

# **Arena** *DeskForce*

**Ultra 160 SCSI to IDE  
Disk Array System**

## **User's Guide**

Version 8.19A  
Jan. 2001

*AR-8190*

**Ultra 160 SCSI to IDE  
Disk Array System  
User's Guide**

Version 8.19A  
Jan. 2002

## Copyright Notice

© 2002 MaxTronic International Co., Ltd. All rights reserved.  
No part of this written material may be reproduced, stored in a retrieval system, used in any form or by any means, electronic or mechanical, photocopying, recording, or otherwise, without the written permission of MaxTronic International CO., LTD.

## Important ! Safety Instructions, Care and Handling



1. Before starting, take a few minutes to read this manual, read all of these instructions and save this manual for later reference.



2. Protect the Disk Array from extremely high or low temperatures. Let the Disk Array warm (or cool ) to room temperature before using it.



3. Protect the Disk Array from being bumped or dropped. Do not place this product on an unstable cart, stand, or table. It may fall, causing serious damage to the product.



4. Keep the Disk Array away from magnetic forces.



5. Do not use this product near water.



6. Keep the Disk Array away from dust, sand, or dirt.



7. Gaps and openings in the cabinet and the back are provided for ventilation. To ensure reliable operation and to protect it from overheating, the gaps and openings should never be blocked or covered by placing the product on a bed, sofa, rug, or other similar surface.



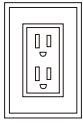
8. Do not place this product near or over a radiator or heat register.



9. Refer to rating plate for voltage and check that the appliance voltage corresponds to the supply voltage.



10. The appliance must be grounded. This product is equipped with a 3wire grounding-type power cord, this power cord will only fit into a groundingtype power outlet.



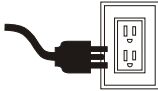
11. If an extension cord or a power center is used with this product, make sure that the total of all products plug into the wall outlet does not exceed the ampere rating.



12. Do not place the Disk Array where the cord will be walked on.



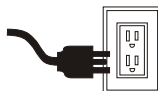
13. Never push any kind of object into this product through cabinet gaps and openings, they may touch dangerous voltage points cause a risk of fire or electric shock.



14. Unplug the power cord from the wall outlet before cleaning. Keep the Disk Array dry. Do not use liquid cleaners, aerosol cleaners, or a wet cloth. Use a damp cloth for cleaning.



15. Except as specifically explained in this User's Manual, please do not attempt to service this product by yourself. Opening or removing the covers may expose you to dangerous voltages.



16. Unplug this product from the wall outlet and refer servicing to qualified service personnel under the following conditions :

- If this product has been exposed to water or any liquid.
- If the product has been dropped or the cabinet damaged.

## Operating Environment

When selecting a suitable working location, please consider :

- Ventilation
- Temperature
- Dust and dirt
- Electromagnetic and Radio Frequency Interference.
- Security

The selected location should provide at least six inches of open space around the Disk Array cabinet for proper air flow.

Your Disk Array functions best at normal room temperature. Choose a location free from extreme heat or cold.

**Warning!** The Disk Array's LCD Panel may be damaged by exposure to intense sunlight. Limit exposure to indirect or subdued sunlight only.

Your Disk Array should be used in a clean environment that is free from airborne contaminants such as dust, dirt, and smoke. Excessive moisture or oil particles in the air can also hinder your system's performance.

To reduce the possibility of data errors caused by electromagnetic interference, locate your Disk Array at least five feet away from electrical appliances and equipment that generates magnetic fields.

# About This Manual

This manual serves as a useful guide you can refer to when you wish to install and operate your Disk Array. It includes the following information :

- Chapter 1 : " Introduction "  
Introduces you to your new Disk Array's features and general RAID concepts.
- Chapter 2 : " Getting Started "  
Describes general information about this Disk Array.
- Chapter 3 : " Configuration "  
Provides a Quick and Easy way to setup this Disk Array.
- Chapter 4 : " Advanced Information "  
Describes information in more detail.
- Chapter 5 : " Hot-Swap "  
Describes Hot-Swap components.
  
- Appendix A : " Technical Specification "

# Contents

---

## Chapter 1 : Introduction

Features .....	1-2
General RAID concepts .....	1-4
RAID Level 0 .....	1-5
RAID Level 1 .....	1-7
RAID Level 3 .....	1-8
RAID Level 5 .....	1-10
Summary Comparison of RAID Levels .....	1-12
Supported RAID Levels .....	1-13
Multi-SCSI Format support .....	1-14

---

## Chapter 2 : Getting Started

General Overview .....	2-1
Unpacking & Checklist .....	2-2
Choosing a place for Disk Array .....	2-3
Identifying Parts of Disk Array	
Front View .....	2-4
Rear View .....	2-5
Power Source .....	2-6
Installing the Hard Disk Drive .....	2-7
Host Linkage .....	2-11
Power-On & Self-Test .....	2-12
LED Display & Function Keys	
LED Display .....	2-13
Function Keys .....	2-14
LCD Status Panel .....	2-15

---

## Chapter 3 : Configuration

General Overview .....	3-1
Configuration from the front Panel .....	3-2



Configuration Procedures .....	3-3
Starting the Configuration .....	3-4
Configuration from VT100 Terminal Mode .....	3-7
Configuration Procedures .....	3-8
Main Screen .....	3-9
Re-config RAID .....	3-10
Set RAID Level .....	3-11
Hot Spare Disk .....	3-12
Set SCSI ID# .....	3-13
Termination .....	3-14
Password .....	3-15
Save & Restart .....	3-16

---

## Chapter 4 : Advanced Information

Memory Expansion .....	4-2
RAID Controller Block Diagram .....	4-5
Updating Firmware .....	4-6
Setting Up VT100 Terminal Emulation in Windows® .....	4-7
Start to Update Firmware .....	4-14
Capacity Expansion .....	4-20

---

## Chapter 5 : Hot Swap

Removing / Installing Hard Disk Drive .....	5-2
Removing / Installing Redundant Power Supply Unit .....	5-6
Removing / Installing Cooling Fan .....	5-9

---

## Appendix :

Technical Specifications .....	A-1
--------------------------------	-----