

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 (95 × 125 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 1400×1050 60 Hz (N450) and 2048×1536 60 Hz (D510))
- LVDS Interface (up to 1280×800 60 Hz (N450) and 1366×768 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, 33 MHz PCI Interface (3.3 V)

- 32 bit / 33 MHz
- 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 (3.3 V, 8 mA)

Real time clock (RTC)

- CR 2032 lithium battery (3 V) 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 (+5 V...+12 V)
- Current consumption is not more than 3 A at power supply +5 V (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 100 000 hours

Dimensions

- 125 × 95 × 23,5 mm

Protection

- Protective coating is available

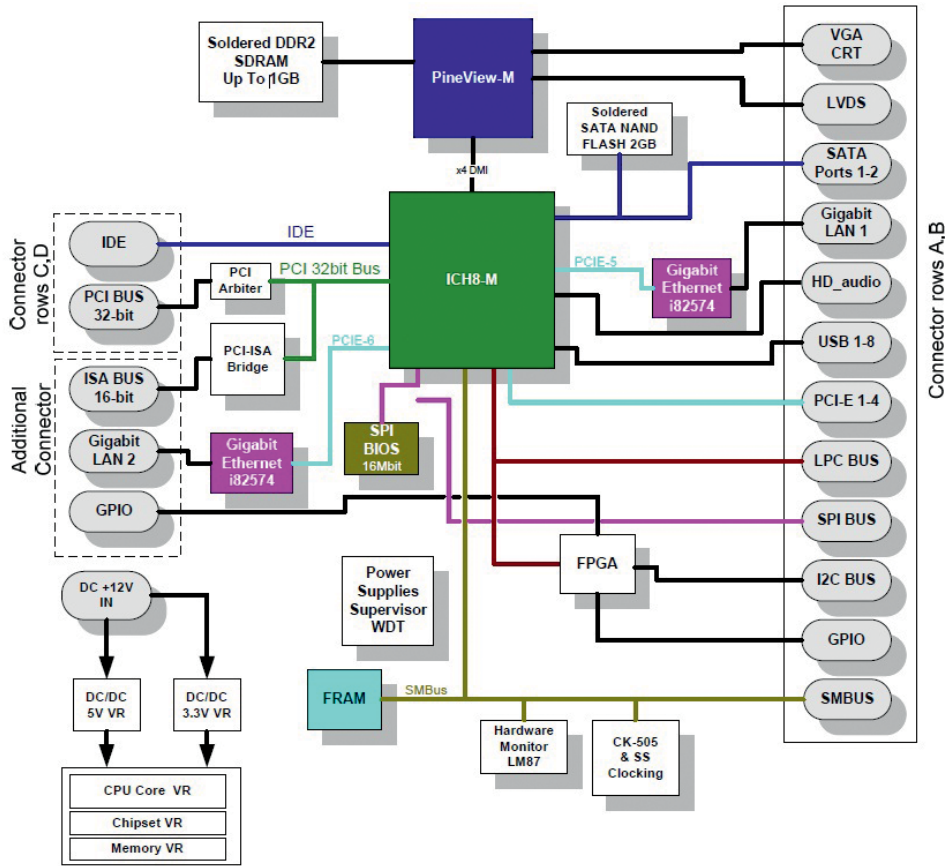
OS compatibility

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

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Block diagram CPC1310



Ordering Information

CPC1310 Configuration

Versions

CPC1310-1	Intel Atom Pineview-D (D510) CPU COM Express basic TYPE II, 1 GB DDR-2 RAM, 4 GB NAND
CPC1310-1\coated	Intel Atom Pineview-D (D510) CPU COM Express basic TYPE II, 1 GB DDR-2 RAM, 4 GB NAND\coated
CPC1310-2	Intel Atom Pineview-D (D510) CPU COM Express basic TYPE II (ISA, 1 Gigabit LAN), 1 GB DDR-2 RAM
CPC1310-2\coated	Intel Atom Pineview-D (D510) CPU COM Express basic TYPE II (ISA, 1 Gigabit LAN), 1 GB DDR-2 RAM\coated
CPC1310-3	Intel Atom Pineview-M (N450) CPU COM Express basic TYPE II, 1 GB DDR-2 RAM
CPC1310-3\coated	Intel Atom Pineview-M (N450) CPU COM Express basic TYPE II, 1 GB DDR-2 RAM\coated
CPC1310-04	Intel Atom Pineview-M (N450) CPU COM Express basic TYPE II (ISA, 1 Gigabit LAN), 1 GB DDR-2 RAM
CPC1310-04\coated	Intel Atom Pineview-M (N450) CPU COM Express basic TYPE II (ISA, 1 Gigabit LAN), 1 GB DDR-2 RAM\coated

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

Version 0.06.13

Product specifications are subject to change without notice

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