Storage Controller PMC

Dual-channel Ultra320 SCSI Controller

The Dual Channel Ultra 320 SCSI controller PMC is based on the LSI Logic 53C1030 controller, providing two channels of parallel SCSI operating up to 320 MB/s in LVD mode. The SCSI interface will automatically downgrade to support older "single ended" interfaces as well.

One SCSI channel connects to a standard 68-pin 0.050" center ("half pitch") SCSI connector at the PMC front panel. The second channel is available out the PN4 connector for rear I/O connectivity. The pinout of the PN4 is the same as prior generation Technobox SCSI controllers.

Termination is provided for each SCSI bus, and the termination will automatically configure to support either Single Ended or LVD devices. As delivered, the board has termination programmed as being always active, but it is possible to turn off termination via PLD re-programming for those unusual applications not requiring termination on the controller.

Although the SCSI bus for the second channel appears at the PN4 connector for rear I/O applications, users must assure that the signal integrity on the carrier card and interconnection to the backplane will support LVD signaling. Devices operating in Single Ended mode out PN4 should not require any special attention.

The design features a 16Kb serial EEPROM which is used to store user-configurable parameters by the LSI BIOS. A 512Kx8b FLASH memory holds the BIOS for Intel-platforms and the BIOS is burned in the FLASH as delivered. A 32Kx8b Non-Volatile RAM holds mirroring data as required by the LSI logic firmware.

A set of LEDs on the body of the board convey activity status. Two LEDs indicate SCSI channel activity, another LED indicates ARM processor heartbeat, and an additional two show that termination voltage is available at each of the SCSI interfaces.
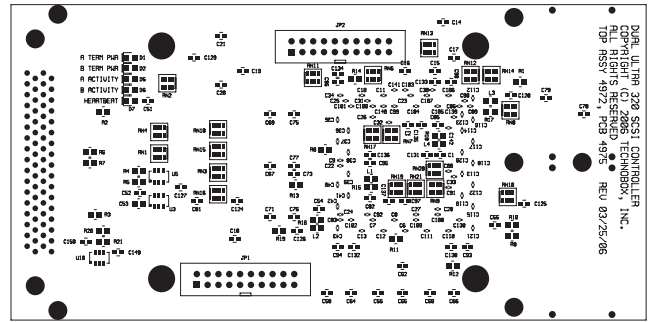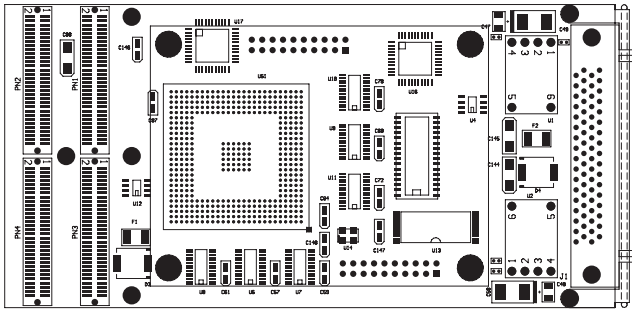
4972

- **Provides two Ultra320 interfaces (front and rear)**
- **Supports SE and LVD Parallel SCSI**
- **LSI 53C1030 controller**
- **LEDs show SCSI activity and termination voltage**
- **Compatible with PCI-X**
- **Optional PIM and P2 paddle cards for rear I/O**
- **RoHS-compliant, Lead-free**
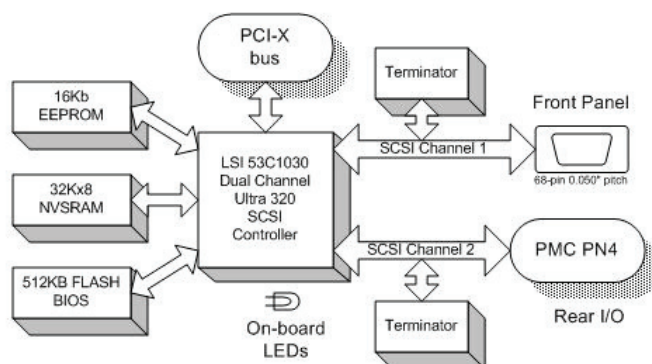
Technobox

The connection to the host processor is via a PCI-X bus running at up to 133 MHz. The board can be used in lower-performance PCI busses with reduced throughput capability. This board is capable of operating in either a 3.3V or 5V PCI bus signaling environment and will automatically adapt to the VIO voltage provided by the host processor board.

A heat sink is provided for the 53C1030 controller. For optimum power efficiency, two switching regulators generate 3.3V for the local logic and 1.8V for the LSI chip core. Only 5V power from the host is required.

Several positions for debug connectors are located on the backside of the board for LSI logic debug purposes, as recommended by LSI. These are not populated in the delivered product and are normally not used by customers.

The product is available in a "commercial grade" version. The product is manufactured for RoHS compliance.

Technobox manufactures several companion products to ease the use of the PN4 I/O, including PIMs (VITA 36) and P2 paddle cards.

Additional information regarding the capability of this board can be obtained by reviewing the LSI Logic 53C1030 controller chip datasheet available at www.lsil.com.

Please contact Technobox for software support.

Specifications

Temperature (Operating): 0° to 55° C

Temperature (Storage): -40° to +85° C

Altitude: Not specified or characterized (Typical similar equipment is at 15,000 ft.)

Humidity (Operating/Storage): 5% to 90% non-condensing

Vibration: Not specified or characterized

MTBF: Available upon request

PCI Environment: 3.3V and 5V; PCI-X Bus

Power: TBD

Ordering Information

4972: Dual Channel Ultra320 SCSI Controller PMC (RoHS)
4704: VITA 36 PIM module (RoHS)
4400: P2 Paddle card for LVD applications
2699: P2 Paddle card for SE applications

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Technobox, Inc.
140 Mount Holly Bypass
Unit 1
Lumberton, NJ 08048
Tel: 609-267-8988 • Fax: 609-261-1011
www.technobox.com