

## PCI-6873 PCI Half-size SBC w/AMD Geode™ LX800 with VGA/LCD/LVDS/LAN/SATA and SSD Startup Manual

### Packing List

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

- 1 FDD cable p/n:1701340705
- 1 IDE HDD cable (40P 60cm) p/n:1701400607
- 1 Y Cable for PS/2 Keyboard, PS/2 Mouse p/n:1700060202
- 1 Serial SATA HDD data cable p/n:1700003194
- 1 Serial SATA HDD power cable p/n:1703150102
- 1 Printer (2.54 mm pitch) +RS-232 (2.0 mm pitch) cable w/ bracket p/n:1700008891
- 1 USB cable with 4 ports (2.0 mm pitch) p/n:1700008887
- 1 ATX feature cable p/n:1700002343
- 1 Power cable p/n:1700000265
- 1 Jumper pack p/n:9689000002

#### Optional accessories:

- Parallel port cable p/n:1701260301
- IDE HDD cable(80P) p/n:1701400452
- COM2(RS-232/422/485) cable (2.0 mm pitch) p/n: 1701140201
- COM3 & 4 (RS-232) cable with bracket (2.0mm pitch) p/n: 1700001166
- Audio module with Line-in, Line-out, Mic p/n: PCM-231A-00A1E

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

**Note 1:** For detailed contents of PCI-6873, please refer to information on the enclosed CD-ROM (in PDF format).

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://service.advantech.com/support>

This manual is for the PCI-6873 series Rev. A1

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### Packing List

**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.)

### Specifications

#### Standard SBC Functions

- **CPU:** AMD Geode® LX800 processor, up to 500 MHz
  - **System Memory:**
    - 1 x SODIMM socket for PCI-6873PZ2, supports Double Data Rate (DDR) SDRAM, Max 1 GB, accepts 128/256/512 MB and 1GB DDR333 SDRAM
    - Onboard Memory for PCI-6873F and PCI-6873L, supports DDR333 SDRAM 256 MB
  - **2nd Cache Memory:** 128 KB on the processor
  - **System Chipset:** AMD Geode LX800
  - **BIOS:** AWARD 4-Mbit Flash BIOS
  - **Watchdog timer:** 255 level timer intervals
  - **Expansion Interface:** 32-bit PCI Slot
  - **Battery:** Lithium 3 V / 196 mAh
  - **Power management:** APM 1.2, ACPI supported
  - **Enhanced IDE interface:** One channel supports up to two EIDE devices. BIOS auto-detect, PIO Mode 3 or Mode 4, supports UDMA 33/66 mode
  - **Serial ATA Ports:** 2 SATA ports through PCI to SATA controller, Silicon Image SiI3512. Supports SATA RAID0,1.
  - **Serial ports:** Four serial ports, 4 RS-232 ports (COM1: DB9 connector on the rear IO site, COM2, 3, 4: by box header), COM2 (CN22) can be selected to RS-232/422/485 by CN19 RS232/422/485 select pin header
  - **Parallel port:** One parallel port, supports SPP/EPP/ECP mode
  - **FDD interface:** Supports up to two FDD devices
  - **Keyboard/mouse connector:** Supports one standard PC/AT keyboard and a PS/2 mouse
  - **Audio:** Supports AC97 Audio with the addition of optional PCM-231A-00A1E module( PCI-6873 also can support AC97 audio stereo sound without audio module and support microphone in, line in, line out, and speaker out function on board by custom addition of AC97 Audio codec on PCI-6873.)
- Note! Before using PCM-231A-00A1, please adjust BIOS setting "On board Audio" to "Enable" from "Advanced chipset features."
- **USB:** Four USB 2.0 compliant universal serial bus ports
  - **GPIO:** 8-bit general purpose Input/Output

## Specifications

### Solid State Disk

- **Solid State Disk (SSD):** Supports CompactFlash Card Type I/II, CFC card shares IDE channel and occupies IDE master

Caution! If CF card is used as IDE master, please use 40-pin IDE cable (Advantech's P/N: 1701400607) to connect another IDE device as IDE slave.

### VGA/LCDS Interface

- **Chipset:** AMD Geode LX800
- **Memory Size:** Optimized Shared Memory Architecture, supports 64MB frame buffer using system memory
- **Resolution:** CRT resolution: up to 1600 x 1200 x 16 bpp at 100 Hz
- **TTL interface:** Supports 24 bit TTL, resolution up to 1600 x 1200 x 32 bpp at 60 Hz for TFT LCD
- **LVDS Interface:** Supports single channel 18-bit LVDS, by Hirose DF13, 20 pin connector
- **Dual Simultaneous Display:** CRT + TTL LCD, CRT + LVDS

Note: LVDS and TTL cannot be used at the same time.

### Ethernet Interface

- **Chipset supports:** 10/100Mbps Realtek RTL8100
- **Interface:** 1 x RJ-45 connector
- **Connector:** One RJ-45 connector
- Standard IEEE 802.3u (100 Mbps) protocol compatible
- Built-in boot ROM (RTL8100)

### OS Support

- This board supports Win XP, Win CE and Win XPe
- For further information about OS support on your PCI-6873, visit the following Advantech web resource <http://www.advantech.com> or please contact technical support center.

