

Escalade[®] 8506 SERIES

Serial ATA RAID Controller

KEY PRODUCT FEATURES

- Supports up to 12, 8, 4, or 2 Serial ATA drives on a single PCI card, enabling up to 3 terabytes of storage on a half-length card (dependent on drive capacity)
- StorSwitch switched architecture delivers the full performance benefit of Serial ATA's point-to-point architecture up to 1.5Gb/sec per port
- On-board processor provides true hardware-based RAID and intelligent drive management functions
- RAID 0, 1, 10, 5 and JBOD support¹
- 64-bit/66MHz PCI compliant
- BIOS set up utility and 3ware Disk Management (3DM[®]) web-based management software
- Bootable array support for greater system fault tolerance
- Hot-swap and hot-spare features for data availability²
- Windows[®], Linux[®] and FreeBSD operating system support

¹ 2-port controllers support RAID levels 0, 1, and JBOD

² Hot-spare not available on 2-port controllers



Whether the challenge is increasing storage capacity or controlling costs, one technology — Serial ATA (SATA) — gives IT professionals what they need to accomplish both goals. The 3ware Escalade 8506 series delivers SATA RAID controllers that answer the call. 3ware is the proven leader in SATA solutions providing the highest levels of performance, capacity, availability and reliability through its patented StorSwitch[™] architecture.

Escalade 8506 Series — High Performing, Scalable and Reliable!

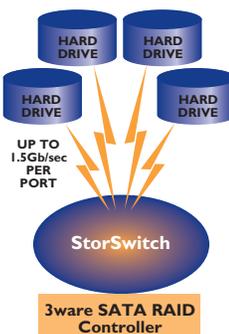
3ware combines an advanced switched RAID architecture (StorSwitch) with SATA drives to deliver a premium performance, highly available storage solution. Each controller boasts a PCI 66MHz custom ASIC that combines an integrated RISC processor; PCI bridge (64-bit, 66MHz) and XOR RAID engine.

The Escalade 8506 series features the only 8 and 12 port SATA RAID controllers available on the market today, with support for up to 3TB of storage per controller (dependent on drive capacity, 2TB per single array maximum.) The Escalade 8506-8 and 8506-12 are ideal for enterprise storage application environments where high levels of sustained reads and writes are required. Applications include NAS storage, web servers, cluster servers, near-line backup and archival, security systems as well as streaming applications for audio and video servers. For 2U rackmount servers, 3ware offers the low-profile 4-port Escalade 8506-4LP.

In accordance with its comprehensive quality practice, 3ware puts all products through stringent testing and works closely with third party hardware and software partners to ensure compatibility.

StorSwitch Architecture — SATA Solutions Optimized for Performance

3ware's innovative switched fabric architecture (StorSwitch) is opening minds throughout the industry to the fact that SATA based storage can be highly reliable, available and meet maximum performance standards. The StorSwitch architecture is a non-blocking switched fabric that communicates with each drive via a unique port identifier. Based on a combination of design elements, which



include command queues, write caching algorithms and interleaving data from each drive across the PCI bus, StorSwitch enables multiple synchronous threads to be executed simultaneously. The use of packet switching technology means that no drive waits or is penalized by another drive because of bus arbitration, while executing read/write commands. The result is superior overall system performance compared to other Serial ATA RAID controllers.

No Risk Reliability

RAID is a must in environments where performance and reliability cannot be compromised. The Escalade 8506 SATA RAID controllers all support RAID levels 0, 1, 10, 5 and JBOD¹. Data availability is maintained with features such as hot spare/hot swap, hot plug, automatic rebuild and dynamic sector repair.

Managing the RAID installation is simple with 3ware Disk Manager (3DM[®]), CLI, S.M.A.R.T. disk monitoring and an integrated BIOS configuration utility. 3ware Disk Manager software is a browser-based management utility for easy local and remote management of arrays. (Windows and Linux only).

SATA — The Revolution in Storage

Serial ATA incorporates significant technical enhancements over traditional ATA making it ideal for RAID implementations. Along with several configuration benefits, SATA technology improves data transmission through a point-to-point topology, which eliminates bus sharing thereby delivering a full 1.5Gb/s bandwidth to each drive. In order to optimize performance in this point-to-point topology however, a switch is required. 3ware is at the forefront of SATA technology with the only switched fabric architecture — StorSwitch. StorSwitch allows the controller to simultaneously communicate with all drives, scaling linearly as more drives are added, resulting in the highest possible storage subsystem performance.

