




Dell™ Dimension™ 8250 Series

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Hints, Notices, and Cautions

-  **HINT:** A HINT 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.

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

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Model DHM

March 2003 Rev. A02

Advanced Troubleshooting








Dell™ Dimension™ 8250 Series






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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." 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 in your *Owner's Manual*.

Light Pattern	Problem Description	Suggested Resolution
	The computer is in a normal off condition or a possible pre-BIOS failure has occurred.	Verify that the computer power cable is plugged into the computer and a working electrical outlet. Press the power button.
<p>GGGY</p> 	Other failure has occurred.	<ol style="list-style-type: none"> 1. Ensure that the cables are properly connected from the hard drive, CD drive, and DVD drive to the system board. 1. If the problem persists, contact Dell. See your <i>Owner's Manual</i> for contact information.
<p>YGYG</p> 	A possible expansion card failure has occurred.	<ol style="list-style-type: none"> 1. Determine if a conflict exists by removing a card (not the video card) 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 you removed from the computer for resource conflicts (see "Resolving Software and Hardware Incompatibilities"). 4. If the problem persists, contact Dell. See your <i>Owner's Manual</i> for contact information.
<p>YYGG</p> 	Memory modules are detected, but a memory failure has occurred.	<p>Remove and reinstall all memory modules and CRIMMs. Ensure that all the connector tabs are locked. Restart the computer.</p> <p>Install the memory modules in memory connectors RIMM1 (located closest to the microprocessor) and RIMM2 and ensure that, if no additional memory is used, CRIMMs are installed in memory connectors RIMM3 and RIMM4.</p> <p>If you installed memory modules in memory connectors RIMM3 and RIMM4 that were not purchased from Dell, remove the modules and replace them with the CRIMMs that were originally installed in your computer.</p> <p>If available, install Dell memory of the same type into your computer.</p> <p>If the problem persists, contact Dell. See your <i>Owner's Manual</i> for contact information.</p>
<p>YYGY</p> 	A possible microprocessor failure has occurred.	Reinstall the microprocessor and restart the computer.
<p>GYGY</p> 	Memory modules are detected, but a memory configuration or compatibility error exists.	<ol style="list-style-type: none"> 1. Ensure that there are no special memory module/memory connector placement requirements (see "Adding Memory"). 1. Verify that the memory modules that you are installing are compatible with your computer. See "Memory" in the "Technical Specifications." 1. Reinstall the memory modules and restart the computer. 1. If the problem persists, contact Dell. See your <i>Owner's Manual</i> for contact information.
<p>YGGY</p> 	A possible floppy or hard drive failure has occurred.	Check all power and data cable connections and restart the computer.

<p>GYYY</p>  <p>A B C D</p>	No memory modules are detected.	<ul style="list-style-type: none"> 1 Reinstall all memory modules and restart the computer. 1 If the problem persists, contact Dell. See your <i>Owner's Manual</i> for contact information.
<p>YYYG</p>  <p>A B C D</p>	A possible BIOS failure has occurred; the computer is in the recovery mode.	Run the BIOS Recovery Utility, wait for recovery completion, and then restart the computer.
<p>YGYG</p>  <p>A B C D</p>	A possible video card failure has occurred or a bad on-board video exists.	<ul style="list-style-type: none"> 1 If the computer has a video card, remove the card and reinstall it. 1 If the problem persists or the computer has integrated video, contact Dell. See your <i>Owner's Manual</i> for contact information.
<p>YGGG</p>  <p>A B C D</p>	A possible USB failure has occurred.	Reinstall all USB devices, check cable connections, and then restart the computer.
<p>GGGG</p>  <p>A B C D</p>	The computer is in a normal operating condition after POST.	None.

Beep Codes

Your computer might emit a series of beeps during start-up if the monitor cannot display errors or problems. This series of beeps, called a beep code, identifies a problem. One possible beep code (code 1-3-1) consists of one beep, a burst of three beeps, and then one beep. This beep code tells you that the computer encountered a memory problem.

[Reseating the memory modules](#) may fix the beep code errors in the following table. If the problem persists, see "Contacting Dell" in your *Owner's Manual* for instructions on obtaining technical assistance.


Code	Cause
1-3-1 through 2-4-4	Memory not being properly identified or used
4-3-1	Memory failure above address 0FFFFh

If you hear one of the following beep codes, see "Contacting Dell" in your *Owner's Manual* for instructions on obtaining technical assistance.

Code	Cause
1-1-2	Microprocessor register failure
1-1-3	NVRAM
1-1-4	ROM BIOS checksum failure
1-2-1	Programmable interval timer
1-2-2	DMA initialization failure
1-2-3	DMA page register read/write failure
3-1-1	Slave DMA register failure
3-1-2	Master DMA register failure
3-1-3	Master interrupt mask register failure
3-1-4	Slave interrupt mask register failure
3-2-2	Interrupt vector loading failure
3-2-4	Keyboard Controller Test failure
3-3-1	NVRAM power loss
3-3-2	NVRAM configuration
3-3-4	Video Memory Test failure
3-4-1	Screen initialization failure
3-4-2	Screen retrace failure
3-4-3	Search for video ROM failure
4-2-1	No time tick
4-2-2	Shutdown failure
4-2-3	Gate A20 failure
4-2-4	Unexpected interrupt in protected mode
4-3-3	Timer-chip counter 2 failure

4-3-4	Time-of-day clock stopped
4-4-1	Serial or parallel port test failure
4-4-4	Cache test failure

System Messages

 **HINT:** If the message you received is not listed in the table, see the documentation for either the operating system or the program that was running when the message appeared.

Message	Possible Cause	Corrective Action
8042 Gate-A20 error	The keyboard controller failed its test.	If you receive this message after you make changes in the system setup program , enter the program and restore the original value(s).
Address Line Short!	An error in the address decoding circuitry in the memory has occurred.	Reset the memory modules.
C: Drive Error C: Drive Failure	The hard drive is not working or is not configured correctly.	Ensure that the drive is installed correctly in the computer and defined correctly in the system setup program .
Cache Memory Bad, Do Not Enable Cache	The cache memory is not operating.	See "Contacting Dell" in your <i>Owner's Manual</i> for instructions on obtaining technical assistance.
CH-2 Timer Error	An error is occurring on the timer on the system board.	See "Contacting Dell" in your <i>Owner's Manual</i> for instructions on obtaining technical assistance.
CMOS Battery State Low CMOS Checksum Failure CMOS System Options Not Set CMOS Display Type Mismatch CMOS Memory Size Mismatch CMOS Time and Date Not Set	The system configuration information in the system setup program is incorrect or the battery charge may be low.	Enter the system setup program , verify the system configuration, and then restart the computer.
Diskette Boot Failure	Drive A or B is present but has failed the BIOS POST.	Ensure that the drive is installed correctly in the computer and defined correctly in the system setup program . Check the interface cable at both ends.
DMA Error DMA 1 Error DMA 2 Error	Error in the DMA controller on the system board.	The keyboard or system board may need to be replaced.
FDD Controller Failure HDD Controller Failure	The BIOS cannot communicate with the floppy drive or hard drive controller.	Ensure that the floppy drive or the hard drive is installed correctly in the computer and defined correctly in the system setup program . Check the interface cable at both ends.
INTR1 Error INTR2 Error	An interrupt channel on the system board failed to POST.	The keyboard or system board may need to be replaced.
Invalid Boot Diskette	The operating system cannot be located on drive A or drive C.	Enter the system setup program and confirm that drive A or drive C is properly identified.
Keyboard Error	The BIOS has detected a stuck key.	Ensure that nothing is resting on the keyboard; if a key appears to be stuck, carefully pry it up. If the problem persists, you may need to replace the keyboard.
KB/Interface Error	An error occurred with the keyboard connector.	Ensure that nothing is resting on the keyboard; if a key appears to be stuck, carefully pry it up. If the problem persists, you may need to replace the keyboard.
No ROM Basic	The operating system cannot be located on drive A or drive C.	Enter the system setup program and confirm that drive A or drive C is properly identified.

Drivers

What Is a Driver?

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

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

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

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


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

Identifying Drivers

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

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

Reinstalling Drivers

 **NOTICE:** The Dell Support website and your *Dell Dimension ResourceCD* provide approved drivers for Dell™ computers. If you install drivers obtained from other sources, your computer might not work correctly.

Using Windows XP Device Driver Rollback

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

To use Device Driver Rollback:


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

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

Using the Dell Dimension ResourceCD

If using [Device Driver Rollback](#) or [System Restore](#) does not resolve the problem, then reinstall the driver from the *Dell Dimension ResourceCD*:

1. With the Windows desktop displayed, insert the ResourceCD into the CD or DVD drive.
If this is your first time to use the ResourceCD, go to [step 2](#). If not, go to [step 5](#).
2. When the ResourceCD installation program starts, follow the prompts on the screen.
3. When the **InstallShield Wizard Complete** window appears, remove the ResourceCD and click **Finish** to restart the computer.
4. When you see the Windows desktop, reinsert the ResourceCD into the CD or DVD drive.
5. At the **Welcome Dell System Owner** screen, click **Next**.

 **HINT:** The ResourceCD displays drivers only for hardware that came on your computer. If you installed additional hardware, the drivers for the new hardware might not be displayed by the ResourceCD. If those drivers are not displayed, exit the ResourceCD program. For drivers information, see the documentation that came with the device.

A message stating that the ResourceCD is detecting hardware in your computer appears.


The drivers that are used by your computer are automatically displayed in the **My Drivers—The ResourceCD has identified these components in your system** window.

6. Click the driver that you want to reinstall and follow the instructions on the screen.

If a particular driver is not listed, then that driver is not required by your operating system.

Using System Restore

The Microsoft® Windows® XP operating system provides System Restore to allow you to return your computer to an earlier operating state (without affecting data files) if changes to the hardware, software, or other system settings have left the computer in an undesirable operating state. See Windows Help for information on using System Restore. To access Windows Help, see "[Finding Help Information](#)."


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

Creating a Restore Point

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

Restoring the Computer to an Earlier Operating State

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

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

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

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

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

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

5. Click **Next**.

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

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

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

Undoing the Last System Restore

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

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

The **System Restore** screen appears and the computer restarts.

4. After the computer restarts, click **OK**.

Enabling System Restore

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

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

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**.

Reinstalling Microsoft® Windows® XP

Before You Reinstall

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

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

Reinstalling Windows XP

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

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

- ➔ **NOTICE:** The *Operating System* CD provides options for reinstalling Windows XP. The options can overwrite files and possibly affect programs installed on your hard drive. Therefore, do not reinstall Windows XP unless instructed to do so by a Dell technical support representative.
- ➔ **NOTICE:** To prevent conflicts with Windows XP, disable any virus protection software installed on your computer before you reinstall Windows XP. See the documentation that came with the software for instructions.

Preparing to Boot From the Operating System CD


1. Insert the *Operating System* CD into the CD or DVD drive.
2. Exit any program or utility that might run after you insert the CD.
3. [Shut down](#) and restart the computer.
4. Press <F12> immediately after the DELL™ logo appears.

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

5. Use the arrow keys to select **CD-ROM** and press <Enter>.
6. When the `Press any key to boot from CD` message appears on the screen, press any key.


Starting Windows XP Setup

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

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

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

Completing the GUI Setup

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

1. When the **Regional and Language Options** screen appears, select the settings for your location and click **Next**.
2. Enter your name and organization (optional) in the **Personalize Your Software** screen and click **Next**.
3. *If you are reinstalling Windows XP Home Edition*, at the **What's your computer's name** window, enter a name for your computer (or accept the name provided) and click **Next**.

If you are reinstalling Windows XP Professional, at the **Computer Name and Administrator Password** window, enter a name for your computer (or accept the one provided) and a password, and then click **Next**.


4. If you have a modem installed, enter the requested information and click **Next** when the **Modem Dialing Information** screen appears.
5. Enter the date, time, and time zone in the **Date and Time Settings** window and click **Next**.
6. *If your computer has a network adapter*, click **Typical** in the **Networking Settings** screen and click **Next**.

If your computer does not have a network adapter, this option does not appear.

7. If you are reinstalling Windows XP Professional, you may be prompted to provide further network information regarding your network configuration, such as the domain name or workgroup name. If you are unsure of your settings, accept the default selections.

Windows XP installs the operating system components, configures the computer, and then restarts the computer.

Completing the Operating System Setup

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

1. When the **Welcome to Microsoft** screen appears, click **Next**.
2. When the **How will this computer connect to the Internet?** message appears, click **Skip**.
3. When the **Ready to register with Microsoft?** screen appears, click **No, not at this time** and click **Next**.

