CPC501

Fastwel
Creating the Future!

6U CompactPCI Pentium® M SBC

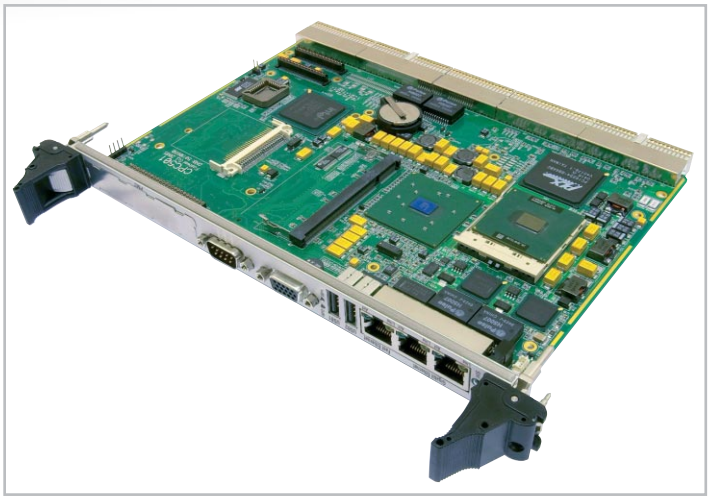
PICMG 2.16 | Gbit Ethernet | -40°C +85°C

- Intel® Pentium® M processor up to 1.8 GHz
- High performance and reliability
- Outstanding communication capabilities
- Packet switching support
- Industrial and commercial temperature ranges
- Fanless operation available

Best solutions to fit your demands!

http://www.fastwel.com

CPC501
6U CompactPCI Pentium® M SBC



Features

- Intel® Pentium® M processor up to 1.8 GHz
- Two Gigabit and one Fast Ethernet ports
- PICMG 2.16 and PICMG 2.1 compliant
- Integrated VGA graphics
- Onboard PMC or 2.5" HDD
- System and peripheral slot compliance
- Wide range of interfaces on and rear i/o modules
- Operating temperature:
  0°C to +70°C — commercial
  –40°C to +85°C — industrial

Overview

CPC501 is a high performance 6U CompactPCI CPU card designed for various applications such as telecom, factory automation, transportation, aerospace.

The board is based on Intel® Pentium® M processor up to 1.8 GHz and supports up to 1Gb of DDR SDRAM with ECC.

Intel 855GME/ICH4 chipset incorporates a lot of functions, lowering cost and providing high reliability.

CPC501 has 2 Gigabit Ethernet ports, which can be flexibly configured for front or rear panel, or PICMG 2.16 backplane and one Fast Ethernet port.

The board is fully compatible with PICMG 2.16 and PICMG 2.1 specifications, thus providing capability to build robust redundant systems.

Hardware monitor and watchdog timer makes CPC501 suitable for mission critical applications.

32 MB solid-state disk is soldered onboard, thus providing non-volatile storage for system configurations without removable disks.

There are RS-485 COM-ports for connection to remote equipment.

The board is produced in two versions – for industrial temperature range (–40°C to +85°C) and for commercial temperature range (0°C to +70°C).

Technical Specifications

System
- Intel® Pentium® M processor, up to 1.8 GHz
- Up to 2 MB L2 on-die cache at CPU speed
- 400 MHz processor system bus
- Chipset: 82855GME GMCH & 82801DB ICH4
- Up to 1 GB PC2700 Error Correction Code (ECC) DDR SDRAM (SODIMM) with mechanical latch of memory module
- Hardware monitor
- Programmable watchdog timer
- PICMG 2.16 and PICMG 2.1 compliant
- MTBF: 100000 hours

BIOS
Phoenix® BIOS with backup copy
- LAN Boot
- USB Boot
- Multi Boot
- Quick Boot
- ACPI 3.0
- CMOS Fast recovery subsystem

Graphics
- Video controller integrated in 855GME
- 2D/3D built-in accelerator
- Shared video memory up to 64 MB
- Analog display connector supports resolution up to 2048×1536 @ 75 Hz
- LVDS TFT panels support (available at RIO 581)

Storage
- 32 MB solid-state disk (up to 512 MB upon OEM request) soldered onboard
- CompactFlash™ Type I socket
- Two EIDE Ultra ATA/100 interfaces*
- Floppy disk interface*
- HDD 2.5" onboard site (for CPC501-01 only)

