ADVANTECH

PCA-6781 ISA Celeron M Half-sized SBC with VGA/LCD/LVDS/10/100 Ethernet/USB2.0 and SSD
Startup Manual

Packing List

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

- 1 x PCA-6781 series half-sized SBC
- 1 x Startup manual
- 1 x Utility disk/CD driver
- 1 x Y cablefor PS/2 Keyboard,   p/n: 1700060202
  PS/2 Mouse
- 1 x E-IDE (HDD) cable   p/n: 1701400452
- 1 x FDD cable (600 mm)   p/n:1701340705
- 1 x Printer+COM (RS-232)   p/n: 1700008891
  cable w/ bracket
- 1 x ATX power cable 20P/7P 10 cm   p/n: 1703070101
- Jumper pack   p/n: 9689000002
- 1 x ATX feature cable   p/n: 1700002343
  (3-pin 2.54 mm to 2.0 mm)
- 1 x USB 4 port cable w/ bracket   p/n: 1700008887

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

Note 1: For detailed contents of PCA-6781, please refer to information on the enclosed CD-ROM (in PDF format).

Note 2: Acrobat Reader is required to view any PDF file.Acrobat Reader can be downloaded at: 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 PCA-6781 series Rev. A1

Specifications

General

- **CPU:** Support Intel Celeron M 600 MHz,1 GHz
- **BIOS:** Award 4 Mbit Flash BIOS
- **System Chipset:** Intel 852 GM + ICH4
- **System memory:** 200 pin SODIMM x 1, double data rate (DDR) 128 MB to 1 GB, accepts 128/ 256/512/1000 MB DDR 200/266 DRAM
- **2nd Cache Memory:** 512 KB on 600 MHz, 0 KB on 1 GHz
- **Enhanced IDE Interface:** Supports one enhanced IDE channels. Primary master supports ATA-100 mode; Primary slave only supports ATA-33 and PIO mode. CFC card occupies Primary slave
- **Serial ports:** Two serial ports:
  - COM1: RS232
  - COM2: RS232/422/485
- **Parallel port:** One parallel port, supports SPP/EPP/ECP
- **Keyboard/mouse connector:** Supports standard PC/AT Keyboard and a PS/2 Mouse
- **Power Management:** Supports Power Saving Mode including Normal/Standard/Suspend modes. APM 1.2 compliant
- **FDD interface:** Supports up to one FDD device
- **USB:** 4 USB ports, USB 2.0 compliant
- **SSD:** Support CompactFlash Card Type I/II
- **Watchdog timer:** 0 ~ 255 sec. System reset or IRQ11
- **Expansion Interface:** ISA gold finger and PC/104 interface

Display

- **Chipset:** Intel 852GM
- **Memory Size:** Shared up to 64 MB, support DVMT
- **Resolution:**
  - CRT Modes:
    1600 x 1200 @ 24bpp (85 Hz)
  - LCD/Simultaneous Modes:
    up to UVGA panel resolution with frequency range from 25 MHz to 112 MHz
- **LVDS Interface:** support 2 channel (36-bit) LVDS LCD panel

Ethernet Interface

- **Chipset:** Intel 82551QM 10/100 Mbps LAN Chip
- **Ethernet interface:** IEEE 802.3u (100BASE-T) protocol compatible
- **Connection:** On-board RJ-45 connector

Specifications

Mechanical and Enviromental

- **Size/Weight:**
  185 mm x 122 mm (7.3" x 4.8"), 0.27 Kg (0.59 lb)
- **Power Supply Voltage:** +5 V, +12 V, ±5%
- **Power requirements:**
  - Max:
    2.26 A @ 5 V, 0.5 A@12 V
  - Typical:
    1.22 A @ 5 V (w/Celeron M 1 G + 256 MB RAM)
    0.01 A @ 12 V (w/Celeron M 1 G + 256 MB RAM)
- **Environment:** 0 ~ 60°C (32 ~ 140°F), operation
- **Operating Humidity:** 0%~90% relative humidity, noncondensing

Note: If your PSU doesn't have +12 V output (+5 V only), PCA-6781 needs to go T-part number to add the components for the 5 V to 12V converting circuit, but LVDS and PC104 also cannot be used within +5 V only.

