RAID INCORPORATED

Data Sheet

2U 24-Bay SSD/SAS Ability® EBOD

Cost-Effective Enterprise-Class JBOD 2U
(24) 2.5" Drive Enclosures

KEY FEATURES

1. **(6) 12Gb/sec high performance SAS ports per enclosure**
2. **Multiple Drive partitioning/split-bus zoning modes**
3. **EBOD performance using enterprise SSDs of 1.8 million IOPs and 8.5 GByte/sec**
4. **Operation with either single I/O controller or dual I/O controller for redundant failover**
5. **Hot-pluggable I/O controller(s) and dual redundant high efficiency advanced power/cooling (APC) modules**
6. **Flexibility to choose SSD or SAS to achieve the right performance, reliability and price**
7. **SAS point-to-point connectivity isolates drive failures, increasing reliability and fault tolerance, and improving performance**

KEY SPECIFICATIONS

1. **12Gb/s SAS Backplane support for all Drives**
2. **24 Hot swappable 2.5" 10k SSD or SAS HDDs**
3. **Dual I/O modules supports redundant path to HDDs**
4. **Q6 12Gb/s SAS Host ports able to sustain wire speeds of 28 Gb/s**
5. **HDD can be Zoned for performance or security**
6. **Capable of Multiple Drive Partitioning/ Split Bus Zoning**
7. **Power redundant 550W Power Supplies**
8. **SAS point-to-point connectivity isolates drive failures, increasing reliability and fault tolerance, and improving performance**
9. **2U Rackmount Enclosure Dimensions: 3.5 in. H x 17.6 in. W x 19.5 in. D**

RAID Incorporated's 2U Ability EBOD is a purpose-built storage solution designed for mid-level storage application utilizing the latest 12G SAS architecture with ability to scale in capacity simply.

Data storage capacity continues to expand, but the need to provide higher performance tiered storage within that growing capacity is also needed. Today's business environment requires simple, easy ways to grow capacity as well as providing performance and scalability on demand.

The 2U 24-Bay Storage Expansion Array enables 2.5" SAS/SATA hard disk drive (HDD) and solid state disk (SSD) device connections via standard serial attached SCSI (SAS 3.0) protocol with enclosure services linked via SES firmware. It offers best-in-class performance, space saving density, "green" energy efficiency and 24x7 high-availability redundancy of key components.

2U 24-Bay SSD/SAS Ability® EBOD Technical Specifications

Host/Expansion Interfaces

- One or two SAS 2.0 JBOD I/O controller modules per system, with each I/O module supporting three 6Gb/sec SAS 2.0 SFF-8088 connections
  - 12Gb/sec SAS 3.0 SFF-8088 connections can be used for host connections or as a combination of host connection
  - Up to 4 systems can be daisy chained together, for up to 96 disks

Capacity

- 24 drive capacity per 2U enclosure

Firmware

- SCSI Enclosure Services (SES) 2.0 based firmware

I/O Controller Models and Features

- Dual redundant 12Gb/sec SAS 3.0 JBOD I/O modules, each with support for storage expansion enclosures
- Auto-negotiate data path speeds
- In-band management
- Redundant cable support

Redundant Hot-Swappable Components

- Up to two SAS 3.0 JBOD or OEM ABOD/RBOD I/O controller modules
- Two advanced power and cooling modules (APC)
- Two independent AC power inlets
- Up to 24 Drives

I/O Controller Module Canister

- JBOD/RBOD/ABOD SBB design-partner design-in guide available

Environmental Protection

- RoHS and WEEE compliant

2U Rackmount Enclosure

- Dimensions: 3.5 in. H x 17.6 in. W x 19.5 in. D (8.9 cm H x 44.7 cm W x 49.53 cm D)
- Weight with drives: 60 lbs (27 kg) max
- Standard Rackmount Rail Kit Adjustable Depth: 23.0 in. to 32.5 in (58.4 cm to 82.6 cm)

Failure Notifications

- SCSI Enclosure Services (SES-2) over in-band interface and via LEDs

Disk Drives

- 24 independent 600MB/s point-to-point connections to each SAS or SATA disk drive with dual-port access and failover by each I/O controller to each drive (SATA drive requires optional 2:1 Active MUX)
- Form factor: 2.5" SAS, SATA and SSD drives
- Rotational speed: 7200 RPM, 10K RPM and 15K RPM
- Interface: 6Gb/3Gb SAS; 3Gb/1.5Gb SATA

AC Power

- Input voltage: Auto ranging, 88-264V AC
- Input frequency: 47-63Hz
- Power factor correction: Per EN61000-3-2
- Input current: JS, JD & UX Models: 2.50 Amps max @ 240VAC
- Maximum system continuous DC output power rating: JS, JD and UX Models: 550W

Monitoring and Reporting

- Monitoring for temperature, advanced power and cooling modules including blower speed control, disk drives and I/O module(s), as well as error rates and quality of service
- In-band reporting of all serial number, part number and revisions of each FRU and chassis

Drive Partitioning/split-bus zoning

- Single SAS 2.0 JBOD I/O controller module can be zoned as 1x24 or 3x8 via F/W control
- Dual Newisys SAS 2.0 JBOD I/O controller modules can be zoned as 1x24, 2x12, 3x8 or 6x4 via F/W control
  - 1x24 and 3x8 zoning options can be redundant, whereas 2x12 and 6x4 zoning options with dual I/O controller modules are in split-bus mode and preclude any additional enclosure expansion daisy chaining

Maximum External Cable Lengths (Customer Supplied)

- 12Gb/sec or 6Gb/sec SAS: up to 6m

Performance

- Up to 4,800 MB/s (sustained reads) using 12Gb/s disk drives/SFF-8088 host connections
- Up to 2,400 MB/s (sustained reads) using 3Gb/s disk drives/SFF-8088 host connections

Operating Environment

- Temperature: 5° to 35°C
- Temperature gradient: 20°C per hour
- Relative humidity: 10 to 80 percent (non-condensing)
- Humidity gradient: 10% per hour
- Altitude: -200 to 10,000 ft.
- Shock: 5G at 11ms, 1/2 sine wave pulse
- Vibration: 0.15G at 5Hz to 500Hz
- Acoustics: 6.5 Bels at normal operation tested to ISO7779

Non-Operating Environment

- Temperature: -40° to 70°C
- Relative humidity: 5% to 95% (non-condensing)
- Altitude: -200 to 40,000 ft.
- Shock: 10G at 11ms, 1/2 sine wave pulse
- Vibration: 0.5G at 5Hz to 500Hz

Electromagnetic Emissions and Immunity Standards

- CE Mark, EN55022/EN61000 Class A
- FCC Class A, Canadian IECS-003
- VCCI Class A

Safety Standards

- UL 60950, CSA 22.2-950
- IEC 60950, EN 60950

Quality Standards

- Manufactured under an ISO 9002 registered quality system