PCM-4380 Pentium® M 4" SBC with MIO/VGA/LVDS Ethernet/USB2.0 Startup Manual

Packing List

Before you begin installing your card, please make sure that the following materials have been shipped:

- 1 PCM-4380 SBC
- 1 Startup manual
- 1 Utility CD
- Cable 20P/10P 10 cm EPIC ATX Power (CN1) — p/n: 1700002055
- Cable 2*4P/10P EPIC AT POWER 15 cm (CN1) — p/n: 1700003931
- Flat Cable 44P IDC 44P/44P/ 40P Keyed 50 cm (CN27) — p/n: 1701440504
- USB CABLE 20 Pin to 2 Port L=30 cm (CN31) — p/n: 1700004891
- Keyboard/Mouse Connector (CN19) — p/n: 1700060202
- Flat cable 44P 20 cm 3COM & LPT 1.27 mm to D-sub (CN30) — p/n: 1700002034
- CABLE USB*2/10-2.0 mm 29 cm — p/n:1700001267 (PCM-4380U series only)

If any of these items are missing or damaged, contact your distributor or sales representative immediately.

Note 1: For detailed contents of the PCM-4380, please refer to the enclosed CD Disc or disk (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/readstep2.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/eplatform

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

http://www.advantech.com/support

This manual is for the PCM-4380 Series Rev. A2.

Part No. 2006438001

2nd Edition
Oct.   2007

Specifications

Standard SBC Functions

- **CPU:** Embedded Intel Pentium M/Celeron M
    on board Pentium M 1.4 GHz (2M L2 cache)
        PCM-4380F-S4A2E
    on board Celeron M 1.0 GHz (1M L2 cache)
        PCM-4380F-S0A2E
    on board Celeron M 600 MHz (512K L2 cache)
        PCM-4380F-M0A2E
- **System Chipset:** Intel 855GME GMCH/ICH4 Chipset
- **BIOS:** Award 512 Kbit Flash BIOS
- **System Memory:** 200 pin SODIMM socket, support ECC Double Data Rate (DDR) 128 MB to 1 GB, accept 128M/256M/512M/1G, DDR 200/266/333 DRAM
- **Power Management:** APM1.2, ACPI support
- **SDD:** Supports CompactFlash Card Type I/II (shared 2nd IDE Channel) USB memory, uDOC (option)
- **WatchDog Timer:** Single chip watchdog 255-level timer interval, setup by software
- **Expansion Interface:** Supports 8/16 bit ISA bus for standard PC/104 device (ITE 8888g), PC/104-Plus
- **Battery:** 2 pin wafer box for external Battery on board Enhance IDE Interface 1 x EIDE (UDMA 33), 1 x FDD, UDMA 100 with PCM-063 riser card, 1 x Keyboard/ Mouse, 3 x RS232, 1 x RS-232/422/485, 1 x LPT
- **USB:** 4 x USB 2.0 compliant ports
- **GPIO:** 8-bit general purpose input/output

Solid State Disk

- Supports one 50-pin socket for CFC type I/II

VGA/LVDS Interface

- **Chipset:** Intel 855GME chip integrated (Extreme Graphics 2)
- **Memory Size:** Optimized Shared Memory Architecture, support up to 64MB frame buffer using system memory
- **Resolution:**
    CRT Display Mode: pixel resolution up to 1600 x 1200 @85 Hz and 2048 x 1536 @75 Hz
    LCD Display Mode: Dual channel LVDS panel supports up to UXGA panel resolution with frequency range from 25 MHz to 112MHz with frequency range from 25 MHz to 112 MHz
- **LCD Interface:** 2 Channel (2 x 18/36-bit) LVDS
- **LVDS:** Hirose connector support up to 2 channel (2 x 18-bit) LVDS LCD Panel
- **Dual Independent Display:** CRT+ 36-bit LVDS

Ethernet interface

- **Chipset supports:**
    10/100 Mbps - Intel 82551ER
    10/100/1000 Mbps - Intel 82541PI (Optional)
- **Ethernet interface:** 2 x RJ45
- **Standard:** IEEE 802.3u 100Base-T

Specifications

Audio Function

- **Audio controller:** Support AC97 3D surround stereo sound
- **Audio interface:** Speaker-out, CD-input, line-in, Line-out Microphone (with PCM-410A-00A1E option)

