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Find the *Kontron CP303* at our website: ***Click HERE***

CP303 / CP303-V

3U Mobile Pentium® III / Celeron® CPU



- Pentium® III processors up to 800 MHz and 512KB L2 cache
- CP303: Extended temperature and shock/vibration resistant
- CP303-V: Optimized design for cost sensitive applications

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Multi-controller CPU

Robust design

Kontron's CompactPCI CP303 CPU represents a major advance in high end industrial PC integration.

The CP303 3U CompactPCI system controller board combines the performance of Intel's Mobile Pentium® III processor with the high integration of the 815E chipset and the I/O Controller Hub 2.

Computing performance

The low voltage Pentium® III processors offers the same performance like the desktop version, but dissipates only half of the thermal. Its ability to go up to higher ambient temperatures makes it possible to reach extended temperature ranges and together with its directly soldered BGA package it enables sufficient space for a passive heatsink.

Graphic performance

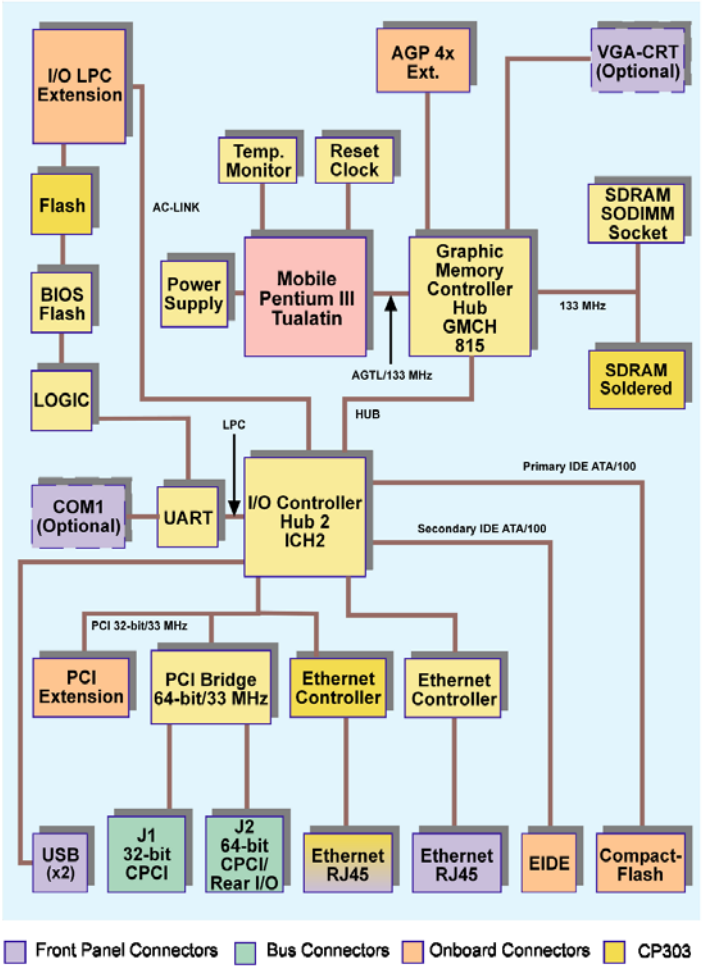
The 4HP board supplies the 815E integrated graphics accelerator with dynamic memory video technology.

CP303: Shock resistance

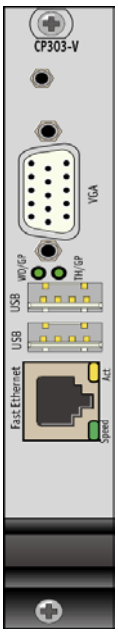
The direct soldered processor and memory provide a higher shock/vibration-resistance than socket devices can.

