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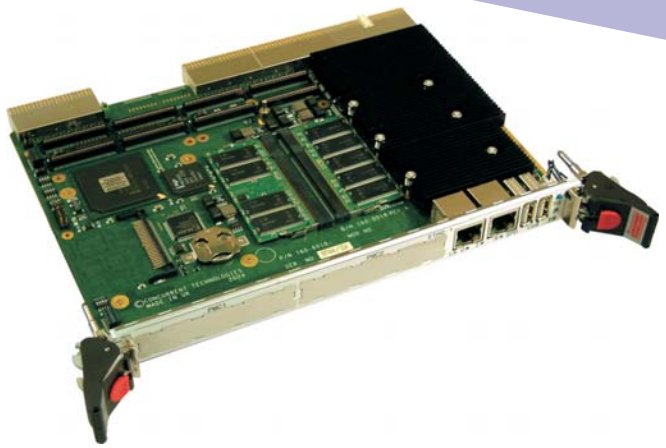
Find the *Concurrent Technologies PP 332/021-12-U* at our website: *Click HERE*

CompactPCI

PP 332/02x-U

N, E, K - Series

Intel® Pentium® M Processor Intelligent Dual PMC Carrier



RoHS 2002/95/EC

APPLICATIONS

The PP 332/02x-U is an entry-level PC-compatible, low power, high functionality, dual PMC CompactPCI® board. Supporting either the 1.8 GHz Intel® Pentium® M processor 745 or the 1.4 GHz Intel® Pentium® M processor Low Voltage 738, the PP 332/02x-U will operate in a system slot or independently from the CompactPCI bus. High-performance networking is provided by four Gigabit Ethernet links, and the board is compliant to the PICMG® 2.16 specification. Full system monitoring is provided by the PICMG 2.9 compliant IPMI interface. To simplify the board's integration many popular industry standard operating systems are supported. The PP 332/02x-U is suitable for a range of applications within the industrial control, telecomms, telemetry, scientific and aerospace markets. The PP 332/02x-U is the RoHS compliant version of the PP 332/02x family.

HIGHLIGHTS

- 1.8 GHz or 1.4 GHz Intel Pentium M processor:
  - 64 Kbytes L1 cache
  - 2 Mbytes L2 cache
  - no CPU fan needed; low power processor
- 1.6 GHz processor version (1 Mbyte L2 cache) available; see PP 330/02x-U datasheet
- Single slot (for all option combinations)
- Up to 2 Gbytes of 333 MHz DDR DRAM (with ECC)
- 2 x PMC module interfaces (32/64-bit at 33/66 MHz)
- High performance EIDE interfaces with optional on-board disk drive or optional CompactFlash™/Microdrive™ interface (in a single-slot)
- 4 x 10/100/1000Mbps Ethernet interfaces:
  - 2 via front panel
  - 2 via rear panel
- Dual Gigabit Packet Switched Backplane (PICMG 2.16)
- CompactPCI controller:
  - operates in system slot or peripheral slot
  - 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)
- 3 x USB 2.0 interfaces:
  - 2 via front panel
  - 1 via rear panel
- Up to 3 x RS232 serial channel interfaces:
  - 1 on-board
  - 2 on optional Transition Module
- Watchdog timer
- Extended temperature version available:
  - -25°C to +70°C (E-Series)
  - -40°C to +85°C (K-Series, includes humidity sealant)
  - supporting 1.4 GHz processor
- Support for VxWorks®, Windows® 2000, Windows® XP, Windows® XP Embedded, QNX® and Linux®
- Optional Transition Module for rear panel I/O:
  - 2 x RS232 channels, parallel printer port and floppy disk interfaces included

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Specification

Central Processor

- Two processor versions available
- 1.8 GHz Intel® Pentium® M processor 745:-
  - ➔ uses µFC-PGA 478 (micro Flip-Chip Pin Grid Array) package
- 1.4 GHz Intel® Pentium® M processor Low Voltage 738:-
  - ➔ uses µFC-BGA 479 (micro Flip-Chip Ball Grid Array) package
- Common processor features are:-
  - ➔ 64 Kbytes of primary (L1) on-die cache
  - ➔ 2 Mbytes of secondary (L2) on-die cache
  - ➔ 400 MHz Front Side Bus (FSB)
  - ➔ no CPU fan
- 1.6 GHz processor version (1 Mbyte L2 cache) available; see PP 330/02x-U datasheet
- utilizes 64-bit Intel® 855GME chipset:-
  - ➔ supports 400 MHz bus frequency
  - ➔ uses Intel® 6300ESB I/O Controller Hub
- provision for ITP debug port

DRAM

- supporting up to 2 Gbytes 333 MHz DDR ECC SDRAM:-
  - ➔ up to 2 Gbytes provided via two SODIMM sockets
  - ➔ single bit error correction
- accessible from Intel Pentium M processor or CompactPCI bus

Hard Disk Interfaces

- EIDE interface:-
  - ➔ supports up to Ultra-DMA 100 for high performance drives
  - ➔ two channels (primary and secondary)
  - ➔ secondary channel supports on-board CompactFlash site
  - ➔ secondary channel can be used for on-board 2.5 inch disk drive (within a single slot); or, support for 1 or 2 CompactFlash or Microdrive™ Type II drives (in a single slot)
  - ➔ primary channel is accessible via Transition Module
  - ➔ on-board options use a PMC site

