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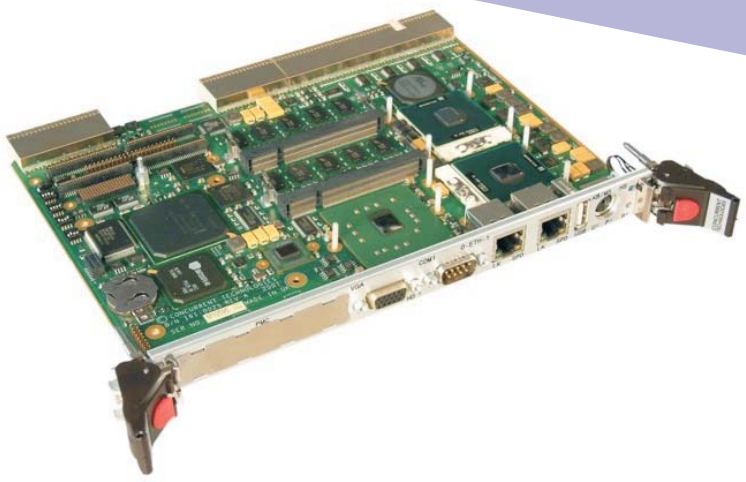
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Find the *Concurrent Technologies PP 421 23X* at our website: *Click HERE*

CompactPCI

PP 421/23x
N - Series

Dual-Core Intel® Xeon® Dual Processor Single Board Computer



RoHS 2002/95/EC

APPLICATIONS

The PP 421/23x is a PC-compatible high performance based CompactPCI® processor board supporting two Dual-Core Intel® Xeon® processors. Featuring a selection of memory options, an optional on-board hard disk drive and a variety of interfaces, the board is suitable for a range of high-performance applications within the industrial control, telecomms, telemetry, scientific and aerospace markets. Its functionality can be further increased through the use of PMC or XMC modules. High-performance networking is provided by four Gigabit Ethernet links and the board is fully compliant with the PICMG® 2.16 (Packet Switching Backplane) specification. To simplify the board's integration many popular industry standard operating systems are supported. Full system monitoring is provided by the PICMG 2.9 compliant IPMI interface.

HIGHLIGHTS

- Dual-processor configuration:
  - using 1.66 GHz Dual-Core Intel Xeon processor ULV
  - 667 MHz Front Side Bus
  - Intel® Core™ processor architecture
  - on-die L1 cache
  - 2 Mbytes on-die shared L2 cache for each processor
  - no CPU fan required
- Up to 8 Gbytes DDR2-400 SDRAM (with ECC)
- 1 x PMC module interface, with front and rear user I/O:
  - 32/64-bit; 33/66MHz PCI and 66MHz PCI-X
  - 1 x XMC module interface (x8 PCI Express™)
- High performance EIDE interfaces with optional on-board disk drive or CompactFlash™/Microdrive™ interface (in a single-slot)
- 2 x Serial ATA150 (SATA) channels
- 4 x 10/100/1000Mbps Ethernet interfaces:
  - Dual Gigabit Packet Switching Backplane (PICMG 2.16)
- 1 Mbyte of BIOS Flash EPROM
- CompactPCI controller:
  - operates in system slot
  - operates in peripheral slot
  - 32/64-bit at 33/66 MHz CompactPCI interface
- Option to bypass CompactPCI bus (Satellite Mode)
- IPMI (Intelligent Platform Management Interface):
  - PICMG 2.9 (System Management Specification)
- High resolution graphics interface
- Keyboard and mouse interfaces
- 4 x USB ports
- 2 x asynchronous RS232 serial channels
- Watchdog timer
- Optional Transition Module for rear panel I/O
- Support for Linux®, Windows Server 2003™, Windows® XP, Windows® 2000, QNX®, Solaris™ and LynxOS®

