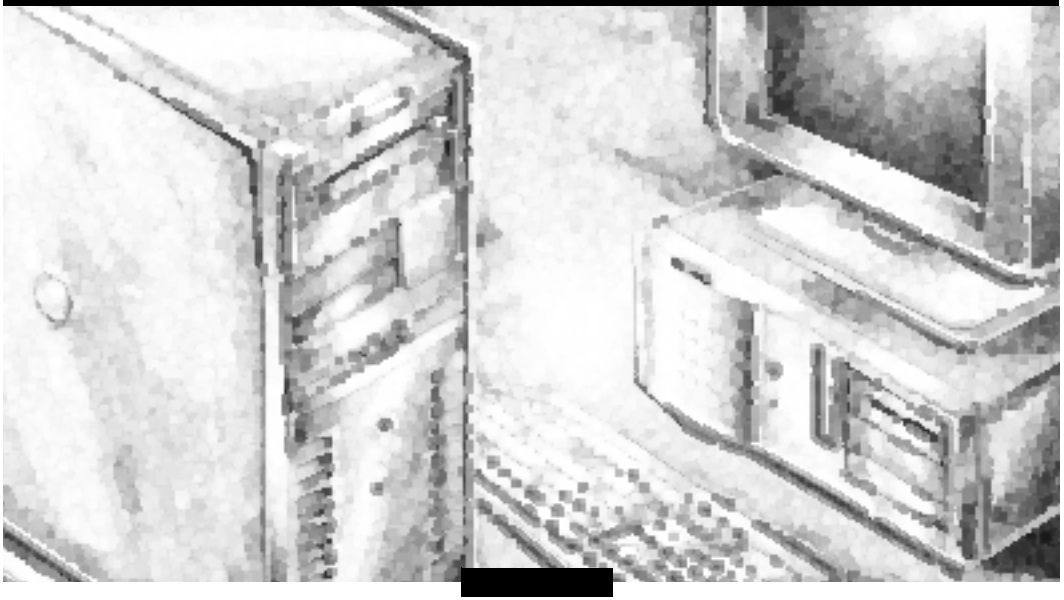
Dell Dimension™ XPS H233 System

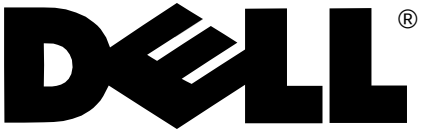
REFERENCE GUIDE



Model MMS

Dell Dimension™ XPS H233 System

REFERENCE GUIDE



January 1997 P/N 84974

Safety Instructions

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

When Using Your Computer System

As you use your computer system, observe the following safety guidelines:

- To help avoid damaging your computer, be sure the voltage selection switch on the power supply is set to match the alternating current (AC) power available at your location:
  - — 115 volts (V)/60 hertz (Hz) in most of North and South America and some Far Eastern countries such as Japan, South Korea, and Taiwan
  - — 230 V/50 Hz in most of Europe, the Middle East, and the Far East

  Also be sure your monitor and attached peripherals are electrically rated to operate with the AC power available in your location.
- To help avoid possible damage to the system board, wait 5 seconds after turning off the system before removing a component from the system board or disconnecting a peripheral device from the computer.
- To help prevent electric shock, plug the computer and peripheral power cables into properly grounded power sources. These cables are equipped with 3-prong plugs to help ensure proper grounding. Do not use adapter plugs or remove the grounding prong from a cable. If you must use an extension cable, use a 3-wire cable with properly grounded plugs.
- To help protect your computer system from sudden, transient increases and decreases in electrical power, use a surge suppressor, line conditioner, or uninterruptible power supply.
- Be sure nothing rests on your computer system's cables and that the cables are not located where they can be stepped on or tripped over.
- Do not spill food or liquids on your computer. If the computer gets wet, consult your *Diagnostics and Troubleshooting Guide*.
- Do not push any objects into the openings of your computer. Doing so can cause fire or electric shock by shorting out interior components.
- Keep your computer away from radiators and heat sources. Also, do not block cooling vents. Avoid placing loose papers underneath your computer; do not place your computer in a closed-in wall unit or on a bed, sofa, or rug.

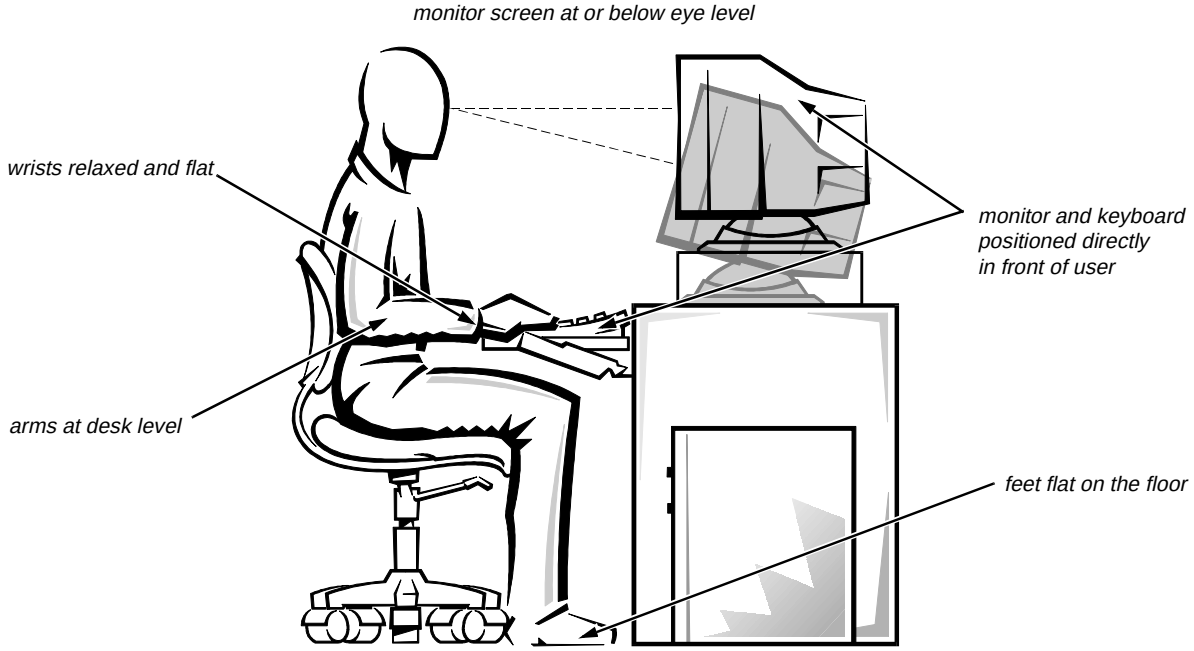
Ergonomic Computing Habits

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

For comfort and efficiency, observe the following ergonomic guidelines when setting up and using your computer system:

- Position your system so that the monitor and keyboard are directly in front of you as you work. Special shelves are available (from Dell and other sources) to help you correctly position your keyboard.

- Set the monitor at a comfortable viewing distance (usually 510 to 610 millimeters [20 to 24 inches] from your eyes).
- Make sure the monitor screen is at eye level or slightly lower when you are sitting in front of the monitor.
- Adjust the tilt of the monitor, its contrast and brightness settings, and the lighting around you (such as overhead lights, desk lamps, and the curtains or blinds on nearby windows) to minimize reflections and glare on the monitor screen.
- Use a chair that provides good lower back support.
- Keep your forearms horizontal with your wrists in a neutral, comfortable position while using the keyboard or mouse.
- Always leave space to rest your hands while using the keyboard or mouse.
- Let your upper arms hang naturally at your sides.
- Sit erect, with your feet resting on the floor and your thighs level.
- When sitting, make sure the weight of your legs is on your feet and not on the front of your chair seat. Adjust your chair's height or use a footrest, if necessary, to maintain proper posture.
- Vary your work activities. Try to organize your work so that you do not have to type for extended periods of time. When you stop typing, try to do things that use both hands.



When Working Inside Your Computer

Before you remove the computer cover, perform the following steps in the sequence indicated.

CAUTIONS: Do not attempt to service the computer system yourself, except as explained in this guide and elsewhere in Dell documentation. Always follow installation and service instructions closely.

To help avoid possible damage to the system board, wait 5 seconds after turning off the system before removing a component from the system board or disconnecting a peripheral device from the computer.

1. **Turn off your computer and any peripherals.**
2. **Disconnect your computer and peripherals from their power sources. Also, disconnect any telephone or telecommunication lines from the computer.**

   Doing so reduces the potential for personal injury or shock.
3. **Touch an unpainted metal surface on the chassis, such as the metal around the card-slot openings at the back of the computer, before touching anything inside your computer.**

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

In addition, take note of these safety guidelines when appropriate:

- When you disconnect a cable, pull on its connector or on its strain-relief loop, not on the cable itself. Some cables have a connector with locking tabs; if you are disconnecting this type of cable, press in on the locking tabs before disconnecting the cable. As you pull connectors apart, keep them evenly aligned to avoid bending any connector pins. Also, before you connect a cable, make sure both connectors are correctly oriented and aligned.
- Handle components and cards with care. Don't touch the components or contacts on a card. Hold a card by its edges or by its metal mounting bracket. Hold a component such as a microprocessor chip by its edges, not by its pins.

Protecting Against Electrostatic Discharge

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

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

In addition to the preceding precautions, you can also take the following steps to prevent damage from electrostatic discharge (ESD):

- When unpacking a static-sensitive component from its shipping carton, do not remove the component from the antistatic packing material until you are ready to install the component in your computer. Just before unwrapping the antistatic packaging, be sure to discharge static electricity from your body.
- When transporting a sensitive component, first place it in an antistatic container or packaging.
- Handle all sensitive components in a static-safe area. If possible, use antistatic floor pads and workbench pads.

The following caution may appear throughout this document to remind you of these precautions:

CAUTION: See "Protecting Against Electrostatic Discharge" in the safety instructions at the front of this guide.

Preface

About This Guide

This guide is intended for anyone who uses a Dell Dimension XPS H233 computer system. It can be used by both first-time and experienced computer users who want to learn about the computer. The chapters and appendixes are summarized as follows:

- Everyone should read Chapter 1, "Introduction," for an overview of system features, instructions on accessing the online *System User's Guide*, and information on getting help if you need it.
- Everyone should read Chapter 2, "Using Configuration Software," to familiarize themselves with the system setup program and ISA Configuration Utility. Users who want to make configuration changes to their systems or who want to use the password features can get full descriptions of these programs in the online *System User's Guide*.
- Chapter 3, "Inside Your Computer," is intended for users who need to remove the computer cover to access internal components. The procedures for installing any upgrades are included in the online *System User's Guide*.
- Appendix A, "Beep Codes and System Messages," documents status and error messages generated by the computer's basic input/output system (BIOS) and the ISA Configuration Utility. Included are possible causes and corrective actions.
- Appendix B, "Regulatory Notices," is for users who are interested in which regulatory agencies have tested and approved the Dell Dimension XPS H233 system.
- Appendix C, "Warranties and Return Policy," describes the warranty for your Dell system and the "total satisfaction" return policy.

Warranty and Return Policy Information

Dell Computer Corporation ("Dell") manufactures its hardware products from parts and components that are new or equivalent to new in accordance with industry-standard practices. For information about the Dell warranty for your system, see Appendix C, "Warranties and Return Policy."

Other Documents You May Need

Besides this *Reference Guide*, the following documentation is included with your system:

- The *Getting Started* sheet provides the steps for setting up your computer system.
- The Windows-based online *System User's Guide* contains important information about your computer system, including descriptions of system features and software, instructions for attaching devices to the connectors on your computer's back panel, and procedures for performing various upgrades such as installing additional memory or drives.
- The *Diagnostics and Troubleshooting Guide* includes troubleshooting procedures and instructions for using the diskette-based diagnostics to test your computer system.

You may also have one or more of the following documents.

