

PCE-7B17-00A1E Backplane: 17-slot BP for 20-slot chassis, 11 PCIe x4, and 5 PCIe x8 Startup Manual

Packing List

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

- PCE-7B17-00 start-up manual 2nd ED P/N: 20067B1701
- M4*6*0.7 Round Screws P/N: 1939000410
- 2-year Quality Warranty Card P/N: 2190000902

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

Specifications

Standard Functions

- **PICMG 1.3 slots:** PCE-7B17-00 supports PCE-5126WG2, PCE-7127
- **PCIe slots:** PCIe x4: 11; PCIe x8: 5 (Optional: PCIe x4:13; PCIe x8:4, please create a T-part)
*If you have any questions about memory, I/O or IRQ resource limitations, please contact Advantech locally or FAE for further support.
- **PCIe switch chip:** PLX PEX8748
- **USB (2.0) ports:** 4 Universal Serial Bus ports as pin headers

Mechanical and Environment

- **Dimensions:** 327.66 x 417 mm
- **Power supply voltage:** +12 V, +5 V, -12 V, -5 V, +3.3 V, +5VSB
- **Power requirements:** Refer to CPU board, add-on card & peripheral documentation
- **Operating temperature:** 0 ~ 60° C (Depending on system thermal solution)
- **Weight:** 1.7 kg (weight of board)

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 PCE-7B17-00A1E.

Part No. 20067B1701
Printed in China

Edition 2
August 2013

Connectors and Jumpers

The backplane 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	
Part Reference	Function
SHBA1 ~ SHBD1	PICMG 1.3 CPU board slot
PPCIEX4_1	PCIe x4 with PCIe x16 slot
P1PCIEX4_3, P1PCIEX4_4	PCIe x4 with PCIe x4 slot (Primary switch)
P1PCIEX4_5, P1PCIEX4_6	PCIe x4 with PCIe x16 slot (Primary switch)
P1PCIEX8_1 P1PCIEX8_2, P1PCIEX8_3	PCIe x8 with PCIe x16 slot (Primary switch)
P2PCIEX4_1, P2PCIEX4_4 ~ P2PCIEX4_6	PCIe x4 with PCIe x16 slot (Secondary switch)
P2PCIEX4_2, P2PCIEX4_3	PCIe x4 with PCIe x4 slot (Secondary switch)
P2PCIEX8_1, P2PCIEX8_2	PCIe x8 with PCIe x16 slot (Secondary switch)
EATXPWR1	ATX 2.0 24-pin power connector
EATPWR1	AT 12-pin Power connector
ATX12V1	ATX 12 V Auxiliary 4-pin power connector1
ATX12V2	ATX 12 V Auxiliary 4-pin power connector
EATX12V1	ATX 12 V 8-pin power connector
PWR3V1	3.3 V Auxiliary power connector
PWR3V2	3.3 V Auxiliary power connector
PWR3V3	3.3 V Auxiliary power connector
PWR5V1	5 V Auxiliary power connector
VOLT1	Alarm board / power connector
FAN1 ~ FAN7	Fan connectors
FANDEC1	Fan detector connector
SMBUS1 ~ SMBUS2	Chassis sensor board connectors
JFP1	Power and reset button connector

Connectors and Jumpers

IPMB1	IPMB connector
USB12	USB connector
USB34	USB connector
PSON2	Power Connector for Advantech Redundant Power Supply: 1757001757, 1757001760, 1757001758, 1757001761, 1757001759, 1757001677
ISP1	PCIe re-driver F/W update port

Jumpers

Part Reference	Function
PSON1	ATX/AT mode select connector 1-2: AT mode 2-3: ATX mode (default)
JGEN1	PCIe generation selection connector for primary switch No jumper: Gen2 1-2: Gen3 (Default) 2-3: Gen1 * The PCIe generation setting is backwards compatible. Suggest choosing "Gen3" setting.
JGEN2	PCIe generation selection connector for Secondary switch No jumper: Gen2 1-2: Gen3 (Default) 2-3: Gen1 * The PCIe generation setting is backwards compatible. Suggest choosing "Gen3" setting.
JCOMP1	Enable compatibility for Non-Compliant Gen1 Endpoints (Primary switch) 1-2: Enable Gen1 Endpoints Compatibility (Default) 2-3: Normal
JCOMP2	Enable compatibility for Non-Compliant Gen1 Endpoints (Secondary switch) 1-2: Enable Gen1 Endpoints Compatibility (Default) 2-3: Normal

