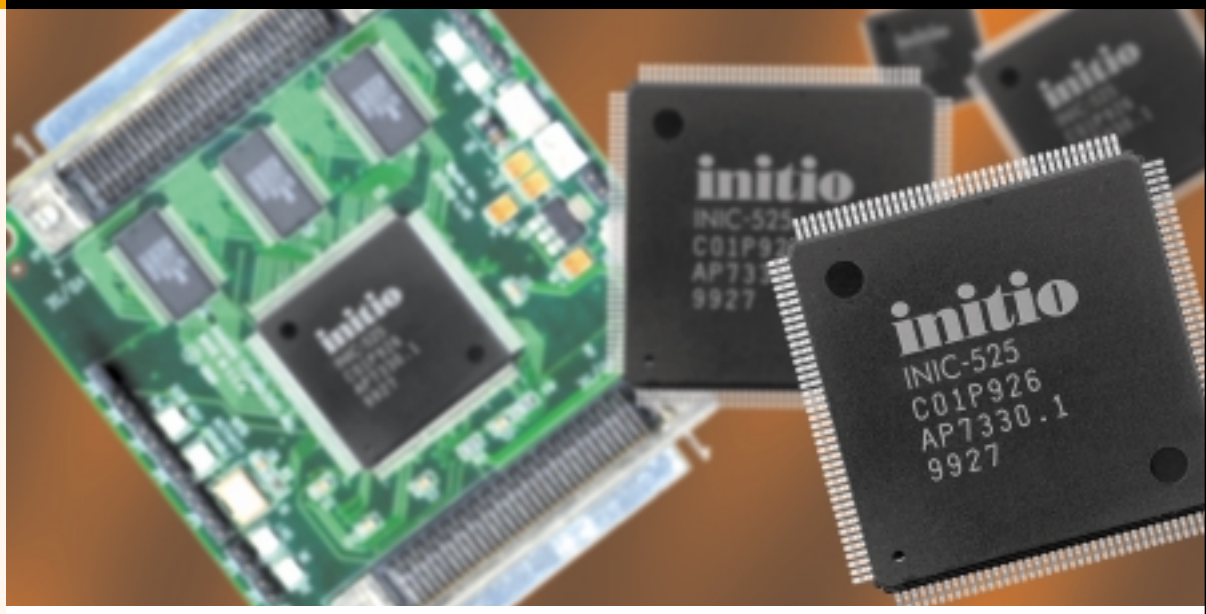
initio®

ULTRA3 160 MBYTE SCSI LVD EXPANDER / CONVERTER SOLUTIONS

INIC™-525

INITIO ICs



FEATURES

- Supports 160 Mbyte data transfers
- Operates both as a SCSI bus converter or expander
- Supports SE, LVD, HVD connections
- SCSI bus electrical isolation for clustering environments
- Target / Initiator independent
- No SCSI ID is used
- No software overhead
- Supports Double Transition Clocking
- Supports Quick Arbitrate and Selection
- Up to 3 devices may be cascaded
- Supports asynchronous / synchronous transfers
- Dynamically tunes itself to process, voltage & temperature
- BSY LED bus activity indicator
- SCSI-1, SCSI-2, SCSI-3 & EPI Compliant
- Completely transparent
- Isolates bus into 2 SCSI segments
- Package type
  > 160-pin PQFP
  > LSI SYM53C140 pin-compatible

"SCSI expanders, once used solely to transparently convert between single ended transmission mediums, have evolved from providing just a bus conversion to being able to provide full SCSI cable lengths on each side of the conversion, and allowing for back to back bus extension for even longer cable lengths."

The Initio INIC-525 chip is an Ultra3 SCSI bus expander/converter. As a converter, it allows Single-Ended (SE) SCSI devices to be attached to a Low Voltage Differential (LVD) or a High Voltage Differential (HVD) SCSI bus. It optimizes SCSI bus timing for improved SCSI performance without any impact to the SCSI protocol.

The INIC-525 allows users to extend SCSI cable lengths and expand total SCSI device connectivity without impact to SCSI Protocol or software while providing electrical isolation between separate SCSI buses. This makes the INIC-525 the perfect solution for today's clustering, storage area network (SAN) and storage enclosure applications.

The INIC-525 creates distinct, electrically isolated bus segments. Each SCSI segment can be logically disconnected from the others without disrupting SCSI transfers currently in progress, facilitating system maintenance, hot-plugging, diagnostics, and upgrades.

