

PCM-4390 Onboard Intel® Core Duo 4" EPIC SBC with LCD/LVDS/GIGA LAN/8 GPIO/ 8 USB2.0 Startup Manual

Packing List

Before installation, please make sure that you have received the following:

- 1 PCM-4390 SBC
- 1 Startup Manual
- 1 Utility CD
- 1 Cable 20P/10P 10CM EPIC ATX Power p/n: 1700002055
- Flat cable 44P IDC 44P/44P/40P Keyed 50cm p/n: 1701440504
- Keyboard/Mouse Connector p/n: 1700060202
- FLAT Cable 50P 20CM 3Com & LPT 1.27mm to D-sub p/n: 1700002034
- Cable Serial ATA 7P/7P100cm p/n: 1700071000
- Wire RS-422/485 W/D-SUB COM 4P 15cm p/n: 1703040157

If anything is missing or damaged, contact your distributor or sales representative immediately.

Note 1: For detailed contents or the PCM-4390, please refer to the enclosed CD Disc or disc(in PDF format).

Note 2: Acrobat Reader is required to view any PDF file. Acrobat Reader can be downloaded at: <http://www.adobe.com/products/acrobat/readerstep2.html>(Acrobat is a trademark of Adobe).

For more information on this and other Advantech products, please visit our website at:

<http://www.advantech.com>

<http://www.advantech.com/epc>

For technical support and service, please visit our support website at:

<http://service.advantech.com.tw/eservice/>

This manual is for the PCM-4390 Series Rev. A1.

Part No. 2006439000

1st Edition
May 2007.

Specifications

Standard SBC Functions

- **CPU:** Embedded Intel Core Duo Processor, up to 1.66 GHz
- **System Chipset:** Intel 945GM GMCH/ICH7M Chipset
- **BIOS:** AWARD® 4 Mbit Flash BIOS
- **System memory:** 200-pin SODIMM socket Rate II (DDR2) 128 MB to 1 GB, accept 128/256/512/1 G (DDR2) 400/533/667 DRAM
- **Power Management:** APM1.2, ACPI support
- **SSD:** USB-DOM
- **Watchdog:** Timer Single chip Watchdog 255-level interval timer, setup by software
- **Expansion:** Interface PCI-104
- **Battery:** 2-pin wafer box for external Battery on board I/O
- **I/O Interface:** 1 x EIDE (UDMA 33), 1 x K/B (optional), 1 x KB/mouse, 3 x RS232, 1 x RS232/422/485, 1 x LPT
- **USB:** 8 x USB 2.0 compliant Ports (2 ports on board connector, 6 ports pinhead)
- **Audio:** ICH7M AC97 3D surround stereo sound Supports Line -in, Line-out, Microphone-in (with PCM-410 option)
- **IrDA:** N/A
- **GPIO:** 8-bit general purpose input/output

Ethernet

- **Chipset:** Broadcom BCM5721
- **Speed:** 10/100/1000 Mbps
- **Interface:** 2 x RJ45
- **Standard:** IEEE 802.3u 100Base-T

Display

- **Chipset:** Intel 945GM chip integrated. (Extreme Graphics 2)
- **Memory Size:** Optimized Shared Memory Architecture, supports up to 64 MB frame buffer using system memory
- **Resolution**
CRT Display mode: pixel resolution up to 1600 x 1200 at 85-Hz and 2048 x 1536 at 75-Hz LCD
Display mode: Dual channel LVDS panel supports up to UXGA panel resolution with frequency range from 25 MHz to 112 MHz
- **LCD Interface:** 2 Dual Channel (LVDS1 x 36-bit, LVDS2 x 48-bit(Optional)) LVDS
- **LVDS:** Hirose connector supports up to 2 channel(2 x 18-bit) LVDS LCD Panel
- **Dual Independent:** CRT + 36-bit LVDS, LVDS + LVDS(Dual LVDS optional)

