LGA775 Intel® Core™ 2 Quad / Core™ 2 Duo Processor-based 800/1066/1333 MHz FSB PICMG 1.3 Single Host Board with PCIe / DDR2 / Dual GbE LAN

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Packing List

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

- 1 PCE-5124 PICMG 1.3 Single Host Board
- 1 PCE-5124 startup manual P/N: 2002512410
- 1 CD with utility P/N: 2062512400
- 1 FDD cable P/N: 1700340640
- 1 User note for full-sized CPU card P/N: 2002721020
- 2 Serial ATA HDD data cables P/N: 1700003194
- 2 Serial ATA HDD power cables P/N: 1703150102
- 1 COM + printer ports cable kit P/N: 1701260305
- 1 4-port USB cable kit P/N: 1700008461
- Keyboard and mouse Y cable P/N: 1700060202
- 1 jumper package P/N: 9689000068
- 1 warranty card P/N: 2190000902

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

Note 1: For detailed contents of the PCE-5124, please refer to 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/Prodindex/acrobat/read-step.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 PCE-5124 series Rev. A1.

Part No. 2002512410 1st Edition
Printed in Taiwan April 2008

Specifications

Standard SHB Functions

- **CPU**: Intel® Core™ 2 Quad / Core™ 2 Duo / Pentium® Dual-core / Celeron® 400 Sequence Processors with 800 / 1066 / 1333 MHz FSB.
- **BIOS:** AMI® 32 Mb Flash memory via SPI bus
- **Chipset:** Intel Q35 with ICH9DO
- **System memory:** Dual Channel; Four 240-pin DIMM sockets for up to 8 GB DDR2 667/800 SDRAM
- **SATA interface:** Supports up to six independent SATA2 hard drives (up to 300 MB/s) with software RAID 0, 1, 5, 10 functions.

Note: PCE-5124 does NOT support IDE port.

- **FDD interface:** Supports up to two FDDs
- **Serial ports:** Six serial ports, COM2 is of RS 232/422/485, other five ones are of RS 232.
- **Parallel port:** One parallel port, supports SPP/EPP/ECP mode
- **Keyboard/mouse connector:** Supports one standard PS/2 keyboard and mouse connector and one external 6-pin header.
- **Watchdog timer:** 255 level timer intervals
- **USB (2.0):** Eight ports on the CPU card, four ports on the backplane.
- **GPIO:** One programmable 8-bit GPIO pin-header.

VGA Interface

- **Chipset:** Intel Q35 GMCH integrated GMA 3100
- **Display memory:** Shared with 256 MB system memory
- **Video Output:** Up to 2048 x 1536 @ 75 Hz refresh

Ethernet Interface

- **Chipset:**
  LAN1: Intel 82566DM (PCIe GbE)
  LAN2: Intel 82573V (PCIe GbE)
- **Connection:** On-board RJ-45 connector x 2

Mechanical and Environmental

- **Dimensions:** (L x W): 338 x 122 mm
- **Power supply voltage:** +5 V ±12 V
- **Power requirements:**
  CPU: Intel Core 2 Quad Desktop Processor Q6200;
  Memory: 4 DDR2 800 MHz 1 GB DIMMs
  Voltage: +12 V, +5 V, +3.3 V, +5 VSB, -12 V, -5 V
  Current: 6.78 A, 4.06 A, 2.72 A, 0.43 A, 0, 0
  Operating temperature: 0 ~ 60° C (depending on CPU)
- **Weight:** 0.5 kg (weight of board)

Connectors and Jumpers

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
FDD1	FDD connector
LPT1	Parallel port, Parallel port x 1, supports SPP/ EPP/ECP mode
LAN1	GbE LAN1 / Intel 82566DM
LAN2	GbE LAN2 / Intel 82573V
VGA1	VGA connector
KBMS1	PS/2 keyboard and mouse connector
KBMS2	External keyboard/mouse connector
COM1	Serial port: COM1; RS-232 (9-pin Box Header)
COM2	Serial port: COM2; RS-232 / 422 / 485 (G2 version: 9-pin Box Header; VG version: 9-pin D-Sub)
COM3-4	Serial port: COM3 and COM4; RS-232 (20-pin Box Header)
COM5-6	Serial port: COM5 and COM6; RS-232 (20-pin Box Header)
JIR1	Infrared connector
JFP3 (Keyboard Lock and Power LED)	Power LED: System On: ON (ATX/AT)
	Power LED: System Off: OFF (AT)
	Power LED: System Off: Slow flash (ATX)
JFP2	External speaker / SATA HDD LED connector
JFP1	Power Switch / Reset connector
JCASE1	Case Open
CPUFAN1	CPU FAN connector (4-pin)
LANLED1	LAN1/2 LED extension connector
HDAUD1	HD audio extension module connector
USB12	USB port 1, 2
USB34	USB port 3, 4
USB56	USB port 5, 6
USB78	USB port 7, 8
SATA1	Serial ATA1
SATA2	Serial ATA2
SATA3	Serial ATA3
SATA4	Serial ATA4
SATA5	Serial ATA5
BT1	Battery Connector
SP1	Buzzer
CPU1	CPU Socket
DIMMA1	Memory connector channel A
DIMMA2	Memory connector channel A
DIMMB1	Memory connector channel B
DIMMB2	Memory connector channel B
GPIO1	GPIO pin header (SMD pitch-2.0 mm)

