Dell™ Dimension™ L Series Reference

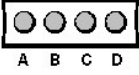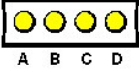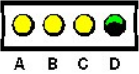*A09 26 Jul 2001*

System Codes and Messages: Dell™ Dimension™ L Series Reference
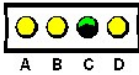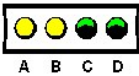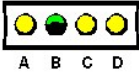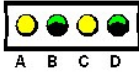
- Diagnostic Codes
- POST Beep Codes
- System Messages
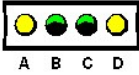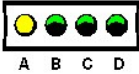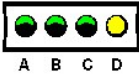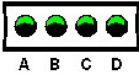
Diagnostic Codes

Your system is equipped with four diagnostic code indicators, which are labeled "A," "B," "C," and "D" on the back of the computer. Each of the four indicators can be yellow, green, or off, as shown in Table 1. When the computer is turned on or restarted and the system is functioning normally, the indicators flash during power-on self-test (POST). After the system starts, the indicators remain green to signify normal system operation.

If a malfunction is detected and the computer fails to start, the indicators display a code that identifies the problem. Write down the diagnostic code displayed and look it up in Table 1.

Table 1. Diagnostic Codes

Diagnostic Code	Definition	Corrective Action
A B C D	Power up default.	Make sure that the system is connected to a known working electrical outlet, and then check whether the front-panel power indicator is on or off. If the power indicator is off, check the power supply. If the problem persists, see Chapter 7, "Getting Help," of the *Dell Dimension L Series Reference and Troubleshooting Guide* for instructions on obtaining technical assistance. Remove all expansion cards. If the system still does not start, see Chapter 7, "Getting Help," of the *Reference and Troubleshooting Guide* for instructions on obtaining technical assistance.
A B C D	System board is receiving power, but the BIOS is not executing.	Set the configuration jumper to Maintenance mode, and restart the system. Enter the system setup program and ensure that the processor speed is set correctly. Exit and save the setting. Turn off the computer, reset the configuration jumper to Normal mode, and then restart the system. Remove all expansion cards and restart the system to determine if a resource conflict exists. If a conflict exists, resolve the conflict as described in "Resolving Software and Hardware Incompatibilities" in Chapter 5 of the *Reference and Troubleshooting Guide.* If the problem persists, see Chapter 7, "Getting Help," of the *Reference and Troubleshooting Guide* for instructions on obtaining technical assistance.
A B C D	Recovery mode from BIOS failure.	Set the configuration jumper to Maintenance mode, and restart the system. Enter the system setup program and ensure that the processor speed is set correctly. Exit

LED (A B C D)	Description	Corrective Action
		and save the setting. Turn off the computer, reset the configuration jumper to Normal mode, and then restart the system. If the problem persists, see Chapter 7, "Getting Help," of the *Reference and Troubleshooting Guide* for instructions on obtaining technical assistance.
A=yellow B=yellow C=green D=yellow (A B C D)	Microprocessor has failed a BIOS test.	If the problem persists, see Chapter 7, "Getting Help," of the *Reference and Troubleshooting Guide* for instructions on obtaining technical assistance.
A=yellow B=yellow C=green D=green (A B C D)	Memory failed to be sized or enabled.	Reseat the [DIMMs](#). If the problem persists, remove all but one DIMM, and then restart the system. Repeat this step until the malfunctioning DIMM is identified.
A=yellow B=green C=yellow D=yellow (A B C D)	PCI bus failure has occurred.	Remove all [expansion cards](#) and restart the system to determine if a resource conflict exists. If a conflict exists, resolve the conflict as described in "Resolving Software and Hardware Incompatibilities" in Chapter 5 of the *Reference and Troubleshooting Guide*. If the problem persists, see Chapter 7, "Getting Help," of the *Reference and Troubleshooting Guide* for instructions on obtaining technical assistance.
A=yellow B=green C=green D=green (A B C D)	Video controller failed to initialize or respond.	If the problem persists, see Chapter 7, "Getting Help," of the *Reference and Troubleshooting Guide* for instructions on obtaining technical assistance.
A=yellow B=green C=green D=yellow (A B C D)	IDE bus failure has occurred.	Reseat the IDE cables. If the problem persists, see Chapter 7, "Getting Help," of the *Reference and Troubleshooting Guide* for instructions on obtaining technical assistance.
A=yellow B=green C=green D=green (A B C D)	USB port or a device connected to it has failed initialization.	Disconnect the device from the [USB port](#). If the problem persists, see Chapter 7, "Getting Help," of the *Reference and Troubleshooting Guide* for instructions on obtaining technical assistance.
A=green B=green C=green D=yellow (A B C D)	Other failure.	See Chapter 7, "Getting Help," of the *Reference and Troubleshooting Guide* for instructions on obtaining technical assistance.
A=green B=green C=green D=green (A B C D)	System has started and turned over control to the operating system.	No action is necessary.

○ = yellow
● = green
○ = off

POST Beep Codes

If the monitor cannot display errors or problems, during power-on self-test (POST) the computer may emit a series of beeps, or *beep code*, that identifies the problem.

If the system emits a beep code and then fails to start, write down the beep code and look it up in Table 2.

Table 2. System Beep Codes

Beep Code	Possible Cause	Corrective Action
1	Memory refresh failure	[Reseat the DIMMs](#).
2	Parity cannot be reset	[Reseat the DIMMs](#).
3	Memory failure within the first 64 KB of memory	[Reseat the DIMMs](#).
4	Timer not operational	See Chapter 7, "Getting Help," of the *Reference and Troubleshooting Guide* for instructions on obtaining technical assistance.
5	Processor failure	See Chapter 7, "Getting Help," of the *Reference and Troubleshooting Guide* for instructions on obtaining technical assistance.
6	8442 keyboard controller error	See Chapter 7, "Getting Help," of the *Reference and Troubleshooting Guide* for instructions on obtaining technical assistance.
7	Processor exception error	See Chapter 7, "Getting Help," of the *Reference and Troubleshooting Guide* for instructions on obtaining technical assistance.
8	Video display memory error	See Chapter 7, "Getting Help," of the *Reference and Troubleshooting Guide* for instructions on obtaining technical assistance.
9	Optional ROM checksum error	See Chapter 7, "Getting Help," of the *Reference and Troubleshooting Guide* for instructions on obtaining technical assistance.
10	CMOS memory error	See Chapter 7, "Getting Help," of the *Reference and Troubleshooting Guide* for instructions on obtaining technical assistance.
11	BIOS checksum error	See Chapter 7, "Getting Help," of the *Reference and Troubleshooting Guide* for instructions on obtaining technical assistance.

System Messages

The first column in Table 3 lists (in alphabetical order) system messages that may appear on the screen during the boot routine or during normal system operation. The second column in the table lists probable causes of the messages, and the third column either provides a corrective action or refers you to a source for resolving the problem.

Table 3. System Messages

Message	Possible Cause	Corrective Action
`8042 Gate-A20 Error`	The keyboard controller failed its test.	If you receive this message after making changes in the [system setup program](#), enter the program and restore the original value(s).
`Address Line Short!`	Error in the address decoding circuitry in the memory.	[Reseat the DIMMs](#).

`C: Drive Error`
 	
`C: Drive Failure`
	The hard-disk drive is not working or is not configured correctly.	Ensure that the [drive](#) is installed correctly in the chassis and defined correctly in the [system setup program](#).

`Cache Memory Bad, Do Not Enable Cache`	Cache memory is not operating.	See Chapter 7, "Getting Help," of the *Reference and Troubleshooting Guide* for instructions on obtaining technical assistance.
`Ch-2 Timer Error`	System board timer error occurred.	See Chapter 7, "Getting Help," of the *Reference and Troubleshooting Guide* for instructions on obtaining technical assistance.

`CMOS Battery State Low`
 	
`CMOS Checksum Failure`
 	
`CMOS Display Type Mismatch`
 	
`CMOS Memory Size Mismatch`
 	
`CMOS System Options 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](#) and verify the system configuration; then restart the system.

CMOS Time and Date Not Set		
Diskette Boot Failure	Drive A or B is present but has failed the BIOS POST.	Ensure that the drive is installed correctly in the chassis 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	BIOS cannot communicate with the diskette drive or hard-disk drive controller.	Ensure that the drive is installed correctly in the chassis and defined correctly in the system setup program. Check the interface cable at both ends.
INTR1 Error INTR2 Error	Interrupt channel on the system board failed the 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.
KB/Interface Error	An error occurred with the keyboard connector.	The keyboard or system board may need to be replaced.
Keyboard Error *nn*	The BIOS has detected a stuck key represented by scan code *nn*.	Make sure 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.

Controls and Indicators: Dell™ Dimension™ L Series Reference

●

●

Front Panel
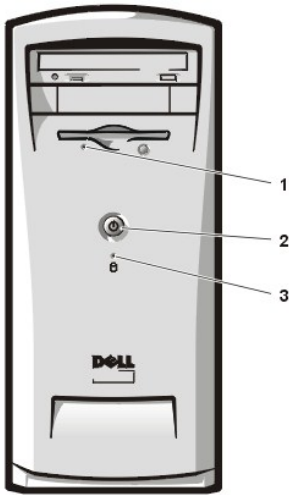
1 Diskette-drive access indicator — Lights up when a diskette drive is being accessed.

2 Power — Turns the computer on and off. Lights up when the computer is on. Press and hold for 4 seconds to shut down.

3 Hard-disk drive access indicator — Lights up when a hard-disk drive is being accessed.

Back Panel
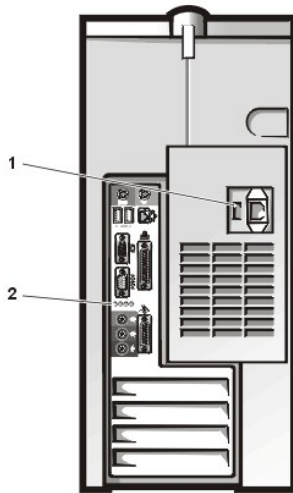
1 Voltage selection switch — Selects the operating voltage for the computer.

2 Diagnostic code indicators (4) — If a malfunction is detected and the computer fails to start, the indicators display a code that identifies the problem.

Conventions: Dell™ Dimension™ L Series Reference

- Notes, Notices, and Cautions
- Typographical Conventions

The following subsections describe notational conventions used in this document.

Notes, Notices, and Cautions

Throughout this guide, blocks of text may be accompanied by an icon and printed in bold type or in italic type. These blocks are notes, notices, and cautions, and they are used as follows:

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

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 potentially hazardous situation which, if not avoided, may result in minor or moderate injury.

Typographical Conventions

The following list defines (where appropriate) and illustrates typographical conventions used as visual cues for specific elements of text throughout this document:

- *Interface components* are window titles, button and icon names, menu names and selections, and other options that appear on the monitor screen or display. They are presented in bold.

  Example: Click **OK**.

- *Keycaps* are labels that appear on the keys on a keyboard. They are enclosed in angle brackets.

  Example: <Enter>

- *Key combinations* are series of keys to be pressed simultaneously (unless otherwise indicated) to perform a single function.

  Example: <Ctrl><Alt><Enter>

- *Commands* presented in lowercase bold are for reference purposes only and are not intended to be typed when referenced.

  Example: "Use the **format** command to . . . ."

  In contrast, commands presented in the Courier New font are part of an instruction and intended to be typed.

  Example: "Type `format a:` to format the diskette in drive A."

- *Filenames* and *directory names* are presented in lowercase bold.

  Examples: **autoexec.bat** and **c:\windows**

- *Screen text* is a message or text that you are instructed to type as part of a command (referred to as a command line). Screen text is presented in the Courier New font.

  Example: The following message appears on your screen:

  `No boot device available`

  Example: "Type `md c:\programs` and press <Enter>."

- *Variables* are placeholders for which you substitute a value. They are presented in italics.

  Example: DIMM_*x* (where *x* represents the DIMM socket designation)

Documentation: Dell™ Dimension™ L Series Reference

🔵 Printed Documentation

🔵 Online Documentation

Printed Documentation

🔴 **You must right-click the link for a portable document format (PDF) file and save the file to your hard-disk drive. Attempting to open large PDF files through your browser may cause your system to freeze.**

To save PDF files (files with an extension of **.pdf**) to your hard-disk 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-disk drive.

