

#### **Features**

Intel IvyBridge processors (2/4 Cores, up to 2,5 GHz)

- Up to 8 GB soldered, dual-channel DDR3 SDRAM with ECC
- 2 DisplayPort up to 2560x1600@60Hz at the front panel, 1 DisplayPort up to 2560x1600@60Hz is routed to the mezzanine module
- 2xGigabit Ethernet ports (front panel)
- 2xUSB 2.0 (front panel)
- Intermodule communication (PICMG CPCI-S.0) CompactPCI<sup>®</sup> Serial): two x8 FatPipe PCI-E 2.0; four x4 PCI-E 2.0; 8 USB2.0 or 4 USB2.0 + 4 USB3.0; 2 SATA II and 2 SATA III
- SD card slot with USB 2.0 interface
- Increased heatsink versions for passive cooling
- Protective coating (optional)
- -40...+85°C or 0...+70°C
- Windows 7 Embedded, Linux 2.6

### **Technical Specification**

#### Intel IvyBridge CPU (2/4 Cores):

- Intel i7-3517UE (DC, 2C/4T, 1,7 GHz, 1600 MHz, 4 MB, 17 W).
- Intel i7-3555LE (DC, 2C/4T, 2,5 GHz, 1600 MHz, 4 MB, 25 W).

#### **Panther Point PCH**

#### **MEMORY:**

DDR3 SDRAM 1333, 1600 Mhz or DDR3L SDRAM 1066, 1333 Mhz with ECC up to 8 GB soldered, dual-channel.

#### Video Output (simultaneous output to 3 monitors):

- Two DisplayPort connectors (resolution up to 2560x1600@60Hz) at the front panel.
- DisplayPort interface (resolution up to 2560x1600@60Hz) is routed to the mezzanine module.

#### LPC Bus:

- To the mezzanine connector. PCI-E Bus
- CPU Hosts. PCI-E 2.0 support (up to 5GT/s).
- Output via the PCI-E switch to J1 and J2 CPCI Serial connectors with support for two x8 FatPipe#1 and FatPipe#2 devices;
- Support for the Non-Transparent mode for FatPipe#1;
- Output via the PCI-E switch to J4 CPCI Serial connector with support for four x4 devices;
- PCH Hosts. PCI-E 2.0 support (up to 5GT/s):
- Output to the mezzanine module on the left; support for 1 x4 or 4 x1 devices;
- MIC590 connection.

### **SMBUS Bus:**

· Compatibility with the 2.0 specification.

### · Speed up to 100 kbps.

### FLASH BIOS:

· 64 Mbit SPI-Flash MicroSD Interface

- · Support for the SDHC 2.0 specification.
- · Connected to a USB 2.0 interface.

#### **SATA II Interface:**

- · One interface is always routed to the mezzanine connector:
  - One interface is switched between J3 CPCI Serial connector and the mezzanine connector:
- Two ports are routed to the J3 CPCI Serial connector.

#### **SATA III Interface:**

- Two interfaces are routed to the J3 CPCI Serial connector.
- Support for RAID 0, 1, 5, 10.

#### 2 ports LAN 10/100/1000 Mbit at PCI-E x4 Gen2:

- · Two interfaces are routed to the XS5 connector at the front panel.
- · Implementation of a server network adapter.

#### **USB ports:**

- 13 USB 1.1 ports (12Mb/sec), USB 2.0 (480Mb/sec) and 4 USB 3.0 ports (4.8Gb/sec).
- Two USB2.0 ports are routed to connectors at the front panel.
- Two USB2.0 ports are routed to the mezzanine connector.
- 8/4 USB2.0 ports are routed to the J3 CPCI Serial connector \*.
- 1 USB2.0 port is used for implementation of the MicroSD interface.
- 4 USB3.0 ports are routed to the J1 and J2 CPCI Serial connectors\*.

#### FRAM Memory:

- · 32 Kbyte, RAM 1 Kbyte for storing settings of the Bios Setup.
- · Implemented on the SPI Bus.

#### **Real time clock (RTC):**

· Power is supplied from a CR 2032 lithium battery (3V).

#### Audio Support:

· HD Audio interface is routed to the mezzanine connector.

#### Watch dog timer:

· Internal with a possibility of programmed control

#### **SGPIO Interface:**

· Support for signaling according to the SFF-8485 Specification.

#### Hardware monitor:

- · Implemented via PECI/SMBUS interfaces.
- · Monitoring of three supply voltages.
- Monitoring of the CPU temperature.
- · Monitoring of the PCB temperature.
- · Monitoring of the RAM temperature.

#### Support for the power source management Indication:

- · Board Startup Diagnostics LED / Hot Swapping Light.SATA/SD Drives Access LED.
- Two software-controlled LEDs (user-defined).
- Temperature state LED.
- PCI Express Interconnections state LED

#### **OS Programming Compatibility:**

- · Windows 7 Embedded.
- Linux 2.6.

