PCE-5020 PICMG 1.3 Full-sized Intel® LGA775 Processor Card with PCI Express/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 PCE-5020 Intel® LGA775 processor-based single board computer
- 1 PCE-5020 Startup Manual
- 1 CD with driver utility and manual (in PDF format)
- 1 FDD cable p/n: 1700340640
- 1 Ultra ATA 66/100 HDD 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 Dual COM port cable kit (VE sku doesn't have this cable) p/n: 1701092300
- 1 Y cable for PS/2 keyboard and PS/2 mouse p/n: 1700060202
- 1 USB cable with 4 ports p/n: 1700008461
- Warranty card

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

Note1: For detailed contents of PCE-5020, 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/Prodindex/acrobat/readstep.html (Acrobat is a trademark of Adobe.)

Note3: PCE-5020 must use a proprietary CPU cooler, we strongly recommend purchase it from Advantech (p/n: 1960021193T000).
The single COM port cable kit (p/n: 1701090401) is optional, you may purchase it if you want to use 4 COM ports of the G2/VG sku or 2 COM ports of the VE sku.

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 PCE-5020 series Rev. A1

Part No. 2002502011 2nd Edition
December 2008

Specifications

Standard SBC functions

- **CPU:**
  Intel Core® 2 Duo Desktop Processor (E4000)
  Intel Pentium® Dual-Core Desktop Processor (E2000)
  Intel Celeron® Processor 400
  Intel Pentium D Processor
  Intel Pentium 4 Processor
  Intel Celeron D Processor
  Long-term supported P/N: E4300, E2160, Celeron 440, Pentium 4 651/551, Celeron D 352/341
- **BIOS:** Award® 4 Mb Flash memory BIOS
- **Chipset:** Intel 945GC with ICH7/ICH7R
- **System memory:** Dual Channel; Two 240-pin DIMM sockets accepts up to 2 GB DDR2 400/533/667 SDRAM
- **SATA/IDE interface:** Supports up to four SATA2 HDD (300 MB/s) with software RAID 0, 1, 5, 10 functions; one IDE HDD, or two EIDE devices. The IDE port may be altered to a Type II CF socket.
  Note: VE sku has NO S/W RAID function.
- **FDD interface:** Supports up to two FDDs
- **Serial ports:** Four serial RS-232 ports; COM2 can be configured to RS-232/422/485 thru pin header.
  Note: VE sku has two 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):** Four ports to b/p and four 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
- **External Card:** PCIe x16 to backplane for graphics card

Ethernet Interface

- **Chipset:** LAN 1: Intel® 82573L (G2 / VG Version);
  Intel® 82562GZ(VE Version)
  LAN 2: Intel® 82573L (G2 Version)
- **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:**
  CPU: Intel Pentium® D 3.2 GHz / 2 MB / 800 /130 W
  MEMORY: DDR2 667 MHz 1 GB x 2
  Test program: Intel Max power 100% + BurnIn Test 4.0
  +12 V @ 15 A, +5 V @ 2 A, +3.3 V@ 20 A,
  +5 VSB @ 0.7 A, -12 V @ 0 A
- **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.

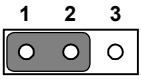
The table below lists the function of each of the connectors and jumpers.

Connectors	
Label	**Function**
IDE1	Primary IDE connector
FDD1	Floppy drive connector
LPT1	Parallel port
VGA1	VGA connector
COM1	Serial port:COM1 (9-pin connector)
COM2	Serial port:COM2 (9-pin connector)
COM3	Serial port:COM3 (9-pin connector)
COM4	Serial port:COM4 (9-pin connector)
KBMS1	PS/2 keyboard and mouse connector
KBMS2	External keyboard/mouse connector
JIR1	Reserved
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
LAN2	LAN RJ45 connector
HDAUD1	HD Link connector
SATA1	Serial ATA1
SATA2	Serial ATA2
SATA3	Serial ATA3
SATA4	Serial ATA4
LANLED1	LAN1 and LAN2 LED connector
BMC1	Reserved
USB12	Two USB port pin headers
USB34	Two USB port pin headers
EXPCI1	Reserved

Jumpers	
Label	**Function**
CMOS1	CMOS clear
JWDT1	Watchdog timer output selection
JSETCOM2	COM2 RS232/422/485 selection

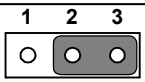
CMOS1: CMOS clear function	
Closed Pins	**Result**
1-2	Keep CMOS data *
2-3	Clear CMOS

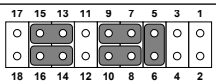
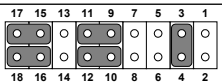
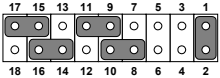
* default setting



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

* default setting



JSETCOM2: COM2 RS232 / 422 / 485 selection	
COM2 Port Function	**Jumper Configuration**
RS-232*	
RS-422	
RS-485	

* 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.

