



**O/P Dealer User's Manual  
Book X: Hardware**

May 1996 Revision • Item # S-HW

## O/P Dealer Manual Book X: Hardware

© Copyrighted by D.D.M.S., Inc.  
Printed in the United States of America.

### CREDITS

Editor: ..... Mike Malloy

#### Technical

Editors: ..... Charley Baughman  
Crystal Dennstedt  
Danny Elam  
Mike Ferren  
Roy Hammons  
Glen Serpas  
Dave Souder  
David Turner

Copy Editors: ..... Cindy Sheets  
Sharon Sutcliffe

Writer: ..... Paula Patterson

DDMS, P.O. Box 507, Keller, TX 76248: 817-431-0668. Sales: 1-800-366-3367.  
Service: 1-800-366-4778. Fax: 817-431-0956

*View documents by clicking on them*

## CONTENTS AT A GLANCE

### Chapters

#### Volume 1: Hardware Setup

##### Part A: System Overview and Setup

- 1: Overview
- 2: Setting Up A System

##### Part B: Attaching Standard Peripherals

- 3: Connecting Peripherals
- 4: Customizing Printers
- 5: Customizing Terminals
- 6: Customizing Modems
- 7: Customizing Cables

##### Part C: Attaching Optional Peripherals

- 8: Setting Up Remote Terminals and Connecting Slave Printers and Cash Drawers
- 9: Connecting Scanners
- 10: Installing the O/P Isolator

#### Volume 2: Hardware Maintenance

##### Part D: Upgrading and Replacing Hardware

- 11: Replacing Hard Drives
- 12: Replacing Floppy Drives
- 13: Replacing Tape Drives
- 14: Replacing I/O Boards and Monitor Cards
- 15: Replacing Batteries
- 16: Replacing Power Supplies

##### Part E: Troubleshooting

- 17: Troubleshooting Printers, Terminals, Modems, and Keyboards
- 18: Reseating I/O Boards and Controller Cards
- 19: Coping with Power Failures

**Chapters**

**Part F: Appendices**

A: Copying and Restoring System Configuration

B: Preparing Diskettes

C: Backing Up and Restoring Unit 03

D: Running Setup

E: Running CMOS Setup

F: Using Personal Computers with the DDMS System

G: Hard Drive Configurations

# LIST OF FIGURES

Figure		Page
1-i	Sample Building Layout .....	1-iv
1-ii	Sample Detailed Peripheral Listing .....	1-v
1-iii	Example of Recommended Site Wiring .....	1-ix
1-1	A Tower CPU .....	1-3
1-2	Cards and Boards .....	1-4
1-3	An I/O Pad with Cables and Module .....	1-6
1-4	Table of Hard Drive Configurations .....	1-10
2-1	Tower Cover Screws .....	2-3
2-2	I/O Boards and Controller Cards .....	2-4
2-3	Unscrewing a Drive Controller Card .....	2-5
2-4	The 486 Tower Key .....	2-6
2-5	Outlets and Cords .....	2-7
2-6	The Master Menu .....	2-10
2-7	The List of Units on Your System .....	2-11
2-8	The Specialix I/O Pad .....	2-12
3-1	I/O Pad with Cables and Module .....	3-4
3-2	Connections on a Multi-Tech Modem .....	3-5
3-3	Connections on a Microcomm Modem .....	3-6
3-4	An Example of the (Y) System Status Screen .....	3-7
3-5	Changing the Device Type for Phy #1 .....	3-9
3-6	Table of Terminal Device Type Codes .....	3-10
3-7	Table of Printer Device Types .....	3-11
3-8	Specifying the (R) REBOOT THIS MACHINE ONLY Level .....	3-13
4-1	The Default Factory Settings for Monarch Printers .....	4-24
6-1	Wholesaler and Remote DIP Switch Settings for the 212E, 224E, and 224H .....	6-5
6-2	DIP Switches on the Side of a Multi-Tech 224BA .....	6-6
6-3	DIP Switches on the Bottom of a Multi-Tech 224EH .....	6-6
6-4	DIP Switches on the Inside of a Multi-Tech 224EH .....	6-7
6-5	DIP Switches on the Bottom of a Multi-Tech 224E7 .....	6-7
6-6	DIP Switches on the Front of a Microcom AX/2400c .....	6-10
6-7	DIP Switches on the Back of a Microcom AX/2400c .....	6-10
8-1	Connections on Multi-Tech Modems .....	8-4
8-2	Connections for a Remote Order Entry Terminal .....	8-9
8-3	Table of Slave Printers and Terminals .....	8-10
8-4	Setting Up a Slave Printer in the (Y) Screen .....	8-11
8-5	Setting Up a Slave Printer in the (L1) Screen .....	8-13
9-1	Connections for Bar Code Scanners .....	9-4
9-2	The DEV TYPES Field .....	9-9
9-3	The (+G) Special Portable Scanner Screen .....	9-12