#### **Power Requirements:**

• Power voltage +12V, +5V\_STBY (option).

#### **Operating temperature range:**

- Industrial Modification: from -40°C to +85°C.
- Commercial Modification: from 0°C to +70°C.

#### Humidity:

- Up to 80% non-condensing.
- Vibration / Single shock resistance: • 5g/100g.
- MTBF:

• Not less than 100,000 hours.

\* when USB 3.0 is used four USB 2.0 ports are utilized by the USB 3.0 ports

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### **Expansion modules**

# A number of interfaces output from the board may be increased by means of connecting MIC584, KIC550 modules and a MIC590 board

#### **MIC584 module interfaces:**

- 2xUSB 2.0
- 2xSATA
- Audio IN/OUT/MIC
- 4xRS-232
- 2xRS-485
- LPT
- PS/2 keyboard+mouse

### KIC550 module interfaces:

- 1xUSB 2.0
- 1xUSB 2.0/3.0
- 2.5" SATA HDD Interface
- 1x Gigabit Ethernet (optional)

#### MIC590 board (a part of CPC510-02 module) contains the following set of interfaces:

- Video Output:
- DisplayPort connector (resolution up to 2560x1600@60Hz) at the front panel.

- Dual channel LVDS Interface (25 MHz-112 MHz, up to 224 Mpixel/sec) is switched between a connector at the board and via a RIO backplane.
- Support for a TFT panel power management with a 3.3V power voltage and illumination circuits with a 5 V or a 12 V power voltage.
- CompactPCI Bus
  - 32-bits, clock frequency of 33/66 MHz
  - Operation mode System Master, support for up to seven Bus Mastering devices
  - Support for the PCI Local Bus Rev. 3.0 Specification
- 3.3V and 5V VIO Support
- PCI Express Bus
- 3 ports x1 (a through route for the PCI Express PCH ports of the CPC510 module)
- Complies with the PCI Express 1.0a Specification.
- Complies with the PICMG 2.30 Compact PCI PlusIO Specification.
- Allows for a module binding CPC510+MIC590 installation into a hybrid backplane, complies

with the PICMG 2.30 specification. A simultaneous support for four Legacy CompactPCI peripheral devices and for three Compact PCI Serial peripheral devices is provided with that. Though SATA and USB interconnects, which are parts of the PICMG 2.30 Specification, are not available.

- Power Source:
- The MIC590 module power consumption is 2 W without consumption of the TFT panel and the illumination invertor
- The maximum power consumption of a TFT panel connected to the MIC590 module is 6
  W, and that of the illumination circuits is 10 W (for Upow = 5V) or 30 W (for Upow = 12V)
- The module does not utilize the voltage generated at the Compact PCI backplane for feeding its internal circuits.
- OS Programming Compatibility:
  - The MIC590 module is compatible with software which is designed for operation along the CPC510 CPU Module.





### **Ordering Information**

### **CPC510 Configuration**

**Delivery checklist:** 

**Additional accessories:** 

### CPC510 - 01 - i72C1.7-RAM4096-R1-I\Options

Configurations	
01 02	Without mezzanine card MIC590
<b>Process</b>	or
17201.7	Intel i7-3517UE (DC, 2CI4T, 1.7 GHz, 1600 MHz, 4MB, 17W), BGA 1023 CPU
172C2.5	Intel i7-3555LE (DC, 2Cl4T, 2.5GHz, 1600 MHz, 4MB, 25W), BGA 1023 CPU
Memory	
4096 8192	4096MB Soldred DDR3L SDRAM 8192MB Soldered DDR3L SDRAM
Cooling	system (front panel width)
R1 R2	4HP 8HP
Tempera	ture Range
I C	Industrial Range, -40+85°C Commercial Range, 0+70°C

· CPC510 module or CPC510 assembled with the MIC590 module

(video/PCI bridge mezzanine expansion module).

• MIC584 module. I/O mezzanine expansion module. • KIC550 module. 2,5" HDD carrier module or 2,5" SSD.

### **CPC510 Available Options**

Coating		
\COATED	Protective Coating	
Operating System Presetting		
\LNX	Linux 2.6	
\Win7e	Windows 7 Embedded	

Other configurations and options are available upon request.

#### **Example**

#### CPC510-01- I72C1.7- RAM4096-R1-I\Coated\LNX

3U CompactPCI serial SBC, Intel i7-3517UE (DC, 2CI4T, 1.7 GHz, 1600 MHz, 4MB, 17W), BGA 1023 CPU, 4096MB Soldred DDR3L SDRAM, 4HP cooling system, Industrial Range, -40...+85°C, Protective Coating, Linux 2.6

### **Corporate Offices**

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Product specifications are subject to change without notice

#### ISO 9001:2008 RoHS

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