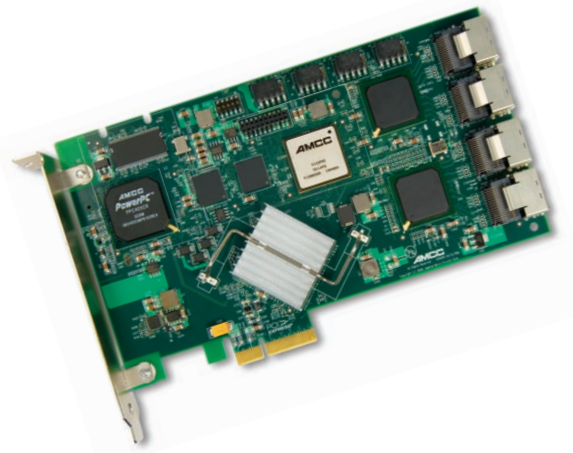




3ware® 9590SE

High-Performance PCI Express to Serial ATA II RAID Controller



Highlights

- The future is now with PCI Express connectivity
- Over 800 MB/s RAID 5 reads and over 380 MB/s RAID 5 writes
- StorSwitch™ 7th generation non-blocking switch fabric for maximum controller throughput
- StreamFusion optimizes RAID 5 disk accesses to maximize application performance under multiple heavy stream loads
- StorSave's BBU with write journaling optimizes data protection and performance
- Award winning Multi-lane combines four SATA ports into a single locked connection for improved I/O subsystem reliability
- Supports advanced SATA 2.5 specification features including 3 Gb/s and NCQ
- 8, 12, and 16-port configurations
- RAID Levels 0, 1, 10, 5, 50, Single Disk, and JBOD
- RoHS Compliant

AMCC's 3ware 9590SE SATA II RAID controllers deliver cutting-edge performance, robust fault tolerance, and multi-terabyte capacities. Combined with an advanced RAID management feature set that includes web-based, command-based, and API software components, the 9590SE, available in 8, 12, and 16-port configurations, is the industry's most compelling PCI Express RAID solution.

The Future is Now

3ware 9590SE Serial ATA II RAID controllers deliver over 800 MB/sec RAID 5 reads and exceed 380 MB/sec RAID 5 writes. PCI Express connectivity, StorSwitch™ non-blocking switch fabric technology, and sophisticated SATA II features including 3 Gb/s transfer speed and Native Command Queuing (NCQ) drive this unmatched performance.

AMCC's exclusive StreamFusion caching algorithms assure the most efficient use of available bandwidth when transferring multiple simultaneous data streams to an array. A sophisticated on-board PowerPC processor combined with RAID offload capabilities manages RAID controller functions, which allows the host system CPU to manage system applications.

The 9590SE's advanced RAID features and powerful performance architecture make it the ideal controller for mid-range database applications, print and file server applications, and vertical applications including NAS storage, web servers, cluster servers, supercomputing, near-line backup and archival, security systems, as well as audio and video streaming applications.

a Battery Backup Unit. The BBU, complete with write journaling, provides added data protection in the event of a power outage. Reliability is further strengthened with features like out of band (OOB) staggered spin up, SMART disk drive monitoring and reporting, hot spare/hot swap, automatic rebuild, and dynamic sector repair.

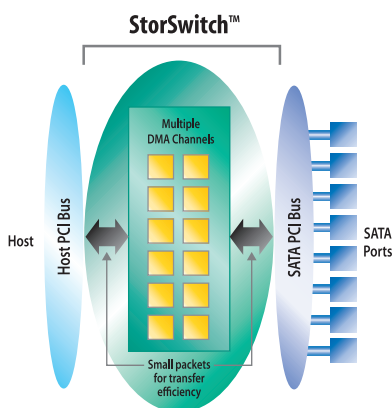
Enterprise RAID features such as on-line capacity expansion allows flexible scalability of the RAID array, while RAID level migration allows the reorganization of arrays when data protection requirements change. Other scalability features include 64-bit LBA support for addressing arrays greater than 2 TB and support for multiple cards within a system for large storage requirements. The 3ware 9590SE controller supports RAID levels 0, 1, 10, 5, 50, Single Disk, and JBOD.

Integrated Cabling Flexibility

AMCC's award winning Multi-lane SATA cabling system significantly reduces the number of cables needed to connect controllers, backplanes, and standard SATA drives. Multi-lane combines four SATA ports into a single locked connection. A 16-port controller requires only four cables with Multi-lane. A reduced cable count facilitates systems scalability and improved airflow.

