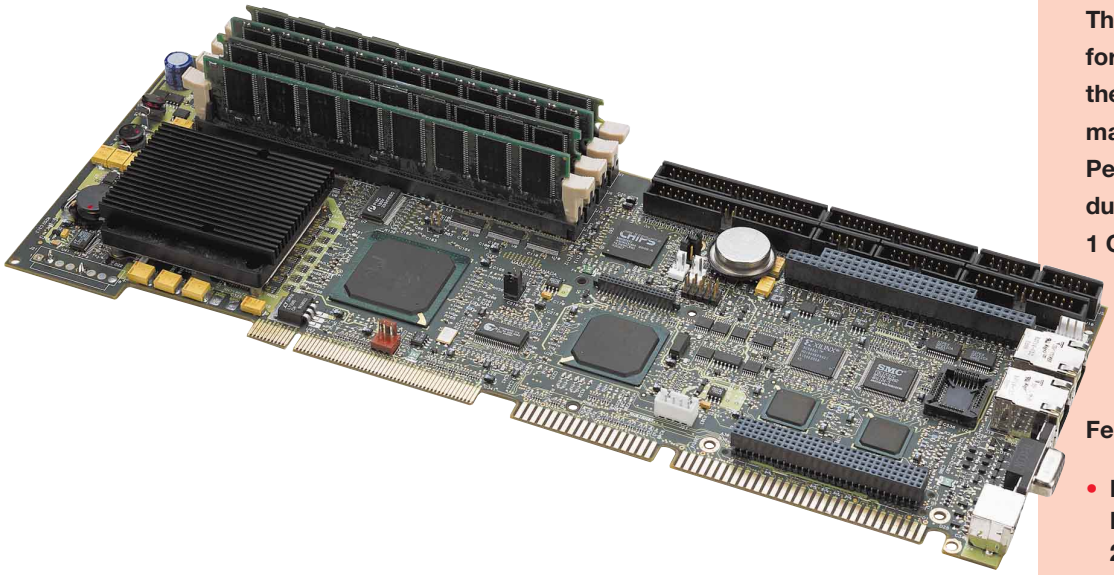
PCI-948

Pentium® III processor - Low Power, space sensitive, dual ethernet support

teknor applicom

A Kontron Company



The PCI-948 is a board-level solution for mission-critical applications in the CTI and data communications markets, featuring an advanced Pentium III processor - Low Power, dual Ethernet support and up to 1 GB of memory.

Ultra high performance, passive cooled SBC for high growth data communications market

Designed to provide maximum performance and passive cooling, the PCI-948 suits a wide range of mission-critical applications in the CTI, ISP/ASP and data communications markets where attention to high throughput demand and space sensitive environments continually need to be satisfied.

Powered by a Pentium® III processor - Low Power at speeds of up to 500 MHz, the PCI-948 delivers up to 1 GB of SDRAM and support for dual Ethernet. It offers a full feature-set of two Ultra DMA/33 IDE channels, a range of power-saving functions, and USB, serial and parallel ports.

The PCI-948 is also ideal as a board-level solution for 1U system solutions. Its low power module delivers improved thermal management and streamlines design work with the processor-to-chipset layout already complete. The PCI-948 is also capable of supporting a variety of software interfaces including Windows® NT 4.0, Windows® 2000, QNX and Linux.

Features include:

- **Intel Pentium III Processor - Low Power at 500 MHz and 256 KB of 64-bit L2 cache**
- **Up to 1 GB of SDRAM on 4 DIMM sockets**
- **Dual 10/100Base-TX Ethernet support**
- **Two Ultra DMA/33 IDE channels**
- **Optional CompactFlash™ Disk**
- **USB, Serial and Parallel ports**
- **AGP video with 2 MB SDRAM 64-bit**
- **ATX support (Power-saving features such as Wake-on-LAN and more)**

PCI-948 - Technical Specifications

CPU
- Intel Pentium II/III processor - Low Power; 333, 400, 500 MHz
- Intel 440BX AGPset

Bus Interface
- Front Side Bus (66/100 MHz)
- AGP Bus 66 MHz
- PCI Bus (33 MHz)
- ISA Bus (8.33 MHz)

Cache
- 16/16 KB Instruction / Data Level 1
- 256 KB Advanced Transfer Cache (on-die, full speed L2 cache with ECC

Memory
- Four 168-pin latching DIMM sockets, 64/72-bit
- Up to 1 GB of SDRAM with 2, 4, 8, 16 or 32 M x 64/72, 100 MHz Synchronous DRAM / Registered SDRAM non-ECC/ECC mode (single bit error correction, double bit detection via Intel 440BX AGPset); all 1 GB cacheable

Data Path
- 64-bit CPU bus; 32-bit AGP bus; 32-bit on PCI bus; 16-bit on ISA bus

Interrupts
- 11 edge sensitive and configurable
- 4 PCI level sensitive, configurable to any interrupt vector for PnP compatibility
- All ISA onboard interrupts are PnP compliant

DMA Channels (ISA)
- Four 8-bit, three 16-bit
- Supports scatter / gather, Fast Type-F DMA

Flash Memory
- 256 KB Boot Block for BIOS field upgrade
- 4 KB Serial EEPROM for user configuration; silicon serial ID TAG for unique board identification accessible via software

