



## Features

- Two 2Gbps Fibre Host Channels; transfer rate up to 200MB/sec for each OR two Ultra4 Host Channels
- Online array expansion by adding drives or replacing with larger drives
- Tunable array stripe size and optimization schemes
- Multiple Logical Drive configurations, each with a different RAID level
- LUN Filtering - centralized access management in SAN by WWN
- Auto system shutdown and cache flush on critical conditions
- Transparent resetting of hung HDDs

## Overview

The Comet SATA 8 single RAID controller subsystem series comes in a cableless, backplane-based, highest-density 2U enclosure.

The Comet subsystem combines either 2Gbps Fibre or Ultra4 SCSI host channels with 8 SATA drives in a storage subsystem. The system design provides users massive storage capacity with SATA benefits such as high performance and full bandwidth to each connected device, in a safe subsystem environment where a highest level of data availability is assured.

## Architecture

Running on an architecture used by the most demanding applications, the subsystem is equipped with intelligent algorithms capable of bridging the point-to-point bandwidth of SATA drives with high speed host channels. Its separate bus backbone is built around the dedicated XOR engines capable of fast parity calculation and I/O turnarounds. The distribution of data can be optimized with configurable array settings and the free association between individual arrays and different optimization modes.

## High Performance

Featuring a 64-bit 133MHz memory bus, the unparalleled bandwidth makes the subsystem's high

data throughput more than sufficient for small-to-medium sized servers or workstations. Data can be distributed at the burst rate up to 1066MB/sec. The dual PCI bus design virtually eliminates all imminent bottlenecks on IO traffic, providing sufficient throughput for a wide range of applications on SCSIbased PCs, single-user workstations, NT, Linux, or Unix-based servers. These applications include disk-to-disk backup, Video on demand, CCTV and stream editing.

## Intelligent Drive Handling

Media Scan is an innovative intelligent drive management function that can be used for data retrieval from the occurrence of bad sectors on hard drives. If two bad blocks occur on two member drives of an array, the integrity of the stored data will be endangered. Intelligent drive handling capabilities can be used to retrieve data from the damaged sectors. Media Scan is able to handle low quality drives in both the degraded mode and during the rebuild process. Other intelligent drive handling features include the transparent resetting of hung hard drives, power-failure management and bad drive handling during LD expansion.

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## Specifications

### RAID Controller

- State-of-the-art 400MHz RISC processor with 256KB embedded L2 cache
- Proprietary ASIC133 hardware XOR engines with ECC support
- Standard 128MB 1GB cache memory in one SODIMM
- Voltage and temperature self-monitoring
- One Ethernet port for out-of-band management
- 32KB NVRAM with RTC (Real Time Clock)
- Audible alarm

### RAID Operation

- RAID level 0, 1, 1 (0+1), 3, 5, 10, 30, 50, and JBOD
- Multiple array configuration
- Hot-spare drive operation
- Hot-swappable drives
- Automatic background rebuild
- Online capacity expansion
- Intelligent drive management
- Host Interfaces
- Two 2Gbps Fibre Channels OR Two U4 Channels
- SAN-ready

### Drive Interface

- Serial ATA 1.5Gbps via backplane
- Eight (8) 1-inch trays
- 3.5", 1" high 1.5Gbps SATA disk drives
- 8 hot-swappable drive trays
- Automatic bad sector reassignment
- Drive hot-swappable via SCA-II connectors
- Dedicated bandwidth to each connected drive

### Host Interface

- Auto-negotiate FC-AL, point-to-point, and 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

### Enclosure

- Two 350W power supplies w/ PFC
- Two cooling fan modules
- Fan, power, and disk drives monitoring by LED indicators, audible alarm, and manager software

### External Connections

- Two SFP ports for dual channel optical fiber connection OR two mini-SCSI ports for U4 connection
- One RS-232C (Audio Jack) serial port (38400, n, 8, 1)
- One RJ-45 Ethernet port

### SAN Management

- LUN Masking access control over terminal emulation or GUI manager, configurable filter entry variables
- Up to 1024 LUNs supported

### Management

- LCD keypad on a foldable forearm handle
- Firmware-embedded manager via RS-232C (audio jack, platform-independent)
- Browser-based Java GUI over in-band connection or the Ethernet port
- Centralized management of multiple arrays over in-band or Ethernet
- Real-time event notification over Email, LAN broadcast, or SNMP traps
- Host-side SES emulation with pass-through to back-end SES emulation
- SNMP 2.0 MIBs with get and set commands

### Maintenance & Availability

- Immediate array availability
- Drive roaming, array configuration on drives
- Controller voltage and temperature self-diagnostics

### Auto switch cache policy and Auto shutdown

When a RAID controller detects conditions exceeding preset thresholds, the following actions will be exerted to protect the hardware:

1. Automatically flush cached data and switch the array's caching mode from write-back to write-through
2. Commence an auto shutdown

Environmental thresholds associated with the auto-shutdown feature are user-configurable. Caching mode changes back to write-back once normal condition is restored.

### Requirements

Power: 100~240VAC + 10% full range; 6A / 3A at 90V / 230V, 47Hz / 63Hz  
Relative Humidity: 5~95% non-condensing  
Operating Temperature: 0~40 C

### Power Supply

2 redundant, hot-swappable power supplies with PFC  
Input: 90~260VAC, 47~63Hz  
Output: +5V, 25A max.; +12V, 24A max.; +3.3V, 20A max.; 350watts capacity

### Cooling Fan

2 cooling fans in two separate modules:  
Operating temperature: 5 to 40°C  
Non-operating temperature: -20 to 60°C  
Relative humidity: 10~95%, non-condensing  
Operating altitude: sea level to 10,000ft

### Dimensions

Chassis dimensions: 3.5"H x 17.57"W x 19.15"D  
(w/ protrusions): 3.5"H x 18.95"W x 20.67"D  
Package dimensions: 13.5"H x 23.5"W x 26.5"D  
System weight (w/o drives):  
Net weight: 36lbs  
Gross weight: 52lbs

## Part Nubmers

RSI08U4-001

RSI08F-001

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