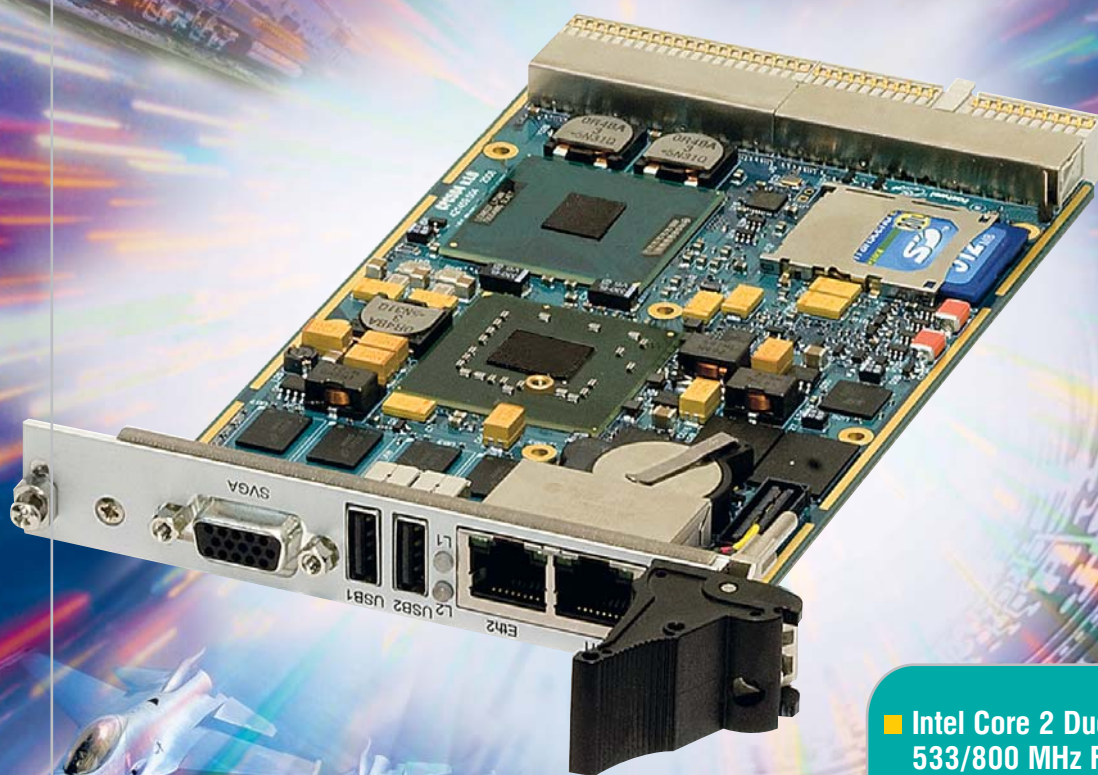
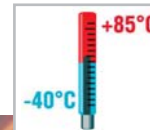


CPC504

Fastwel 
Creating the Future!

Intel® Core™ 2 Duo Based 3U CompactPCI SBC



**Best solutions
to fit your demands!**

- Intel Core 2 Duo (Merom)
533/800 MHz FSB
- Dual Channel DDR II SDRAM
up to 4096 MB (soldered)
- Two PCI-E Gigabit Ethernet controllers
10/100/1000 Mbit/s
- CRT support up to 2048×1536
- VGA and LVDS interfaces
or two DVI-D interfaces
- Wide range of interfaces
via mezzanine modules
- Industrial operating temperature
range: -40°C to +85°C
- Protective coating (option)



Features

- Intel Core 2 Duo (Merom), 533/800 MHz FSB
- Dual Channel DDR II SDRAM up to 4096 MB (soldered)
- Two PCI-E Gigabit Ethernet controllers 10/100/1000 Mbit/s
- CRT support up to 2048×1536
- VGA and LVDS interfaces or two DVI-D interfaces
- Wide range of interfaces via RIO modules
- Industrial operating temperature range: -40°C to +85°C
- Passive cooling version
- Protective coating (option)

Overview

CPC504 is a CompactPCI PICMG 2.0 compliant host processor module based on low power dual-core Intel Core 2 Duo CPUs operating at 1.6 GHz or 2.2 GHz with 4 MB level 2 cache and featuring 800 MHz system bus. The processor executes up to 8 floating point operations per clock cycle and can address up to 4 GB of soldered DDR2 system memory in 64-bit mode.

An increased heatsink for CPU and chipset cooling with effective surface area of up to 682 cm² allows efficient heat dissipation within wide ambient air temperature range.