Software support
- Fastwel DOS™ (MS™ DOS compatible)
- Windows® XP
- QNX® 6.4
- Linux® 2.6

Interfaces
- Two Gigabit Ethernet ports 10/100/1000 Mb/s
- One Fast Ethernet port 10/100 Mb/s
- Five USB 2.0 ports*
- Four serial ports. High speed 16C550 compatible (2×RS-232, 2×RS-485)*
- Parallel port: SPP/ECP/EPP compatible*
- PS/2 keyboard and mouse interface*
- PMC interface slot (for CPC501-02 only)
- Rear I/O on J3-J5
- AC'97 2.3 compliant stereo audio**

Conformance
- System/peripheral slot compliance, 3.3/5V tolerant
- System Management PICMG 2.0 R3.0
- Packet Switching Backplane PICMG 2.16 R1.0

Mechanical
- Dimensions: 6U, 4HP (233×160 mm, 9.0"×6.2")
- Weight: 0.725 kg

Power requirements
- 12 V @ 0.1 A
- 5 V @ 6 A (P1.6, 512 MB RAM)
- 3.3 V @ 2 A (for CPC501-01, 512 MB RAM)

Environmental conditions
- Operating temperature:
  –40°C to +85°C — Industrial
  0°C to +70°C — Commercial
- Storage temperature: –55°C to +95°C
- Humidity: 0% to 95%, noncondensing
- Shock/Vibration: 50G/2G

