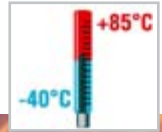


# CPC1301

**Fastwel**   
Creating the Future!

## COM Express module based on Intel® Core® 2 Duo CPU



**Best solutions  
to fit your demands!**

- Intel® Core® 2 Duo/Core Duo/Core Solo CPUs with 533/667 MHz FSB
- COM Express Type II pinout
- Up to 4 GB DDR2 dual channel memory
- CRT and LVDS
- Up to 5 x1 or 1 x4 and 1 x1 PCI-Express
- x16 PCI Express graphics interface
- Gigabit Ethernet port
- Eight USB 2.0 ports
- Up to four Serial ATA, one IDE Ultra ATA/100 interface
- Operating temperature:  
0°C to +70°C – commercial  
-40°C to +85°C – industrial



### Features

- Intel® Core® 2 Duo/Core Duo/Core Solo CPUs with 533/667 MHz FSB
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  - 0°C to +70°C — commercial
  - 40°C to +85°C — industrial

### Overview

CPC1301 is a COM Express Module.

Based on Intel® Core® 2 Duo/Core Duo/Core Solo CPUs up to 2.16 GHz with 533/667 MHz front side bus and Intel chipset comprising 945GM GMCH and ICH7M. Memory interface supports dual DDR2 SDRAM through two SODIMM sockets with total capacity of up to 4 GB.

Multimedia functions are supported by interfaces for CRT-monitor, flat panels with dual LVDS interface and AC'97 audio codec. External graphic adapters can be connected through x16 PCI Express interface.

Gigabit Ethernet channel makes this board perfect for developing communication intensive applications.

Peripheral devices can be connected to CPC1301 through PCI Express interfaces, 8 high-speed USB 2.0 ports, LPC, AC'97.

CPC1301 storage subsystem supports four SATA and one IDE Ultra ATA/100 disk drives.

CPC1301 supports Suspend-to-RAM mode.

For performance evaluation and application stack development, Fastwel provides development board — KIB1280, which gives access to all features of CPC1301 and facilitates software and hardware design.

Additional reliability of CPC1301 is provided by hardware monitoring, watchdog timer, reserved CMOS memory and a set of system monitoring features.

CPC1301 operates in industrial (-40°C to +85°C) and commercial (0°C to +70°C) temperature ranges.

### Technical Specifications

#### System

- CPUs:
  - Intel® Core® 2 Duo processor up to 2.16 GHz, up to 4 MB cache L2, 667 MHz FSB
  - Intel® Core® Duo processor up to 2.0 GHz, up to 2 MB cache L2, 533/667 MHz FSB
  - Intel® Core® Solo (Intel® Celeron® M) processor up to 1.83 GHz, up to 2 MB cache L2, 533/667 MHz FSB
- Chipset: 945GM GMCH & ICH7M
- Up to 4 GB DDR2 SDRAM, two SODIMM sockets
- CPU temperature and voltage control sensors
- Reserved CMOS memory
- MTBF: 170 000 hours

#### BIOS

Phoenix® BIOS with

- LAN Boot
- USB Boot
- Multi Boot
- Quick Boot

#### Graphics

- Video controller integrated into 945GM
- Video memory up to 64 MB shared with system
- Analog display interface supports resolutions up to 2048×1536 @ 75 Hz
- Dual LVDS
- TV-Out

#### Storage

- One IDE Ultra ATA/100 interface connector
- Up to four Serial ATA interfaces

#### Software support

- Fastwel DOS™ (MS™ DOS compatible)
- Windows XP Embedded
- Linux® 2.6.11

#### I/O Interfaces & Expansion

- One Gigabit Ethernet port 10/100/1000 Mb/s
- One x16 PCI Express interface
- Up to 5 x1 PCI-Express, also configurable as 4 x1 and 1 x1
- 32-bit PCI interface
- AC'97 interface
- LPC interface
- Express Card interface support
- Eight USB 2.0 ports