When the **Who will use this computer?** screen appears, you can enter up to five users.

4. Click **Next**.
5. Click **Finish** to complete the setup and remove the CD from the drive.

Reinstalling Drivers and Software





1. [Reinstall the appropriate drivers](#).
2. Reinstall your virus protection software. See the documentation that came with the software for instructions.
3. Reinstall your other software programs. See the documentation that came with the software for instructions.


Documentation

Dell™ Dimension™ 8250 Series

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Finding Information for Your Computer

What Are You Looking For?	Find it Here
<ul style="list-style-type: none"> 1 A diagnostic program for my computer 1 Drivers for my computer 1 My computer documentation 1 My device documentation 	<p>ResourceCD</p>  <p>You can use this CD to access documentation or reinstall drivers</p>
<ul style="list-style-type: none"> 1 How to set up a printer 1 How to troubleshoot and solve problems 1 How to add parts 1 How to contact Dell 	<p>Owner's Manual</p> 
<ul style="list-style-type: none"> 1 Express Service Code and Service Tag Number 1 Microsoft® Windows® License Label 	<p>Express Service Code and Product Key</p>  <p>These labels are located on your computer.</p>
<ul style="list-style-type: none"> 1 How to reinstall my operating system 	<p>Operating System CD</p>  <p>If you reinstall your operating system, use the ResourceCD to reinstall drivers for the devices that came with your computer.</p>
<ul style="list-style-type: none"> 1 Latest drivers for my computer 1 Answers to technical service and support questions 1 Online discussions with other users and technical support 1 Documentation for my computer 	<p>Dell Support Website</p> <p>The Dell Support website provides several online tools, including:</p> <ul style="list-style-type: none"> 1 Knowledge Base — Hints, tips, and online courses 1 Customer Forum — Online discussion with other Dell customers 1 Upgrades — Upgrade information for components, such as memory, the hard drive, and the operating system 1 Customer Care — Contact information, order status, warranty, and repair information 1 Downloads — Drivers, patches, and software updates

	1 Reference — Computer documentation, product specifications, and white papers
1 How to set up my computer	Setup Diagram 
1 Tips on using Windows 1 How to clean my computer 1 How to use my mouse and keyboard	Tell Me How Help File <ol style="list-style-type: none"> 1. Click the Start button, and then click Help and Support. 2. Click User and system guides, and then click User's guides. 3. Click Tell Me How.
1 How to use Windows XP 1 Documentation for my computer and devices	Windows XP Help and Support Center <ol style="list-style-type: none"> 1. Click the Start button and then 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.

Printed Documentation


 **HINT:** You must right-click the link for a portable document format (PDF) file and save the file to your hard drive. Attempting to open large PDF files through your browser causes your computer to freeze.

To save PDF files (files with an extension of **.pdf**) to your hard drive, right-click the document title, click **Save Target As** in Microsoft® Internet Explorer or **Save Link As** in Netscape Navigator, and specify a location on your hard drive.

Right-click only the following link:

[Dell Dimension 8250 setup diagram \(.pdf\) \(1.41 MB\)](#) — Provides instructions on how to go through initial setup of your computer.


[Dell Dimension 8250 Owner's Manual \(.pdf\) \(1.69 MB\)](#) — Provides information on adding upgrades, performing basic troubleshooting procedures, and reinstalling drivers. It also provides technical specifications.

 **HINT:** PDF files require Adobe™ Acrobat Reader, which can be downloaded from the Adobe World Wide Web site at www.adobe.com/acrobat/. To view a PDF file, launch Acrobat Reader. Click **File**→**Open** and select the PDF file.

Online Documentation

The *Tell Me How* help file is already loaded on your hard drive when you receive your computer. To open the 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**.

 **HINT:** *Tell Me How* help files (files with an extension of **.chm**) require Microsoft Internet Explorer 4.0 or later.

The *Tell Me How* help file allows you to search for information in multiple ways. You can quickly link to information on the following topics:

- 1 Hardware and software features of your computer
- 1 The Windows desktop, where you can change your wallpaper and screen saver, create shortcuts, and position icons
- 1 Software access, installation, and removal
- 1 Basic file management, such as finding, copying, deleting, and renaming files
- 1 Tips on using your computer hardware

Downloading the Tell Me How Help File

1. Right-click the following link to the file: [Dell Dimension 8250 System Tell Me How \(.chm\) \(563 KB\)](#).

2. Click **Save Target As** in Microsoft Internet Explorer or **Save Link As** in Netscape Navigator, and specify a location on your hard drive.

Viewing the Tell Me How Help File

1. Click the **Start** button on the Windows desktop, point to **Programs**, and then click **Windows Explorer**.
2. Navigate to the directory in which you saved the *Tell Me How* help file.
3. Double-click the file (**tellhow.chm**).

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- [Installing and Removing Cards](#)
- [Adding Memory](#)
- [Adding or Replacing the AGP Card](#)
- [Drives](#)
- [Hard Drive](#)
- [Front-Panel Inserts](#)
- [Floppy Drive](#)
- [CD/DVD Drive](#)
- [Replacing the Microprocessor](#)
- [Removing the Front I/O Panel](#)
- [Power Supply](#)
- [System Board](#)
- [Closing the Computer Cover](#)

Turning Off the Computer

🔊 **NOTICE:** To prevent data loss, you must turn off your computer through the **Start** menu rather than by pressing the power button.

🔍 **HINT:** If you are having difficulty turning off your computer, see "[General Problems](#)."

1. Save and close any open files and exit any open programs.
2. Click the **Start** button and then click **Turn off Computer**.
3. Click **Turn off**.

The computer automatically turns off after the shutdown process finishes.

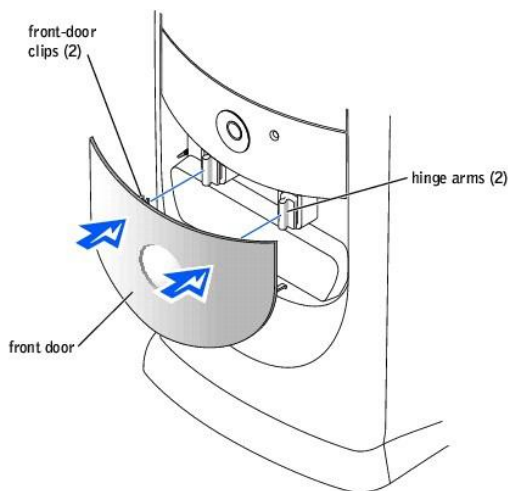
4. Turn off your monitor and any other devices connected to power.

Reattaching the Front Door and Hinge Arms

To prevent damage to your computer, the front door is designed to "break away" if it is lifted up too far. If the front door breaks away, you might need to reattach both the front door and the hinge arms.

Reattaching the Front Door

1. Shut down the computer through the **Start** menu.
2. Lower the hinge arms to the vertical position.
3. Align the two clips on the inside of the front door with the two hinge arms.
4. Press inward on the front door until it clips to both hinge arms.



Reattaching the Hinge Arms

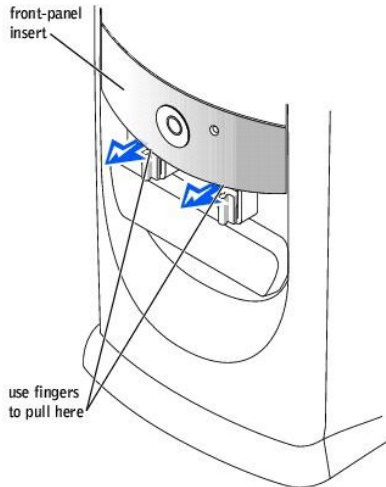
⚠ CAUTION: Before you begin any of the procedures in this section, follow the safety instructions listed in your *Owner's Manual*.

1. Shut down the computer through the **Start** menu.
2. Disconnect the power cable from your computer.
3. Remove the front door, if it is attached.

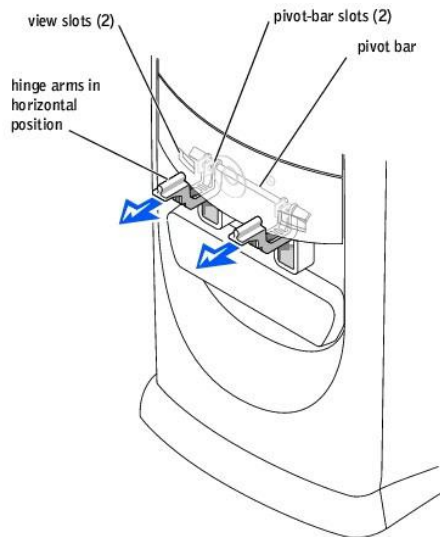
The front door snaps off of the two hinge arms.

4. Remove the front-panel insert above the front-door bay area.

Pull the bottom of the insert with your fingers to remove it.



5. Lift both hinge arms to the horizontal position.
6. Use the two view slots to align the pivot bar with the two pivot-bar slots.



⚠ NOTICE: Using excessive force to pull the hinge arms into place may damage the arms or the front panel.

7. Pull the arms toward you until they snap into place.
If the hinge arms don't snap back into place on the first attempt, slightly reposition the arms and try again.
8. After the hinge arms clip into place, lower and raise the arms two or three times to properly seat them.
9. Reattach the front-panel insert.
10. Reconnect the power cable to your computer.
11. [Reattach the front door.](#)

Opening the Computer Cover

⚠ CAUTION: Before you begin any of the procedures in this section, follow the steps listed in the safety instructions in your *Owner's Manual*.

⚠ 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.

➡ **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.

➡ **NOTICE:** Ensure that sufficient space exists to support the open cover—at least 30 cm (1 ft) of desk top space.

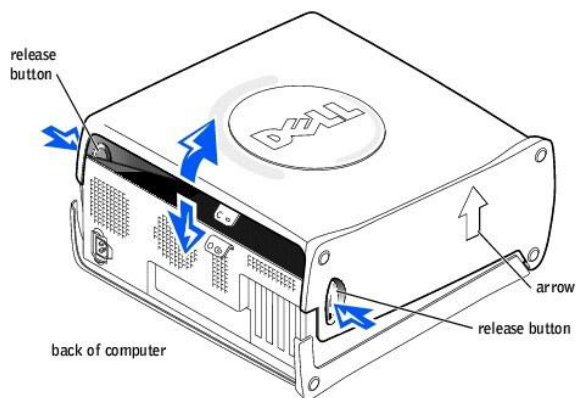
4. Lay the computer on its side so that the arrow on the bottom of the computer points up.

5. Open the cover:

a. Facing the back of the computer, press the release button on the right side of the computer with one hand while pulling up on the top of the cover with the other hand.

b. Press the release button on the left side of the computer with one hand while pulling up on the top of the cover with the other hand.

c. Hold the bottom of the computer with one hand, and then pull open the cover with the other hand.



Installing and Removing Cards

⚠ CAUTION: Before you begin any of the procedures in this section, follow the steps in the safety instructions in your *Owner's Manual*.

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

Your Dell™ computer provides slots for up to four 32-bit, 33-MHz cards.

Cards

If you are installing or replacing a card, follow the procedures in the next section. If you are removing but not replacing a card, see ["Removing a Card."](#)

Installing a Card

⚠ CAUTION: Before you begin any of the procedures in this section, follow the steps in the safety instructions in your *Owner's Manual*.

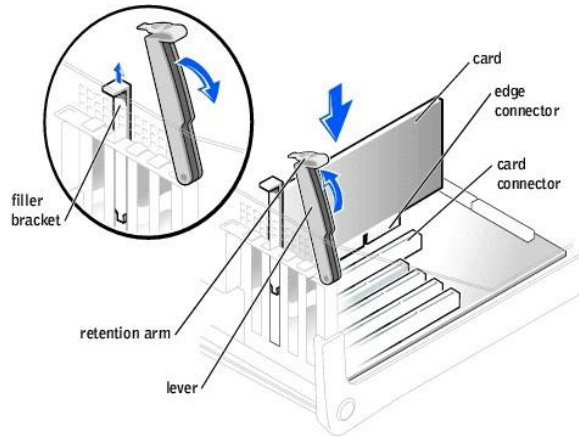
1. If you are replacing a card, remove the current driver for the card from the operating system.

2. Shut down the computer through the **Start** menu.

➡ **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. [Open the computer cover.](#)
6. Press the lever on the card retention arm and raise the retention arm.



7. If you are installing a new card, remove the filler bracket to create a card-slot opening. Then continue with [step 9](#).

