

Providing Full-duplex High-Performance Connectivity for Internal and External Storage Arrays

Key Advantages

- *Integrated RAID avoids additional host CPU overhead*
- *Flexible SAS/SATA array architecture optimizes cost*
- *Complete product package includes all the necessary cables and brackets*
- *SAS/SATA interconnect proven through LSI Logic's robust serial technology*

Highest Performance SAS Host Bus Adapter Available

The LSI SAS3442X-R card provides ultra-high speed data transfer for data back-up and mission-critical applications. The HBA offers eight 3Gb/s ports, driving up to 122 Serial Attached SCSI and Serial ATA RAID and non-RAID devices. The low-cost host bus adapter supports medium to large capacity internal server storage applications by connecting a 64 bit PCI-X 133MHz bus with one external x4 SFF-8470 connector and one internal x4 SFF-8484 connector. Performance advantages over parallel SCSI are seen from the huge increase in data throughput and device support from SAS, utilizing LSI's Integrated RAID solution.

Low-Overhead RAID Architecture

As the performance leader in SCSI/SAS controllers, the LSI SAS3442X-R leverages the LSISAS1068 controller ASIC's advanced Fusion-MPT™ architecture. While other SAS cards drive large RAID software stacks between the host CPU and controller, the SAS3442X-R HBA utilizes the embedded CPU in the LSISAS1068 ASIC to perform integrated RAID 0, 1, 1E and 10E operations. The result is an ultra-thin low-overhead device driver communicating over the PCI-X host-bus. By avoiding the PCI-X bus traffic and reducing RAID code overhead, the SAS3442X-R is first in READ/WRITE operation execution.



Unsurpassed Host Bus and SAS/SATA Signal Quality

LSI has always lead the way on next-generation signal interface technology. This leadership continues with LSI's serial interconnect capabilities. The SAS3442X-R HBA leverages five generations of achievement in serial technology to drive a robust connection between the PCI-X bus and storage devices. The combination of integrated RAID with LSI's proven interconnect technology ensures an interrupt-free experience for mission-critical applications.

MyStorage: Simple Storage Array Management

Managing several drives in a storage array can be difficult when running a mixture of SAS and SATA. LSI's MyStorage management software makes storage array optimization easy. MyStorage fully automates the task of deploying and maintaining server to storage array connectivity. From the most modest, small-scale DAS replacement to an ambitious data center, MyStorage™ keeps it simple.

Through an intuitive Graphical User Interface (GUI), this powerful utility helps customers manage storage quickly and easily. Using MyStorage, users can inspect and control all LSI adapters with point and click simplicity. A rich suite of tools enables remote firmware update, drive monitoring, link tuning, load balancing, path monitoring, diagnostics and error reporting. Altogether, MyStorage delivers a complete set of management tools that are simple to use.

APPLICATIONS

- High performance workstations
- Mid to high-end servers
- External and internal storage connections
- 1U/2U rack servers

TYPICAL USES

- Direct-attach internal SAS/SATA HDDs
- External and Internal JBOD enclosures
- Mixed SAS/SATA RAID
- Mission-critical applications running from SAS drives

FEATURES

- 3Gbps per port
- x4 Internal SFF8484 / x4 external SFF8470 connectors
- Integrated RAID 0, 1, 1E and 10E
- MD-2 small form-factor design
- Connects to both SAS and SATA HDDs and tape drives
- Allows more than 122 total end-point devices
- Fusion-MPT architecture providing over 140,000 I/Os per second
- Supports all major OSes



Operating System Support

The SAS3442X-R HBA supports all key 32-bit and 64-bit versions of Microsoft Windows, Linux, Solaris, Netware as well as the x86, IA64, SPARC, AMD64 and EM64T system architectures. All OS drivers are backed by extensive testing and validation to ensure optimum system performance. For a list of the most current supported drivers, visit www.lsillogic.com/support.

