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## Ultra320 TO HVD SCSI CONVERTER

- Convert Between All Versions of LVD/MSE/SE/HVD
- Extend LVD/MSE/SE/HVD Bus Length
- Isolate HVD Segments of a SCSI bus



The stand-alone Model MH32A Ultra320 Converter includes a power supply for standard power line operation.

## Interconnect HVD and Ultra320 Devices

For easier printing, use the [PDF version](#) of this page.

- Stand-alone and Board-level Versions



The board-level version Model MH33A is sized to fit in a standard 3.5" drive bay

- Targets and initiators may be located on both sides of the Expander

Paralan's models MH32A / MH33A let you add U320 devices into an existing High Voltage Differential (HVD) system, or utilize existing HVD devices in an Ultra320 or single-ended system. All this is accomplished without any impact on SCSI protocol or loss of data thrupt.

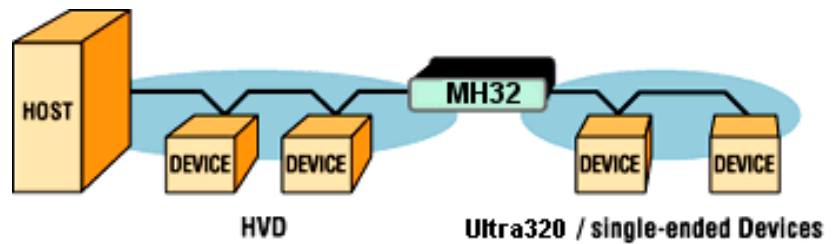
### Using Ultra320 Devices in an Existing HVD System

SCSI protocol allows all SCSI implementations i.e. LVD/SE and HVD to communicate in the same SCSI 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 Ultra 320 device and an HVD device. This isolates the different versions of SCSI into two segments allowing the both the Ultra320 devices and the HVD devices

The models are backward compatible with older versions of SCSI

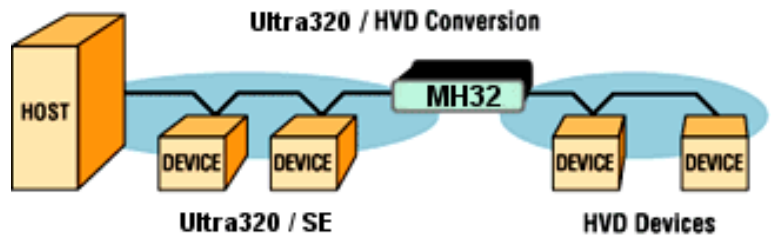
Does not consume a SCSI ID

to function at their full throughput.



## Using HVD (High Voltage Differential) Devices in an Ultra320 System

HVD Devices can be added to an Ultra320 or Single-ended system simply by adding a Ultra320 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 MH32A or MH33A Ultra320 to HVD SCSI Converter enables this type of communication by converting the Ultra320 or SE SCSI to HVD or vice versa. The presence of a SCSI Converter will not decrease data thruput.

The MH32A and MH33A may be used in any application with an LVD, SE or HVD host adapter. They should be used if the host adapter is an Ultra320 LVD host adapter with Ultra320 drives connected to it. If the host adapter is SE or HVD, or if it is an LVD host adapter that is capable of no more than Ultra160 speed or if the LVD peripherals are capable of no more than Ultra160 speeds, the Model MH16A or MH17A may be used.

Paralan Model MH32A and MH33A LVD/MSE to HVD SCSI Converters are completely compatible with all devices that conform to the full ANSI X3T10 standard through SPI-4 (Ultra320). They are available either as stand-alone units

### Specifications

#### Environmental

Relative Humidity: 0 - 95% non-condensing  
 Operating Temperature: 0 - 50°C  
 Storage Temperature: -25 to +75°C

#### Power Requirements

Stand-alone units (MH32A):  
 Voltage: 100 - 260 VAC, auto select  
 Frequency: 50 - 60 Hz  
 Board-level units (MH33A):  
 Voltage: 5 V dc  $\pm 5\%$   
 Current: 1.5 A max

#### Safety Approvals

UL, CSA, TUV, CE

#### EMI/RFI

FCC Class A, CE

#### SCSI Connections

MH32A, MH33A: SCSI-3 68-pin High-Density female Alt-3 "P" Connector

#### Communication

Limited only by the performance level of the devices connected to the MH32A or MH33A. All devices will function to their full designed capabilities.

#### Warranty

Two year limited warranty

#### Weight:

MH32A: approx. 12 oz (0.34 kg)  
 Shipping weight, approx. 4 lb (1.8 kg)  
 MH33A: 2.5 oz (71 g)  
 Shipping weight, approx. 2 lb (1 kg)

#### Physical Size (MH32A)

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)

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.

Ordering Guide		
Model Numbers		SCSI Product Description
Stand-alone	Board Version	
<b>MH32A</b>	<b>MH33A</b>	SCSI Wide Ultra320 to HVD Converter (16-bit)
<b>EB1</b>		<a href="#">Rack Mount Expander Box</a> (rack mount up to 3 SCSI Expanders)
<b>2811</b>		5-1/4" Half Height Drive Bay Mounting Bracket & Faceplate for MH33A
<b>SQxx</b>		<a href="#">SCSI Quiet Cable™</a> (specify length)

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