#### Mechanical

- Dimensions: 95×125 mm (3.74"×4.92")
- Weight: 0.15 kg

#### Power requirements

- +12 V @ 4 A and +5 V @ 1 A

#### Environmental conditions

- Operating temperature:
  - 40°C to +85°C — industrial
  - 0°C to +70°C — commercial
- Storage temperature: -50°C to +95°C
- Humidity: 95% noncondensing
- Shock/Vibration: 50G/2G
- Cooling: heat spreader

#### Compliance

- PICMG COM.0. COM Express Module Base Specification Rev. 1.0. Pin-out type II

#### List of Deliverables

- CPC1301 Module
- Screws set
- Heatsink for CPU and GMCH hub
- CD with drivers and documentation

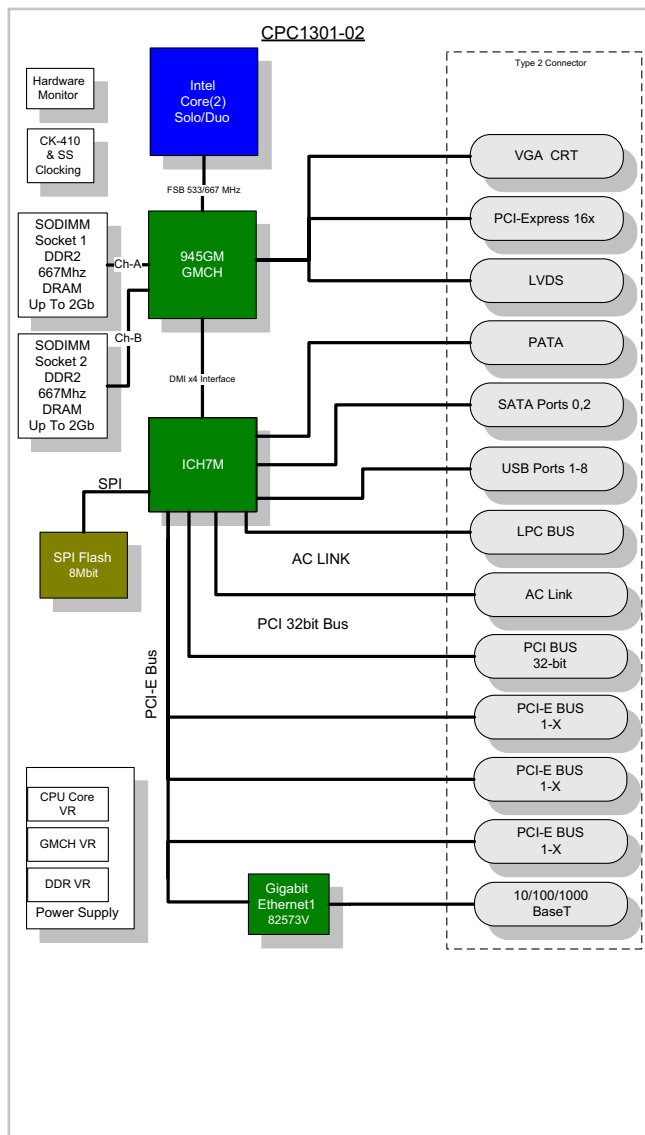
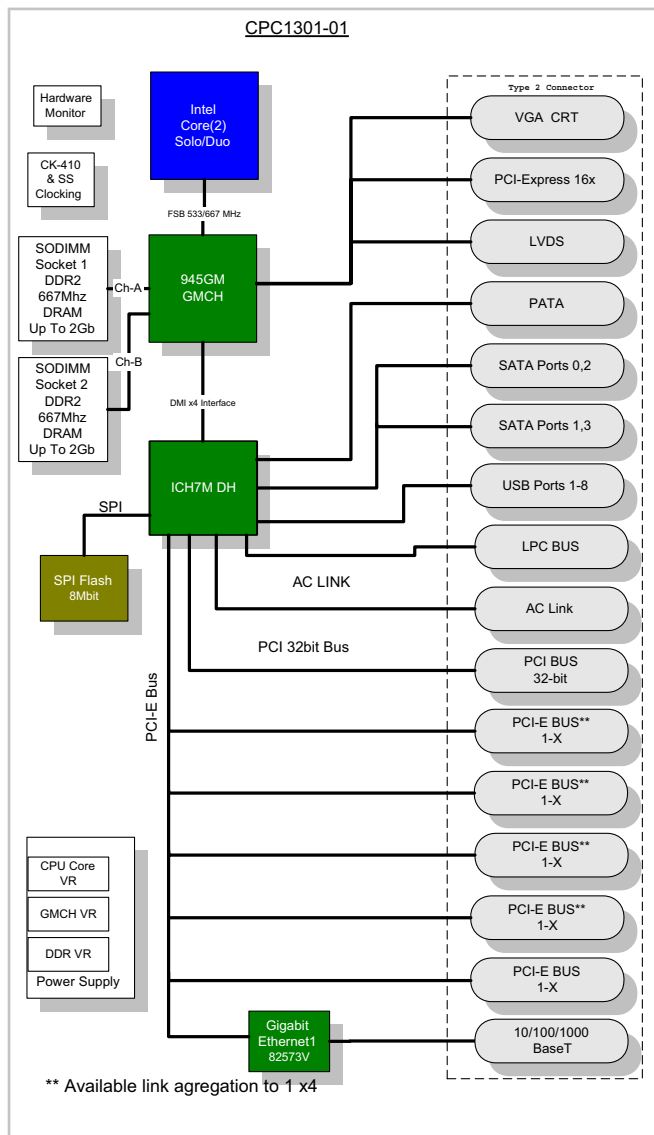
#### Warranty