### Mechanical and Environmental

- **Dimensions:** 185 x 122 mm (7.3" x 4.8")
- **Power Supply Type:** AT/ATX
- **Power Requirement:** +5 V  $\pm$  5%, +12 V  $\pm$  5% (Optional), +5 V standby for ATX mode or support single +5 V power only (If using 5 V only power, LVDS can't work due to no 12 V power supply)
- **Power Consumption:** (Geode LX800, 256 MB DDR333)
  - Max: +5 V @ 1.64 A, +12 V @ 0.07 A
  - Typical: +5 V @ 1.42 A, +12 V @ 0.07 A
- **Operating temperature:** 0 ~ 60° C (32 ~ 140° F)
- **Operating Humidity:** 10% ~ 90% relative humidity, non-condensing

## 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 functions of the jumpers and connectors.

### Jumpers

Label	Function
CN8	CMOS Setting
CN14	LVDS Power select
CN19	232/422/485 SEL
CN34	AT/ATX Selector

### Connectors

Label	Function
CN1	Front Panel (HDD LED/Reset/suspend/Power Button)
CN2	Printer Port Connector
CN3	Floppy Connector
CN4	IDE
CN5	Inverter Power
CN6	SATA connector
CN7	SATA connector
CN9	USB 0,1
CN10	USB 2,3
CN11	TFT LCD connector (TTL)
CN12	LVDS
CN13	LAN2 connector (Customization)
CN15	ATX power connector
CN16	VGA
CN17	GPIO
CN18	LAN1 RJ45 connector
CN20	COM3/COM4 connector
CN21	COM1
CN22	COM2
CN23	AC97 connector
CN24	System FAN connector (optional)
CN25	Audio Connector (Customization)
CN26	ATX suspend power connector
CN27	Audio Connector; left out & Center out (Customization)

## Jumpers and Connectors

CN28	External KB
CN29	KB/MS
CN30	PCI golden finger power (-12 V)
CN31	PCI golden finger
CN32	CD-IN (Customization)
CN33	CF connector

### Jumper Setting

CN8	Clear CMOS
Pin	Signal
1-2 (default)	BAT
2-3	Clear CMOS



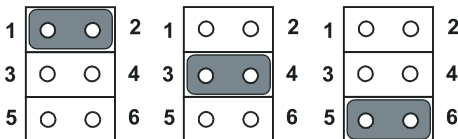
CN14	LVDS Power Select
Setting	Function
1-2*	3.3 V
2-3	5 V