I/O
I/O: SMC FDC37C672 Super I/O
USB Ports: Two
Serial Ports: Two RS-232 (16C550) with 16 byte FIFO as COM1-2 with BIOS selectable IRQs and addressing, serial port 2 BIOS configurable RS-422/485
Parallel Port: One bi-directional with all IEEE 1284 protocols supported and BIOS selectable IRQs and addressing
Floppy Disk: Support for two drives (360 KB to 1.44 MB)
EIDE: Four EIDE drives; PIO Mode 4, Bus Master IDE or Ultra DMA/33
CompactFlash™ Module: Optional bootable CompactFlash™ module interfaces to secondary IDE channel, user upgradeable, master/slave
Ethernet: Two PCI 10Base-T/100Base-TX (Intel 82559)

Video
- Integrated Frame Accelerated Graphics Port (AGP) 64-bit CRT controller with 2 MB 83 MHz SDRAM memory (C&T 69000)
- Supports CRT with resolution up to 800 x 600, 16.8 M colors; 1024 x 768, 64K colors; or 1280 x 1024, 256 colors, non-interlaced
- Compatible with CGA, EGA, Hercules, MDA, VGA, SVGA, XGA, and SXGA

Clock / Calendar
- Real-time clock with 256 byte battery backup CMOS RAM

Connectors
Faceplate: CRT (female DB-15 slim); 2 Ethernet (RJ-45 with link/activity indicators); PS/2 mouse and keyboard (one 6-pin mini-DIN that combines both functions)

Headers: USB (10-pin shrouded); serial ports (two 10-pin shrouded); parallel port (26-pin shrouded); floppy (34-pin shrouded); EIDE (two 40-pin shrouded); PC104 and PC104+; PS/2mouse (4-pin locking); CompactFlash™ Module header; keyboard, speaker, and EIDE disk LED (16-pin shrouded); power-down connector (2-pin locking); ATX connector

BIOS
- Award Elite BIOS in Boot Block Flash with recovery code; save CMOS in Flash option, and boot from LAN capability
- Auto configuration, extended setup
- CC00-E000 address blocking; PnP tables
- Setup console redirection to serial port (VT100 mode) with CMOS setup access
- Software enable/disable of onboard Ethernet; hardware enable/disable of onboard video
- Diskless, keyboardless, and videoless operation extensions
- System, video, LAN, and SCSI BIOS shadowing
- Programmable memory wait states
- Advanced security feature for floppy and HDD; DMI & HDD S.M.A.R.T. support
- Advanced Configuration and Power Interface (ACPI 1.0), Advanced Power Management (APM 1.2), advanced thermal management (resume, overheat alarm and auto slow down), and Green support

Supervisory
- Two-stage software programmable watchdog timer drives NMI on 1st stage, system reset on 2nd stage
- Time out from 16 msec to 4.25 min
- CPU temperature monitor/alarm; board temperature sensor; power failure/low battery detector, and two end-user defined open-drain general purpose I/Os; SMBus, I2C Bus

OS Compatibility
- PC-DOS and MS-DOS™; Windows® 3.X; Windows® 95; Windows® 98; Windows® CE; Windows® NT 4.0; Windows® 2000; QNX™ and Linux

Mechanical
- 338 x 122 x 36 mm at CPU / fan (13.32 x 4.80 x 1.40 in. at CPU / fan)
- Conforms to IEEE P996 PC/AT bus, PCI Rev. 2.1, & PICMG Rev. 2.0 standards

Power Requirements

Supply Voltage	Vcc :	+5V ± 5% / +12V ± 5%		
Pentium II/III:		**333**	**400**	**500**
ICC typ.*	+5V	TBA	2.84A	3.56A
ICC susp.	+5V	TBA	1.56A	1.54A

Environmental

	Operating	Storage and Transit
Temperature:	0° to 55°C/32° to 131°F (w/airflow)	-40° to +70°C/-40° to +158°F
Humidity:	5% to 95% @ 40°C/104°F non-condensing	0% to 95% @ +40°C/+104°F non-condensing
Altitude:	4,572 m / 15,000 ft	15,240 m / 50,000 ft
Shock:	5 G, each axis	
Vibration:	1.5 G, each axis	

Reliability
- MTBF: TBD
- SCSI termination, USB and mouse / keyboard voltage protected by self-resetting fuses
- Unique silicon serial number accessible via software
- 2 year limited warranty

Designed to meet or exceed:
Safety: UL 1950; CSA C22.2 No 950; EN 60950; IEC950
EMI/EMC: FCC 47 CFR Part 15/CISPR22; CE Mark to EN55022/EN50082

PCI-948.2_12/2000 Printed in Canada Rep.0_12/2000

teknor applicom
A Kontron Company

Teknor Applicom helps customers speed to market with applied computing solutions featuring single board computers, integrated systems and software specifically designed for Telecommunications, Internet, Industrial Automation, Mobile Computing and all types of high speed, high availability applications.

USA
Tel.: (450) 437-5682
Fax: (450) 437-8053

CANADA
Tel.: (450) 437-5682
Fax: (450) 437-8053

EUROPE
Tel.: +49 8165 77-0
Fax: +49 8165 77-219

www.teknor.com • 1.800.387.4222

The latest version of this document may be found on our web site. Specifications subject to change without notice. Teknor Applicom Inc. is a Kontron Group Company. Teknor Applicom Inc. and the Teknor ellipse logo are registered trademarks of Teknor Applicom Inc. All other trademarks are the property of their respective owners. Copyright 2000 by Teknor Applicom Inc. All rights reserved.