Escalade 8506 SERIES



Escalade 8506 Series Features

- Supports up to 3TB of storage (dependent on drive capacity)
- 2TB single array maximum
- StorSwitch point-to-point, non-blocking architecture
- On-board processor provides true hardware based RAID and intelligent drive management functions
- SCSI device driver model to take advantage of the benefits of SCSI using inexpensive ATA drives
- Remote browser 3ware Disk Manager (3DM) utility with password security for network management of storage arrays
- SMTP support for email/pager notification
- Easy-to-configure arrays from BIOS; 3DM or CLI utilities
- Staggered spin-up to minimize in-rush current at power up
- Bootable array support for greater fault tolerance
- Multiple logical volumes and RAID levels can exist on one card for maximum configuration flexibility
- Multiple card support (up to 4) 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
- 2 levels of administrator access to 3DM for added security

Escalade 8506 Series Specifications:

- Half-length PCI Universal short form factor
- PCI 2.2 compliant 64-bit/66MHz bus master
- Auto-sensing Serial ATA, ATA 133/100 disk drive interface^{1,2}
- BIOS PnP (plug and play) and BBS (BIOS boot specification) support

OS Support

- Microsoft® Windows® 2000/XP/2003
- Red Hat Linux® 8.0, 9.0
- SuSE Linux 8.1, 8.2
- FreeBSD 4.8

For complete OS listing, go to: www.3ware.com/support

Escalade 8506 Series Selection Guide

MODEL	8006-2LP	8506-4LP	8506-8	8506-12
Drive Support	Up to 2 Serial ATA	Up to 4 Serial ATA	Up to 8 Serial ATA	Up to 12 Serial ATA
RAID Levels	0, 1, JBOD	0, 1, 10, 5, JBOD	0, 1, 10, 5, JBOD	0, 1, 10, 5, JBOD
Form Factor	PCI MD2 Low Profile	PCI MD2 Low Profile	PCI Half-Length Card	PCI Half-Length Card
Target Use	Workstations Entry-Level Servers	Departmental Servers Email Servers	Workgroup Servers Video Servers Backup Servers Web Servers	Enterprise Servers External Storage Near-line Storage
Target Applications	Video Editing Gaming	Workgroup Storage Email	Enterprise Storage Video Streaming Web Content Digital Image Capture Security and Surveillance	Near-line Backup NAS/SAN Storage Fixed Content Storage

¹ No support for ATA 66/33

² Requires parallel-to-serial drive converter

Physical and Environmental Specifications

- Calculated MTBF @ 25°C

8006-2LP	1.3 million hours
8506-4LP	1.3 million hours
8506-8	1.2 million hours
8506-12	1.1 million hours
- Operating Temperature: 0°C to 50°C
- Operating Humidity: 10% to 90%
- Non-operating Temperature: -55°C to 85°C
- Non-operating Humidity: 10% to 90%
- Power Requirements

2.5W max. on +5 V
6.75 max. on +3.3 V
0.5 max. on -12 V, +12V not used
- Dimensions

8006-2LP	7.2"L x 2.5"H	(18.288cm x 6.350cm)
8506-4LP	7.2"L x 2.5"H	(18.288cm x 6.350cm)
8506-8	6.875"L x 3.875"H	(17.463cm x 9.843cm)
8506-12	6.875"L x 3.875"H	(17.463cm x 9.843cm)

Compatibility

- For latest motherboard and hard drive compatibility listing go to: www.3ware.com/products/compatibility_sata.asp

Service and Support

- 3-year warranty
- Support via the web at www.3ware.com/support

Accessories

MODEL	DESCRIPTION
RDC-400-SATA*	Serial ATA RAID Drive Cage
CBL-SATA-39	39" (1m) Serial ATA Cable

*Internal drive expansion cage that supports 4 hot swap Serial ATA drives in a 3 drive space to maximize storage capacity and minimize space



Escalade 8506-4LP



Escalade 8506-8



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