speaking Customers:</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>support.euro.dell.com/be/fr/emaildell/</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Technical Support</td>
<td>02 481 92 88</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Technical Support Fax</td>
<td>02 481 92 95</td>
</tr>
<tr>
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<td>Customer Care</td>
<td>02 713 15 65</td>
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<td>Corporate Sales</td>
<td>02 481 91 00</td>
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<td></td>
<td>Fax</td>
<td>02 481 92 99</td>
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<td>Switchboard</td>
<td>02 481 91 00</td>
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<tr>
<td>Bermuda</td>
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<td>General Support</td>
<td>1-800-342-0671</td>
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<tr>
<td>Bolivia</td>
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<td>General Support</td>
<td>toll-free: 800-10-0238</td>
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<tr>
<td>Brazil</td>
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<td>Customer Support, Technical Support</td>
<td>0800 90 3355</td>
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<td>Technical Support Fax</td>
<td>51 481 5470</td>
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<td>Customer Care Fax</td>
<td>51 481 5480</td>
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<td>Sales</td>
<td>0800 90 3390</td>
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<td>British Virgin Islands</td>
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<td>General Support</td>
<td>toll-free: 1-866-278-6820</td>
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<tr>
<td>Brunei</td>
<td></td>
<td>Customer Technical Support (Penang, Malaysia)</td>
<td>604 633 4966</td>
</tr>
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<td>673</td>
<td>Customer Service (Penang, Malaysia)</td>
<td>604 633 4949</td>
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<td>Transaction Sales (Penang, Malaysia)</td>
<td>604 633 4955</td>
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<tr>
<td>Canada (North York, Ontario)</td>
<td>011</td>
<td>Online Order Status: <a href="www.dell.ca/ostatus">www.dell.ca/ostatus</a></td>
<td>toll-free: 1-800-247-9362</td>
</tr>
<tr>
<td></td>
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<td>AutoTech (automated technical support)</td>
<td>toll-free: 1-800-847-4096</td>
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<td>Customer Care (Home Sales/Small Business)</td>
<td>toll-free: 1-800-847-4096</td>
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<td>Customer Care (med./large business, government)</td>
<td>toll-free: 1-800-326-9463</td>
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<td>Technical Support (Home Sales/Small Business)</td>
<td>toll-free: 1-800-387-5757</td>
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<td>Technical Support (med./large bus., government)</td>
<td>toll-free: 1-800-387-5752</td>
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<td></td>
<td>Sales (Home Sales/Small Business)</td>
<td>toll-free: 1-800-387-5755</td>
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<td></td>
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<td>Spare Parts Sales &amp; Extended Service Sales</td>
<td>1 866 440 3355</td>
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<tr>
<td>Cayman Islands</td>
<td></td>
<td>General Support</td>
<td>1-800-805-7541</td>
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<td>Country (City)</td>
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<tr>
<td>Chile (Santiago)</td>
<td>Sales, Customer Support, and Technical Support</td>
<td>toll-free: 1230-020-4823</td>
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<td>China (Xiamen)</td>
<td>Technical Support website: support.dell.com.cn</td>
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<td>Country Code: 86</td>
<td>Technical Support E-mail: <a href="mailto:cn_support@dell.com">cn_support@dell.com</a></td>
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<td>Technical Support Fax</td>
<td>818 1350</td>
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<td>Technical Support (Dimension™ and Inspiron™)</td>
<td>toll-free: 800 858 2969</td>
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<td></td>
<td>Technical Support (OptiPlex™, Latitude™, and Dell Precision™)</td>
<td>toll-free: 800 858 0950</td>
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<td>Technical Support (servers and storage)</td>
<td>toll-free: 800 858 0960</td>
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<td></td>
<td>Technical Support (projectors, PDAs, printers, switches, routers, and so on)</td>
<td>toll-free: 800 858 2920</td>
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<td>Customer Advocacy</td>
<td>toll-free: 800 858 2060</td>
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<td>592 818 1308</td>
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<td>Home and Small Business</td>
<td>toll-free: 800 858 2222</td>