Jumpers and Connectors

Connectors on the board link it to external devices, such as hard disk drives, a keyboard or expansion bus connectors. In addtion, 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	LVDS Voltage choose
J2	VBR
J3	AT/ATX Power choose jumper
J4	CLEAR CMOS
J5	232/422/485 SEL

Jumpers and Connectors

Connectors	
Label	Function
CN1	HDD LED/Reset/Power Button
CN2	Floppy Connector
CN3	Printer Port Connector
CN4	Primary IDE Connector
CN5	IR Connector
CN6	LCD Inverter Connector
CN7	Audio Interface Connector
CN8	LVDS Connector
CN9	USB port 1,2 Connector
CN10	D-SUB VGA Connector
CN11	USB port 3,4 Connector
CN12	PC104 Connector
CN13	LAN RJ45 Connector
CN14	COM port 2 (RS-232/422/485)
CN15	COM port 1 (RS-232)
CN16	Main Power Connector
CN17	Negative Power Input Connector
CN18	External KB/mouse Connector
CN19	KB/mouse Connector
CN20	+5 V FAN Connector
CN21	ISA Golden Finger
CN22	+12 V FAN Connector
CN23	ATX Suspend power connector
CN24	CF Connector
CN25	System Fan
CN26	SMBUS Connector
CN27	Hardware fail LED

Jumpers and Connectors

Jumper Setting

J1: LVDS Panel Power Select	
Pin	Function
1-2 (Default)	+3.3 V
2-3	+5 V

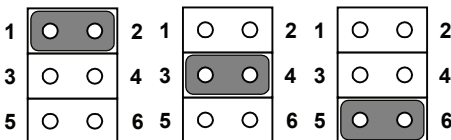| J2: LVDS VBR Select	
Pin	Function
1-2	High
2-3	Low

J3: AT/ATX Power choose jumper	
Pin	Function
1-2 (Default)	ATX Power
2-3	AT Power

J4: Clear CMOS	
Pin	Function
1-2 (Default)	Normal
2-3	Clear CMOS

J5: COM2 RS-232/422/485 Select	
Pin	Function
1-2 (Default)	RS-232
3-4	RS-422
5-6	RS-485

Software Installation

The CD disc contains a driver installer program that will lead you through the installation of various device drivers needed to take full advantage of your CPU card.
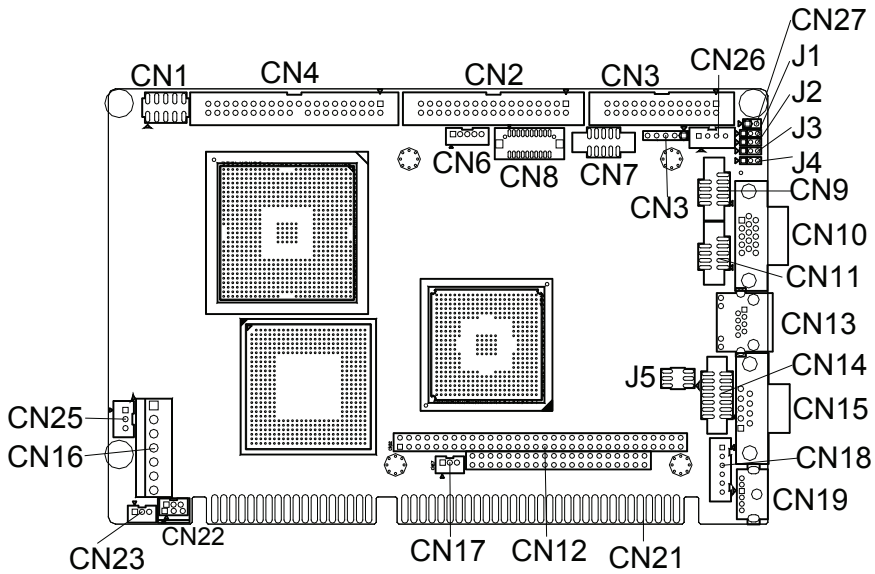
Caution

