# ADVANTECH

# PCA-6010 PICMG 1.0 Full-sized Intel® LGA775 Processor Card with VGA/Dual Gigabit LAN Startup Manual

## Packing List

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

- 1 PCA-6010 Intel® LGA775 processor-based single board computer
- 1 PCA-6010 Startup Manual
- 1 CD with driver utility and manual (in PDF format)
- 1 FDD cable    p/n: 1700340640
- 1 Ultra ATA 66/100 IDE cables    p/n: 1701400452
- 2 Serial ATA HDD data cable    p/n: 1700003194
- 2 Serial ATA HDD power cable    p/n: 1703150102
- 1 Printer (parallel) port & COM port cable kit    p/n: 1701260305
- 1 Y cable for PS/2 keyboard and PS/2 mouse    p/n: 1700060202
- 1 USB cable with 4 ports    p/n: 1700008461
- ATX 12 V power converter cable    p/n: 170304015K
- Jumper pack    p/n: 9689000068
- User Note for Full-Size CPU card    p/n: 2002721020
- User Note for LGA775 CPU
- Warranty card

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

**Note1:** For detailed contents of PCA-6010, please refer to information on the enclosed CD-ROM (in PDF format). Acrobat Reader is required to view any PDF file.

**Note2:** Acrobat Reader can be downloaded at: www.adobe.com/Products/acrobat/readstep2. html (Acrobat is a trademark of Adobe.)

**Note3:** PCA-6010 must use a proprietary CPU cooler, we strongly recommend purchasing it from Advantech (p/n: 1750000332).

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://www.advantech.com/support**

This manual is for the PCA-6010 series Rev. A1

## Specifications

### Standard SBC functions

- **CPU:**

| | |
|---|---|
| Intel Core® 2 Duo Desktop Processor | Long-term supported P/N: E7400, E6400, E4300, E2160, Celeron 440, Pentium 4 651/551, Celeron D 352/341 |
| Intel Pentium® Dual-Core Desktop Processor | |
| Intel Celeron® Processor 400 | |
| Intel Pentium D Processor | |
| Intel Pentium 4 Processor | |
| Intel Celeron D Processor | |

- **BIOS:** Award® SPI 8 Mb Flash memory BIOS
- **Chipset:** Intel 945GC with ICH7
- **System memory:** Dual Channel; Two 240-pin DIMM sockets accepts up to 4 GB DDR2 533/667 SDRAM
- **SATA/IDE interface:** Supports up to four SATA2 HDD (300 MB/s) ; Support two IDE devices. The IDE port may be altered to a Type II CF socket.
- **FDD interface:** Supports up to two FDDs
- **Serial ports:** Two serial RS-232 ports
- **Parallel port:** One SPP/EPP/ECP parallel port
- **Keyboard/mouse connector:** One standard PS/2 keyboard/mouse connector and one external 6-pin header.
- **Watchdog timer:** 255 level timer intervals
- **USB (2.0):** 8 Universal Serial Bus ports on board

### VGA Interface

- **Chipset:** Intel 945GC integrated
- **Display memory:** Shared with 224 MB system memory
- **Video Output:** Up to 2048 x 1536 @ 75 Hz refresh

### Ethernet Interface

- **Chipset:** LAN 1/2: Intel® 82574L
- **Connection:** Onboard RJ-45 connector

### Mechanical and Environmental

- **Dimensions (L x W):** 338 x 122 mm
- **Power supply voltage:** +5 V ~ ±12 V
- **Power requirements:**
  *Configuration 1:*
  - CPU: Intel Core 2 Duo processor E4300 (1.8 G, 65 W)
  - Memory: 2 DDR2 667 MHz 4 GB DIMMs
  - Test program: Intel Max power 100% + BurnIn Test 4.0 +5 V @ 5.19 A, +12 V @ 3.85 A, +3.3 V @ 0A, +5 VSB @ A, -12 V @ 0A, -5 V @ 0A
  *Configuration 2:*
  - CPU: Intel P4 processor 670 (3.8 G, 115 W)
  - Memory: 2 DDR2 667 MHz 4 GB DIMMs
  - Test program: Intel Max power 100% + BurnIn Test 4.0 +5 V @ 4.85 A, +12 V @ 12.45 A, +3.3 V @ 0A, +5 VSB @ 0.07 A, -12 V @ 0A, -5 V @ 0A
- **Operating temperature:** 0 ~ 60° C (depending on CPU)
- **Weight:** 0.5 kg (weight of board)