- 3 years for parts and labor

# CPC1301

COM Express module based on Intel® Core® 2 Duo CPU

## Board Layout



## KIB1280

ATX form-factor compliant carrier board for ComExpress/ComExpress Extended Type II pinout modules.

### Interfaces

- VGA, S-Video, LVDS
- 1xGbEthernet 10/100/1000-Base-T RJ45
- 1x16 PCI Express, 3x1 PCI Express, 3xPCI
- 6xUSB2.0
- IDE UltraATA, 4xSATA, CF Type I/II socket with IDE interface

- 2xCOM232, LPT, FDD, PS/2
- 2xExpress™ Card slots
- Audio line-in/out, MIC
- IrDA, LPC interface, SMBUS, PLCC, fan connector, control&signalling interfaces and LEDs, ATX power supply.

Please read User manual for complete product description.



# CPC1301

COM Express module based on Intel® Core® 2 Duo CPU

## Ordering Information

### CPC1301 Configuration

#### CPC1301 - 01- C2D1.5 - I - \Options

##### Device Type

CPC1301-01 CPC1301 COM Express Intel® Core® Module, Intel® 945GM chipset, DDR2 SODIMM, Gigabit Ethernet, LVDS, 4 x1 PCI-Express, 8 USB, 4 SATA

##### Processor

CD1.6 Intel® Core Duo 1.66 GHz LV  
C1.0 Intel® Celeron M 423 1.06 GHz  
C2D1.5 Intel® Core 2 Duo 1.5 GHz

##### Temperature Ranges

I Industrial Range, -40...+85°C  
C Commercial Range, 0...+70°C

##### Options

\xxx Choose available options from the table

#### CPC1301 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
\SODIMM2048	2048 MB DDR SDRAM SODIMM, industrial range
\SODIMM2048C	2048 MB DDR SDRAM SODIMM, commercial range
Coating	
\COATED	Protective Coating
Operating System Presetting	
\FDOS	Fastwel DOS
\XPE	Windows XP Embedded
\LNX	Linux 2.4.20

Other configurations and options are available upon request.

#### Example

##### CPC1301-01-C2D1.5-I-\SDRAM2048\XPE

CPC1301 COM Express Intel® Core® 2 Duo Module, Intel® 945GM chipset, DDR2 SODIMM, Gigabit Ethernet, LVDS, 4 x1 PCI-Express, 8 USB, 4 SATA  
Intel® Core 2 Duo 1.5 GHz  
Industrial range, -40...+85°C  
2048 MB DDR2 SDRAM  
Windows XP Embedded

Ver. 0.1 2008

Product specifications are subject to change without notice

## Applications



Mobile



Industrial Automation



Communications



Embedded

## Corporate Offices

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