

# IT Systems / Enterprise Storage Solutions

## EonStor S12F R G1420

**BRAKENSIEK®**  
SYSTEMHAUS



EonStor S12F-R/G1420

\* The best end-to-end I/O performance in RAID 5 configuration for four host channel:

Sequential Reads: 780 MB/sec

Sequential Writes: 521 MB/sec

\* A leading technology with 2U/12-bay RAID controller

\* Support two (2) FC-4G host channels on each controller

\* Supports up to twelve (12) disk drives

\* Supports up to 4GB DDR cache memory

Host-to-Drive	Model	Configuration	Form Factor
FC to SAS/SATA	S12F-R1420	Redundant controller	2U rack-mount
FC to SAS/SATA	S12F-G1420	Single controller	2U rack-mount

## Specifications

### RAID

- \* Multiple arrays configurable with dedicated or global hot spares
- \* Supports RAID 0, 1 (0+1), 3, 5, 6, 10, 30, 50, 60, NRAID and JBOD
- \* Infortrend Smart Technologies
  - o IOSmart Technology
  - o DrvSmart Technology
  - o SysSmart Technology

### Subsystem Components

Redundant, hot-swappable components designed for no single point of failure

- \* One (1) EonStor enhanced 2U enclosure
- \* Twelve (12) hot-swappable drive trays
- \* Two (2) chassis ears (with finger grips on S12F-R1420-0030)
- \* One (1) LED panel (S12F-R1420-0030 only)
- \* One (1) LCD keypad panel (S12F-R1420-0032 only)
- \* Two (2) RAID controller modules
- \* 512MB DDR RAM DIMM module pre-installed on each RAID controller
- \* Two (2) standard battery backup unit (BBU)
- \* Two (2) hot-swappable, redundant, 405W power supply units (PSUs)
- \* Two (2) redundant cooling modules each with two (2) dual-speed fans
- \*

### Host Interface

- \* Two (2) FC-4G host channels per controller
- \* Auto-negotiate FC-AL, point-to-point, or switched fabric
- \* Concurrent I/O commands
- \* Tagged command queuing up to 256
- \* Variable stripe size per logical drive
- \* Optimization setting for random or sequential I/Os

### Drive Interface

- \* Twelve (12) hot-swappable drive trays that accommodate 1-inch pitch, 3.5-inch SAS/SATA disk drives
- \* Native Command Queuing (NCQ) support
- \* Dedicated bandwidth to each connected drive

- \* Automatic bad sector reassignment

## Management

- \* Firmware-embedded utility via LCD keypad or RS-232C port
- \* Host-side SES emulation with pass-through to back-end SES emulation
- \* 10/100 BaseT Ethernet for out-of-band management
- \* Two (2) COM ports for local access to firmware-embedded utility and UPS connectivity
- \* Firmware-embedded Java-based RAIDWatch® Manager:
  - o VT-100 terminal emulation via RS232 serial port
  - o Telnet access via onboard Ethernet port
  - o Cross-platform, remote administration with SSL
  - o Out-of-band access via Ethernet (GUI-onboard)
  - o Centralized management to monitor and administer multiple RAID units on one screen
- \* Configuration Client for easy access to the configuration utility screen
- \* SNMP 2.0 MIBs with get and set commands

## SAN Management

Up to 1024 LUNs (if sufficiently large memory is used with the proper settings)

## Indicators

- \* Onboard alarm is triggered when one of the following fails:
  - o RAID controller module
  - o Cooling module
  - o Power supply unit
  - o Hard drive
  - o BBU module
- \* Module status LED indicators :
  - o Three (3) per LCD keypad panel
  - o Two (2) per drive tray
  - o Eleven (11) per RAID controller module
  - o One (1) per BBU module
  - o Two (2) per cooling module
  - o One (1) per PSU
- \* Module failure alert through I<sup>2</sup>C bus
- \* Event notifications sent over email, fax, LAN broadcast, SNMP traps, MSN messenger, ICQ, SMS short messages
- \* System alerts through Java-based RAIDWatch® Manager

## Infotrend Smart Technologies

Derived from more than ten years experience in RAID storage design, Infotrend's innovative firmware delivers Smart technologies that provide enhanced storage solutions for every customer environment, from small organizations to large enterprises. These technologies enhance I/O processing, drive handling, and system management.

