

# 4Gb FC-SAS/SATA-II RAID F5412E

IT executives require significantly improved data storage infrastructure solutions for application and database archiving, e-mail, tiered storage, virtual tape libraries, and advanced data protection solutions. Addressing regulatory requirements, legal mandates, and improving disaster recovery along with much greater data storage power and volumetric efficiency have become critical success factors.

OEMs delivering solutions to meet these needs are also under pressure to address four key challenges: shorten time to market; reduce test, integration, warranty, and service costs; increase reliability; and bolster customer satisfaction. Xyratex RAID solutions reduce OEM development costs, feature enterprise-class RAID functionality including RAID 6 and Snapshot, ensure high availability, and they are highly reliable.

## • Enhance Applications with Storage: Xyratex F5412E

The F5412E combines Fibre Channel connectivity with Serial Attached SCSI (SAS) and Serial ATA (SATA) drive technology for cost effective, high performance storage solutions. It combines high performance connectivity, sophisticated storage management software, flexible interface support, and highly reliable storage devices to deliver a cost-effective, ultra-high performance OEM solution with the scalability and functionality necessary to meet the demands of today as well as tomorrow's rigorous applications environment. By leveraging the SAS full duplex, point-to-point architecture with dedicated connections, the F5412E delivers maximum data throughput, thereby providing faster, more responsive applications. In addition, the F5412E sustains maximum throughput (MB/s) for high bandwidth applications ranging from video editing to database-intensive online transaction processing.

Meanwhile, SATA-II drives in the F5412E provide the combination of high-capacity and cost-effective data storage normally found in nearline storage. Using SATA disks with their low cost-per-gigabyte design, the F5412E provides a cost-effective online repository for non-business-critical data, and offers the many advantages of tiered storage to the Small and Medium Business (SMB) market.

## • Managing Storage From A Single Pane of Glass

All models in the Xyratex 5000 RAID series come with Snapshot. Four snapshots are available to start implementing point-in-time recovery capabilities. An optional Snapshot upgrade allows for up to 24 snapshots per Logical Drive and up to 512 total snapshots per RAID system.

Xyratex's StorView software configures and administers the F5412E storage system, and distinguishes it from other entry-level systems on the market today. Automated control of individual controller's cache, arrays and devices via a web-based interface simplifies storage administration, while StorView's full-function Command Line Interface (CLI) allows integration of array management into existing operational procedures. An optional upgrade to StorView Global Manager enables configuration, monitoring and management of any 5000 Series RAID controller from any location, anywhere on the network.



## Features

- Single (2) or Dual (4) 4Gb/s high speed Fibre Channel host connections per system
- Mix up to 60 high performance SAS and cost effective SATA-II drives
- Snapshot support for up to 512 snaps
- StorView™ controller based management software
- Full RAID 6 and Snapshot support
- Dual active high availability and low cost single controller configurations
- Host based dynamic multi-pathing for high availability
- Online capacity growth through dynamic array and LUN expansion
- Redundant modular design with hot-swappable components

# 4Gb FC-SAS/SATA-II RAID F5412E

## Technical Specification

### General Information

<b>Product Code</b>	RS-1220-F4-5412
<b>External Interface</b>	4Gb FC, point-to-point, loop and fabric (switched) topologies
<b>Supported Operating Platforms</b>	Windows 2003 (IA32, EM64T, IA64); RedHat Linux AS3/AS4 (IA32, EM64T, IA64); SuSE Linux 8/9 (IA32, EM64T, IA64), Solaris 10
<b>Supported Hosts</b>	256, 512 LUNs, LUN Masking, >2TB LUNs
<b>Expansion Chassis</b>	RS-1220-E3-XPN (4 max), SAS connected (SFF-8470), single & dual IO module configs
<b>Total Expansion Capacity</b>	60TB, 512MB & 1GB cache per controller (selectable by volume: read, adaptive read-ahead, write through, write-back), battery backup

### Disk Drives

<b>Disk Drives Supported</b>	For a full list of supported drives, please contact your account or sales manager
<b>Interface Types Supported</b>	SAS (3Gb), SATA-II (3Gb) dedicated bandwidth to each drive
<b>Max Drives per Enclosure</b>	12, 512 Logical Drives/system, automatic bad sector assignment

### RAID Controllers

<b>No. RAID Controllers</b>	1 (single) or 2 (dual – HA)
<b>RAID Levels Supported</b>	Up to 60 disk arrays with independent RAID level 0, 1, 5, 6, 10, and 50 support, selectable strip sizes (64, 128, & 256K)
<b>RAID Protection Features</b>	Background initialization, background parity checking, and automatic drive rebuild with redundant RAID arrays

### System Management

<b>Software</b>	StorView, StorView Global, StorView Path Manager, Snapshot
<b>Interfaces Supported</b>	Ethernet (out-of-band), FC host based (in-band)

### System Availability

<b>Hot Swappable Components</b>	Disk drives, RAID controllers, power supplies and cooling module
<b>Additional Reliability Features</b>	StorView Path Manager – Windows host based dynamic multi-path failover Snapshot - Up to 24 snapshots per Logical Drive, Up to 8 Logical Drives

### Dimensions

<b>Height</b>	87.9mm (3.46") 2 EIA units
<b>Width</b>	443.7mm (17.49") IEC rack compliant
<b>Depth</b>	550mm (21.65")
<b>Weight</b>	32.2Kg (71 lbs.) dual controller configuration with drives

### Electrical: AC Input

<b>Voltage</b>	100-240V AC @ 50/60Hz. Single Phase
<b>Input Current</b>	6.0A (115V AC), 3.0A (230V AC)
<b>Input Power</b>	300W Typical

### Environmental: Operating

<b>Temperature</b>	5°C to 40°C (41°F to 104°F)
<b>Humidity</b>	8% to 80% non-condensing
<b>Altitude</b>	0 to 2,133m (0 to 7,000')
<b>Shock</b>	5g 10ms ½ sine
<b>Vibration</b>	Random 0.21grms 5-500Hz
<b>Acoustics</b>	<58dB LpA @20° C

### Environmental: Non-Operating

<b>Temperature</b>	1° to 50°C (33.8° to 122° F)
<b>Humidity</b>	8% to 80% non-condensing
<b>Altitude</b>	0 to 12,192m (0 to 40,000')
<b>Shock</b>	30g 10ms ½ sine
<b>Vibration</b>	Random 1.04 grms 2-200Hz

### Approvals

CCC, BSMI, CE, UL, cUL, RoHS (R5), Microsoft WHQL, Microsoft RAID System Submission – w/MPIO (2-Node Cluster)

### Warranty Information

**Enclosures with drives** Up to 3 years. Please contact Xyratex for detailed warranty information.

### Environmental Standards



ISO 14001: 2004 Cert No. EMS91560



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