



Contents

Chapter 1	Introduction.	1-1
Chapter 2	Checking the Basics	2-1
	Backing Up Files	2-1
	Basic Checks	2-1
	Checking Connections and Switches	2-2
	Look and Listen	2-5
	The System Setup Program	2-7
Chapter 3	Messages and Codes	3-1
	System Messages	3-1
	System Beep Codes	3-9
	Warning Messages	3-11
	Diagnostics Messages	3-12
	Alert Log Messages From the Dell OpenManage Server Agent	3-12
Chapter 4	Finding Software Solutions.	4-1
	Installing and Configuring Software.	4-1
	Using Software	4-2
	Error Messages	4-2
	Input Errors.	4-2
	Program Conflicts.	4-2
	Avoiding Interrupt Assignment Conflicts	4-2

Chapter 5	Running the Dell Diagnostics	5-1
	Features of the Dell Diagnostics	5-1
	When to Use the Dell Diagnostics	5-1
	Starting the Dell Diagnostics	5-2
	How to Use the Dell Diagnostics	5-3
	How to Use the Device Groups Menu	5-3
	Device Groups Menu Options	5-3
	Run Tests	5-4
	Devices	5-4
	Select	5-5
	Config	5-5
	Error Messages	5-5
Chapter 6	Checking the Equipment	6-1
	Troubleshooting the Monitor	6-1
	Troubleshooting the Keyboard	6-2
	Troubleshooting the Basic I/O Functions	6-3
	Troubleshooting a Parallel Printer	6-4
	Troubleshooting a Serial I/O Device	6-5
	Troubleshooting a USB Device	6-6
	Troubleshooting the Integrated NIC	6-7
Chapter 7	Checking Inside the Computer	7-1
	Before You Begin	7-1
	Safety First—For You and Your Computer	7-1
	Unpacking Your Hardware Option	7-1
	Removing the Computer Cover	7-2
	Replacing the Computer Cover	7-3
	Inside Your Computer	7-5
	Rotating the Power Supply Away From the System Board	7-7
	Removing and Replacing the Front Bezel	7-8
	Removing and Replacing Front-Panel Inserts	7-9
	Responding to a Dell OpenManage Server Agent Alert Message	7-10
	Troubleshooting a Wet Computer	7-11
	Troubleshooting a Damaged Computer	7-11
	Troubleshooting the Battery	7-12
	Troubleshooting the Power Supply	7-13
	Troubleshooting Power Cable Connections	7-13
	Troubleshooting the Cooling Fan	7-14
	Troubleshooting Expansion Cards	7-14
	Troubleshooting System Memory	7-16
	Troubleshooting the Video Subsystem	7-18

Troubleshooting the System Board	7-19
Troubleshooting the Diskette Drive Subsystem	7-21
Troubleshooting a SCSI Tape Drive	7-23
Troubleshooting SCSI Hard-Disk Drives	7-26

Chapter 8 *Installing System Board Options 8-1*

Expansion Cards	8-2
Expansion Slots	8-2
Installing an Expansion Card	8-3
Removing an Expansion Card	8-6
Adding Memory	8-6
Memory Module Installation Guidelines	8-7
Installing a Memory Module	8-9
Removing a Memory Module	8-9
Microprocessor Upgrades	8-10
Adding or Replacing a Microprocessor	8-10
Replacing the System Battery	8-16

Chapter 9 *Installing Drives 9-1*

Connecting Drives	9-2
Installing a Drive in a 5.25-Inch Drive Bay	9-4
Installing a Hard-Disk Drive in the Internal Hard-Disk Drive Cage	9-10
Installing SCSI Devices	9-13
SCSI Configuration Guidelines	9-13
SCSI ID Numbers	9-14
Device Termination	9-14
SCSI Cables	9-14
General Procedure for Installing SCSI Devices	9-15
Partitioning and Formatting SCSI Hard-Disk Drives	9-17

Chapter 10 *Getting Help 10-1*

Technical Assistance	10-1
Help Tools	10-2
World Wide Web	10-2
AutoTech Service	10-3
TechFax Service	10-3
Automated Order-Status System	10-3
Technical Support Service	10-3
Problems With Your Order	10-4
Product Information	10-4

Returning Items for Warranty Repair or Credit	10-4
Before You Call	10-5
Dell Contact Numbers.	10-7

Appendix A Jumpers, Switches, and Connectors A-1

Jumpers	A-1
Switches	A-2
System Board Jumpers.	A-2
Disabling a Forgotten Password	A-4
System Board Labels	A-4

Abbreviations and Acronyms

Index

Figures

Figure 2-1. Back-Panel Features.	2-3
Figure 2-2. Front-Panel Features	2-4
Figure 7-1. Padlock Installed	7-2
Figure 7-2. Removing the Computer Cover.	7-3
Figure 7-3. Replacing the Computer Cover	7-4
Figure 7-4. Computer Orientation View.	7-5
Figure 7-5. Inside the Chassis	7-6
Figure 7-6. Rotating the Power Supply	7-7
Figure 7-7. Removing the Front Bezel	7-8
Figure 7-8. Removing a Front-Panel Insert.	7-10
Figure 8-1. System Board Features	8-2
Figure 8-2. Removing the Filler Bracket.	8-3
Figure 8-3. Unlatching the Card Guide.	8-4
Figure 8-4. Installing an Expansion Card	8-5
Figure 8-5. Memory Modules and Sockets	8-7
Figure 8-6. Installing a Memory Module	8-9
Figure 8-7. Removing a Memory Module	8-10
Figure 8-8. Removing Air Shroud.	8-11
Figure 8-9. Securing Clip	8-12
Figure 8-10. Removing the Microprocessor	8-13
Figure 8-11. Pin-1 Identification.	8-13
Figure 8-12. Installing the Microprocessor Chip	8-14
Figure 8-13. Installing the Heat Sink	8-15
Figure 8-14. Installing the VRM	8-15
Figure 8-15. System Battery and Battery Socket	8-18
Figure 9-1. Drive Locations	9-2
Figure 9-2. DC Power Cable Connector.	9-3

Figure 9-3.	Drive Interface Connectors	9-3
Figure 9-4.	Removing a Drive.	9-5
Figure 9-5.	Attaching the Drive Bracket to the New Drive	9-6
Figure 9-6.	Inserting the New Drive Into the Drive Bay	9-7
Figure 9-7.	Attaching EIDE CD-ROM Drive Cables	9-8
Figure 9-8.	Removing the Hard-Disk Drive Cage	9-11
Figure 9-9.	Inserting a Hard-Disk Drive Into the Drive Cage	9-12
Figure 9-10.	Inserting the Hard-Disk Drive Cage Into the Chassis.	9-13
Figure 9-11.	SCSI Cable	9-15
Figure 10-1.	Diagnostics Checklist.	10-6
Figure A-1.	System Board Jumpers	A-3

Tables

Table 2-1.	Boot Routine Indications	2-5
Table 3-1.	System Messages	3-2
Table 3-2.	System Beep Codes	3-10
Table 4-1.	IRQ Line Assignment Defaults.	4-3
Table 5-1.	Devices Options.	5-4
Table 5-2.	Parameters Options.	5-4
Table 8-1.	Sample DIMM Configurations	8-7
Table 10-1.	International Dialing Codes	10-8
Table 10-2.	Dell Contact Numbers	10-9
Table A-1.	System-Board Jumper Settings	A-3
Table A-2.	System Board Connectors and Sockets	A-5

