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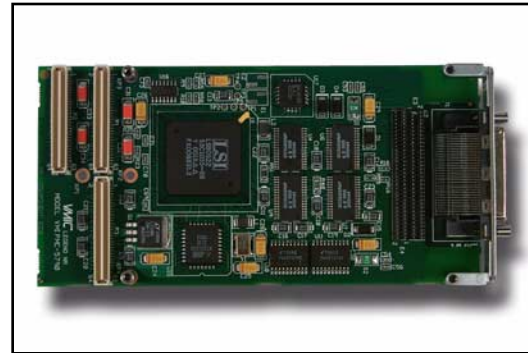
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- Dual-channel Ultra160 SCSI features
  - Supports dual-channel Ultra160 SCSI
  - 64-bit, 33/66 MHz PCI interface
  - Theoretical 160 Mbyte/s each channel
  - 64-bit addressing supported through Dual Address Cycle (DAC)
  - Compliant with PCI 2.2, PCI Power Management 1.1, and PC99
  - Double transition clocking for 160 Mbyte/s throughput
  - Cyclic redundancy check (CRC) that protects data
  - Domain validation
  - Asynchronous information protection (AIP)
  - Covers all nondata, including command, status, and messages
  - SCSI interrupt steering logic (SISL) alternate interrupt routing for RAID applications

**INTRODUCTION** — The VMIPMC-5790 is a dual-channel Ultra160 SCSI host bus adapter (HBA) board based on the PMC form factor. The VMIPMC-5790 HBA provides two independent external Ultra160 SCSI channels that support both LVD and single-ended SCSI operations. The VMIPMC-5790 leverages the LSI SYM53C1010 PCI dual-channel Ultra160 SCSI controller. The single-chip, true multifunction PCI device connects directly to a 64- or 32-bit, 66 or 33 MHz PMC bus. This presents one electrical load, while functioning as a single 64- or 32-bit PCI DMA bus master. The VMIPMC-5790 includes an easy-to-use on-board configuration utility, which allows the viewing and changing of default configuration settings for the host adapter and SCSI devices.

**PRODUCT OVERVIEW** — The VMIPMC-5790 dual-channel Ultra160 SCSI HBA is specifically designed for storage on workstations, servers systems, computer clustering applications and, due to its high network bandwidth, is well suited for telecom, signal processing, and distributed computing applications. The independent SCSI controller supports wide Ultra160 SCSI synchronous transfer rates up to 160 Mbyte/s on a low-voltage differential (LVD) SCSI bus. Integrated LVD link transceivers support both LVD and single-ended signals with no external transceivers required. Fast SCSI, Ultra SCSI, Ultra2 SCSI, and Ultra160 SCSI are all supported by the VMIPCI-5790. The 8 Kbyte of internal RAM for SCRIPTS instruction storage allow all accesses to remain internal, reducing the time spent on the PCI bus. A 944 byte DMA FIFO allows the device to efficiently burst up to 512 bytes across the PMC bus. The VMIPMC-5790 supports cyclic redundancy checks (CRC), which is far superior for detecting errors during high-speed data transfers. CRC is a proven international standard that checks all transferred data and adds significantly to data reliability. The VMIPMC-5790 also supports domain validation, which effectively manages the connection to reduce installation problems. With domain validation, the transfer rate is actually checked at the negotiated rate — much like modems negotiating transmission speeds prior to communication. If errors are detected, the rate is stepped



down until the connection becomes error-free. In this way, if a connection can be made it will be made. The highly integrated design promotes high reliability, low power consumption, and low cost.

### Ultra160 SCSI Software Support:

- Windows NT®
- Windows® 2000
- Linux
- Solaris
- VxWorks

### TECHNICAL SPECIFICATIONS

**SCSI Transfer Rate:** Ultra3 at 160 Mbyte/s per channel

**Host Bus Transfer Rate:** 64-bit bus master DMA maximum burst data transfers up to 264 Mbyte/s (PCI - 64/33 MHz) or 528 Mbyte/s (PCI - 64/66 MHz)

