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Find the *Kontron / PEP CP302* at our website: *Click HERE*

CP302

Mobile Pentium® III 3U CompactPCI CPU

Powered by Intel®'s latest Mobile Pentium® III processor, the CP302 combines outstanding performance with a rugged design for harsh operational environments and comes complete with full PC functionality.



Features include:

- Intel® Mobile Pentium® III / BGA 400/500/700 MHz
- System Master and Peripheral Master CPU versions
- Shock / Vibration and extended temperature resistant
- Up to 384 MByte SDRAM
- 64-bit CompactPCI interface
- Peripheral Hot Swap support
- Fast Ethernet
- On-board high resolution AGP/VGA
- Ultra/DMA IDE and standard PC interfaces
- PMC extension
- Optional Rear I/O support
- BIOS with LAN Boot feature

kontron

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CPU doubles as system master and peripheral master with front or rear I/O.

The CP302 features innovative technology in a robust design which incorporates a passive cooling solution for the Mobile Pentium® III processor together with soldered SDRAM supporting ECC, making it ideally suited for harsh and rugged embedded PC applications in industrial environments.

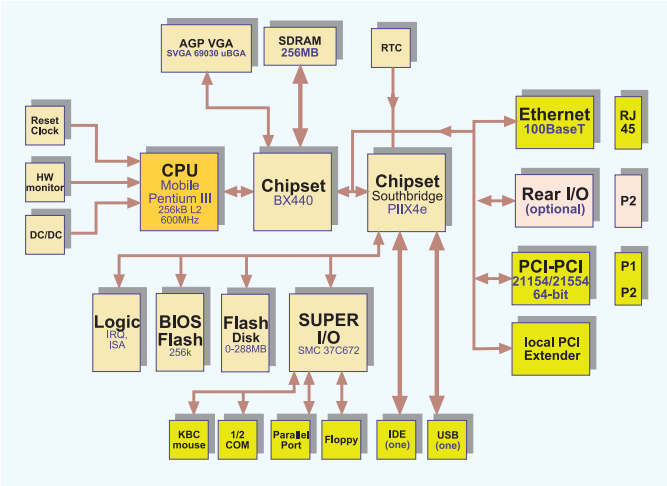
The CompactPCI revision 3.0 compliant CP302 features the very latest Mobile Pentium® III chip in 0.18 micron technology with a 256 kByte on-die full speed L2 cache and the new Advanced Transfer Cache technology boosting performance by up to 25% at the same clock speed over previous Pentium®III processors.

By using the Mobile Pentium the CP302 offers significant benefits for demanding industrial applications by combining outstanding performance with embedded technology:

- thin chip profile enabling passive cooling on 4 HP
- a case temperature of 100 °C allowing operation at extended temperature range
- reduced power consumption by operating at 1.35V.

In addition to the standard PC interfaces such as PS/2 keyboard / mouse, LPT, EIDE, floppy disk and two COM interfaces, the CPU also offers a 64-bit AGP video controller with a maximum resolution of 1600x1200 pixels, plus a USB and 10/100Base-TX Ethernet interface. Offering the full range of features, the CP302 provides all the functionality of a standard PC and is compatible with off-the-shelf operating systems.

The modular and scalable design of the CP302 permits it to be used as a single slot solution occupying only one CompactPCI slot and thus achieving the highest functionality for space-limited applications. In addition various 8HP/12HP versions with different I/O connection possibilities to maximize the adaptability of the CP302 to user requirements are available.



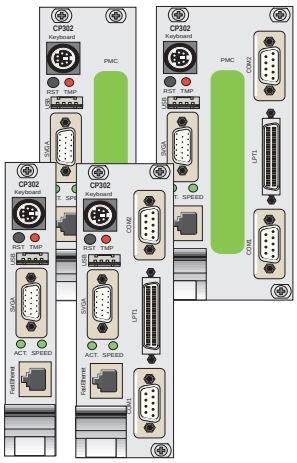
An optional flash-disk module available either as a DiskOnChip flash or as an EIDE-compatible flash module meets the need for use in harsh operating conditions. Optionally, the CPU can also be ordered with an IDE-compatible hard disk or Flash module.

