LSI

LSI22320SE

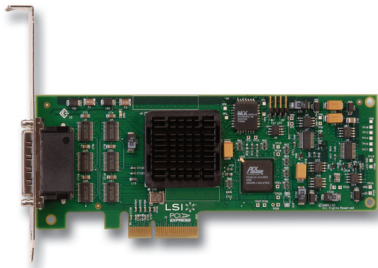## PCI Express Ultra320 SCSI Dual-Channel HBA

Protect Past SCSI Investments with the Next Evolution in Host Interface Technology

KEY ADVANTAGES

- Superior Ultra320 Performance and Scalability
- High-bandwidth serial PCI Express host interface
- Exceptional data reliability and signal quality
- Outstanding Flexibility for Ultra320 and Legacy Device Connectivity

APPLICATIONS

- SCSI peripherals to workstations
- Mid-range to enterprise servers
- External storage connections
- 1U/2U rack servers

TYPICAL USES

- Tape drives
- Tape libraries
- Disk drives
- RAID arrays
- JBOD enclosures
- Video/audio editing
- Applications including print, email, web and database servers

FEATURES

- Ultra320 SCSI
- 320MB/s data transfer rates
- PCI Express x4 lanes (2.0 GB/s full duplex)
- Low-profile MD-2 small form-factor design
- Supports up to 30 SCSI devices
- Fusion-MPT™ architecture provides up to 100,000 I/Os per second
- SureLINK™ domain validation optimizes device connections
- TolerANT™ technology improves signal quality
- Supports all major operating systems

Unrivaled Dual-Channel Ultra320 SCSI Performance

LSI PCI Express host bus adapters provide high-availability and scalability, and are compatible with the newest workstations and servers. The LSI22320SE features two external Ultra320 SCSI channels that allow an aggregate SCSI speed of 640MB/s. Supporting up to 30 devices for a flexible, fault-tolerant solution, this adapter is ideal for entry-level to enterprise servers and high-performance workstations with PCI Express slots.

LSI HBAs provide outstanding I/O performance while allowing extremely high host processor efficiency. The LSI22320SE delivers the speed and bandwidth required by today's data intensive storage applications, such as data mining, internet, email, graphics, audio editing, database servers, scientific simulation and video streaming.

The PCI Express Advantage

The PCI Express host interface employs high-speed serial link technology, an improvement over PCI and PCI-X, which operate on 32- and 64-bit parallel buses. Performance advantages over PCI-X are seen from the huge increase in data throughput and the dedicated point-to-point link for each device. With PCI Express throughput of 2.0 GB/s full-duplex, performance will be limited only by the U320 SCSI bus.

The LSI22320SE also utilizes Fusion-MPT (Message Passing Technology) architecture that improves performance with thinner drivers (up to 100,000 I/Os per sec) while adding value and flexibility at the firmware level. Common drivers for each OS greatly reduce the integration and testing effort for systems already qualified using Fusion-MPT powered devices.

Most Reliable Host Bus and SCSI Signal Quality

The LSI22320SE not only moves data blazingly fast, it also insures unmatched data reliability and signal quality. With LSI TolerANT technology, this adapter improves data integrity through active negation on the drivers and input filtering on receivers of the controller. LSI also features SureLINK domain validation technology, which intelligently tests the network before completing negotiation. It verifies that all devices are able to communicate at the negotiated

SCSI transfer rate and optimizes the connection between the card and each device on the bus. The net result is exceptional data reliability and greater performance. LSI's proven interconnect technology ensures an interrupt-free experience for mission-critical applications.

Operating System Support

The LSI22320SE HBA supports all key versions of Microsoft Windows, Linux, Solaris, and Netware as well as the x86, PROM, and SCO Unix 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 lsi.com/support.

LSI22320SE HOST BUS ADAPTER		
PCI Bus	PCI Express x4 Lanes	
PCI Modes	Bus Master DMA	
PCI Express Performance	1.0GB/s (Half Duplex) 2.0GB/s (Full Duplex)	
PCI Express Card Type	x4	
PCI Express Voltage	+12V ±10%	
PCI Express Form Factor	6.6" x 2.53" (MD2 Low-Profile)	
PCI Express Power	10W (without providing termination power)	
Bracket	Full Height and Optional Low-Profile Bracket	
Certification Level	PCI Express 1.0a	
SCSI Bus	Wide Ultra320, LVD (Low Voltage Differential) and Wide Ultra SE (Single-Ended)	
SAS Processor	LSI53C1030	
Connectors:	Internal	External
Channel A	N/A	68-pin VHDCI
Channel B	N/A	68-pin VHDCI
Termination	Universal (LVD/SE) termination per channel	
Termination Power	Self-resetting 1.5A fuse per channel	
LED Indicators	4-pin header for off-board LEDs	
Flash Memory	512k x8 Flash EEPROM	
Max Number of Physical Devices	30	
Environments	Operating 0°C to 55°C 5 to 90% Non-condensing	Storage -45°C to 105°C 5 to 90% Non-condensing
MTFB	>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	
OS Support	Microsoft® Windows® NT4.0 SP4 and above, 2000, 200SP1, XP and Server 2003 Red Hat® Linux® 2.2 and 2.4 Kernels Novell® NetWare® 4.11, 4.2, 5x UnixWare® 2.12 and 7x SCO Unix 5.x Solaris x86 Version 8, 9 and 10 Sun Solaris Version 2.6 and later, Open Boot PROM Version 3.0 or greater	
Utilities	Install, Flash and BIOS Configuration	
Domain Validation	Microsoft® Windows® NT, 2000 and XP/Levels 1, 2 and 3	
Ordering Information	LSI22320SE Single P/N: LSI00153	
Warranty	3 years, advanced replacement option, free advanced technical support at *www.lsi.com/support*	