CP303-V: The value line

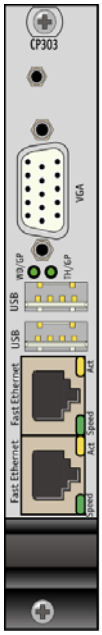
Selecting value oriented components the CP303-V is tailored for cost-sensitive applications without compromising on the processor performance. An Ethernet channel integrated in the I/O controller hub, graphic support coming along with the chipset, memory as a pure socket version enables a compact design giving all the advantages of a low power solution.

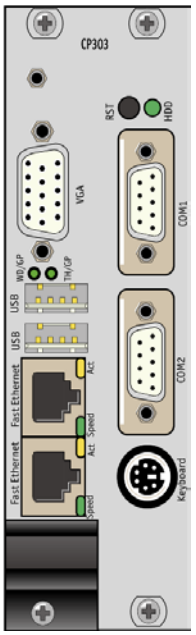


CP303-V



CP303





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Technical Specification

Processor

Mobile low voltage Pentium® III, Micro-FCBGA 478, 512KByte full speed L2 on-die cache. Based on the 0.13u silicon process with 1.15V core voltage (or even 0.95V for the ULV version) resulting in lower power dissipation.
All processor versions with passive heat sink

CP303:
- 800MHz LV low power dissipation

CP303-V:
- 400MHz ULV Celeron ultra low power dissipation

Depending on processor version forced air cooling at a specific flow rate might be required in the chassis.

Memory

133 MHz processor side bus, Intel® 82815 GMCH

CP303:	256MByte soldered SDRAM (no ECC)
	256MByte SDRAM via 144-pin SODIMM
	1MB Firmware Hub for general purpose
CP303-V:	up to max. 512MByte SDRAM via 144-pin SODIMM

Optional CompactFlash socket type II or onboard 2.5" HDD mounting
1MB Firmware Hub (FWH) for BIOS
256 Byte EEPROM for CMOS data storing (no battery operation)
256 Byte EEPROM for user purpose

Connectivity

CP303 and CP303-V:
Intel® 82801 ICH2 providing the following functions:
- 10/100Base-TX Ethernet controller
- Two EIDE interfaces, Ultra ATA 100, 100MB/sec
- Two USB controllers, 4 ports, USB1.1 compliant

UART with two 16C550 compatible RS232 ports

CP303:
Intel® 82559 based 10/100Base-TX Ethernet controller

4HP:	82815 GMCH providing 2D/3D graphics accelerator, 1280x1024x16/75Hz or 1200x1600x256/60Hz analog and digital output
8HP IOIDE:	IDE, Floppy, LPT port as onboard pin row
	Onboard 2.5" EIDE Flash Disk or HDD mounting option
	PS/2 for keyboard and mouse legacy support
	Additional 2 COM ports (front IO), 4 COM ports in total

Front Panel Functions

4HP with CP303:

Ethernet:	Two RJ-45 with integrated LEDs (ACT, SPEED)
Top connector:	VGA-CRT 15-pin D-Sub SVGA connector
USB:	Two 4-pin connectors
LEDs:	ACT, SPEED (LAN), Thermal, Watchdog or both general purpose

4HP with CP303-V:

Ethernet:	One RJ-45 with integrated LEDs (ACT, SPEED)
Top connector:	VGA-CRT 15-pin D-Sub SVGA connector
USB:	Two 4-pin connectors
LEDs:	ACT, SPEED (LAN), Thermal, Watchdog or both general purpose

8HP-IOIDE (in addition to 4HP):

COM1/2:	9-pin D-Sub (RS232/422/485 jumper selectable)
Keyboard/Mouse:	PS/2
Reset:	Reset button, guarded
LED:	HDD active

On-board inter-module interfaces

AGP, PCI and LPC (Low Pin Count - the ISAbus replacement) build the connection between the basic CPU board with any I/O extension module, resulting in a double slot (8HP) solution.