NOTE: Documentation updates are sometimes included with your system to describe changes to your system or software. Always read these updates ***before*** *consulting any other documentation because the updates often contain the latest information.*

- Operating system documentation is included if you ordered your operating system software from Dell. This documentation describes how to install (if necessary), configure, and use your operating system software.
- Video card documentation from the card manufacturer describes the video drivers included with the system. Only users who want to change the default video driver or reinstall the video driver need to read this documentation in detail.
- Documentation is included with any options you purchase separately from your system. This documentation includes information that you need if you plan to configure and install these options in your Dell computer. Installation instructions for the options are included in the online *System User's Guide*.
- The *Dell Service and Support Policies* is an online reference to Dell's service and support policies, guarantees, and warranties. It applies to the United States only. The *Dell Service and Support Policies* is located in the Dell Accessories group or folder.
- Technical information files—sometimes called "readme" files—may be installed on your hard-disk drive to provide last-minute updates about technical changes to your system or advanced technical reference material intended for experienced users or technicians.

Notational Conventions

The following subsections describe notational conventions used in this document.

Warnings, Cautions, and Notes

Throughout this guide, there may be blocks of text printed in bold type within boxes or in italic type. These blocks are warnings, cautions, and notes, and they are used as follows:

WARNING: A WARNING indicates the potential for bodily harm and tells you how to avoid the problem.

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

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

Typographical Conventions

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

- *Keycaps*, the labeling that appears on the keys on a keyboard, 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><Del>

- *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**

- *Command lines* consist of a command and may include one or more of the command's possible parameters. Command lines are presented in the Courier New font.

  Example: `del c:\myfile.doc`

- *Screen text* is text that appears on the screen of your monitor or display. It can be a system message, for example, or it can be 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 message `No boot device available` appears on your screen.

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

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

  Example: SIMM*n* (where *n* represents the SIMM socket designation)

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Chapter 1
Introduction

The Dell Dimension™ XPS H233 computer system is a high-speed personal computer designed around an Intel® microprocessor with MMX™ technology. This system combines high-performance Peripheral Component Interconnect (PCI) design with Industry-Standard Architecture (ISA) design, allowing a wide range of initial configurations and upgrade possibilities.

This chapter describes the major hardware and software features of your computer, provides information about accessing the online documentation, and tells you how to obtain help if you need it.

System Features

Your Dell® computer offers the following features:

- An Intel microprocessor that runs at an internal speed of 233 megahertz (MHz) and an external speed of 66 MHz.

  The Intel microprocessor in your computer includes MMX technology designed to handle complex multimedia and communications software. This microprocessor incorporates new instructions and data types as well as a technique called Single Instruction, Multiple Data (SIMD) that allows the microprocessor to process multiple data elements in parallel, thereby improving overall system performance.

- A secondary cache of 512 kilobytes (KB) of static random-access memory (SRAM) is included within the single-edge contact (SEC) cartridge, which also contains the microprocessor. Math coprocessor functionality is internal to the microprocessor.

- A high-speed, high-resolution PCI video card that takes advantage of the computer's local bus. (Documentation from the video card manufacturer is included with your system.)

- Memory that can be increased up to 128 megabytes (MB) by installing two or four 16- or 32-MB extended-data out (EDO) single in-line memory modules (SIMMs) in the four SIMM sockets on the system board. EDO memory devices offer improved performance over fast-page-mode devices because they extend the time that data is held after a read cycle ends. This extension allows the next read cycle to begin while the data is still being latched from the previous read cycle.

  The system provides error correction code (ECC) capability whenever parity SIMMs are used. The system's ECC capability corrects all single-bit memory errors and detects all multibit memory errors. If you mix parity and nonparity SIMMs, the system does not provide ECC capability.

- Full Plug and Play capability, which can greatly simplify the installation of expansion cards. Plug and Play support included in the system basic input/output system (BIOS) allows you to install Plug and Play expansion cards without setting jumpers or switches or performing other configuration tasks. Also, because the system BIOS is stored in flash memory, it can be updated to support future enhancements to the Plug and Play standard.

The system board includes the following built-in features:

- Three 32-bit PCI expansion slots, through which you can connect high-speed PCI peripherals to the PCI bus—greatly increasing their input/output (I/O) speeds over the speeds attainable using the ISA bus.

- Two 16-bit ISA expansion slots.
- One shared PCI/ISA expansion slot containing both a PCI and an ISA expansion-card connector, only one of which can be used at any given time.
- An integrated diskette drive interface.
- Enhanced integrated drive electronics (EIDE) support. Both EIDE channels are located on the PCI bus to provide faster throughput. The primary EIDE channel supports up to two extremely high-capacity EIDE hard-disk drives, while the secondary EIDE channel supports up to two EIDE CD-ROM drives and/or EIDE tape drives.
- One high-performance serial port and one bidirectional parallel port for connecting external devices. The Parallel Port Type category in the system setup program can be used to set the parallel port for AT, Personal System/2 (PS/2), Extended Capabilities Port (ECP), or Enhanced Parallel Port (EPP) mode.

  NOTE: Options that use ECP mode may come with special drivers that must be installed to use this mode.
- Two Universal Serial Bus (USB) ports, which can simplify connecting peripheral devices such as Keyboards, mice, printers, and computer speakers, if available. The USB connectors on your computer's back panel provide a single connection point for multiple USB-compliant devices. USB-compliant devices can also be connected and disconnected while the system is running.
- A PS/2-style keyboard port and a PS/2-compatible mouse port.

The following software is included with your Dell computer system:

- Microsoft® Windows® 95 or Windows NT® 4.0 or later installed on your hard-disk drive. For more information, see your operating system documentation.
- The system setup program for quickly viewing and changing the system configuration information for your computer. For more information, see "Using the System Setup Program" in the online *System User's Guide*.
- A standard set of video drivers provided with the video card installed in your computer for supporting video resolutions greater than 640 x 480 pixels. Before changing the resolution, check the monitor documentation to determine the supported resolutions and refresh rates. On systems running Windows 95, check the operating system documentation for instructions on changing the resolution.
- Dell diagnostics for evaluating the computer's components and devices. For more information, see your *Diagnostics and Troubleshooting Guide*.

Accessing Online Documentation

The online *System User's Guide* installed on your hard-disk drive contains information on the following topics:

- How to use the online *System User's Guide*
- System features
- Audio controller
- System setup program
- Configuring expansion cards
- Connecting external devices
- Maintaining the system
- Installing system board options
- Installing drives
- Contacting Dell

The guide also contains a glossary of commonly used computer terms and abbreviations.

The *System User's Guide* is located in the Dell Accessories folder.

To print any of the topics from this guide, click the Print button.

NOTE: Text in pop-up windows cannot be printed.

Getting Help

Dell provides a number of tools to help you if you don't understand a procedure described in this guide or if your system does not perform as expected. For information on these help tools, see the chapter titled "Getting Help" in your *Diagnostics and Troubleshooting Guide* or the "Contacting Dell" section in the online *System User's Guide.*

Chapter 2
Using Configuration Software

This chapter provides an overview of two important programs that you may need to use with your computer system—the system setup program and the ISA Configuration Utility. Both of these programs are used to configure your computer system, and the system setup program is additionally used to enable and disable your system's password features. This chapter introduces these programs and tells you how to start them. Besides the online help provided in both of these programs, you can find complete descriptions of their features and functions in the online *System User's Guide*.

System Setup Program

Each time you turn on your computer system or press the reset button, 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:

- To change the system configuration information after you add, change, or remove any hardware in your system
- To set or change user-selectable options—for example, the time or date on your system

After you make changes to system setup program settings, you have the option of rebooting the system to implement the changes.

After you set up your system, run the system setup program to familiarize yourself with your system configuration information and optional settings. Dell recommends that you print the system setup program screens (by pressing the <Print Scrn> key) or write down the information for future reference.

Before you use the system setup program, you need to know the kind of hard-disk drive(s) and diskette drive(s) installed in your computer. If you are unsure of any of this information, see the online Manufacturing Test Report in the Dell Accessories folder.

Entering the System Setup Program

Enter the system setup program as follows:

1. **Turn on (or reboot) your system.**
2. **When prompted, press <Del> *immediately* to enter the system setup program.**

   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 repeat steps 1 and 2.

   NOTE: To ensure an orderly system shutdown, consult the documentation that accompanied your operating system.

You can also enter the system setup program by responding to certain error messages.

System Setup Screens

The system setup screens (an example of the Main screen is shown in Figure 2-1) display the current setup and configuration information and optional settings for your system. Information on the screen is organized in four areas:

- Menu bar

  At the top of each screen is a menu bar for accessing the five main screens in the system setup program.

- Configuration options

  The box on the left side of each screen lists categories that define the installed hardware in your system.

  Fields beside the categories contain options or values. You can change those that are enclosed in brackets. Values that are not enclosed in brackets contain status information reported by the system.

- Help

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

- Key functions

  The bottom area of each screen lists keys and their functions within the currently displayed screen of the system setup program.

Using the System Setup Program

Table 2-1 lists the keys you use to view or change information on the system setup screens and to exit the program.

Table 2-1. System Setup Navigation Keys

Keys	Action
F1	Displays help information.
Esc	Returns to the parent menu.
↓ or ↑	Moves the cursor up or down to select an item.
← or →	Moves the cursor to the previous or next menu option or category.
+ = or −	Increases or decreases the current value in the selected field or cycles through options for the selected category.
Enter	Selects the submenu for the current category (if there is one) or, on the Exit menu, executes the current command. In the System Time and System Date categories, pressing <Enter> moves the cursor to the next field.
F9	Reverts all settings to the initial defaults.
F10	Reverts the settings to the last saved configuration.
Tab or Shift Tab	In the System Time and System Date categories, moves the cursor to the next or previous field.

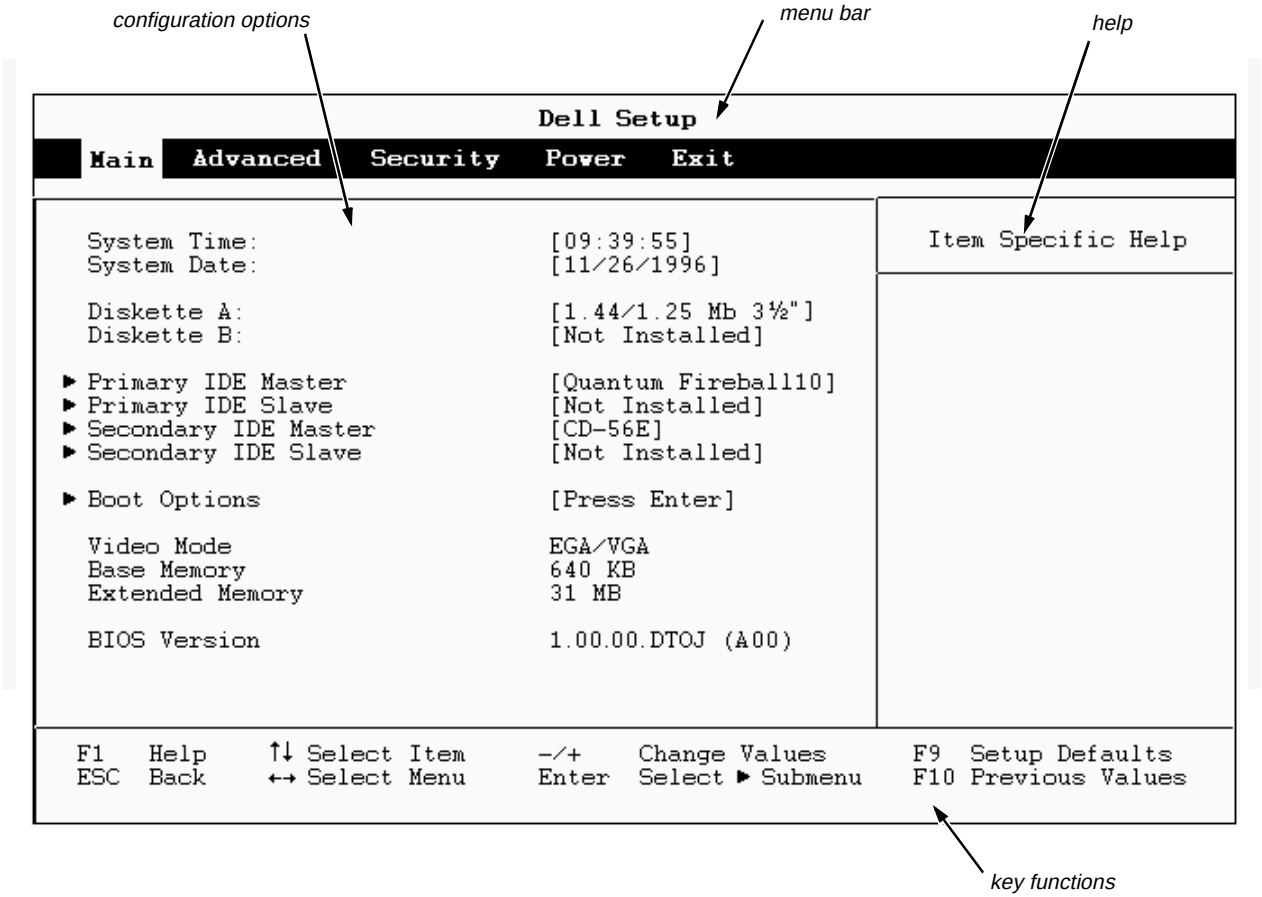


Figure 2-1. Main Screen of the System Setup Program

Responding to Error Messages

If an error message appears on your monitor screen while the system is booting, make a note of the message. Refer to Appendix A, “Beep Codes and System Messages,” for an explanation of the message and suggestions for correcting any errors.