The computer is provided with a battery-powered Real-time Clock circuit. There is a danger of explosion if battery is incorrectly replaced. Replace only with same or equivalent type recommended by the manufacturer. Discard used batteries according to manufacturer's Instructions
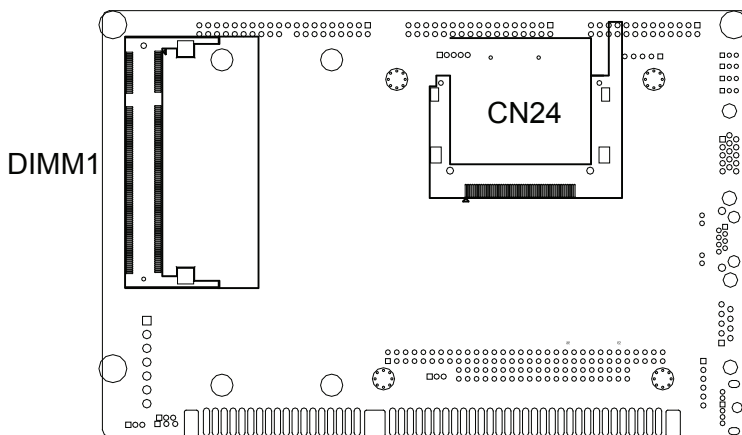
Safety Information