EATXPWR1

Pin	Name
1	3.3 V
2	3.3 V
3	GND
4	5 V
5	GND
6	5 V

7	GND
8	PWROK
9	5VSBY
10	12 V
11	12 V
12	3.3 V
13	3.3 V
14	-12 V
15	GND
16	PSON#
17	GND
18	GND
19	GND
20	-5 V
21	5 V
22	5 V
23	5 V
24	GND

EATPWR1

Pin	Name
1	PWROK
2	5 V
3	12 V
4	-12 V
5	GND
6	GND
7	GND
8	GND
9	-5 V
10	5 V
11	5 V
12	5 V

ATX12V1 ~ ATX12V2

Pin	Name
1	GND
2	GND
3	12 V
4	12 V

Connectors and Jumpers

EATX12V1

Pin	Name
1	GND
2	GND
3	GND
4	GND
5	12 V
6	12 V
7	12 V
8	12 V

PWR3V1~ PWR3V3

Pin	Name
1	3.3 V
2	3.3 V
3	3.3 V
4	GND
5	GND
6	GND

PWR5V1

Pin	Name
1	5 V
2	5 V
3	5 V
4	GND
5	GND
6	GND

VOLT1

Pin	Name
1	5VSB
2	GND
3	GND
4	-5 V
5	5 V
6	3.3 V
7	-12 V
8	12 V

FAN1~ FAN7

Pin	Name
1	GND
2	12 V
3	FANIO1 ~ FANIO7

FANDEC1

Pin	Name
1	FANIO1
2	FANIO2
3	FANIO3
4	FANIO4
5	FANIO5
6	FANIO6
7	FANIO7

SMBUS1~ SMBUS3

Pin	Name
1	5 V
2	C-SMBCLK
3	C-SMBDAT
4	GND

JFP1

Pin	Name
1	PWRBTN#
2	GND
3	RESET#
4	GND

IPMB1

Pin	Name
1	IPMB_CLK
2	IPMB_DAT
3	GND

Connectors and Jumpers

USB12

Pin	Name
1	USBV0
2	USBV0
3	USBD0-
4	USBD1-
5	USBD0+
6	USBD1+
7	GND
8	GND
9	Null
10	GND

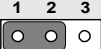
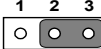
USB34

Pin	Name
1	USBV2
2	USBV2
3	USBD2-
4	USBD3-
5	USBD2+
6	USBD3+
7	GND
8	GND
9	Null
10	GND

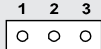
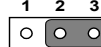
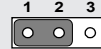
PS0N2

Pin	Name
1	GND
2	PS_ON#
3	GF_PS_ON#

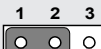
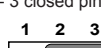
PS0N1: ATX/AT Mode Selection

Jumper Setting	Function
1 - 2 closed pins 	AT mode
2 - 3 closed pins 	ATX mode (default)

JGEN1 & JGEN2: PCIe Generation Selection Connector

Jumper Setting	Function
No jumper 	Gen2
2 - 3 closed pins 	Gen1
1 - 2 closed pins 	Gen3 (Default)

JCOMP1 & JCOMP2: Enable compatibility for Non-Compliant Gen1 Endpoints

Jumper Setting	Function
1 - 2 closed pins 	Enable Gen1 Endpoints Compatibility (Default)
2 - 3 closed pins 	Normal