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Specification

Central Processors

- dual processors; for each processor:-
  - 1.66 GHz Dual-Core Intel® Xeon® processor ULV
  - internal primary (L1) on-die cache
  - 2 Mbytes secondary (L2) shared on-die cache
  - Intel® Core™ Microarchitecture
- no CPU fan required
- utilizes 64-bit Intel® E7520 chipset:-
  - supports 667 MHz processor bus to give peak bandwidth of 5.3 Gbytes/s
  - uses Intel® 6300ESB I/O Controller Hub

DRAM

- supports up to 8 Gbytes DDR2-400 ECC SDRAM:-
  - up to 4 Gbytes soldered to board
  - up to 4 Gbytes provided via two 200-pin SODIMM sockets
  - dual channel configuration
  - peak bandwidth of 6.4 Gbytes/s
  - error correction up to 4-bits
- accessible from processors and CompactPCI bus

Hard Disk Interfaces

- EIDE interface:-
  - supports up to Ultra-DMA 100 for high performance drives
  - 2 x channels (primary and secondary)
  - secondary channel can be used for on-board 2.5 inch disk drive or up to 2 CompactFlash™ or Microdrive™ Type II drives
  - on-board options occupy the PMC site
  - primary channel accessed via J3 to the Transition Module
- Serial ATA interfaces:-
  - 2 x channels accessible via J5
  - transfer speeds up to 150 Mbytes/s

Ethernet Interfaces

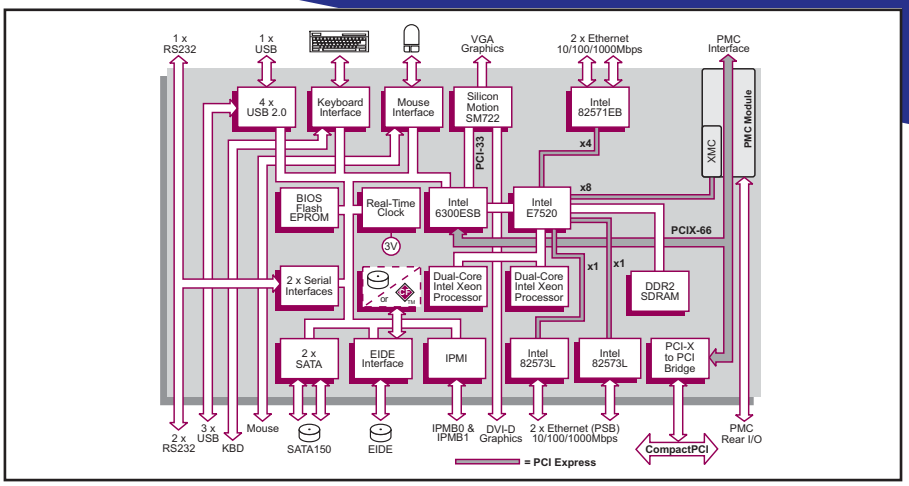
- 4 x channels supporting 10Base-T, 100Base-TX, 1000Base-T
- front panel interfaces:-
  - implemented by an Intel® 82571EB LAN controller via a x4 PCI Express™ link
  - accessed via front panel RJ45 connectors
- rear I/O interfaces:-
  - implemented by 2 x Intel® 82573L LAN controllers via x1 PCI Express links
  - support for PICMG 2.16 - Packet Switching Backplane (PSB)
  - optional support for rear panel RJ45's via J3 to the Transition Module

Graphics Interface

- implemented by a Silicon Motion SM722:-
  - 8 Mbytes video memory
  - resolution up to 1280 x 1024 @ 16M colors
- analog interface via front panel connector
- DVI-D interface supported via J3

PMC Interface

- 1 x PMC site:-
  - 3.3V signaling
  - supports 32/64-bit, 33/66 MHz PCI and 66 MHz PCI-X operation
  - XMC (PCI Express Mezzanine Card) interface supported via x8 or dual x4 PCI Express Link
- I/O via front panel and via J5:-
  - Transition Module supports rear I/O