The connections for peripherals are optionally available in the form of rear I/O at the back, thus simplifying the system cabling. Two rear I/O modules 4HP and 8HP are available.

The CP302 is also available as a peripheral master in order to maximize the number of independent CPU´s that may be added in peripheral slots. A non-transparent PCI-PCI bridge isolates the CP302-PM in respect to addressing and configuration from the system master CPU.

A TCP/IP connection through the CPCI bus can be provided by means of the multiprocessing software RackNET from KONTRON.

CP302 - Front Panel

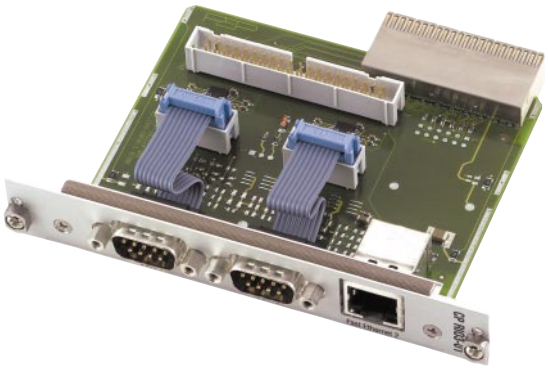


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CP302 - Ordering Information

Product	Description	Order No.
CP302-BASE 1)	Mobile Pentium® III 500MHz, 128MByte SDRAM	**21944**
CP302-BASE-E2 1)	Mobile Pentium® III 400MHz, 128MByte SDRAM, –40/+85°C	**22254**
CP302-BRIO 1)	Mobile Pentium® III 500MHz, 128MByte SDRAM, Rear I/O	**21962**
CP302-BRIO-E2 1)	Mobile Pentium® III 400MHz, 128MByte SDRAM, Rear I/O, –40/+85°C	**22262**
CP302-EXT-STD	4HP front panel extension module (Ethernet, VGA, USB, PS/2, Reset, LED's)	**21577**
CP302-EXT-IOIDE	8HP (additional to 4HP COM1/2, LPT1; 2.5" hard disk or ATA flash possible)	**22129**
CP302-EXT-PMC	8HP (additional to 4HP PMC slot 32bit PCI)	**21362**
CP302-EXT-PMCIO	12HP (additional to 4HP COM1/2, LPT1, PMC slot 32bit PCI)	**21580**
CP302-PM 1)	Mobile Pentium® III 500MHz, 128MByte SDRAM	**22539**
CP302-PM-E2 1)	Mobile Pentium® III 400MHz, 128MByte SDRAM, –40/+85°C	**22556**
CP302-PM-EXT-STD	4HP front panel extension module for PM (Ethernet, VGA, USB, PS/2, Reset, LED's)	**22222**
CP-RIO3-01	4HP rear I/O module (Ethernet, COM1/2, onboard IDE connector)	**21971**
CP-RIO3-01	8HP rear I/O module (additional to 4HP VGA, USB1/2, PS/2, LED)	**21972**
DMSO-64	SODIMM, 64MByte SDRAM 144pin PC100	**21102**
DMSO-128	SODIMM 128MByte SDRAM 144pin PC100	**21337**
DMSO-256	SODIMM 256MByte SDRAM 144pin PC100	**21338**
FLD-48 2)	48 MByte DiskOnChip™	**19646**
FLD-72 2)	72 MByte DiskOnChip™	**19369**
FLD-96 2)	96 MByte DiskOnChip™	**22146**
CP-HDD-2.5-IDE	Notebook-style 2.5" Hard disk 10GB or higher for board mounting	**22531**
CP-FLD-2.5-IDE	Notebook-style 2.5" Flash module 128MB or higher for board mounting	**22545**
CP-ADAP-PS2-YCABLE	Y–cable, PS/2 mouse/keyboard adapter	**18803**
CP-ADAP-FD	Floppy adapter for connection to standard floppy interface if 4HP front panel	**20536**
WNT-RACKNET 2)	TCP/IP multiprocessing communication on PCI bus for Windows NT	**20284**
KIT-CP302	Drivers, Windows NT setup utilities, user's manual in PDF format on 3.5" floppy disk	**20314**
VXW-BSP-CP302	VxWorks Board Support Package for use with Tornado on 3.5" floppy disk	**20534**

Note: 1) A front panel extension module needs to be ordered in conjunction with a BASE, BRIO or PM board. Users of the 4HP version will require the adapter cable CP-ADAP-FD to connect a FDD to the onboard high density connector. Other configuration options for volume orders are available on request.
2) Others on request.