8. If you are replacing a card that is already installed in the computer, remove the card.

If necessary, disconnect any cables connected to the card. Grasp the card by its top corners, and ease it out of its connector.

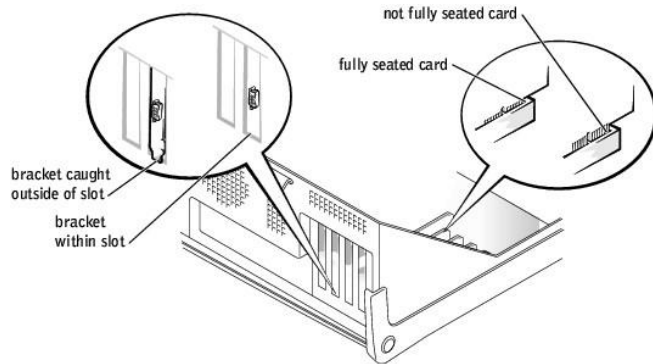
9. Prepare the card for installation.

See the documentation that came with the card for information on configuring the card, making internal connections, or otherwise customizing it for your computer.

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. Verify that the standby power light on the system board is off.

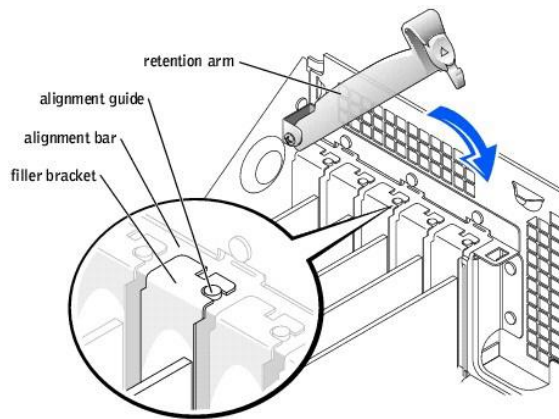
10. Place the card in the connector and press down firmly. Ensure that the card is fully seated in the slot.

If the card is full-length, insert the end of the card into the card guide bracket as you lower the card toward its connector on the system board. Insert the card firmly into the card connector on the system board.



11. Before you lower the retention arm, ensure that:
 - 1 The tops of all cards and filler brackets are flush with the alignment bar
 - 1 The notch in the top of the card or filler bracket fits around the alignment guide

Press the arm into place, securing the card(s) in the computer.



⚠ **NOTICE:** Do not route card cables over or behind the cards. Cables routed over the cards can prevent the computer cover from closing properly or cause damage to the equipment.

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

13. [Close the computer cover](#), reconnect the computer and devices to electrical outlets, and turn them on.

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

Removing a Card

⚠ **CAUTION:** Before you begin any of the procedures in this section, follow the steps in the safety instructions in your *Owner's Manual*.

1. Shut down the computer through the **Start** menu.

⚠ **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. [Open the computer cover](#).

5. Press the lever on the card retention arm and raise the retention arm.

6. If necessary, disconnect any cables connected to the card.

7. Grasp the card by its top corners, and ease it out of its connector.

8. If you are removing the card permanently, install a filler bracket in the empty card-slot opening.

If you need a filler bracket, contact Dell. See your *Owner's Manual* for contact information.

9. Lower the retention arm and press it into place, securing the card(s) in the computer.

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

10. [Close the computer cover](#), reconnect the computer and devices to electrical outlets, and turn them on.

11. Remove the card's driver from the operating system.

Adding Memory

⚠ **CAUTION:** Before you begin any of the procedures in this section, follow the steps in the safety instructions in your *Owner's Manual*.

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

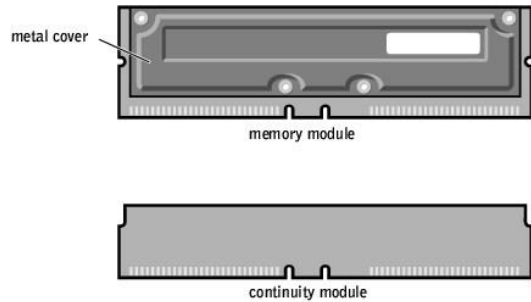
You can increase your computer memory by installing memory modules on the system board. For information on the type of memory supported by your computer, look under "[Memory](#)" in "Technical Specifications."

RDRAM Overview

NOTICE: 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 the new modules were purchased from Dell. Your original memory modules must be installed as a pair in either connectors RIMM1 and RIMM2 or RIMM3 and RIMM4. Do not pair one original memory module with one new memory module in connectors RIMM1 and RIMM2 or RIMM3 and RIMM4. Otherwise, your computer may not start properly.

RDRAM technology requires that all memory connectors have either a memory module or a continuity module installed. Memory modules and continuity modules are easily identified—memory modules have a metal cover on one side of the module and continuity modules do not.

HINT: The metal cover on a memory module is manufactured in various colors. The color of the metal cover has no effect on the module's performance.



Memory modules are the actual components that provide memory for the microprocessor; continuity modules are used only to complete the memory circuit if memory modules are not installed in all of the memory connectors.

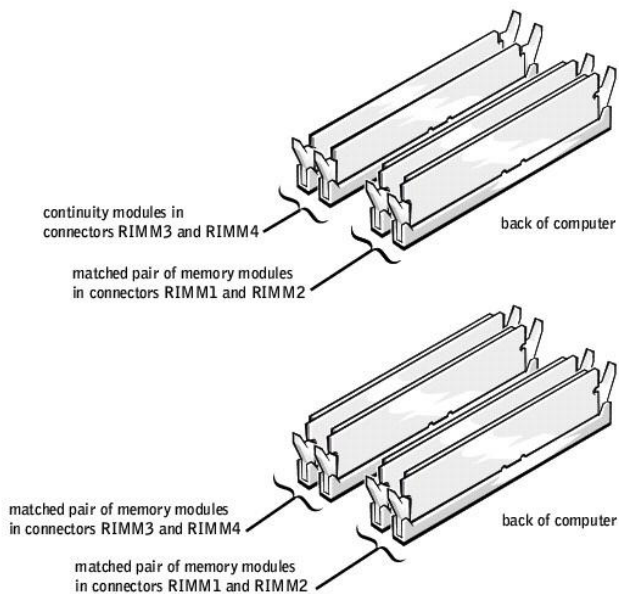
Another RDRAM requirement is that memory modules must be installed in *pairs of matched memory size*. This means that if you purchased your computer with 128 MB of memory installed and you want to add another 128 MB of memory, you must remove the two continuity modules and replace them with two 64-MB memory modules.

NOTICE: You can only install continuity modules in connectors RIMM3 and RIMM4.

HINT: Mixed pairs of PC1066 and PC800 modules all function as PC800.

The only two valid memory configurations are:

- 1 A pair of matched memory modules installed in connectors RIMM1 and RIMM2 with continuity modules installed in connectors RIMM3 and RIMM4
- or
- 1 A pair of matched memory modules installed in connectors RIMM1 and RIMM2 and another matched pair installed in connectors RIMM3 and RIMM4



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

Removing a Memory Module

1. Shut down the computer through the **Start** menu.

➔ **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. [Open the computer cover.](#)
5. Press out the securing clip at each end of the memory module connector.
6. Grasp the module and pull up.

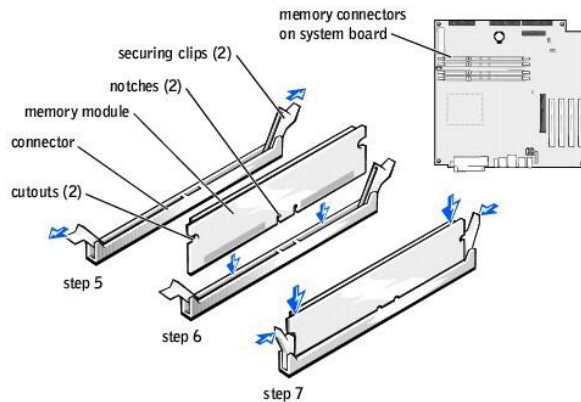
If the module is difficult to remove, gently ease the module back and forth to remove it from the connector.

Adding a Memory Module

1. Shut down the computer through the **Start** menu.

➔ **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. [Open the computer cover.](#)
5. Press out the securing clip at each end of the memory module connector.



6. Align the notch on the bottom of the module with the crossbar in the connector.

➔ **NOTICE:** To avoid damage to the memory module, press the module straight down into the socket with equal force applied at each end of the module.

7. 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.

8. [Close 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.

9. Connect your computer and devices to electrical outlets, and turn them on.
10. Right-click the **My Computer** icon and then click **Properties**.
11. Click the **General** tab.
12. To verify that the memory is installed correctly, check the amount of memory (RAM) listed.

Adding or Replacing the AGP Card

⚠ **CAUTION:** Before you begin any of the procedures in this section, follow the steps in the safety instructions in your *Owner's Manual*.

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

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

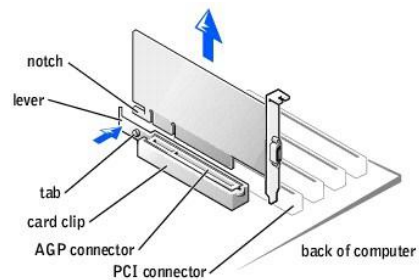
1. Shut down the computer through the **Start** menu.

🔗 **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. [Open the computer cover.](#)

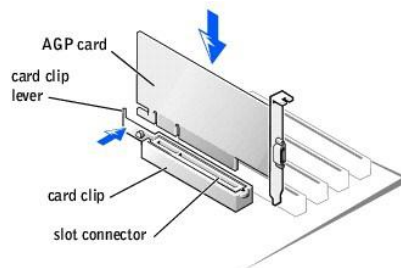
Removing an AGP Card

1. Remove the filler bracket by raising the hinged lever and sliding the bracket up.
2. Press the card lever toward the PCI connector.
3. 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 by lowering the hinged lever on the back panel.
4. [Close the computer cover.](#)
5. Connect the monitor cable to the card's video connector.

🔗 **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.

Drives

Your computer supports:

1. Two hard drives
 1. Two floppy or optional Zip drives
 1. Two CD or DVD drives
-

Hard Drive

⚠ CAUTION: Before you begin any of the procedures in this section, follow the steps in the safety instructions in your *Owner's Manual*.

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

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

1. If you are replacing a hard drive that contains data you want to keep, back up your files before you begin this procedure.
2. Shut down the computer through the **Start** menu.
3. Turn off your computer and any devices.
4. Ground yourself by touching an unpainted metal surface on the chassis, such as the metal around the card-slot openings at the back of the computer, before touching anything inside your computer.

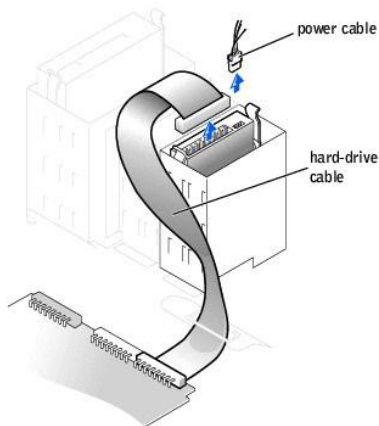
While you work, periodically touch an unpainted metal surface on the computer chassis to dissipate any static electricity that might harm internal components.

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

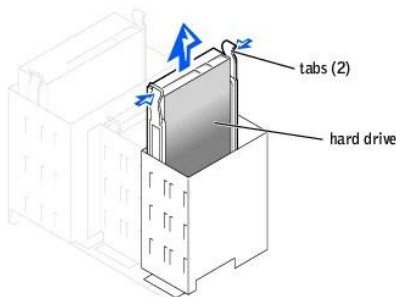
5. Disconnect your computer and devices from their power sources. Also, disconnect any telephone or telecommunication lines from the computer.
6. Disconnect the computer power cable from the wall outlet, and then press the power button to ground the system board.
7. [Open the computer cover.](#)

Removing a Hard Drive

1. Disconnect the power and hard-drive cables from the drive.

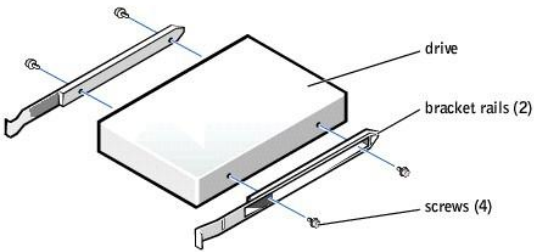


2. Press in on the tabs on each side of the drive and slide the drive up and out.



Installing a Hard Drive

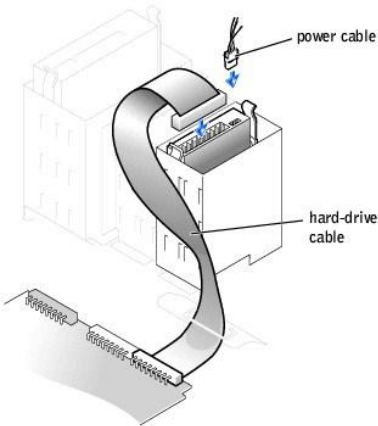
1. Unpack the replacement hard drive, and prepare it for installation.
2. Check the documentation for the drive to verify that it is configured for your computer.
3. If your replacement hard drive does not have the bracket rails attached, remove the rails from the old drive by removing the two screws that secure each rail to the drive. Attach the bracket rails to the new drive by aligning the screw holes on the drive with the screw holes on the bracket rails and then inserting and tightening all four screws (two screws on each rail).



