

# CPC1310

Embedded COM Express Basic module  
with additional connector (ISA, Ethernet, GPIO)



## Features

- COM Express Basic
- Intel Atom N450 Single Core/ D510 Dual Core, 1.66 GHz, 512 KB cache/1 MB cache
- 512 MB / 1 GB DDR2 SDRAM 667 MHz w/o ECC, 64-bit addressing, soldered
- 2 GB NAND Flash (dual channel)
- SATA interface (50 MB/s read, 35 MB/s write)
- Two Gigabit Ethernet channels, 10/100/1000 Mb/s
- Eight USB 2.0
- Shock/vibration: 50g / 5g
- Operating temperature range: -40°C to +85°C
- MS DOS 6.22, FreeDOS, Windows XP (Embedded), Linux 2.6, QNX 6.5

## Overview

CPC1310 complements the line of Fastwel Computer-on-Modules. It is designed to be a computing core of special-purpose embedded systems. The module corresponds to PICMG COM Express rev 2.0 specification, has a Basic format (95x125 mm) and Type-II pinout. The CPU card is based on Intel Pineview-M Single Core (N450)/Pineview-D Dual Core (D510) processor family and Intel ICH8M chipset.

The distinctive feature of the board is the extra-connector option, which brings out ISA, Ethernet and GPIO. CPC1310 board is designed to operate in extended temperature range from -40 to +85°C. Coating option (available for every module configuration) allows to increase resistance to aggressive environment. Windows XP Embedded, Linux and QNX are among the supported operating systems.

## Technical Specifications

### COM Express Basic rev.2.0 (TYPE 2)

#### Processors

- Intel Pineview-M Single Core (N450), 1,66 GHz, 512 KB cache
- Intel Pineview-D Dual Core (D510), 1,66 GHz, 1 MB cache

#### Chipset

- Intel ICH8M

#### System memory

- 512 MB / 1 GB DDR2 SDRAM 667 MHz w/o ECC, 64-bit addressing, soldered

#### Integrated video controller

- 2D/3D - accelerator
- VGA output (up to 1400x1050 60 Hz (N450) and 2048x1536 60 Hz (D510))
- LVDS Interface (up to 1280x800 60 Hz (N450) and 1366x768 60 Hz (D510), 18 bit single channel mode)

#### FLASH BIOS

- Possibility of system modification

#### FLASH-disk

- 2 GB NAND Flash (dual channel), connected to SATA interface: (50 Mb/sec. - read, 35 Mb/sec.- write)

#### 2 Ethernet channels, 10/100/1000 Mb/sec

- First channel - according to the COM Express specification
- Second channel - is routed to an additional connector

#### Eight USB 2.0 interfaces

#### SATA II Interface

- 2 channels
- Transmission rate up to 300 Mb/sec

#### LPC Interface (support of SUPER I/O SMSC SCH3114 chip interfaces)

- PS/2 keyboard and mouse Interface
- LPT Interface
- FDD Interface
- 4 UART interfaces (COM1-COM4)

#### PCI Express x1 Interface

- 4 channels

#### 32 bit, 33MHz PCI Interface (3.3V)

- 32 bit / 33MHz
- Support for up to 4 bus master devices

#### ISA Interface (additional slot)

- 16 bit / 8 MHz
- DDMA, ISA IRQ support

#### HD Audio Controller

#### Discrete Input-Output

- 8 I/O pin counts, individually

#### Programmable, according to the COM Express specification

- 8 additional pin counts at an additional connector (3.3V, 8mA)

#### Real time clock (RTC)

- CR 2032 lithium battery (3V) power supply
- Possibility of functioning without battery

#### FRAM Memory

- When functioning without battery the CMOS settings are stored in FRAM Memory

#### 2 Watch dog timers

- First - with a fixed response interval
- Second - with an adjustable response interval

#### Power supply and Input current

- Module extended power supply range (+5V...+12V)
- Current consumption is not more than 3A at power supply +5V (D510)
- Possibility of operation in ATX mode as well as in a normal mode (no necessity in outer power source control)

#### Humidity

- Up to 80%, noncondensing

#### Multiple shock/vibration stability

- 50g/5g.