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CP302 - Technical Specifications

Processor
- Pentium®III, BGA, Intel® embedded low power line 400MHz low power dissipation, ext. temperature range 500MHz high performance (faster when available)
- 256 kByte full speed L2 on-die cache, Intel 440BX

Memory
- 100 MHz system memory bus
- 64 MByte up to 128 MByte soldered SDRAM with ECC
- 64 MByte up to 256 MByte by 144-pin SODIMM
- DIL socket for Flash / SRAM, up to 512 kB
- optional DiskOnChip™ module up to 96 MByte

I/O
- SMSC FDC37C672 providing the following functions:
  - Two 16C550 compatible UARTs
  - Keyboard and mouse interface
  - Floppy disk controller up to 2.88 MB
  - Parallel port ECP/EPP compatible
- One USB interface
- Two EIDE interfaces, one on-onboard, 2nd via rear I/O

AGP/VGA Video Controller
- Controller: C&T 69030 with 4MB VRAM
- Resolution: up to 1600u1200u16 @ 60Hz
- Flat panel interface on 8HP-I/O solution via pin row connector.

Ethernet Interface
- Intel® 82559, 100Base-TX, UTP CAT-5

Front Panel Functions
4HP
- Keyboard/Mouse: PS/2 6-pin mini-DIN
- Ethernet: RJ-45
- VGA: 15-pin D-Sub SVGA connector
- USB: 4-pin connector
- LEDs: ACT, SPEED (LAN), TMP Thermal
- Reset: Reset button, guarded

8HP-IO
- COM1/2: 9-pin D-Sub (RS232, RS422, RS485)
- LPT: 26-pin high density D-Sub
- Optional with 2.5" EIDE Flash Disk or Hard Disk
- 8HP-PMC: Cut out for PMC front panel
- 12HP: All I/O´s and PMC (no 2.5" IDE drive possible)

On-board Interfaces
- One IDE connector supporting Ultra DMA
- One floppy disk connector (up to 2.88 MByte); 4HP with high density connector (adapter required)

CompactPCI Bus Interface
- PICMG 2.0 Rev. 3.0 compatible, universal signaling
- 64-bit/33 MHz (Rear I/O version 32-bit/33 MHz)
- Access to additional 7 CPCI slots 32-bit/33 MHz (8HP)

Supervisory Functions
- Watchdog, software configurable, 125 msec to 256 sec generates IRQ, SMI or hardware reset
- Hardware monitor for thermal control and onboard voltages (3.3/5.0V)

Clock/Calendar
- RTC and CMOS RAM with backup, battery replaceable

Rear I/O via J2/P2
- 4HP module: Ethernet ,COM1/2, 2nd EIDE
- Additional on 8HP: Mouse / Keyboard, 2uUSB, VGA, (CP302 rear I/O version with 32-bit/33 MHz CPCI)

Hot-Swap
- Support for all signals to allow peripheral boards to be hot swapped. The individual clocks for each slot and access to the backplane ENUM# signal comply with the PICMG 2.1 Hot-Swap specification.

General
Dimensions:	100 mmu160 mm, 4HP, 8HP, 12HP
Weight:	300 g
MTBF:	101.000 h

Software Support
- 256 KByte Flash containing Award BIOS with POST codes, setup console redirection to serial port (VT100 mode) with CMOS setup access, BIOS parameters saved in EEPROM, diskless, keyboardless, videoless operation
- Support for Windows® NT /NTE, VxWorks®,QNX®.

Power Consumption
- +5V/4.5W, +3.3V/9W typ. At 400MHz/64MB
- +/–12V (connected to PMC)

Environmental
Operating temp.:	0 °C to +60 °C standard –25 °C to +75 °C E1 (optional) –40 °C to +85 °C E2 (optional)
Storage temp.:	–55 °C to +95 °C
Operating humidity:	0% to 95% non-condensing
Altitude:	50,000 ft. (15,240 m)

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