



hp SCSI in-line terminated cables



Performance

All SCSI signal lines must be terminated at both ends of the bus. If the SCSI chain is not properly terminated, the electrical signals being sent down a chain bounce back or reflect into the incoming data stream. The reflection of signals could cause noise and bus failure. A terminator tells the signals where the end of the chain exists. Usually, an external terminator is attached to both ends of the bus, the server and the peripheral. Some devices have automated self-termination.

In-line terminated cables are used in Service guard and high availability MC certified systems. These cables allow servers to be serviced without inhibiting the remainder of the SCSI bus. HP offers sufficient lengths of cable to allow for connection in typical HP high availability racked four node configurations. If auto-termination is activated on the device, it must be removed or disabled before using in-line terminated cables.

SCSI (small computer system interface) has a long and proven history in the computing industry. Since SCSI became an industry standard, the interface has evolved to keep pace with the demands of the most sophisticated systems. The standard recognizes virtually every peripheral and takes advantage of new hardware and more intelligent controllers. The data path has been widened and transfer speeds have been increased to keep pace with system requirements. SCSI is preferred where performance is critical. Some of the benefits of SCSI include:

- speed: up to speeds of 160 Mb/second, will expand to 320 Mb/second and to 640 Mb/second in the future
- backward and forward compatible: compatible with previous generation devices and can be seamlessly integrated into new SCSI environments
- interoperable: capable of supporting mixed speed, cross-generational implementations
- distance: support for distances up to 25 feet depending on the mode of operation
- reliable: the most implemented and proven standards
- plug and play: easy to use

HP offers SCSI in-line terminated cables supporting various speeds and connector styles. HP supports from SCSI 1 through Ultra SCSI 3 and supports from 68 pin high density thumb screw to 68 pin very high density thumb screw connectors. HP in-line terminated cables are:

- designed and tested to specifically connect SCSI devices supported in a high availability environment, insuring 100% compatibility with supported devices.
- designed to stringent specifications to insure low insertion loss and return loss.

ordering considerations

There are a couple of items that have to be taken into consideration when ordering an in-line terminated cable.

Connector style: Check the connector type on the device where you will be placing the terminator. Make sure that the connector style on the terminator and the device match.

Mode of operation: Since its introduction in the 1980's, the speed and amount of data that can be transferred over a SCSI data cable has also evolved. Verify that the mode of operation for the device and the terminator match. The most common modes of operation are listed below.

Availability: Verify that the appropriate SCSI in-line terminated cable exists so that 2 and 4 node configurations can be connected on each controller.

quality & compatibility

- HP tests all in-line terminated cables to meet and exceed industry standards specifications
- meets ANSI/EIA/TIA standards
- features thumbscrews for secure connections
- offer LVD, SE and HVD mode of operation terminated cables

HP advantage

- guaranteed compatibility with your HP high availability and MC Service guard computing equipment
 - reduce down time
- maximize investment by utilizing existing backbone infrastructure
- price performance
 - low cost solution

common acronym	bus width	mode of operation	speed	max clock speed	SCSI architecture	max transfer rate
NSE	Narrow	SE	Normal	5 MHz	SCSI-1	5 MB/s
NSE or FSE	Narrow	SE	Fast	10 MHz	SCSI-2	10 MB/s
FND	Narrow	HVD	Fast	10 MHz	SCSI-2	10 MB/s
WSE	Wide	SE	Fast	10 MHz	SCSI-2	20 MB/s
FWD	Wide	HVD	Fast	10 MHz	SCSI-2	20 MB/s
UWSE	Wide	SE	Ultra	20 MHz	SCSI-2	40 MB/s
UWD	Wide	HVD	Ultra	20 MHz	SCSI-2	40 MB/s
U2D	Wide	LVD	Ultra2	20 MHz	SCSI-2	80 MB/s
U2WD	Wide	LVD	Ultra2	40 MHz	SCSI-2	80 MB/s
U3	Wide	LVD	Ultra3	80 MHz	SCSI-3	160 MB/s

SCSI technology can be divided into four common area:

Bus Width – defines how many data bits travel in parallel on the bus

Maximum Clock Speed – identifies the maximum negotiated speed between the server and the peripheral

Mode of Operation – identifies the type of voltage of the signaling scheme. SE=single-ended, HVD=high voltage differential, LVD=low voltage differential

SCSI Architecture – defines the ANSI standard to which the terminator complies

guaranteed
compatibility,
reliability, and
performance



products

product number	technology	connector	gender	length
C2980A SCSI Cable	HVD	HDTS68	M/F	.5m
C7554A SCSI Cable	HVD	HDTS68	M/M	5m
C7555A SCSI Cable	HVD	HDTS68	M/M	10m
C7519A SCSI Cable	HVD	VHDTS68/HDTS68	M/F	.5m
C5766A SCSI Cable	HVD	VHDTS68/HDTS68	M/M	5m
C5767A SCSI Cable	HVD	VHDTS68/HDTS68	M/M	10m
C7541A SCSI Cable	LVD/SE	VHDTS68/HDTS68	M/M	2m
C7520A SCSI Cable	LVD/SE	VHDTS68/HDTS68	M/M	5m
C7556A SCSI Cable	LVD/SE	VHDTS68/HDTS68	M/M	10m
A5668A SCSI Cable	LVD/SE	VHDTS68	M/M	2m
A5669A SCSI Cable	LVD/SE	VHDTS68	M/M	5m
A5670A SCSI Cable	LVD/SE	VHDTS68	M/M	10m

Connector style Terms: HD = high density, VHD = very high density, BL = bail lock, TS = thumb screw, M = Male, F = Female, 68 = 68 pin
*Can be ordered with an OD1 option for factory integration

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