4. Install the hard drive into the computer by gently sliding the drive into place until you hear it securely click.

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

5. Connect the power and hard-drive cables to the drive.



6. Check all connectors to be certain that they are properly cabled and firmly seated.

7. [Close 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.

8. 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 Second Hard Drive

⚠ **CAUTION:** Before you begin any of the procedures in this section, follow the steps in the safety instructions in your *Owner's Manual*.

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

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

1. Check the documentation for the drive to verify that it is configured for your computer.
2. Shut down the computer through the **Start** menu.
3. Turn off your computer and any devices.
4. Ground yourself by touching an unpainted metal surface on the chassis, such as the metal around the card-slot openings at the back of the computer, before touching anything inside your computer.

While you work, periodically touch an unpainted metal surface on the computer chassis to dissipate any static electricity that might harm internal components.

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

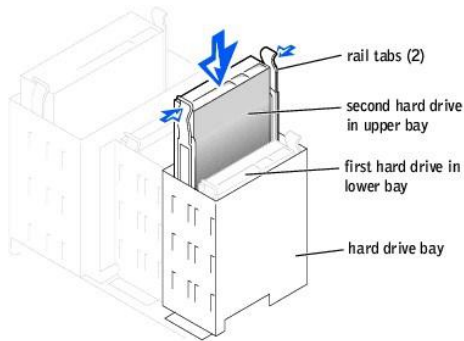
5. Disconnect your computer and devices from their power sources. Also, disconnect any telephone or telecommunication lines from the computer.
6. Disconnect the computer power cable from the wall outlet, and then press the power button to ground the system board.
7. [Open the computer cover.](#)

8. Remove the two green plastic rails from the inside of the hard-drive bay by gently pulling the rails up and out of the bay.
9. Attach the rails to the hard drive using the two screws attached to the rails.

Ensure that the rail tabs are positioned at the back of the hard drive.

➔ **NOTICE:** Do not install any drive into the lower hard-drive bay until you have removed the green drive rails from the inside of the hard-drive bay.

10. Remove the first hard drive from the upper bay and install it in the lower bay:
 - a. Disconnect the power and the hard-drive cables from the back of the first hard drive.
 - b. Press in the two green rail tabs and pull the first hard drive out of the upper bay.
 - c. Gently slide the first hard drive into the lower bay until you hear a click.
 - d. Reconnect the power and hard-drive cables to the back of the first hard drive.
11. Gently slide the new hard drive into the upper bay until you hear a click.

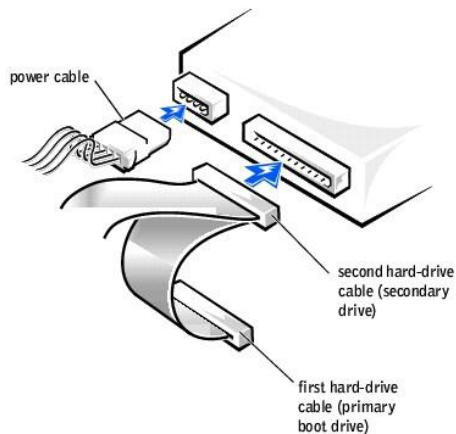


12. Connect a power cable to the drive.

➔ **NOTICE:** Match the colored strip on the cable with pin 1 on the drive.

13. Locate the extra connector on the drive cable that is attached to your first hard drive and attach the connector to the second hard drive.

Your computer uses cable-select drive cables. This means that the device connected to the end connector of the drive cable is the master device and the device connected to the middle connector is the slave device. Be sure that the jumper setting on the new device is set for "cable select" (see the documentation that came with the drive for information).



14. Close 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.

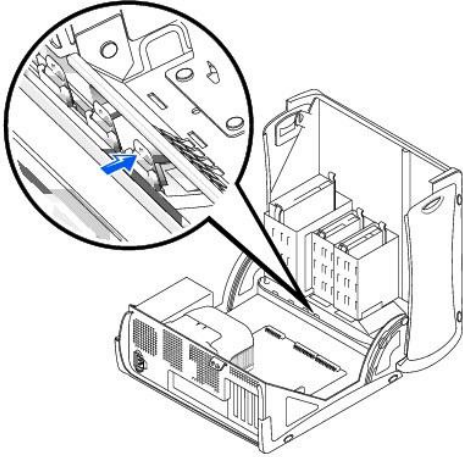
15. Connect your computer and devices to their electrical outlets, and turn them on.

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

Front-Panel Inserts

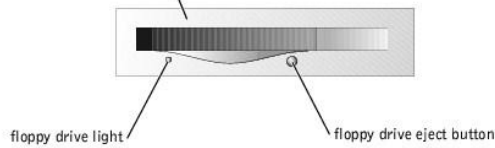
If you are installing a new floppy or CD/DVD drive instead of replacing a drive, remove the front-panel inserts.

1. Open the cover to a 90-degree angle.
2. Locate the insert that is in front of the drive bay that you want to use.
3. From inside the computer, press in the release tab of the insert.

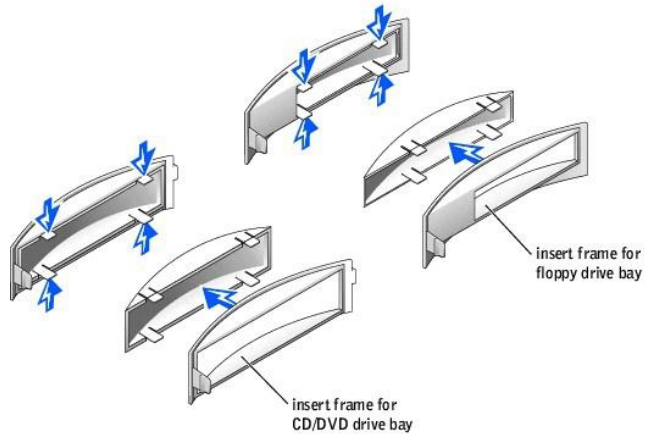


4. From the outside of the computer, pull the insert away from the computer's front panel.
5. If you purchased your floppy drive from Dell, you received a front-panel insert in your floppy drive kit. Proceed to [step 7](#).

front-panel floppy drive insert
included in the floppy drive kit



6. If you are installing a CD/DVD drive or a floppy drive that was not purchased from Dell, remove the insert from the insert frame by pressing on the four tabs.



7. If you purchased your floppy drive from Dell, attach the insert that you received in the floppy drive kit over the front of the drive bay. If you are installing a CD/DVD drive or floppy drive that was not purchased from Dell, reattach the empty insert frame over the front of the drive bay.
8. To attach either insert, face the front of the computer and slip the left side of the insert into the left side of the drive bay opening. Then, slightly press in the right-side insert release tab and gently push in the insert.

Floppy Drive

⚠ CAUTION: Before you begin any of the procedures in this section, follow the steps in the safety instructions in your *Owner's Manual*.

⚠ 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.
2. Turn off your computer and any devices.
3. Ground yourself by touching an unpainted metal surface on the chassis, such as the metal around the card-slot openings at the back of the computer, before touching anything inside your computer.

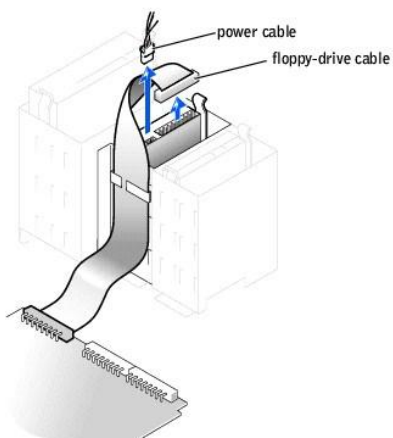
While you work, periodically touch an unpainted metal surface on the computer chassis to dissipate any static electricity that might harm internal components.

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

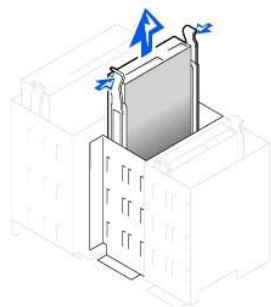
4. Disconnect your computer and devices from their power sources. Also, disconnect any telephone or telecommunication lines from the computer.
5. Disconnect the computer power cable from the wall outlet, and then press the power button to ground the system board.
6. [Open the computer cover](#).

Removing a Floppy Drive

1. Disconnect the power and floppy-drive cables from the back of the floppy drive.

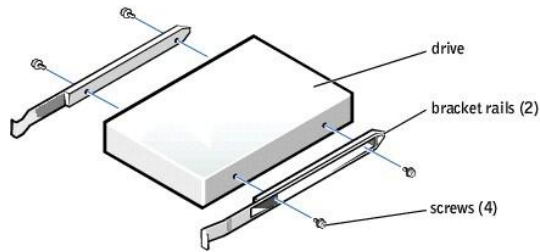


2. Press inward on the two tabs on the sides of the drive, slide the drive upward, and remove it from the floppy-drive bay.

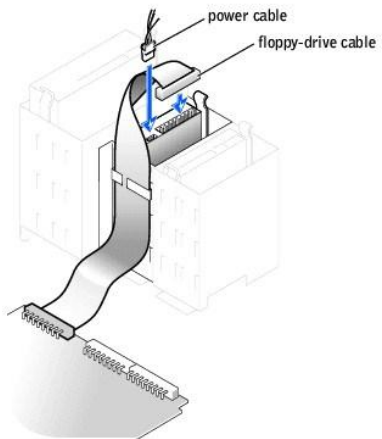


Installing a Floppy Drive

1. If you are replacing a drive and the new drive does not have the bracket rails attached, remove the rails from the old drive by removing the two screws that secure each rail to the drive. Attach the bracket to the new drive by aligning the screw holes on the drive with the screw holes on the bracket rails and then inserting and tightening all four screws (two screws on each rail).



2. Gently slide the drive into place until the tabs securely click into position.
3. Attach the power and floppy-drive cables to the floppy drive.



4. If you are installing a new floppy drive rather than replacing a drive, [remove the front-panel inserts](#).
5. Check all cable connections, and fold cables out of the way to provide airflow for the fan and cooling vents.
6. [Close the computer cover](#).

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

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

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

CD/DVD Drive

⚠️ **CAUTION:** Before you begin any of the procedures in this section, follow the steps in the safety instructions in your *Owner's Manual*.

⚠️ **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.
2. Turn off your computer and any devices.
3. Ground yourself by touching an unpainted metal surface on the chassis, such as the metal around the card-slot openings at the back of the computer, before touching anything inside your computer.

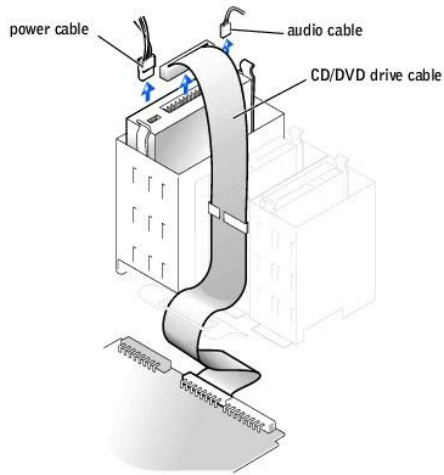
While you work, periodically touch an unpainted metal surface on the computer chassis to dissipate any static electricity that might harm internal components.

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

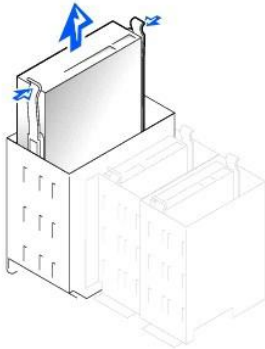
4. Disconnect your computer and devices from their power sources. Also, disconnect any telephone or telecommunication lines from the computer.
5. Disconnect the computer power cable from the wall outlet, and then press the power button to ground the system board.
6. [Open the computer cover](#).