Rear I/O via J2

The Rear I/O versions support:
- 32-bit/33 MHz CompactPCI interface
- Two USB ports
- Two COM ports (TTL level)
- CRT VGA port
- One fan control input
- One general purpose output
- Input for external backup battery

CP303:
- Two Ethernet ports without LED

CP303-V:
- One Ethernet port without LED

CompactPCI Bus Interface

PICMG 2.0 Rev. 3.0 compatible, 64-bit/33MHz System master
5V VI/O (3.3V on request), 7 Req/Gnt & clock lines
Version with rear I/O on J2 PICMG 2.0

Supervisory Functions, Clock/Calendar

Watchdog, software configurable, 125 msec to 256 sec. generates IRQ, NMI or hardware reset, two stage configuration for NMI and Reset
Hardware monitor LM81 for thermal control, fan speed and all onboard voltages
Processor temperature monitoring MAX1617 (on-die and board)
RTC and CMOS RAM with backup, battery replaceable

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.

Compliancy

CompactPCI Core Specification PICMG 2.0 Rev. 3.0
CompactPCI Hot Swap Specification PICMG 2.1 R2.0
Designed to meet or exceed:

Safety:	UL 1950, CSA 22.2 No 950, EN 60950, IEC 950
EMI/EMC:	EN 55022 / EN 55024, EN 50081-1 / EN 6100-6-2

General

Dimensions:	100mm x 160mm, Jumperless design
Weight:	300g / 4HP
MTBF:	101,000 h

Software Support

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. LAN boot support.
Board identification number accessible via EEPROM
Support for Windows® 2000, XP, Linux®, VxWorks®

Power Consumption

+5V/4W, +3.3V/6W, max. 10W at 400MHz
+5V/8W, +3.3V/6W, max. 14W at 800MHz

Environmental

Operating temp.:	0°C to +60°C standard
	-40°C to +85°C E2 (optional)
Storage temp.:	-55°C to +95°C
Climatic Humidity:	non condensing 93% at 40°C (acc. to IEC 60068-2-78)
Altitude:	50,000 ft. (15,240 m)

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Ordering Information

Product	Description	Order-No.
	CPU Baseboard	
CP303 [1]	LV Mobile Pentium® III-M 800MHz, 512KByte L2 cache, 256MByte SDRAM soldered	23694
CP303-V [1]	ULV Celeron 400MHz, 256KByte L2 cache, 144-pin SODIMM socket	27873
	Frontpanel	
CP303-EXT-CRT	4HP front panel extension module for CP303 (2x Ethernet, 2x USB, LED's, VGA)	23704
CP303-EXT-IOIDE	8HP for CP303 (additional to 4HP COM1/2, PS/2, Reset button, Floppy port, parallel port)	23707
CP303-V-EXT-CRT	4HP front panel extension module for CP303-V (1x Ethernet, 2x USB, LED's, VGA)	28215
CP303-V-EXT-IOIDE	8HP for CP303-V (additional to 4HP COM1/2, PS/2, Reset button, Floppy port, parallel port)	28217
	Memory	
DMSO-128	SODIMM 128MByte SDRAM 144-pin PC133	24050
DMSO-256	SODIMM 256MByte SDRAM 144-pin PC133	23362
DMSO-512	SODIMM 512MByte SDRAM 144-pin PC133	23810
CFxxx	CompactFlash in various memory sizes available	various
CP-HDD-2.5-IDE	Notebook-style 2.5" Hard disk 40GB or higher for board mounting	22531
CP-ADAP-ATA100	IDE cable for ATA 100 (40 pin connector with 80 lines, 3x40 pin connectors, length 0.6m)	23671
KIT-CP303 [2]	Board Support Packages for Windows 2000 and XP, CP303 / CP303-V User's Manual	23702
LIN-BSP-CP303 [2]	Linux Board Support Package, CP303 / CP303-V User's Manual	25491
VXW-BSP-CP303	VxWorks 5.5 Board Support Package, CP303 / CP303-V User's Manual	23703
Note:	[1] A front panel extension module must be ordered in conjunction with the basic CPU board. Other configuration options for volume orders are available on request.	
	[2] Free download from http:// www.kontron.com	

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