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Find the *Technobox 4383* at our website: ***Click HERE***

Storage Controller PMC

Versatile Serial ATA Controller

The versatile Serial ATA controller provides four 1.5Gb per second links on a PMC front panel. Additional features are provided for rear I/O as described below.

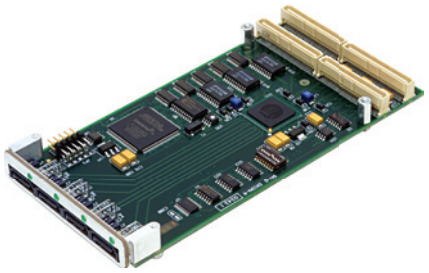
The four SATA ports are accessible at the PMC front panel. Activity LEDs are provided on the front panel for each port and are located adjacent to the corresponding SATA connector. The printed circuit board mounted connector is a “latching style” version permitting use with SATA cables that have a built-in, positive-retention latch.

The board employs an Intel 31244 controller, which connects the PCI-X bus to four SATA links. PCI-X can operate up to 133 MHz under ideal conditions, but this board will also operate in lower speed 33-MHz and 66 MHz busses and in 32-bit and 64-bit modes. Both 5V and 3.3V PCI bus signaling is supported. For more information on the 31244 capabilities, please see www.intel.com.

As customarily implemented with these designs, the 31244 controller uses an SPI bus to connect to a 128Kx8 EEPROM memory that holds a BIOS image. Unique to this product is the additional capability offered by an ALTERA Cyclone PLD that is hooked onto the SPI bus. Because of the serial nature of the SPI, the devices serviced by the ALTERA PLD must be used in low performance, interrupt-driven applications ONLY.

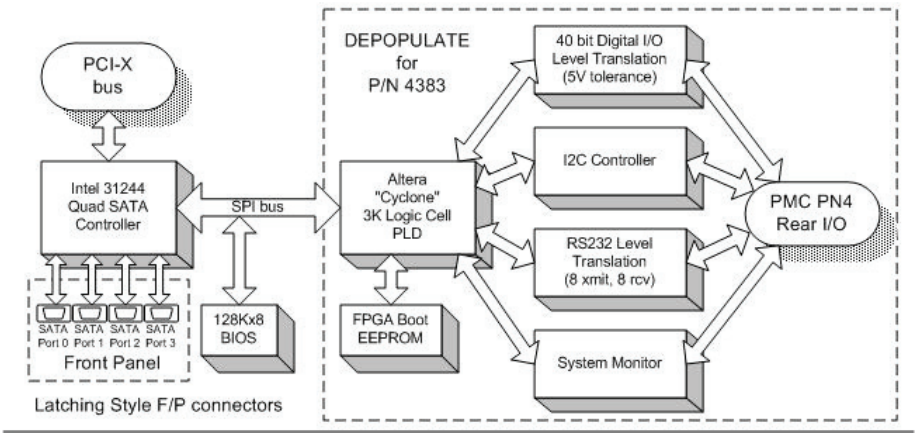
The ALTERA PLD is preprogrammed with logic that supports the 31244’s SPI bus, an interface to an I2C controller, four UARTs (each providing RXD, TXD, CTS, and RTS), 40 bit bits of general purpose 5V tolerant Digital I/O, and a System Monitor function. A boot EEPROM automatically loads the PLD on power up. Users can access the PLD in order to fulfill custom logic requirements.

The peripheral devices (UARTS, I2C, System Monitor, Digital I/O) are accessed in a “shadowed” manner

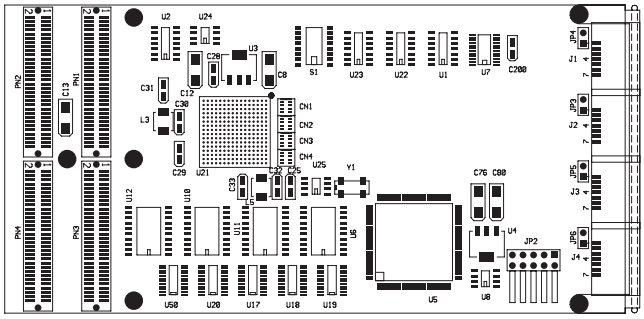


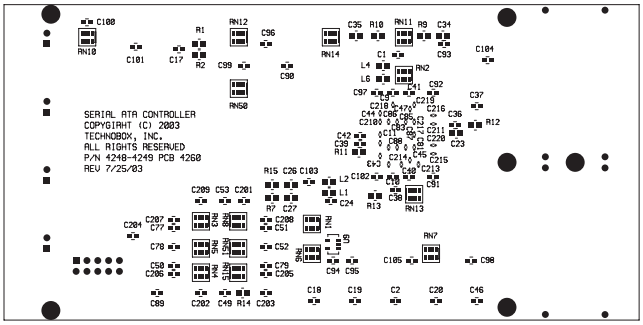
4382

- **Supports four SATA devices (1.5 Gbps per link)**
- **Intel 31244 controller**
- **PCI-X capable**
- **Status LEDs show link activity**
- **Onboard BIOS**
- **PLD provides: I2C controller, level translators, four RS-232 UARTS, system monitors, and two analog inputs**



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in the BIOS space. When the PLD detects a certain sequence of bytes and addresses to the BIOS, the PLD disconnects the BIOS chip and connects the peripheral devices, which then appear in the BIOS space.

The PLD implements four 16550 compatible UARTS. Level translation logic on the PMC card interfaces to RS232 levels. RXD, TXD, CTS, and RTS functions are provided for each port; each is accessible at the PN4 Rear I/O connector.

40 Digital I/O lines are available at the PN4. Each line may be individually controlled and sensed by the host software. Bit directional (in or out) is programmable. The I/O uses 3.3V CMOS levels, but is 5V tolerant.

A Philips byte-wide I2C controller provides a serial interface to the PN4, consisting of serial data and serial clock. See www.philips.com for I2C information.

A "system monitor" chip on the board provides local temperature measurement, as well as remote temperature sensing via a user supplied 2N3904 diode junction. Also, the system monitor senses and reports +3.3, +5V, -12V, and +12V voltage levels provided to the board. Two 0-2.5V analog inputs are also provided on the PN4 to the system monitor chip.

For applications requiring only the Serial ATA function, the ALTERA PLD and its associated logic can be depopulated. This is a volume quantity option only.

Contact Technobox for O/S and 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: 4382: 168.44K Hours (Gb, 20° C)
4383: 305.32K Hours (Gb, 20° C)

Typical Power Dissipation: TBD

Power Supplies Required: +3.3V, +5, +12, -12

PCI Environment: 3.3V or 5V, PCI-X

Ordering Information

4382 (Latching Style connectors, Fully Populated)

4383 (Latching Style connectors, SATA only, No Rear I/O)

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