Disabling a Forgotten Password

If you forget your user or setup password, you will be unable to operate your system or change settings in the system setup program, respectively, until you disable the password. Disabling the password involves removing the computer cover and changing a jumper setting (twice) on the system board.

NOTE: You disable both passwords at the same time.

To disable a forgotten password, perform the following steps:

1. **Remove the computer cover according to the instructions in "Removing the Computer Cover" in Chapter 3.**

   CAUTION: See "Protecting Against Electrostatic Discharge" in the safety instructions at the front of this guide.

2. **Refer to Table 3-2 and to Figure 3-5 for the settings and location of the password jumper on the system board.**
3. **Move the jumper plug to the appropriate setting to disable the passwords.**
4. **Replace the computer cover (see "Replacing the Computer Cover" in Chapter 3); reconnect your computer to its power source, and turn it on.**

   Booting your system with the password jumper set to the disabled position erases existing passwords.

   NOTE: Before you assign a new user and/or setup password, you must reset the jumper plug to the enabled *position.*
5. **After the system has completed the boot routine, turn off the system and remove the computer cover.**
6. **To reenable the password features, move the jumper plug to the appropriate position.**
7. **Replace the computer cover; reconnect the computer and peripherals to their power sources, and turn them on.**
8. **Assign a new user and/or setup password on the Security screen of the system setup program.**

   For information on assigning a new user and/or setup password, see "Using the System Setup Program" in the online *System User's Guide.*

ISA Configuration Utility

NOTES: The ISA Configuration Utility is required only if you are using a non-Plug-and-Play operating system (such as Microsoft Windows NT 4.0 and earlier) and your system includes legacy Industry-Standard Architecture (ISA) expansion cards. If you are using the Microsoft Windows 95 operating system, the functions provided by the ISA Configuration Utility are handled by the Device Manager, which can be accessed by double-clicking the System icon in the Control Panel. See your Windows 95 documentation for instructions on using the Device Manager to manage resources and resolve conflicts.

Because Dell ships only Plug and Play and Peripheral Component Interconnect (PCI) expansion cards on Dell Dimension systems that have a non-Plug-and-Play operating system, the ISA Configuration Utility is not provided with your system. You can download a copy of this utility from Dell's TechConnect Bulletin Board Service (BBS). For information on accessing the TechConnect BBS, see the chapter titled "Getting Help" in your Diagnostics and Troubleshooting Guide.

The ISA Configuration Utility is used to notify the system of what expansion cards are installed and what resources they use. With this information, the system automatically configures Plug and Play expansion cards and PCI expansion cards and can tell you how to configure ISA expansion cards manually by setting jumpers or switches. Plug and Play and PCI expansion cards do not contain jumpers and switches; they are configured only through software.

When to Run the ISA Configuration Utility

Whenever you add or remove ISA expansion cards on a system running the Windows NT operating system, you must run the ISA Configuration Utility to ensure that no two cards attempt to use the same resources (such as interrupt request [IRQ] lines).

Run the program *before* adding or removing any ISA expansion cards. The ISA Configuration Utility can identify and resolve any resource conflicts, as well as indicate the proper jumper and switch settings for each expansion card to avoid such conflicts. Running the program first helps you determine how to configure the ISA expansion card before you install it in your computer.

Quick Start

To quickly get started using this utility, follow these steps:

1. **Perform any required preparatory steps before starting the utility.**

   Preparatory steps include making a program diskette, copying your mouse driver to this diskette, and making a backup copy of this diskette. See the next subsection, "Preparing to Use the ISA Configuration Utility," for detailed instructions.

2. **Start the ISA Configuration Utility.**

   Insert the backup copy of the program diskette into drive A, and turn on your computer or press the reset button.

   NOTE: The ISA Configuration Utility takes a few minutes to load. During this time, the cursor may appear as a pointer rather than as an hourglass.

   When the utility has finished loading, the ISA Configuration Utility window is displayed (see Figure 2-2).

3. **Add, modify, or remove a card, or view resources for a card or other device.**

   For detailed instructions, see the "Configuring Expansion Cards" section in the online *System User's Guide.*

4. **Save your configuration, and exit the utility.**

   For detailed instructions, see the "Configuring Expansion Cards" section in the online *System User's Guide.*

Preparing to Use the ISA Configuration Utility

Before using the ISA Configuration Utility for the first time, you must complete the following steps:

1. **Create an ISA Configuration Utility program diskette by downloading the program from the TechConnect BBS or from the World Wide Web.**

   For information on accessing the TechConnect BBS, see the chapter titled "Getting Help" in your *Diagnostics and Troubleshooting Guide*.

   To download the program from the World Wide Web, go to **www.dell.com** and select Service & Support. Select Software Updates, and then select System Utilities. Scroll through the list of utilities, and select the PnP DOS ISA Configuration Util option.

2. **Copy your mouse driver file (**mouse.exe**) to your program diskette. Then add the mouse statement to the** autoexec.bat **file on the program diskette.**

3. **Make a backup copy of your program diskette as described in the next subsection, "Backing Up the ISA Configuration Utility Diskette."**

   Use the backup copy whenever you run the utility; store the original program diskette in a safe place.

Backing Up the ISA Configuration Utility Diskette

Before using the ISA Configuration Utility, make a backup copy of the ISA Configuration Utility program diskette (just as you would with any other software) by performing the following steps:

1. **Make sure you have a blank, high-density, 3.5-inch diskette.**

2. **Turn on your computer system if it is not already on.**

3. **Make a copy of the ISA Configuration Utility program diskette.**

   See your operating system documentation for instructions on making a copy of a diskette.

4. **Store your original program diskette in a safe place.**

   Use only the backup diskette when running or installing the ISA Configuration Utility.

Starting the ISA Configuration Utility

After you have completed the procedure in "Preparing to Use the ISA Configuration Utility," found earlier in this chapter, insert the backup copy of the ISA Configuration Utility program diskette into drive A. Then either turn on your computer or reboot it by pressing the reset button.

Accessing Help

You can access online help in the ISA Configuration Utility in four ways:

- You can select Contents from the Help menu to display a list of topics. Select a topic and click the Help button. Help text on that topic appears in a dialog box.
- For most dialog boxes, you can click the Help button to display information on the action you are performing.
- From the ISA Configuration Utility window, you can press the <F1> key to display a list of available help topics.
- To redisplay the last message you received from the ISA Configuration Utility, you can select Previous Message from the Help menu.

Making Selections in the ISA Configuration Utility

The ISA Configuration Utility window is the main window of the utility and the starting point for making expansion card changes. This window lists all ISA, Plug and Play, and PCI expansion cards currently installed in the computer. The ISA Configuration Utility window contains menus and a tool bar, as shown in Figure 2-2. When you choose an operation, the ISA Configuration Utility displays dialog boxes to guide you through the various steps.

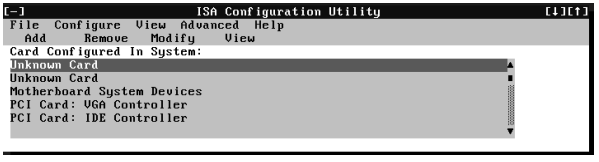


Figure 2-2. ISA Configuration Utility Window

You can maneuver through each menu and dialog box using a mouse, or you can use the keys shown in Table 2-2. Each menu and menu option has an underlined character in its name. When you press the key for that character in conjunction with the <Alt> key, that menu or menu option is selected.

Table 2-2. ISA Configuration Utility Keys

Keys	Action
<Alt><*x*><*y*>	Displays the menu containing the underlined letter *x* and performs the operation indicated by the menu item containing the underlined letter *y*. For example, to save a file (that is, to display the File menu and select the Save menu option), press <Alt><f> and <s>.
<Tab>	Moves from one control button or list to another.
Up- and down-arrow keys	Moves up and down items in a list.
<Spacebar>	Highlights an item in a list.
<Enter>	Selects the highlighted button or item in a list.

Chapter 3
Inside Your Computer

Your Dell computer system supports a variety of internal options that expand system capabilities. This chapter tells you how to remove the computer cover and familiarizes you with the internal components you might handle if you install Dell hardware options.

Before You Begin

To make working inside your computer easier, make sure you have adequate lighting and a clean work space. If you temporarily disconnect cables or remove expansion cards, note the position of the connectors and slots so that you can reassemble the system correctly.

You will use the information in this chapter every time you install a hardware option inside your computer. *Read this chapter carefully* because the information is not repeated in detail elsewhere.

Safety First—For You and Your Computer

Working inside your computer is safe—*if* you observe the following precautions.

WARNING FOR YOUR PERSONAL SAFETY AND PROTECTION OF YOUR EQUIPMENT

Before starting to work on your computer, perform the following steps in the sequence indicated:

1. **Turn off your computer and all peripherals.**
2. **Disconnect your computer and peripherals from their power sources to reduce the potential for personal injury or shock. Also, disconnect any telephone or telecommunication lines from the computer.**
3. **If you are disconnecting a peripheral from the computer or are removing a component from the system board, wait 5 seconds after turning off the computer before disconnecting the peripheral or removing the component to avoid possible damage to the system board.**
4. **Touch an unpainted metal surface on the computer chassis, such as the power supply, before touching anything inside your computer.**

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

In addition, Dell recommends that you review the safety instructions at the front of this guide.

Removing the Computer Cover

Remove the computer cover on a desktop or mini tower chassis as follows:

1. **Observe the *Warning for Your Personal Safety and Protection of Your Equipment* found earlier in this chapter. Also, observe the safety instructions at the front of this guide.**
2. **If you have a mini tower chassis, turn it on its side.**

   NOTE: Place the chassis so that the foot hangs over the edge of the work surface and allows the chassis to lay flat.
3. **Loosen the cover-mounting thumbscrew on the back of the chassis.**

   NOTE: The cover-mounting thumbscrew is captive and should be retained in the cover when loosened.
4. **Facing the front of the chassis, place both hands palms down as shown in Figure 3-1. With your index fingers, press in the cover release latches, and slide the cover toward the back of the chassis approximately one inch. Then lift the cover away from the chassis.**

WARNING: Be sure to keep your hands clear of the metal edges on the chassis and fan guard as you slide the cover back. Sharp metal edges can cause cuts.

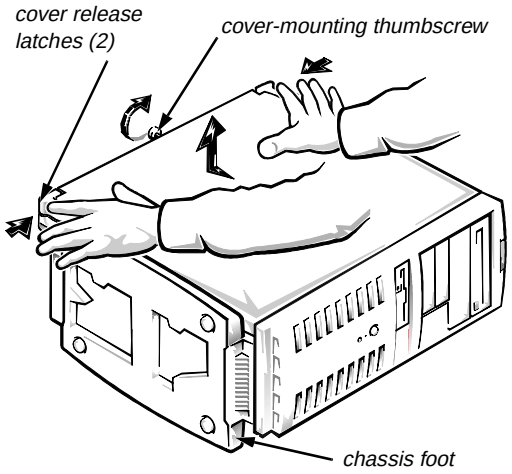


Figure 3-1. Removing the Computer Cover (Mini Tower Chassis)

Replacing the Computer Cover

Replace the computer cover on a desktop or mini tower chassis as follows:

1. **Check all cable connections, especially those that might have come loose during your work. Fold cables 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. **Position the cover on the chassis approximately one inch back. Slide the cover forward until it locks into place.**
4. **Tighten the cover-mounting thumbscrew on the back of the chassis.**

Unpacking Your Hardware Option

When you remove an option from its shipping carton, you may find it wrapped in antistatic packing material designed to protect it from electrostatic damage. Do not remove the packing material until you are ready to install the option.