Furthermore it can support single-ended (SE), high voltage differential (HVD), or low voltage differential (LVD) signaling -- making it highly configurable for various system configurations.

By using LVD to LVD connections and cascading expanders, users can achieve Ultra3 SCSI transfer rates (160MB/sec) across extended SCSI cable lengths. This means that users can continue to use their existing SCSI infrastructure even when system demands require high data transfer rates across longer distances.

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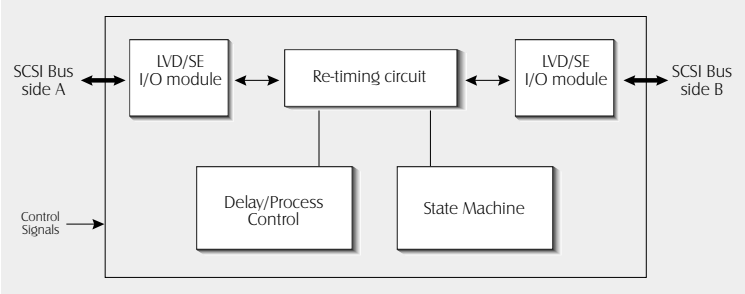
TAKING DATA FURTHER.™

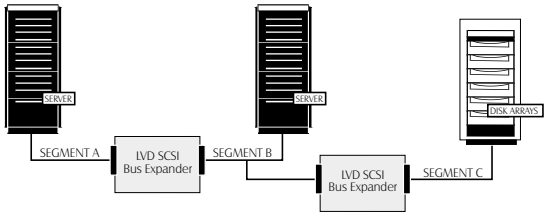
The INIC-525 chip is a SCSI bus expander/converter. As a converter, it allows Single-Ended (SE) SCSI devices to be attached to a Low Voltage Differential (LVD) or a High Voltage Differential (HVD) SCSI bus. It can also be used as a bus expander to extend SE, LVD, or HVD cables. It optimizes SCSI bus timing for improved SCSI performance without any impact to the SCSI protocol.



INIC-525 block diagram

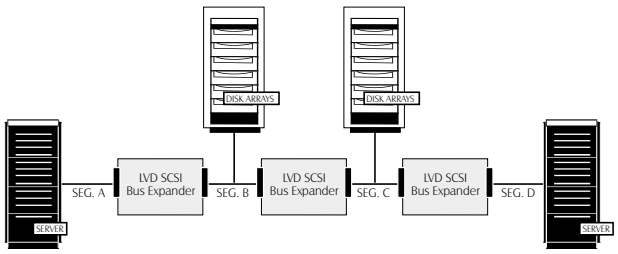
The INIC-525 is based upon bus expander technology resulting in maintenance of skew budgets through signal filtering and retiming. In addition, the INIC-525 does not require any software.

SERVER CLUSTERING EXAMPLES:



SEGMENT	MODE	LENGTH LIMIT
A, C	LVD (Ultra2/3)	25 meters
	SE (Ultra)	3 meters
B	LVD (Ultra2/3)	12 meters
	SE (ultra)	1.5 meters

SEGMENT	MODE	LENGTH LIMIT
A, D	LVD (Ultra2/3)	25 meters
	SE (Ultra)	3 meters
B, C	LVD (Ultra2/3)	12 meters
	SE (ultra)	1.5 meters



SPECIFICATIONS:

Package: 160-pin Plastic Quad Flat Pack (PQFP)

Transfer Rate: Up to 160 MByte/sec

Device Interface:
- Ultra3 (LVD) or Ultra2 (LVD/SE) or
- UltraSCSI, SCSI-3, SCSI-2, SCSI-1, single ended

Operating Temp: 0 to 55°C (32°to 131°F)
10% to 90% relative humidity (noncondensing)

Versatility Ideal for Clustering and High Availability Applications

The INIC-525 is ideal for high availability and scalable server clustering environments. In addition, applications where longer cables on an LVD or SE/LVD SCSI interface are required suite the INIC-525 well. It can also be used to reshape poor quality LVD signals, such as on SCSI LVD backplanes. Configurations that use the SCSI bus expander in Ultra3 mode allow the system designer to take advantage of the inherent cable distance, device connectivity, data reliability, and increased transfer rate benefits of LVD signaling with Ultra3 SCSI peripherals such as removable media, streaming tape drives, optical drives, hard disk drives, optical CD-ROM, DVD and CDR drives, optical juke boxes, etc.

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