Right-click only the following links:
(For systems purchased after March 28, 2001) *Dell Dimension L Series Reference and Troubleshooting Guide* (**.pdf**) (2816 KB)
(For systems purchased before March 28, 2001) *Dell Dimension L Series Reference and Troubleshooting Guide* (**.pdf**) (10982 KB)
Dell Dimension Systems Setup Guide (**.pdf**) (403 KB)

📝 *NOTE: PDF files require Adobe™ Acrobat Reader, which can be downloaded from the Adobe World Wide Web site at* ***http://www.adobe.com****.*

*To view a PDF file, launch Acrobat Reader. Click **File**–> **Open** and select the PDF file.*

Online Documentation

🔴 **Compiled HTML Help files (files with an extension of .chm) require Microsoft Internet Explorer 4.0 or later.**

Downloading the Help and Associated Files

1. Right-click the following link to the **popup.ocx** file:
   popup.ocx

2. Click **Save Target As** in Microsoft Internet Explorer or **Save Link As** in Netscape Navigator, and specify **c:\windows\system** on your hard-disk drive.

3. Click the **Start** button on the Microsoft Windows® desktop, and then click **Run**.

4. Type regsvr32 popup.ocx and then press <Enter>.

5. Click **OK** when the installation is complete.

6. Right-click the following link to the Help file:
   (**LSerHelp.chm**)

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

Viewing the Help File

To view the Help file, perform the following steps:

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 Help file.

3. Double-click the file **LSerHelp.chm** to access the Dell Dimension L Series System Help.

Drivers: Dell™ Dimension™ L Series Reference

- Drivers For Systems Purchased After May 19, 2000

- Drivers For Systems Purchased Before May 19, 2000

Drivers For Systems Purchased After May 19, 2000

All of your system's drivers for Dell-installed devices are operative when you receive the system—no further installation or configuration is needed. However, if you ever need to reinstall any of these drivers, the driver files are provided on the *Dell Dimension ResourceCD*.

Device problems can often be corrected by reinstalling the appropriate drivers. Also, hardware manufacturers frequently provide updated drivers that support feature enhancements or that correct problems. Obtain updated drivers for products purchased from Dell at the support section of the Dell World Wide Web site (**http://support.dell.com**).

NOTICE: Drivers available on the Dell Web site have been validated for correct operation on Dell systems. Installing drivers obtained from other sources may cause errors or performance degradation.

Your System's Drivers

The device drivers that can be reinstalled on your system are listed below:

- **Intel® 800 Series Chip Set Driver** — Installs Microsoft® Windows® 98 device installation files (**.inf**) that tell the operating system how certain chip set components should be configured for proper operation.

- **Intel Security Driver** — Provides a heightened level of security for transmitting data across a network or across the Internet.

- **Intel 810e Video Driver** — Enables the system's video controller to properly function.

- **Creative Labs Audio Driver** — Enables the audio controller to produce sound on systems with integrated audio capabilities.

- **Intel 82559 Fast Ethernet LAN on Motherboard** — Enables the network interface controller (NIC) to function properly on systems with integrated network capabilities.

- **Other Drivers** — Control the devices, such as video, modem, or network interface controller (NIC) cards, that might be installed on your system. For instructions on how to reinstall those drivers, see the device's documentation. On some computers, a device's documentation can be found by double-clicking the **Dell Documents** icon on the Windows desktop, clicking **System Information**, and then clicking **System Documentation**. On other computers, the documentation can be found by clicking the **Start** button on the Windows desktop, pointing to **Programs**, pointing to **User's Guides**, and then clicking **System Documentation**.

  NOTES: *If a driver does not appear under a selected operating system on the Dell Dimension ResourceCD, then the driver is not required by that operating system.*

  If you reinstall Windows 98, you must reinstall the Intel 800 Series Chip Set driver before you reinstall any other drivers.

Using the *Dell Dimension ResourceCD* to Reinstall Drivers

NOTICE: The *Dell Dimension ResourceCD* contains drivers for devices that might not be installed in your computer. Do not install device drivers unless you first identify the specific driver intended for the hardware installed in your computer (see "Your System's Drivers"). Installing incorrect drivers might make your computer inoperable.

1. From the Windows desktop, insert the *Dell Dimension ResourceCD* into the CD or DVD drive.

   If this is your first time to use the *ResourceCD*, go to the next step. If not, go to step 5.

2. When the **ResourceCD Installation** program starts, follow the instructions 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**.

   The **Please wait... the ResourceCD is detecting hardware in your computer** message 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 prompts on the screen.

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

NOTE: The ResourceCD displays drivers only for hardware that Dell installed at the time of purchase. If you installed any additional hardware, those drivers may not be displayed by the ResourceCD. If those drivers are not displayed, exit the ResourceCD program and refer to the documentation and drivers that came with that product.

To view other contents on the *ResourceCD*:

1. Be sure your computer is selected in the **System Model** list.

2. Be sure your operating system is selected in the **Operating System** list.

3. Select the type of device in the **Device Type** list.

NOTICE: The *Dell Dimension ResourceCD* contains drivers for devices that are not part of your computer. Only reinstall the specific drivers for hardware included in your computer. Otherwise, your computer might not work correctly.

4. Select a topic in the **Topic** list.

    If you select **Drivers** in the **Topic** list and a particular driver is not listed, then that driver is not required by your operating system.

Drivers For Systems Purchased Before May 19, 2000

The device drivers that can be reinstalled on your system are listed below:

- **Intel 800 Series Chip Set Driver** — Installs Windows 98 device installation files (**.inf**) that tell the operating system how certain chip set components should be configured for proper operation.

- **Intel Security Driver** — Provides a heightened level of security for transmitting data across a network or across the Internet.

- **Intel 810e Video Driver** — Enables the system's video controller to properly function.

- **Creative Labs Audio Driver** — Enables the audio controller to produce sound on systems with integrated audio capabilities.

- **Intel 82559 Fast Ethernet LAN on Motherboard NIC Driver** — Enables the network interface controller (NIC) to function properly on systems with integrated network capabilities.

- **Other Drivers** — Control the devices, such as video, modem, or network interface controller (NIC) cards, that might be installed on your system. For instructions on how to reinstall those drivers, see the device's documentation. On some computers, a device's documentation can be found by double-clicking the **Dell Documents** icon on the Windows desktop, clicking **System Information**, and then clicking **System Documentation**. On other computers, the documentation can be found by clicking the **Start** button on the Windows desktop, pointing to **Programs**, pointing to **User's Guides**, and then clicking **System Documentation**.

Intel 800 Series Chip Set Driver

Dell installed the Intel 800 Series Chip Set driver for the Microsoft Windows 98 operating system on your hard-disk drive. No further installation or configuration is required. If you ever need to reinstall this driver, perform the following steps.

NOTE: If you reinstall Windows 98, you must reinstall the Intel 800 Series Chip Set driver before you reinstall any other drivers.

1. Start the Windows 98 operating system.

2. Insert the *Dell Dimension ResourceCD* into the CD-ROM or DVD-ROM drive.

    The **Dell Dimension ResourceCD** screen appears.

3. Click the right-arrow button.

    The first time that you use the *Dell Dimension ResourceCD*, you are prompted to select a language.

4. Select the language of your choice, and click **OK**.

5. In the **All Folders** list, click the **drivers** folder.

    An alert message appears, informing you that only knowledgeable users should install drivers.

6. Click **OK** to continue.

7. In the **All Folders** list, click the **win98** folder.

8. In the **Description** list, click **Dimension L Series: Intel 800 Series Chip Set Driver**.

9. In the **All Files** list, double-click **setup.exe**.

10. Click **Next** to start the driver installation or click **Quit** to exit the installation process.

11. When prompted to restart your computer to complete the installation, remove the *Dell Dimension ResourceCD* from the CD-ROM or DVD-ROM drive and then click **Finish**.

Intel Security Driver

Dell installed the Intel Security driver on your hard-disk drive. No further installation or configuration is needed. If you ever need to reinstall this driver, see the appropriate procedure for the Microsoft <u>Windows 98</u>, <u>Windows NT</u>, and <u>Windows 2000</u> operating systems.

> NOTE: *If you reinstall Windows 98, you must reinstall the* <u>*Intel 800 Series Chip Set*</u> *driver before you reinstall any other drivers.*

Intel Security Driver For Windows 98 and Windows NT

To reinstall the Intel Security driver on systems running Windows 98 and Windows NT, perform the following steps:

1. Start the Windows 98 or Windows NT operating system.

2. Insert the *Dell Dimension ResourceCD* into the CD-ROM or DVD-ROM drive.

   The **Dell Dimension ResourceCD** screen appears.

3. Click the right-arrow button.

   The first time that you use the *Dell Dimension ResourceCD*, you are prompted to select a language.

4. Select the language of your choice, and click **OK**.

5. In the **All Folders** list, click the **drivers** folder.

   An alert message appears, informing you that only knowledgeable users should install drivers.

6. Click **OK** to continue.

7. In the **All Folders** list, click the **win98** or **winnt** folder.

8. In the **Description** list, click **Dimension L Series: Intel Security Driver**.

9. Click the only file that appears in the **All Files** list.

   The file is named **nnnnnnnn.exe**, where **nnnnnnnn** is an eight-digit part number.

10. Follow the instructions on the screen, and accept all defaults.

11. When you are prompted to restart your system to complete the installation, remove the *Dell Dimension ResourceCD* from the CD-ROM or DVD-ROM drive, and then click **Finish**.

Intel Security Driver for Windows 2000

To reinstall the Intel Security driver on systems running Windows 2000, perform the following steps:

1. Start the Windows 2000 operating system.

2. Insert the *Dell Dimension ResourceCD* into the CD-ROM or DVD-ROM drive.

   The **Dell Dimension ResourceCD** screen appears.

3. Click the right-arrow button.

   The first time that you use the *Dell Dimension ResourceCD*, you are prompted to select a language.

4. Select the language of your choice, and click **OK**.

5. In the **All Folders** list, click the **drivers** folder.

   An alert message appears, informing you that only knowledgeable users should install drivers.

6. Click **OK** to continue.

7. In the **All Folders** list, click the **win2000** folder.

8. In the **Description** list, click **Dimension L Series: Intel Security Driver**.

9. Double-click the only file that appears in the **All Files** list.

    The file is named **nnnnnnnn.exe**, where **nnnnnnnn** is an eight-digit part number.

10. Follow the instructions on the screen, and accept all defaults.

11. When you are prompted to restart your system to complete the installation, remove the *Dell Dimension ResourceCD* from the CD-ROM or DVD-ROM drive, and then click **Finish**.

Intel 810e Video Driver

Dell installed the Intel 810e video driver on your hard-disk drive. No further installation or configuration is needed. If you ever need to reinstall this driver, see the appropriate procedure for the Microsoft Windows 98, Windows NT, and Windows 2000 operating systems.

   NOTE: If you reinstall Windows 98, you must reinstall the *Intel 800 Series Chip Set* driver before you reinstall any other drivers.

Intel 810e Video Driver for Windows 98

To reinstall the Intel 810e video driver on systems running Windows 98, perform the following steps:

1. Start the Windows 98 operating system.

2. Insert the *Dell Dimension ResourceCD* into the CD-ROM or DVD-ROM drive.

3. The **Dell Dimension ResourceCD** screen appears.

4. Click the right-arrow button.

    The first time that you use the *Dell Dimension ResourceCD*, you are prompted to select a language.

5. Select the language of your choice, and click **OK**.

6. In the **All Folders** list, click the **drivers** folder.

    An alert message appears, informing you that only knowledgeable users should install drivers.

7. Click **OK** to continue.

8. In the **All Folders** list, click the **win98** folder.

9. In the **Description** list, click **Dimension L Series: Intel 810 Video Driver.**

10. Click the only file that appears in the **All Files** list.

    The file is named **nnnnnnnn.exe**, where **nnnnnnnn** is the driver part number.