Removing a CD/DVD Drive

1. Disconnect the power, audio, and CD/DVD drive cables from the back of the drive.



2. Press inward on the two tabs on the sides of the drive, and then slide the drive upward and remove it from the drive bay.

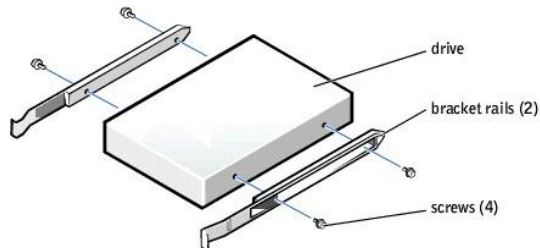


Installing a CD/DVD Drive

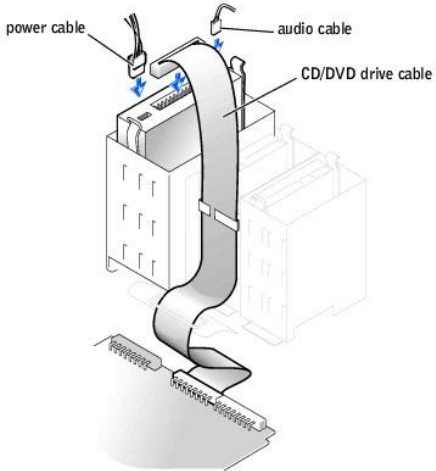
1. If you are installing a new drive, unpack the drive and prepare it for installation.

Check the documentation that accompanied the drive to verify that the drive is configured for your computer. If you are installing an IDE drive, configure the drive for the cable select setting.

2. Connect the new drive to the set of rails that are attached to the inside of the cover. If a set of rails is not attached inside the cover, contact Dell. See your *Owner's Manual* for contact information.
3. If you are installing a replacement drive and the new drive does not have the bracket rails attached, remove the rails from the old drive by removing the two screws that secure each rail to the drive. Attach the bracket to the new drive by aligning the screw holes on the drive with the screw holes on the bracket rails and then inserting and tightening all four screws (two screws on each rail).



4. Gently slide the drive into place until the tabs securely click into position.
5. Connect the power, audio, and CD/DVD drive cables to the drive.



6. If you are installing a new CD/DVD drive rather than replacing a drive, [remove the front-panel inserts](#).
7. If you are installing a drive that has its own controller card, install the controller card in a card slot.
8. Check all cable connections, and fold cables out of the way to provide airflow for the fan and cooling vents.
9. [Close the computer cover](#).

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

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

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

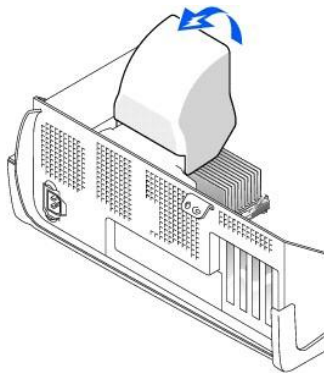
Replacing the Microprocessor

⚠ CAUTION: Before you begin any of the procedures in this section, follow the safety instructions in your *Owner's Manual*.

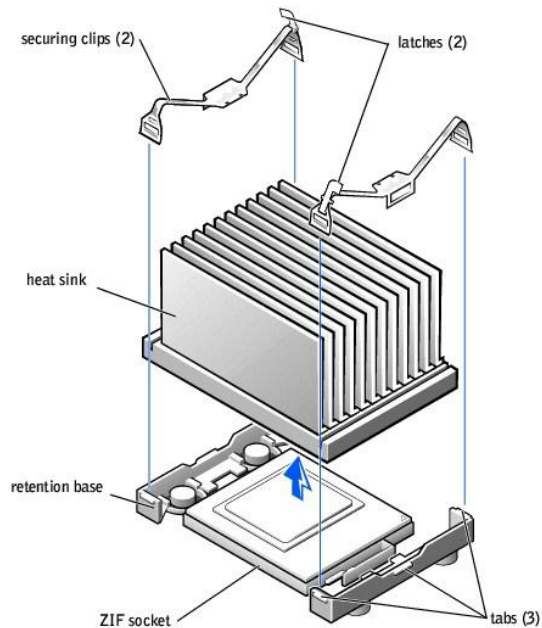
1. Shut down the computer through the **Start** menu.
2. Turn off any attached devices and disconnect them from their electrical outlets.

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

3. Disconnect the power cable from your computer, and then press the power button to ground the system board.
4. [Open the computer cover](#).
5. Disconnect the cooling fan power cable from the [FAN2 connector](#) on the system board.
6. Disconnect the +12-VDC [P2 DC power cable](#) from the connector on the system board.
7. Lift up the airflow shroud.



- For each of the metal securing clips that secure the heat sink to the microprocessor, press down on the clip's latch to release the clip from the retention base. Then lift each clip out of the tabs on the retention base and away from the heat sink.



➡ **NOTICE:** Gently rock the heat sink and then lift it to remove it.

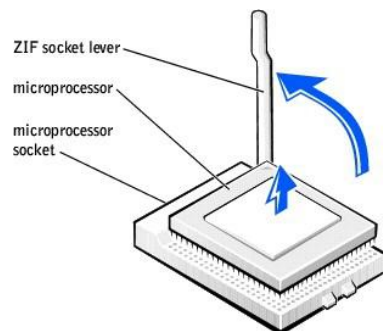
- Lift the heat sink away from the microprocessor.

➡ **NOTICE:** Do not discard the original heat sink and securing clips unless you are installing a microprocessor upgrade kit from Dell. If you are *not* installing a microprocessor upgrade kit from Dell, reuse the original heat sink, blower, and securing clips when installing your new microprocessor.

- Pull the socket lever up straight up until the microprocessor is released.

The microprocessor uses a ZIF socket with a lever-type handle that secures or releases the microprocessor.

➡ **NOTICE:** Be careful not to bend any of the pins when you remove the microprocessor package from the ZIF socket. Bending the package pins can permanently damage the microprocessor.



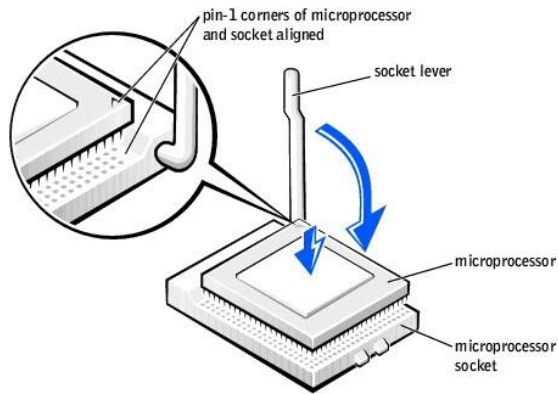
- Remove the microprocessor from the socket.

Leave the release lever extended in the release position so that the socket is ready for the new microprocessor.

Installing the Microprocessor

➡ **NOTICE:** You must position the microprocessor package correctly in the socket to avoid permanent damage to the microprocessor and the computer.

- If the release lever on the ZIF socket is not extended to the release position, move it to that position.
- Align pin-1 (the beveled corner) of the microprocessor package and pin-1 of the socket.



➡ **NOTICE:** The microprocessor pins are delicate. To avoid damage, ensure that the microprocessor aligns properly with the socket, and do not use excessive force when installing the processor.

3. Carefully set the microprocessor in the socket and press it down lightly to seat it.
4. Rotate the lever back toward the system board until it snaps into place, securing the microprocessor package.
5. If you are installing a new heat sink, remove the film covering the bottom of the heat sink.
6. Lower the heat sink to the microprocessor so that the heat sink fits in the retention base.
7. For each of the replacement metal clips, fit the end of the clip that does not have the latch over its tab on the retention base. Then, fit the middle of the clip over the middle tab on the retention base, and press down on the clip's latch to secure the clip to the retention base.
8. Lower the airflow shroud over the heat sink.
9. Reconnect the cooling fan power cable to the [FAN2 connector](#) on the system board.
10. Plug the +12-VDC [P2 DC power cable](#) into the connector on the system board.
11. [Close the computer cover.](#)
12. Connect your computer and devices to their electrical outlets, and turn them on.

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

If you are installing a microprocessor replacement kit from Dell, return the original heat sink assembly and microprocessor package to Dell in the same package in which your replacement kit was sent. Your microprocessor replacement kit should include a replacement microprocessor heat sink and one replacement securing clip.

Removing the Front I/O Panel

⚠ **CAUTION:** Before you begin any of the procedures in this section, follow the steps listed in the safety instructions in your *Owner's Manual*.

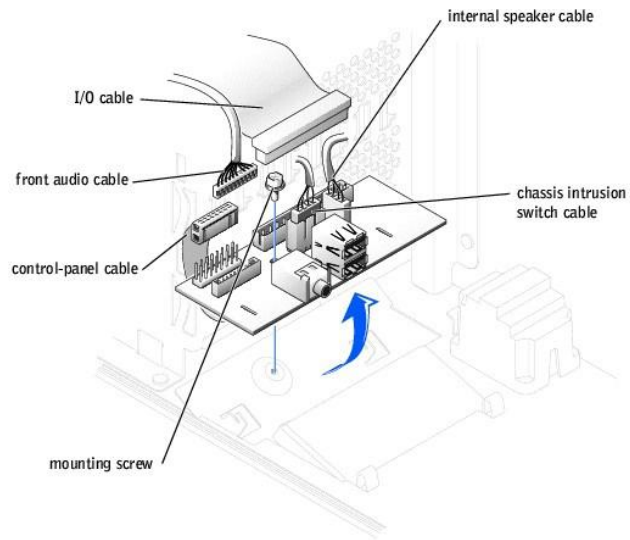
⚠ **CAUTION:** To guard against electrical shock, always unplug your computer from the electrical outlet before opening the cover.

1. Shut down the computer through the **Start** menu.

➡ **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 power cable from your computer, and then press the power button to ground the system board.
4. [Open the computer cover.](#)
5. Disconnect the control panel cable from the control panel connector. Disconnect the I/O cable from the connector on the system board.

Note the routing of the control panel cable as you remove it from the computer so that you can replace it correctly.



6. Remove all cables that are connected to the front I/O panel.
7. From inside the computer cover, remove the mounting screw that secures the front I/O panel to the computer.
8. Remove the front I/O panel from the computer.
9. Reinstall the front I/O panel by reversing steps 5 through 7.
10. [Close 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.

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

Power Supply

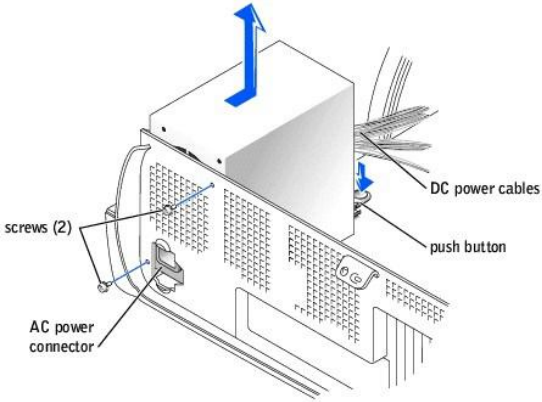
Removing the Power Supply

⚠ **CAUTION:** Before you begin any of the procedures in this section, follow the safety instructions in your *Owner's Manual*.

1. Shut down the computer through the **Start** menu.
2. Turn off any attached devices and disconnect them from their electrical outlets.

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

3. Disconnect the power cable from your computer, and then press the power button to ground the system board.
4. [Open the computer cover.](#)
5. Be sure the AC power cable is disconnected from the back of the power supply. Then disconnect the DC power cables from the system board and the drives.



Note the routing of the DC power cables underneath the tabs in the computer frame as you remove them from the system board and drives. It is important to route these cables properly when you replace them to prevent them from being pinched or crimped.

6. Remove the two screws that secure the power supply to the back of the computer.
7. Press the "PUSH" button located on the floor of the computer frame.
8. Slide the power supply toward the front of the system approximately 1 inch.
9. Lift the power supply up and out of the computer.

Replacing the Power Supply

1. Slide the power supply into place.
2. Replace the two screws that secure the power supply to the back of the computer frame.
3. Reconnect the DC power cables.
4. [Close the computer cover.](#)
5. Connect your computer and devices to their electrical outlets, and turn them on.

