ADVANTECH

PCE-7129/5129/5029 LGA1151 Intel® Core™ i7/i5/i3/Pentium®/Xeon® (PCE-7129) PICMG 1.3 Single Host Board with (ECC) DDR4/M.2 (2280)/Dual GbE LAN Startup Manual

Packing List

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

1. 1 x PCE-7129/5129/5029 PICMG 1.3 Single Host Board
2. 1 x PCE-7129/5129/5029 Startup Manual
3. 1 x CD with utility
4. 1 x Serial ATA HDD data cables
5. 1 x Serial ATA HDD power cables
6. 1 x COM port cable kit
7. 1 x 2-port USB cable kit
8. 1 x Keyboard and mouse Y cable
9. 1 x Jumper package
10. 1 x Warranty card

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

Note 1: For detailed contents of PCE-7129/5129/5029, please refer to the user manual in the enclosed CD-ROM (in PDF format).

Note 2: Acrobat Reader is required to view any PDF file. Acrobat Reader can be downloaded at: get.adobe.com/reader (Acrobat is a trademark of Adobe)

For more information on this and other Advantech products, please visit our website at:

http://www.advantech.com

For technical support and service, please visit our support website at:

http://www.advantech.tw/support

This manual is for the PCE-7129/5129/5029 Series Rev. A3.

Specifications

General

- LGA1151 6th and 7th Intel® Core™ i7/i5/i3/Pentium®/Xeon®
- **BIOS:** AMI 128 Mb SPI BIOS
- **Chipset:**
  - PCE-7129: Intel® C236
  - PCE-5129: Intel® Q170
  - PCE-5029: Intel® H110
- **System memory:**
  - PCE-7129: Supports dual channel DDR4 1866/2133 16GB per DIMM with ECC; Max. capacity is up to 32GB
  - PCE-5129/5029: Supports dual channel DDR4 1866/2133 16GB per DIMM without ECC; Max. capacity is up to 32GB

Note1: Please select Intel® ECC supported processor to enable ECC function.

Note2: Supports DDR4 1024M x 8 memory technology.

- **SATA Ports:**
  - PCE-7129/5129 supports 5 SATA3.0 ports with SW Raid 0,1,5,10.
  - PCE-5029 supports 4 SATA3.0 ports without Raid function.
- **M.2 Ports:** PCE-7129/5129 supports M.2 2280 type M module and compatible to both SATA3.0 and PCI Express 3.0 standard.
- **Serial ports:** Two RS-232 with pin headers

Note: PCE-5029VG SKU feature 1*pin header and 1* rear COM port.

- **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:** PCE-7129/5129/5029: 7 * USB 2.0 (Pin-header*2+USB Type-A*1+, 4 on backplane)
- **USB 3.0:**
  - PCE-7129/5129: 5 * USB 2.0 (Pin-header*4+Rear USB 3.0 * 1)
  - PCE-5029: 3 * USB 2.0 (Pin-header*2+Rear USB 3.0 * 1)
- **GPIO:** One programmable 8-bit GPIO pin-header

VGA Interface

- **Chipset:** Intel® HD Graphics
- Shared system memory is subject to OS

Ethernet Interface

- **Chipset supports:**
  - LAN 1: I219LM(PCE-7129/5129); I219V(PCE-5029)
  - LAN 2: I210AT(PCE-7129); I210AT (PCE-5129/5029)
- **Connection:** 2 on-board RJ-45 connectors with LED indicators

Specifications (Cont.)

Mechanical and Environmental

- **Dimensions:** (L x W): 338 x 122 mm
- **Power supply voltage:** +12 V, +5 V, +3.3 V, +5 V$_{SB}$
- **Power requirements:**
  - CPU: Processor: Intel® Core™ i7-6700
  - Memory: 2 DDR4 2133 8 GB DIMMs
  - Voltage: +12 V, +5 V, +3.3 V, +5 V$_{SB}$, 12 V,-5 V
  - Current: 2.64 A, 1.23 A, 0.19 A, 0.09 A, 0.06 A, 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 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.