CAUTION: See "Protecting Against Electrostatic Discharge" in the safety instructions at the front of this guide.

For instructions on performing a particular upgrade, see your online *System User's Guide*.

Internal Components

Figure 3-2 shows the desktop chassis with its cover removed, and Figure 3-3 shows the mini tower chassis with its cover removed. Refer to the appropriate illustration to locate internal features and components.

When you look inside your computer, note the *direct current (DC) power cables* coming from the power supply. These cables supply power to the system board, to internal drives, and to certain expansion cards that connect to external peripherals.

The flat ribbon cables are the *interface cables* for internal drives. An interface cable connects a drive to an interface connector on the system board or on an expansion card.

The *system board*—the large printed circuit board mounted vertically in the bottom half of the mini tower chassis or secured to the bottom of the desktop chassis—holds the computer's control circuitry and other electronic components. Some hardware options are installed directly onto the system board.

During an installation procedure, you may be required to change a jumper setting on the system board and/or a jumper or switch setting on an expansion card or on a drive. Jumpers and switches provide a convenient and reversible way of reconfiguring the circuitry on a printed circuit board. For information on jumpers and switches, see the next two subsections, "Jumpers" and "Switches."

Jumpers

Jumpers are small blocks on the system board with two or more pins emerging from them.

Plastic plugs containing a wire fit down over the pins. The wire connects the pins and creates a circuit.

To change a jumper setting, pull the plug off its pin(s) and carefully fit it down onto the pin(s) indicated.

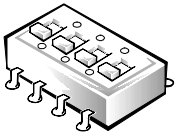
CAUTION: Make sure your system is turned off before you change a jumper setting. Otherwise, damage to your system or unpredictable results may occur.

A jumper is referred to as *open* or *unjumpered* when the plug is pushed down over only one pin or if there is no plug at all. When the plug is pushed down over two pins, the jumper is referred to as *jumpered*. The jumper setting is often shown in text as two numbers, such as 1-2. The number 1 is printed on the circuit board so that you can identify each pin number based on the location of pin 1.

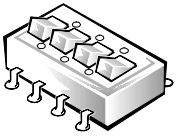
Figure 3-5 shows the location and settings for the system board jumpers in your computer. See Table 3-2 for the designations, default settings, and functions of your system's jumpers.

Switches

Switches control various circuits or functions in your computer system. The switches you are most likely to encounter are dual in-line package (DIP) switches, which are normally packaged in groups of two or more switches in a plastic case. Two common types of DIP switches are *slide* switches and *rocker* switches (see the following illustration).



slide switches



rocker switches

Each of these switches has two positions, or *settings* (usually *on* and *off*). To change the setting of a slide switch, use a small, pointed object, such as a small screwdriver or a straightened paper clip, to slide the switch to the proper position. To change the setting of a rocker switch, use the screwdriver or paper clip to press down on the appropriate side of the switch. In either case, do not use a pen, pencil, or other object that might leave a residue on the switch.

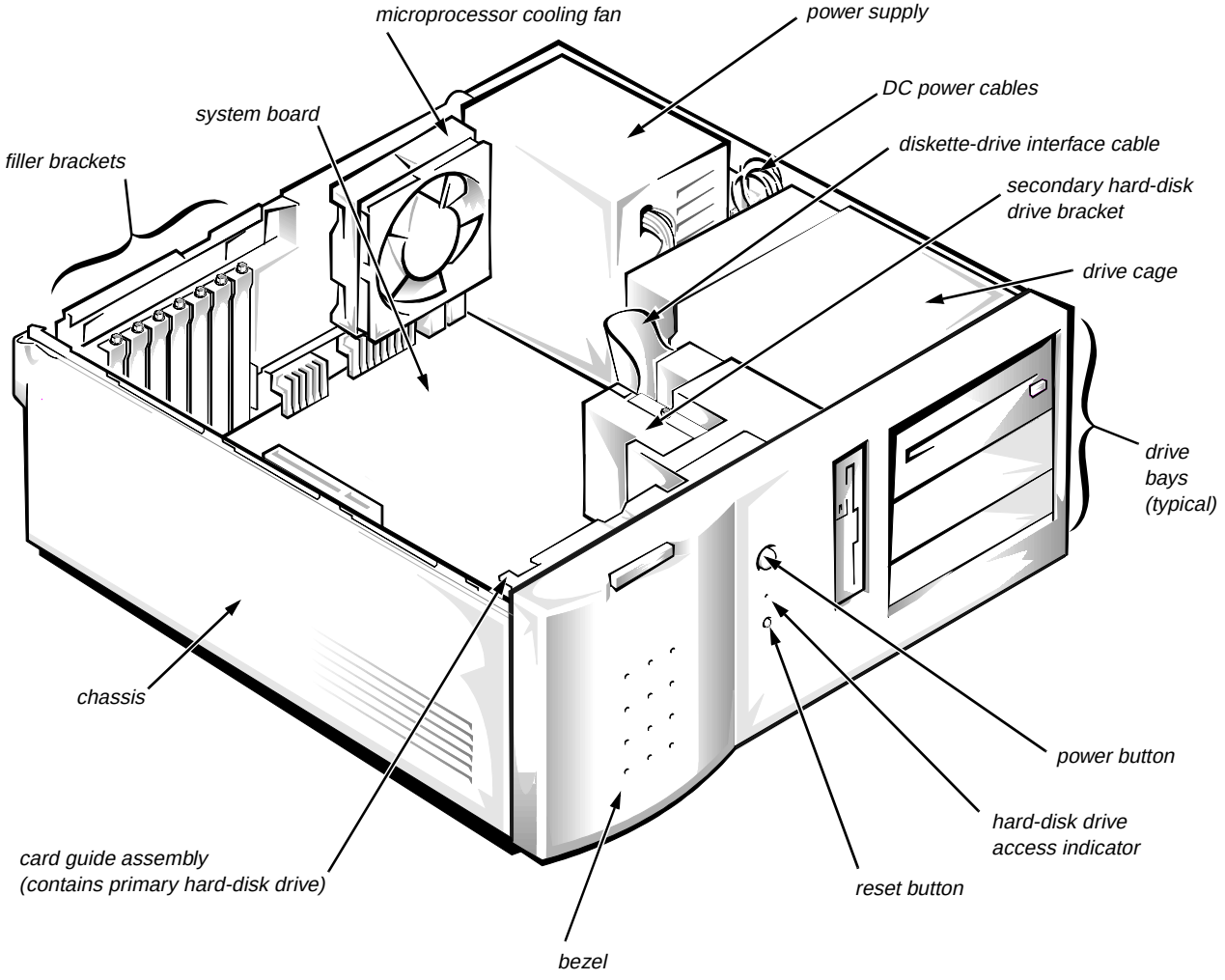


Figure 3-2. Inside the Desktop Chassis

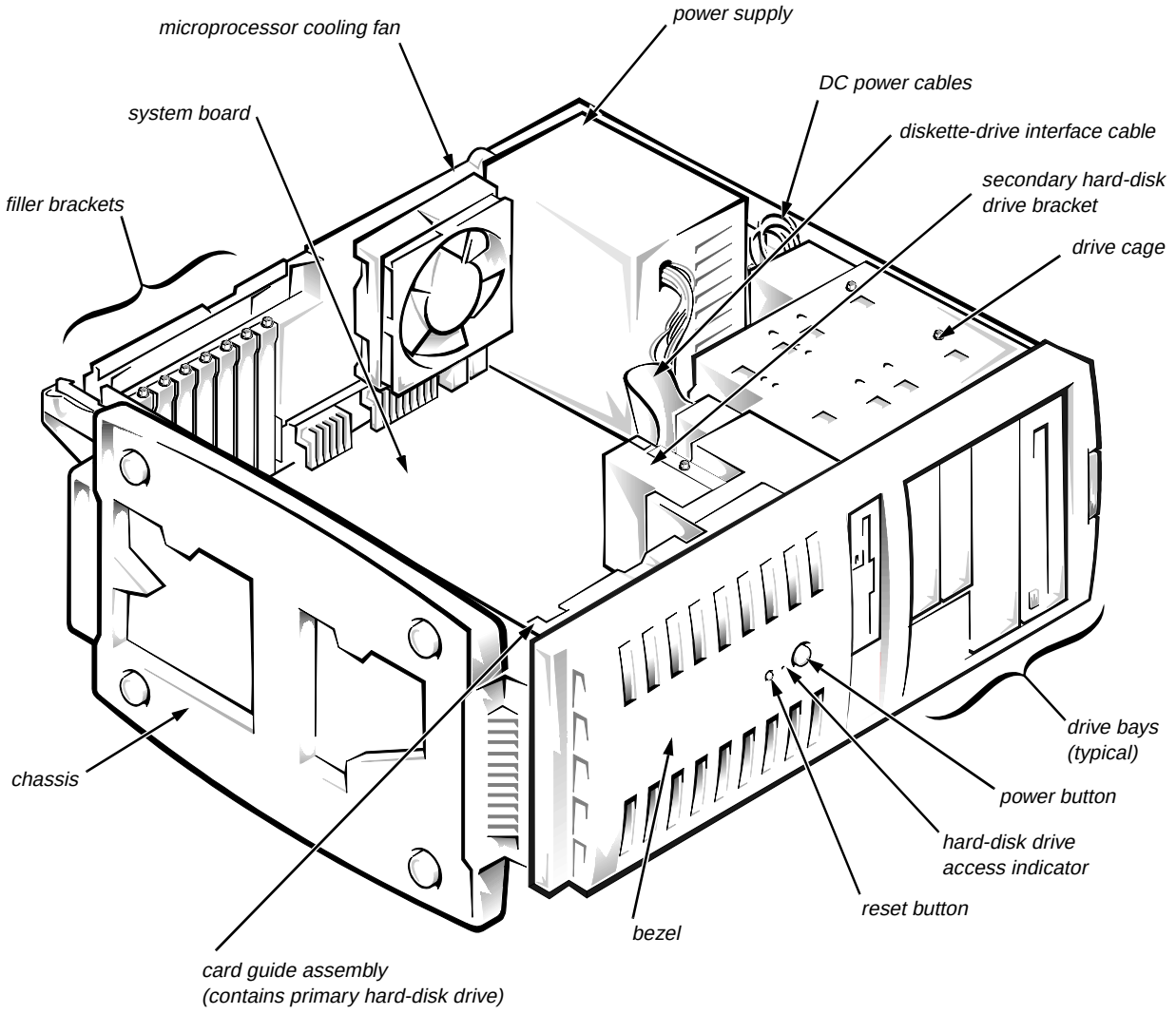


Figure 3-3. Inside the Mini Tower Chassis

System Board

This section describes the system board in your computer, including the various connectors and sockets on the board as well as the system board jumper settings.

Figure 3-4 shows the system board connectors and sockets, and Table 3-1 describes their functions. Figure 3-5 shows the location of the system board jumpers, and Table 3-2 describes their functions.