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

System Board

Removing the System Board

CAUTION: Before you begin any of the procedures in this section, follow the steps in the safety instructions in your *Owner's Manual*.

1. Shut down the computer through the **Start** menu.
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.

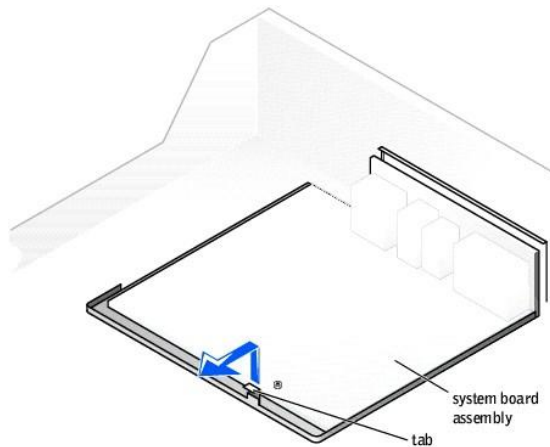
CAUTION: To guard against electrical shock, always unplug your computer from the electrical outlet before opening the cover.

5. [Open 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.

NOTICE: The system board and metal tray are connected and are removed as one piece.

6. Remove any components that restrict access to the system board.
7. Disconnect all cables from the system board.
8. Before you remove the existing system board assembly, visually compare the replacement system board to the existing system board to make sure that you have the correct part.
9. Pull up on the tab and slide the system board assembly toward the front of the computer, and then lift it up and away.



10. Place the system board assembly that you just removed next to the replacement system board.

Replacing the System Board

1. Transfer components from the existing system board to the replacement system board:
 - a. [Remove the memory modules](#) and [install them](#) on the replacement board.

⚠ CAUTION: The microprocessor package and heat-sink assembly can get hot. To avoid burns, ensure that the package and assembly have had sufficient time to cool before you touch them.

- b. [Remove the heat-sink assembly and microprocessor](#) from the existing system board and transfer them to the replacement system board.
2. Configure the settings of the replacement system board.
 3. Set the [jumpers](#) on the replacement system board so they are identical to the ones on the existing board.

🔍 NOTE: Some components and connectors on the replacement system board may be in different locations than the corresponding connectors on the existing system board.

4. Orient the replacement board by aligning the notches on the bottom to the tabs on the computer.
5. Slide the system board assembly toward the back of the computer until it clicks into place.
6. Replace any components and cables that you removed from the system board.
7. Reconnect all cables to their connectors at the back of the computer.
8. [Close 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.

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

Closing the Computer Cover

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

Gently pull the power cables toward you so that they do not get caught underneath the drives.

2. Ensure that no tools or extra parts are left inside the computer.
3. Close the cover:
 - a. Pivot the cover down.
 - b. Press down on the right side of the cover until it closes.
 - c. Press down on the left side of the cover until it closes.
 - d. Ensure that both sides of the cover are locked. If not, repeat [step 3](#).

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

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

Dell™ Dimension™ 8250 Series

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- [E-Mail, Modem, and Internet Problems](#)
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- [Keyboard Problems](#)
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- [Scanner Problems](#)
- [Sound and Speaker Problems](#)
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Finding Help Information

<p>To access the <i>Tell Me How</i> help file —</p> <ol style="list-style-type: none">1. Click the Start button, and then click Help and Support.2. Click User and system guides, and then click User's guides.3. Click Tell Me How.
<p>To access Microsoft® Windows® help —</p> <ol style="list-style-type: none">1. Click the Start button, and then click Help and Support.2. Type a word or phrase that describes your problem, and then click the arrow icon.3. Click the topic that describes your problem.4. Follow the instructions shown on the screen.
<p>To locate additional information for your computer — See "Finding Information for Your Computer."</p>

Battery Problems

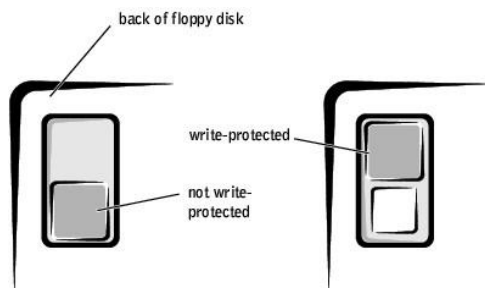
- ⚠ **CAUTION:** There is a danger of a new battery exploding if it is incorrectly installed. Replace the battery only with the same or equivalent type recommended by the manufacturer. Discard used batteries according to the manufacturer's instructions.
- ⚠ **CAUTION:** Before you begin any of the procedures in this section, follow the safety instructions in your *Owner's Manual*.

<p>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 using the instructions in your <i>Owner's Manual</i>. If the battery still does not work properly, contact Dell. See your <i>Owner's Manual</i> for contact information.</p>

Drive Problems

Floppy drive problems

<p>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.</p>
<p>Test the drive —</p> <ol style="list-style-type: none">1. Insert another disk to eliminate the possibility that the original floppy disk is defective.1. Insert a bootable floppy disk and reboot the computer.
<p>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 illustration.</p>



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

HINT: High-speed CD drive vibration is normal and may cause noise. This 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.

1. Ensure that the volume is turned up by clicking the slider and dragging it up.
1. Ensure that the sound is not muted by clicking any boxes that are checked.

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](#)."

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 "[Finding Help Information](#)."

Problems writing to a CD-RW drive

Close other programs — The CD-RW drive must receive a steady stream of data when writing. If the stream is interrupted, an error occurs. Try closing all programs before writing to the CD-RW.

Turn off Standby mode in Windows before writing to a CD-RW disc — For information on power conservation modes, see the *Tell Me How* help file or search for the keyword *standby* in Windows Help. To access help files, see "[Finding Help Information](#)."

DVD drive problems

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

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 "[Finding Help Information](#)."

Check for interrupt request conflicts — See "[Resolving Software and Hardware Incompatibilities](#)."

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

HINT: 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® — <ol style="list-style-type: none"> 1. Click the Start button, and then 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. <p>If all commands receive responses, the modem is operating properly.</p>
Turn off call waiting (catch-phone) — See your telephone directory for instructions on deactivating this feature. Then adjust the dial-up networking connection properties. <ol style="list-style-type: none"> 1. Click the Start button, and then 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 then 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 then 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: <ol style="list-style-type: none"> 1. Click the Start button. 2. Click Control Panel. 3. Click Add or Remove Programs. 4. Select the program you want to remove. 5. Click the Change or Remove Program icon. 6. 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, try running the program that you want to use first.
Operating system not found — Contact Dell. See your <i>Owner's Manual</i> for contact information.
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

 **HINT:** 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 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

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 make sure 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 pressing the power button. Otherwise, you may lose data.

Check for compatibility —

1. 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.
1. 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.

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 "[Finding Information for Your Computer](#)" for more information about the website. See "Dell Technical Support Policy (U.S. Only)" in your *Owner's Manual* 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 your *Owner's Manual* for contact information. See "Dell Technical Support Policy (U.S. Only)" in your *Owner's Manual* 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:

1. Your computer locks up, particularly while using a specific device.
1. A recently added device does not work.
1. A sound card emits noise or demonstrates other problems.
1. Unintelligible characters print from the printer.
1. The mouse pointer does not move or "stutters" when it moves.
1. Messages appear stating that the computer is not operating at maximum performance.
1. Errors occur and programs crash for no apparent reason.
1. Nothing displays on the monitor.


Remove any recently added hardware to see if it resolves the conflict — If removing the hardware resolves the conflict, see the hardware

documentation for configuration and troubleshooting instructions. If the problem persists, contact the hardware manufacturer for technical assistance.

Check your operating system documentation for additional troubleshooting information

Check for interrupt request conflicts — See "[Resolving Software and Hardware Incompatibilities](#)."

IEEE 1394 Device Problems

 **HINT:** 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 your *Owner's Manual* for contact information.

If you have problems with a IEEE 1394 device not provided by Dell — Contact the IEEE 1394 device manufacturer.

Keyboard Problems

Restart the computer —

1. If the mouse is functioning, [shut down the computer](#) through the **Start** menu. After the computer shuts down, press the power button to restart the computer.
1. 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 —

1. Ensure that the keyboard cable is firmly connected to the computer.
1. Shut down the computer, reconnect the keyboard cable as shown on the setup diagram for your computer, and then restart the computer.
1. Check the cable connector for bent or broken pins and for damaged or frayed cables. Straighten bent pins.
1. 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 "[Resolving Software and Hardware Incompatibilities](#)."

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 —

1. Check the cable connector for bent or broken pins and for damaged or frayed cables. Straighten bent pins.
1. 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 "[Reinstalling Drivers](#)."

Check for interrupt request conflicts — See "[Resolving Software and Hardware Incompatibilities](#)."

Network Problems

Check the network cable connector — Ensure that the network cable is connected.

Check the network lights on the back of the computer —

- 1 A solid green connection speed light indicates a 10-Mbps connection; a solid orange connection speed light indicates a 100-Mbps connection.
- 1 A flashing yellow network activity light indicates that data is actively being transferred on the network.

Note that the lights do not function if the **Low Power Mode** option is set to **Enabled** in the system setup program and the computer is turned off, or if a faulty network cable is connected to the network adapter.



Restart the computer and try to log on to the network again

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

Check for interrupt request conflicts — See "[Resolving Software and Hardware Incompatibilities](#)."

Power Problems

CAUTION: Before you begin any of the procedures in this section, follow the safety instructions in your *Owner's Manual*.

Adjust the Power Properties — Your computer may be in standby or hibernate mode. For information on power conservation modes, see the *Tell Me How* help file, or search for the keyword *standby* or *hibernate* in Windows® Help. To access help files, see "[Finding Help Information](#)."

If the power light is green and the computer is not responding — See "[Diagnostic Lights](#)."

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.

- 1 Reseat the power cable into both the power connector on the back of the computer and the electrical outlet.
- 1 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.
- 1 Ensure that the electrical outlet is working by testing it with another device, such as a lamp.
- 1 Bypass power protection devices, power strips, and power extension cables to verify that the computer turns on.
- 1 Ensure that the main power cable is securely connected to the [system board](#).
- 1 Ensure that the front panel cable is securely connected to the [system board](#).
- 1 If the problem persists, contact Dell. See your *Owner's Manual* for contact information.

If the power light is amber and green — The computer is receiving electrical power, but an internal power problem might exist.

- 1 Ensure that the voltage selection switch is set to match the AC power at your location (see the safety instructions in your *Owner's Manual*).
- 1 Ensure that the microprocessor power cable is securely connected to the [system board](#).
- 1 If the problem persists, contact Dell. See your *Owner's Manual* for contact information.

If the power light is steady amber — The computer is receiving electrical power, but an internal power problem might exist.

- 1 Ensure that the microprocessor power cable is securely connected to the [system board](#).
- 1 If the problem persists, contact Dell. See your *Owner's Manual* for contact information.

If the power light is blinking amber — A device might be malfunctioning or incorrectly installed.


- 1 Remove and then reinstall the [memory modules](#).
- 1 Remove and then reinstall any [cards](#).
- 1 If the problem persists, contact Dell. See your *Owner's Manual* for contact information.

Eliminate interference — Electrical appliances on the same circuit or operating near the computer can cause interference. Other causes of interference are:

- 1 Power extension cables
- 1 Keyboard and mouse extension cables

- 1 Too many devices on a power strip
- 1 Multiple power strips connected to the same electrical outlet

Printer Problems

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

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 —

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

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

Verify that the printer is recognized by Windows® —


1. Click the **Start** button.
2. Click **Control Panel**.
3. Click **Printers and Other Hardware**.
4. Click **View installed printers or fax printers**.

If the printer is listed, right-click the printer icon.

5. Click **Properties**, and then select the **Ports** tab. For a parallel printer, ensure that the **Print to the following port(s)**: setting is **LPT1 (Printer Port)**. For a USB printer, ensure that the **Print to the following port(s)**: setting is **USB**.

Reinstall the printer driver — See the printer documentation for instructions.

Scanner Problems

 **HINT:** 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 —

- 1 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.
- 1 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.
2. Click **Control Panel**.
3. Click **Printers and Other Hardware**.
4. 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

 **HINT:** 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.

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: <ol style="list-style-type: none"> 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.
Reinstall the audio (sound) driver — See " Reinstalling Drivers ."
Check for interrupt request conflicts — See " Resolving Software and Hardware Incompatibilities ."