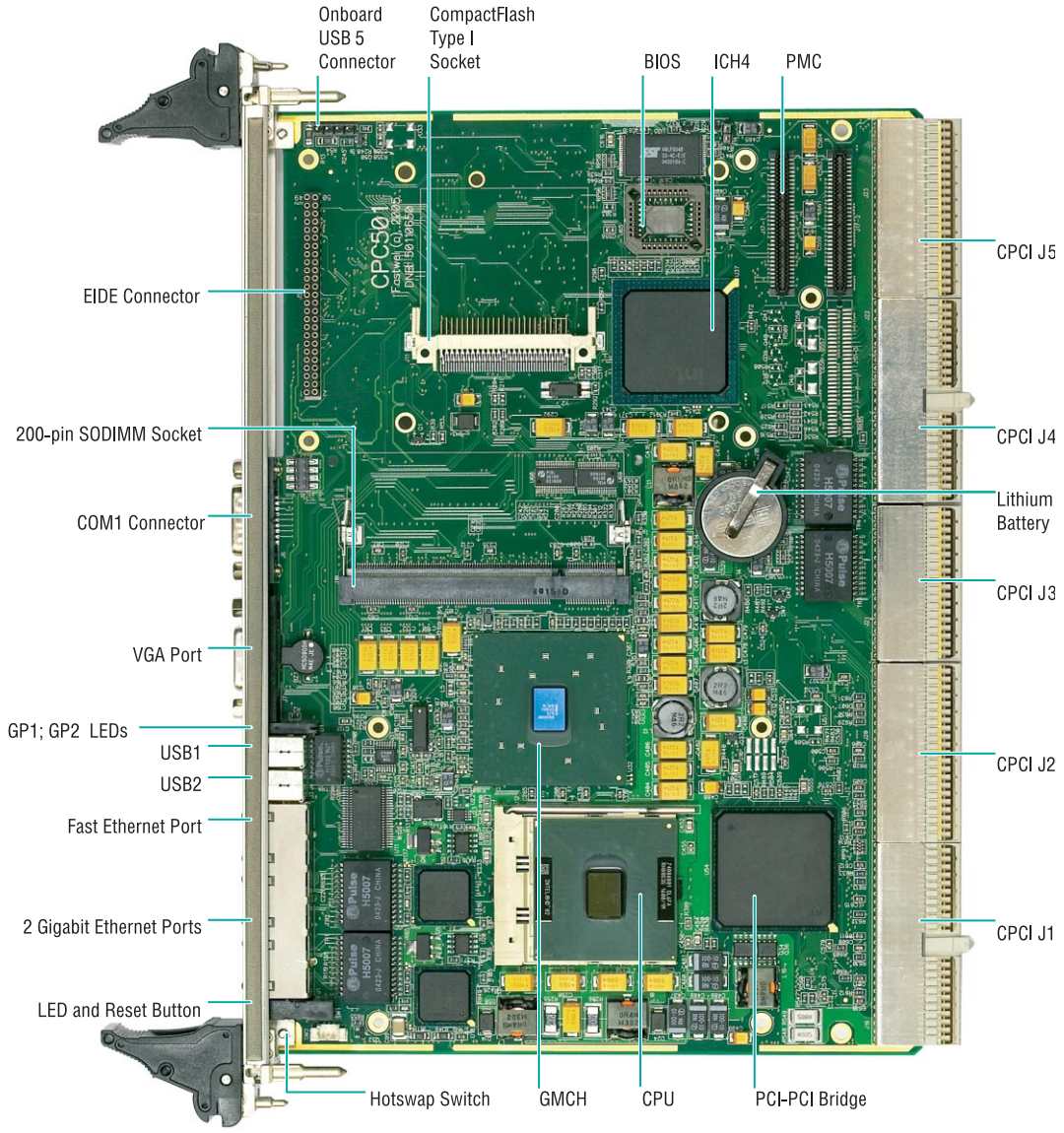
Warranty
- 3 years for parts and labor

List of deliverables
- CPC501 module with radiator installed
- Screws set for HDD installation
- CD-ROM with documentation and service SW