11. Follow the instructions on the screen, and accept all defaults.

12. Click **Next** to start the driver installation, or click **Quit** to exit the installation process.

13. When prompted to restart your system to complete the installation, remove the *Dell Dimension ResourceCD* from the CD-ROM or DVD-ROM drive and then click **Finish**.

Intel 810e Video Driver for Windows NT

To reinstall the Intel 810e video driver on systems running Windows NT, perform the following steps:

1. Start the Windows NT 4.0 operating system.

2. Insert the *Dell Dimension ResourceCD* into the CD-ROM or DVD-ROM drive.

3. The **Dell Dimension ResourceCD** screen appears.

4. Click the right-arrow button.

5. The first time that you use the *Dell Dimension ResourceCD*, you are prompted to select a language.

6. Select the language of your choice, and click **OK**.

7. In the **All Folders** list, double-click the **drivers** folder.

8. An alert message appears, informing you that only knowledgeable users should install drivers.

9. Click **OK** to continue.

10. In the **All Folders** list, click the **winnt** folder.

11. In the **Description** list, click **Dimension L Series: Intel 810 Video Driver**.

12. Click the only file that appears in the **All Files** list.

    The file is named ***nnnnnnnn*.exe**, where ***nnnnnnnn*** is the driver part number.

13. Follow the instructions on the screen, and accept all defaults.

14. The drivers are automatically loaded onto the system, and the **Welcome** window appears.

15. Click **Next**.

16. Remove the *Dell Dimension ResourceCD* from the CD-ROM or DVD-ROM drive, and then restart the system.

Intel 810e Video Driver for Windows 2000

To reinstall the Intel 810e video driver on systems running Windows 2000, see the documentation that came with the video card for instructions as explained in "Other Drivers".

Creative Labs Audio Driver

Dell installed the Creative Labs audio driver on your hard-disk drive. No further installation or configuration is needed. If you ever need to reinstall this driver, see the appropriate procedure for the Microsoft Windows 98, Windows NT, and Windows 2000 operating systems.

> NOTE: If you reinstall Windows 98, you must reinstall the *Intel 800 Series Chip Set* driver before you reinstall any other drivers.

Creative Labs Audio Driver for Windows 98

To reinstall the Creative Labs audio driver on systems running Windows 98, perform the following steps:

1. Start the Windows 98 operating system.

2. Insert the *Dell Dimension ResourceCD* into the CD-ROM or DVD-ROM drive.

    The **Dell Dimension ResourceCD** screen appears.

3. Click the right-arrow button.

    The first time that you use the *Dell Dimension ResourceCD*, you are prompted to select a language.

4. Select the language of your choice, and click **OK**.

5. In the **All Folders** list, click the **drivers** folder.

    An alert message appears, informing you that only knowledgeable users should install drivers.

6. Click **OK** to continue.

7. In the **All Folders** list, click the **win98** folder.

8. In the **Description** list, click **Dimension L Series: Creative Labs Audio Driver**.

9. Click the only file that appears in the **All Files** list.

    The file is named ***nnnnnnnn*.exe**, where ***nnnnnnnn*** is the driver part number.

10. Follow the instructions on the screen, and accept all defaults.

11. Click **Next** to start the driver installation, or click **Quit** to exit the installation process.

12. When prompted to restart your system to complete the installation, remove the *Dell Dimension ResourceCD* from the CD-ROM or DVD-ROM drive and then click **Finish**.

Creative Labs Audio Driver for Windows NT

To reinstall the Creative Labs audio driver on systems running Windows NT, perform the following steps:

1. Start the Windows NT 4.0 operating system.

2. Insert the *Dell Dimension ResourceCD* into the CD-ROM or DVD-ROM drive.

3. The **Dell Dimension ResourceCD** screen appears.

4. Click the right-arrow button.

5. The first time that you use the *Dell Dimension ResourceCD*, you are prompted to select a language.

6. Select the language of your choice, and click **OK**.

7. In the **All Folders** list, double-click the **drivers** folder.

   An alert message appears, informing you that only knowledgeable users should install drivers.

8. Click **OK** to continue.

9. In the **All Folders** list, click the **winnt** folder.

10. In the **Description** list, click **Dimension L Series: Creative Labs Audio Driver**.

11. Click the only file that appears in the **All Files** list.

    The file is named ***nnnnnnnn*.exe**, where ***nnnnnnnn*** is the driver part number.

12. Follow the instructions on the screen, and accept all defaults.

13. Click **Next.**

14. Remove the *Dell Dimension ResourceCD* from the CD-ROM or DVD-ROM drive, and then restart the system.

Creative Labs Audio Driver for Windows 2000

When the Microsoft Windows 2000 operating system is installed, the audio drivers are automatically installed. If you need to reinstall the audio drivers, you must reinstall Windows 2000.

Intel 82559 Fast Ethernet LAN on Motherboard NIC Driver

Dell installed the Intel 82559 Fast Ethernet LAN on Motherboard NIC driver on your hard-disk drive. No further installation or configuration is needed. If you ever need to reinstall this driver, see the appropriate procedure for the Microsoft Windows 98, Windows NT, and Windows 2000 operating systems.

   NOTE: If you reinstall Windows 98, you must reinstall the *Intel 800 Series Chip Set* driver before you reinstall any other drivers.

Intel 82559 Fast Ethernet LAN on Motherboard NIC Driver for Windows 98

To reinstall the Intel 82559 Fast Ethernet LAN on Motherboard NIC driver on systems running Windows 98, perform the following steps:

1. Start the Windows 98 operating system.

2. Insert the *Dell Dimension ResourceCD* into the CD-ROM or DVD-ROM drive.

   The **Dell Dimension ResourceCD** screen appears.

3. Click **Exit**.

4. From the Windows desktop, right-click the **My Computer** icon, and click **Properties**.

5. Click the **Device Manager** tab.

6. Double-click **Network Adapters**.

7. Double-click **Intel 82559**, and then click the **Driver** tab.

8. Click **Update Driver**.

   The **Update Device Driver Wizard** window opens.

9. Click the **Browse** button and browse to `x:\drivers\win98\2911r`(where *x* is the CD-ROM or DVD-ROM drive).

10. Select the recommended driver.

11. Click **OK** and **Next** to complete the driver installation. Follow the instructions on the screen. If prompted to restart the system, remove the *Dell Dimension ResourceCD* from the CD-ROM or DVD-ROM drive.

Intel 82559 Fast Ethernet LAN on Motherboard NIC Driver for Windows NT

To reinstall the Intel 82559 Fast Ethernet LAN on Motherboard NIC driver on systems running Windows NT, perform the following steps:

1. Start the Windows NT operating system.

2. Insert the *Dell Dimension ResourceCD* into the CD-ROM or DVD-ROM drive.

   The **Dell Dimension ResourceCD** screen appears.

3. Click **Exit**.

4. From the Windows desktop, right-click the **Network Neighborhood** icon, and click **Properties**.

   The **Network** window opens.

5. Click the **Adapters** tab, and click **Add**.

6. In the **Select Network Adapter** window, click **Have Disk**.

7. From the **Insert Disk** window, type `x:\drivers\winnt\2911r` (where *x* is the CD-ROM or DVD-ROM drive), and then click **OK**.

8. From the **Select OEM Options** window, select **Intel PRO Adapter**, and click **OK** to begin the driver installation.

9. From the **Network** window, click the **Adapters** tab and verify that the **Intel 82559 Fast Ethernet LAN on Motherboard** was installed, and then click **Close**.

10. When prompted to restart the computer, remove the *Dell Dimension ResourceCD* from the CD-ROM or DVD-ROM drive, and then click **Yes**.

Intel 82559 Fast Ethernet LAN on Motherboard NIC Driver and Diagnostics for Windows 2000

The Intel 82559 Fast Ethernet LAN on Motherboard NIC driver is automatically installed with the Windows 2000 operating system. To reinstall the Intel 82559 Fast Ethernet LAN NIC diagnostics program, perform the following steps:

1. Start the Windows 2000 operating system.

2. Insert the *Dell Solutions CD* into the CD-ROM or DVD-ROM drive.

3. Double-click the **\Intel Diags** folder to open it.

4. Double-click **setup.exe**.

5. Follow the instructions on the screen, and accept all defaults.

6. When prompted to restart your system to complete the installation, remove the *Dell Solutions CD* from the CD-ROM or DVD-ROM drive, and then click **Finish**.

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Removing and Replacing Parts: Dell™ Dimension™ L Series Reference

Overview

Unless otherwise noted, each of the following procedures assumes:

- You have the recommended tools.

- You have performed the steps in "Precautionary Measures."

- You have removed the computer cover.

- You can replace or reinstall a part by performing the removal procedure in reverse order.

Precautionary Measures

Before you remove or replace parts in the system, read the following caution for your personal safety and to prevent damage to the system from electrostatic discharge (ESD).

⚠ **CAUTION FOR YOUR PERSONAL SAFETY AND PROTECTION OF THE EQUIPMENT.**

Before you start to work on the system, perform the following steps in the sequence listed:

1. **Turn off your computer and all devices.**

2. **Ground yourself by touching an unpainted metal surface at the back of the computer before touching anything inside your computer.**

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

3. **Disconnect any devices connected to the computer, including the monitor, from their electrical outlets to reduce the potential for personal injury or shock. Also, disconnect any telephone or telecommunication lines from the computer.**

4. **Disconnect the power cable to your computer, and then press the power button to ground the system board.**

After you remove or replace parts in the system, observe the following notice to prevent damage to the system:

NOTICE: Make sure that all other system cables are connected before connecting the computer to its electrical outlet.

Recommended Tools

- Small flat-blade screwdriver

- Wide flat-blade screwdriver

- #1 and #2 Phillips-head screwdrivers

- 1/4-inch nut driver

- Tweezers or long-nose pliers

- Wrist grounding strap

Cover
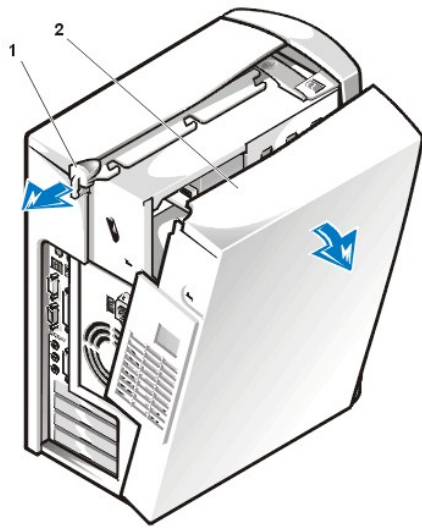
1 Release latch
2 Computer cover

To remove the computer cover, perform the following steps.

NOTICE: To avoid inadvertently damaging the system board, be sure you that disconnect the system from the electrical outlet, disconnect the power cable from the back of the chassis, and press the power button before removing the computer cover. This system continues to receive a small amount of power when the system is turned off and attached to an electrical outlet (the system-board power indicator is on when power is detected).

1. Face the front of the chassis. Place your left hand on the left side of the chassis. Push back the release latch at the top back edge of the chassis to release the computer cover into your left hand.

2. Lift the cover out from the curves at the bottom of the chassis.

   ⚠ **CAUTION: To prevent cuts, keep your hands clear of the metal edges on the chassis and fan guard as you slide the cover back.**

To replace the computer cover, perform the following steps:

1. Check all cable connections, especially those that might have come loose during your work. Fold cables and unused connectors out of the way so that they do not catch on the computer cover or interfere with airflow inside the computer.

2. Check to see that no tools or extra parts (including screws) are left inside the computer.

3. Place the chassis upright with the front facing you. Align the computer cover so that its bottom hooks fit in the chassis curves.

