

INTRODUCTION

Addonics Disk Array 3SA system makes implementing sophisticated RAID technology into any computer as simple as counting 1,2,3. Designed to accommodate up to three 3.5" SATA, SATA II, SATA III, each hard drive can be easily secured inside or removed from the Disk Array rack with the simple aluminum drive drawer.



Disk Array 3SA Tower view
(AE3RCS35NSA)



Black color model
(AE3RCS35NSA)



Ivory color model
(AE3RCS35NSA)



The Disk Array 3SA, in conjunction with different Addonics SATA RAID controllers, enables the hard drives inside the Disk Array to be set up in various configurations: as RAID 0, RAID 1, RAID 5 or JBOD, as individual hard drive, or whatever the mix that best fits the application. The Disk Array can start with as little as one hard drive and then expands as needed. Hard Drive can also be removed or added to the system without turning off your system power or restarting your computer (1).

The Disk Array 3SA can be mounted into any system with two 5 1/4" drive bay stack. By using optional power adapter and external SATA cable, the 3SA can be used as an external RAID storage enclosure. Constructed with aluminum for durability and efficient heat conduction, a high CFM fan system is located at the back of the unit to ensure efficient cooling of any hard drive. Combining with Addonics Serial ATA RAID controllers, high performance and reliable data storage system can be implemented at less than half of the cost of the traditional IDE or SCSI systems.

FEATURES

- Install 3 SATA hard drives into two 5 1/4" drive bay stack.
- Can be used as an external RAID system using optional external power adapters(See power supply requirement below)
- Maximum throughput depends the performance of the hard drive and the SATA port
- Full Serial ATA 1.0, 2.0 and 3.0 compliant
- Support full SATA 3.0 speed of 6 Gbps
- Aluminum frame and drive drawer
- Choice of black color bezel or ivory color bezel
- Innovative lock and handle for each drive drawer
- Use as an external RAID system (require optional external power adapter)
- Hot swap¹ support
- Point to point connection, no cabling needed to install the hard drive into the drive drawer
- SATA 15 pin and standard 4 pin PC power connector
- Power switch/LED indicator and over temperature buzzer alarm
- Fan switch/LED indicator and failure buzzer alarm
- Power switch/LED for each hard drive

(1) Serial ATA hot swap feature works only with controllers basing on Silicon Image chip set from our inhouse testing. Other controllers that are not Silicon Image based may not support hot swap. You may consider adding one of the Addonics Serial ATA host controllers to your systems to ensure the hot swap capability. New controllers from Intel and other suppliers may finally support this feature. Please verify with your controller manufacturer if you need to have hot swap in your application. Hot swap is supported in Windows 2000 and XP only. On other OS, drive can be removed without crashing system. But replacing with a different drive can result in crashing the OS.

Power supply requirements for the Disk Array

The Disk Array 3SA is equipped with two standard 4P power connectors and a pair of 15-pin SATA power connectors on the back for easy connection to any standard PC power supply. Depending on the maximum power available from each power connection, two power connections from the same power supply may be necessary to provide adequate power for three hard drives. When connecting the Disk Array as an External device, use one optional Serial ATA power adapter for every two drives.

RAID 1- Mirroring and Duplexing for fault tolerance

Features	Best suited applications
<ul style="list-style-type: none"> Improved read transaction rate Full fault tolerance Data between two drives is mirrored in real time. Failed drive can be hot swapped and replaced with no interruption to system operation. Replacement drive is automatically rebuilt from the good drive 	<ul style="list-style-type: none"> Accounting Payroll Any application requiring fault tolerance in storage system for high availability

RAID 0 - Disk Striping for high performance

Features	Best suited applications
<ul style="list-style-type: none"> Data is broken into block and written to two separate disk drive. This significantly improves Read/Write performance by spreading the I/O load across the two drives 	<ul style="list-style-type: none"> Video editing and production Image editing Pre-press applications Any application requiring high performance data storage system

RAID 0+1 - Benefit of both high performance and fault tolerance

RAID 5 - Parity RAID

Features	Best suited applications
<ul style="list-style-type: none"> Parity RAID adds fault tolerance to Disk Striping by including parity information with the data. Parity RAID dedicates the equivalent of one disk for storing parity stripes. Parity RAID uses less capacity for protection, reducing cost per megabyte for larger installations. 	<ul style="list-style-type: none"> Accounting Payroll Any application requiring fault tolerance in storage system for high availability

*Note: It is common in RAID5 configuration that the WRITE speed performs slower than READ. Depending on system hardware, the WRITE performance can be 25% of the READ speed. This performance difference does not affect general database application where majority of the transactions are READ commands. For applications that require large files transfer or continuous writing of data on the the hard drive such as video editing, RAID5 configuration may not be desirable.

SPECIFICATIONS

Interface	Serial ATA
Construction material	Aluminum on frame and drive drawer
Hard drive type	3.5" SATA, SATA II, SATA III or 2.5" SATA I / II / III hard drive using optional Addonics Snap-In 25 (model AE25SN35SA)
Max. Number of drives	Three
MAX Data Transfer Rate	depends on the hard drive and the SATA port
Power connection	Two 15-pin SATA power connectors, two 4-pin Molex power connectors
Serial ATA connection	Disk Array 3SA: three standard 7-pin SATA connectors
Over temp alarm setting	65 °C, 60 °C, 55 °C
LED's	For temperature, individual hard drive, and cooling fan
Buzzer	For over temperature and fan failure condition
Lock	For each hard drive drawer
Hard Drive connection	Point to point, no cable required for installing hard drive into drive drawer
cooling system	8 cm cooling fan
Weight (with no hard drive)	~ 2.94 lb.
Dimensions (L x W x H)	~ 8.00 x 5.60 x 3.40 inches (203 x 142 x 86 mm)
File Systems	FAT, FAT32, NTFS and HPFS
Warranty	One Year

All specifications are subject to change without notice

System requirement

- PC/AT or Compatible System
- Serial ATA ports
- two free 5 1/4" drive bays in one stack
- Pentium or greater
- Minimum 32 MB RAM
- 10 MB minimum free hard disk space

Data Transfer Rate comparisons on various interface standards