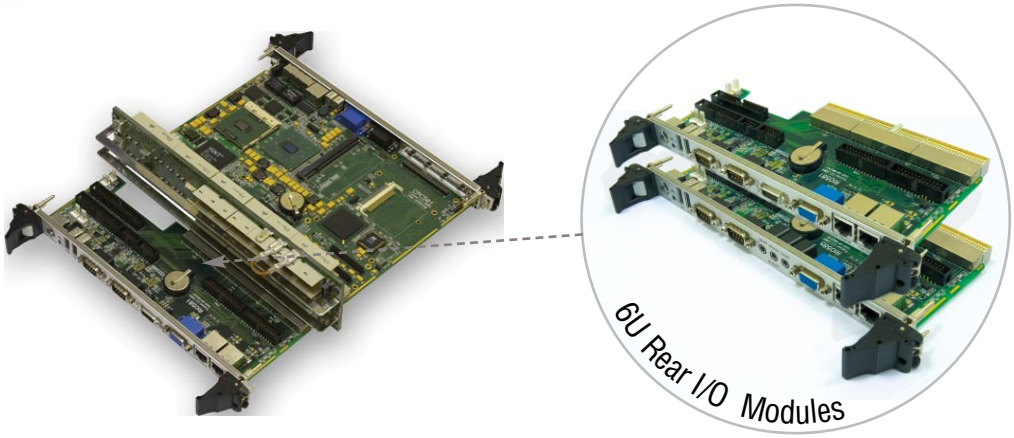
* with RIO 581, 585
** with RIO 585

CPC501
6U CompactPCI Pentium® M SBC

Board Layout

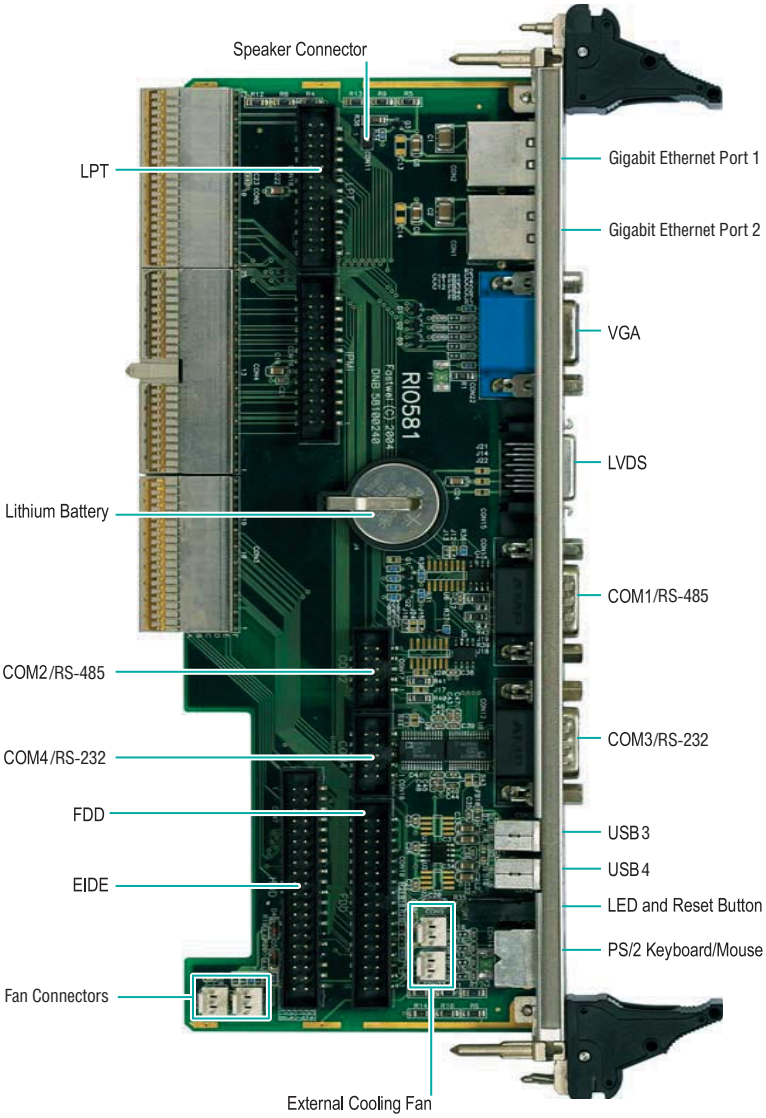


System Expansion Capabilities



The RIO581 or RIO585 Rear I/O modules provide extensive rear I/O functionality for the CPC501. The Rear I/O module is installed from the back of the system chassis.

RIO581 Rear I/O Module



Overview

The RIO581 rear I/O module has been designed for use with the Fastwel CPC501 6U CompactPCI board. This rear I/O module provides comprehensive rear I/O functionality being plugged in from the back of the system into the appropriate backplane connectors in line with the CPU board.
A particular advantage of the rear I/O capability is that there is no or less cabling on the CPU board which makes it much easier to remove the processor board from the subrack.

Interfaces

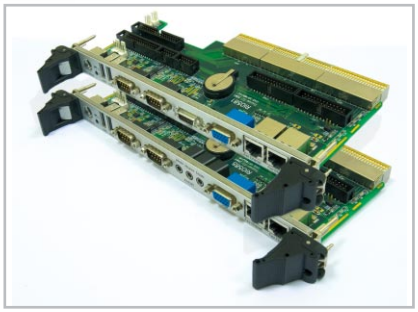
- Two Fast Ethernet ports
- VGA-CRT interface
- VGA-LVDS interface*
- COM1 interface (RS-485)
- COM2 interface (RS-485)
- COM3 interface (RS-232)
- COM4 interface (RS-232)
- Two USB 2.0 ports
- Reset button
- GP programmable LED
- PS/2 Connector
- Floppy disk interface
- EIDE interface
- LPT-Interface
- Three audio connectors**
- Fan power connectors (3-pin)

Mechanical

- Dimensions: 233.35×80 mm
- Weight: 0.260 kg

* RIO 581
** RIO 585

RIO585 Rear I/O Module

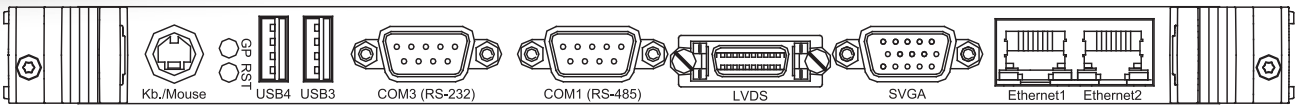


Overview

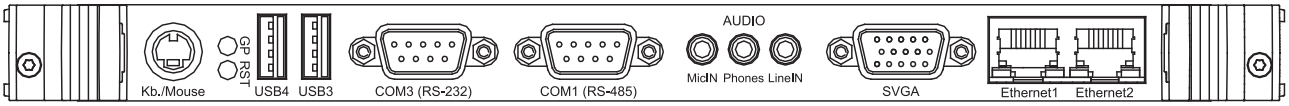
The Rear I/O module can be supplied in two versions: RIO581 and RIO585. The RIO585 Rear I/O module has audio interface (Mic, Phone, Line In) instead of LVDS connector of RIO581 module. All other specifications for these two modules are the same. There is also RIO586 version, with highly reliable IP65 connectors.