## Jumpers and Connectors

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

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

| Connectors | |
|---|---|
| **Label** | **Function** |
| IDE1 | IDE connector |
| FDD1 | Floppy drive connector |
| LPT1 | Parallel port |
| VGA1 | VGA connector |
| COM1 | Serial port: COM1; RS232 (9-pin D-sub) |
| COM2 | Serial port: COM2; RS-232 (10-pin Box Header) |
| KBMS1 | PS/2 keyboard and mouse connector |
| KBMS2 | External keyboard/mouse connector |
| JIR1 | Infrared connector |
| CPUFAN1 | CPU1 FAN connector |
| JFP1 | Power and Reset Button connector |
| JFP2 | HDD LED/Speaker connector |
| JFP3 | Power LED and keyboard lock connector |
| JOBS1 | HW Monitor Alarm Close: Enable OBS Alarm Open: Disable OBS Alarm |
| LAN1 | LAN RJ45 connector |
| HDAUD1 | HD Audio connector |
| SATA1 | Serial ATA1 |
| SATA2 | Serial ATA2 |
| SATA3 | Serial ATA3 |
| SATA4 | Serial ATA4 |
| LANLED1 | LAN1 LED connector |
| USB12 | Two USB port pin headers |
| USB34 | Two USB port pin headers |
| USB56 | Two USB port pin headers |
| USB78 | Two USB port pin headers |
| DIMMA1 | Memory connector channel A |
| DIMMB2 | Memory connector channel B |
| LPC1 | Low pin count connector |
| DVI1 | Optional |
| SPI1 | BIOS SPI Interface |
| JCASE1 | Case open |

| Jumpers | |
|---|---|
| **Label** | **Function** |
| CMOS1 | CMOS clear |
| JWDT1 | Watchdog timer output selection |

| CMOS1: CMOS clear function | |
|---|---|
| **Closed Pins** | **Result** |
| 1-2 | Keep CMOS data * |
| 2-3 | Clear CMOS |

\* default setting



| JWDT1: Watchdog timer output option | |
|---|---|
| **Closed Pins** | **Result** |
| 1-2 | IRQ11 |
| 2-3 | System reset * |

\* default setting



## 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 Advantech. 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.

# Board Layout

The locations of all connectors and jumpers:
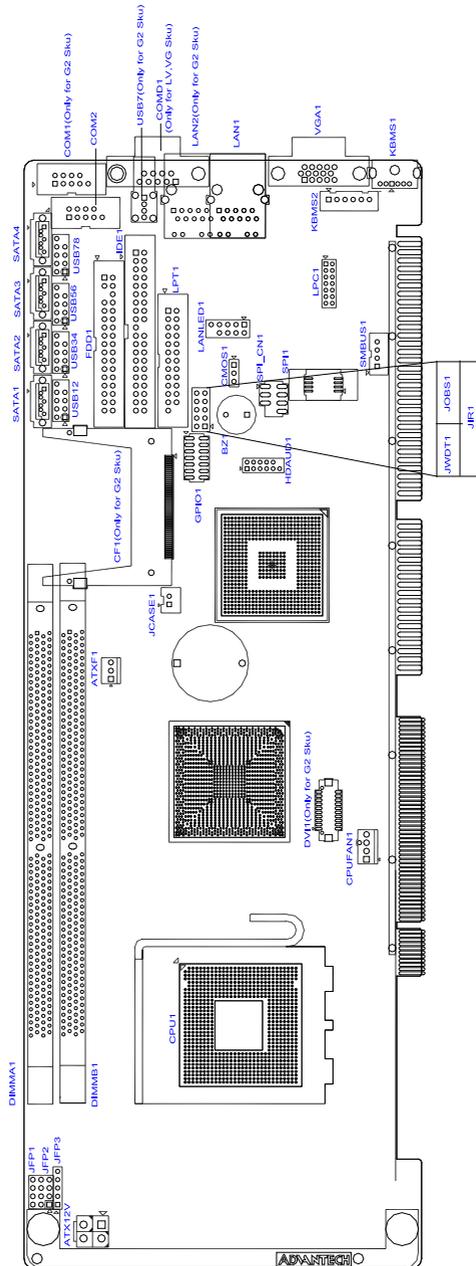


*Board Layout: Jumper and Connector Location*