<b>Figure</b>		<b>Page</b>
10-1	The OP Isolator .....	10-3
10-2	Connecting the OP Isolator .....	10-5
11-1	The Hard Drive in a Desktop System .....	11-3
11-2	The Hard Drive in a Superbox System .....	11-4
11-3	Removing the Screws on a Tower .....	11-5
11-4	Removing the Brackets on a Desktop .....	11-5
11-5	Removing the Brackets on a Superbox .....	11-6
11-6	The Back of the SCSI Hard Disk Drive .....	11-7
11-7	The Back of an RLL or ESDI Hard Disk Drive .....	11-7
11-8	Attaching Rails on Desktop and Superbox Hard Drives .....	11-8
11-9	Hard Drive Controller Card in a Tower System .....	11-9
11-10	Controller Cards in a Tower System .....	11-10
11-11	The Adaptec 2070 Hard Drive Controller .....	11-11
11-12	The Adaptec 2072 Hard Drive Controller .....	11-12
11-13	The Adaptec ACB-2372 Hard and Floppy Drive Controller .....	11-12
11-14	The DPT PM 3011/65 RLL Hard and Floppy Drive Controller .....	11-13
11-15	The DPT PM 3011/75 ESDI Hard and Floppy Drive Controller .....	11-13
11-16	The PSi 1600 ESDI Hard and Floppy Drive Controller .....	11-14
11-17	The PSi 1600 RLL Hard and Floppy Drive Controller .....	11-14
11-18	The Silicon Valley IDE 200 Hard and Floppy Drive Controller .....	11-15
11-19	The IDE 200 Hard and Floppy Drive Controller .....	11-15
11-20	The PSi 1200 SCSI Hard and Floppy Drive Controller .....	11-16
11-21	The PSi 1600 SCSI Hard and Floppy Drive Controller .....	11-16
11-22	The PSi 1616 SCSI Hard and Floppy Drive Controller .....	11-17
11-23	The IDE ISA Cache Hard and Floppy Drive Controller .....	11-17
11-24	The IDE PCI Cache Hard Drive Controller .....	11-18
11-25	The IDE Non-Cache Hard Drive and Floppy Drive Controller .....	11-18
12-1	Removing the Floppy Drive Screws on a Tower CPU .....	12-3
12-2	The Back of the Floppy Disk Drive .....	12-4
12-3	Attaching Rails on Desktop, Superbox, and Intel Floppy Drives .....	12-5
12-4	Controller Cards in a Desktop System .....	12-6
12-5	Attaching the Ribbon Cable to the Floppy Drive Controller Card .....	12-7
13-1	Removing the Tape Drive Screws in a Tower CPU .....	13-3
13-2	The Back of the Streamer Tape Drive .....	13-4
13-3	Tape Drive Controller Cards in a Tower System .....	13-6
13-4	Attaching the Cable to a 60 or 125 MB Tape Drive Controller Card .....	13-7
13-5	Attaching the Cable to a 150 MB Tape Drive Controller Card .....	13-8
13-6	Attaching the Cable to a 250 MB Tape Drive Controller Card .....	13-8
13-7	Attaching the Cable to a 500 MB, 1 GB, or 1.2 GB Tape Drive Controller Card .....	13-14
14-1	A Standard I/O Board in a Tower System .....	14-3
14-2	Removing the Ribbon Cable from an I/O Board .....	14-4
14-3	The I/O Board with Jumper Blocks On .....	14-5
14-4	Attaching the Ribbon Cable to the I/O Board on a Tower CPU .....	14-7
14-5	The Monitor Controller Card in a Tower System .....	14-9

<b>Figure</b>		<b>Page</b>
15-1	An AT-Compatible Clock Battery Holder .....	15-3
15-2	The Barrel Type of AT-Compatible Clock Battery .....	15-4
15-3	A Six Volt AT-Compatible Clock Battery .....	15-5
15-4	Two Large Volt Lithium AT-Compatible Clock Batteries .....	15-5
15-5	The Battery Wires and Battery Jumper .....	15-7
16-1	The Power Supply in a Desktop System .....	16-3
16-2	The Power Supply Connectors on the Motherboard .....	16-5
16-3	The Motherboard's Power Supply Socket .....	16-6
16-4	The Power Supply in a Superbox System .....	16-8
16-5	The Support Bracket and Six-Wire Connectors .....	16-9
16-6	The Power Supply in an Intel System .....	16-12
E-1	Table of Hard Drive Types .....	E-4
E-2	386SX CMOS Setup Utility Menu .....	E-2
E-3	CMOS Setup Menu .....	E-9
E-4	386 CMOS Setup Menu, Version 4.03 .....	E-14
E-5	386 CMOS Special Options Menu .....	E-16
E-6	CMOS Setup Menu, Version 1.00 .....	E-18
E-7	486 CMOS Special Options Menu .....	E-20
E-8	486 CMOS Setup Menu, Version 4.03 .....	E-22
E-9	486 CMOS Special Options Menu .....	E-23
E-10	486 CMOS Setup Menu, Version 3.04 .....	E-24
E-11	486 CMOS Setup Menu, Version 4.00 .....	E-30
E-12	Standard CMOS Setup Menu .....	E-42
E-13	The Advanced CMOS Setup Menu .....	E-44
E-14	The Standard Chipset Setup Menu .....	E-45
E-15	The Pentium CMOS Setup Menu .....	E-46
E-16	The IDE Adapter 0 Master Screen .....	E-47
E-17	The Memory Cache Menu .....	E-48
E-18	The Memory Shadow Menu .....	E-49
E-19	The Advanced Screen .....	E-49
E-20	The Integrated Peripherals Screen .....	E-50
E-21	The Standard CMOS Setup Screen .....	E-51
E-22	The BIOS Features Setup Screen .....	E-53
E-23	The Chipset Features Setup Screen .....	E-54
E-24	The PCI Configuration Setup Screen .....	E-54



**! WARNING: Make sure the power is off before attempting to install or remove hardware.**

The Hardware and Software Maintenance Agreement specifically states that DDMS is not responsible for repair or maintenance necessitated by misuse or abuse or improper care of the equipment. Such misuse or abuse will automatically void the terms and conditions of the agreement.