CPC501
6U CompactPCI Pentium® M SBC

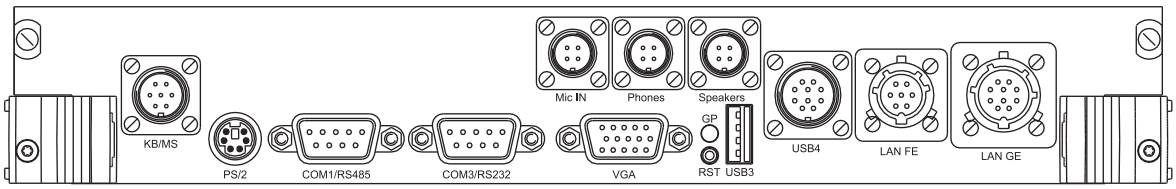
Panel Configurations



RIO581 Rear I/O, 6U 4HP (2 Fast Ehernet, VGA-CRT, VGA-LVDS, COM1 (RS-485), COM2 (RS485), COM3 (RS-232), COM4 (RS-232), 2 USB2.0, Reset button, GP Programmable LED, PS/2, FDD Interface, EIDE Interface, LPT Interface, Fan Power connector)



RIO585 Rear I/O, 6U 4HP (2 Fast Ehernet, VGA-CRT, COM1 (RS-485), COM2 (RS485), COM3 (RS-232), COM4 (RS-232), 2 USB2.0, Reset button, GP Programmable LED, PS/2, FDD Interface, EIDE Interface, LPT Interface, 3 Audio Connectors, Fan Power connector)



RIO586 Rear I/O, 6U, 8HP, analog of RIO585 with increased reliability connectors

Ordering Information

CPC501 Configuration

CPC501 - 01 - P1.8 - I \Options

Device Type

CPC501	6U CompactPCI Pentium® M SBC, DDR, FFD 32 MB, VGA, 2×Gb LAN

Configurations

01	2.5" HDD Site
02	PMC Site

Processor

P1.4	Pentium M 1.4 GHz, 400 MHz FSB
P1.6	Pentium M 1.6 GHz, 400 MHz FSB
P1.8	Pentium M 1.8 GHz, 400 MHz FSB

Temperature Range

I	Industrial Range, –40…+85°C
C	Commercial Range, 0…+70°C

Options

\xxx	Choose available options from the table

CPC501 Available Options

SODIMM Memory Module	
\SODIMM512	512 MB DDR SDRAM SODIMM, industrial range
\SODIMM512C	512 MB DDR SDRAM SODIMM, commercial range
\SODIMM1024	1024 MB DDR SDRAM SODIMM, industrial range
\SODIMM1024C	1024 MB DDR SDRAM SODIMM, commercial range
\SODIMM1024ECC-I	1024 MB DDR SDRAM SODIMM with ECC, industrial range
\SODIMM1024ECC-C	1024 MB DDR SDRAM SODIMM with ECC, commercial range
Compact Flash Module	
\CF1024	1024 MB Compact Flash, industrial (CF1024C – commercial)
\CF2G	2 GB Compact Flash, industrial (CF2GC – commercial)
\CF4G	4 GB Compact Flash, industrial (CF4GC – commercial)
\CF8G	8 GB Compact Flash, industrial (CF8GC – commercial)
\CF16G	16 GB Compact Flash, industrial (CF16GC – commercial)
Coating	
\COATED	Protective Coating
Operating System Presetting	
\FDOS	Fastwel DOS
\XPE	Windows XP Embedded
\QNX	QNX 6.4
\LNX	Linux 2.6

Other configurations and options are available upon request.

Example

CPC501-01-P1.8-C\SODIMM512\CF1024C\HDD20\COATED\XPE

6U CompactPCI Pentium® M SBC, DDR, FFD 32 MB, VGA, 2xGb LAN, 2.5" HDD site
Pentium M 1.8 GHz, 400 MHz FSB
Commercial Range, 0…+70°C
512 MB DDR SDRAM SODIMM, Commercial Range
1024 MB Compact Flash, commercial
HDD 2.5" 20GB
Protective Coating
Windows XP Embedded

CPC501
6U CompactPCI Pentium® M SBC

Applications

Factory Automation

Transportation

Aerospace

Communications

Servers

Power

Corporate Offices

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READY FOR RoHS

PCI INDUSTRIAL PICMG COMPUTERS

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