#### Operating temperature range

- From -40°C to +85°C

#### MTBF

- Min 100000 hours

#### Dimensions

- 125 x 95 x 23,5 mm

#### Protection

- Protective coating is available

#### OS compatibility

- MS DOS 6.22, FreeDOS
- Windows XP (Embedded)
- Linux 2.6
- QNX 6.5



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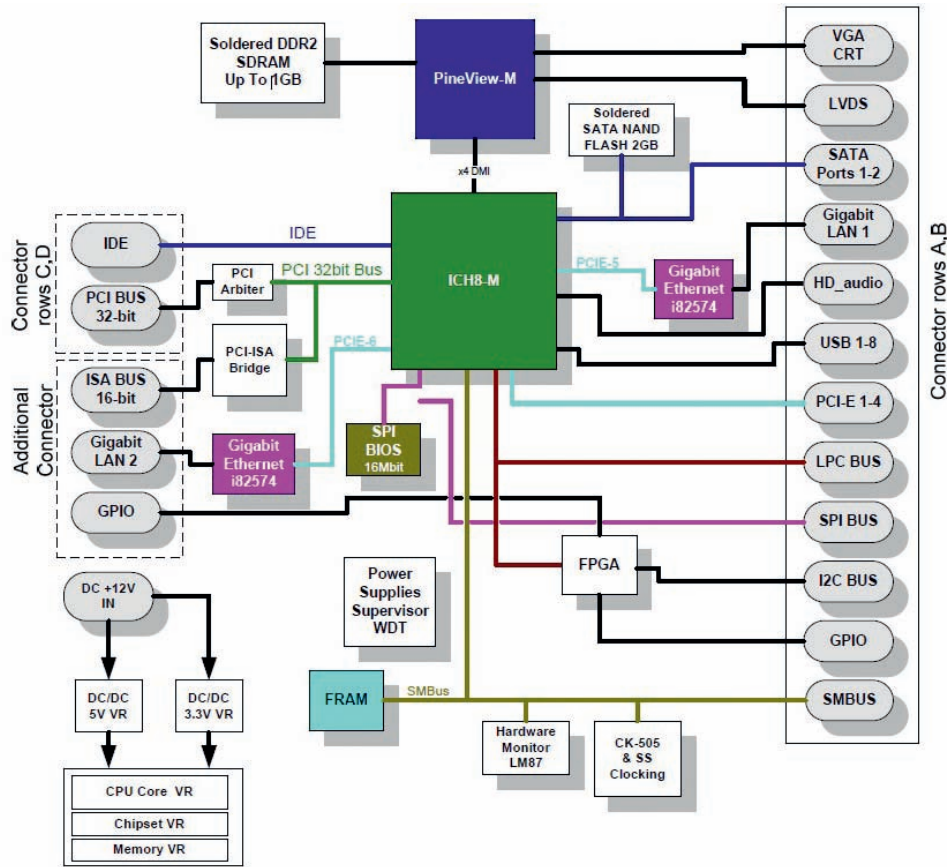


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## Block diagram CPC1310



## Ordering Information

### CPC1310 Configuration

#### Versions

- CPC1310-01 Intel Atom N450 (Additional LAN, ISA, GPIO), 1 GB RAM, 2 GB NAND
- CPC1310-02 Intel Atom N450, 1 GB RAM, 2 GB NAND
- CPC1310-03 Intel Atom N450 (Additional LAN, ISA, GPIO), 512 MB RAM, 1 GB NAND
- CPC1310-04 Intel Atom D510, 1 GB RAM, 2 GB NAND

#### List of deliverables

- CPC1310 module
- Anti-static bag
- Package

#### Additional accessories\*

KIB1283 carrier board for ComExpress/ComExpress Extended Type II pinout modules

\*Are not included in delivery checklist, ordered separately

## Corporate Offices

Version 0.07.12

Product specifications are subject to change without notice

**COM**   
**Express**



ISO 9001:2008  
EC.C.0.02.01.000823-12