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<td>Preferred Accounts Division</td>
<td>toll-free: 800 858 2557</td>
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<td>Large Corporate Accounts GCP</td>
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<td>Large Corporate Accounts Key Accounts</td>
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<td>Large Corporate Accounts North</td>
<td>toll-free: 800 858 2999</td>
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<td>toll-free: 800 858 2955</td>
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<td>toll-free: 800 858 2355</td>
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<td>Colombia</td>
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<td>980-9-15-3978</td>
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<td>Costa Rica</td>
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<td>Czech Republic (Prague)</td>
<td>Website: support.euro.dell.com E-mail: <a href="mailto:czech_dell@dell.com">czech_dell@dell.com</a></td>
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<td>Country Code: 420 City Code: 2</td>
<td>02 2186 27 27</td>
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<td>02 2186 27 14</td>
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<td>02 2186 27 11</td>
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<td>Switchboard</td>
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<tr>
<td>Denmark (Copenhagen)</td>
<td>Website: support.euro.dell.com E-mail Support (portable computers): <a href="mailto:den_nbk_support@dell.com">den_nbk_support@dell.com</a></td>
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<td>E-mail Support (desktop computers): <a href="mailto:den_support@dell.com">den_support@dell.com</a></td>
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<td>E-mail Support (servers): <a href="mailto:Nordic_server_support@dell.com">Nordic_server_support@dell.com</a></td>
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<td>3287 5000</td>
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<td>3287 5001</td>
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<td>toll-free: 1-866-278-6821</td>
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<td>France (Paris) (Montpellier)</td>
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<td>Website: support.euro.dell.com E-mail: support.euro.dell.com/fr/fr/emaildell/ Home and Small Business Technical Support 0825387270 Customer Care 0825823833 Switchboard 0825004700 Switchboard (calls from outside of France) 0499754000 Sales 0825004700 Fax 0825004701 Fax (calls from outside of France) 0499754001 Corporate Technical Support 0825004719 Customer Care 0825338339 Switchboard 0155947100 Sales 0155947100 Fax 0155947101</td>
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| Germany (Langen) | 00 | 49 | 6103 | Website: support.euro.dell.com  
E-mail: tech_support_central_europe@dell.com | 06103 766-7200  
0180-5-224400  
06103 766-9420  
06103 766-9555  
06103 766-7000 |
| Greece | 00 | 30 | | Website: support.euro.dell.com  
E-mail: support.euro.dell.com/gr/en/emaildell/ | 00800-44 14 95 18  
00800-44 14 00 83  
2108129810  
2108129811  
2108129800  
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 | |
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<td>1600 33 8045</td>
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<td>1600 33 8044</td>
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<td>Ireland (Cherrywood)</td>
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<td>Website: support.euro.dell.com E-mail: <a href="mailto:dell_direct_support@dell.com">dell_direct_support@dell.com</a></td>
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<td>U.K. Technical Support (dial within U.K. only)</td>
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<td>01 204 4014</td>
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<td>U.K. Customer Care (dial within U.K. only)</td>
<td>0870 906 0010</td>
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<td>Corporate Customer Care</td>
<td>1546 200 982</td>
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<td>0870 907 4499</td>
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<td>01 204 4444</td>
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<td>U.K. Sales (dial within U.K. only)</td>
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<td>Fax/Sales Fax</td>
<td>01 204 0103</td>
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<td>Italy (Milan)</td>
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<td><strong>Home and Small Business</strong></td>
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<td>02 577 821</td>
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<td>1-800-682-3639</td>
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<td>Technical Support (servers)</td>
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<td>Public Sales (government agencies, educational institutions, and medical institutions)</td>
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<td>044-556-1760</td>
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<td>Customer Service (Penang, Malaysia)</td>
<td>604 633 4949</td>
