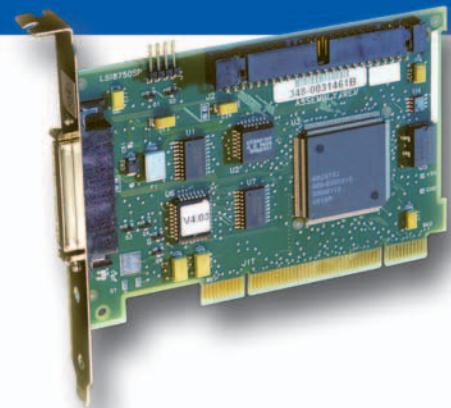# LSI8750SP
SCSI Host Adapter

KEY APPLICATIONS

• Upgrading existing Fast SCSI hard disk systems to Ultra-level performance, while supporting legacy SCSI devices

• High-performance desktop PCs and workstations

• Intersystem connections - server and workstation to RAID, net work management

• Adding Ultra SCSI hard drives to servers, workstations and RAID

Bus Interface:
3/5V PCI

PCI Mode:
Bus Master

Plug-and-Play:
Yes

SCSI Rate:
20 MBps synchronous
7 MBps asynchronous

SCSI Bus:
8-bit single-ended

FIFO Size:
536 bytes

Bootable:
Yes

The LSI8750SP PCI-to-Ultra SCSI host adapter combines high, Ultra SCSI data transfer rates with the high performance PCI system bus.

OVERVIEW

The LSI8750SP host adapter combines high, Ultra SCSI data transfer rates with the high performance PCI system bus. This adapter is built around the LSI53C875 PCI-SCSI controller and supports narrow (8-bit) legacy SCSI-1 and -2 (Fast) devices as well as Ultra SCSI devices.

Connecting up to seven SCSI devices ranging from hard drives, scanners, CD-ROMs, CD-recorders, CD jukeboxes, tape backups, and removable media peripherals such as MO, Syquest® or Zip® drives could not be easier. Setting up the SCSI bus is a snap with the built-in SCAM (SCSI Configured AutoMatically) and SCSI bus configuration utilities. The PCI bus provides Plug-and-Play with no jumpers, switches, IRQs, system DMA or addresses to budget, making installation a matter of plugging in the host adapter and loading the drivers.

The LSI8750SP does not shrink the entire SCSI bus performance to the slowest device on the bus. Whether you are connecting SCSI, Fast or Ultra SCSI devices, the LSI8750SP matches its transfer rates to the highest rate of each device on the bus.

For critical data handling applications, LSI Logic offers data and product reliability, software and hardware compatibility and easy installability. Extensive host adapter and software testing by LSI Logic and our technology partners ensures OEM compatibility with all major operating systems and a wide variety of SCSI-1, Fast SCSI-2, and Ultra SCSI devices.

Powerful SCSI Device Management System (SDMS) software, available exclusively from LSI Logic, and on-board BIOS and configuration utility makes installation of the SCSI I/O subsystem easy and virtually automatic.

LSI LOGIC ®

HOST ADAPTERS

LSI8750SP SCSI Host Adapter

FEATURES AND BENEFITS

Performance
- Synchronous:
    up to 20 MBps Ultra SCSI
    up to 10 MBps Fast SCSI

- Asynchronous: up to 10 MBps

- Direct (bus master) memory access for low overhead with 32-bit burst data transfers at 133-MBps PCI data transfer rates

- Zero wait state PCI transfers

- Up to 64-bit PCI burst size to maximize the PCI data transfer rate

HARDWARE FEATURES

PCI Bus Support
- PCI 2.1 compliant

- PCI Extended Access Cycles

- 32-bit, 33-MHz PCI bus

- Functions as full 32-bit PCI DMA bus master

- Operates on 3.3V or 5V PCI buses

SCSI DEVICE MANAGEMENT SOFTWARE (SDMS)

SDMS Software Features
- Multiple host adapter support

- Scatter/gather

- Tagged command queuing for peak performance in multi-tasking environments

- Power management for DSSPM support

- Shared interrupts and shared memory to allow multiple PCI devices in a single-interrupt system