Enterprise-class Reliability and Scalability

StorSave, AMCC's data reliability platform, delivers a comprehensive suite of advanced data protection and data recovery features, combined with



APPLICATIONS FOR 3WARE CONTROLLERS



3ware 9590SE

3ware 9590SE Features

- 7th-generation StorSwitch™ non-blocking switched architecture
- On-board I/O RISC processor and RAID offload provides true hardware RAID
 - SCSI device driver model to take advantage of the benefits of SCSI using inexpensive Serial ATA drives
- Bootable array support for greater fault tolerance
- Variable stripe size for performance tuning by application
- 64-bit LBA support
- ATA pass-through mode support
- 256 MB DDR2 400 memory with ECC protection
- 32 pooled DMA channels
- Complete configuration management suite
 - 3ware BIOS Manager 2 (3BM2) – easy to use BIOS configuration tool
 - 3ware Disk Manager 2 (3DM2) – browser-based management tool
 - * Features include: secure access via ssh or https, create unit, delete unit, remove unit, import unit, migrate unit, verify unit rebuild unit
 - Command Line Interface (CLI) – scriptable configuration tool
- SNMP support
- SMTP support for email/pager notification
- ATA/6 and Out of band (OOB) staggered drive spin-up support
- Auto carving allows logical units larger than 2 TB to be divided into multiple units for legacy operating systems that are limited to a maximum of 2 TB per logical unit
- StorSave platform for advanced performance tuning with the BBU
- Multiple logical unit sizes and RAID levels on one card
- Multiple card support within a system for large storage requirements
- Hot-swap and hot-spare support for data availability
- Dynamic sector repair for robust data protection
- S.M.A.R.T. disk drive monitoring for reliability
- Emergency Flash Recovery protects against failed firmware upgrade
- Drive activity LED support
- Online Capacity Expansion and RAID Level Migration
- Battery Backup Unit (BBU) support
- Enhanced data protection with write journaling for non-redundant arrays and accidental drive removal
- Drive insertion and removal notification
- Breakout cables included for direct connect
- Array/Drive Status and drive identification LED support
- Chassis Control Unit for enclosure management via I²C

Operating System Support

- Microsoft® Windows® 2003/XP/2000, Red Hat Linux, SuSE Linux, Fedora Linux, 2.4 Linux kernel, 2.6 Linux kernel, FreeBSD, 32/64-bit support
- For complete OS listing, go to:
www.3ware.com/support/OS-support

3ware 9590SE Specifications

- Half-length/full-height form factor
- 8, 12, and 16-port configurations
- PCI Express x4, PCI Express 1.1 compliant
- Serial ATA 2.5 Specification support
- BIOS PnP (plug and play) and BBS (BIOS boot specification) support
- Operating Temperature

Without BBU:	0°C to 50°C
With BBU:	10°C to 40°C
- Power Requirements

18W maximum

- Dimensions

9590SE-8ML	7.335"L x 4.372"H
9590SE-12ML	7.335"L x 4.372"H
9590SE-16ML	7.335"L x 4.372"H
- RoHS Compliant

Service and Support

- 3-year warranty
- Support via the web at www.3ware.com/support
- For latest motherboard and hard drive compatibility listing go to:
www.3ware.com/products/compatibility_sata.asp

Accessories

- | | |
|----------------------|--|
| • BBU-9550SX-01 | Battery Backup Unit |
| • RDC-400-SATA | SATA internal drive cage |
| • BATT-9550SX-SPARE | Replacement battery for BBU-9550SX-01 |
| • CBL-SFF8087-05M | 0.5m SATA Multi-lane Internal cable |
| • CBL-SFF8087OCF-05M | 0.5m SATA Multi-lane forward breakout cable |
| • CBL-SFF8087OCF-10M | 1m SATA Multi-lane forward breakout cable |
| • CBL-SFF8087IB-05M | 0.5m SATA Multi-lane to Multi-lane converter cable |

3ware 9590SE Series Selection Guide

Model	9590SE-8ML	9590SE-12ML	9590SE-16ML
Form Factor	Half length / full height	Half length / full height	Half length / full height
Port Count	8	12	16
Host Interface	PCI Express x4	PCI Express x4	PCI Express x4
Onboard Memory	256MB	256MB	256MB
Connector Type	Multi-lane	Multi-lane	Multi-lane



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