This device complies with the requirements in Part 15 of the FCC rules. Operation is subject to the following two conditions:
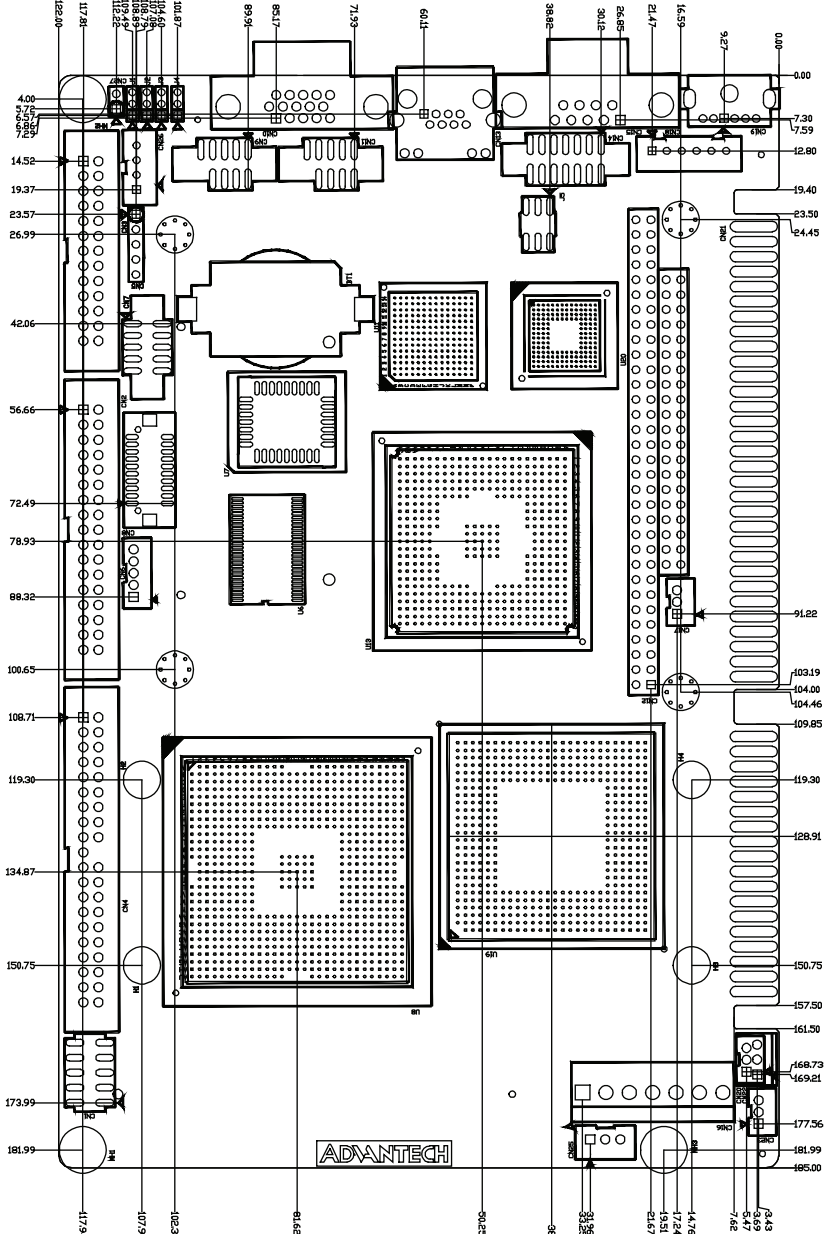
1. This device may not cause harmful interference.
2. This device must accept any interference received, including interference that may cause undesired operation.
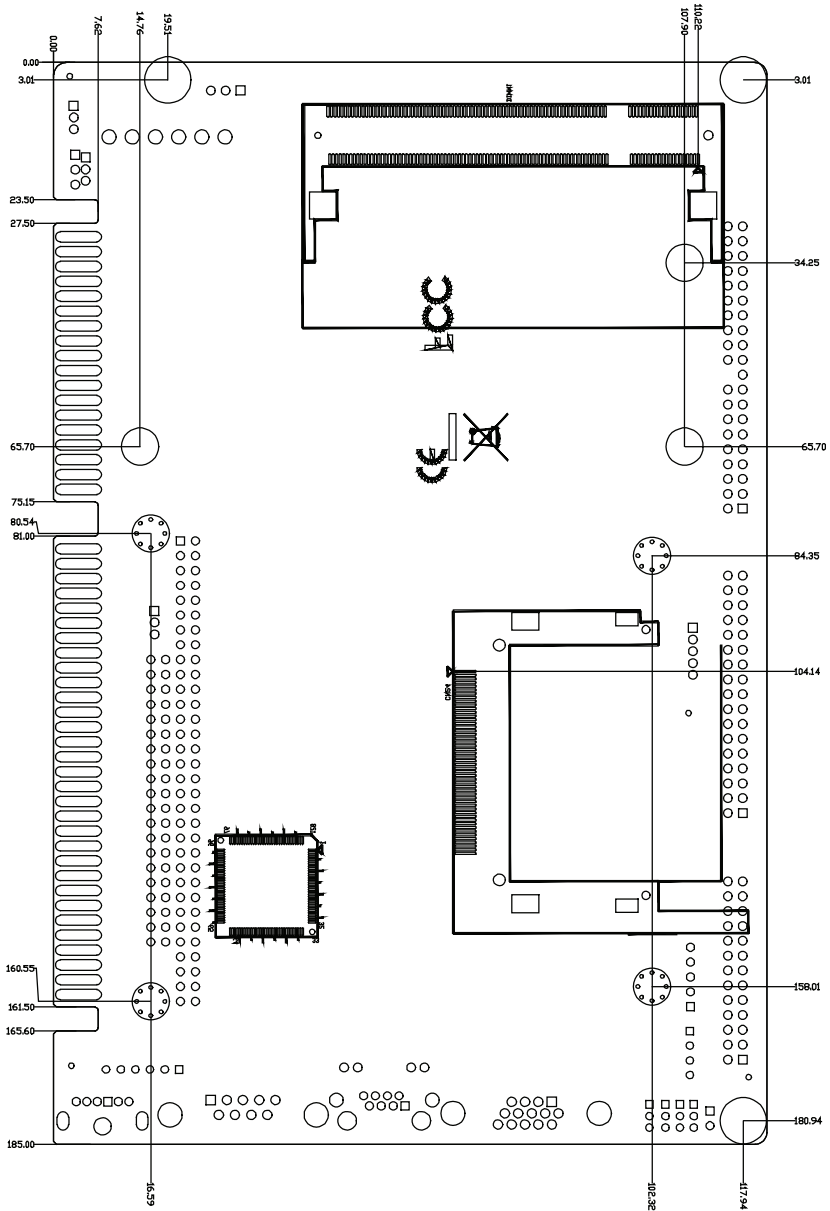
PCA-6781 Connectors Top

PCA-6781 Connectors Bottom

PCA-6781 Dimensions Top

PCA-6781 Dimensions Bottom