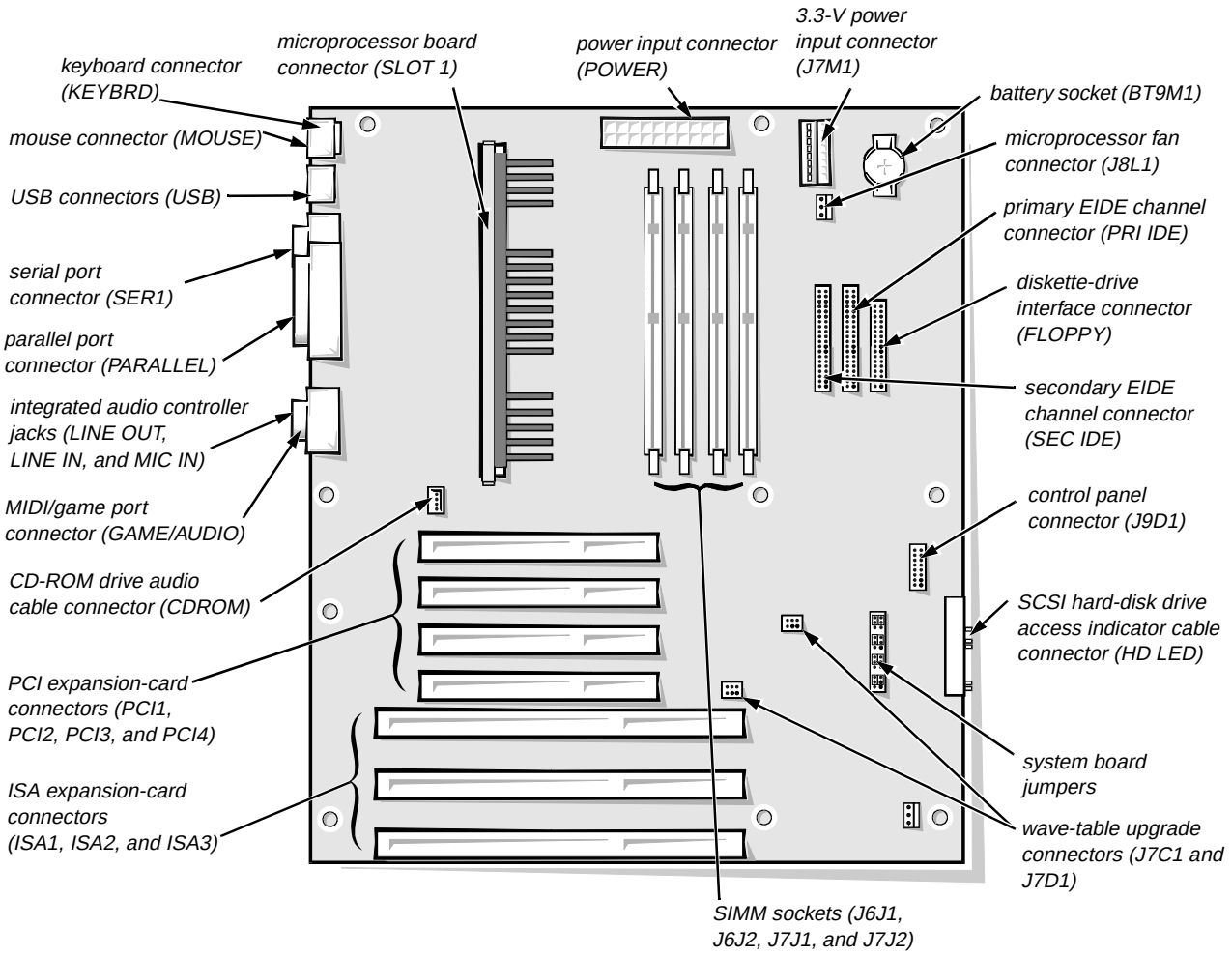


Figure 3-4. System Board Features

Table 3-1. System Board Connectors and Sockets

Connector or Socket	Description
BT9M1	Battery socket
CDROM	CD-ROM drive audio cable connector
FLOPPY	Diskette-drive interface connector
GAME/AUDIO	MIDI/game port connector
HD LED	SCSI hard-disk drive access indicator cable connector
ISA*n**	ISA expansion-card connectors
J6J1, J6J2, J7J1, J7J2	SIMM sockets
J7C1, J7D1	Wave-table upgrade connectors
J7M1	3.3-V power input connector
J8L1	Microprocessor fan connector
J9A1	Not used
J9D1	Control panel connector
KEYBRD	Keyboard connector
LINE IN	Line-in jack
LINE OUT	Line-out jack
MIC IN	Microphone jack
MOUSE	Mouse connector
PARALLEL	Parallel port connector; sometimes referred to as *LPT1*
PCI*n**	PCI expansion-card connectors
POWER	Power input connector
PRI IDE	Primary EIDE channel connector
PWR	Not used

* *Connectors ISA1 and PCI4 share a single card-slot opening, so only one of the two connectors can be used.*

NOTE: For the full name of an abbreviation or acronym used in this table, see the Glossary in the online System User's Guide.

***Table 3-1. System Board Connectors and Sockets** (continued)*

Connector or Socket	Description
SEC IDE	Secondary EIDE channel connector
SER1	Serial port connector
SLOT 1	SEC cartridge connector
USB	USB connectors

NOTE: For the full name of an abbreviation or acronym used in this table, see the Glossary in the online System User's Guide.

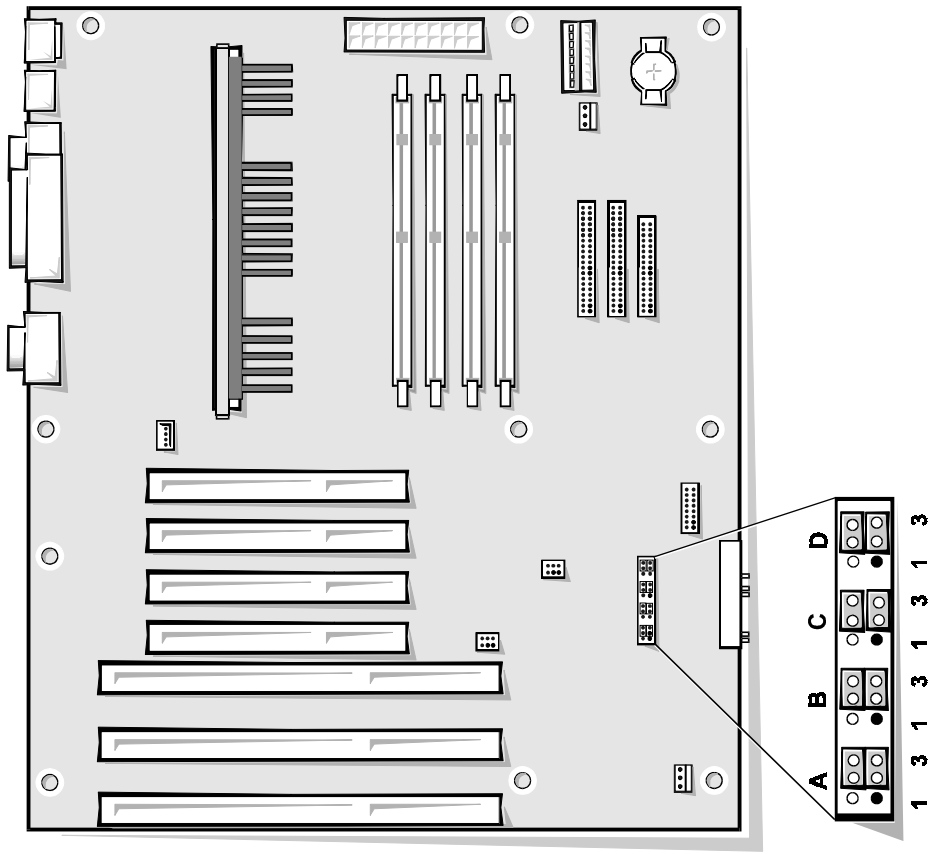
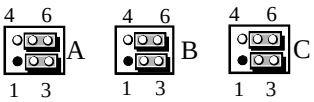


Figure 3-5. System Board Jumpers

Table 3-2. System-Board Jumper Settings

Jumper Settings	Description
A, pins 1-3; B, pins 1-6; C, pins 1-3 (microprocessor speed) 	The microprocessor's internal speed is 233 MHz.
A, pins 4-6 (reserved) 	Reserved (*do not change*).
C, pins 4-6 (clear CMOS) 	System setup settings are retained when the system boots (default setting).
	System setup settings revert to their defaults when the system boots. (If system settings become so corrupted that the system does not boot, put the jumper plug on pins 4-5 and boot the system. Reset the jumper plug on pins 5-6 before restoring the system setup settings.)
D, pins 1-3 (password) 	The password features are enabled (default setting).
	The password features are disabled.

• *indicates pin 1*  *jumpered*  *unjumpered*

NOTE: For the full name of an abbreviation or acronym used in this table, see the Glossary in the online System User's Guide.

***Table 3-2. System-Board Jumper Settings** (continued)*

Jumper Settings	Description
D, pins 4-6 (setup)	
	Allows you to enter the system setup program (default setting).
	Prevents you from entering the system setup program.

• *indicates pin 1*  *jumpered*  *unjumpered*

NOTE: For the full name of an abbreviation or acronym used in this table, see the Glossary in the online System User's Guide.

Appendix A
Beep Codes and System Messages

Your application programs, the operating system, the ISA Configuration Utility, and the computer itself are capable of providing you with certain system error and status information. This information may take the form of a beep code that sounds through the computer's speaker or a status or error message that appears on the monitor screen.

This appendix provides the information necessary for interpreting the beep codes and system messages generated by the system basic input/output system (BIOS) and the ISA Configuration Utility. For other error messages, see the documentation for your application program or operating system.

NOTE: The error messages and beep codes found in the Diagnostics and Troubleshooting Guide apply only to Dell OptiPlex® systems; they do not correspond to the beep codes and error messages associated with your Dell Dimension computer system. Use this appendix and not the Diagnostics and Troubleshooting Guide to interpret error messages and beep codes.

POST Beep Codes

If the monitor cannot display errors or problems, the computer may emit a series of beeps that identifies the problem. The *beep code* is a pattern of sounds that identifies a specific condition. For example, a burst of three beeps (beep code 3) means that a memory error occurred in the first 64 kilobytes (KB) of random-access memory (RAM). As another example, one beep followed by a burst of three beeps (beep code 1-3) indicates that no monitor is connected to the computer. Except for beep code 8, the conditions signaled by the beep codes prevent the system from completing the boot routine.

NOTE: It is normal for the computer to emit a single beep during the boot routine. This beep is not considered a beep code unless the computer is unable to complete the boot routine.

When the system emits a beep code, write it down and then find it in Table A-1. Table A-1 either provides a corrective action or helps you obtain technical assistance.

Table A-1. POST Beep Codes

Beep Code	Possible Cause	Corrective Action
1	Memory refresh failure	Reseat the SIMMs. If the problem persists, see the chapter titled "Getting Help" in your *Diagnostics and Troubleshooting Guide* for instructions on obtaining technical assistance.
2	Memory parity error	Reseat the SIMMs. If the problem persists, see the chapter titled "Getting Help" in your *Diagnostics and Troubleshooting Guide* for instructions on obtaining technical assistance.
3	Memory failure in the first 64 KB of RAM	See the chapter titled "Getting Help" in your *Diagnostics and Troubleshooting Guide* for instructions on obtaining technical assistance.
4	Timer failure	See the chapter titled "Getting Help" in your *Diagnostics and Troubleshooting Guide* for instructions on obtaining technical assistance.
5	Microprocessor error	See the chapter titled "Getting Help" in your *Diagnostics and Troubleshooting Guide* for instructions on obtaining technical assistance.
6	Gate A20 failure	See the chapter titled "Getting Help" in your *Diagnostics and Troubleshooting Guide* for instructions on obtaining technical assistance.
7	Microprocessor exception interrupt error	See the chapter titled "Getting Help" in your *Diagnostics and Troubleshooting Guide* for instructions on obtaining technical assistance.
8	Video memory read/write error	See the chapter titled "Getting Help" in your *Diagnostics and Troubleshooting Guide* for instructions on obtaining technical assistance.
9	ROM checksum error	See the chapter titled "Getting Help" in your *Diagnostics and Troubleshooting Guide* for instructions on obtaining technical assistance.
10	CMOS shutdown register read/write error	See the chapter titled "Getting Help" in your *Diagnostics and Troubleshooting Guide* for instructions on obtaining technical assistance.

NOTE: For the full name of an abbreviation or acronym used in this table, see the Glossary in the online System User's Guide.

Table A-1. POST Beep Codes *(continued)*

Beep Code	Possible Cause	Corrective Action
11	Cache memory error	See the chapter titled "Getting Help" in your *Diagnostics and Troubleshooting Guide* for instructions on obtaining technical assistance.
1-2	No video card installed	Install a video card in one of the expansion slots on the system board. For instructions, see "Installing an Expansion Card" in the section on installing system board options in the online *System User's Guide*.
1-3	No monitor connected	Connect a monitor's video cable to the video connector on the back of the computer. For the location of the video connector, see "Back-Panel Features" in the features section of the online *System User's Guide*.