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<td>2194-6202</td>
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<td>Customer Technical Support (Austin, Texas, U.S.A.)</td>
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<td>Fax (Technical Support and Customer Service) (Austin, Texas, U.S.A.)</td>
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<td>SalesFax (Austin, Texas, U.S.A.)</td>
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<td>Website: support.euro.dell.com</td>
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<td>Switchboard (Brussels, Belgium)</td>
<td>02 481 91 00</td>
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<tr>
<td>Macao</td>
<td>Technical Support</td>
<td>toll-free: 0800 582</td>
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<tr>
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<td>Customer Service (Penang, Malaysia)</td>
<td>604 633 4949</td>
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<td>Transaction Sales</td>
<td>toll-free: 0800 581</td>
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<td>Malaysia (Penang)</td>
<td>Technical Support (Dell Precision, OptiPlex, and Latitude)</td>
<td>toll-free: 1 800 88 0193</td>
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<td>Technical Support (Dimension and Inspiron)</td>
<td>toll-free: 1 800 88 1306</td>
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<td>Technical Support (PowerEdge and PowerVault)</td>
<td>toll-free: 1800 88 1386</td>
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<td>04 633 4949</td>
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<td>Transaction Sales</td>
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<td>Corporate Sales</td>
<td>toll-free: 1 800 888 213</td>
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<tr>
<td>Mexico</td>
<td>Customer Technical Support</td>
<td>001-877-384-8979 or 001-877-269-3383</td>
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<tr>
<td></td>
<td>Sales</td>
<td>50-81-8800 or 01-800-888-3355</td>
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<td>Customer Service</td>
<td>001-877-384-8979 or 001-877-269-3383</td>
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<td>Main</td>
<td>50-81-8800 or 01-800-888-3355</td>
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<tr>
<td>Montserrat</td>
<td>General Support</td>
<td>toll-free: 1-866-278-6822</td>
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<tr>
<td>Netherlands Antilles</td>
<td>General Support</td>
<td>001-800-882-1519</td>
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<tr>
<td>Netherlands (Amsterdam)</td>
<td>Website: support.euro.dell.com</td>
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<td></td>
<td>Technical Support</td>
<td>020 674 45 00</td>
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<tr>
<td></td>
<td>Technical Support Fax</td>
<td>020 674 47 66</td>
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<tr>
<td>City Code: 20</td>
<td>Home/Small Business Customer Care</td>
<td>020 674 42 00</td>
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<td></td>
<td>Relational Customer Care</td>
<td>020 674 43 25</td>
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<td>Home/Small Business Sales</td>
<td>020 674 55 00</td>
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<td>Relational Sales</td>
<td>020 674 50 00</td>
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<td>Home/Small Business Sales Fax</td>
<td>020 674 47 75</td>
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<td>Relational Sales Fax</td>
<td>020 674 47 50</td>
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<td>Switchboard</td>
<td>020 674 50 00</td>
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<td>Switchboard Fax</td>
<td>020 674 47 50</td>
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<tr>
<td>New Zealand</td>
<td>E-mail (New Zealand): <a href="mailto:nz_tech_support@dell.com">nz_tech_support@dell.com</a></td>
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<tr>
<td></td>
<td>E-mail (Australia): <a href="mailto:au_tech_support@dell.com">au_tech_support@dell.com</a></td>
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<tr>
<td>Country Code: 64</td>
<td>Technical Support (for desktop and portable computers)</td>
<td>0800 443 563</td>
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<td>Technical Support (for servers and storage)</td>
<td>0800 505 098</td>
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<td>Home and Small Business</td>
<td>0800 446 255</td>
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<td>Government and Business</td>
<td>0800 444 617</td>
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<td>0800 441 567</td>
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<td>Fax</td>
<td>0800 441 566</td>
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<tr>
<td>Nicaragua</td>
<td>General Support</td>
<td>001-800-220-1006</td>
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<td>Country (City)</td>
<td>International Access Code</td>
<td>Department Name or Service Area, Website and E-Mail Address</td>
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<td>Norway (Lysaker)</td>