Connectors	
Label	**Function**
USB3_1	USB3 port1
LAN1	Intel® I219LM(PCE-7129/5129); Intel® I219V(PCE-5029)
LAN2	Intel® I210AT(PCE-7129); Intel® I210AT (PCE-5129/5029)
VGA1	VGA connector
KBMS1	External PS/2 keyboard and mouse connector
KBMS2	Internal PS/2 keyboard and mouse connector
HDAUD1	Advantech HD audio module expansion pin-header
LPC1	LPC module expansion pin-header
Sysfan1	4 PIN fan power connector for supporting PWM or DC fan
LANLED1	LANLED
USB11	USB port 10
USB45	USB port 4, 5
USB3_45	USB3 port 4, 5
USB3_23	USB3 port 2,3
COM1	RS-232 (9-pin Box Header)
COM2	RS-232 (9-pin Box Header)
LPT1	Parallel port
SATA0 / NGFF1	SATA port 0 or PCIex4
SATA 1~5	SATA Port 1 ~ 5
SPI_CN1	CMOS flash jig pin-header
SPI1	CMOS ROM
DP1	Display port pin-header 1

Jumpers and Connectors (Cont.)

DP2	Display port pin-header 1
JCMOS1	Clear CMOS
JME1	Clear ME
JFP1 + JFP2	Power Switch / Reset connector / External speaker / SATA HDD LED connector
JFP3 (Keyboard Lock and Power LED)	Power LED
	Suspend: Fast flash (ATX/AT)
	System On: ON (ATX/AT)
	System Off: OFF (ATX/AT)
CPUFAN1	CPU FAN Power connector
SYSFAN1	System FAN Power Connector for 1 system FAN
JCASE1	Case Open pin-header
JCASEOP_ SW1	Case Open switch for always open or close
BAT1	Button battery socket
BAT2	External battery connector
GPIO1	GPIO pin header (SMD pitch-2.0 mm)
DIMMA1	Memory connector channel A
DIMMB1	Memory connector channel B

Jumpers	
Label	**Function**
JCMOS1	CMOS clear
JME1	Clear ME data
JWDT1	Watchdog timer output selection
JOBS1	SIO Monitor Alarm

JCMOS1/JME1: Clear CMOS/ME data	
Closed Pins	**Result**
1-2	Keep CMOS/ME data (Default)
2-3	Clear CMOS/ME data

Jumpers and Connectors (Cont.)

Closed	Open

H/W monitor alarm (JOBS1)

Function	Jumper Setting
Closed	Enable OBS alarm (Default)
Open	Disable OBS alarm

1   2   3
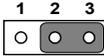
JWDT1: Watchdog timer output option

Closed Pins	Result
1-2	Reserved
2-3	System reset (Default)

The drivers for PCE-7129/5129/5029 are located on the software installation CD. Please click through the folder and follow the screen instructions to install them.

Software Installation

Caution! The computer is supplied with a battery-powered real-time clock circuit. There is a danger of explosion if the battery is incorrectly replaced. Replace only with the same or equivalent type recommended by the manufacturer. Discard used batteries according to the 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.
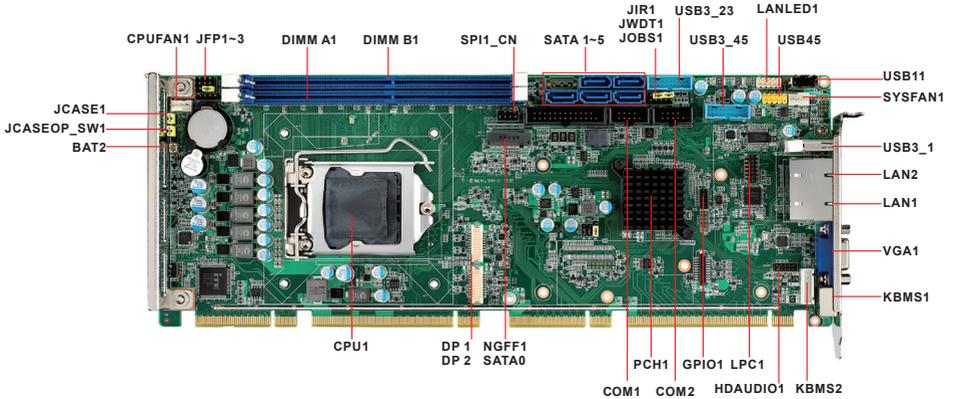
Board Layout

Figure 1: Board Layout: Jumper and Connector Locations

Note: *PCE-5029VG SKU features one rear COM port and one internal pin-header COM port.
*PCE-5029 supports 4 SATA ports (SATA0~4) and one internal USB 3.0 pin-header.
*PCE-5029 doesn't feature NGFF(M.2).
*PCE-5029 supports 1 DP port.