- Autoscan for ease of SCSI configuration

- Multiple LUNs per SCSI ID for RAID and media changer capability

- Supports hard drives > 8 GBytes

- ASPI interface support

- Multi-initiator in most operating systems

- Disconnect/reselect support

- Target initiated negotiation

- CD-ROM, tape backup, hard disk, scanner and removable media support

- On-board, field upgradeable BIOS in Flash ROM

- On-board NVRAM for SCSI Plug-and-Play (SCAM) support
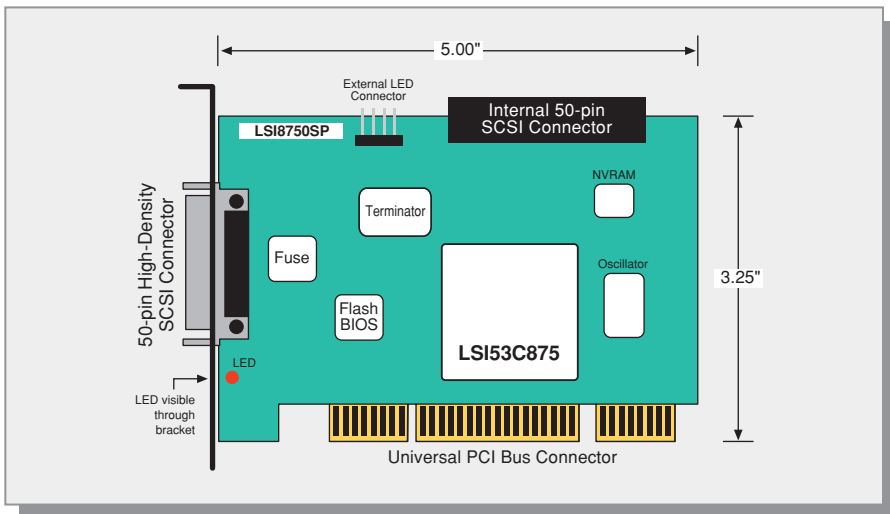
SDMS Software Support
Operating systems supported are: DOS (with ASPI support), Windows 3.1, Windows for Workgroups 3.11, Windows 95, Windows NT 3.51 & 4.0, Novell NetWare 3.1 & 4.x, SCO UNIX Open Server 5.0, UNIXWare, and OS/2 (including WARP). Utilities: Install and FLASH (DOS only), SCSI format, SCSI configuration, verify.

HOST ADAPTER COMPATIBILITY AND QUALITY

LSI Logic is a key developer and contributor to the original committees that defined today's SCSI and PCI standards. Our continuing work with other industry leaders of core chip sets, processors, system providers, SCSI device peripherals, BIOS, and operating systems enables us to provide users with the utmost compatibility and interoperability. Product compatibility and inter-operability are rigorously tested and our ISO-9001 certified fabrication facilities assures users of the highest levels of product quality and reliability.

LSI8750SP KIT CONTENTS

• LSI8750SP PCI-to-Ultra2 SCSI host adapter

• On-board SDMS BIOS with built-in, easy-to-use SCSI configuration utility

• SCSI Device Management System (SDMS) software with a full range of operating system support

• SCSI configuration utilities

• LSI8750SP Users Guide

• SDMS Users Guide

• 50-pin internal Ultra SCSI ribbon cable

LSI8750SP host adapter diagram

SCSI Bus Support

• Prefetches up to 8 dwords of SCRIPTST instructions to save PCI bus overhead

• SCSI SCRIPTS load and store instructions, for more efficient moving of data between memory and chip register space

• Includes 4 KB internal RAM for SCRIPTS instruction storage, to reduce or eliminate instruction fetches over the PCI bus

• Improved support for large block transfers at Ultra SCSI speeds

• Termination: Active, automatic

• Variety of 8-bit SCSI peripherals

• SCAM (SCSI Configured AutoMatically) Level 1 functionality

• Uses the LSI Logic LSI53C875 proprietary Ultra SCSI I/O RISC processor, an extension of the industry standard LSI53C8xx family

• Largest disconnect and later reconnect with system interrupts

• Features the LSI Logic TolerANT™ active negation and input signal filtering on the SCSI receivers for improved data integrity in unreliable cabling environments.

LSI8750SP SCSI Host Adapter

Technical Specifications

PCI Bus	32-bit, 3.3/5 V local bus (versions 2.0 and 2.1)		
PCl Modes	Bus master DMA		
PCI Transfer Rate	up to 133 MBps		
SCSI Asynchronous	up to 14 MBps		
SCSI Synchronous	up to 20 MBps		
PCI Voltage	+5V ±5% (1.5 A max), 12V ±5% (50mA max)		
PCI Form Factor	3.5" x 5.0"		
Bracket	ISA/EISA		
Certification Level	PCI 2.1 compliant		
SCSI Bus	8-bit narrow, single-ended		
SCSI Processor	LSI53C875		
Connectors	**External**		**Internal**
	50-pin HD, latching		50-pin, LD, right-angle
Termination	Active, automatic termination		
Termination Power	Self-resetting		
LED Indicators	4-pin header for off-board LEDs		
Environments	**Operating**		**Storage**
Temperature	5°C to 55°C		-55°C to +85°C
Relative Humidity	5 to 90% non-condensing		5 to 90% non-condensing
Max Dew Point Temp	32°C		
MTBP	>500,000 hours		
Compliances	CE , VCCI, FCC and CISPR class B, UL 94VO		

Software Support

OS Support	Versions
DOS	with ASPI support
Windows	3.1, Workgroups 3.11, 95, NT3.51 & 4.0
NetWare	3.1 and 4.X
UnixWare	2.12 and 7.X
SCO Unix	5.X
OS/2	including WARP
Utilities	Install, Flash (DOS only, SCSI format, SCSI configuration, verify

For more information please visit the LSI Logic web site at:
http://storageio.lsilogic.com

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