### IOSmart

IOSmart allows for the flexible configuration of logical drives, logical volumes and logical partitions and ensures instant RAID availability via background logical drive initialization. Fibre loops' load balancing is provided within the subsystem. The firmware's embedded intelligent algorithms, such as Adaptive Write Policy and Guaranteed Latency I/O, improve sequential write performance and ensure the fast and continuous flow of data.

### DrvSmart

The DrvSmart utility provides an easy way to store data while keeping it safe. One of the main DrvSmart functions, Media Scan, retrieves data from degraded or damaged hard drives and handles low quality drives in both the degraded mode and during the rebuild process. Other DrvSmart features include disk cloning, drive roaming, SMART, transparent resetting of non-responsive hard drives, and RAID parity update tracking and recovery.

### SysSmart

In addition to RAID protection for the disk drives, Infortrend has introduced Auto Data Protection Mechanisms. These special SysSmart firmware functions ensure data safety by automatically switching to write-through data caching when abnormal subsystem conditions are detected such as a PSU/cooling module failure, low BBU or UPS battery charge, etc.

By using the firmware to monitor and control the enclosure's dual-speed fans, the fan rotation speed is raised to a higher level when critical conditions are detected, e.g., a PSU or fan failure. Fan speed returns to the lower setting when normal operating status is restored.

The ES S12F-R1420 can be monitored by variety of utilities and approaches. I2C internal serial bus, SAF-TE, and SES are seamlessly integrated into the comprehensive Java-based GUI RAIDWatch Manager. Component status, voltage and temperature readings, and system events are instantly revealed through the manager's graphical interface.

Physical/Electrical

## Interfaces

- \* Two (2) FC ports on each controller module using a short-wavelength adapter
- \* Two (2) COM ports on each controller module for RS-232C serial port (38400, n, 8, 1) and UPS support
- \* One (1) 10/100BaseT Ethernet port on each controller module

## Power Supply Module

Two (2) redundant, hot-swappable power supplies with PFC

Input 90VAC @ 7A – 264VAC @ 3.5A with PFC (auto-switching)  
47 to 63Hz

Output Maximum output: 405 Watts  
+12.0V 24A max.  
+ 5.0V 36A max.  
+ 3.3V 20A max.  
+5.0Vsb 0.5A

## Cooling Module

Two (2) dual-fan cooling modules

Speed

High speed: 4000 RPM Low speed: 2550 RPM  
Maximum Air Flow

High speed: 31.8 DFM Low speed: 19.6 CFM

## Environmental Specifications

### Temperature

Operating: 0° to 40°C (32° F to 104° F)  
Non-operating: - 40° to 60°C (-40° F to 149° F)

### Relative Humidity

Operating: 5 to 90% (non condensing)  
Non-operating: 5 to 95% (non condensing)

### Altitude

Operating: 3,658m (12,000 ft.)

Non-operating: 12,192m (40,000 ft.)

#### Dimensions

\* Chassis without chassis ears: 446 (W) x 88 (H) x 498 (D) mm (17.6 x 3.5 x 19.6 inches)

\* Chassis with chassis ears: 481.6 (W) x 88 (H) x 498 (D) mm (19 x 3.5 x 19.6 inches)

\* Shipping box: 567(W) x 772(H) x 381(D) mm (22.3 x 30.4 x 15 inches)

#### Weight

\* Net weight: 19.37 Kg (42.7 pounds)

\* Gross weight: 27.5 Kg (60.63 pounds)

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