For high-speed data exchange CPC504 employs two Gigabit Ethernet channels, four x1 PCI Express lanes, and 32-bit PCI bus. The graphics controller of Intel 965GME supports output of two independent video streams to VGA and LVDS interfaces or to two DVI-D interfaces available at MIC588 mezzanine expansion module.

The firmware of CPC504 supports booting from LAN, from the onboard SD cards, from soldered 4 GB flash memory disk, or from SATA II (up to 300 MB/s) and IDE drives located on MIC584 mezzanine expansion module or on a rear I/O module.

The MIC584 mezzanine module supports two SATA II interfaces with option to mount either SATA DOM solid-state modules or one standard 1.8" SATA disk drive. Six COM ports, two USB 2.0, PS/2, and audio interfaces are available via the MIC584 module as well.

CPC504 supports Windows XP/XP Embedded, Linux, and QNX operating systems.

Technical Specifications

System

- CPU: Intel Core 2 Duo (Merom), 4 MB level 2 cache, 533/800 MHz FSB
- Chipset: Intel 965GM+ICH8M
- Soldered Dual Channel DDR II SDRAM up to 4096 MB
- CMOS+SFRAM for configuration parameters storage
- FRAM: 31 KB memory available to user
- Built-in programmable logic: Firmware upgrade capability
- Watchdog timer: programmable timeout period; NMI, IRQ, or Reset signals generation
- MTBF: 100 000 hours

Flash BIOS

- SPI interface, 8 Mbit
- In-system modification

Graphics

- 2D accelerator
- Up to 256 MB memory shared with system
- CRT RGB monitor support, resolution up to 2048×1536, 32 bit at 60 Hz
- Dual SDVO support, front/rear output capability*
- External graphics controller support via x16 PCI-E*
- VGA and LVDS interfaces or two DVI-D interfaces*

Storage

- Secure Digital card socket
- Flash disk: up to 4 GB soldered with IDE interface
- SATA interface: 3 ports, SATA and SATA II support*

Software Support

- FDOS (Fastwel DOS) preinstalled
- QNX 6.3x, QNX 4.25
- Windows 2000, XPe
- Linux

Interfaces

- Ethernet: two PCI-E Gigabit Ethernet controllers, 10/100/1000 Mb/s, front/rear switchable Gigabit Ethernet ports
- 1×4 or 4×1 PCI Express configurable
- USB: 1.1, 2.0 support, up to five devices connection
- Serial ports: available via mezzanine module connectors or at RIO module through LPC interface
- HD (high definition) audio: available via a mezzanine module or at RIO module using HD interface; Line In/Out; Microphone input
- PS/2 port for connecting KB and mouse via rear module
- Real-time clock (RTC): batteryless operation capability (without RTC)
- Self-control and monitoring system
- LED indicators
- Programmable ejector switch

Mechanical

- Dimensions: 100×160×20.32 mm (3.94"×6.3"×0.8")
- Weight: 0.380 kg max

Power Supply Options

- +5 V ±5% and +3.3 V ±5% from CompactPCI connector

Environmental Conditions

- Operating temperature: -40°C to +85°C – Industrial
0°C to +70°C – Commercial
- Storage temperature range: -55°C to +85°C
- Humidity: 0% to 80%, non-condensing
- Shocks/vibration: 50G/5G