\*: Default



CN19	COM2 Setting
Setting	Function
1-2*	RS-232
3-4	RS-485
5-6	RS-422

\*: Default



## Jumpers and Connectors

### AT/ATX Selector (CN34)

Setting	Function
1-2*	AT
None	ATX

\*: Default

### Software Installation

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

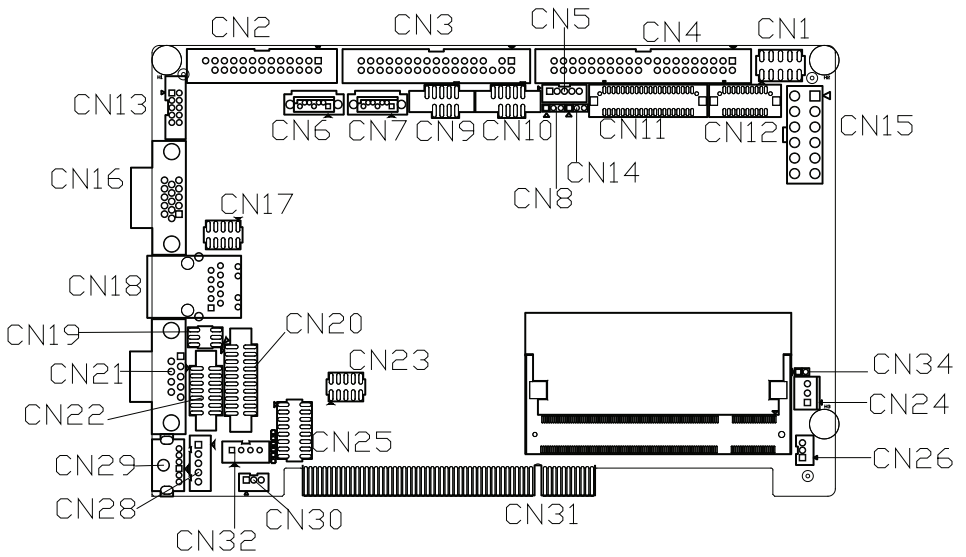
### Caution

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

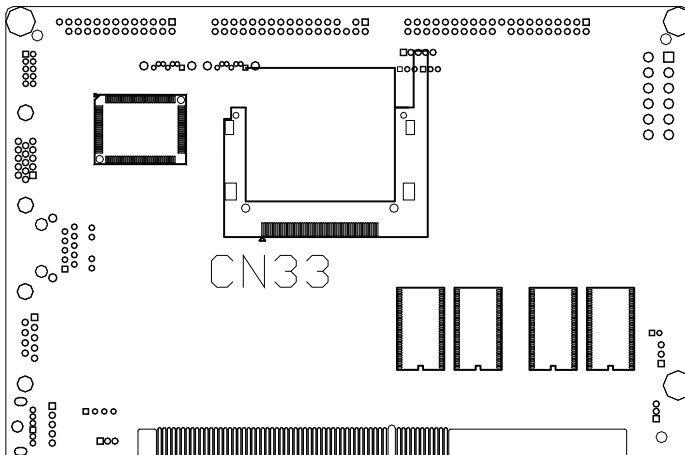
### Safety Information

This device complies with the requirements in Part 15 of the FCC rules. Operation is subject to the following two conditions:

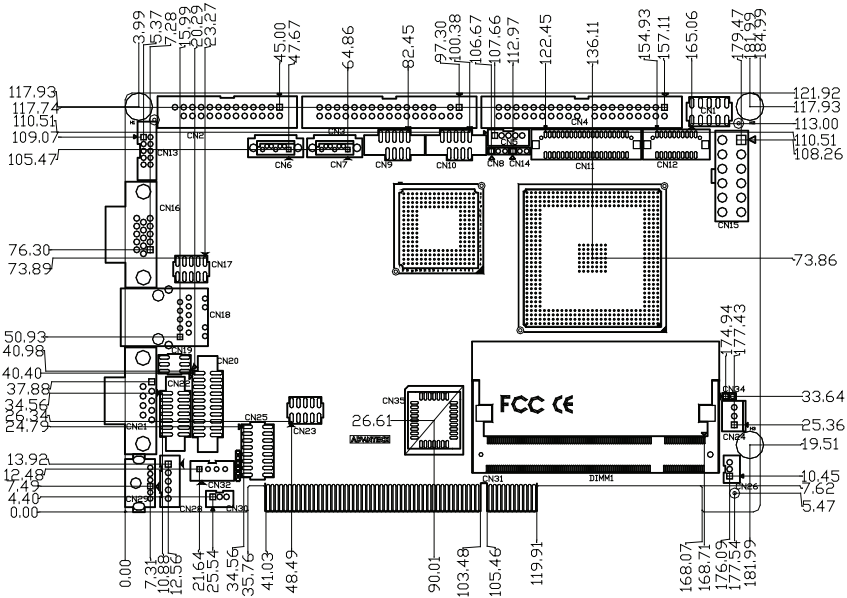
1. This device may not cause harmful interference.
2. This device must accept any interference received, including interference that may cause undesired operation.



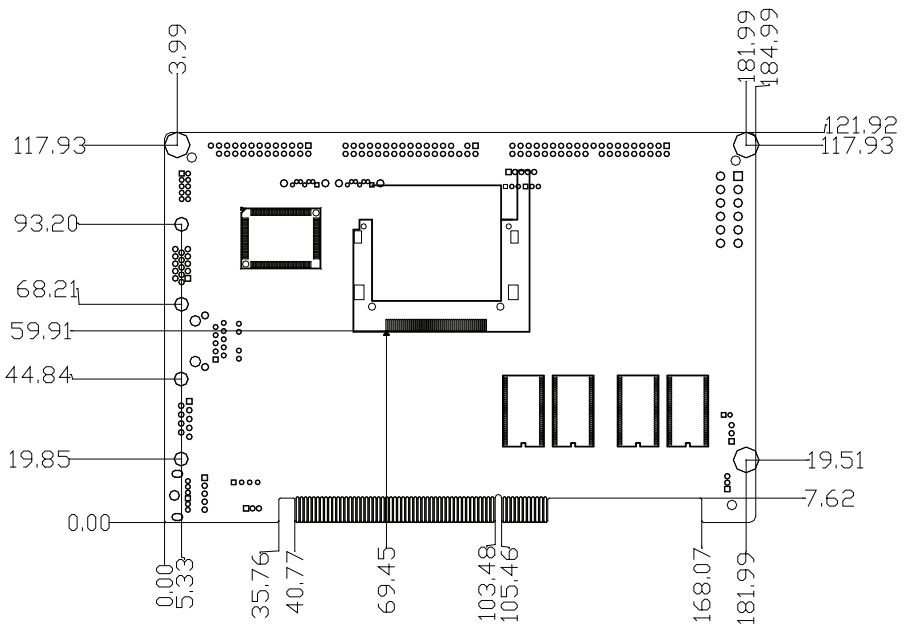
***PCI-6873 Location Connectors & Jumpers (Component Side)***



***PCI-6873 Location Connectors & Jumpers (Solder Side)***



**PCI-6873 Mechanical Drawing (Component Side)**



**PCI-6873 Mechanical Drawing (Solder Side)**