Ethernet Interfaces

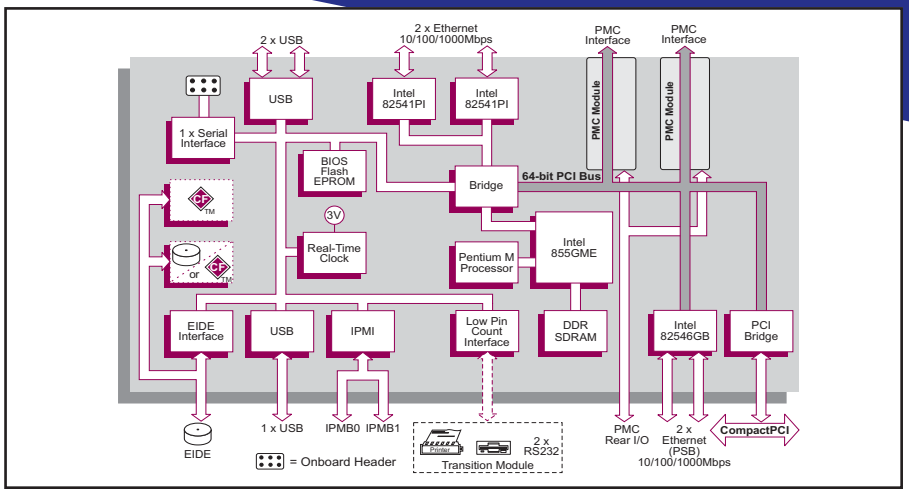
- 4 x channels supporting 10 Base-T, 100 Base-TX, 1000 Base-T:-
  - ➔ front panel implemented by 2 x Intel® 82541PI via 32-bit 33MHz PCI bus
  - ➔ rear panel implemented by Intel® 82546GB via 64-bit 33/66 MHz PCI bus
- 2 x channels accessed via J3 and 2 x channels via front panel RJ45 connectors:-
  - ➔ support for rear panel RJ45 connectors via Transition Module
- support for PICMG 2.16 R1.0 - Packet Switched Backplane (PSB)

PMC Interfaces

- 2 x PMC sites; for both sites:-
  - ➔ I/O via front panel
  - ➔ I/O via J3 and J5
  - ➔ 32/64-bit, 33/66 MHz PCI operation
  - ➔ 3.3V signaling levels
- Transition Module provides rear I/O for both PMC sites

Flash EPROM

- 1 Mbyte of BIOS Flash EPROM



Firmware Support

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

Software Support

- support for Windows 2000, Windows XP, Windows XP Embedded, VxWorks, QNX and Linux

Serial Interfaces

- up to 3 x RS232 serial channels:-
  - ➔ 1 channel via an onboard header (serial cable supplied)
  - ➔ 2 channels via optional Transition Module
- 16550 compatible UARTs
- supports RI, CTS, RTS, DSR, DTR and DCD

Other Peripheral Interfaces

- PC-compatible Real Time Clock (Year 2000 compliant)
- watchdog timer
- system fan monitor; CPU temperature monitor; voltages monitor:-
  - ➔ all accessible via IPMI
- legacy speaker interface
- 3 x USB (Universal Serial Bus 2.0) interfaces:-
  - ➔ 2 via front panel
  - ➔ 1 via J5 Transition Module
- LPC (Low Pin Count) bus via J5 to enable AD PP5/001-U Transition Module to support:-
  - ➔ floppy disk interface
  - ➔ parallel printer port interface (ECP, EPP and IEEE1284)

CompactPCI Interface

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

IPMI

- PICMG 2.9 R1.0 (System Management Specification):-
  - ➔ implements the IPMB0 interface
  - ➔ implements an IPMB1 interface
- on-board Baseboard Management Controller
- supports 8 Kbytes of non-volatile memory

Electrical Specification

- +5V@3.5A (typical at 1.8 GHz with 1 Gbyte DRAM); +5% / -3%
- +3.3V@2.0A; +5% / -3%
- +12V@0.05A; -12V@0.05A
- +12V and -12V routed to PMC slots

Safety

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

Environmental Specification

- operating temperatures:-
  - ➔ 0°C to +55°C (N-Series: 1.8 GHz, 1.4 GHz)
  - ➔ -25°C to +70°C (E-Series: 1.4 GHz)
  - ➔ -40°C to +85°C (K-Series: 1.4 GHz)
- 10% to 90% Relative Humidity, non-condensing (operating):-
  - ➔ K-Series includes humidity sealant
- -40°C to +85°C (storage)
- 10% to 90% Relative Humidity, non-condensing (storage)

Mechanical Specification

- 6U form-factor: 9.2 inches x 6.3 inches (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)
PP 332/020-xyU	1.4 GHz Pentium M processor Low Voltage 738
PP 332/021-xyU	1.8 GHz Pentium M processor 745
AD PP5/001-zzU	Transition Module
AD 200/001-01	CompactFlash/Microdrive carrier assembly
AD CP1/DR1-z2	2.5 inch Hard Disk Drive assembly
AD HSC/001-04	Board Hot Swap cover (rear mounting)

Replace the order number suffix (xy) with selections from the following:

where x =
1 - Ethernet via rear panel
2 - Ethernet via PICMG 2.16

where y =
1 - reserved
2 - 1 Gbyte
3 - reserved
4 - 2 Gbytes

For extended temperature, 1.4 GHz E or K-Series (RoHS compliant), please contact your local sales office
For z options please contact your local sales office

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Specification subject to change; E and OE. RoHS 2002/95/EC compliant.

Datasheet Code 1506/0906
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