ADVANTECH

PCA-6029 LGA1151 6th and 7th Gen. Intel® Core™ i7/i5/i3/Pentium™/Celeron™ System Host Board with VGA/DVI/DP and Dual GbE LAN
Startup Manual

Packing List

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

1. PCA-6029 PICMG 1.0 Single Board Computer
2. 1x PCA-6029 startup manual   P/N: 2041602900
3. 2x Serial ATA HDD data cables   P/N: 1700003194
4. 1x COM + printer ports cable kit P/N: 1701260305
5. 1x 4-port USB cable kit   P/N: 1700008461-11
6. 1x Keyboard and mouse Y cable P/N: 1700060202
7. 1x Warranty card   P/N: 2190000902

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

Note 1: Acrobat Reader is required to view PDF files. 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

http://www.advantech.com/eplatform

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

https://advt.ch/PCA-6029

This manual is for the PCA-6029 Series Rev. A1.

Part No. 2041602900   1st Edition
Printed in China   November 2020

Specifications

General

- **CPU:** LGA1151 6th and 7th Gen. Intel® Core™ i7/i5/i3/Pentium™/Celeron™
- **BIOS:** AMI 128Mbit SPI Flash
- **Chipset:** Intel® H110
- **System memory:** Dual-channel (non-ECC) U-DIMM DDR4 2133/2400, up to 64 GB (32 GB per DIMM)
  Note: 6th Gen. CPU up to 2133, 7th Gen. CPU up to 2400
- **SATA ports:** SATA 3.0 x 4 (600 MB/sec)
- **Serial ports:** 2x RS-232 with pin headers
- **Parallel port:** 1x parallel port, supports SPP/EPP/ECP mode
- **Keyboard/mouse connector:** Supports 1x standard PS/2 keyboard and mouse connector and 1x external 6-pin header
- **Watchdog timer:** 255 level timer intervals
- **USB 2.0:** Up to 7 (6x pin header, 1x vertical type A)
- **USB 3.0:** Up to 3 (2x pin header, 1x rear)
- **GPIO:** One programmable 8-bit GPIO pin-header

VGA Interface

- **Chipset:** Intel® HD graphics
- Shared system memory determined by OS

Ethernet Interface

- **Chipset Supports:**
  - LAN1: Intel® I219-V
  - LAN2: Intel® I211-AT
- **Connection:** 2x on-board RJ-45 connector with LED indicators"

Mechanical and Enviromental

- **Dimensions:** (L x W): 338 x 122 mm (13.3 x 4.8 in)
- **Power supply voltage:** +12V, +5V, +5VSB
- **Power requirements:**
  i7-6700 CPU, 32G 2Rx8 DDR4 3200U*2, SEAGATE 500GB*1
  Voltage: +V12, +V5, +V5_SB, +V12_4P
  Current: 0.13A, 0.94A, 0.08A, 1.33A
- **Operating temperature:** 0 ~ 60 °C (32 ~ 140 °F) (depending on CPU)
- **Weight:** 0.5 kg/1.10 lb (weight of board)

Jumpers and Connectors

This board has a number of jumpers that allow users to configure their system to suit their applications. The table below lists the function of each of the jumpers and connectors.

Connectors	
Label	**Function**
LPT1	Parallel port, 1x parallel port, supports SPP/EPP/ECP mode
LAN1	Intel® I219-V
LAN2	Intel® I211-AT
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 (9-pin Box Header)
JIR	Infrared connector
JFP3 (Keyboard Lock and Power LED)	Power LED
	Suspend: Fast flash (ATX/AT)
	System On: ON (ATX/AT)
	System Off: OFF (ATX/AT)
JFP2	External speaker / SATA HDD LED connector
JFP1	Power switch / Reset connector
JCASE1	Case open
CPUFAN1	CPU FAN connector (4-pin)
SYSFAN1	System FAN connector (4-pin)
LANLED1	LAN1/2 LED extension connector
HDAUD1	HD audio extension module connector
USB3C1	USB1 (USB3.0)
USB3H1	USB2, USB3 (USB3.0)
USB2H1	USB4, USB5
USB2H2	USB6, USB7
USB2H3	USB8, USB9
USB2A1	USB10
SATA0	Serial ATA 0
SATA1	Serial ATA 1
SATA2	Serial ATA 2
SATA3	Serial ATA 3
CPU1	CPU socket
DIMMA1	Memory connector channel A
DIMMB1	Memory connector channel B
GPIO1	GPIO pin header (SMD pitch-2.0 mm)
LPC1	COM port module expansion pin-header
DP1	DP/DVI connector
M.2	M.2 connector
SMBUS1	SMBus connector
ATX12V1	12V connector
ATXF1	ATX power connector

Jumpers	
Label	**Function**
JCMOS1	CMOS clear
JME1	Clear ME data
JWDT	Watchdog timer output selection
JOBS1	HW monitor alarm

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

Closed   Open

H/W Monitor Alarm (JOBS1)	
Function	**Jumper Setting**
Closed	Enable OBS alarm (Default)
Open	Disable OBS alarm

JWDT1: Watchdog Timer Output Option	
Closed Pins	**Result**
1-2	Reserved
2-3	System reset (Default)

Software Installation
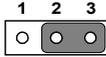
JERP1: Deep Sleep S5	
Closed Pins	**Result**
1-2	Enabled
2-3	Disabled (Default)

Software Installation

The drivers for the PCA-6029 are located on the official website: http://advt.ch/PCA-6029.

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 the same or equivalent type recommended by the manufacturer. Discard used batteries acording to the manufacturer's instructions.
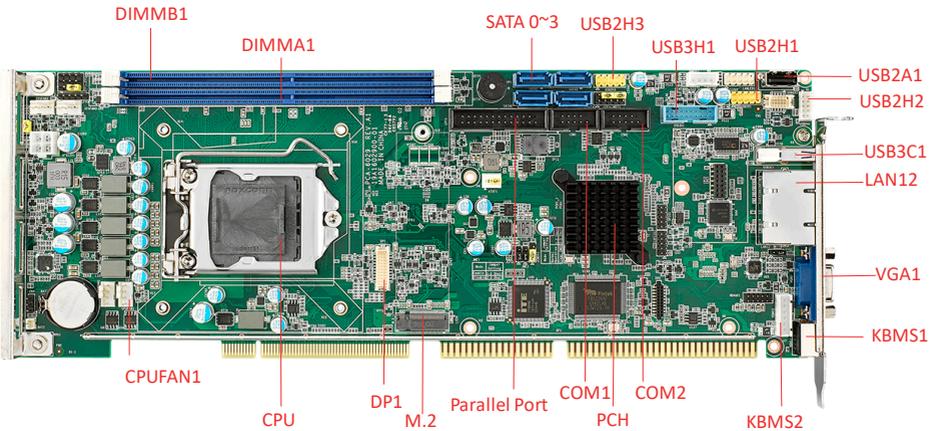
Declaration of Conformity

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

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