ARTISAN®
TECHNOLOGY GROUP

Your **definitive** source for quality pre-owned equipment.

Artisan Technology Group
(217) 352-9330 | sales@artisantg.com | artisantg.com

Full-service, independent repair center
with experienced engineers and technicians on staff.

We buy your excess, underutilized, and idle equipment
along with credit for buybacks and trade-ins.

Custom engineering
so your equipment works exactly as you specify.

- Critical and expedited services
- In stock / Ready-to-ship
- Leasing / Rentals / Demos
- ITAR-certified secure asset solutions

Expert team | Trust guarantee | 100% satisfaction

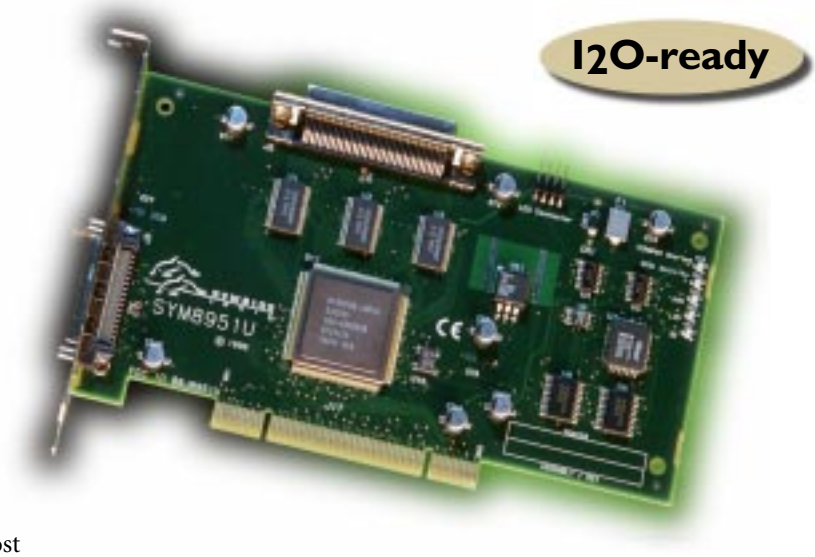
All trademarks, brand names, and brands appearing herein are the property of their respective owners.

Find the *LSI / Symbios SYM8951U* at our website: *Click HERE*

SYM8951U **Data Sheet**

SYM8951U

PCI-to-Ultra2 SCSI Host Adapter



At up to 80 MBytes/sec, the SYM8951U host adapter combines the highest Ultra2 SCSI data transfer rates with the high performance PCI system bus. Based on Symbios' industry first SYM53C895 Ultra2 SCSI I/O Processor, the SYM8951U provides Universal Low Voltage Differential (LVD) signaling for SCSI. LVDlink™ technology, Symbios' implementation of LVD transceivers, eliminates the distance and device constraints that exist in today's Ultra SCSI single-ended designs while offering higher data transfer rates.

Installing and configuring the SYM8951U host adapter could not be easier. With built-in SCAM (SCSI Configured AutoMatically) and SCSI bus configuration utilities, setting up the SCSI bus is a snap. Symbios' powerful SCSI Device Management System (SDMS) software, and on-board BIOS and configuration utility, makes installation of the SCSI I/O subsystem easy and nearly automatic. And with no jumpers, switches, IRQs, system DMA or addresses to budget, installing the SYM8951U to connect up to 15 Ultra2 devices becomes a matter of plugging in the host adapter and loading the drivers.

Whether you are migrating from either Ultra SCSI or Fast SCSI, Ultra2 SCSI provides a high performance I/O migration path while preserving your existing PCI-SCSI software investment. As compared to Ultra SCSI designs, the SYM8951U provides twice the performance and allows four times the cable length and number of connected devices. The high SCSI bus bandwidth of Ultra2 SCSI, and the improvements in distance, connectivity, and reliability, make the SYM8951U an ideal host connection to a RAID controller and other demanding I/O applications in the high performance workstation and server markets.