NOTE: For the full name of an abbreviation or acronym used in this table, see the Glossary in the online System User's Guide.

System Error Messages

The first column in Table A-2 lists (in alphabetical order) system error messages that may appear on the screen during the boot routine or during normal system operation. These messages can help you find the source of a problem or lead you to a possible solution.

The second column in Table A-2 lists probable causes of the error messages listed in the first column. The third column either provides a corrective action or refers you to a source that provides a solution to the problem.

Table A-2. System Error Messages

Message	Possible Cause	Corrective Action
`8042 Gate – A20 Error`	Gate A20 of the keyboard controller is not operational.	See the chapter titled "Getting Help" in your *Diagnostics and Troubleshooting Guide* for instructions on obtaining technical assistance.
`Address Line Short!`	An error has occurred in the address-decoding circuitry on the system board.	See the chapter titled "Getting Help" in your *Diagnostics and Trouble-shooting Guide* for instructions on obtaining technical assistance.

`C: Drive Error`
 	
`C: Drive Failure`
	The first (or only) hard-disk drive is not responding.	See the section on troubleshooting hard-disk drives in the chapter titled "Checking Inside Your Computer" in your *Diagnostics and Troubleshooting Guide*."

`Cache Memory Bad. Do Not Enable Cache!`	One or more of the external cache memory chips is faulty, or the cache memory circuitry on the microprocessor board is faulty.	See the chapter titled "Getting Help" in your *Diagnostics and Troubleshooting Guide* for instructions on obtaining technical assistance.
`CH-2 Timer Error`	An error has occurred in timer 2.	Run the System Set Test Group described in the chapter titled "Running the Diskette-Based Diagnostics" in your *Diagnostics and Troubleshooting Guide.*
`CMOS Battery State Low`	The battery charge is low.	See the section on troubleshooting the battery in the chapter titled "Checking Inside Your Computer" in your *Diagnostics and Troubleshooting Guide.*
`CMOS Checksum Failure`	The battery charge may be low, or the system BIOS may be corrupted.	See the section on troubleshooting the battery in the chapter titled "Checking Inside Your Computer" in your *Diagnostics and Troubleshooting Guide*. If necessary, see the chapter titled "Getting Help" in the same manual for instructions on obtaining technical assistance.
`CMOS Display Type Mismatch`	The system configuration information for video memory is incorrect.	Reboot the computer. If the problem persists, see the chapter titled "Getting Help" in your *Diagnostics and Troubleshooting Guide* for instructions on obtaining technical assistance.

NOTE: For the full name of an abbreviation or acronym used in this table, see the Glossary in the online System User's Guide.

Table A-2. System Error Messages *(continued)*

Message	Possible Cause	Corrective Action
`CMOS Memory Size Mismatch`	The system configuration information for system memory in the system setup program is incorrect.	Enter the system setup program, and verify the system configuration information; then reboot the computer. If the problem persists, see the chapter titled "Getting Help" in your *Diagnostics and Troubleshooting Guide* for instructions on obtaining technical assistance.
`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 information; then reboot the computer. If the problem persists, see the section on troubleshooting the battery in the chapter titled "Checking Inside Your Computer" in your *Diagnostics and Troubleshooting Guide.* If neither action provides a solution, see the chapter titled "Getting Help" in the same manual for instructions on obtaining technical assistance.
`CMOS Time and Date Not Set`	The system configuration information for time and date in the system setup program has not been set, or the battery charge is low.	Enter the system setup program, and reset the System Time and System Date categories. Also see the section on troubleshooting the battery in the chapter titled "Checking Inside Your Computer" in your *Diagnostics and Troubleshooting Guide.* If necessary, see the chapter titled "Getting Help" in the same manual for instructions on obtaining technical assistance.
`D: Drive Error` `D: Drive Failure`	The second hard-disk drive is not responding.	See the section on troubleshooting hard-disk drives in the chapter titled "Checking Inside Your Computer" in your *Diagnostics and Troubleshooting Guide.*
`Diskette Boot Failure`	The diskette in drive A cannot be used to boot the system.	Insert another bootable diskette into drive A, and reboot the system.
`DMA #1 Error` `DMA #2 Error`	An error has occurred in one of the DMA channels.	See the chapter titled "Getting Help" in your *Diagnostics and Troubleshooting Guide* for instructions on obtaining technical assistance.
`DMA Bus Time-out`	A device has driven the DMA bus signal longer than the allowable 7.8 microseconds.	See the chapter titled "Getting Help" in your *Diagnostics and Troubleshooting Guide* for instructions on obtaining technical assistance.
`DMA Error`	An error has occurred in the DMA controller.	See the chapter titled "Getting Help" in your *Diagnostics and Troubleshooting Guide* for instructions on obtaining technical assistance.

NOTE: For the full name of an abbreviation or acronym used in this table, see the Glossary in the online System User's Guide.

Table A-2. System Error Messages *(continued)*

Message	Possible Cause	Corrective Action
`FDD Controller Failure`	The system BIOS cannot communicate with the built-in diskette/tape drive controller.	Run the Diskette Drives Test Group described in the chapter titled "Running the Diskette-Based Diagnostics" in your *Diagnostics and Troubleshooting Guide.*
`HDD Controller Failure`	The system BIOS cannot communicate with the built-in EIDE interface.	Run the Hard-Disk Drives (Non-SCSI) Test Group described in the chapter titled "Running the Diskette-Based Diagnostics" in your *Diagnostics and Troubleshooting Guide.*
`INTR #1 Error` `INTR #2 Error`	One of the interrupt channels has failed the POST.	See the chapter titled "Getting Help" in your *Diagnostics and Troubleshooting Guide* for instructions on obtaining technical assistance.
`Invalid Boot Diskette`	There is no operating system on the diskette.	Insert another bootable diskette into drive A, and reboot the system.

`KB/Interface Error`
`Keyboard Error`
`Keyboard Is Locked... Unlock It`
	The keyboard may be faulty or improperly connected.	Make sure the keyboard is properly connected. If the problem persists, see the chapter titled "Getting Help" in your *Diagnostics and Troubleshooting Guide* for instructions on obtaining technical assistance.

`Uncorrectable ECC Error`	The system's ECC circuitry has detected a multibit error that could not be corrected.	Run the RAM Test Group described in the chapter titled "Running the Diskette-Based Diagnostics" in your *Diagnostics and Troubleshooting Guide.*

NOTE: For the full name of an abbreviation or acronym used in this table, see the Glossary in the online System User's Guide.

ISA Configuration Utility Messages

The ISA Configuration Utility and its Configuration Manager are capable of identifying problems and alerting you to them. Both utilities can alert you to problems with card configuration as well as problems that prevent proper operation of the utility. Tables A-3 and A-4 describe each type of message and list the possible causes and actions you can take to resolve any problems indicated by a message. See the following subsections to locate your message and identify any possible corrective actions.

ISA Configuration Utility Error Messages

The ISA Configuration Utility can display a variety of error messages. These messages may alert you to problems that prevent the utility from running correctly, or they may inform you of resource conflicts that prevent the configuration of various cards in your system. If you receive a message from the ISA Configuration Utility, see Table A-3 for suggestions on resolving any problems indicated by the message.

Table A-3. ISA Configuration Utility Messages

Message	Probable Cause	Corrective Action

`At least one Plug and Play card in your system is not configured due to conflicts. These are marked "config err" in the list of configured cards.`
 	
`Due to conflicts, the ICU could only configure some Plug and Play cards in your system. Unconfigured cards are marked "config err" in the list of configured cards.`
	The Configuration Manager or the ISA Configuration Utility cannot configure at least one Plug and Play card because of resource conflicts with one or more cards.	You must reconfigure the conflicting card(s). To find the conflicting card, perform the following steps:
		1. Select the Plug and Play card marked "`config err`," and then click the Modify button.
		The Card Configuration dialog box displays the functions assigned to the Plug and Play card.
		2. Select a function, and then click the Settings button. Click the Cancel button if the ISA Configuration Utility does not display a message naming the conflicting card.
		3. Repeat step 2 until the ISA Configuration Utility displays a message box naming the conflicting card and the resource(s) in conflict. Make a note of the card name and the type of conflicting resource.
		4. Follow the procedure in "Modifying a Card" in the configuring expansion cards section of the online *System User's Guide*, and change the value of the conflicting resource used by the conflicting card.

`Can't open index file. This file is required for ICU to run.`	The ISA Configuration Utility cannot find the index file for its database.	Verify that you are starting the ISA Configuration Utility from the directory where it is installed. Make sure you switched to drive A before attempting to start the utility.
`No Configuration Manager.`	The device driver needed by the ISA Configuration Utility is corrupted or is not correctly configured.	Verify that the following **device** statement appears in your **config.sys** file: `device=`*drive*`:\`*directory*`\drivers\dos\dwcfgmg.sys` In this statement, *drive* and *directory* represent the drive and directory where the driver resides. The default is `c:\plugplay`.

NOTE: For the full name of an abbreviation or acronym used in this table, see the Glossary in the online System User's Guide.

***Table A-3. ISA Configuration Utility Messages** (continued)*

Message	Probable Cause	Corrective Action

`No more DMA values can be added.`
 	
`No more interrupt values can be added.`
 	
`No more memory values can be added.`
 	
`No more I/O port values can be added.`
	No more values are available for the resource you are trying to add or modify.	The maximum number of values for each resource is as follows:
		• 4 DMA channels
		• 7 IRQ lines
		• 9 memory address blocks
		• 20 I/O ports
		To free values for the resource you are trying to add or modify, delete some of the values listed in the resource box for the card. If your card requires all of the values listed, contact your card manufacturer to resolve the issue.

`Out of memory.`
 	
`Memory allocation failed.`
 	
`Not enough memory to run the ICU.`
	Either of these messages can appear if the system runs out of memory during your operation.
	
	This message appears when you start the ISA Configuration Utility if the system does not have enough memory to run the utility.
		Disable any TSR programs or any unneeded device drivers.

`The configuration (.cfg) file used by the ICU for this card is now invalid or does not exist. Do you wish to load the file?`
 	
`No configuration (.cfg) file exists for the card being modified. Do you want to load one?`
	This message appears when you try to add a listed card and the configuration file for this card has been corrupted or deleted from the database.
	
	This message appears when you modify a card and its configuration file does not exist or has been deleted.
		You can get a copy of the configuration file from the ISA Configuration Utility diskette. Use the following procedure:
		1. Insert your original copy of the ISA Configuration Utility diskette in drive A.
		2. Change to the db **subdirectory on drive A.**
		3. Use a text editor to search the icu.ndx **file for the card ID of the card you want to add or modify.**
		The name of the configuration file is part of this card ID. For example, if the card ID is ICU0200, the configuration file is **!ICU0200.cfg**.
		4. Copy this configuration file from your original ISA Configuration Utility diskette to the backup copy of the diskette from which you are running the utility.

NOTE: For the full name of an abbreviation or acronym used in this table, see the Glossary in the online System User's Guide.

Table A-3. ISA Configuration Utility Messages *(continued)*

Message	Probable Cause	Corrective Action
The ICU detects a resource conflict between this card and *conflicting card*. The conflicting resource was: *resource*.	You added or modified a card that now requires a *resource* value already in use by the *conflicting card*.	Try each of the following options until the problem is resolved. For instructions on any of these options, see the "Configuring Expansion Cards" section in the online *System User's Guide*. • Modify the card you are adding so that it uses a different value for *resource*. For instructions, see "Modifying a Card." • Modify the *conflicting card* so that it uses a different value for *resource*. For instructions, see "Modifying a Card." • If the *conflicting card* is not the system board, remove the card from the system. For instructions, see "Removing a Card." • Remove all expansion cards from the ISA Configuration Utility and then add them back one at a time, beginning with the new card and resolving resource conflicts as they arise. For instructions, see "Removing a Card" and "Adding a Listed Card" or "Adding an Unlisted Card." • If you cannot resolve the resource conflict by any of the preceding options, remove the new card. If you were modifying an existing card, reset the modified card to its previous resource value.
The ICU has successfully configured all Plug and Play cards in your system. For the new configuration to take effect, save the configuration, then reboot your system.	The ISA Configuration Utility has successfully configured all of the Plug and Play cards that were not configured by the Configuration Manager.	To accept these settings, save the configuration information into NVRAM by selecting Exit from the File menu and then clicking Yes to save. You must reboot your system for these settings to take effect.
The loaded card is not a *category* card. Press OK to proceed.	The category you chose is not the correct category under which to add this card.	Click OK. The ISA Configuration Utility automatically opens the correct category's dialog box. Continue the procedure for adding the card as described in the online *System User's Guide*.