Mechanical and Environmental

- **Dimensions:** 115 x 165mm(4.5" x 6.6")
- **Power supply Type:** ATX
- **Power supply Voltage:** ATX, +5 V \pm 5%, +3 V \pm 5%, 5VSB \pm 5%, \pm 12 V \pm 5% (Optional) (12 V optional for PC/104 add on card and LCD inverter)
- **Power Consumption:** (Core Duo 1.2 GHz with 512 MB DDR2 memory) Typical: 3.75 A @ 5 V, 0.49 A @ 3.3 V, 1.08 A @ 5 VSB, 0.48 A @ 12 V
- **Operating Humidity:** 0%~90% relative humidity, non-condensing
- **Operating Temperature:** 0~60°C(32~140°F)
- **Weight:** 340g(with Heatsink)
- **Storage Temperature:**

Standard products(0~60°C)
Storage temperature: -20~70°C

Phoenix products(-20~80°C)
Storage temperature: -20~80°C

Platinum Phoenix products(-40~85°C)
Storage temperature:-40~85°C

- **Storage Relative Humidity:**

Standard products(0~60°C)
Relative Humidity:95%@60°C

Phoenix products(-20~80°C)
Relative Humidity:95%@60°C

Jumpers and Connectors

The board has a number of jumpers that allow you to configure your system to suit our application.

The table below lists the function of each of the jumpers and connectors.

Jumpers

Label	Function
J1	Clear CMOS
S2	COM2 Setting
J2/J4	LCD Power
J5	PCI-104 VIO Select
S1	Reset Button

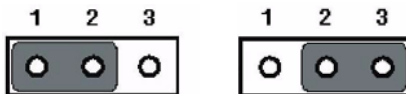
PCM-4390 Connector List

Label	Function
CN2	
FAN1	CPU fan
CN4	DDRII Connector
CN5	RTC Battery Connector
CN6	GPIO
CN7	ATX Power
CN8	Power Switch
CN9 /CN10	LAN Connector
CN11/CN12	SATA Connector
CN13	Primary IDE
CN14	HD LED & Power LED
CN15/CN17	LVDS Connector
CN16/CN26	Inverter Power
CN18	CRT Connector
CN19	USB MIO Connector

PCM-4390 Connector List

Label	Function
CN20	USB 2Ports Connector
CN21	KB/MS Connector
CN22	ACi97/USB Connector
CN23	COM1
CN24	Print/COM Port
CN25	RS485 TX/RX Pin Header
CN27	PCI-104
CN28	USB Connector
CN29	

J1	Clear CMOS
Setting	Function
(1-2)	Normal
(2-3)	Clear CMOS



S2	COM2 Setting
Setting	Function
S2(1 ON)	RS232
S2(2 ON)	RS485
S2(3 ON)	RS422

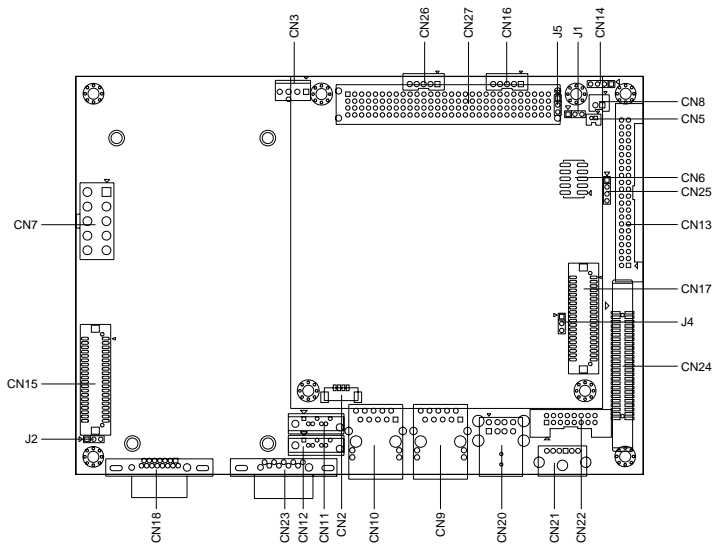
J2/J4	LCD Power
Setting	Function
(1-2)	+5V
(2-3)	+3.3V