4. Lift up the cover, making sure to keep the bottom hooks aligned with the curves in the chassis.

5. Gently squeeze the right and left sides of the computer together until the cover clicks into position.

Rotating the Power Supply
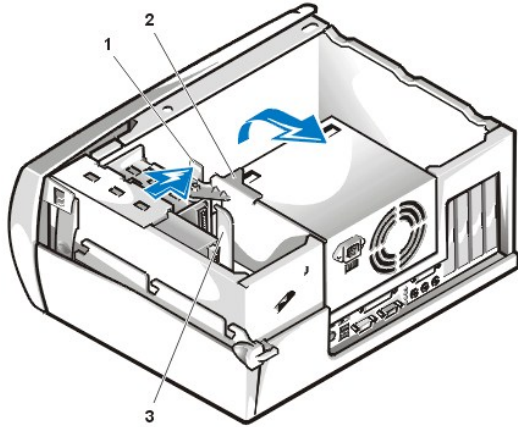
1 Release latch
2 Power supply
3 Cable retainer

1. [Remove the computer cover](#).

2. Lay the computer on its side.

3. Press the release latch while lifting the power supply. Rotate the power supply out of the chassis while keeping the power cables clear.

4. When you rotate the power supply back into the chassis, gently lift the cable retainer and hold the drive cables out of the way.

5. Rotate the power supply into position until its release latch clicks.

6. Wrap the drive cables along the top of the latch in the retainers, as shown in the following figure.
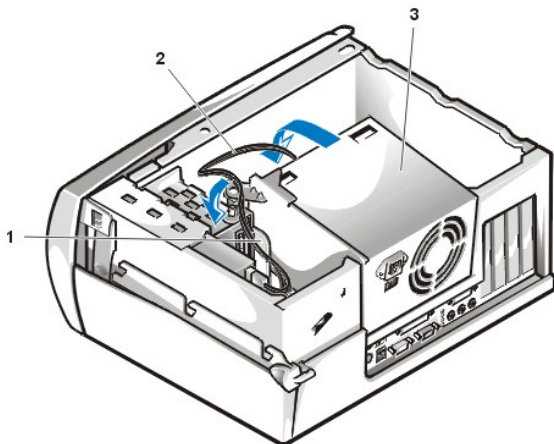
1 Cable retainer
2 Drive power cables
3 Power supply

Bezel
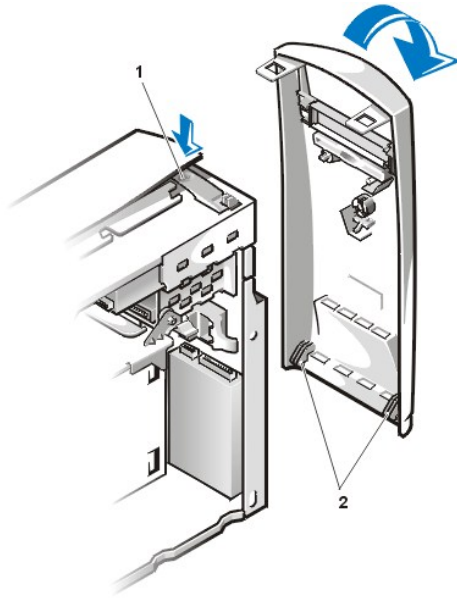
1 Bezel release tab
2 Retaining hooks

To remove the bezel, perform the following steps:

1. Remove the computer cover.

2. While facing the front of the computer, press in the bezel release tab the top of the chassis.

3. Swing the bezel away from the chassis, disengage the two retaining hooks at the bottom of the bezel, and carefully pull it away from the chassis.

4. To replace the bezel, fit the two bezel retaining hooks into their corresponding slots on the chassis. Rotate the bezel toward the chassis until the bezel latches into position.

3.5-Inch Front Panel Insert
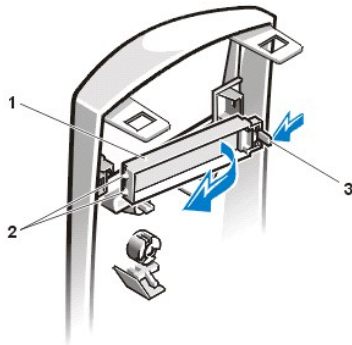
1 Insert
2 Tabs (2)
3 Release tab

To remove a 3.5-inch insert, perform the following steps:

1. Remove the bezel.

2. From the back of the bezel, press the release tab to the side.

3. Rotate the insert toward you, and remove it from the bezel.

Upper 3.5-Inch Drive
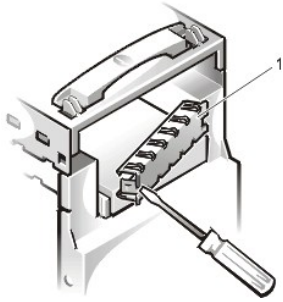
1 Drive bay plate

To remove the upper 3.5-inch drive plate and install a new drive, perform the following steps:

1. Remove the bezel.

2. Remove the 3.5-inch front panel insert.

3. Rotate the power supply away from the system board. While holding the power supply, place the computer in the upright position.

4. Remove the metal plate covering the bay by using a screwdriver to pop out the metal plate from the left or right side of the chassis.

5. Remove the extra rails from the inside front of the chassis.

6. Install the rails on the sides of the drive.

   The rails are marked "L" for installation on the left side of the drive and "R" for the right side of the drive.

7. Slide the drive assembly into the drive bay.

8. Connect the power supply cable and drive interface cables to the drive.

Lower 3.5-Inch Diskette Drive
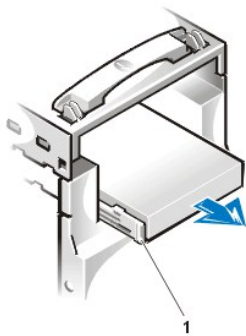
1 Drive-release rail tabs (2)

To remove the 3.5-inch diskette drive from the lower bay, perform the following steps:

1. Remove the bezel.

2. Rotate the power supply away from the system board.

3. While holding the power supply, place the computer in the upright position.

4. Disconnect the power and interface cables from the back of the diskette drive.

5. Press the two drive-release rail tabs, and slide the drive out of the drive bay.

Before you install the new drive, install the drive-release rails on the sides of the replacement diskette drive.

5.25-Inch Drive
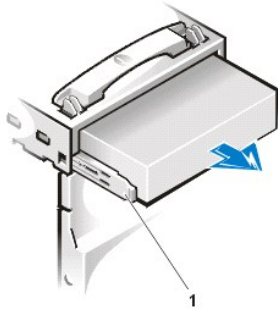
1 Drive-release rail tabs (2)

To remove the 5.25-inch drive, perform the following steps:

1. Remove the bezel.

2. Rotate the power supply away from the system board.

3. While holding the power supply, place the computer in the upright position.

4. Disconnect the power and interface cables from the back of the drive.

5. Press the two drive-release rail tabs, and slide the drive out of the drive bay (see Figure 8).

Before you install the new drive, install the drive-release rails on the sides of the replacement drive.

_____

Hard-Disk Drive
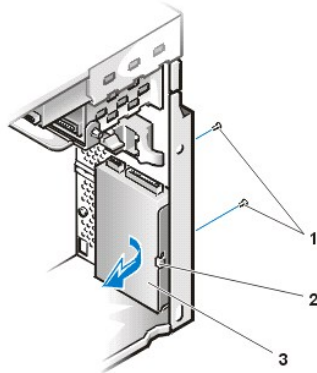
1 Screws (2)
2 Clip
3 Hard-disk drive

To remove the primary hard-disk drive, perform the following steps:

1. Remove the bezel.

2. Rotate the power supply away from the system board.

3. While holding the power supply, place the computer in the upright position.

4. Remove the two screws securing the hard-disk drive to the front of the chassis.

5. Release the clip that secures the drive to the chassis, and rotate the drive out of the chassis.

6. Disconnect any cables attached to the drive.

7. Remove the existing drive from the bay.

To reinstall the primary hard-disk drive, perform the following steps.

NOTICE: When you reinstall the hard-disk drive, make sure that the control panel wires are *not* caught underneath the hard-disk drive.

1. Orient the new drive with its circuit board facing the front of the chassis.

2. Press the drive between the two brackets until the drive is secured by the clip.

3. Secure the drive to the front of the chassis with the two screws you removed.

4. Connect the power supply cable and the hard-disk drive interface cable to the new drive.

Power Supply and Fan Assembly
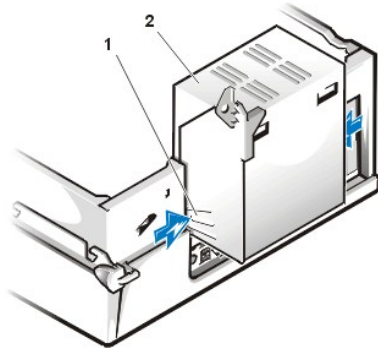
1 Power-supply retaining clips

2 Power supply and fan assembly

To remove the power supply and fan assembly, perform the following steps:

1. Disconnect the AC power cable from the computer.

2. Remove the computer cover.

3. Rotate the power supply away from the system board.

4. Disconnect the DC power cables from the POWER and OPTIONAL POWER connectors on the system board.

5. Disconnect the DC power cables from all the drives.

6. Press the power-supply retaining clips and lift the power supply and fan assembly out of the chassis.

Control Panel
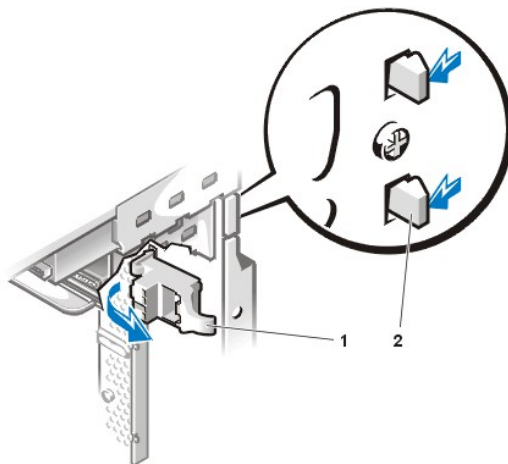
1 Control panel assembly

2 Mounting tabs

To remove the control panel, perform the following steps:

1. Remove the bezel.

2. Disconnect the control panel from the system board.

3. Press the mounting tabs to release the control panel and remove the control panel assembly.

Expansion Cards
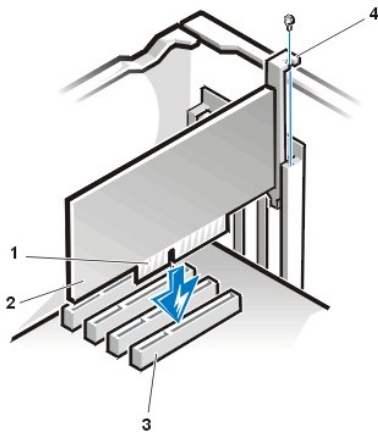
1 Card-edge connector

2 Expansion card

3 Expansion-card connector

4 Expansion-card mounting bracket and screw

To install an expansion card, perform the following steps:

1. Remove the computer cover.

2. Rotate the power supply.

3. Choose an expansion-card connector for the card.

4. Unscrew and remove the metal filler bracket that covers the card-slot opening for the expansion slot you intend to use.

5. Insert the expansion card firmly into the expansion-card connector.

   Align the cutouts in the card-edge connector with the crossbars in the expansion card connector. Gently rock the connector until it is fully seated.

6. When the card is firmly seated in the connector, secure the card-mounting bracket with the screw you removed.

To remove an expansion card, perform the following steps:

1. Remove the computer cover.

2. Rotate the power supply.

3. Disconnect any cables connected to the card.

4. Remove the screw from the card-mounting bracket.

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

6. If you are removing the card permanently, install a metal filler bracket over the empty card-slot opening in the chassis.

> *NOTE: Installing filler brackets over empty card-slot openings is necessary to maintain Federal Communications Commission (FCC) certification of the system. The brackets also keep dust and dirt out of your computer.*

DIMMs
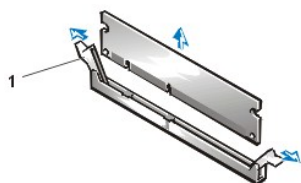
1 Securing clips (2)

To remove a dual in-line memory module (DIMM), press down and out on the securing clips at each end of the socket. The DIMM should pop up allowing you to lift it out of the socket.