NOTE: For the full name of an abbreviation or acronym used in this table, see the Glossary in the online System User's Guide.

Table A-3. ISA Configuration Utility Messages *(continued)*

Message	Probable Cause	Corrective Action
`This device is unconfigurable because of a resource conflict with card card_name. The conflicting resource is resource_name. To fix, reconfigure the conflicting card.`	The selected card is unconfigurable because one of its resources is already being used by another device.	Perform the following procedure: **1. Make a note of the card name and the type of conflicting resource.** **2. Follow the procedure in "Modifying a Card" in the configuring expansion cards section of the online *System User's Guide*, and change the value for `resource_name` used by `card_name`.**
`This is an EISA system. Use an ECU, not the ICU, to configure your system.`	This message appears if you attempt to run the ISA Configuration Utility on an EISA system.	To use the ISA Configuration Utility, you must load the utility onto a non-EISA system.
`You have added a card using settings different from factory default. Reconfigure the card to the settings in the next display (see the card's manual) before installing it.`	This message can appear in two situations: • You added an ISA expansion card, clicked the OK button, and the ISA Configuration Utility had to use resource values different from the card's defaults to avoid conflicts. • You added an ISA expansion card, clicked the Advanced button, and chose resource values different from the card's defaults.	Make a note of the new card configuration shown in the Card Resource dialog box displayed after this message. Change the jumper settings on the ISA expansion card to match the new card configuration.

NOTE: For the full name of an abbreviation or acronym used in this table, see the Glossary in the online System User's Guide.

Configuration Manager Messages

The Configuration Manager for the ISA Configuration Utility identifies problems following system boot and generates messages if necessary. These messages alert you to any unsuccessful attempts to configure Plug and Play or Peripheral Component Interconnect (PCI) expansion cards, as well as any problems that interfere with the operation of the Configuration Manager. If you receive a message from the Configuration Manager, see Table A-4 for suggestions on resolving any problems indicated by the message.

Table A-4. Configuration Manager Messages

Message	Probable Cause	Corrective Action
ERROR: CM internal error=*Internal Error Code*.	An internal error has occurred in the Configuration Manager driver.	See the chapter titled "Getting Help" in your *Diagnostics and Troubleshooting Guide* for instructions on obtaining technical assistance.
ERROR: Could not read NVS, Error=*Internal Error Code*.	An attempt to read the NVRAM failed.	See the chapter titled "Getting Help" in your *Diagnostics and Troubleshooting Guide* for instructions on obtaining technical assistance.
ERROR: Failed NVS write. Error=*Internal Error Code*.	An attempt to write to NVRAM failed.	Verify the integrity of your system NVRAM by running the System Set Test Group described in the chapter titled "Running the Diskette-Based Diagnostics" in your *Diagnostics and Troubleshooting Guide*. If you are unable to determine the cause of the error, see the chapter titled "Getting Help" in your *Diagnostics and Troubleshooting Guide* for instructions on obtaining technical assistance.
ERROR: Failed to activate device, CSN=*Card Select Number*.	A Plug and Play card could not be activated.	This procedure requires you to remove and reinstall an expansion card. If you need instructions on performing these operations, see "Removing an Expansion Card" and "Installing an Expansion Card" in the installing system board options section of the online *System User's Guide*. Then complete these steps: **1. Shut down the ISA Configuration Utility and turn off your system.** **2. Remove the Plug and Play expansion card that could not be activated.** **3. Reinstall the Plug and Play card.** If you still receive this error message, contact the manufacturer of the Plug and Play card for assistance.
ERROR: Fatal BIOS error *Internal Error Code*.	A BIOS call failed with an internal error. The most likely cause is an incompatibility between the BIOS and the Configuration Manager.	See the chapter titled "Getting Help" in your *Diagnostics and Troubleshooting Guide* for instructions on obtaining technical assistance.
ERROR: Insufficient CM Memory.	There is not enough memory available to the Configuration Manager for it to run.	Disable any TSR programs or any unneeded device drivers.

NOTE: For the full name of an abbreviation or acronym used in this table, see the Glossary in the online System User's Guide.

Table A-4. Configuration Manager Messages *(continued)*

Message	Probable Cause	Corrective Action
`Found Plug and Play ISA card: Plug and Play ISA Card Name.`	This message appears at system boot for each Plug and Play ISA card recognized by the Configuration Manager.	Status message; no action is required.
`NOTICE: Boot Device Not Active! CSN=Card Select Number.`	A boot device was found to be inactive.	Status message; no action is required. The Configuration Manager automatically configures and activates the device.
`One or more active devices have been reconfigured -- system requires reboot. Press any key to reboot system.`	You modified the resource values of one or more PCI or Plug and Play ISA cards.	Reboot the system to reconfigure the card(s).

`The Plug and Play ISA card has been successfully configured.`
 	
`Card Count Plug and Play ISA cards have been successfully configured.`
	The Configuration Manager has successfully configured the given number of cards.	If this message does not match the number of Plug and Play ISA expansion cards installed in your system, reinstall any Plug and Play cards not listed and reboot the system.

`WARNING: Boot Device conflict detected! CSN=Card Select Number Error=Error.`	One of the devices is attempting to use one or more resources assigned to the system's boot device.	Perform the following procedure: **1. Start the ISA Configuration Utility.** **2. Identify the card marked "`config err`."** This should be the card that is attempting to use one or more resources required by the system's boot device. **3. Go to the procedures provided for the last error message in this table.**

NOTE: For the full name of an abbreviation or acronym used in this table, see the Glossary in the online System User's Guide.

Table A-4. Configuration Manager Messages *(continued)*

Message	Probable Cause	Corrective Action

`WARNING: Could not configure` *`Plug and Play Card Name`*`.`
 	
`WARNING: Could not configure PCI device, ID=`*`DeviceID`*`.`
 	
`Failed to configure` *`Number`* `of` *`Total Count`* `Plug and Play ISA devices. Use your system's configuration utility to resolve conflicts. Press any key to continue.`
	The card(s) mentioned are not fully configured due to resource conflicts.	If you have documentation that lists the allowable resource values for your Plug and Play or PCI expansion card, you can use the following procedure to locate and resolve the resource conflict (otherwise, see the next entry in this table):
		
		1. Start the ISA Configuration Utility.
		
		Any Plug and Play or PCI cards that could not be configured should be marked "`config err`" on the list of cards in the ISA Configuration Utility window.
		
		2. Select the System Resources option from the View menu.
		
		The System Resource Usage dialog box displays all resources currently used by the system.
		
		3. Select one of the resources used by your Plug and Play or PCI expansion card, and click the Used by Card button.
		
		The Card Resources Usage dialog box displays the information.
		
		4. Repeat step 3 until you have identified all conflicted resources and the cards that use them.
		
		5. Modify the cards as needed to free the resources required by the unconfigured Plug and Play or PCI expansion card.
		
		For instructions, see "Modifying a Card" in the configuring expansion cards section of the online *System User's Guide.*

NOTE: For the full name of an abbreviation or acronym used in this table, see the Glossary in the online System User's Guide.

Table A-4. Configuration Manager Messages *(continued)*

Message	Probable Cause	Corrective Action
WARNING:Could not configure *Plug and Play Card Name*. WARNING: Could not configure PCI device, ID=*DeviceID*. Failed to configure *Number* of *Total Count* Plug and Play ISA devices. Use your system's configuration utility to resolve conflicts. Press any key to continue.	The card(s) mentioned are not fully configured due to resource conflicts.	If you do not know the allowable resource values for your Plug and Play or PCI expansion card, use the following procedure to locate and resolve the resource conflict. For instructions on any of these options, see the "Configuring Expansion Cards" section in the online *System User's Guide*. **1. Remove all card configurations from the ISA Configuration Utility.** For instructions, see "Removing a Card." **2. Insert your backup copy of the ISA Configuration Utility diskette into drive A, and reboot your system.** The ISA Configuration Utility should automatically configure your Plug and Play or PCI expansion card. **3. Add the ISA cards back into the ISA Configuration Utility, resolving any resource conflicts as they arise.** See "Adding a Listed Card." If your Plug and Play or PCI expansion card is not automatically configured when you reboot the system with all other cards removed, you should contact the manufacturer of the card or see the chapter titled "Getting Help" in your *Diagnostics and Troubleshooting Guide*.

NOTE: For the full name of an abbreviation or acronym used in this table, see the Glossary in the online System User's Guide.

Appendix B
Regulatory Notices

FCC Notices (U.S. Only)

Most Dell computer systems are classified by the Federal Communications Commission (FCC) as Class B digital devices. However, the inclusion of certain options changes the rating of some configurations to Class A. To determine which classification applies to your computer system, examine all FCC registration labels located on the back panel of your computer, on card-mounting brackets, and on the cards themselves. If any one of the labels carries a Class A rating, your entire system is considered to be a Class A digital device. If *all* labels carry either the Class B rating or the FCC logo (FC), your system is considered to be a Class B digital device.

Once you have determined your system's FCC classification, read the appropriate FCC notice. Note that FCC regulations provide that changes or modifications not expressly approved by Dell Computer Corporation could void your authority to operate this equipment.

A Notice About Shielded Cables: Use only shielded cables for connecting peripherals to any Dell device to reduce the possibility of interference with radio and television reception. Using shielded cables ensures that you maintain the appropriate FCC radio frequency emissions compliance (for a Class A device) or FCC certification (for a Class B device) of this product. For parallel printers, a cable is available from Dell Computer Corporation.

Class A

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

Class B

NOTE: This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the manufacturer's instruction manual, may cause interference with radio and television reception. This equipment has been tested and found to comply with the limits for a Class B digital device pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference with radio or television reception, which can be determined by turning the equipment off and on, you are encouraged to try to correct the interference by one or more of the following measures:

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

If necessary, consult a representative of Dell Computer Corporation or an experienced radio/television technician for additional suggestions. You may find the following

booklet helpful: *FCC Interference Handbook, 1986*, available from the U.S. Government Printing Office, Washington, DC 20402, Stock No. 004-000-00450-7.

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

- This device may not cause harmful interference.
- This device must accept any interference received, including interference that may cause undesired operation.

The following information is provided on the device or devices covered in this document in compliance with FCC regulations:

- Product name: Dell Dimension XPS H233
- Model number: MMS
- Company name: Dell Computer Corporation
  Regulatory Department
  One Dell Way
  Round Rock, Texas 78682 USA
  512-338-4400

IC Notice (Canada Only)

Most Dell computer systems (and other Dell digital apparatus) are classified by the Industry Canada (IC) Interference-Causing Equipment Standard #3 (ICES-003) as Class B digital devices. To determine which classification (Class A or B) applies to your computer system (or other Dell digital apparatus), examine all registration labels located on the bottom or the back panel of your computer (or other digital apparatus). A statement in the form of "IC Class A ICES-3" or "IC Class B ICES-3" will be located on one of these labels.

Note that Industry Canada regulations provide that changes or modifications not expressly approved by Dell Computer Corporation could void your authority to operate this equipment.

This Class B (or Class A, if so indicated on the registration label) digital apparatus meets the requirements of the Canadian Interference-Causing Equipment Regulations.

Cet appareil numérique de la Classe B (ou Classe A, si ainsi indiqué sur l'étiquette d'enregistration) respecte toutes les exigences du Reglement sur le Materiel Brouilleur du Canada.

CE Notice

Marking by the symbol CE indicates compliance of this Dell system to the EMC (Electromagnetic Compatibility) directive of the European Community. Such marking is indicative that this Dell system meets or exceeds the following technical standards:

- EN 55022 — "Limits and Methods of Measurement of Radio Interference Characteristics of Information Technology Equipment."

