

# EonStor® Fibre-to-SAS/SATA Series RAID Subsystem



High Performance & Flexible 4G SAN Connectivity  
SCSI Reliability with the Ease of SAS Expansion



## HIGHLIGHTS

- Dual-active or single RAID controller configurations
- Fault-tolerant enclosure design
- Infotrend's fifth-generation ASIC400 RAID engine
- Two (2) 4G FC host channels per controller
- Four (4) host ports per controller with onboard hub
- SAS or SATA II disk drives in the sixteen (16) drive bays
- Hardware RAID5 and RAID6
- SAS 4x wide links (SFF-8470) to expansion enclosures
- S.M.A.R.T. and NCQ support
- Expansion enclosures:
  - S16S-J1000-R and S16S-J1000-S
- Max. Expansion: 80 drives (1 RAID + 4 JBODs)
- Intelligent load-balancing internally and externally between host links by the EonPath™ multi-path software
- Embedded, browser-based RAIDWatch management tool
- Windows Logo Certificated

## OVERVIEW

Fibre-to-SAS/SATA RAID Subsystem provides 4Gbps Fibre Channel interface for high-speed data transfer. It is fully compatible with cost-effective SATA II hard drives to offer tremendous storage capacity. Enterprise-class SAS drives are also supported for high performance and availability. The storage capacity can be further expanded by connecting the SAS 4x wide port to expansion enclosures.

The subsystem is equipped with redundant and hot-swappable components to ensure continuous and reliable operation. Advanced monitoring mechanisms are interfaced through firmware utility, RAIDWatch management software, and status LEDs etc. to ensure data security and subsystem protection.

## APPLICATIONS

Infotrend 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
- \* 64-bit LBA support
- \* 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-232 port
- \* 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
- \* Adaptive write policy
- \* Configurable task priority
- \* Multiple, co-existing RAID arrays w/ stripe sizes ranging from 16K to 1MB
- \* Power-saving Drive Spin-down options
- \* RAID level migration
- \* RAID configuration on drives (drive roaming)

### JBOD Characteristics

- \* Single controller (S16S-J1000-S)
- \* Redundant controller (S16S-J1000-R)
- \* 2 SAS 4x wide ports per controller (SFF-8470)
- \* Separate SAS domains to dual-ported SAS drives
- \* Fault-tolerant hardware
- \* Diagnostic LED panel
- \* SAS-to-SATA MUX kit for access from dual-controller RAID



## AVAILABLE MODELS

Model	Controller	Host Port	Host Channel	Drive Bay	Expansion Port	JBOD Expansion
S16F-R1430	Redundant	8	4	16	2	3 (48 HDD)
S16F-G1430	Single	4	2	16	1	4 (64 HDD)



S16F-R1430



S16F-G1430

## SPECIFICATIONS

### S16F-R/G1430 (RAID Subsystem)

#### Subsystem Characteristics

- ASIC400 RAID engine
- Up to 2GB cache (per controller)
- 4G FC host channels (per controller) 2
- LCD keypad panel 1
- BBU (per controller) 1
  - Optional for S16F-G1430
- Default DDR cache memory (per controller) 512MB
- 10/100BaseT management port (per controller) 1
- COM ports (per controller)
- PSUs 2
- Cooling modules 2
- Diagnostic LEDs on all FRUs
- SAS multi-lane expansion port (per controller) 2
  - \*SFF-8088

#### Drive Interface

- No. of disk trays SAS or 3Gbps SATA-II 12
- Enclosure service via I<sup>2</sup>C or in-band over SAS expansion links

#### Host Connection Ports

- SFP ports per controller 4
- Data single channel bandwidth 4Gb
- Tag command queuing 256
- Multiple target Ids

#### RAID Configurations

- RAID levels 0, 1(0+1), 3, 5, 6, 10, 30, 50, 60
- Up to 32 logical drives & 64 partitions per logical drive (varied by memory size)
- Up to 1024 LUNs (varied by memory size)
- Multiple array configurations
- Background rebuild/scan/initialization
- Infortrend Smart fault management technologies

#### High Availability

- Redundant, hot-swappable FRUs
- Subsystem self-diagnostics
- Li-Ion battery backup (standard for R1430)
- UPS status detection
- Windows clustering support
- EonPath (Multi-pathing)

#### Management

- Java-based SANWatch software
- Web-based embedded RAIDWatch
- Terminal via RS-232C
- Telnet/ SSH
- LCD keypad panel
- Event notification methods: Email, Fax,
- LAN broadcast, SNMP traps, SMS, MSN

#### OS Support

- Microsoft Windows Server 2003/2008
- Sun Solaris ver.9/10
- Red Hat Linux ver. 8/9, 64-bit, Enterprise ver.3
- SuSE Linux ver.8/9, 64-bit
- Fedora 64bit
- Mac OS X version 10.4
- Vmware
- \* Microsoft WHQL-Windows Server 2003/2008

#### Requirements

- AC Input: 100VAC ~ 240VAC 530W 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 (without BBU)
  - 0°C to 35°C (with BBU)

#### Dimensions

- 3U, 19-inch rackmount chassis
- Without handles:
  - 445(W) x 130(H) x 488.2(D) mm
  - (17.5 x 5.1 x 19.2 inches)
- With handles:
  - 482.6(W) x 131(H) x 504.3(D) mm
  - (19 x 5.1 x 19.9 inches)

#### Certificates

- 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
- GOST-R: GOST 60950

#### RoHS Compliance



Carl-Zeiss-Str. 27-29 • D-73230 Kirchheim / Teck  
Tel. +49(0)7021-487 200 • Fax +49(0)7021-487 400

[www.starline.de](http://www.starline.de)