1 Securing clips (2)
2 Cutout
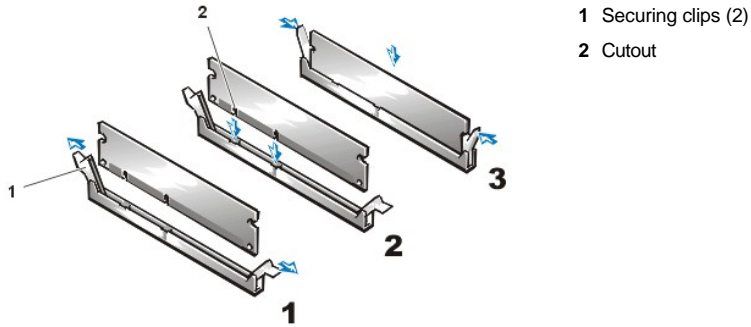
To install a DIMM, perform the following steps:

1. Remove the computer cover.

2. Rotate the power supply.

3. Press outward on the securing clips at each end of the DIMM socket to release the clips (step 1 in the preceding figure).

4. Align the cutouts on the edge connector of the DIMM with the crossbars in the central groove of the socket (step 2 in the preceding figure).

5. Insert the DIMM straight down into the socket, making sure that it fits into the vertical guides in the clips at each end of the socket (step 3 in the preceding figure).

6. Press firmly until the DIMM snaps into place.

NOTICE: Do not press near the middle of the DIMM. Doing so could break the module.

If you have inserted the DIMM correctly, the tabs on the securing clips will snap into the cutouts at each end of the DIMM.

Heat Sink

1 Heat sink and fan assembly
2 Heat-sink securing clip
3 Microprocessor
4 Microprocessor socket
5 Heat-sink securing tab
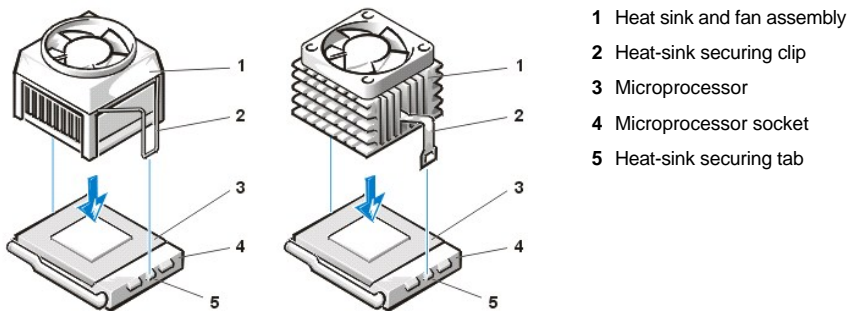
The heat sink in your system will be one of those pictured in the preceding figure. To remove and replace the microprocessor and heat sink, perform the following steps:

1. Remove the computer cover.

2. Rotate the power supply.

3. Locate the microprocessor socket on the system board.

4. Release the metal clip that secures the heat sink and fan assembly to the microprocessor socket. Then remove the heat sink and fan assembly from the microprocessor chip.

5. Disconnect the fan from the system board.

6. Remove and replace the microprocessor chip from the socket.

7. Unpack the heat sink and fan assembly included in your upgrade kit.

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

8. Peel the release liner from the adhesive tape that is attached to the bottom of the heat sink and fan assembly.

9. Replace the heat sink and fan assembly by performing the following steps:

NOTICE: When you install the heat sink and fan assembly, make sure that the heat sink is flat against the surface of the processor while you are installing the clip. If the heat sink becomes tilted when you install the clip, excess heat can damage the processor.

    a. Place the heat sink and fan assembly on top of the microprocessor chip.

    b. Orient the securing clip and hook the shorter side of the clip over the tab on the top edge of the microprocessor socket.

    c. Press down on the top to the fan to snap the clip over the tab on the bottom edge of the microprocessor socket.

    d. Connect the fan to the system board.

10. Replace the computer cover, and then reconnect your computer and peripherals to their electrical outlets and turn them on.

As the system boots, it detects the presence of the new microprocessor and automatically changes the system configuration information in the system setup program.

11. Enter the system setup program, and confirm that the **Processor Type** and **Processor Speed** options correctly identify the newly installed microprocessor.

Microprocessor

1 Microprocessor chip
2 Release lever
3 Microprocessor socket
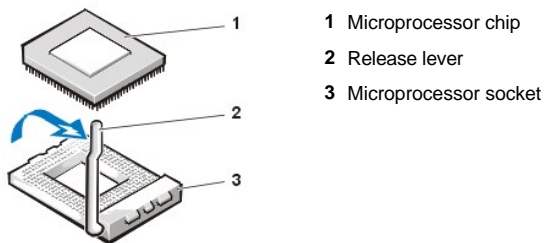
NOTICE: Be careful not to bend any of the pins when you remove the microprocessor chip from its socket. Bending the pins can permanently damage the microprocessor chip.

Your microprocessor socket is a zero insertion force (ZIF) socket with a lever-type handle that secures the chip in (or releases it from) the socket.

1. To remove the chip, pull the microprocessor-socket release lever out to unlock it and then straight up until the chip is released.

2. Remove the chip from the socket. Leave the release lever extended so that the socket is ready for the new microprocessor.

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

NOTICE: Be careful not to bend any of the pins when you unpack the microprocessor. Bending the pins can permanently damage the microprocessor.

3. Unpack the new microprocessor.

If any of the pins on the chip appear to be bent, obtain technical assistance.

4. Align the pin-1 corner of the microprocessor chip with the pin-1 corner of the microprocessor socket, as shown in the following figure.

    NOTE: You must identify the pin-1 corner to correctly position the chip.

The pin-1 corner of the microprocessor is the beveled corner. The pin-1 corner of the socket, labeled "1," is the front-left corner of the socket as you face the back of the computer.

1 Pin-1 corners of chip and socket aligned
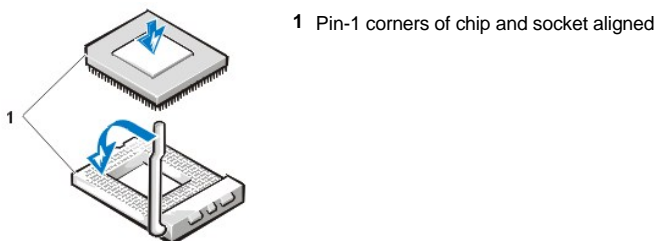
5. Install the microprocessor chip in the socket (as shown in the preceding figure) by performing the following steps.

NOTICE: You must position the microprocessor chip correctly in the socket to avoid permanent damage to the chip and the computer when you turn on the system.

   a. If the release lever on the microprocessor socket is not all the way out, move it to that position now.

   b. With the pin-1 corners of the chip and socket aligned, align the pins on the chip with the holes in the socket.

   c. Set the chip lightly in the socket and make sure that all pins are headed into the correct holes. Because your system uses a ZIF microprocessor socket, you do not need to use force, which could bend the pins if the chip is misaligned. When the chip is positioned correctly, press it with minimal pressure to seat the microprocessor in the socket. Be careful not to bend the pins.

   d. When the chip is fully seated in the socket, pivot the microprocessor-socket release lever back toward the socket until it snaps into place, securing the chip.

Battery
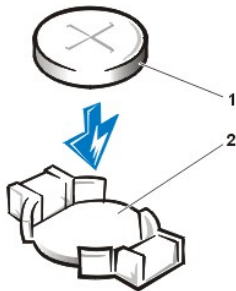
1 Battery

2 Battery socket

⚠ **CAUTION: There is a danger of the 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.**

To remove the 3-volt (V), CR2032 coin-cell battery, perform the following steps:

1. Make a copy of the screens in the system setup program. Enter the system setup program, and print (by pressing the <Print Screen> key) or copy the system configuration information from the system setup screens.

2. Remove the computer cover.

3. Rotate the power supply.

4. Pry the battery out of its socket with your fingers or with a blunt, nonconductive object such as a plastic screwdriver.

To replace the battery, perform the following steps:

1. Install the new battery with the "+" side facing up.

2. Rotate the power supply back into place, replace the computer cover, and reconnect your computer and devices to their electrical outlets and turn them on.

3. Reboot the computer system, press <Del> when the blue Dell logo screen appears to enter the system setup program, and restore the correct settings.

System Board
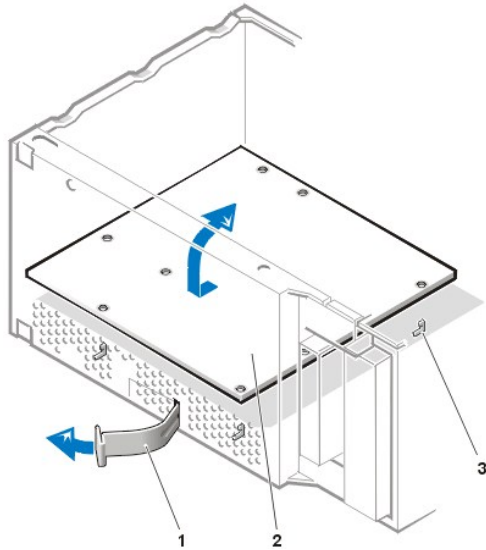
1 System-board retaining clip

2 System board

3 Standoffs

1. If possible, enter the system setup program and print the system setup screens by pressing the <Print Screen> key before you turn off the computer because you will have to restore the configuration information after the system board is replaced.

2. Remove the computer cover.

3. Remove the power supply.

4. Disconnect any cables connected to expansion cards, and remove these expansion cards.

5. Disconnect all internal cables from the system board.

6. Remove the heat sink assembly.

7. Remove the microprocessor.

8. Remove the DIMMs.

9. Push the system-board retaining clip until it disengages.

10. Slide the system board forward until is no longer held by the standoffs that secure the system board to the chassis.

    NOTE: You may need to slide the board toward the front of the computer to clear the hooked standoffs before you can lift the board from the computer.

11. Carefully lift the system board out of the input/output (I/O) gasket and remove the board from the computer. The I/O gasket is on the back of the computer where all of the input and output ports are located (see the system board).

When you install a replacement system board, angle the back of the board downward and carefully align the connectors on the back edge of the board with the cutouts in the I/O gasket. When properly aligned, the board connectors slide into the I/O gasket as you lower the board into position in the chassis and reseat it on the standoffs. Lock the board in place with the system-board retaining clip.

After you install the replacement system board, replace the microprocessor, the heat sink, the DIMMs, and the expansion cards that you removed from the old system board.

To configure the system after you install a replacement board, perform the following steps:

1. Install the jumper plug on pins 2 and 3 of configuration jumper J7A1 to select Maintenance mode operation.

2. Replace the computer cover, and start the system.

    The computer automatically starts the system setup program, adds the **Maintenance** option to the menu bar, and displays the **Maintenance** screen.

3. Select **Clear All Passwords**, and press <Enter> twice.

4. Press <F10> to exit the system setup program and save any changes you made.

5. Turn off the system, remove the computer cover, and replace the jumper plug on pins 1 and 2 of configuration jumper J7A1 to select Normal mode operation.

6. Replace the cover, and start the system.

7. Re-enter the system setup program, and reset the system configuration information.

Technical Specifications: Dell™ Dimension™ L Series Reference

---

Microprocessor

Microprocessor type

Dimension L*xxx*r	Intel® Pentium® III microprocessor that runs at 500, 550, or 600 MHz internally and 100 MHz externally, or a Pentium III processor that runs at 600, 667, 733, 800, 866, or 933 MHz, or 1 GHz internally and 133 MHz externally, or 1.1 GHz internally and 100 MHz externally
Dimension L*xxx*cxe	Intel Celeron™ processor that runs at 700 or 800 MHz internally and 100 MHz externally
Dimension L*xxx*cx	Intel Celeron processor that runs at 433, 500, 533, 566, 600, 633, 667, 700, or 733 MHz internally and 66 MHz externally or 700 or 800 MHz internally and 100 MHz externally
Dimension L*xxx*c	Intel Celeron processor that runs at 400, 433, 466, or 500 MHz internally and 66 MHz externally

NOTE: Microprocessor offerings vary by country.