  NOTE: EN 55022 emissions requirements provide for two classifications—Class A and Class B. If any one of the registration labels (located on the bottom or back panel of your computer, on card-mounting brackets, or on the cards themselves) carries an FCC Class A rating, the following warning applies to your system.

  CAUTION: This is a Class A product. In a domestic environment this product may cause radio interference in which case the user may be required to take adequate measures.

- EN 50082-1 — "Electromagnetic compatibility—Generic immunity standard Part 1: Residential, commercial, and light industry."

- IEC 801-2 — “Electromagnetic compatibility for industrial-process measurement and control equipment Part 2: Electrostatic discharge requirements.” — Severity level 3.
- IEC 801-3 — “Electromagnetic compatibility for industrial-process measurement and control equipment Part 3: Radiated electromagnetic field requirements.” — Severity level 2.
- IEC 801-4 — “Electromagnetic compatibility for industrial-process measurement and control equipment Part 4: Electrical fast transient/burst requirements.” — Severity level 2.
- EN60950:1992 + Amd.1:1993 + Amd.2:1993 — “Safety of Information Technology Equipment including Electrical Business Equipment.”

A “Declaration of Conformity” in accordance with the preceding standards has been made and is on file at Dell Products Europe BV, Limerick, Ireland.

Appendix C
Warranties and Return Policy

Limited Three-Year Warranty (U.S. Only)

Dell Computer Corporation ("Dell") manufactures its hardware products from parts and components that are new or equivalent to new in accordance with industry-standard practices. Dell warrants that the hardware products it manufactures will be free from defects in materials and workmanship. The warranty term is three years beginning on the date of invoice, as described in the following text.

Damage due to shipping the products to you is covered under this warranty. Otherwise, this warranty does not cover damage due to external causes, including accident, abuse, misuse, problems with electrical power, servicing not authorized by Dell, usage not in accordance with product instructions, failure to perform required preventive maintenance, and problems caused by use of parts and components not supplied by Dell.

This warranty does not cover any items that are in one or more of the following categories: software; external devices (except as specifically noted); accessories or parts added to a Dell system after the system is shipped from Dell; accessories or parts added to a Dell system through Dell's system integration department; accessories or parts that are not installed in the Dell factory; or DellWare® products. Monitors, keyboards, and mice that are Dell-branded or that are included on Dell's standard price list are covered under this warranty; all other monitors, keyboards, and mice (including those sold through the DellWare program) are not covered. Batteries for portable computers are covered only during the initial one-year period of this warranty.

Coverage During Year One

During the one-year period beginning on the invoice date, Dell will repair or replace products covered under this limited warranty that are returned to Dell's facility. To request warranty service, you must call Dell's Customer Technical Support within the warranty period. Refer to the chapter titled "Getting Help" in your *Diagnostics and Troubleshooting Guide* to find the appropriate telephone number for obtaining customer assistance. If warranty service is required, Dell will issue a Return Material Authorization Number. You must ship the products back to Dell in their original or equivalent packaging, prepay shipping charges, and insure the shipment or accept the risk of loss or damage during shipment. Dell will ship the repaired or replacement products to you freight prepaid if you use an address in the continental U.S. Shipments to other locations will be made freight collect.

NOTE: Before you ship the product(s) to Dell, back up the data on the hard-disk drive(s) and any other storage device(s) in the product(s). Remove any removable media, such as diskettes, CDs, or PC Cards. Dell does not accept liability for lost data or software.

Dell owns all parts removed from repaired products. Dell uses new and reconditioned parts made by various manufacturers in performing warranty repairs and building replacement products. If Dell repairs or replaces a product, its warranty term is not extended.

Coverage During Years Two and Three

During the second and third years of this limited warranty, Dell will provide, on an exchange basis, replacement parts for the Dell hardware product(s) covered under this limited warranty when a part requires replacement. You must report each instance of hardware failure to Dell's Customer Technical Support in advance to obtain Dell's concurrence that a part should be replaced and to have Dell ship the replacement part. Dell will ship parts using next-business-day delivery, shipping prepaid if you use an address in the continental U.S. Shipments to other locations will be made freight collect. Dell will include a prepaid shipping container with each replacement part for your use in returning the replaced part to Dell. Replacement parts are new or reconditioned. Dell may provide replacement parts made by various manufacturers when supplying parts to you. The warranty term for a replacement part is the remainder of the limited warranty term.

You will pay Dell for replacement parts if the replaced part is not returned to Dell within 30 days after the date the replacement part was shipped by Dell and for parts used to repair systems not covered by this limited warranty. In these events, replacement parts will be priced at Dell's then-current standard prices. Payment for these parts is due within 30 days from the date of invoice.

NOTE: You accept full responsibility for your software and data. Dell is not required to advise or remind you of appropriate backup and other procedures.

General

DELL MAKES NO EXPRESS WARRANTIES BEYOND THOSE STATED IN THIS WARRANTY STATEMENT. DELL DISCLAIMS ALL OTHER WARRANTIES, EXPRESS OR IMPLIED, INCLUDING WITHOUT LIMITATION IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE. SOME STATES DO NOT ALLOW LIMITATIONS ON IMPLIED WARRANTIES, SO THIS LIMITATION MAY NOT APPLY TO YOU.

DELL'S RESPONSIBILITY FOR MALFUNCTIONS AND DEFECTS IN HARDWARE IS LIMITED TO REPAIR AND REPLACEMENT AS SET FORTH IN THIS WARRANTY STATEMENT. THESE WARRANTIES GIVE YOU SPECIFIC LEGAL RIGHTS, AND YOU MAY ALSO HAVE OTHER RIGHTS, WHICH VARY FROM STATE TO STATE.

DELL DOES NOT ACCEPT LIABILITY BEYOND THE REMEDIES SET FORTH IN THIS WARRANTY STATEMENT OR LIABILITY FOR INCIDENTAL OR CONSEQUENTIAL DAMAGES, INCLUDING WITHOUT LIMITATION ANY LIABILITY FOR PRODUCTS NOT BEING AVAILABLE FOR USE OR FOR LOST DATA OR SOFTWARE.

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

These provisions apply to Dell's U.S. limited three-year warranty only. For provisions of any service contract covering your system, refer to the separate service contract that you will receive.

NOTE: If you chose one of the available warranty and service options in place of the standard limited three-year warranty described in the preceding text, the option you chose will be listed on your invoice.

Limited Three-Year Warranty (Canada Only)

Dell Computer Corporation ("Dell") manufactures its hardware products from parts and components that are new or equivalent to new in accordance with industry-standard practices. Dell warrants that the hardware products it manufactures will be free from defects in materials and workmanship. The warranty term is three years beginning on the date of invoice, as described in the following text. This warranty is transferrable with the warranted products.

Damage due to shipping the products to you is covered under this warranty. Otherwise, this warranty does not cover damage due to external causes, including accident, abuse, misuse, problems with electrical power, servicing not authorized by Dell, usage not in accordance with product instructions, failure to perform required preventive maintenance, and problems caused by use of parts and components not supplied by Dell.

This warranty does not cover any items that are in one or more of the following categories: software; external devices (except as specifically noted); accessories or parts added to a Dell system after the system is shipped from Dell; accessories or parts added to a Dell system through Dell's system integration department; accessories or parts that are not installed in the Dell factory; or DellWare products. Monitors, keyboards, and mice that are Dell-branded or that are included on Dell's standard price list are covered under this warranty; all other monitors, keyboards, and mice (including those sold through the DellWare program) are not covered. Batteries for portable computers are covered only during the initial one-year period of this warranty.

Coverage During Year One

During the one-year period beginning on the invoice date, Dell will repair or replace products covered under this limited warranty that are returned to Dell's facility. To request warranty service, you must call Dell's Customer Technical Support within the warranty period. Refer to the chapter titled "Getting Help" in your *Diagnostics and Troubleshooting Guide* to find the appropriate telephone number for obtaining customer assistance. If warranty service is required, Dell will issue a Return Material Authorization Number. You must ship the products back to Dell in their original or equivalent packaging, prepay shipping charges, and insure the shipment or accept the risk of loss or damage during shipment. Dell will ship the repaired or replacement products to you freight prepaid if you use an address in Canada. Shipments to other locations will be made freight collect.

NOTE: Before you ship the product(s) to Dell, back up the data on the hard-disk drive(s) and any other storage device(s) in the product(s). Remove any removable media, such as diskettes, CDs, or PC Cards. Dell does not accept liability for lost data or software.

Dell owns all parts removed from repaired products. Dell uses new and reconditioned parts made by various manufacturers in performing warranty repairs and building replacement products. If Dell repairs or replaces a product, its warranty term is not extended, except as may be required by law.

Coverage During Years Two and Three

During the second and third years of this limited warranty, Dell will provide, on an exchange basis, replacement parts for the Dell hardware product(s) covered under this limited warranty when a part requires replacement. You must report each instance of hardware failure to Dell's Customer Technical Support in advance to obtain Dell's concurrence that a part should be replaced and to have Dell ship the replacement part. Dell will ship parts using next-business-day delivery, shipping prepaid if you use an address in Canada. Shipments to other locations will be made freight collect. Dell will include a prepaid shipping container with each replacement part for your use in returning the replaced part to Dell. Replacement parts are new or reconditioned. Dell may provide replacement parts made by various manufacturers when supplying parts to you. The warranty term for a replacement part is the remainder of the limited warranty term.

You will pay Dell for replacement parts if the replaced part is not returned to Dell within 30 days after the date the replacement part was shipped by Dell and for parts used to repair systems not covered by this limited warranty. In these events, replacement parts will be priced at Dell's then-current standard prices. Payment for these parts is due within 30 days from the date of invoice.

NOTE: You accept full responsibility for your software and data. Dell is not required to advise or remind you of appropriate backup and other procedures.

General

DELL MAKES NO EXPRESS WARRANTIES BEYOND THOSE STATED IN THIS WARRANTY STATEMENT. DELL DISCLAIMS ALL OTHER WARRANTIES, EXPRESS OR IMPLIED, INCLUDING WITHOUT LIMITATION IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE. SOME JURISDICTIONS DO NOT ALLOW LIMITATIONS ON IMPLIED WARRANTIES, SO THIS LIMITATION MAY NOT APPLY TO YOU.

DELL'S RESPONSIBILITY FOR MALFUNCTIONS AND DEFECTS IN HARDWARE IS LIMITED TO REPAIR AND REPLACEMENT AS SET FORTH IN

THIS WARRANTY STATEMENT. THESE WARRANTIES GIVE YOU SPECIFIC LEGAL RIGHTS, AND YOU MAY ALSO HAVE OTHER RIGHTS, WHICH VARY FROM ONE JURISDICTION TO ANOTHER.

DELL DOES NOT ACCEPT LIABILITY BEYOND THE REMEDIES SET FORTH IN THIS WARRANTY STATEMENT OR LIABILITY FOR INCIDENTAL OR CONSEQUENTIAL DAMAGES, INCLUDING WITHOUT LIMITATION ANY LIABILITY FOR PRODUCTS NOT BEING AVAILABLE FOR USE OR FOR LOST DATA OR SOFTWARE.

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

These provisions apply to Dell's Canadian limited three-year warranty only. For provisions of any service contract covering your system, refer to the separate service contract that you will receive.

NOTE: If you chose one of the available warranty and service options in place of the standard limited three-year warranty described in the preceding text, the option you chose will be listed on your invoice.

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

If you are an end-user customer who bought products directly from a Dell company, you may return them to Dell up to 30 days from the date of invoice for a refund of the product purchase price if already paid. This refund will not include any shipping and handling charges shown on your invoice. If your organization bought the products from Dell under a written agreement with Dell, there may be different terms for the return of products under this policy, based on your agreement with Dell. To return products, you must call Dell Customer Service at the telephone number shown in the chapter titled "Getting Help" in your *Diagnostics and Troubleshooting Guide* to receive a Credit Return Authorization Number. You must ship the products to Dell in their original packaging, prepay shipping charges, and insure the shipment or accept the risk of loss or damage during shipment. You may return software for refund or credit only if the sealed package containing the diskette(s) or CD(s) is unopened. Returned products must be in as-new condition, and all of the manuals, diskette(s), CD(s), power cables, and other items included with a product must be returned with it.

This "Total Satisfaction" Return Policy does not apply to DellWare products, which may be returned under DellWare's current return policy.

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