Jumpers

Label	Function
CMOS1	CMOS clear
JWDT1	Watchdog timer output selection
JSETCOM2	COM2 RS-232/422/485 selection
JOBS1	HW Monitor Alarm

CMOS1: CMOS clear function

Closed Pins	Result
1-2	Keep CMOS data*
2-3	Clear CMOS

* default setting

H/W monitor alarm (JOBS1)

Function	Jumper Setting
AT Mode	 1-2 closed
ATX Mode	 2-3 closed

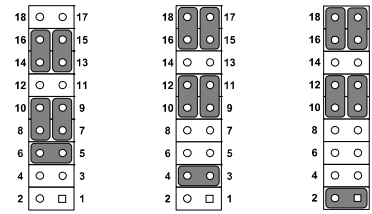
JWDT1: Watchdog timer output option

Closed Pins	Result
1-2	Reserved
2-3	System reset *

* default setting

JSETCOM2: COM2 RS-232/422/485 selection

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

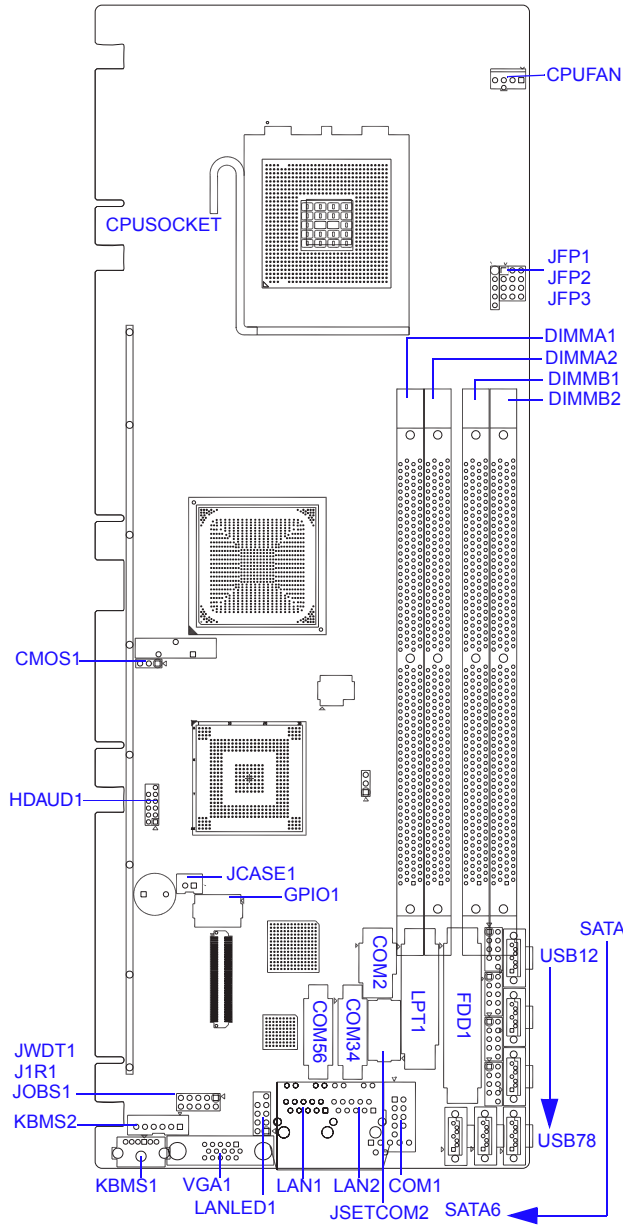
The computer is provided with a battery-powered Real-time Clock circuit. There is a danger of explosion if battery is incorrectly replaced. Replace only with same or equivalent type recommended by the manufacturer. Discard used batteries according to manufacturer's instructions

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.

Board Layout



Board Layout: Jumper and Connector Location