

EonStor® SAS-to-SAS Series RAID Subsystem

High Performance 3Gbps SAS RAID
Flexible Expansion with SAS and SATA Drives



HIGHLIGHTS

- . Single RAID controller subsystems with fault-tolerant enclosure modules
- . Two (2) SAS 4x wide host ports
- . SAS or SATA-II (3Gbps) disk drives in twelve (12) drive bays
- . Infortrend's fifth-generation ASIC400 RAID engine
- . Withstands two drive failures with RAID 6
- . SAS, SFF-8470, 4x wide link to expansion enclosures
- . Max. 60 drives (1 RAID + 4 JBODs)
- . S.M.A.R.T. and NCQ support
- . Expansion enclosure: S12S-J1000-G JBOD
- . Embedded, browser-based RAIDWatch management tool
- . Windows Logo Certificated

OVERVIEW

The RAID subsystem provides 3Gbps Serial Attached SCSI (SAS) host interface that overcomes the limitations of parallel SCSI to achieve enhanced performance, high availability and reliability. With the 24Gbps SAS links, the subsystem can be flexibly expanded with enterprise-class SAS devices or cost-effective SATA drives.

The subsystem is equipped with redundant and hot-swappable components to ensure continuous and reliable operation. The firmware utility, and RAIDWatch software etc. offer advanced monitoring mechanisms to enhance data security and subsystem protection.

APPLICATIONS

Infortrend products are widely applied in disk-to-disk backup, server-attached and network data storage and in major industries such as data-mining, medical imaging, security/CCTV, and digital media including video-on-demand, stream editing and more.

High Availability

- * Hot-swappable enclosure modules
- * Component redundancy
- * Intelligent reactive & preventive mechanisms
 - Automated cache flush
 - Automated Media Scan
 - Auto rebuild on hot spares
 - Automated caching mode switch

Advanced RAID Features

- * RAID levels 0, 1 (0+1), 3, 5, 6, 10, 30, 50, 60
- * RAID Parity regeneration
- * 3 spare disk types: dedicated, global, enclosure-specific
- * Instant array availability
- * Stripe size and caching mode configurable per logical drive
- * Online array expansion by adding drives or copying & replacing drives
- * Online disk cloning

Management

- * Browser-based RAIDWatch manager
- * Java-based RAIDWatch manager
- * LCD keypad panel
- * Terminal console via RS-232C
- * Telnet

Monitoring

- * S.M.A.R.T. status pooling
- * Voltage, module presence, temperature monitoring
- * Automated FRU status pooling

Operation Robustness

- * Intelligent read algorithms
- * Write cache threshold purge
- * Bad sector reassignment
- * Configurable task priority
- * Multiple, co-existing RAID arrays w/stripe sizes ranging from 4K to 1MB
- * RAID level migration
- * RAID configuration on drives (drive roaming)

JBOD Characteristics

- * Single controller (S12S-J1000-G)
- * 2 SAS 4x wide ports (SFF-8470) per controller
- * Separate SAS domains to dual-ported SAS drives
- * Fault-tolerant hardware
- * Diagnostic LED panel



AVAILABLE MODELS

Model	Controller	Host Channels	Drive Bays	Expansion Port	JBOD Expansion
S12S-G1030	Single	2	12	1	4 (48 HDD)



SPECIFICATIONS

S12S-G1030 (RAID)

CHARACTERISTICS

- RISC CPU
- Default DDR cache memory 512MB
- SAS host ports 2
- SAS 4x wide link expansion 1
- BBU Optional
- LCD keypad panel 1
- COM ports 2
- 10/100 Ethernet port 1
- PSUs 2
- Cooling modules 2
- Diagnostic LEDs on all FRUs

DRIVE INTERFACES

- Intermixed SAS/ SATA II
- Number of disk trays 12
- Proprietary enclosure service via in-band connectivity

HOST CONNECTION PORTS

- Data single channel bandwidth 12Gbps
- Tag command queuing 256

RAID CONFIGURATIONS

- RAID levels 0, 1(0+1), 3, 5, 6, 10, 30, 50, 60
- Up to 32 logical drives (varies by memory size)
- Up to 64 LUNs (varies by memory size)
- Up to 2GB cache per controller
- Multiple array configurations
- Infortrend Smart, proactive fault management technologies

HIGH AVAILABILITY

- Redundant, hot-swappable FRUs
- Subsystem self-diagnostics
- Li-Ion battery backup unit
- UPS status detection
- Multiple local, global, and enclosure-specific hot-spares

MANAGEMENT SOFTWARE

- Browser-based and Java-based RAIDWatch software
- Terminal console via RS-232C
- Telnet over Ethernet
- Event notification methods: E-mail/ Fax/ LAN broadcast/ SNMP traps/ SMS/MSN

APPROVALS

- RoHS
- China RoHS
- Microsoft WHQL-Windows Server 2003

EMC

- CE
 - EN 55022: 1998/A1: 2000/A2: 2003
 - EN 61000-3-2: 2000/A1: 2001
 - EN 61000-3-3: 1995/A1: 2001
 - EN 55024: 1998/A1: 2001/A2: 2003
- FCC (FCC Part 15, subpart B)
- BSMI (CNS 13438)

Safety

- UL (60950-1: 2003)
- BSMI
 - CNS 14336: 1993
 - IEC 60950-1, First Edition

OS SUPPORT

- Microsoft Windows 2003 Server
- Microsoft Windows 2000 Server
- Sun Solaris ver. 9/10
- RedHat Linux ver. 8/9, 64-bit, Enterprise ver.3
- SuSE: Linux ver. 8/9, 64-bit
- Fedora 64-bit
- Mac OS X version 10.4

REQUIREMENTS

- AC Input: 100VAC ~ 240VAC 460W with PFC
- DC Output: 12V-24A; 5V-36A; 3.3V-32A
- Relative Humidity: 5% to 95% (non-condensing)
- Operating Temperature: 0°C to 40°C

DIMENSIONS

- 2U, 19-inch rackmount chassis
- Without handles: 446(W) x 88(H) x 490(D) mm (17.5 x 5.1 x 19.2 inches)
- With handles: 482(W) x 88(H) x 505(D) mm (19 x 5.1 x 19.9 inches)

S12S-J1000-G (JBOD)

JBOD Characteristics

- Single expander controller
- SAS 4x wide port per controller 2
- PSUs 2
- Cooling modules 2
- Diagnostic LEDs panel

Drive Interface

- Intermixed SAS/ SATA II
- Number of disk trays 12

Maximum Connection

- To single-controller RAID 4

Requirements

- AC Input: 100VAC-240VAC 460W with PFC
- DC Output: 12V-32A; 5V-32A; 3.3V-30A
- Relative Humidity: 5% to 95% (non-condensing)
- Operating Temperature: 0°C to 40°C

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