Warranty

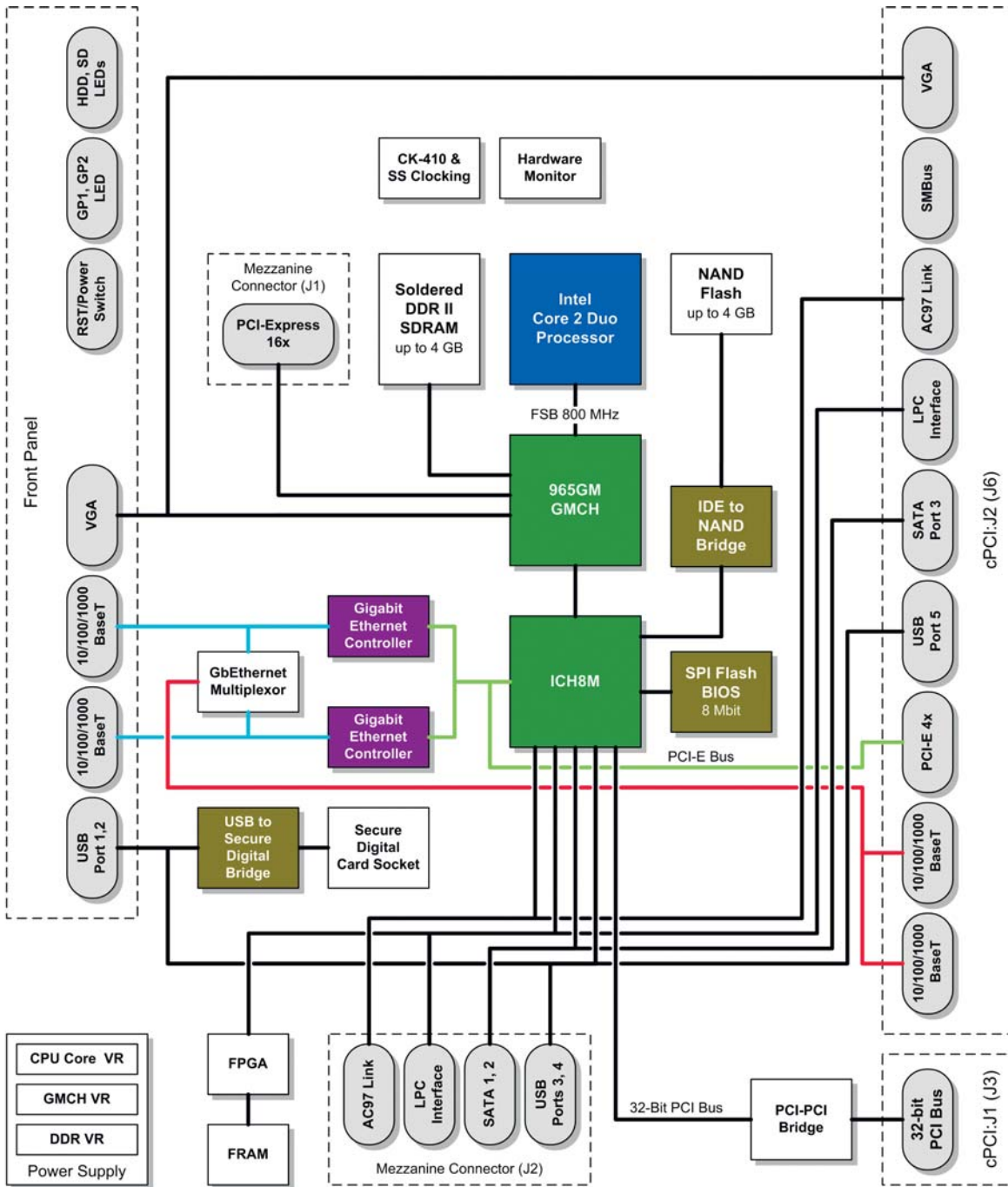
- 3 years for parts and labor

List of Deliverables

- CPC504 module with heatsink installed
- PCI-Express configurator jumpers
- CD with software and documentation
- Package

* available on mezzanine and RIO modules

Block Diagram



Expansion Capabilities

Mezzanine modules for CPC504 expand its functions by carrying the following interfaces:

MIC588:

- SDVO-DVI (165 Mpix/sec, resolution up to UXGA (1600x1200, single channel DVI-D))
- Two DVI-D ports
- Passive cooling

MIC584:

- High definition audio (MicIn, LineIn, LineOut)
- Two USB ports
- Parallel port (IEEE 1284) onboard
- PS/2 interface
- Six COM ports (5 onboard)
- 2xSerialATA onboard
- Passive cooling

CPC504

Intel® Core™ 2 Duo Based 3U CompactPCI SBC

Ordering Information

CPC504 Configuration

CPC504-01 \Options

Device Type

CPC504-01 RAM2048 MB, NAND flash 4096 MB
CPC504-02 RAM2048 MB
CPC504-03 RAM1024 MB

CPC504 Available Options

Coating	
\COATED	Protective Coating
Operating System Presetting	
\QNX	QNX 6.3x, 4.25
\XPE	Windows XP Embedded
\W2K	Windows 2000
\LNX	Linux

Other configurations and options are available upon request.

Example

CPC504-01-\COATED\XPE

3U CompactPCI SBC, Intel Core 2 Duo (Merom), IDE, 2xLAN 10/100/1000 Mbps,
3xSATA, LPT, 5xUSB2.0
Industrial temperature range -40°C to +85°C
Protective coating
Windows XP Embedded

Ver. 0.9 2009

Product specifications are subject to change without notice

Applications



Embedded



Process Control



Avionics



Transportation

Corporate Offices

FASTWEL GROUP Co. Ltd

108 Profsoyuznaya str.
Moscow, Russia 117437
Tel: +7 (495) 232-1681
Fax: +7 (495) 232-1654
E-mail: info@fastwel.com
Web: www.fastwel.com

FASTWEL Corporation US

45 Main Street, Suite 319
Brooklyn, New York 11201
Tel: 1.718.554.3686
Fax: 1.718.797.0600
Toll free: 1.877.787.8443
(1.877.RURUGGED)
E-mail: info@fastwel.com



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