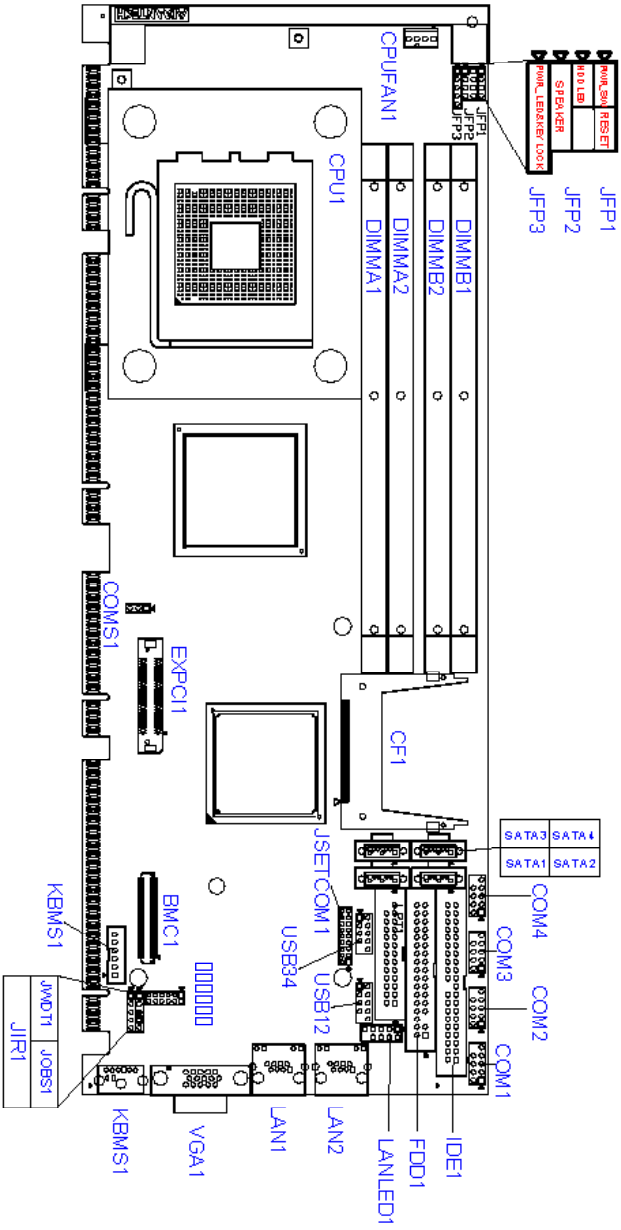
Declaration of Conformity

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.

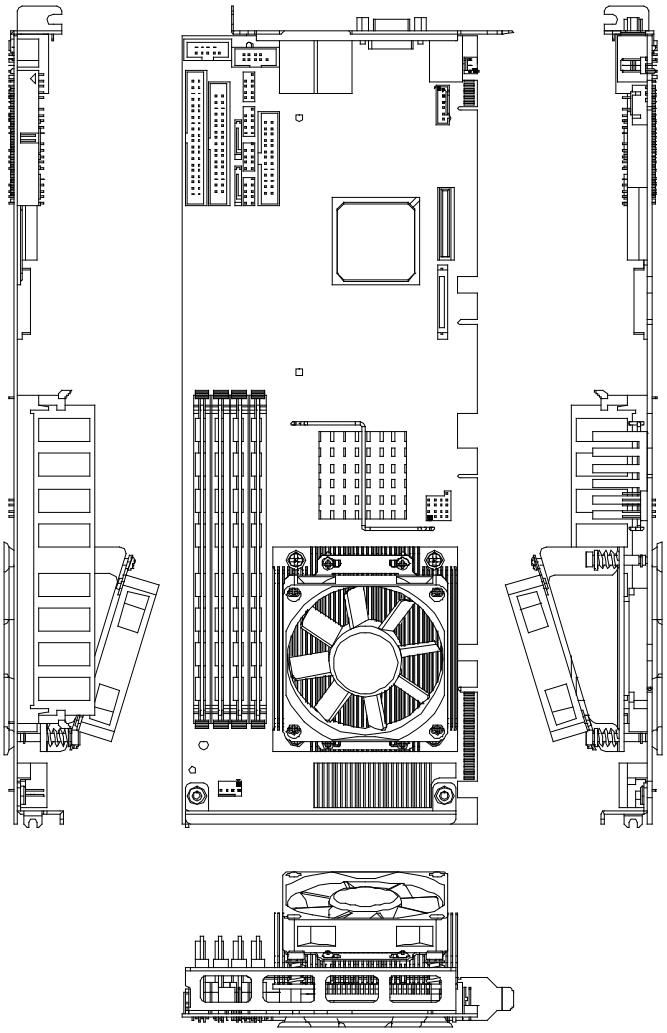
Board Layout

The location of all connectors and jumpers:



Board Layout: Jumper and Connector Location

CPU Cooler Installation



Board Layout: Jumper and Connector Location