



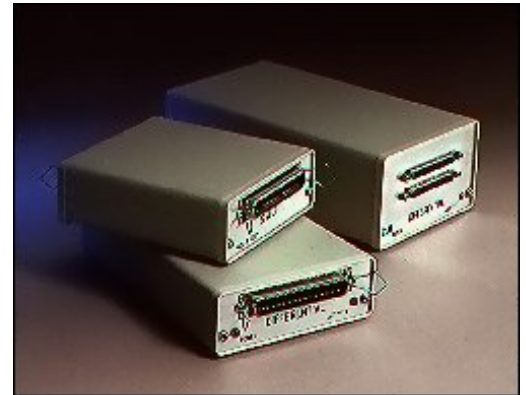
Making SCSI Work™

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## SCSI HVD Expander

SCSI HVD Expander allows multiplying the maximum allowable SCSI cable length. It also isolates the two SCSI bus segments connected to it which allows hot-swapping of SCSI devices! Expand SCSI with a SCSI RegeneratoR™.

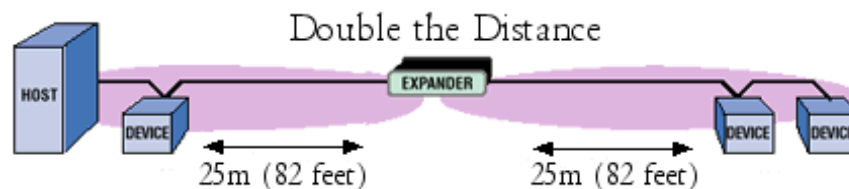
- SCSI Too Short? Get double, triple, or even greater bus length.
- Narrow/Wide SCSI Incompatibility? Put narrow and wide devices on the same bus.
- SCSI Devices Need Isolation? Change or remove components from the SCSI bus without affecting others



Now when your SCSI bus is just a bit too short, there is a simple, economical solution: a SCSI HVD expander, the Paralan RegeneratoR™. The RegeneratoR™ sends and receives SCSI transmissions at maximum sustained HVD SCSI data rate - up to 40 Mbytes/sec Ultra SCSI.

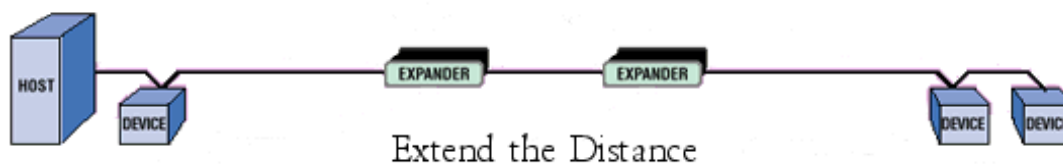
No need to modify software or hardware! Just connect your SCSI cables to a RegeneratoR™ and all devices on the bus will be available at an extra bus length. It's as easy as that!

## SCSI too short?



Example of extension for Single-ended (SE) SCSI

Note: Bus length for SE SCSI varies depending upon the speed e.g. Fast, Ultra, etc. therefore the example will not show specific lengths.



To obtain one extra SCSI length, simply select the expander model appropriate for your system, and plug in your cables. Daisy chaining of three or more RegeneratoR™s is also possible, depending on model. For a full discussion on SCSI Extension see the [Extending SCSI](#) page, and the article [The Case for SCSI Expanders](#).

## Narrow/Wide SCSI incompatibility?



Wide SCSI (16-bit) may be placed on one side and narrow SCSI (8-bit) on the other side. SCSI communication will be accommodated and all lines will be properly terminated.

## SCSI devices need isolation?

Devices on one side of the RegeneratoR™ may be disconnected and not affect devices on the other side, as the signals on each side are isolated.

## The RegeneratoR™ is not just a repeater!

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 RegeneratoR™ 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. Paralan's exclusive **Auto Sense™**, standard on all RegeneratoR™ models, automatically detects correct termination power, solving many initial installation problems.

Paralan RegeneratoR™s 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.

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

## Ordering Guide:

RegeneratoR™ models are available for both single-ended SCSI or differential (HVD) SCSI systems; wide (16-bit) or narrow (8-bit):

HVD SCSI	Stand-alone Unit	Board-level Unit
Wide (16-bit)	SIR-D16C	SIR-D17C

SE SCSI	Stand-alone Unit	Board-level Unit
Narrow (8-bit)	<a href="#">Use MS8A</a>	<a href="#">Use MS9A</a>

## Specifications:

<p><b>Environmental</b> Relative Humidity: 0 - 95% non-condensing Operating Temperature: 0 - 50°C</p> <p><b>Power Requirements</b> Stand-alone units: Voltage: 115/220 V ac, auto select; Frequency: 50 - 60 Hz Board-level units: Voltage: 5 V dc ±5%</p> <p><b>Safety Approvals</b> UL, CSA, TUV, CE</p> <p><b>EMI/RFI</b> FCC Class A, CE</p>	<p><b>Communication</b> Parallel Transmission Rate: Models SIR-D16C, -D17C: up to 40 Mbytes/sec Ultra SCSI Protocols: ANSI X3T10 SCSI standard</p> <p><b>Physical Size (Stand-alone units)</b> Height: 2.5 in (64 mm) Width: 4.1 in. (104 mm) Depth: SIR-D16C: 7.5 in (190 mm)</p> <p><b>Physical Size (Board-level units)</b></p>
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**SCSI Connections**

SIR-D16C, -D17C: SCSI-3 68-pin High-Density female "P" Connector

SIR-D17C: 3.880 x 6.750 in (98.5 x 171.4 mm).

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