Serial Interfaces

- 2 x RS232 serial channels:-
  - one channel accessed via J3 to the Transition Module and front panel
  - one channel accessed via J5 to the Transition Module
- 16550 compatible UART
- supports CTS, RTS, RI, DSR, DTR and DCD

Other Peripheral Interfaces

- keyboard and mouse interfaces, sharing a single PS/2™ type connector on front panel and accessible via J3 to the Transition Module
- PC-compatible Real Time Clock (Year-2000 compliant)
- 3 x USB 2.0 interfaces accessed via J5 to the Transition Module
- 1 x USB 2.0 interface via front panel
- watchdog timer
- system fan monitor; two CPU temperature monitors; voltages monitor; board temperature monitor:-
  - all accessible via IPMI
- legacy speaker interface

CompactPCI Interface

- compliant with PICMG 2.0 R3.0; 3.3V and 5V signaling levels:-
  - universal signaling supported
- 33/66 MHz; 32/64-bit interface accessed via J1/J2 connectors
- utilizing a PCI-X to PCI bridge for off-board accesses
- PICMG 2.1 R2.0 Hot Swap Specification Compatible as hot swap controller only
- J4 connector not fitted
- operates as a System Slot controller or in a peripheral slot
- option to disable CompactPCI interface (Satellite Mode):-
  - use in any slot
  - receives power from CompactPCI bus
  - board can be hot swapped in this mode

Firmware Support

- Phoenix® TrustedCore™
- comprehensive Power-On Self-Test (POST)
- LAN boot firmware included

Flash EPROM

- 1 Mbyte of BIOS Flash EPROM - 8-bits wide

Software Support

- support for Linux®, Windows® Server 2003, Windows® XP, Windows® 2000, QNX®, Solaris™ and LynxOS®

IPMI

- PICMG 2.9 R1.0 (System Management Specification)
- implements the IPMB0 and IPMB1 interfaces
- on-board Baseboard Management Controller
- supports 32 Kbytes of non-volatile memory

Electrical Specification

- +5V@4.0A (typical with 2 Gbytes DRAM); +5% / -3%
- +3.3V@7.0A; +5% / -3%
- +12V@0.02A; -12V@0.01A
- +12V and -12V routed to PMC expansion slot

Safety

- PCB (PWB) manufactured with flammability rating of 94V-0

Environmental Specification

- 0°C to +55°C (operating)
- 10% to 90% Relative Humidity (operating non condensing)
- -40°C to +85°C (storage)
- 10% to 90% Relative Humidity (storage non-condensing)

Mechanical Specification

- 6U form-factor: 9.2inches x 6.3inches (233mm x 160mm)
- single-slot: 0.8 inches (20.3mm)
- connectors: IEC-1076-4-101 for J1-J5
- shock:
  20g, 11ms, ½ sine (operating);
  30g, 11ms, ½ sine (non-operating)
- vibration:
  5Hz-2000Hz at 2g, 0.38mm peak displacement (operating);
  5Hz-2000Hz at 5g, 0.76mm peak displacement (non-operating)

ORDERING INFORMATION

Order Number	Product Description (Hardware)	Replace the order number suffix (xy) with selections from the following: where x =	where y =
PP 421/231-xy	1.66 GHz Dual-Core Xeon, dual processors		
AD PP4/003-20	RTM I/O: PMC, Ethernet, SATA, USB, RS232, DVI-D, EIDE, KBD, MSE	1 - Ethernet via rear panel	1 - reserved
AD PP4/103-20	RTM I/O: PMC, Ethernet, SATA, USB, RS232, DVI-D, EIDE, CompactFlash, KBD, MSE	2 - Ethernet via PICMG 2.16	2 - 2 Gbytes
AD CP1/DR1-z1	2.5 inch on-board Disk Drive assembly		3 - 4 Gbytes
AD 200/001-zz	CompactFlash/Microdrive Carrier Assembly		4 - 6 Gbytes
			5 - 8 Gbytes

For z options please contact your local sales office

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