

## PCE-3028/PCE-4128 LGA1150 Intel® Xeon / Core™ i7/i5/i3/ Pentium®/Celeron® PICMG 1.3 Half Sized System Host Board with DDR3 / Dual GbE LAN Startup Manual

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

- 1 PCE-3028/PCE-4128 PICMG 1.3 System Host Board
- 1 PCE-3028/PCE-4128 startup manual P/N: 2006302801
- 1 CD with utility P/N: 2066302801
- 1 Serial ATA HDD data cables P/N: 1700003194
- 1 Serial ATA HDD power cables P/N: 1703150102
- LPT cable P/N: 1700002223
- COM cable P/N: 1700008762
- USB 2.0 cable P/N: 1700014398
- USB 3.0 cable P/N: 1700020277-01
- Power converter (Connecting from peripheral power connector on power supply to PWR1 on board) P/N: 1703040100
- PS/2 Y cable P/N: 1700060202
- 1 warranty card P/N: 2190000902

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

**Note 1:** For detailed contents of PCE-3028/PCE-4128, 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://support.advantech.com.tw/support/default.aspx>

This manual is for the PCE-3028/PCE-4128 Series Rev. A1.

Part No. 2006302801

2nd Edition,

Printed in China

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## Specifications

### General

- LGA1150 Intel® Xeon / Core™ i7/i5/i3/Pentium®/Celeron® - PCE-3028

Haswell Refresh CPU (Support from BIOS V2.XX)									
CPU	i7-4790S	i7-4770S	i5-4570S	i5-4570T	i3-4330	i5-4590S	i5-4590T	i3-4360	i3-4350T
Base Frequency (GHz)	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2
L3 Cache (MB)	8	8	6	6	6	8	8	4	4

Haswell CPU (Support from BIOS V1.XX)									
CPU	i7-4790S	i7-4770S	i5-4570S	i5-4570T	i3-4330	i5-4590S	i5-4590T	i3-4360	i3-4350T
Base Frequency (GHz)	3.1	2.3	2.9	2.7	3.5	2.4	3.2	2.3	2.7
L3 Cache (MB)	8	8	6	4	3	3	3	3	2

- PCE-4128

Haswell Refresh CPU (Support from BIOS V1.XX)		
CPU	i3-4360	i3-4340TE
Base Frequency (GHz)	3.7	2.6
L3 Cache (MB)	4	4

Haswell CPU (Support from BIOS V1.XX)									
CPU	E3-1275v3	E3-1225v3	E3-1268Lv3	i5-4570TE	i3-4330	i3-4330TE	G3420	G3320TE	G1820
Base Frequency (GHz)	3.5	3.2	2.3	2.7	3.5	2.4	3.2	2.3	2.7
L3 Cache (MB)	8	8	8	4	3	3	3	3	2

- **BIOS:** AMI 128 Mbit SPI flash
- **Chipset:**
  - PCE-3028: Intel H81
  - PCE-4128: Intel C226
- **System memory:**
  - PCE-3028: DDR3 1066/1333/1600 8GB per DIMM, Max capacity is 16GB (Only Non-ECC support)
  - PCE-4128: DDR3 1066/1333/1600 8GB per DIMM, Max capacity is 16GB (Only ECC support)
- **SATA interface:**
  - PCE-3028: SATA 3.0 x2 (600 MB/sec) , SATA 2.0 x2 (300 MB/sec)
  - PCE-4128: SATA 3.0 x4 (600 MB/sec)
- **Serial ports:** 2 RS-232, supports extra 4 RS-232 or RS-422/485 with optional COM module: PCA-COM232-00A1E or PCA-COM485-00A1E
- **Parallel port:** 1, supports SPP/EPP/ECP mode
- **Keyboard/mouse connector:** Supports 1 external 6-pin header
- **Watchdog timer:** Programmable 1~255 sec
- **USB:**
  - PCE-3028: USB 3.0 x2, USB 2.0 x8
  - PCE-4128: USB 3.0 x3, USB 2.0 x7
- **GPIO:** 1 programmable 8-bit GPIO pin-header

