

# ***Compaq Storageworks™***

## ***Release Notes***

### **RAID Array 3000 for Microsoft Windows**

*January, 2001*

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*This document summarizes features and characteristics of the RAID Array 3000 operating software Version 1.3 for Windows NT and Windows 2000 systems that are not covered elsewhere in the documentation.*

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**\*\* NOTICE \*\***

**Read this entire document before  
installing  
or upgrading the software.**

**\*\* NOTICE \*\***

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Compaq StorageWorks RAID Array 3000 for Microsoft Windows  
Release Notes  
Part Number AA-RAD0D-TE

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Check our web site for the latest drivers, technical tips and documentation for the RAID Array 3000. We can be found in the technical area of our web page:

<http://www.compaq.com/storage>

## **Supported Operating Systems for the RAID Array 3000**

You have purchased support for the Windows NT operating system version 4.0 with Service pack 6a and Windows 2000 operating system. The supported host adapter is the SWXA3-BD differential PCI host adapter.

## **Supported Configurations**

Your RAID Array 3000 contains a single dual-ported controller. This allows support for eight SCSI logical units (LUNs) per port, or a total of 16 LUNs per controller. A second controller (DS-HSZ22-AA) can be added for redundancy and performance. The minimum version of controller firmware for both controllers is D11U. The controller firmware contained on the CD-ROM is D11X (in the \firmware directory) that is part of this kit. If the controller is running an earlier revision of firmware (D10I, D11O, D11U, or D11V), you will need to upgrade the firmware prior to making the RAID Array 3000 operational.

You can create a Windows NT boot partition on the RAID Array 3000 storage subsystem. The Windows NT boot partition can be at most 4 GB in size. Ensure that the host adapter is configured to default parameters (BIOS enable, wide negotiation, >1 GB translation).

Table 1 lists the minimum system requirements need for the RAID Array 3000.

**Table 1 Minimum System Requirements**

Host Feature	Requirements
Platform	X-86 P200 System. 64MB RAM, 10 MB Disk Space
Operating System	Windows NT 4.0 SP4 ,Windows 2000 for SWCC client; Windows NT 4.0 SP6a ,Windows 2000 SP1 for SWCC Agent
Controller Compatibility	The HSZ22 controller running operating firmware, version D11X.
Adapter Compatibility	DG-SWXA3-BD

The StorageWorks Command Console (SWCC) version 2.2 is the only configuration utility that will work with your RAID Array 3000. Command Console version 2.2 sometimes referred to as Client, runs on Windows NT 4.0 SP4, and Windows 2000.

## Required Driver Revisions

### HSZDISK

HSZDISK.SYS is a class driver required for all RAID Array 3000 Windows NT configurations. It is designed to enhance the error recovery features built into your Compaq RAID system, and to provide more robust operation than the native Windows NT SCSI disk class driver. HSZDISK.SYS only affects DIGITAL RAID devices. Other SCSI disk drives in your system continue to be serviced by the native SCSIIDISK.SYS class driver. The drivers included in the CD-ROM labeled Compaq StorageWorks *RA3000 Solution Software version 1.3 for Windows NT*. The install process will automatically determine if you are working in Windows NT 4.0 or Windows 2000.

## SCSI Host Adapter Description

The host adapters qualified for use with your StorageWorks RAID Array 3000 for Windows NT is the SWXA3-BD Ultra-Wide Differential SCSI Host Adapter. Table 2 lists the specifications of the qualified host adapter.

**Table 2 RAID Array 3000 Qualified Adapter**

PCI Adapter	BIOS Revision	Windows NT version 4.0 Driver
SWXA3-BD	2.11	4.0
		Windows 2000 Driver
SWXA3-BD	2.11	5.0.2144.1

## Order Information

Table 3 lists the order numbers for the RAID Array 3000 upgrade options and replacement parts.

**Table 3 RAID Array 3000 Upgrades and Replacement Parts**

Part Number	Option Description
DS-HSZ22-AA, AB	Second controller option
DS-SWXRA-GD	Expansion pedestal option
54-23170-BA	SIMM Pack for cache memory
DS-SWXRA-GR	Replacement UPS

## Supported Devices

Firmware version D11w or higher supports the devices listed in Table 4 at the indicated hardware and Microcode levels or higher.

**Table 4 Supported Disk Drives**

<b>Part Number</b>	<b>Description</b>	<b>Minimum Firmware Level</b>
DS-RZ1CF-VW (380691-B21)	4.3GB, 7200RPM disk in 3.5" SBB	0371/N1H1/1614
DS-RZ1DF-VW (380595-B21)	9.1GB, 7200RPM disk in 3.5" SBB	0371/N1H1/1614
DS-RZ1EF-VW (380694-B21)	18.2GB, 7200RPM disk in 3.5" SBB	0371/N1H1
DS-RZ1CD-VW	4.3GB, 10000RPM disk in 3.5" SBB	0306
DS-RZ1DD-VW (380588-B21)	9.1GB, 10000RPM disk in 3.5" SBB	0306/3B07/3B012/BDC4
DS-RZ1ED-VW (380589-B21)	18.2GB, 10000RPM disk in 3.5" SBB	0306/3B07/B012/BDC4/3B05
DS-RZ1FC-VW (159138-001)	36.4GB, 10000RPM disk in 3.5" SBB	38FA
DS-RZ1BB-VW (380695-B21)	2.1 GB, 7200RPM disk in 3.5" SBB	LYJ0/0658
DS-RZ1CB-VW	4.3 GB, 7200RPM disk in 3.5" SBB	LYJ0/0658
DS-RZ1DB-VW (380693-B21)	9.1 GB, 7200RPM disk in 3.5" SBB	LYJ0/0658
DS-RZ1DA-VW (147597-001)	9.1GB, 7200RPM disk in 3.5" SBB	3B05/B012
DS-RZ1EA-VW (147598-001)	18.2GB, 7200RPM disk in 3.5" SBB	3B05
DS-RZ1FB-VW (147599-001)	36.4GB, 7200RPM disk in 3.5" SBB	3B05