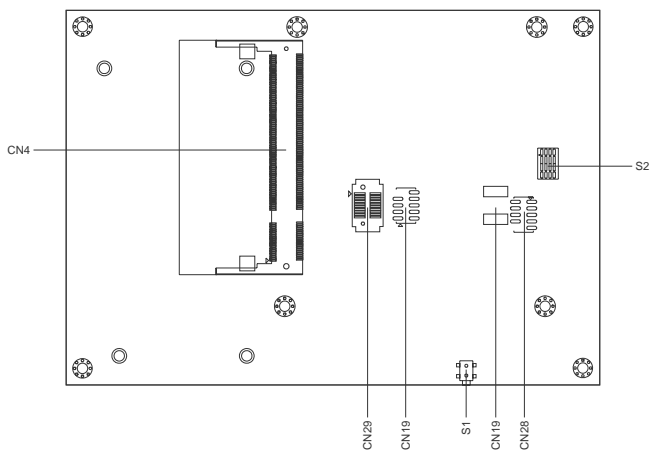
J5	PCI-104 VIO Select
Setting	Function
(1-2)	+5V
(2-3)	+3.3V



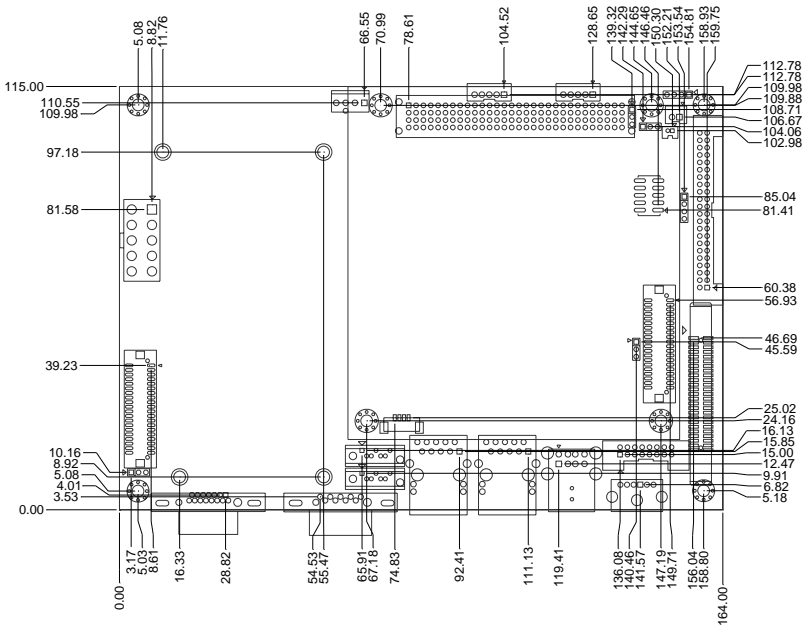
S1	Reset Button
Setting	Function
Push Button	to reset system



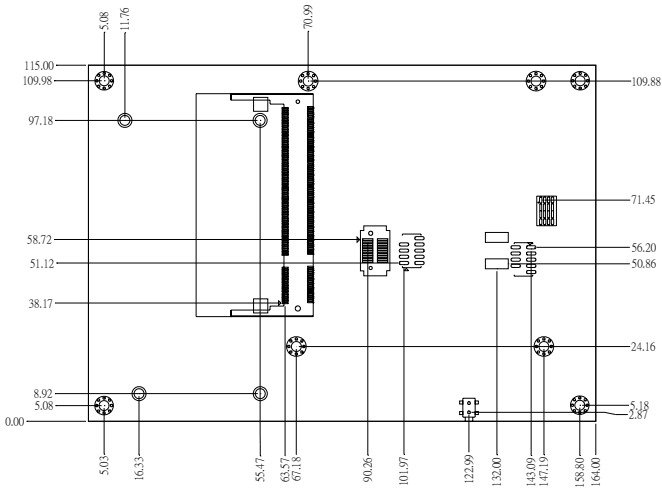
PCM-4390 Connectors(component side)



PCM-4390 Connectors(solder side)



PCM-4390 Mechanical Drawing(component side)



PCM-4390 Mechanical Drawing(solder side)