## Specifications (Cont.)

### • Operating system:

OS	PCE-3028	PCE-4128	Remark
WinXP-32bit (Pro SP3)	V	V	1. Intel Matrix Storage RAID/RST/AHCI are not supported. 2. USB 3.0 is not support, down grade to USB 2.0. 3. There is an exclamation mark on audio device under Windows device manager but audio function is normal. 4. ACPI (S1, S3, S4) function is NOT supported.
Win7-32bit (Ultimate SP1)	V	V	
Win7-64bit (Ultimate SP1)	V	V	
Win8-32bit (Pro)	V	V	
Win8-64bit (Pro)	V	V	
Linux (Fedora Core 19, 32bit. Installation only)	V	V	
Server 2008 R2 64-bit (Enterprise SP1)		V	
Server 2012 64-bit (Standard)		V	

## Display

### • Chipset:

- PCE-3028: Intel GT2 4600 or GT1 HD graphics (Depend on CPU support)
- PCE-4128: Intel GT2 P4600, GT2 4600 or GT1 HD graphics (Depend on CPU support)

## Ethernet Interface

### • Chipset supports:

- PCE-3028: Intel I217V for LAN1, and I211AT for LAN2
- PCE-4128: Intel I217LM for LAN1, and I210AT for LAN2

- **Connection:** 2 on-board RJ-45 connector with LED indicators

## Mechanical and Enviromental

- **Dimensions:** (L x W): 167.64 x 126.39 mm
- **Power supply voltage:** +3.3 V, +5 V, +12 V, 5VSB
- **Power requirements:**

### PCE-3028

Intel Core i7-4770S (3.1GHz), DDR3 1600 8GB *2						
Voltage	12V	5V	3.3V	5VSB	-12V	-5V
Current (A)	7.26	1.06	0.42	0	0	0
Total (W)	93.806					

### PCE-4128

Intel Xeon E3-1275 v3 (3.5GHz), DDR3 1600 8GB *2						
Voltage	12V	5V	3.3V	5VSB	-12V	-5V
Current (A)	7.36	0.96	0.83	0.13	0	0
Total (W)	96.509					

- **Operating temperature:** 0 ~ 60° C (depending on CPU)
- **Weight:** 0.33 kg (weight of board)

## Thermal

### • CPU Cooler:

Part Number	Description
1960047831N001	2U cooler for Xeon E3-1275v3, E3-1225v3, E3-1268v3, Intel Core i7-4770S, i7-4770TE, i5-4570S, i5-4570TE, i3-4330, i3-4330TE, G3420, G3220TE, G1820, G1820TE
1960053207N001	1.5U cooler for Intel Core i7-4770S, i7-4770TE, i5-4570S, i5-4570TE, i3-4330, i3-4330TE, G3420, G3220TE, G1820, G1820TE
1960053065N001	1U blower for Intel Core i5-4570S, i5-4570TE, i3-4330, i3-4330TE, G3420, G3220TE, G1820, G1820TE

## Suggested Backplane

### • PCE-3028:

P/N	PCIex16	PCIex8	PCIex4	PCIex1	PCI
PCE-3B12-08A1E	1			2	8
PCE-3B06-00A1E	1			4	
PCE-3B03-00A1E	1		1		
PCE-3B06-03A1E	1			1	3
PCE-3B06-02A1E	1			2	2
PCE-3B03A-00A1E	1		1		

### • PCE-4128:

P/N	PCIex16	PCIex8	PCIex4	PCIex1	PCI
PCE-4B13-08A1E		2		2	8
PCE-3B12-08A1E	1			2	8
PCE-3B06-00A1E	1			4	
PCE-3B03-00A1E	1		1		
PCE-3B06-03A1E	1			1	3
PCE-3B06-02A1E	1			2	2
PCE-3B03A-00A1E	1		1		

## 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
LPT1	Parallel port, supports SPP/EPP/ECP mode
LAN1	PCE-3028: Intel I217V PCE-4128: Intel I217LM
LAN2	PCE-3028: Intel I211AT PCE-4128: Intel I210AT
VGA1	VGA connector
KBMS1	External keyboard/mouse connector
COM12	Box header for RS-232*2
FP1	Power switch / Reset connector
JCASE1	Case open
CPUFAN1	CPU FAN connector (4-pin)
LANLED1	LAN1/2 LED connector