### **On-line Documentation**

Your RAID Array 3000 reference manuals are part of the RAID Array 3000 version 1.3 for Windows NT CD-ROM. They can be viewed and printed using Adobe Acrobat Reader when installed on an X-86-based Windows platform. A copy of the reader is included in the CD-ROM for your convenience.

## **RAID Array 3000 Operating Constraints**

### **Controller**

Always operate Your RAID Array 3000 with the UPS-to-Pedestal Serial Cable connected.

The UPS serial cable must be connected at all times. This cable is used to communicate a power failure to the controller. When the controller senses a power failure, it automatically saves your data to disk. The purpose of the UPS is to keep your system running until the controller accomplishes its task of saving cache data to disk.

### **Wait until the Disk Drive Fault Indicator Clears before using the Disk.**

Disk drive fault LED clearing takes approximately two minutes. Do not attempt to use a disk drive until its fault indicator turns off.

## EMU Warning Conditions

Tables 5 and 6 list the warning conditions presented by SWCC environmental properties page and the RAID Array 3000 controller shelf fault LED, respectively.

**Table 5 SWCC/Caution Icon Warning Conditions**

<b>Pedestal</b>	<b>UPS</b>	<b>Temperature</b>	<b>Fan</b>	<b>Power Supply</b>
Pedestal				
SWCC/Caution Icon	ON	ON	ON	ON
Pedestal Expansion				
SWCC/Caution Icon	ON	ON	ON	ON
Controller Shelf				
SWCC/Caution Icon	ON	ON	No Caution Icon	ON
Expander Shelf				
SWCC/Caution Icon	N/A	No Caution Icon	ON (Expansion cabinet is abnormal)	ON (Expansion cabinet is abnormal)



**Table 6 Fault LED Warning Conditions**

<b>Pedestal</b>	<b>UPS</b>	<b>Temperature</b>	<b>Fan</b>	<b>Power Supply</b>
Pedestal Fault LED	ON	ON	ON	ON
Pedestal Expansion				
Fault LED	ON	ON	ON	ON
Controller Shelf				
Controller Shelf LED	ON	ON	No Fault Indication	ON
Expander Shelf				
Controller Shelf LED	N/A	ON	No Fault Indication	ON

## **Changing the RAID Array Configuration**

**Note**

To safe guard critical data backup your system using normal backup procedures before altering device partitions. Do not alter partitions that contain important data.

When making changes to an existing RAID Array configuration, any existing disk partitions to be changed (or removed) must first be deleted using the Windows NT Administrator. After they have been deleted, you may use the StorageWorks RAID Array 3000 Storage Subsystem Command Console Client to create new virtual disks. (Refer to the Command Console User's Guide and on-line help to make changes).

## Removing Disk Partitions

1. From the Disk Administrator, click the partition you wish to delete.
2. Access the Partition menu and choose **Delete**.
3. Continue selecting and deleting the partitions until you have deleted all the partitions you wish. When finished, click **Commit Changes Now**. You may now reconfigure the StorageWorks RAID Array 3000 Storage Subsystem Array using Command Console Client.
4. Reboot your system so Windows NT will recognize the changes.

## Shutdown Procedure

You must issue *shutdown* from SWCC. Do **not** turn off the system power before *shutdown* is issued. (When *shutdown* is issued from SWCC, the controller first flushes the cache to the disk drive, then stops blinking).

- If a controller requires a rebind, the SCSI bus must be quiesced before performing this operation. All I/O must be stopped before replacing the failed controller.
- Reconnecting the SWCC client may be necessary if any of the following conditions occur:
  1. Controller failover.
  2. Lost connection to the subsystem.
  3. SWCC does not reflect the correct state of the controllers after a FAILBACK (rebind).
  4. Deletion of virtual disks and/or RAIDsets.

## **StorageWorks Command Console SWCC**

This version of SWCC software is for use with the StorageWorks HSZ22 controllers only. This product CANNOT be used for configuring any other StorageWorks controllers. The following is a list of known issues and limitations of the SWCC Client software:

- Initial Configuration – The SWCC Client requires one serial connection for each controller in the RA3000 subsystem for initial configuration. The initial configuration of a dual controller system requires a PC with two serial ports. You must connect each controller to a different communications port on the PC on which the SWCC Client software is running. Check the *Getting Started RAID Array 3000 for Microsoft Windows Installation Guide*, AA-RACZD-TE) for details. If the PC is equipped with a single serial port, refer to the *RAID Array 3000 Subsystem Second Controller Option Guide* (EK-SM3KC-IG.E01).
- Firmware Download – If you must upgrade the controller firmware, you must connect via the SCSI bus or network. If the boot device is located on the RA3000, refer to the *Read Me File* on the CD-ROM, which explains how to download firmware using a serial connection.