Block Diagram

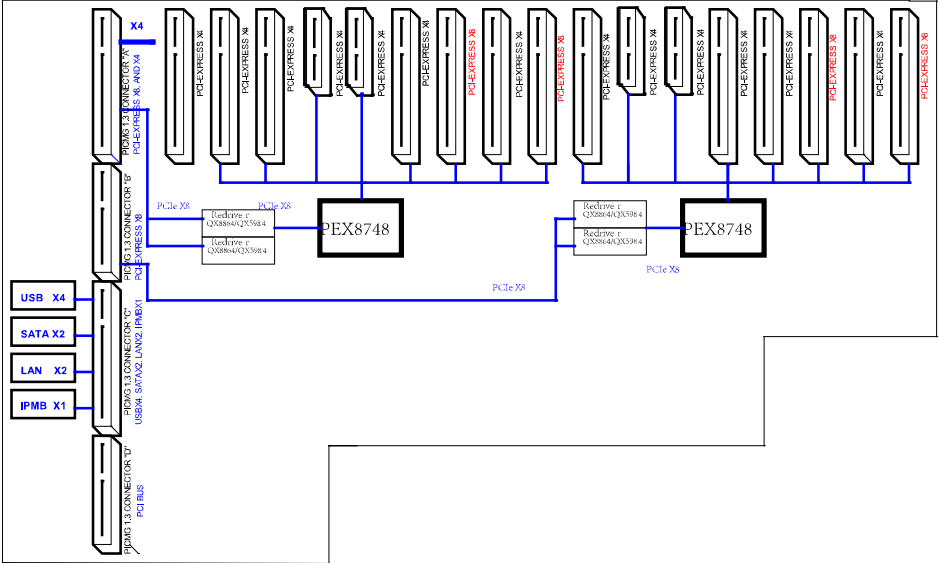


Figure 1: Block Diagram

Locating Jumpers & Connectors

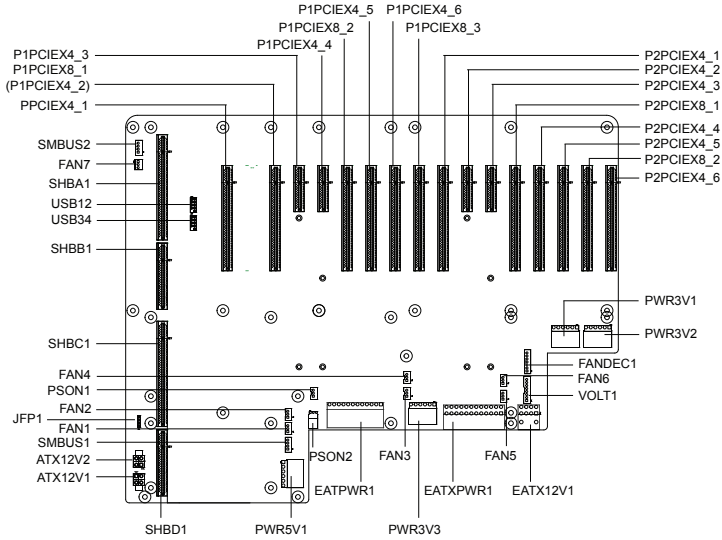


Figure 2: Locating Jumpers & Connectors

Board Dimensions

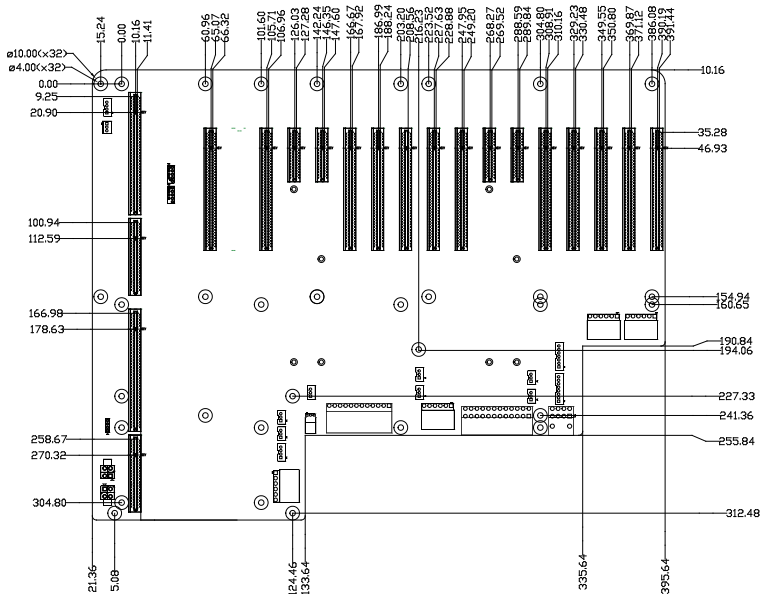


Figure 3: Block Dimensions