L1 cache	32-KB instruction and data cache
L2 cache	
Pentium III processor	256-KB Advanced Transfer Cache that resides in the processor's core. The L2 cache runs at the processor's internal clock speed.
Celeron processor	128-KB SRAM
Microprocessor mounting	socket 370
Math coprocessor	internal to processor

System Information

System chip set

Dimension L*xxx*r and L*xxx*cx	Intel 810e chip set
Dimension L*xxx*c and L*xxx*cxe	Intel 810 chip set
Data bus width	64 bits
Address bus width	32 bits
DMA channels	two
Interrupt levels	15
System BIOS chip	4 Mb (512 KB)
System clock	
Dimension L*xxx*r	100 or 133 MHz (matches external processor speed)
Dimension L*xxx*c, L*xxx*cx, and	66 or 100 MHz (matches external processor speed)

Expansion Bus

Bus type	PCI (version 2.2)
Bus speed	33 MHz
Expansion-card connectors	supports four three-quarter-length PCI expansion cards
Expansion-card connector size	120 pins
Expansion-card connector data width (maximum)	32 bits

Memory

Architecture	non-ECC SDRAM 168-pin modules
DIMM sockets	two; gold contacts
DIMM capacities	32, 64, 128, 256, and 512 MB
Minimum RAM	32 MB (64 MB for systems running Microsoft® Windows NT®)[1]
Maximum RAM	512 MB
Frequency	100 MHz
Clock cycle	10 ns (supports four clocks only)
CAS latency	three
SPD revision	1.2
Buffering	unbuffered
Voltage	3.3 V
Data bus width	64 bits
BIOS address	F0000h

[1] *Video memory uses 1 or 2 MB of system memory (RAM). Total RAM reported is 1 or 2 MB less than RAM installed.*

Drives

Externally accessible	one 5.25-inch bay and two 3.5-inch bays
Internally accessible	one bay for 1-inch-high EIDE hard-disk drive

Ports

Externally accessible

Serial (DTE)	9-pin connector; 16550C-compatible
Parallel	25-hole connector (bidirectional)
Video	15-hole connector
PS/2-style keyboard	6-pin mini-DIN connector
PS/2-compatible mouse	6-pin mini-DIN connector
MIDI/game[2]	one 15-pin connector
USB	two USB-compliant connectors
Audio[2]	three miniature jacks for line in, line out, and microphone
Network[2]	RJ45 jack

Internally accessible

Primary EIDE	40-pin connector on PCI bus
Secondary EIDE	40-pin connector on PCI bus
Diskette drive	34-pin connector

[2] Present only on systems with integrated audio and network capabilities.

Video

Video controller

Dimension L*xxx*r and L*xxx*cx	Intel 810e chip set with Dynamic Video Memory and 4-MB display cache memory
Dimension L*xxx*cxe	Intel 810 chip set with Dynamic Video Memory
Dimension L*xxx*c	Intel 810 chip set with Dynamic Video Memory and 4-MB display cache memory

Audio

Audio controller[2]	Creative Sound Blaster Audio PCI chip with 64-voice wavetable synthesis

[2] Present only on systems with integrated audio and network capabilities.

Network

NIC[2]	Intel Pro 10/100-Mbps 82559 chip

[2] Present only on systems with integrated audio and network capabilities.

Power

DC power supply

Wattage	145 W
Heat dissipation	700 BTU (fully loaded system without monitor)
Voltage (switch selectable on back panel)	90 to 135 V at 60 Hz; 180 to 265 V at 50 Hz; 100 V at 50 to 60 Hz for Japanese systems
Backup battery	3-V CR2032 coin cell

Physical

Height	39 cm (15.375 inches)
Width	16.8 cm (6.625 inches)
Depth	34 cm (13.375 inches)
Weight	9.9 kg (22 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	27-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 10,668 m (–50 to 35,000 ft)

[3] *At 35°C (95°F), the maximum operating altitude is 914 m (3000 ft).*

Regulatory Notices

FCC (U.S. only)	Class B
IC Notice (Canada only)	Class B
CE Notice	Class B
VCCI Notice (Japan only)	Class B
NOM O24 Information (Mexico only)	

IRQ Assignments

IRQ Line	System Resource	IRQ Line	System Resource
IRQ0	System timer	IRQ8	RTC
IRQ1	Keyboard buffer	IRQ9	Available
IRQ2	Enables IRQ8 through IRQ15	IRQ10	Available
IRQ3	Available[4]	IRQ11	Available
IRQ4	Serial port	IRQ12	Mouse port
IRQ5	Available	IRQ13	Math coprocessor
IRQ6	Diskette/tape drive controller	IRQ14	Primary EIDE channel
IRQ7	Parallel port	IRQ15	Secondary EIDE channel

[4] *IRQ3 is available provided that no other device in the computer (such as a modem) is using COM2 or COM4.*

Default Dell-Installed Expansion Card Placement

Expansion-Card Slot	Expansion Card
PCI Slot 1	Open
PCI Slot 2	Audio
PCI Slot 3	NIC
PCI Slot 4	Modem

System Setup Program: Dell™ Dimension™ L Series Reference

Overview

Each time you turn on or restart your computer system, the system compares the hardware installed in the system to the hardware listed in the configuration information stored in nonvolatile random-access memory (NVRAM) on the system board. If the system detects a discrepancy between the two, it generates error messages that identify the incorrect configuration settings. The system then prompts you to enter the system setup program to correct the setting.

You can use the system setup program as follows:

  l To change the system configuration information after you add, change, or remove any hardware in your system

  l To set or change user-selectable options — for example, the user password

Dell recommends that you print the system setup program screens (by pressing <Print Screen>) or write down the information for future reference.

The system setup screens are organized as follows:

  l At the top is a menu bar for accessing the main program screens.

  l The box on the left side of each screen lists options that define the installed hardware in the system. Fields next to the options contain settings or values. You can change those that are enclosed in brackets. Values that are grayed out contain status information reported by the system.

  l The box on the right side of each screen displays help information for the option with a currently highlighted field.

  l The bottom right area lists keys and their functions for the currently displayed screen.

The menu bar provides access to the following screens:

  l **Main** screen — Provides settings for the basic system configuration

  l **Advanced** screen — Provides detailed settings for some system features

  l **Security** screen — Provides indications and settings for the system password and setup password

  l **Boot** screen — Provides information about which device boots the system

  l **Exit** screen — Provides selections for saving and loading the configurations and

In addition to these screens, options identified by a right arrow provide access to submenus.

Entering the System Setup Program

Enter the system setup program as follows:

  1. Turn on (or restart) your system.

  2. When the blue Dell logo appears, press <Del>.

  If you wait too long and the operating system begins to load into memory, *let the system complete the load operation.* Then shut down the system and try again.

Main Screen

```
            Dell Dimension L366c Setup
 ┌──────────────────────────────────────────────────────┐
 │ Main  Advanced   Security   Boot   Exit                │
 └──────────────────────────────────────────────────────┘

   ┌─────────────────────────────────────┬──────────────────────────┐
   │                                     │  Item Specific Help      │
   │  BIOS Version        (AXX)          │                          │
   │  Processor Type      Intel (R) Celeron (TM)                    │
   │  Processor Speed     366 MHz        │                          │
   │  Cache RAM           128 KB         │                          │
   │                                     │                          │
   │  Service Tag         12ABC          │                          │
   │  Total Memory        64 MB          │                          │
   │  Memory Bank 0       SDRAM          │                          │
   │  Memory Bank 1       Not Installed  │                          │
   │                                     ├──────────────────────────┤
   │  System Time:        [ 09:28:041]   │  ←→    Select Menu       │
   │  System Date:        [ 04/09/1999 ] │  ↑↓    Select Item       │
   │                                     │  Enter Select ▶ Submenu  │
   │                                     │  F9    Setup Defaults    │
   │                                     │  F10   Save and Exit     │
   │                                     │  ESC   Exit              │
   │                                     │  F1    Help              │
   └─────────────────────────────────────┴──────────────────────────┘
```

Table 1. Main Screen Menu Options

Option	Function
BIOS Version	Displays the version of the BIOS being used.
Processor Type	Displays the type of microprocessor installed.
Processor Speed	Displays the internal speed of the microprocessor.
Cache RAM	Displays the cache random access memory.
Service Tag	Displays the service tag for the system.
Total Memory	Displays the total system memory.
Memory Bank 0	Displays the memory installed in memory bank 0.
Memory Bank 1	Displays the memory installed in memory bank 1.
Processor Serial Number	NOTE: This option is available only on Dell Dimension Lxxxr computers. Displays the serial number of the processor when set to **Enabled**. **Disabled** (default) turns off this feature.
System Time	Resets the time on the system's internal clock.
System Date	Resets the date on the system's internal calendar.

Advanced Screen

```
            Dell Dimension L366c Setup
 ┌──────────────────────────────────────────────────────┐
 │ Main  Advanced   Security   Boot   Exit                │
 └──────────────────────────────────────────────────────┘

   ┌─────────────────────────────────────┬──────────────────────────┐
   │  Setup Warning                      │  Item Specific Help      │
   │                                     │                          │
   │  Setting Items on this menu to      │                          │
   │  incorrect values                   │  Reset                   │
   │  may cause your system to malfunction.                        │
   │                                     │                          │
   │  ▶ Boot Configuration               │                          │
   │  ▶ Peripheral Configuration         │                          │
   │  ▶ IDE Configuration                │                          │
   │  ▶ Diskette Configuration           │                          │
   │  ▶ Event Log Configuration          ├──────────────────────────┤
   │  ▶ Video Configuration              │  ←→    Select Menu       │
   │                                     │  ↑↓    Select Item       │
   │                                     │  Enter Select ▶ Submenu  │
   │                                     │  F9    Setup Defaults    │
   │                                     │  F10   Save and Exit     │
   │                                     │  ESC   Exit              │
   │                                     │  F1    Help              │
   └─────────────────────────────────────┴──────────────────────────┘
```

Table 2. Advanced Screen Menu Options

Option	Function
Boot Configuration	Displays the **Boot Configuration** submenu.

Peripheral Configuration	Displays the **Peripheral Configuration** submenu.
IDE Configuration	Displays the **IDE Configuration** submenu.
Diskette Configuration	Displays the **Diskette Configuration** submenu.
Event Log Configuration	Displays the **Event Log Configuration** submenu.
Video Configuration	Displays the **Video Configuration** submenu.

Boot Configuration Submenu

```
                    Dell Dimension L366c Setup

        Advanced

           Boot Configuration                    Item Specific Help

    Plug and Play OS            [ No ]
    Reset Config Data           [ No ]
    Numlock                     [ On ]




                                            ↔      Select Menu
                                            ↑↓     Select Item
                                            Enter  Select ▶ Submenu
                                            F9     Setup Defaults
                                            F10    Save and Exit
                                            ESC    Exit
                                            F1     Help
```

Table 3. Boot Configuration Submenu Options

Option	Function
Plug and Play OS	Determines whether the system is configured to support Plug and Play devices from the operating system or from the system BIOS. Leave this option set to **No** so that the BIOS handles all Plug and Play operations. *NOTE: Be sure that this option is set to **No** before running Dell Diagnostics. Otherwise, some diagnostics may incorrectly report failures.*
Reset Config Data	Permits resetting of the Plug and Play configuration data to default values. **Yes** resets the data; **No** (default) retains the current Plug and Play settings. If set to **Yes**, configuration data reverts to default values the next time the system boots. This option automatically reverts back to the **No** setting.
Numlock	Selects the power-on state for **Numlock**.