**Host Bus Signaling:** Supports 5 or 3 V signaling

**On-Board SCSI-3 RAM:** 8 Kbyte (internal)

Ordering Options							
Dec. 19, 2000 800-755790-000 A	A	B	C	-	D	E	F
VMIPMC-5790	-	0	0	0	-		
ABC = 000 (Options reserved for future use)							
Ultra160 SCSI Connector Data							
68-pin VHDCI external (2)							
Cable Specifications							
6 ft. 8 mm Ultra SCSI to standard wide 68, 132 Ω External Cable VMICBL-001-68-006, CS Electronics PN# -.88 mm-HD68T/6FT-132U							
<b>For Ordering Information, Call:</b> 1-800-322-3616 or 1-256-880-0444 • FAX (256) 882-0859 E-mail: info@vmic.com Web Address: www.vmic.com Copyright © June 2000 by VMIC Specifications subject to change without notice.							



## PHYSICAL/ENVIRONMENTAL

**Temperature Range:** 0 to 50 °C, operating  
-40 to 70 °C, storage

**Relative Humidity:** 20 to 80 percent, noncondensing

**Power Requirements:** 1 A (maximum) 5 VDC

## Network Connections:

VHDCI (SCSI)  
(maximum distance - 12 m (LVD mode))

## TRADEMARKS

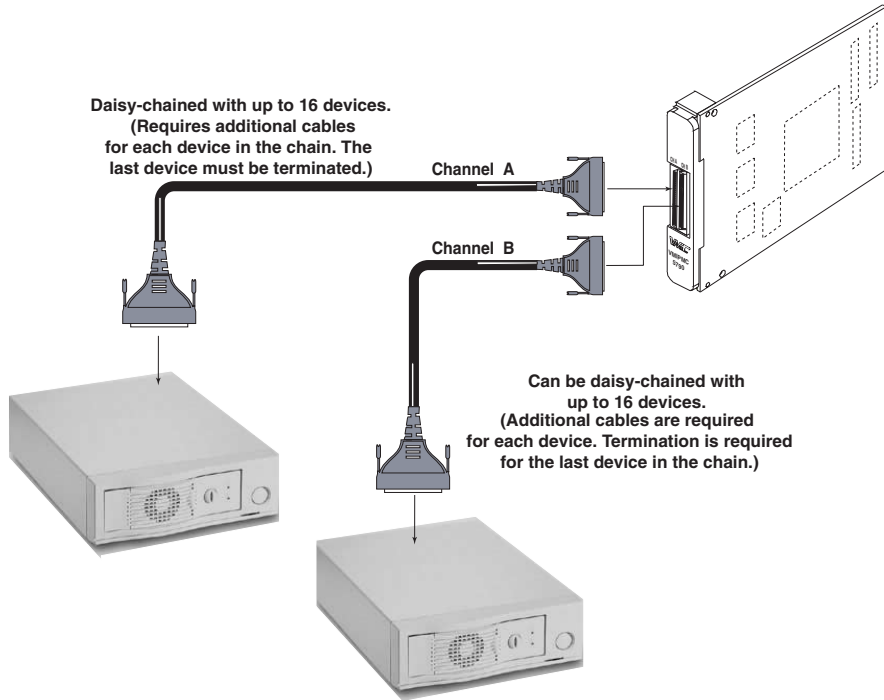
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### Ultra160

When Ultra160 SCSI is used with low-voltage differential (LVD) signaling, cable lengths of 12 meters are maintained providing full backward compatibility. Ultra160 SCSI can connect up to 16 devices on a single channel. Table 1 is a matrix comparing Ultra160 SCSI against the other connectivity technologies.

**Table 1. Comparative Matrix**

	Maximum Transfer Speed	Maximum Cable Length	Maximum Number of Devices	Application Performance
IDE/UDMA 33	33 Mbyte/s	18 in.	2	Low
IDE/UDMA 66	66 Mbyte/s	18 in.	2	Low/Medium
Wide Ultra SCSI	40 Mbyte/s	1.5 m	16	Low/Medium
Wide Ultra2 SCSI	80 Mbyte/s	12 m	16	High
Fibre Channel	100 Mbyte/s	10 km	126	High
<b>Ultra160 SCSI</b>	<b>160 Mbyte/s</b>	<b>12 m</b>	<b>16</b>	<b>High</b>



**Figure 1. Daisy Chain Devices**



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