



Preface

About This Guide

This guide is intended for anyone who wants to upgrade or troubleshoot a Dell PowerEdge 1400 computer system. Before calling Dell for technical assistance, follow the recommended procedure(s) in this guide to solve most hardware and software problems yourself. The files are summarized as follows:

- Chapter 1, "Introduction," provides a brief overview of the system's service features.
- Everyone should read Chapter 2, "Checking the Basics," for some initial checks and procedures that you can use to solve basic computer problems. It also directs you to the appropriate file in this guide for more detailed troubleshooting information and procedures to solve more complex problems.
- Whenever you receive an error message or code, you should read Chapter 3, "Messages and Codes." This file discusses system messages, system beep codes, warning messages, diagnostics messages, alert log messages, and small computer system interface (SCSI) hard-disk drive indicator codes.
- If you suspect that the problems are software-related, or you are still having problems after testing the computer's hardware, read Chapter 4, "Finding Software Solutions."
- For hardware-related problems, read Chapter 5, "Running the Dell Diagnostics." Chapter 6, "Checking the Equipment" and Chapter 7, "Checking Inside the Computer," provide troubleshooting procedures for equipment connected to the input/output (I/O) panel of the computer and components inside the computer, respectively. Chapter 7 also provides information on removing the computer covers.
- Chapter 8, "Installing System Board Options" and Chapter 9, "Installing Drives," are intended for anyone who wants to install or remove internal components, such as memory modules, expansion cards, and SCSI devices.
- Chapter 10, "Getting Help," describes the help tools Dell provides to assist you should you have a problem with the computer. It also explains how and when to call Dell for technical assistance. Getting Help also includes a Diagnostics Checklist that you can copy and fill out as you perform the troubleshooting procedures. If you need to call Dell for technical assistance, use the completed checklist to tell the Dell technical support representative what procedures you performed to

better help the representative give you assistance. If you must return a piece of hardware to Dell, include a completed checklist.

- Appendix A, “Jumpers, Switches, and Connectors,” is intended for anyone who is troubleshooting the system or is adding internal options and needs to change jumper or switch settings.
- Reference “Abbreviations and Acronyms” for a table of the abbreviations and acronyms used throughout this guide and in other Dell documentation.

Other Documentation You May Need

Besides this *Installation and Troubleshooting Guide*, the following documentation is included with your system:

- Your system *User's Guide*, which describes system features and technical specifications, video and small computer system interface (SCSI) device drivers, the System Setup program, and software support utilities.
- Documentation for Dell OpenManage system management software on the *Dell OpenManage Server Assistant* CD or the *Dell OpenManage Applications* CD.

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



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

- Operating system documentation is included with the system if you ordered the operating system software from Dell. This documentation describes how to install (if necessary), configure, and use the operating system software.
- Documentation is included with any options you purchase separately from the system. This documentation includes information that you need to configure and install these options in your Dell computer.
- Technical information files—sometimes called “readme” files—may be installed on the hard-disk drive to provide last-minute updates about technical changes to the system or advanced technical reference material intended for experienced users or technicians.

Notational Conventions

The following subsections describe notational conventions used in this document.

Notes, Notices, Cautions, and Warnings

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



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



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



CAUTION: A CAUTION indicates a potentially hazardous situation which, if not avoided, may result in minor or moderate injury.

WARNING: A WARNING indicates a potentially hazardous situation which, if not avoided, could result in death or serious bodily injury.

Typographical Conventions

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

- *Interface components* are window titles, button and icon names, menu names and selections, and other options that appear on the monitor screen or display. They are presented in bold.
Example: Click **OK**.
- *Keycaps* are labels that appear on the keys on a keyboard. They are enclosed in angle brackets.
Example: <Enter>
- *Key combinations* are series of keys to be pressed simultaneously (unless otherwise indicated) to perform a single function.
Example: <Ctrl><Alt><Enter>
- *Commands* presented in lowercase bold are for reference purposes only and are not intended to be typed when referenced.
Example: "Use the **format** command to"

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

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

- *Filenames* and *directory names* are presented in lowercase bold.
Examples: **autoexec.bat** and **c:\windows**

- *Syntax lines* consist of a command and all its possible parameters. Commands are presented in lowercase bold; variable parameters (those for which you substitute a value) are presented in lowercase italics; constant parameters are presented in lowercase bold. The brackets indicate items that are optional.

Example: **del** *[drive:] [path] filename[/p]*

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

Example: The following message appears on your screen:

```
No boot device available
```

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

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

Example: DIMM_x (where x represents the DIMM socket designation)