The SYM8951U LVDlink transceivers provide the data reliability of differential signaling without the cost of high voltage differential transceivers. For critical data handling applications, Symbios offers data and product reliability, software and hardware compatibility, with easy installability. Symbios and our technology partners' extensive host adapter and software testing ensures OEM compatibility with all major operating systems and a wide variety of SCSI-1, Fast SCSI-2, Ultra SCSI and Ultra2 SCSI devices.

SYM8951U Host Adapter Overview

Bus Interface	Plug-and--Play	SCSI Rate	SCSI Bus	Bootable	Number of SCSI Devices	SCSI Connectors
3.3/5V PCI Bus Master	Yes	80 MB/s Synchronous, 14 MB/s Asynchrounous, Fast / Ultra / Ultra2 SCSI	16-bit Single-ended or LVDlink	Yes	15	Internal: 68-pin External: 68-pin VHDCI

Artisan Technology Group - Quality Instrumentation ... Guaranteed | (888) 88-SOURCE | www.artisantg.com

Applications

- Applications storing or transporting large block size transfers – video production and editing, medical imaging, video on demand
- Intersystem connections – Server and Workstation to RAID and network management
- Upgrading existing Fast or Ultra SCSI systems
- Adding Ultra2 SCSI hard drives to Servers, Workstations and RAID storage subsystems

LVDlink - Symbios Universal LVD Transceivers

Balancing backward compatibility with I/O performance and lower costs, the SYM53C895 integrates Symbios' Universal LVDlink transceivers with the Ultra2 SCSI I/O processor. Depending on SCSI bus connections, bus cabling conditions are sensed and the universal LVDlink transceivers automatically select single-ended or LVD SCSI modes and indicate the mode with the on-board SE or LVD LEDs. In single-ended mode, the SYM8951U performs synchronous data transfers up to Ultra SCSI rates, subject to standard Ultra SCSI cable distance and connected device constraints. In LVD mode, the host adapter supports up to 12.5-meter cables and up to 15 LVD devices with the same cables and connectors as defined in the SCSI-3 Parallel Interface ANSI standard.

LVDlink transceivers also provide fail-safe operation of the receiver by detecting when the SYM8951U is connected to a high voltage differential (HVD) signal. When connected to HVD, the SYM8951U's SCSI bus enters a high-impedance mode and activates the on-board HVD LED.

Symbios Host Adapter Compatibility and Quality

Symbios is a key developer and contributor to the original committees that defined today's SCSI and PCI standards. This leadership and dedication to the development of industry standards and work with other industry leaders of core chip sets, processors, system providers, SCSI device peripherals, BIOS, and operating systems enables Symbios to assure users the utmost compatibility and interoperability. Our product compatibility and interoperability are thoroughly tested in Symbios' and technology partners' test labs. Symbios' ISO-9001 certification assures users of the highest levels of product quality and reliability.

Symbios SYM8951U Kit Contents

- SYM8951U PCI-to-Ultra2 SCSI host adapter
- On-board SDMS BIOS with built-in, easy-to-use SCSI configuration utility
- Symbios SCSI Device Management System (SDMS) software suite with a full range of O/S support
- DOS/Windows 3.1/Windows for Workgroups 3.11, Windows 95, Windows NT 3.5X and 4.0, SCO UNIX Open Server 5, UNIXWARE, Novell NetWare 3.1X and 4.X, OS/2
- SCSI configuration utilities
- SYM8951U User's Guide
- SDMS User's Guide

Hardware Features and Benefits

Performance

Synchronous: up to 80 MB/sec Ultra2 SCSI
up to 40 MB/sec Ultra SCSI
up to 20 MB/sec Fast SCSI

Asynchronous: up to 14 MB/sec

DMA bus mastering for low overhead with 32-bit burst data transfers at PCI data transfer rates

