

ER-5S-A1/A internal RAID System



The internal RAID rack features a choice of Parallel ATA / Serial ATA II host attachment and SATA II device attachment. Each RAID rack model allows two HDD failure without impact on the existing data and failed drive rebuild is transparent to the host. The RAID rack is most cost-effective SATA II disk drive RAID rack with completely integrated high performance and data protection capabilities, which are easily integrated into entry level servers. It can also meet the rapidly growing demand from the small to medium enterprise and SOHO markets.

Highlights

- IDE/SATA II host and SATA II channel device compatibility
- Support up to 5 ports SATA or SATA II drive
- Support RAID level 0, 1, 10, 3, 5, 6 and JBOD
- ASIC engine to support highest speed RAID 6
- Online capacity expansion, RAID level/stripe size migration
- Online dynamic volume Set capacity expansion
- Firmware-embedded Web Browser-based RAID manager, SMTP manager, and SNMP agent Via Ethernet port with no software required
- Redundant flash image for adapter availability
- Support greater than 2TB per volume set
- Support great than 2TB per disk drive

Unparalleled Performance

The ER-R5S-A1/A internal RAID rack offers a truly innovative IDE/SATA(3.0Gbps) host solution for use with your PC and Mac workstation. The ER-R5S-A1/A RAID rack board incorporates onboard high performance 400MHz storage processors and on-board DDR2-400 128 MB SDRAM memory to deliver true hardware RAID. Designed and leveraged with an existing high performance solution, this RAID box delivers high-capacity performance at the best of cost/performance value. It provides a cost-effective storage subsystem by using the main board IDE port; it can free a PCI slot. With Intel Accelerated Hub Architecture and VIA Link Architecture, the IDE bus bandwidth is independent of the PCI bus in the newer chip set design, freeing the best PCI performance for Ethernet card and also provides IDE and SATA host attachment. Both IDE and SATA channel can concurrently access different volume sets.

Unsurpassed Data Availability

As storage capacities continue to rapidly increase, users need greater level of disk drive fault tolerance, which can be implemented without doubling the investment in disk drives. The RAID 6 can offer fault tolerance greater than RAID 1 or RAID 5 but only consumes the capacity of 2 disk drives for distributed parity data. The SATA RAID controllers with extreme performance RAID 6 engine supported provide

the highest RAID 6 feature to meet this requirement. The RAID rack can concurrently compute two parity blocks and get comparable with RAID 5 performance.

It can be managed either through the LCD control panel, RS232 port or Ethernet port. During the controller firmware upgrade flash process, it is possible for a problem to occur resulting in corruption of the controller firmware. With our Redundant flash image feature the controller will revert back to the last known version of firmware and continue operating. This reduces the risk of system failure due to firmware crash.

Easy Management

Manual configuration and monitoring can be done through the LCD Control Panel. The firmware also contains an embedded terminal emulation via the RS-232 port. The firmware-embedded web browser-based RAID manager allows local or remote to access it from any standard internet browser via a LAN or WAN with no software or patches required. The firmware contains SMTP manager monitors all system events and user can select either single or multiple user notifications to be sent via "Plain English" e-mails. The firmware-embedded SNMP agent allows remote to monitor events via LAN with no SNMP agent required. The controller also supports API library for customer to write its own monitor utility.

Adapter Architecture

- 400MHz storage I/O processor
- 128MB on-board DDR2-400 SDRAM
- Support up 5 channel SATA II drives
- ASIC to support extreme performance RAID6 function
- NVRAM for RAID configuration & transaction log
- Write-through or write-back cache support
- Redundant flash image for controller availability
- RoHS compliant

RAID Features

- RAID level 0, 1, 10, 3, 5, 6, Single Disk and JBOD
- Multiple RAID selection
- Online array roaming
- Offline RAID set
- Online RAID level/stripe size migration
- Online capacity expansion and RAID level migration simultaneously
- Online dynamic volume set capacity expansion
- Instant availability and background initialization
- Automatic insertion/removal detection and rebuild
- Greater than 2TB per volume set
- Greater than 2TB per disk drive support
- Up to 5 volume per RAID rack(per port multiplier SATA host: 4 volume, without port multiplier SATA host: 1 volume, PATA host: 1 volume)
- Support SMART, NCQ, and OOB staggered spin-up capable drives

Disk Bus Interface

- SATA II compatible - 3.0Gbps (300MB/s)

Model Name	ER-R5S-A1/A
IDE Host Channel Adapter Port	1
SATA Host Channel Adapter Port	1
Ethernet LAN Connector	1
RS232 Connector	1
Power Input Connector	2
LCD Module Connector	1
Form Factor	3 consecutive 5.25" driver bays
Weight	5.95/5.5 lbs/2.5 kg (w/o disk drive)
Dimension (W x H x D)	148 x 128 x 220 mm
Rear Side Connector/Fan Holder	

Monitors/Notification

- Push Buttons and LCD Display Panel for setup and configuration (option)
- 5 drive LED indicators and 3 environment LED indicators
- Environment and drive failure indication through LCD, LED and alarm buzzer

Host Connectivity

- Dual ATA interface-Ultra ATA/133 & Serial ATA II
- Ultra ATA/133 compatible; Transfer rate up to 133MB/sec
- Serial ATA II - 3.0Gbps(300 MB/sec)

RAID Management

- Bootable CD VT-100 utility for X86-based system initialization
- Field-upgradeable firmware in flash ROM via RS-232 port
- Web browser-based RAID management via Archttp proxy through RS-232 port for Windows, Linux & FreeBSD environment
- Firmware-embedded manager via RS-232 port (platform independent)
- Firmware-embedded rowser-based RAID manager, SMTP manager, SNMP agent, and Telnet function via Ethernet port
- Support controller's API library for customer to write its own AP

Operating System

OS Independent

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