Peripheral Configuration Submenu

```
                    Dell Dimension L366c Setup

        Advanced

         Peripheral Configuration                Item Specific Help

    Serial port A:             [ Auto ]
    Parallel port:             [ Auto ]
        Mode:                  [ ECP ]

    Audio Device               [ Disabled ]
    LAN Device                 [ Disabled ]
    Legacy USB Support:        [ Disabled ]

    IRQ5                       [ Reserved ]
                                            ↔      Select Menu
                                            ↑↓     Select Item
                                            Enter  Select ▶ Submenu
                                            F9     Setup Defaults
                                            F10    Save and Exit
                                            ESC    Exit
                                            F1     Help
```

Table 4. Peripheral Configuration Submenu Options

Option	Function
Serial port A	Configures the serial port. Set this option to **Auto** (default), **Enabled**, or **Disabled**. Depending on the port setting, you can set

	the following additional options:
	Base I/O Address If port is set to **Enabled**, available I/O addresses are **3F8**, **3E8**, **2F8**, and **2E8**.
	Interrupt If port is set to **Enabled**, available interrupts are **IRQ3** and **IRQ4**.
Parallel port	Configures the parallel port. Set this option to **Auto** (default), **Enabled**, or **Disabled**. Depending on the port setting, you can set the following additional options:
	Mode If port is set to **Auto** or **Enabled**, available modes are **Output Only**, **Bi-directional**, **ECP** (default), and **EPP**.
	NOTE: Before changing this setting, refer to the device manufacturer's documentation for information on which mode to use.
	Base I/O Address If port is set to **Enabled**, available I/O addresses are **378** (default), **278,** and **228**.
	Interrupt If port is set to **Enabled**, available interrupts are **7** and **5**.
Audio Device	*NOTE: This option is available in integrated audio systems only.*
	Determines if the integrated audio controller is **Enabled** (default) or **Disabled**. Set this option to **Disabled** if you are using a sound card instead of the integrated audio controller or if the resources used by the controller are needed.
LAN Device	*NOTE: This option is available in integrated NIC systems only.*
	Determines if the integrated NIC is **Enabled** (default) or **Disabled**. Set this option to **Disabled** if you are using a network card instead of the integrated NIC or if the resources used by the controller are needed.
Legacy USB Support	Set to **Disabled** if legacy USB support is not desired. **Auto** (default) and **Enabled** allow support for legacy USB.
IRQ5	**Reserved** (default) indicates that the IRQ is reserved for use by legacy systems. **Available** indicates that a specific IRQ is available on the system.

IDE Configuration Submenu

Table 5. IDE Configuration Submenu Options

Option	Function
IDE Controller	Configures the integrated primary and secondary EIDE controllers and detects the types of drives attached to them. If set to **Primary**, **Secondary**, or **Both**, the designated controller(s) are enabled, and the types of drives attached are displayed. If set to either **Primary** or **Secondary**, the other controller is not enabled and the IRQ it normally uses becomes available. If set to **Disabled**, the system cannot detect any drives attached to the controllers and displays **None** for all four IDE drive options.
Primary IDE Master	Identifies the first drive attached to the primary EIDE interface, usually the boot hard-disk drive. See "Primary IDE Master Submenu."
Primary IDE Slave	Identifies the second drive attached to the primary EIDE interface, usually a second hard-disk drive. The format of this submenu is the same as the one described in "Primary IDE Master Submenu"
Secondary IDE Master	Identifies the first drive attached to the secondary EIDE interface, if there is one. The format of this submenu is the same as the one described in "Primary IDE Master Submenu."

Secondary IDE Slave	Identifies the second drive attached to the secondary EIDE interface, usually a CD-ROM or tape drive. The format of this submenu is the same as the one described in ""

Primary IDE Master Submenu

```
                        Dell Dimension L366c Setup

         Advanced

         Primary IDE Master [ IBM-DHEA-38451 ]          Item Specific Help

    Type:                        [ User ]


    LBA Mode Control:            [ Enabled ]
    Multi-Sector Transfers:      [ 16 Sectors ]
    PIO Mode:                    [ PIO 4 ]
    Ultra DMA:                   [ Mode 2 ]

                                                  ↔       Select Menu
                                                  ↑↓      Select Item
                                                  Enter   Select ▶ Submenu
                                                  F9      Setup Defaults
                                                  F10     Save and Exit
                                                  ESC     Exit
                                                  F1      Help
```

Table 6. Primary IDE Master Submenu Options

Option	Function
Type	Specifies the type of hard-disk drive. Settings for this option are **User**, **Auto**, **CD-ROM**, **ATAPI Removable**, **Other ATAPI**, **IDE Removable**, and **None**.
LBA Mode Control	Determines LBA mode control. Set to **Enabled** (default) unless directed to change it by a Dell technical support representative.
Multi-Sector Transfers	Determines the number of sectors per block during multiple-sector transfers. If **Type** is set to **User**, set **Multi-Sector Transfers** to **2 Sectors**, **4 Sectors**, **8 Sectors**, **16 Sectors**, or **Disabled** (turns off the feature).
PIO Mode	Determines the method of moving data to and from the EIDE drive. Options include PIO modes 0, 1, 2, 3, and 4. The PIO modes can improve the performance of a hard-disk drive. (The higher the PIO number, the faster the transfer; most newer drives support **PIO 4**.) For the optimum transfer mode, set **Type** to **Auto**.
Ultra DMA	Sets the Ultra DMA mode for the drive. Options are **Disabled** (default), **Mode 0**, **Mode 1**, **Mode 2**, **Mode 3**, or **Mode 4**.

Diskette Configuration Submenu

```
                        Dell Dimension L366c Setup

      Advanced

            Diskette Options                         Item Specific Help

    Diskette controller:       [ Enabled ]
    Diskette A:      [ 1.44/1.25 MB 3 1/2" ]
    Diskette Write Protect:   [ Disabled ]




                                                  ↔       Select Menu
                                                  ↑↓      Select Item
                                                  Enter   Select ▶ Submenu
                                                  F9      Setup Defaults
                                                  F10     Save and Exit
                                                  ESC     Exit
                                                  F1      Help
```

Table 7. Diskette Configuration Submenu Options

Option	Function
Diskette controller	Configures the diskette drive interface. Options are **Enabled** (default) and **Disabled**.
Diskette A	Selects the diskette type from **Not Installed**, **360 KB 5 1/4"**, **1.2 MB 5 1/4"**, **720 KB 3 1/2"**, **1.44/1.25 MB 3 1/2"**, or **2.88 MB 3 1/2"**.

| Diskette Write Protect | Protects a diskette from being written to when set to **Enabled**. When this option is set to **Disabled** (default), the diskette is not protected unless the write-protect tab is in place. |

Event Log Configuration Submenu

Table 8. Event Log Configuration Submenu Options

Option	Function
Event Log	Displays the space available for the event log.
Event Log Validity	Displays the validity of the event log.
View Event Log	Press <Enter> to view the event log.
Clear All Event Logs	Clears all event logs when the system restarts if set to **Yes**. Retains the event log information if set to **No** (default).
Event Logging	Enables or disables event logging.
Mark Events As Read	Press <Enter>, and then select **Yes** or **No** to mark DMI events as either read or unread.

Video Configuration Submenu

Table 9. Video Configuration Submenu Option

Option	Function
Primary Video Adapter	Selects **Onboard** or **PCI** as the active video controller when the system boots.

Security Screen

```
                    Dell Dimension L366c Setup
┌──────────────────────────────────────────────────────────────────────────┐
│  Main    Advanced    Security    Boot    Exit                              │
└──────────────────────────────────────────────────────────────────────────┘
┌───────────────────────────────────────────┬──────────────────────────────┐
│              Security                       │     Item Specific Help       │
│                                             │                              │
│  Supervisor Password Is:       Not Installed│                              │
│  User Password Is:             Not Installed│                              │
│                                             │                              │
│  Set Supervisor Password       [ Enter ]    │                              │
│  Set User Password             [ Enter ]    │                              │
│                                             │                              │
│  Clear User Password           [ No ]       │                              │
│                                             ├──────────────────────────────┤
│                                             │  ↔       Select Menu         │
│                                             │  ↑↓      Select Item         │
│                                             │  Enter   Select ▶ Submenu    │
│                                             │  F9      Setup Defaults      │
│                                             │  F10     Save and Exit       │
│                                             │  ESC     Exit                │
│                                             │  F1      Help                │
└───────────────────────────────────────────┴──────────────────────────────┘
```

Table 10. Security Screen Options

Option	Function
Supervisor Password Is	Indicates whether a supervisor password has been assigned.
User Password Is	Indicates whether a user password has been assigned.
Set Supervisor Password	Sets and confirms a supervisor password.
Set User Password	Sets and confirms a user password.
Clear User Password	Clears the user password. Settings for this option are **Yes** or **No** (default).

Boot Screen

```
                    Dell Dimension L366c Setup
┌──────────────────────────────────────────────────────────────────────────┐
│  Main    Advanced    Security    Boot    Exit                              │
└──────────────────────────────────────────────────────────────────────────┘
┌───────────────────────────────────────────┬──────────────────────────────┐
│  Quiet Boot              [ Enabled ]        │     Item Specific Help       │
│  Quick Boot              [ Disabled ]       │                              │
│                                             │                              │
│  Restore On AC/Power Loss:  [ Last State ]  │                              │
│  On LAN                  [ Power On ]        │                              │
│  On PME                  [ Stay Off ]        │                              │
│                                             │                              │
│  1st Boot Device     [ Removable Devices ]  │                              │
│  2nd Boot Device     [ Hard Drive ]         │                              │
│  3rd Boot Device     [ ATAPI CD-ROM Drive ] ├──────────────────────────────┤
│  4th Boot Device     [ Network Boot ]       │  ↔       Select Menu         │
│                                             │  ↑↓      Select Item         │
│                                             │  Enter   Select ▶ Submenu    │
│                                             │  F9      Setup Defaults      │
│                                             │  F10     Save and Exit       │
│                                             │  ESC     Exit                │
│                                             │  F1      Help                │
└───────────────────────────────────────────┴──────────────────────────────┘
```

Table 11. Boot Screen Options

Option	Function
Quiet Boot	**Enabled** (default) displays the Dell logo. **Disabled** displays the normal POST messages.
Quick Boot	When set to **Enabled**, this option shortens the POST by eliminating some tests. If set to **Disabled** (default), all POST tests occur.
Restore on AC/ Power Loss	Determines what state the system enters when AC power is restored after a power loss. Settings are as follows: l **Last State** (default) — System returns to the state it was in when power was lost. l **Stays Off** — System stays off when power is restored; you must press the power button to restore power. l **Power On** — System starts up when power is restored.
On LAN	This option controls how the system responds to a Wakeup On LAN event. The settings for this option are **Power On** or **Stays Off**.

On PME	This option controls how the system responds to a PCI power management enabled (PME) wakeup event. The settings for this option are **Power On** or **Stays Off** (default).

1st Boot Device	*Dell Dimension Lxxxcx, Lxxxcxe, and Lxxxr:*
	
	Determines which device the system tries to boot from first. Use the up- or down-arrow key to to highlight a device. Settings for this option are as follows:
	
	   ₗ **Floppy**
	
	   ₗ **ARMD FDD**
	
	   ₗ **ARMD HDD**
	
	   ₗ **IDE-HDD**
	
	   ₗ **ATAPI CD-ROM**
	
	   ₗ **SCSI***
	
	   ₗ **Network***
	
	   ₗ **Disabled**
	
	Dell Dimension Lxxxc:
	
	Determines which device the system tries to boot from first. Use the up- or down-arrow key to to highlight a device. Settings for this option are as follows:
	
	   ₗ **Disabled**
	
	   ₗ **1st IDE HDD** through **4th IDE HDD**
	
	   ₗ **Floppy**
	
	   ₗ **ARMD FDD**
	
	   ₗ **ARMD HDD**
	
	   ₗ **ATAPI CD-ROM**
	
	   ₗ **SCSI***
	
	   ₗ **Network***
	
	Where **SCSI or **Network** is the name of the installed device.*

2nd Boot Device	Determines which device the system tries to boot from if it cannot boot from the device selected for **1st Boot Device**. Settings for this option are the same as those for **1st Boot Device** except for **NETWORK**.
3rd Boot Device	Determines which device the system tries to boot from if it cannot boot from the devices selected for **1st Boot Device** and **2nd Boot Device**. Settings for this option are the same as those for **1st Boot Device** except for **NETWORK** and **SCSI**.
4th Boot Device	Determines which device the system tries to boot from if it cannot boot from the devices selected for **1st Boot Device**, **2nd Boot Device**, and **3rd Boot Device**. Settings for this option are the same as those for **1st Boot Device** except for **NETWORK** and **SCSI**.

