

EonStor® A08F/A12F-G2422

2U Profile, 8- or 12-bay
Single-Controller
Fibre to SATA-II RAID Subsystem

SPARE PARTS & ACCESSORIES



Spare Parts

Description	Part Number
Fibre-to-SATA RAID controller module, 2 x FC-4G host channels, 8 x SATA-II drive channels.	IFT-82AF24GD08
Fibre-to-SATA RAID controller module, 2 x FC-4G host channels, 12 x SATA-II drive channels.	IFT-82AF24GD12
Drive tray, Type-III bezel and Type-II LED lightpipe	IFT-9273CDTray
Power supply module, EonStor 2U DDR-interface subsystems, 350W capacity	IFT-9272CPSU
Dual-speed cooling module for enhanced ES 2U subsystems	IFT-9272CFanModE
Right-side forearm handle for 2U subsystems	IFT-9272CHandR
Left-side forearm handle for 2U subsystems, LCD keypad panel	IFT-9272CHandLLCD

Accessories

Description	Part Number
Agilent Fibre Channel 4.25/2.125/1.0625 Gb/s small form factor pluggable optical transceiver, LC, wave-length 850nm, multi-mode	IFT-9270CSFP4GA01
Optical FC cable, LC-LC, MM-62.6/125, duplex, LSZH, O.D.=1.8mmx2, 1 meter	IFT-9270CFCCab01
Optical FC cable, LC-LC, MM-62.6/125, duplex, LSZH, O.D.=1.8mmx2, 5 meters	IFT-9270CFCCab02
Optical FC cable, LC-LC, MM-62.6/125, duplex, LSZH, O.D.=1.8mmx2, 10 meters	IFT-9270CFCCab03
Battery cell pack, Li-ION battery cells	IFT-9273CBT-C
RS-232C serial cable, audio-jack-to-DB9 *One included in the shipping package	IFT-9270ASCab
Null modem, DB9-female-to-DB9-male, wires swapped *One included in the shipping package	IFT-9011
Enhanced Slide rails assembly for 2U enclosures, 21"~28.5" rack depth	IFT-9272CEslide28
Enhanced Slide rails assembly for 2U enclosures, 23"~36 rack depth	IFT-9272CEslide36



EonStor A08F-G2422 and A12F-G2422 combine the high performance, reliability, and scalability of FC-4G host interfaces with the low cost and high capacity benefits of 3Gbps SATA drive technology. The new subsystems lead the industry trend for greater storage capacity and accelerated storage data paths, making them ideal for high-bandwidth applications such as high performance computing, medical imaging, and video streaming.



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OVERVIEW

Employing Infortrend's renowned, custom ASIC266 dual PCI-X architecture and FC-4G host channels, the ES A08F-G2422 and ES A12F-G2422 double the storage network performance speed yet maintain backward compatibility with 1Gb and 2Gb systems. These entry-level, SAN-ready subsystems provide clustering capabilities for DAS, FC SAN, and clustered server storage applications requiring dedicated bandwidth and are well suited for imaging and archiving or secondary storage in large organizations.

WHY BUY FC-4G TECHNOLOGY?

FC-4G technology provides faster communication between servers and storage systems, more rapid data transfer, and higher reliability. Benefits of FC-4G interface include doubled throughput, backward compatibility, and less SAN infrastructure (fewer switches with fewer ports, fewer host bus adapters)

HIGHLIGHTS

- **Two (2) FC-4G host channels; transfer rate up to 200MBps per channel**
- **RAID5 configuration end-to-end I/O performance**
 Sequential Read: 545MB/sec
 Sequential Write: 345MB/sec
- **Single RAID controller providing complete RAID functionality**
- **Designed to use 3Gbps SATA-II disk drives; backward compatible with SATA-I disk drives .**
- **High density 2U chassis providing up to 6TB of storage capacity**
- **Dual-speed cooling fans to reduce system noise and power consumption**
- **DDR cache memory up to 2GB**
- **SATA NCQ support**
- **RoHS compliant**

AVAILABLE MODELS

MODEL	ENCLOSURE	CHANNEL
ES A08F-G2422	2U/8-Bay	2 x FC-4G
ES A12F-G2422	2U/12-Bay	2 x FC-4G



RELIABILITY

The subsystem supports a complete list of RAID configuration levels in the forms of logical drives, logical volumes and logical partitions. Multiple RAID configurations can co-exist within one enclosure, each with distinct write policy, stripe size, and optimization modes. Hot rebuild and numerous fault correction mechanisms ensure the highest standard of RAID protection.