## Jumpers and Connectors (Cont.)

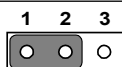
HDAUD1	HD audio extension module connector
USB12	USB port 1, 2 (USB 3.0 port)
USB3	PCE-3028: USB port 3 (USB 2.0) PCE-4128: USB port 3 (USB 3.0)
USB4	Type A connector on board (USB 2.0)
USB56	USB port 5, 6 (USB 2.0)
USB78	USB port 7, 8 (USB 2.0)
USB910	USB port 9, 10 (USB 2.0)
SATA1	Serial ATA1 (SATA 3.0)
SATA2	Serial ATA2 (SATA 3.0)
SATA3	Serial ATA3 (For PCE-3028, it is SATA 2.0 port, for PCE-4128, it is SATA 3.0 port.)
SATA4	Serial ATA4 (For PCE-3028, it is SATA 2.0 port, for PCE-4128, it is SATA 3.0 port.)
CPU1	CPU Socket
DIMMA1	Memory connector channel A1
DIMMB1	Memory connector channel B1
GPIO1	GPIO pin header
LPC1	Low pin count module expansion pin-header
PWR1	12 V, 5 V power connector
DVI1 (PCE-3028)	DVI connector
DP1/DP2 (PCE-4128)	Display pin header to stack board (Display type depends on optional stack board)
MINIPCI_E1_ MSATA1 (PCE-4128)	m-SATA(default) and mini-PCIe socket (Optional)

### Jumpers

Label	Function
JCMOS1	CMOS clear
JWDT1+JOBS1	Hardware monitor alarm+watchdog timer output selection
BZ1	Buzzer setting
JME1	Enable ME

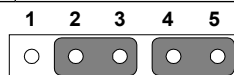
### JCMOS1: Clear CMOS

Closed Pins	Result
1-2	Keep CMOS (Default)
2-3	Clear CMOS



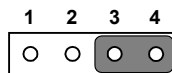
### JOBS1+JWDT1: Hardware monitor alarm+watchdog timer output selection

Function	Jumper Setting
2-3	Enable watchdog timer (Default)
4-5	Enable Hardware monitor alarm (Default)



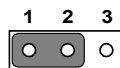
### BZ1: Buzzer setting

Closed Pins	Result
3-4	Enable buzzer (Default)
Connect 1 & 4	Connecting to external speaker



### JME1: Enable ME

Closed Pins	Result
1-2	Enable ME (Default)
2-3	Disable ME



## Software Installation

The drivers for the PCE-3028 are located on the software installation CD. Please click through the folder and follow the on screen instructions to install them.

**Caution!** The computer is supplied with a battery-powered realtime 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.