Zero wait state PCI transfers

Up to 64 byte PCI burst size to maximize the PCI data transfer rate

PCI Bus

Complies with PCI Specification 2.1

Supports PCI Extended Access Cycles

Supports 32-bit, 33 MHz PCI Bus

Functions as full 32-bit PCI DMA Bus Master

Operates on 3.3V or 5V PCI buses

SCSI Bus

LVDlink transceivers meet all of the requirements of the SPI-2 standard and utilizes Symbios TolerANT® active negation technology for improved single-ended SCSI signal integrity

Prefetches up to 8 dwords of SCSI SCRIPTS™ instructions to save PCI bus overhead

Supports 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 Ultra2 SCSI speeds

Termination: Active, automatic

LVDlink provides automatic switching between single-ended and LVD signaling

Automatically enters high-impedance state when connected to a high voltage differential (HVD) signal

Provides data reliability and cable distance of differential SCSI without the cost of external differential transceivers

Improves connectivity (up to 15 LVD Ultra2 SCSI devices) and cable lengths (up to 12.5 meters of Ultra SCSI - longer cables may be possible in point-to-point connections)

Uses same internal cables as Ultra SCSI and same connectors as Fast/Ultra SCSI

Supports wide variety of 16-bit SCSI peripherals

Supports SCAM (SCSI Configured AutoMatically) Level 1 functionality

Uses Symbios' SYM53C895 proprietary Ultra2 SCSI I/O RISC processor, an extension of the industry standard SYM53C8xx family

With appropriate cables, supports 8-bit hard drives, CD ROMs, tape backups, hard disks, scanners and other 8-bit SCSI devices in Fast/Ultra SE mode only

Artisan Technology Group - Quality Instrumentation ... Guaranteed | (888) 88-SOURCE | www.artisantg.com

SCSI Device Management Software (SDMS)

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 GB

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 upgradable BIOS in Flash ROM

On-board NVRAM for SCSI Plug and Play (SCAM) support

Support

Operating systems supported:

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

OS/2 (including WARP)

Utilities: Install and FLASH (DOS only), SCSI format, SCSI Configuration, Verify

Technical Specifications

Supported Buses

32-bit, DMA Bus Master, 3.3/5 V PCI local bus (versions 2.0 and 2.1)

16-bit, Wide, SCSI Bus

Single-ended SCSI Asynchronous transfers

Single-ended Ultra SCSI Synchronous transfers

LVD Ultra2 SCSI Synchronous transfers

Performance

PCI Transfer Rates – up to 100 MB/sec

SCSI Asynchronous – up to 14 MB/sec

SCSI Synchronous Single-Ended – up to 40 MB/sec

SCSI Synchronous LVD – up to 80 MB/sec

SCSI Bus Termination

Active, automatic terminating, Universal LVDlink SCSI with automatic switching to Single-ended

Termination power: Self-resetting

SCSI bus connection

Up to 15 SCSI, SCSI-2 or SCSI-3

On-board LED Indicators

TERMPWR Shorted	-Term Power short
SCSI Activity	-SCSI Bus Active
HVD	-HVD Sensed
LVD	-LVD Mode Active
SE	-Single-ended Mode Active

Board connectors

Internal: 68-pin, right angle, high density SCSI bus
4-pin for off-board SCSI Active LED

External: 68-pin, VHDCI (Very High Density Connector Interconnect) shielded, with screw jacks

Physical and Environmental Specifications

Board Size: 3.8" x 7.0"