TECHNICAL SPECIFICATIONS

PCI Bus	64-bit, 133MHz PCI-X, backward compatible with PCI	
PCI Modes	Bus master DMA	
PCI Data Burst Transfer Rates	132MB/s (PCI 32-bit bus @ 33MHz) 264MB/s (PCI 64-bit bus @ 33MHz) 528MB/s (PCI 64-bit bus @ 66MHz) 800MB/s (PCI-X 64-bit bus @ 100MHz) 1064MB/s (PCI-X 64-bit bus @ 133MHz)	
SAS Bandwidths	Half Duplex Single lane – 300MB/s Wide port (2 lanes) – 600MB/s Wide port (3 lanes) – 900MB/s Wide port (4 lanes) – 1200MB/s Wide port (8 lanes) – 2400MB/s	Full Duplex Single SAS lane – 600MB/s Wide port (2 lanes) – 1200MB/s Wide port (4 lanes) – 2400MB/s
PCI Card Type	3.3V add-in card	
PCI Voltage	+3.3V ±0.3V	
PCI Form Factor	6.6" x 2.5" (MD2 low-profile)	
PCI Power	7.5W	
Bracket	Full height and low-profile	
Certification Level	PCI 2.2, PCI-X 1.0a, PCI-X 2.0 model	
SAS Bus	Four 3GB/s SAS/SATA ports	
SAS Processor	LSISAS1068	
Connectors	Internal 1 SFF-8484 SAS connector	External 1 SFF-8470 SAS connector
LED Indicators	Internal Activity per Phy 4	Internal Fault per Phy 4
Integrated RAID Levels	RAID 0, 1, 1E and 10E	
Max No. of Physical Devices	Non-RAID Integrated (RAID) IR RAID 0 IR RAID 1 IR RAID 1E IR RAID 10E	122 10 spread across 2 volumes 8 per volume 2 per volume plus hotspare 8 per volume 8 per volume
Environments	Operating 0°C to 60°C 5 to 90% non-condensing	Storage -45°C to +105°C 5 to 90% non-condensing
MTBF	>200,000 hours	
Compliances	EMC: Class B-US (CFR 47, P15B); Canada (ICES-003); Japan (V-3/02.04) Europe (EN55022/EN55024); Australia/New Zealand (AS/NZS 3548); Safety: EN60950	
Software: MyStorage	Drive monitoring, HBA management, drive topology	
OS Support	<ul style="list-style-type: none"> Microsoft™ Windows® 2000, Server 2003 32-bit (x86 and AMD64), XP Red Hat® Linux® RHEL 3 Novell® NetWare®/SLES Sun SPARC Solaris 2.6 thru 2.10 	
Support Ordering Information	SAS3442X-R kit P/N: LSI00100 SAS3442X-R 5-pack P/N: LSI00104	
Warranty Technical Support	3 years, advanced replacement option Free technical support: http://www.lsi.com/support	

LSI Logic NA Headquarters
+1 866-574-5741
<http://lsilogic.com>

North American
Storage Adapter Sales
+1 877-LSI-LOGIC
(+1 877-574-5644)

[http://www.lsillogic.com/products/
storage_adapters/](http://www.lsillogic.com/products/storage_adapters/)
Advanced Technical Support
North / South America
+1 800-633-4545
+1 678-728-1250
[http://lsilogic.com/support
support@lsil.com](http://lsilogic.com/support/support@lsil.com)

LSI Logic European Headquarters
+44 1344-413200

UK / Ireland / Nordic Region/
South Africa
+44 1344-413115

France / Spain / Portugal
+33 14601-1340

Belgium/Netherlands/Luxembourg
+31 402-96-2111

Italy +39 039-687-3705

Central / Eastern Europe
+49 89-45833-312

Israel +49 89-458-33-342

Europe Advanced Technical Support

English +44 1344-413-441

Deutsch +49 89-45833-338

[http://lsilogic.com/support
eurosupport@lsil.com](http://lsilogic.com/support/eurosupport@lsil.com)

All Other EMEA

+49 89-45833-156

LSI Logic

Pacific Asia Headquarters

Taiwan +866 2-2718-7828

Tokyo +81 3-5463-7821

Korea +82 2528-3400

Hong Kong +852 2192-1789

Singapore / South Pacific

+65 6334-9080

LSI Logic, the LSI Logic logo design, Fusion-MPT, Integrated RAID, and MyStorage are trademarks or registered trademarks of LSI Logic Corporation. All other brand and product names may be trademarks of their respective companies. LSI Logic Corporation reserves the right to make changes to any products and services herein at any time without notice. LSI Logic does not assume any responsibility or liability arising out of the application or use of any product or service described herein, except as expressly agreed to in writing by LSI Logic; nor does the purchase, lease, or use of a product or service from LSI Logic convey a license under any patent rights, copyrights, trademark rights, or any other of the intellectual property rights of LSI Logic or of third parties.

Printed 3/06 USA. All rights reserved.
10035

© LSI Logic Corporation 2006.