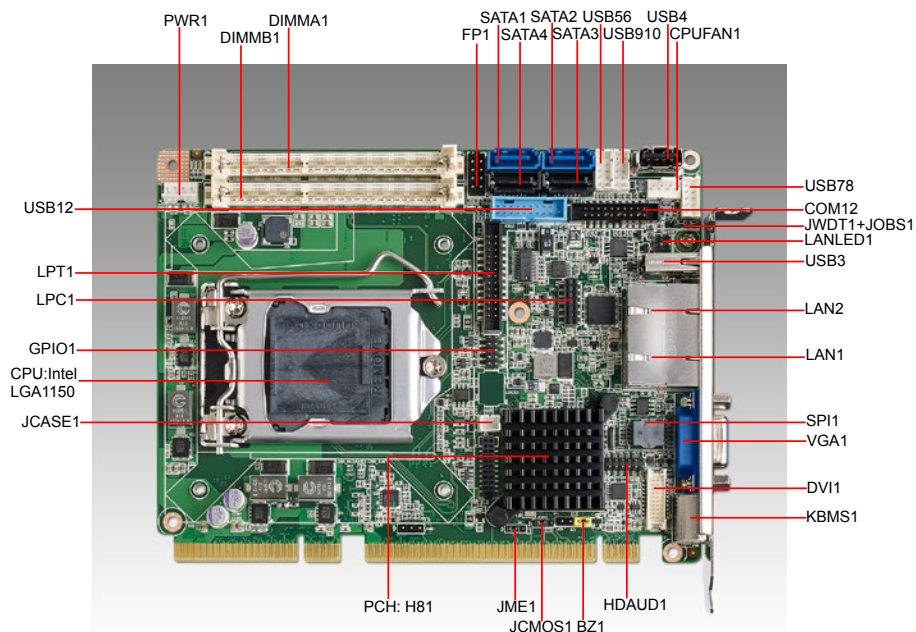


## Declaration of Conformity

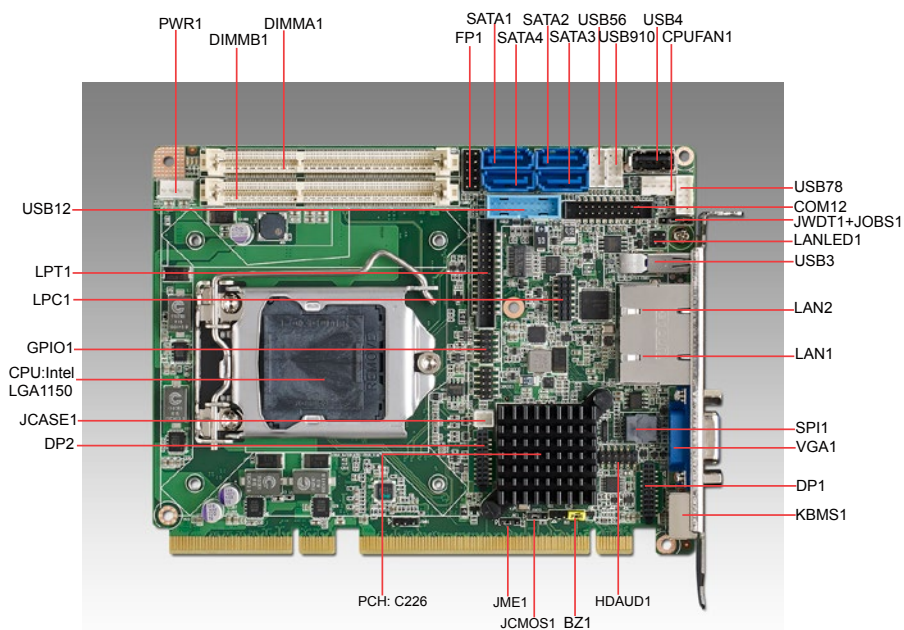
This device complies with the requirements in Part 15 of the FCC rules. Operation is subject to the following two conditions:

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



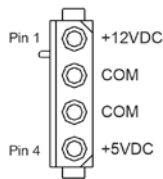
**PCE-3028 Board Layout**



**PCE-4128 Board Layout**

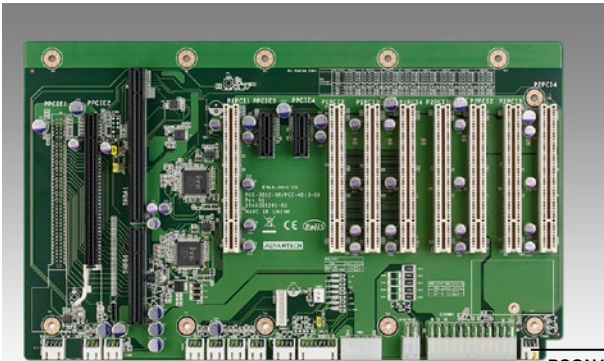
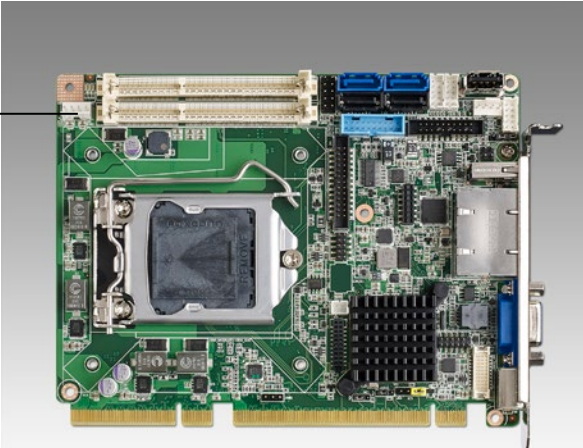
# How to Power on PCE-3028/PCE-4128

To power on PCE-3028/PCE-4128 with backplanes, please ensure that below connectors and jumper are correctly connected and chosen.



PWR1

Cable: 1703040100



PSON1

PSON1: ATX/AT Mode Selection	
Jumper Setting	Function
1-2	AT mode
2-3 (Default)	ATX mode