Form Factor: PCI 2.1 Universal Board form factor

Bracket: ISA/EISA style

Operating temperature: 5° to 55° C

Relative Humidity range: 5 to 90% non-condensing

Maximum dew point temperature: 32° C

Storage temperature: -40° to 85° C

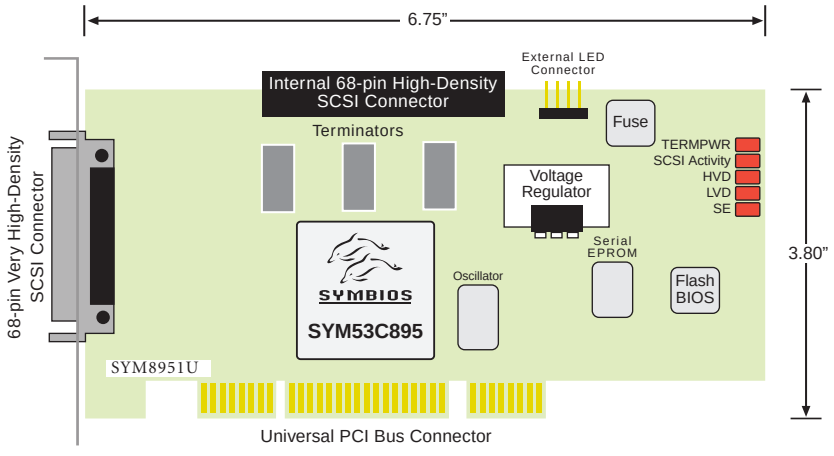
Electrical: 5V +/- 5% (1.5 A max)
12V +/- 5% (50 mA max)

MTBF: > 500,000 hours

Full agency certification and compliance

FCC Class B and CISPR 22
CE VDE
VCCI
UL 94V0

SYM8951U Host Adapter board diagram - *This block diagram shows the SYM8951U utilizing the Symbios SYM53C895 PCI-SCSI I/O processor.*



Artisan Technology Group - Quality Instrumentation ... Guaranteed | (888) 88-SOURCE | www.artisantg.com

Symbios **Sales Locations**

North American Sales Locations

Western Sales Area

1731 Technology Drive, Suite 610
San Jose, CA 95110
(408) 441-1080

3300 Irvine Avenue, Suite 255
Newport Beach, CA 92660
(714) 474-7095

Eastern Sales Area

92 Montvale Avenue, Suite 3500
Stoneham, MA 02180-3623
(781) 438-0381

2850 Metro Drive, Suite 510
Bloomington, MN 55425
(612) 876-0800

12377 Merit Drive, Suite 400
Dallas, TX 75251
(972) 503-3205

30 Mansell Court, Suite 220
Roswell, GA 30076
(770) 641-8001

International Sales Locations

European Sales Headquarters

Westendstrasse 193/II
80686 Munich
Germany
+49-89-547470-0

Asia/Pacific Sales Headquarters

1 Claymore Drive
#08-10 Orchard Towers,
(Rear Block)
Singapore 229594
+65-8355 040

Japan

Kijimon Building 4F
6-26-9 Haramachida, Machida
Tokyo 194 Japan
+81-427-32-0250

Taiwan

21F-1, No. 171 Sungteh Road
Taipei, Taiwan, R.O.C.
+886-2-759811

Symbios, LVDlink and SCRIPTS are trademarks of Symbios, Inc. TolerANT is a registered trademark of Symbios, Inc.

The information contained in this document is subject to change without notice. Symbios does not assume any liability arising out of the applications or use of any product or service described herein. This document neither states nor implies any kind of warranty, including but not limited to implied warranties of merchantability or fitness for a particular use. All Rights Reserved. No part of this document may be copied or reproduced in any form without the prior written consent of Symbios.

© 1998 Symbios, Inc.
An ISO 9001 Registered Company

Printed in the U.S.A.
T78974I 0498

1-800-856-3093
www.symbios.com

SYMBIOS™

Artisan Technology Group - Quality Instrumentation ... Guaranteed | (888) 88-SOURCE | www.artisantg.com

Artisan Technology Group is an independent supplier of quality pre-owned equipment

Gold-standard solutions

Extend the life of your critical industrial, commercial, and military systems with our superior service and support.

We buy equipment

Planning to upgrade your current equipment? Have surplus equipment taking up shelf space? We'll give it a new home.

Learn more!

Visit us at **artisantg.com** for more info on price quotes, drivers, technical specifications, manuals, and documentation.

Artisan Scientific Corporation dba Artisan Technology Group is not an affiliate, representative, or authorized distributor for any manufacturer listed herein.

We're here to make your life easier. How can we help you today?

(217) 352-9330 | sales@artisantg.com | artisantg.com

ARTISAN® TECHNOLOGY GROUP