Mechanical and Environmental

- **Dimensions** 115 x 165 mm (4.5"x 6.5")
  Mechanical Drawing (dxf file) is available.
- **Power Supply Type:** ATX, AT
- **Power Supply Voltage:** +5 V ±5%, +12 V ±5%
  ATX:
  +5 V ±5%, ±12 V ±5% (Optional)
  AT:
  5 V only to boot up, 12 V for LCD inverter and PC/104 module (12 V optional for PC104 add on card and LCD inverter)
- **Operating Temperature:** 0 ~ 60° C (32 ~ 140° F)
- **Operating Humidity:** 0% ~ 90% Relative Humidity, noncondensing
- **Storage Temperature:**
  Standard products (0 ~ 60° C)
  Storage temperature: -20 ~ 70° C
- **Storage Humidity:**
  Standard products (0~60° C)
  Relative humidity: 95% @ 60° C
- **Weight:** 0.85 kg (weight of total package)
- **Optional Accessories:**
  PCM-410A-00A1E: AC 97 Audio/USB module for PCM-4380/4386 series
  PCM-410C-00A1E: COM/LPT daughter board for EPIC

Jumpers and Connectors

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

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

Jumpers

Label	Function
J1	AT/ATX power select
J2	LCD power
J3	COM2 setting
J4	PCI VIO setting

Connectors

Label	Function
CN1	Power Con.
CN3	DDR-SODIMM (RVS)-5.2mm
CN4	Battery Con.
CN5	System Fan
CN6	Power Switch (PS: only work with ATX power)
CN7	GPIO
CN8	LAN1 (RJ45)
CN9	LAN2 (RJ45)
CN11	Compact II W/O Ejector
CN13	HD & Power LED
CN14	LVDS Connector

Jumpers and Connectors

Connectors

Label	Function
CN15	Inverter Power
CN16	VGA connector
CN18	USB 0/1
CN19	KB_MS
CN21	COM1
CN24	ISA_-5V
CN26	RS-422/485
CN27	IDE0
CN28	MIO-USB (USB-DOC)
CN30	COM 2/3/4 & LPT
CN31	USB 2/3 & AC 97 (Audio I/F)

J1: ATX/AT Power Select

Setting	Function
1-2	AT Power mode
None	ATX Power mode

J2: LCD Power

Pin	Signal
1-2	+5 V
2-3	+3.3 V
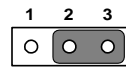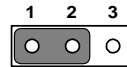
J3: COM2 Setting

Pin	Signal
1-2	RS232
3-4	RS485
5-6	RS422
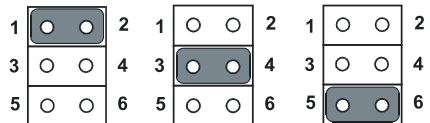
J4: PCI VIO Setting