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<td>E-mail Support (portable computers): <a href="mailto:nor_nbk_support@dell.com">nor_nbk_support@dell.com</a> E-mail Support (desktop computers): <a href="mailto:nor_support@dell.com">nor_support@dell.com</a> E-mail Support (servers): <a href="mailto:nordic_server_support@dell.com">nordic_server_support@dell.com</a></td>
<td>Technical Support 671 16882 Relational Customer Care 671 17514 Home/Small Business Customer Care 23162298 Switchboard 671 16800 Fax Switchboard 671 16865</td>
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<tr>
<td>Panama</td>
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<td>General Support</td>
<td>001-800-507-0962</td>
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<tr>
<td>Peru</td>
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<td>General Support</td>
<td>0800-50-669</td>
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<tr>
<td>Poland (Warsaw)</td>
<td>011</td>
<td>E-mail: <a href="mailto:pl_support_tech@dell.com">pl_support_tech@dell.com</a></td>
<td>Customer Service Phone 57 95 700 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</td>
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<tr>
<td>Portugal</td>
<td>00</td>
<td>E-mail: support.euro.dell.com/pt/en/emaildell/</td>
<td>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</td>
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<td>Puerto Rico</td>
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<td>General Support</td>
<td>1-800-805-7545</td>
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<td>St. Kitts and Nevis</td>
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<td>General Support</td>
<td>toll-free: 1-877-441-4731</td>
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<td>St. Lucia</td>
<td>General Support</td>
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<td>St. Vincent and the Grenadines</td>
<td>General Support</td>
<td>toll-free: 1-877-270-1609</td>
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<tr>
<td>Singapore (Singapore)</td>
<td>Technical Support (Dimension and Inspiron)</td>
<td>toll-free: 1800 394 7430</td>
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<td></td>
<td>Technical Support (Optiplex, Latitude, and Precision)</td>
<td>toll-free: 1800 394 7488</td>
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<td>Technical Support (PowerEdge and PowerVault)</td>
<td>toll-free: 1800 394 7478</td>
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<td>Transaction Sales</td>
<td>toll-free: 800 601 054</td>
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<td>South Africa (Johannesburg)</td>
<td>Website: support.euro.dell.com</td>
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<td></td>
<td>E-mail: <a href="mailto:dell_za_support@dell.com">dell_za_support@dell.com</a></td>
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<td></td>
<td>Gold Queue</td>
<td>011 709 7713</td>
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<td>Technical Support</td>
<td>011 709 7710</td>
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<td>011 709 7700</td>
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<td>Countries</td>
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<td>Spain (Madrid)</td>
<td>Website: support.euro.dell.com</td>
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<td>E-mail: support.euro.dell.com/com/es/es/emaildell/</td>
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<td>Home and Small Business</td>
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<td>Technical Support</td>
<td>902 100 130</td>
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<td>91 722 92 00</td>
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<td>91 722 95 83</td>
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<td>Country (City)</td>
<td>International Access Code</td>
<td>Department Name or Service Area, Website and E-Mail Address</td>
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<tr>
<td>Sweden (Upplands Vasby)</td>
<td>00</td>
<td>Website: support.euro.dell.com E-mail: <a href="mailto:swe_support@dell.com">swe_support@dell.com</a> E-mail Support for Latitude and Inspiron: <a href="mailto:Sve-nbk_kats@dell.com">Sve-nbk_kats@dell.com</a> E-mail Support for OptiPlex: <a href="mailto:Swe_kats@dell.com">Swe_kats@dell.com</a> E-mail Support for Servers: <a href="mailto:Nordic_server_support@dell.com">Nordic_server_support@dell.com</a></td>
<td>08 590 05 199 08 590 05 642 08 587 70 527 20 140 14 44 08 590 05 594 08 590 05 185</td>
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<tr>
<td>Switzerland (Geneva)</td>
<td>00</td>
<td>Website: support.euro.dell.com E-mail: <a href="mailto:Tech_support_central_Europe@dell.com">Tech_support_central_Europe@dell.com</a> E-mail for French-speaking HSB and Corporate Customers: support.euro.dell.com/ch/fr/emaildell/</td>
<td>0844 811 411 0844 822 844 0848 802 202 0848 821 721 022 799 01 90 022 799 01 01</td>
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<tr>
<td>Taiwan</td>
<td>002</td>
<td>Technical Support (portable and desktop computers) Technical Support (servers and storage) Corporate Sales</td>
