PARALAN

Making SCSI Work™

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LVD/MSE TO HVD SCSI CONVERTER

- Convert Between LVD or Single-ended and HVD
- Extend SE or LVD Bus Length
- Isolate HVD Segments of a SCSI bus
- Targets and initiators may be located on both sides of the Expander
- The models are backward compatible with older versions of SCSI
- Does not consume a SCSI ID

- Stand-alone and Board-level Versions:

The board-level version Model MH17A is sized to fit in a standard 3.5" drive bay

The stand-alone Model MH16A includes a power supply for standard power line operation

Have a HP LTO-Ultrium Drive? Our Model MH19 can convert a HP Ultrium Tape Drive to HVD

Paralan's models MH16A / MH17A let you add LVD devices into an existing High Voltage Differential (HVD) system, or utilize existing HVD devices in an LVD/MSE or single-ended system. All this is accomplished without any impact on SCSI protocol or loss of data thruput.

### Using LVD/MSE Devices in an Existing HVD System

SCSI protocol allows all SCSI implementations i.e. LVD/SE/HVD to communicate on the same bus domain. This is accomplished through the use of the DIFFSENSE signal. However, the performance level is reduced by the slower devices on each segment. This huge penalty is avoided by using a type of SCSI Expander usually referred to as a Converter. As an example; a SCSI converter is placed between an LVD device and an HVD device. This isolates the different versions of SCSI into two segments allowing both the LVD devices and the HVD devices to function at their full thruput.
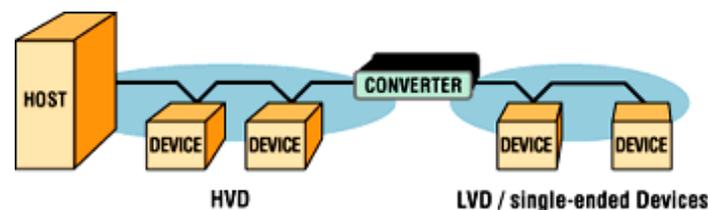
Using HVD (High Voltage Differential) Devices in an LVD/MSE System

HVD Devices can be added to an LVD/MSE or Single-ended system simply by adding a LVD/MSE to HVD Converter, attaching the HVD SCSI segment to the HVD port of the Converter. The Converter will not consume a SCSI ID, and the system will

operate with no compromise of thruput.
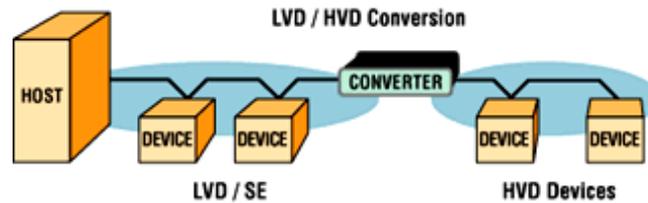
Mixing SCSI Device Types

Multimode LVD SCSI will automatically change to Single-Ended (SE) if an SE device is on the same bus segment. However, neither LVD nor SE SCSI can directly communicate with HVD SCSI. A Model MH16A or MH17A LVD/MSE to HVD SCSI Converter enables this type of communication by converting the LVD or SE SCSI to HVD or vice versa. The presence of a SCSI Converter will not decrease data thruput.

If the application in which you want to use an LVD/MSE to HVD converter has an Ultra320 LVD host adapter with Ultra320 drives connected to it, you should use the Model MH32A or MH33A. In all other LVD or SE to HVD applications the Model MH32A, MH33A, MH16A or MH17A may be used.

Paralan Models MH16A and MH17A LVD/MSE to HVD SCSI Converters are completely compatible with all devices that conform to the full ANSI X3T10 standards through SPI-3 (Ultra160). They are available either as stand-alone units utilizing line voltage, or as board-level units for installation in other equipment.

Isolation for Hot Swapping

The logical isolation between the two sides of a SCSI Converter allows a device on one side to be disconnected without disturbing the other side.

Narrow/Wide Conversion

The MH16A and MH17A (Wide) models may be used to interconnect Narrow SCSI devices on one side with Wide SCSI on the other side.

PDF version *of this data sheet.*

Specifications:

Environmental
    Relative Humidity: 0 - 95% non-condensing
    Operating Temperature: 0 - 50°C
    Storage Temperature: −25 to +75°C
Power Requirements
    Stand-alone units (MH16A):
    Voltage: 100 - 260 VAC, auto select
    Frequency: 50 - 60 Hz
    Board-level units (MH17A):
    Voltage: 5 V dc ±5%
    Current: 1.5 A max
Safety Approvals
    UL, CSA, TUV, CE
EMI/RFI
    FCC Class A, CE
SCSI Connections
    MH16A, MH17A: SCSI-3 68-pin High-Density female Alt-3 "P" Connector
Communication
    Sustained Data Throughput:
    Limited by HVD bus to 40 MBytes/sec (16-bit)
Warranty
    Two year limited warranty
Weight:
    MH16A: approx. 12 oz (0.34 kg)

Shipping weight, approx. 4 lb (1.8 kg)
MH17A: 3.5 oz (99 g)
Shipping weight, approx. 2 lb (1 kg)
Physical Size (MH16A)
Height: 1.6 in. (41 mm)
Width: 4.1 in. (104 mm)
Depth: 4.5 in. (114 mm)
Board-Level Version Dimensions:
Overall board dimensions 4.00 x 3.88 in. (101.6 x 98.5 mm)
See **PDF drawing** *for details.*

Ordering Guide:

Model Numbers		SCSI Product Description
Stand-alone	**Board Version**	
MH16A	**MH17A**	SCSI Wide LVD/MSE to HVD Converter (16-bit)
EB1		**Rack Mount Expander Box** (rack mount up to 3 SCSI Expanders)
2811		5-1/4" Half Height Drive Bay Mounting Bracket & Faceplate for MH17A
SQxx		**SCSI Quiet Cable™** (specify length)

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Paralan Corporation 4655 Ruffner Street, San Diego, CA 92111
Sales: (800) 479-7719 | Tel.: (858) 560-7266 | Fax: (858) 560-8929 | E-mail: **info@paralan.com**

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WWW   Paralan.com