No sound from headphones

Check the headphone cable connection — Ensure that the headphone cable is securely inserted into the headphone connector.
Disable digital mode — Your headphones do not work if the CD drive is operating in digital mode. To disable digital mode: <ol style="list-style-type: none"> 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

 **HINT:** 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 " Diagnostic Lights ."

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 — <ol style="list-style-type: none"> 1. Click the Start button, and then click Control Panel. 2. Click Appearance and Themes. 3. Click Display, and then 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 <i>Tell Me How</i> help file for instructions. To access help files, see " Finding Help Information ."

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Technical Specifications

Dell™ Dimension™ 8250 Series

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- [Computer Information](#)
- [Video](#)
- [Audio](#)
- [Expansion Bus](#)
- [Drives](#)
- [Connectors](#)
- [Controls and Lights](#)
- [Power](#)
- [Physical](#)
- [Environmental](#)

Microprocessor	
Microprocessor type	Intel® Pentium® 4 microprocessor that runs at 2.0 GHz internally and 400 MHz externally; or 2.26, 2.4, 2.53, 2.66, 2.8, or 3.06 GHz internally and 533 MHz externally
L1 cache	8 KB
L2 cache	512-KB pipelined-burst, eight-way set associative, write-back SRAM

Memory	
Type	PC800 or PC1066 RDRAM (non-ECC)
Memory connectors	four
Memory capacities	64-, 128-, 256-, and 512-MB non-ECC
Minimum memory	128 MB
Maximum memory	2 GB for PC800 1.5 GB for PC1066
Memory type	PC 1066 (non-ECC) only on computers with a 533-MHz system clock speed PC 800 (non-ECC) on computers with either a 400- or a 533-MHz system clock speed
Memory speed	
PC800	40 ns or faster
PC1066	32 ns or faster
BIOS address	F8000h

Computer Information	
System chip set	Intel 850E
DMA channels	eight
Interrupt levels	15
BIOS chip	4 Mb
NIC	integrated PCI Network Interface with ASF support as defined by DMTF
System clock	100 MHz X 4 for 400 FSB or 133 MHz X 4 for 533 FSB - data rate

Video	
Type	AGP 4X, PCI

Audio	
Type	Analog Devices AD1981a AC97 Codec ¹
¹ Present only on computers with integrated audio capabilities.	

Expansion Bus	
Bus types	PCI and AGP
Bus speed	PCI: 33 MHz AGP: 66 MHz
AGP	
connector	one
connector size	172 pins
connector data width (maximum)	32 bits
bus protocols	4x/2x modes at 1.5 V

PCI	
connectors	four
connector size	120 pins
connector data width (maximum)	32 bits

Drives	
Externally accessible	two 3.5-inch bays two 5.25-inch bays
Available devices	ATA-66 or ATA-100 Ultra DMA hard drive, CD drive, Zip drive, DVD drive, CD-RW drive, DVD/CD-RW combo drive, and DVD+RW drive
Internally accessible	two bays for 1-inch-high hard drives

Connectors	
Externally accessible:	
Serial	9-pin connector; 16550C-compatible
Parallel	25-hole connector (bidirectional)
Video	15-hole connector
Network Adapter	RJ45 connector
PS/2 (keyboard and mouse)	6-pin mini-DIN connector
USB	two front-panel and six back-panel USB 2.0-compliant connectors
Audio ²	three connectors for line-in, line-out, and microphone; one front panel connector for headphones
System board connectors:	
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
Telephony (TAPI)	4-pin connector
Fan	3-pin connector
² Present only on computers with integrated audio capabilities.	

Controls and Lights	
Power control	push button
Power light	green light on power button—blinking green in sleep states; solid green for power-on states
Hard-drive access light	green
Link integrity light (on integrated network adapter)	green light for 10-Mb operation; orange light for 100-Mb operation
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 (see the safety instructions in your <i>Owner's Manual</i> for important voltage setting information)	90 to 135 V at 50/60 Hz; 180 to 265 V at 50/60 Hz; 100 V at 50/60 Hz for Japanese computers
Backup battery	3-V CR2032 lithium coin cell

Physical	
Height	42.5cm (16.7 inches)
Width	18.1 cm (7.13 inches)
Depth	44.7 cm (17.6 inches)
Weight	12.7 kg (28 lb)

Environmental	
Temperature:	
Operating	10° to 35°C (50° to 95°F) ³
Storage	-40° to 65°C (-40° to 149°F)
Relative humidity	20% to 80% (noncondensing)
Maximum vibration:	
Operating	0.25 G at 3 to 200 Hz at 1/2 octave/min

Storage	0.5 G at 3 to 200 Hz at 1/2 octave/min
Maximum shock:	
Operating	bottom half-sine pulse with a change in velocity of 50.8 cm/sec (20 inches/sec)
Storage	23-G faired-square wave with a velocity change of 508 cm/sec (200 inches/sec)
Altitude:	
Operating	-15.2 to 3048 m (-50 to 10,000 ft) ³
Storage	-15.2 to 10,670 m (-50 to 35,000 ft)
³ At 35°C (95°F), the maximum operating altitude is 914 m (3000 ft).	

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System Setup Program

Dell™ Dimension™ 8250 Series

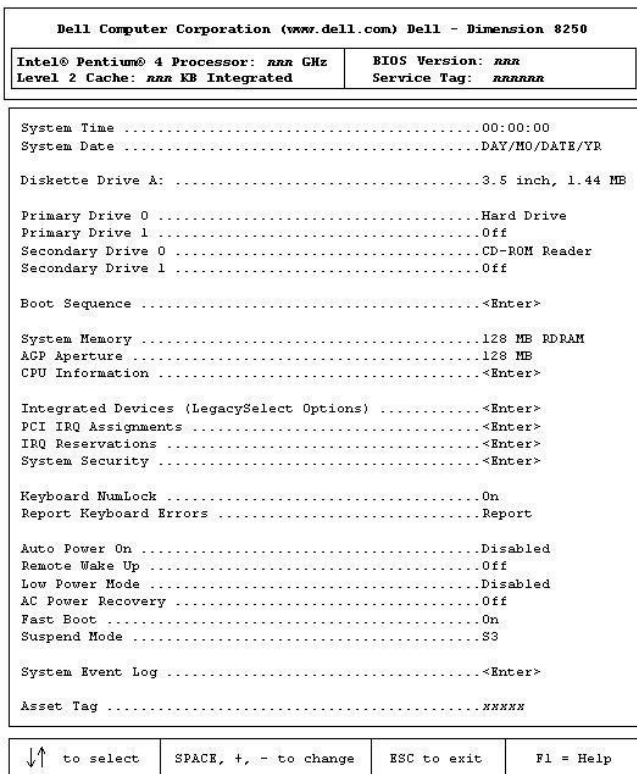
- [Standard Settings](#)
- [Hyper-Threading](#)
- [Viewing Settings](#)
- [Clearing Forgotten Passwords](#)

Standard Settings


The system setup program contains the standard settings for your computer.

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

See the following figure for an example of the main program screen.



Hyper-Threading

 **HINT:** Hyper-Threading is supported only on computers that have 3.06-GHz microprocessors (or higher) installed.

Hyper-Threading is an Intel® technology that can enhance overall 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 technology, 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 on using your software with Hyper-Threading.

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**.

- In the **Device Manager** window, click the plus (+) sign next to the processor type. If Hyper-Threading is enabled, the processor is listed twice.

For more information on Hyper-Threading, search the Knowledge Base on the Dell Support website at support.dell.com.

To enable or disable Hyper-Threading:

- Shut down and restart the computer.
- When the **DELL™** logo appears, press <F2> immediately to enter the system setup program.

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.

- When the system setup program screen appears, highlight **CPU Information** and press <Enter>.
- When the **CPU information** screen appears, highlight **Hyper-Threading** and press the spacebar on the keyboard to select **Enable** or **Disable**.
- Press <ESC> to save the setting and exit the **CPU Information** screen.
- Press <ESC> to **Save and Exit**.
- When you see the message *Save changes and exit now*, press <Enter>.

Your computer will restart.

Viewing Settings

- Turn on (or restart) your computer.
- 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 and try again.

System Setup Screens

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

- Title — The area at the top of all system setup screens that displays your computer's model number.
- Computer data — Two boxes below the title that display the system 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 listed options contain settings or values. The settings and values that you can change are brighter on the screen. All other settings and values are set by the computer and cannot be changed. When <Enter> appears to the right of an option, press <Enter> to access a pop-up menu of additional options.

- Key functions — A line of boxes across the bottom of the screen that lists keys and their functions within the system setup program.
- Help — Press <F1> for information on the option that is selected (highlighted).

Option	Function
System Time	Displays the system time.
System Date	Displays the system date.
Diskette Drive A:	Displays floppy drive details.
Primary Drive 0:	Displays primary hard drive 0. The default is Auto .
Primary Drive 1:	Displays primary hard drive 1 (if installed). The default is Off .
Secondary Drive 0:	Displays secondary hard drive 0. The default is Auto .
Secondary Drive 1:	Displays secondary hard drive device type. The default is Off .
Boot Sequence	Displays boot sequence when <Enter> is pressed.
System Memory	Displays amount of system memory.
AGP Aperture	Displays amount of aperture memory. The default is 128 MB .
CPU Information	Displays CPU information when <Enter> is pressed.
Integrated Devices (Legacy Select Options)	Displays integrated device options when <Enter> is pressed.
PCI IRQ Assignments	Displays PCI IRQ assignments when <Enter> is pressed.
IRQ Reservations	Displays the IRQ reservations when <Enter> is pressed.
System Security	Displays system security options when <Enter> is pressed.
Keyboard Numlock	Turns the Keyboard NumLock option on and off. The default is On .
Report Keyboard Errors	Displays keyboard errors when set to Report . The default is Report .
Auto Power On	Allows auto power-on. The default is Disabled .
Remote Wake Up	Allows remote Wakeup on LAN. The default is Off .
Low Power Mode	Minimizes power use when the computer is off. The default is Disabled .

AC Power Recovery	Enables AC power recovery to occur. The default is Off .
Fast Boot	Turns the fast boot option on and off. The default is On .
Suspend Mode	Displays the suspend state used by the computer. The default is S3 .
System Event Log	Displays the system event log when <Enter> is pressed.
Asset Tag	Displays asset tag information.

The following table shows **CPU Information** option information.

Option	Function
Hyper-Threading	Enables Hyper-Threading. The default is Enabled .
CPU Speed	Sets the CPU speed. The default is Normal .
Bus Speed	Displays the bus speed.
Processor ID	Displays processor ID.
Clock Speed	Displays clock speed.
Cache Size	Displays cache size.


The following table shows **Integrated Devices (Legacy Select Options)** option information.

Option	Function
Sound	Turns the integrated sound off and on. The default is On .
Mouse Port	Turns the mouse port off and on. The default is On .
USB Emulation	Turns USB emulation off and on. The default is On .
USB Controller	Turns the USB controller off and on. The default is On .
Serial Port 1	Sets serial port options and turns the port off and on. The default is Auto .
Parallel Port	Displays parallel port settings when <Enter> is pressed. The default mode is PS/2 and the I/O address default is 378h .
IDE Drive Interface	Sets the IDE drive interface options. The default is Auto .
Diskette Interface	Sets diskette interface options. The default is Auto .
PC Speaker	Turns the PC speaker off and on. The default is On .
Primary Video Controller	Sets the primary video controller. The default is AGP .
Video DAC Snoop	Turns the video DAC Snoop off and on. The default is Off .


The following table shows **System Security** option information.

Option	Function
Password Status	Locks and unlocks the password option. The default is Unlocked .
System Password	Enables and disables the system password. The default is Disabled .
Setup Password	Enables and disables the setup password. The default is Disabled .
POST Hotkeys	Selects key that are active during POST. The default is F2 and F12 .
PXE BIS Default Policy	Specifies how the computer will respond to boot integrity services authentication requests when no certificate has been installed. When set to Deny (the default), this request is rejected. The request is accepted when set to Accept .


Clearing Forgotten Passwords

 **CAUTION:** Before you begin any of the procedures in this section, follow the safety instructions in your *Owner's Manual*.

If you forget your user or setup password, you cannot operate your computer or change settings in the system setup program until you clear the forgotten password(s).

 **NOTICE:** This process erases both the system and setup passwords.

1. [Shut down the computer.](#)

 **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. [Open the computer cover.](#)
5. Locate [Jumper PSWD](#) on the system board and remove the jumper plug.
6. [Close the computer cover](#), plug your computer into an electrical outlet, and turn on the computer.

The existing password(s) will be erased.