<td>toll-free: 00801 86 1011 toll-free: 00801 60 1256 toll-free: 00801 651 227</td>
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<td>Country (City)</td>
<td>Department Name or Service Area, Website and E-Mail Address</td>
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<td>Trinidad/Tobago</td>
<td>General Support</td>
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<td>1-800-805-8035</td>
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<td>Turks and Caicos Islands</td>
<td>General Support</td>
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<td></td>
<td>toll-free: 1-866-540-3355</td>
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<td>U.K. (Bracknell)</td>
<td>Website: support.euro.dell.com</td>
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<td>Customer Care website: support.euro.dell.com/uk/en/ECare/Form/Home.asp</td>
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<td>E-mail: <a href="mailto:dell_direct_support@dell.com">dell_direct_support@dell.com</a></td>
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<td>Technical Support (Corporate/Preferred Accounts/PAD [1000+ employees])</td>
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<td>Technical Support (direct/PAD and general)</td>
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<td>0870 908 0800</td>
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<td>Global Accounts Customer Care</td>
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<td>01344 373 186</td>
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<td>Home and Small Business Customer Care</td>
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<td>Preferred Accounts (500–5000 employees)</td>
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<td>Local Government &amp; Education Customer Care</td>
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<tr>
<td>Uruguay</td>
<td>General Support</td>
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<td></td>
<td>toll-free: 000-413-598-2521</td>
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<td>Country (City)</td>
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<td>Department Name or Service Area, Website and E-Mail Address</td>
<td>Area Codes, Local Numbers, and Toll-Free Numbers</td>
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<td>Country Code: I</td>
<td>AutoTech (portable and desktop computers)</td>
<td>toll-free: 1-800-247-9362</td>
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<td></td>
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<td>Consumer (Home and Home Office) Technical Support</td>
<td>toll-free: 1-800-624-9896</td>
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<td>Customer Service</td>
<td>toll-free: 1-800-624-9897</td>
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<td>DellNet™ Service and Support</td>
<td>toll-free: 1-877-Dellnet (1-877-335-5638)</td>
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<td>Employee Purchase Program (EPP) Customers</td>
<td>toll-free: 1-800-695-8133</td>
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<td>Financial Services website: <a href="http://www.dellfinancialservices.com">www.dellfinancialservices.com</a></td>
<td>Financial Services (lease/loans) toll-free: 1-877-577-3355</td>
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<td></td>
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<td>Financial Services (Dell Preferred Accounts [DPA])</td>
<td>Financial Services (Dell Preferred Accounts [DPA]) toll-free: 1-800-283-2210</td>
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<td>Business Customer Service and Technical Support</td>
<td>toll-free: 1-800-822-8965</td>
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<td>Employee Purchase Program (EPP) Customers</td>
<td>Employee Purchase Program (EPP) Customers toll-free: 1-800-695-8133</td>
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<td>Public (government, education, and healthcare)</td>
<td>Public (government, education, and healthcare) toll-free: 1-800-456-3355</td>
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<td>Dell Sales</td>
<td>Dell Sales toll-free: 1-800-289-3355 or toll-free: 1-800-879-3355</td>
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<td>Dell Outlet Store (Dell refurbished computers)</td>
<td>Dell Outlet Store (Dell refurbished computers) toll-free: 1-888-798-7561</td>
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<td>Software and Peripherals Sales</td>
<td>Software and Peripherals Sales toll-free: 1-800-671-3355</td>
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<td>Spare Parts Sales</td>
<td>Spare Parts Sales toll-free: 1-800-357-3355</td>
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<td>Extended Service and Warranty Sales</td>
<td>Extended Service and Warranty Sales toll-free: 1-800-247-4618</td>
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<td>Fax</td>
<td>Fax toll-free: 1-800-727-8320</td>
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<td>U.S. Virgin Islands</td>
<td>General Support</td>
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<td>Venezuela</td>
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