| Pin	Signal
1-2	+5 V
2-3	+3.3 V
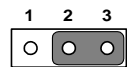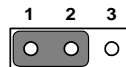
Note: In ATX mode, please use ATX power cable (PN: 1700002055: 20P/10P EPIC ATX POWER Cable 10CM) in the bundle package to connect the power supply.
In AT mode, please use AT power cable (PN: 1700003931: 2*4P/10P EPIC AT POWER 15 cm) in the bundle package to connect the power supply.
There are two 4 pin connectors on the AT power cable. It's ok to connect single big 4P under AT mode.
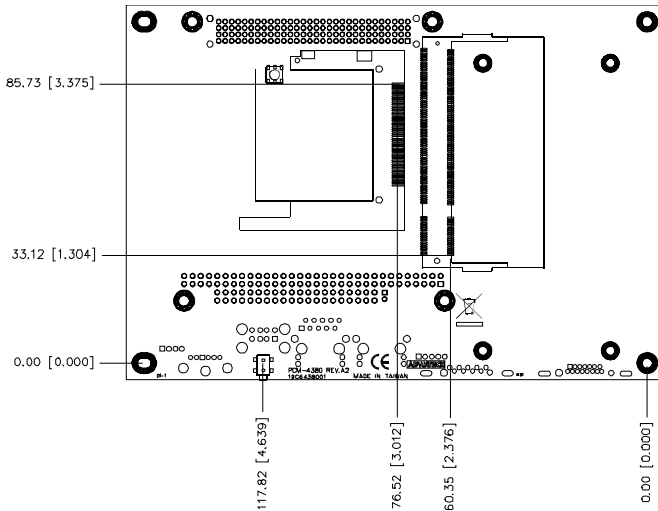The maximum current for (5 V, 12 V) through this "single big 4P".
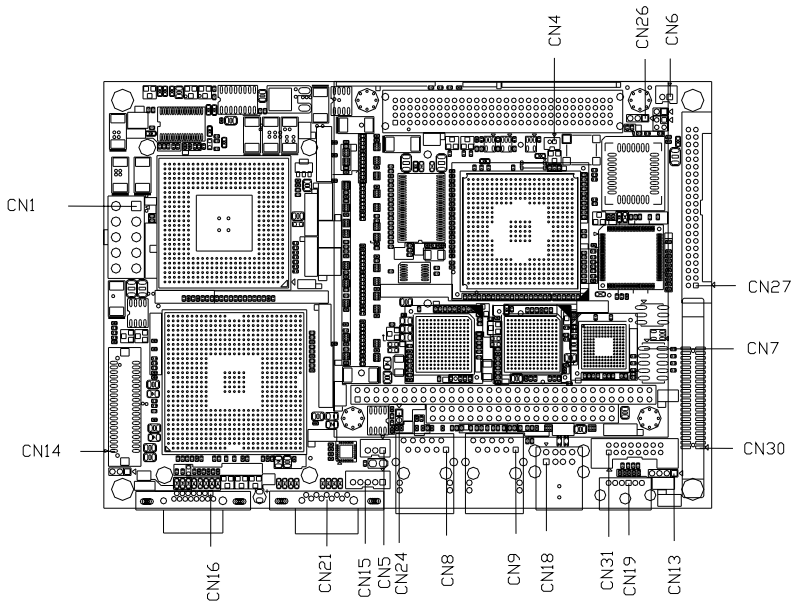
PCM-4380 Connectors (component side)
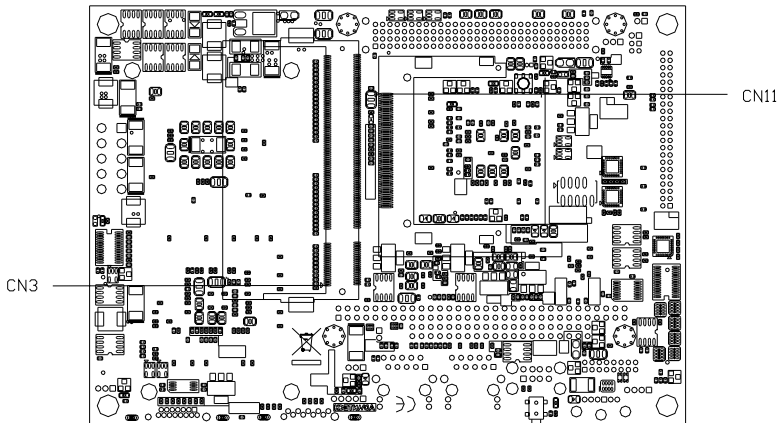
PCM-4380 Connectors (solder side)
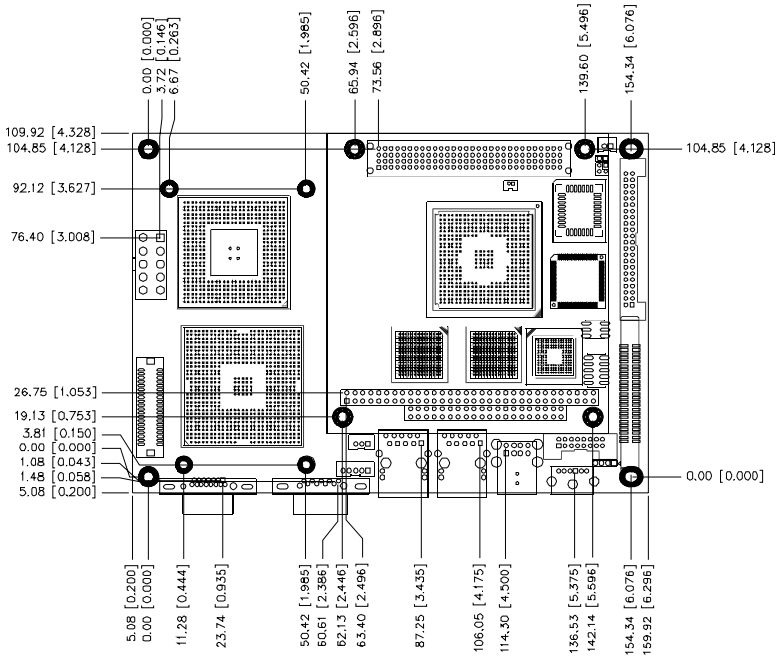
PCM-4380 Mechanical Drawing (component side)

PCM-4380 Mechanical Drawing (solder side)