Exit Screen

```
                   Dell Dimension L366c Setup
┌──────────────────────────────────────────────────────────────┐
│  Main   Advanced   Security   Boot   Exit                      │
└──────────────────────────────────────────────────────────────┘

     ┌──────────────────────────────┬─────────────────────────────┐
     │                              │    Item Specific Help       │
     │    Exit Saving Changes       │                             │
     │    Exit Discarding Changes   │                             │
     │    Load Setup Defaults       │                             │
     │    Load Custom Defaults      │                             │
     │    Save Custom Defaults      │                             │
     │    Discard Changes           │                             │
     │                              │                             │
     │                              ├─────────────────────────────┤
     │                              │  ↔      Select Menu         │
     │                              │  ↑↓     Select Item         │
     │                              │  Enter  Select ▶ Submenu    │
     │                              │  F9     Setup Defaults       │
     │                              │  F10    Save and Exit        │
     │                              │  ESC    Exit                │
     │                              │  F1     Help                │
     └──────────────────────────────┴─────────────────────────────┘
```

Table 12. Exit Screen Options

Option	Function
Exit Saving Changes	Saves any changes you have made, exits the system setup program, and restarts the system.
Exit Discarding Changes	Discards any changes you have made, exits the system setup program, and restarts the system.
Load Setup Defaults	Discards any changes you have made and reverts all options to their defaults, but does not exit the system setup program.
Load Custom Defaults	Loads any settings saved using the **Save Custom Defaults** option. Press <Enter>. Then press the spacebar to select **Yes** or **No** at the confirmation pop-up menu, and press <Enter> again.
Save Custom Defaults	Saves any changes you have made, but does not exit the system setup program.
Discard Changes	Discards any changes you have made and reverts all options to their last saved settings, but does not exit the system setup program.

Clearing NVRAM

To clear NVRAM for all devices and restart the system, perform the following steps:

1. Enter the system setup program.

2. Press the right-arrow key to move to the **Advanced** menu.

3. Press the down-arrow key to highlight the **Boot Configuration** submenu, and press <Enter>.

4. Press the down-arrow key to highlight **Reset Config Data.** Then change the setting to **Yes** (see Table 3).

5. Press <F10> to exit the program and restart the system.

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Technical Overview: Dell™ Dimension™ L Series Reference

- Internal View
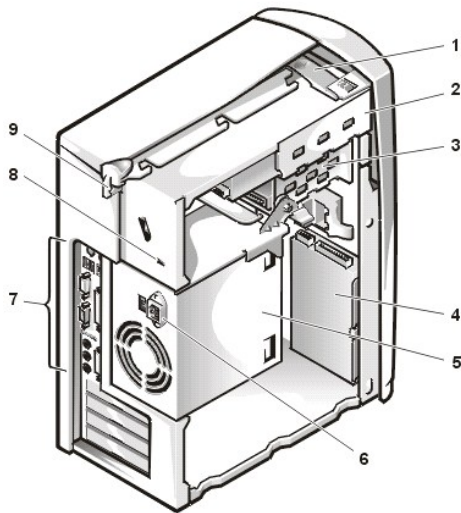- Back-Panel Features
- System Board Connectors and Sockets
- System Board Configuration Jumper

- Power Supply
- DC Power Cables
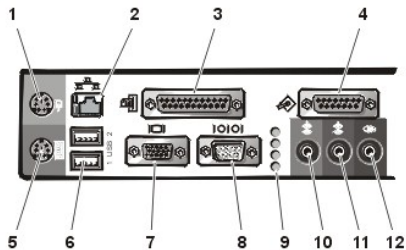- DC Power Connector Pin Assignments

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Internal View

1	Bezel release
2	5.25-inch drive bay
3	3.5-inch drive bays
4	Hard-disk drive
5	Power supply
6	AC power connector
7	I/O panel
8	Security cable slot
9	Release latch and padlock ring

Back-Panel Features

1	Mouse connector
2	Network connector*
3	Parallel port connector
4	MIDI/game port connector*
5	Keyboard connector
6	USB connectors (2)
7	Video connector
8	Serial port connector
9	Diagnostic code indicators (4)
10	Line-out jack*
11	Line-in jack*
12	Microphone jack*

* Present only on systems with integrated audio and NIC.

System Board Connectors and Sockets
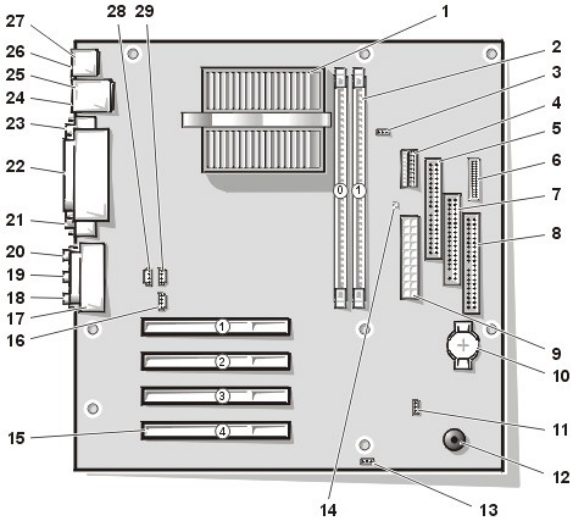
1	Microprocessor connector (J5H1)	**16**	CD-ROM drive audio cable connector (for systems with integrated audio; black color) (CD ROM)
2	DIMM sockets (BANK*n*)	**17**	MIDI/game port connector (for systems with integrated audio) (GAME)
3	Fan connector (J3J1)	**18**	Microphone jack (for systems with integrated audio) (MIC)
4	3.3-V power connector (OPTIONAL POWER)	**19**	Line-out jack (for systems with integrated audio) (LINE OUT)
5	Secondary IDE channel connector (SEC IDE)	**20**	Line-in jack (for systems with integrated audio) (LINE IN)
6	Control panel connector (J9F2)	**21**	Serial port connector (COM1)
7	Diskette drive interface connector (FLOPPY)	**22**	Parallel port connector; sometimes referred to as LPT1 (PARALLEL)
8	Primary EIDE channel connector (PRI IDE)	**23**	Video connector (VIDEO)
9	Power input connector (POWER)	**24**	USB connectors (USB*n*)
10	Battery socket (BATTERY)	**25**	Network connector (for systems with integrated NIC) (NIC)
11	Wakeup On LAN connector (WOL)	**26**	Mouse connector (MOUSE)
12	Speaker (LS9A1)	**27**	Keyboard connector (KEYBD)
13	Configuration jumper (J7A1)	**28**	Auxiliary line-in audio connector (for systems with integrated audio; natural color) (AUX IN)
14	Power indicator	**29**	Modem audio cable connector (for using integrated-audio system as a speaker phone; green color) (TELEPHONY)
15	PCI expansion-card connectors (natural color) (PCI*n*)		

System Board Configuration Jumper

NOTE: The red dot in the jumper denotes pin 1.

Jumper Setting	Jumper	Description
Pins 1-2 jumpered (Normal mode)		In Normal mode, system setup settings and installed passwords are retained when the system starts up. In this mode, an automatic recovery is attempted if the BIOS detects that any of its main blocks are corrupted.
Pins 2-3 jumpered (Maintenance mode)		Starting the system with the jumper set in Maintenance mode automatically starts the system setup program, adds the **Maintenance** option to the menu bar, and displays the **Maintenance** screen. This screen provides the following option. **NOTICE: Entering Maintenance mode returns all settings in the system setup program to their defaults. Dell strongly recommends that you record or print all current settings before entering this mode so that you can correct them when the system is reset to**

| | | | **Normal mode.** |
| | | | **Clear All Passwords** — Disables a forgotten password so that you can access the system and assign new passwords. For the complete password procedure, see "Disabling a Forgotten Password" in Appendix B of the *Dell Dimension L Series Reference and Troubleshooting Guide.* |

Power Supply

The 145-watt (W) power supply can operate from an AC power source of 115 volts AC (VAC) at 60 hertz (Hz) or 230 VAC at 50 Hz. The power supply provides the DC operating voltages and currents listed in the following table.

✎ *NOTE: The power supply produces DC voltages only under its loaded condition. The DC power cable connectors must be connected to their corresponding power input connectors on the system board or drives to measure these voltages.*

DC Voltage Ranges

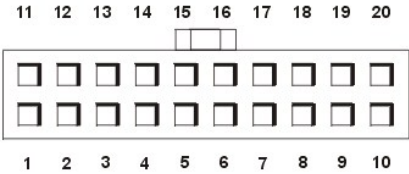| Voltage	Range	Maximum Output Current	Notes
+3.3 VDC	+3.14 to +3.47 VDC	10.00 A	The combined load on the +3.3-VDC and +5-VDC outputs cannot exceed 85 W.
+5 VDC	+4.90 to +5.25 VDC	16.00 A	The combined load on the +3.3-VDC and +5-VDC outputs cannot exceed 85 W.
–5 VDC	–4.50 to –5.50 VDC	0.300 A	
+12 VDC	+11.40 to +12.60 VDC	4.5 A	The +12-VDC output can withstand surges of up to 11.0 A to support disk start-up operations.
–12 VDC	–10.80 to –13.20 VDC	0.300 A	
+5 VSB	+4.75 to +5.25 VDC	1.2 A	The +5 volts standby (VSB) is sometimes called volts flea power (VFP).

DC Power Cables
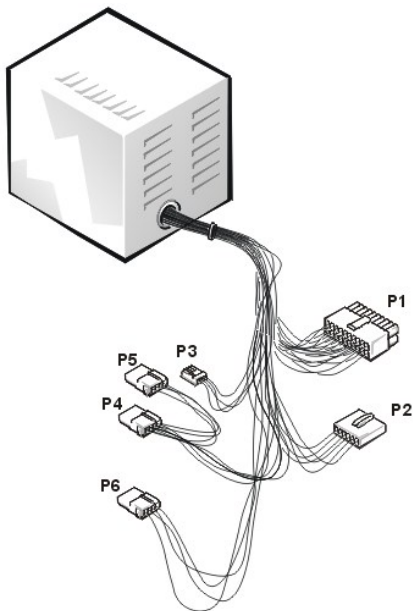
DC Power Connector Pin Assignments

The power-supply output voltages can be measured at the back (wire side) of the DC power connectors without disconnecting them. The following figures show the wire side of the connectors:
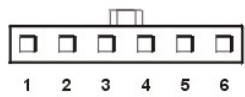
DC Power Connector P1

11	PSON#[2] (brown)	
12	Common (black)	

Pin diagram: 11 12 13 14 15 16 17 18 19 20 (top row), 1 2 3 4 5 6 7 8 9 10 (bottom row)

1	+5 VDC (red)	**11**	PSON#[2] (brown)
2	Common (black)	**12**	Common (black)
3	+5 VDC (red)	**13**	Common (black)
4	Common (black)	**14**	Common (black)
5	PWRGOOD[1] (orange)	**15**	−5 VDC (white)
6	+5 VFP (purple)	**16**	+5 VDC (red)
7	+12 VDC (yellow)	**17**	+5 VDC (red)
8	−12 VDC (blue)	**18**	+5 VDC (red)
9	Common (black)	**19**	Not connected
10	Common (black)	**20**	+5 VDC (red)

[1] *Pin 5 — PWRGOOD is a status signal generated by the power supply to notify the system that the DC operating voltages are within the ranges required for proper system operation.*

[2] *Pin 11 — PSON# is activated by pressing and releasing the power button while the power supply is in standby state. Activating PSON# connects the power supply's PSON# input to ground, thereby switching the power supply to full-on condition.*
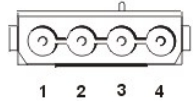
DC Power Connector P2

Pin diagram: 1 2 3 4 5 6

1	Common (black)
2	Common (black)
3	Common (black)
4	+3.3 VDC (orange)
5	+3.3 VDC (orange)
6	+3.3 VDC (orange)

DC Power Connector P3

Pin diagram: 1 2 3 4
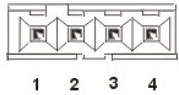
1	+12 VDC (yellow)
2	Common (black)
3	Common (black)
4	+5 VDC (red)

DC Power Connectors P4, P5, and P6

Pin diagram: 1 2 3 4

1	+12 VDC (yellow)
2	Common (black)
3	Common (black)
4	+5 VDC (red)