Safe distribution of data is embodied in many ingenious fault-preventive designs. From memory ECC, write-verify, parity regeneration, parity update tracking, Media Scan, to battery backup protection, your data is warded against factors that might cause data inconsistencies. For example, the subsystem is capable of managing storage arrays with fault containment algorithms. If a critical component fails, e.g., a battery module, the subsystem automatically disables its write-back caching and assumes the conservative write-through mode. Algorithms like this guarantees that data is reliably managed and all risk factors are always carefully checked.

Availability

The A08F and A12F subsystems are equipped with field-hardened technologies that ensure data protection and a simple, centralized management. The subsystems are managed by firmware developed with sophisticated RAID technologies and redundant component designs.

To ensure a high level of system availability, critical components such as disk drives, power supplies, and cooling fans, are all redundant and hot-swappable. Modules are integrated with the main signal path PCB via board-to-board or interface-specific connectors to eliminate points of failure.

Manageability

All critical modules are housed in their own removable canister, including hard disk drives, power supplies, battery modules, and cooling fans. In the event of component failure, each can be replaced within seconds.

A variety of configuration and monitoring methods are available, either locally via the LCD keypad panel and the text-mode RS-232C terminal utility, or remotely through the Java-based GUI manager. All fault conditions, including module failure and abnormal voltage and temperature readings, are instantly reported.

INFOTREND SMART TECHNOLOGIES

Derived from more than ten years of experience in RAID storage design, our firmware features extremely compact protocol and rich varieties of algorithms to deal with the stringent requirements of storage applications. The technologies are smart for I/O processing, drive handling, and system management.



MAJOR MARKETS AND USES

Infortrend products are used in server-attached and network data storage environment in major industries such as medical imaging, security/CCTV, and digital media including video-on-demand, stream editing and more.



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

SysSmart combines enclosure monitoring and firmware management capabilities to minimize the chance of downtime caused by hardware failures. The auto data protection mechanisms were developed to ensure data safety. Other SysSmart functions include event-triggered as well as other monitoring utilities and approaches combined with the powerful RAIDWatch Manager. Component status, voltage and temperature readings, and system events are instantly revealed through the Manager's graphical interface.

SPECIFICATIONS

Subsystem Characteristics

- 600MHz RISC CPU, 256KB L2 cache
- ASIC266 RAID engine
- DDR cache memory 256MB
- FC-4G host channels 2
- LCD keypad panel 1
- COM ports 1
- 10/100BaseT Ethernet port 1
- Diagnostic LEDs on all FRUs

Drive Interface

- Number of disk trays 8/12
- Serial SATA-I/II drive supported

Host Connection Ports

- SFP ports to optical fiber 2
- Transfer rate 400MBps
- Tag command queuing
- Multiple target lds

Raid Configurations

- RAID levels 0, 1(0+1), 3, 5, 10, 30, 50, JBOD
- Max. 32 logical drives
- Max. 1024 LUNs
- Multiple array configurations
- Automatic background rebuild
- Infortrend Smart Technologies

High Availability

- Redundant, hot-swappable FRUs
- Subsystem self-diagnostics
- Backup backup unit
- Hot-spare drives

Management

- RAIDWatch GUI software
- Terminal via RS-232C
- Telnet over Ethernet
- LCD keypad panel
- Event notification methods
 - Email
 - Fax
 - LAN broadcast
 - SNMP traps
 - Cell phone message SMS
 - Instant messengers MSN

OS Support

- Microsoft Windows NT
- Microsoft Windows 2000 Server
- Microsoft Windows 2003 Server
- Sun Solaris ver. 8/9
- RedHat Linux ver. 8/9, enterprise ver. 3
- SuSE Linux ver. 8/9

Requirements

- AC Input: 100~240 VAC, 350W with PFC (auto-switching)
- DC Output: 12V-25A; 5V-25A; 3.3V-20A
- Relative Humidity: 5% to 95% non-condensing
- Operating Temperature: 0 to 40°C

Dimensions

- 2U, 19-inch rackmount chassis
- Without handles: 446(W) x 88(H) x 490(D) mm (17.6" x 3.5" x 19.3")
- With handles: 482(W) x 88(H) x 505(D) mm (19" x 3.5" x 19.9")