7. [Shut down the computer.](#)

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

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

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

10. [Open the computer cover.](#)

11. Reconnect the jumper plug to [jumper PSWD](#).

12. [Close 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.

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

Turning on your computer with the PSWD jumper installed reenables the password feature.

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Technical Overview


Dell™ Dimension™ 8250 Series

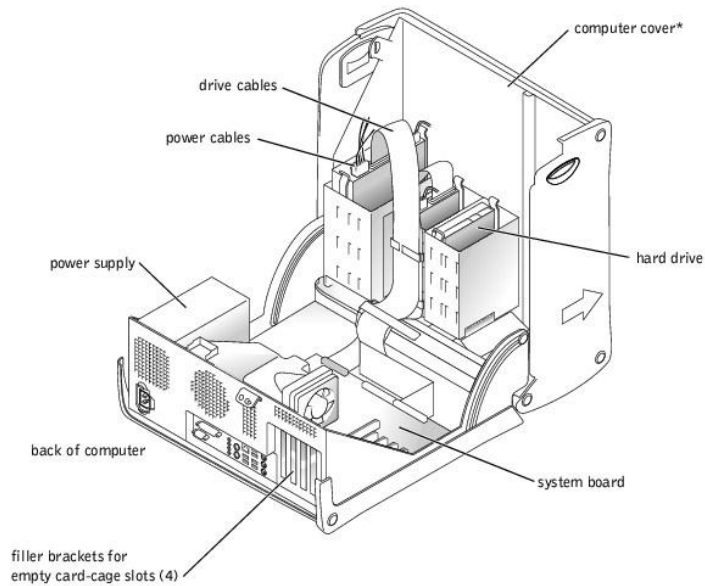
- [Looking Inside Your Computer](#)
 - [System Board](#)
 - [Power Supply](#)
 - [DC Power Connectors](#)
 - [IDE Interface Cable Connections for Dell-Installed Drives](#)
 - [Placement of Dell-Installed Cards](#)
-

Looking Inside Your Computer

 **HINT:** The AGP card is removed from the following illustration to provide a better view of the inside of your computer.

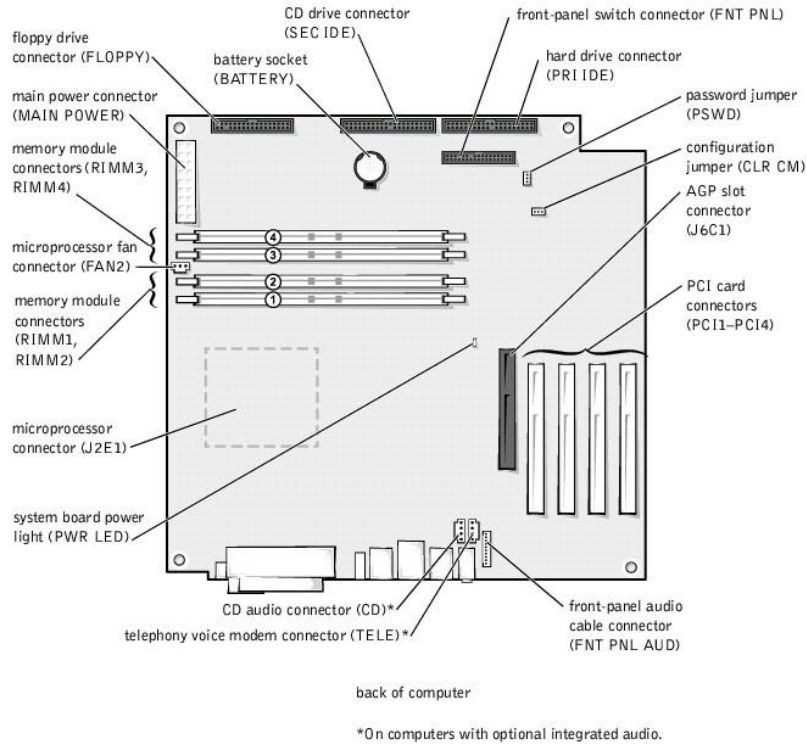
 **CAUTION:** Before you begin any of the procedures in this section, follow the safety instructions provided in your *Owner's Manual*.

 **NOTICE:** Be careful when opening the computer cover to ensure that you do not inadvertently disconnect cables from the system board.



*Depending on the types of drives installed in your computer, the cover may not open as widely as shown in the figure.

System Board



Power Supply

The 250-W power supply can operate from an AC power source of 115 VAC at 60 Hz or 230 VAC at 50 Hz. The power supply provides the DC operating voltages and currents listed in the following table.

Output Voltage	Minimum Current (A)	Maximum Current (A) ¹	Peak Current (A) ²
+12 VDC	1.0	10.0 ⁴	12.0
+5 VDC	4.0	22.0 ⁴	12.0
+3.3 VDC	1.0/0.0 ³	14.0 ⁴	12.0
-12 VDC	0.0	1.0	12.0
+5 VFP	0.0	2.0	12.0

When the current load is outside of the ranges listed, but within each specified output current range, the +5-V, +12-V, and +3.3-V outputs are allowed to regulate at +/-10% of nominal DC voltages.

¹Maximum continuous total DC output cannot exceed 200 W. Maximum continuous combined load on +5-VDC and +3.3-VDC outputs cannot exceed 135 W.

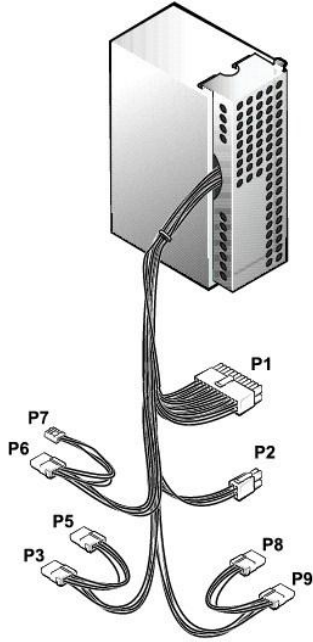
²Peak +12-VDC output power (up to 12 A) does not exceed 15 seconds in duration. In this condition, the tolerance on the +12-V output is allowed to be +/-10%.

³In system applications where +3.3 VDC is not used, these values may be 0 A without affecting the regulation on the other outputs.

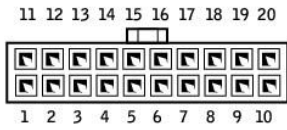
⁴The required full load combinations are adjusted so that the total output power is less than or equal to 250 W.

DC Power Connectors

Power Supply DC Connector Pin Assignments



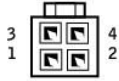
DC Power Connector P1



Pin Number	Signal name	18-AWG Wire
1	+3.3 VDC	Orange
2	+3.3 VDC	Orange
3	COM	Black
4	+5 VDC	Red
5	COM	Black
6	+5 VDC	Red
7	COM	Black
8	POK	Gray
9	+5 VFP	Purple
10	+12 VDC	Yellow
11	+3.3 VDC*	Orange
12	-12 VDC	Blue
13	COM	Black
14	PS ON	Green
15	COM	Black
16	COM	Black
17	COM	Black
18	N/C	N/C
19	+5 VCD	Red
20	+5 VCD	Red

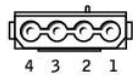
*Sense connector.

DC Power Connector P2



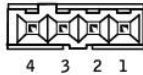
Pin Number	Signal Name	18-AWG Wire
1	COM	Black
2	COM	Black
3	+12 VDC	Yellow
4	+12 VDC	Yellow

DC Power Connectors P3, P5, P6, P8, and P9



Pin Number	Signal Name	18-AWG Wire
1	+12 VDC	Yellow
2	COM	Black
3	COM	Black
4	+5 VDC	Red

DC Power Connector P7



Pin Number	Signal Name	22-AWG Wire
1	+5 VDC	Red
2	COM	Black
3	COM	Black
4	+12 VDC	Yellow

IDE Interface Cable Connections for Dell-Installed Drives

IDE Channel	Connector Location	Dell-Installed Drive
Primary IDE master	End connector on PRI IDE connector cable	Hard drive
Primary IDE slave	Middle connector on PRI IDE connector cable	Zip drive
Secondary IDE master	End connector on SEC IDE connector cable	CD or DVD drive
Secondary IDE slave	Middle connector on SEC IDE connector cable	CD-RW drive

Placement of Dell-Installed Cards

Card Connector	Card Description
AGP connector	Video
PCI1 connector	Sound
PCI2 connector	Modem
PCI3 connector	Network adapter, wireless network adapter, or swap box

PCI4 connector	1394 FireWire
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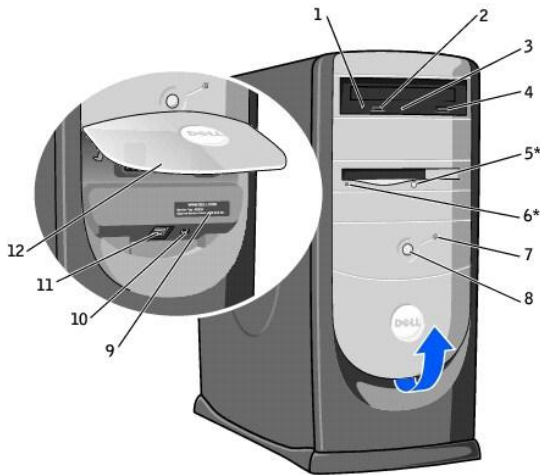
Controls and Lights

Dell™ Dimension™ 8250 Series


● [Front View](#)

● [Back View](#)

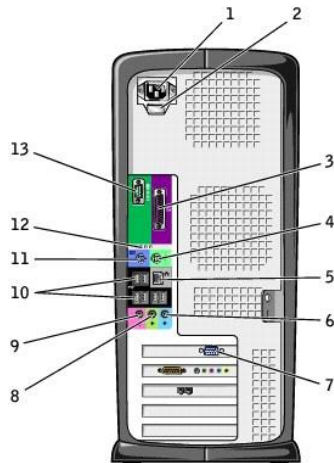
Front View



*On computers with an optional floppy drive.

1	CD or DVD headphone connector	Use the headphone connector to attach headphones to the CD or DVD drive. Your headphones won't work if the drive is operating in digital mode. To disable digital mode: <ol style="list-style-type: none"> 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 or DVD drive. 5. Click the Properties tab. 6. Uncheck the Enable digital CD audio for this CD-ROM device box.
2	CD or DVD volume control dial	Move the dial to adjust the volume of your audio CD or DVD disc.
3	CD or DVD drive activity light	The drive activity light is on when the computer reads data from the CD or DVD drive.
4	CD or DVD eject button	Press this button to eject your CD from the CD or DVD drive.
5	floppy-drive eject button*	Press this button to eject a disk from the floppy drive. (On computers with an optional floppy drive.)
6	floppy-drive light button*	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. (On computers with an optional floppy drive.)
7	hard drive light	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 devices such as your CD player are operating.
8	power button	Press this button to turn on the computer.  NOTICE: To avoid losing data, do not use the power button to turn off the computer. Instead, perform a Windows shutdown.
9	service tag	The tag is used to identify your computer when you access the Dell Support website or call technical support.
10	headphone connector	Attach headphones.
11	USB 2.0 connectors (2)	Connect a USB device such as a mouse, keyboard, printer, joystick, or speaker system into any of the USB connectors.
12	front-panel door	Open the door to use the front-panel connectors.

Back View



1	power connector	The connection for the power cable.
2	voltage selection switch (may not be available on all computers)	Set the switch for the voltage that most closely matches the AC power available in your location. See the safety instructions in your <i>Owner's Manual</i> for additional information.
3	parallel connector	Connect a parallel device, such as a printer, to the parallel connector. If you have a USB printer, plug it into a USB connector.
4	mouse connector	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.
5	network adapter	Attach the UTP cable to an RJ45 jack wall plate or to an RJ45 port on a UTP concentrator or hub and press the other end of the UTP cable into the network adapter connector until the cable snaps securely into place. Dell recommends the use of Category 5 wiring and connectors for our customers' networks.
6	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, the line-in connector is on the card.
7	video connector	Plug the cable from your monitor into the blue connector.
8	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, the line-out connector is on the card.
9	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.
10	USB 2.0 connectors (6)	Connect a USB device such as a mouse, keyboard, printer, joystick, or speaker system into any of the USB connectors.
11	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.
12	diagnostic lights (4)	Use the lights to help you troubleshoot a computer problem based on the diagnostic code. For more information, see " Diagnostic Lights ."
13	serial connector	Connect a serial device, such as a handheld device, to the serial port.

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