



Making SCSI Work™

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LVD/MSE to SE Converter

- Convert Between LVD/MSE and Single-Ended
- Extend Bus Length
- Isolate Segments of a SCSI Bus
- Targets and initiators may be located on both the A and B sides of the Expander
- The Series 80 models are backward compatible with older versions of SCSI
- Does not consume a SCSI ID



MS17A Board-Level Version



Paralan's Series 80 Model MS16A

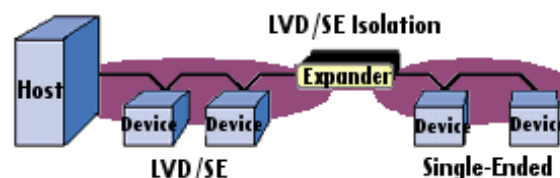
The stand-alone MODEL MS16A includes a power supply for standard power line operation.

The board-level version MODEL MS17A is sized to fit in a standard 3.5" drive bay.

Expand the functionality of LVD/MSE and SE SCSI in several ways; 1) Allows adding an SE device to an LVD bus without slowing down the LVD bus segment, 2) Conversion from LVD to SE or vice versa, 3) Extending the SE bus length, 4) Isolating an SE SCSI segment from an LVD SCSI segment, 5) Join SCSI segments with no impact on SCSI protocol or data throughput, 6) Adding a non-multimode LVD device to an SE SCSI bus, and 7) Easily add a narrow (8-bit) SE device to a wide (16-bit) LVD bus, by using **Paralan's Series 80 Models, MS16A / MS17A**.

Maximizing Thruput with Mixed Devices

Multimode LVD SCSI will automatically change to Single-Ended (SE) if a SE device is on the bus segment. When both LVD and SE devices share the same bus segment, the entire SCSI bus segment will operate at the lower performance level of single-ended SCSI, including reduced bus length. However, by grouping LVD and SE devices, and isolating them with a Multimode Expander, the LVD devices can be operated at their full designed thruput levels.

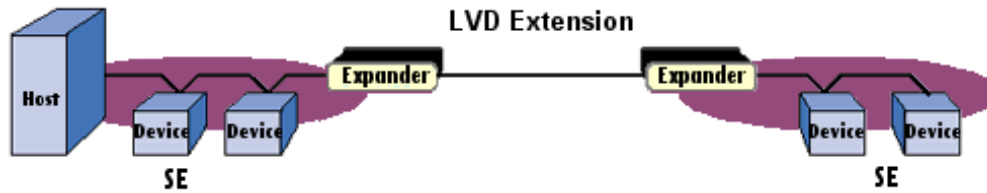


When Used to Extend the SCSI Bus

Cable causes timing delays of approximately 1.5 ns per foot of length. When SCSI-specified cable length is exceeded, this cable-caused delay would normally cause a system to malfunction. Logic circuitry in the Expander manages this delay such that disconnect, reconnect, arbitration and all other SCSI features are not affected. The SCSI signals are regenerated, reshaped, and retransmitted, all transparent to the system.

Using MS16A Expanders in a back to back connection

This configuration works well to extend a single-ended bus segment. Use a full SE cable length on the SE host side, up to 25 meters (82 feet) of SCSI cable between the two expanders and the full SE cable length on the remote segment to extend the total bus length.



Paralan Expanders are completely compatible with all LVD, LVD/MSE and SE that conform to the full ANSI X3T10 standard. They are available either as stand-alone units utilizing wall power, or as board-level units for installation in other equipment.

Isolation for Hot Swapping

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

Narrow/Wide Conversion

The MS16A and MS17A models may be used to interconnect narrow SCSI devices on one side for example, with wide SCSI on the other side. This method assures proper termination on both bus segments.

High Voltage Differential (HVD) SCSI Extenders and Converters

Paralan also has Converters for converting between High Voltage Differential (HVD) and LVD or single-ended SCSI devices. See Paralan [Series 80 MHxx models](#).

To extend an existing HVD bus, see the data sheet for Paralan's [SIR-D16 Regenerator™](#).

[PDF version of this data sheet.](#)

Ordering Guide:

Model Numbers		Description
Stand-alone Unit	Board-level Version	
MS16A	MS17A	SCSI Wide LVD/MSE to SE Expander (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 MS17
SQxx		SCSI Quiet Cable™ (specify length)

Specifications for MS16A/17A SCSI LVD/MSE to SE Expander:

Environmental

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

Weight:

MS16A: approx. 12 oz (0.9 kg)
 Shipping weight, approx. 2 lb (1.8 kg)
 MS17A: 2.5 oz (71 g)
 Shipping weight, approx. 2 lb (1 kg)

Safety Approvals

UL, CSA, TUV, CE

EMI/RFI

FCC Class A, CE

SCSI Connections

MS16A, MS17A: SCSI-3 68-pin High-Density female Alt-3 "P" Connector

Communication

Sustained Data Throughput:
 Limited by SE bus to 40 Mbytes/sec (16-bit)

Warranty

Two year limited warranty

Power Requirements

Stand-alone units (MS16A):

Voltage: 100 - 250 VAC, auto select

Frequency: 50 - 60 Hz

Board-level units (MS17A):

Voltage: 5 V dc \pm 5%
 Current: 0.8 Amps
 An additional 1 Amp Max if used to power external terminators

Physical Size: (MS16A)

Height: 1.6 in. (41 mm)

Width: 4.1 in. (104 mm)

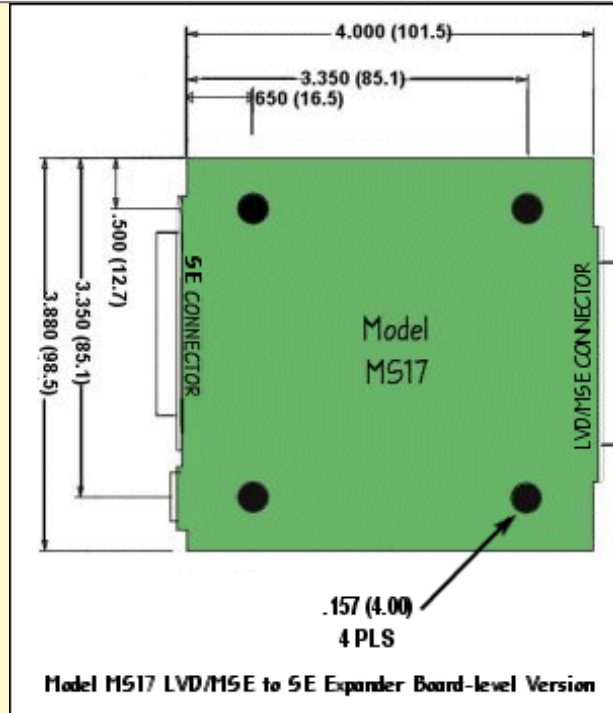
Depth: 4.5 in. (114 mm)

(MS17A)

Height: 0.4 in. (10.2 mm)

Width: 3.880 in. (98.5 mm)

Depth: 4.5 in. (114 mm)



For the MS17A Dimensioned Parts Location Drawing download the [PDF](#).

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