

# PCE-7B19-88A1E (PCE-5B18-88A1E) Backplane: 19 (18)-slot BP for 20-slot Chassis, 1 PICMIG 1.3, 2 (1) PCIe, 8 64-bit PCI-X, 8 32-bit PCI

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

- One 2 Ports USB Cable p/n: 1700002204
- PCE-7B19-88A1E (PCE-5B18-88A1E) Startup Manual
- M4\*6\*0.7 round screws [15 pcs.] p/n: 1939000410
- 2-year quality warranty card p/n: 2190000902

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

## Standard Functions

- **PICMIG 1.3 slots:**  
PCE-7B19-88 supports PCE-7xxx CPU boards  
PCE-5B18-88 supports PCE-5xxx CPU boards
- **PCIe slots:**  
PCE-7B19-88 supports two PCIe x8 slots  
PCE-5B18-88 supports one PCIe x16 slot
- **64-bit PCI-X slots**  
Eight 64 Bit / 66 MHz PCI-X slots
- **Bridge chip**  
Intel 6700PXH
- **32-bit PCI slots**  
Eight 32 Bit / 33 MHz PCI slots  
Bridge Chip: Pericom PI7C8150BMAE
- **USB (2.0) ports:** Four 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, +5 VSBY
- **Power requirements:** refer to CPU board, add-on card & peripheral documentation
- **Operating temperature:** 0 ~ 60° C
- **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 the PCE-7B19-88A1E (PCE-5B18-88A1E) series Rev. A1.

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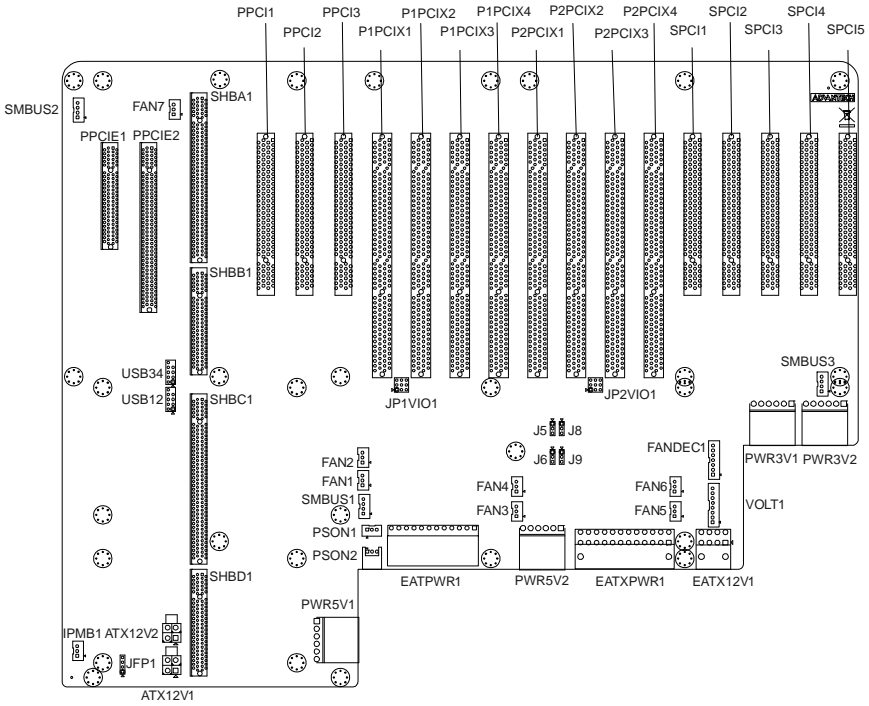
## 1. Connectors and Jumpers

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	PICMIG 1.3 CPU board slot
PPCIE1	PCE-7B19-88: PCIe x8 slot PCE-5B18-88: Not available
PPCIE2	PCE-7B19-88: PCIe x8 slot PCE-5B18-88: PCIe x16 slot
P1PCIX1 ~ P1PCIX4	64 Bit / 66 MHz PCI-X bus slot (primary 1)
P2PCIX1 ~ P2PCIX4	64 Bit / 66 MHz PCI-X bus slot (primary 2)
PPC11 ~ PPC13	32 Bit / 33 MHz PCI(-X) bus slot (primary 3)
SPC11 ~ SPC15	32 Bit / 33 MHz PCI(-X) bus slot (secondary)
EATXPWR1	ATX 2.0 Power connector
EATPWR1	AT 12-pin Power connector
ATX12V1	ATX 12 V Auxiliary 4-pin power connector
ATX12V2	ATX 12 V Auxiliary 4-pin power connector
EATX12V1	ATX 12 V Auxiliary 8-pin power connector
PWR3V1	3.3 V Auxiliary power connector
PWR3V2	3.3 V Auxiliary power connector
PWR5V1	5 V Auxiliary power connector
PWR5V2	5 V Auxiliary power connector
VOLT1	Alarm board / CMM power connector
FAN1 ~ FAN7	Fan connectors
FANDEC1	Fan detector connector
SMBUS1 ~ SMBUS3	Chassis sensor board connectors
JFP1	Power and reset button connector
IPMB1	IPMB connector
USB1	USB connector
USB34	USB connector
PSO2	ATX Feature Connector

Jumpers	
Part Reference	Function
PSO2	ATX Feature Connector
J5	Primary 1 PCI bus frequency selection
J6	Primary 1 PCI(-X) bus capability selection
J8	Primary 2 PCI bus frequency selection
J9	Primary 2 PCI(-X) bus capability selection
JP1VIO1	Primary 1 PCI-X bus VIO voltage selection
JP2VIO1	Primary 2 PCI-X bus VIO voltage selection

## 2. Board Layout



**Board Layout: Jumper and Connector Locations**

### 3. Connector Pin Definitions

#### 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

#### EATX12V1

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

#### PWR3V1~ PWR3V2

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

#### PWR5V1 ~ PWR5V2

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

#### VOLT1

Pin	Name
1	5VSBY
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

### 3. Connector Pin Definitions (cont.)

#### 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

#### 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

#### JP1VIO1

Pin	Name
1	5 V
2	5 V
3	5 V
4	PA_VIO
5	PA_VIO
6	PA_VIO
7	3.3 V
8	3.3 V
9	3.3 V

#### JP2VIO1

Pin	Name
1	5 V
2	5 V
3	5 V
4	PB_VIO
5	PB_VIO
6	PB_VIO
7	3.3 V
8	3.3 V
9	3.3 V

#### PSON2

Pin	Name
1	5VSBY
2	Null
3	PSON#

## 4. PCI Routing Tables

### Primary 1 PCI-X Channel A 64-bit Interrupt Pin Route

PCI Slot	P1PCIX1	P1PCIX2	P1PCIX3	P1PCIX4
IDSEL	AD 31	AD 30	AD 29	AD 28
INTA	INT 15	INT 10	INT 5	INT 0
INTB	INT 12	INT 11	INT 6	INT 1
INTC	INT 13	INT 8	INT 7	INT 2
INTD	INT 14	INT 9	INT 4	INT 3

### Primary 2 PCI-X Channel B 64-bit Interrupt Pin Route

PCI Slot	P2PCIX1	P2PCIX2	P2PCIX3	P2PCIX4
IDSEL	AD 31	AD 30	AD 29	AD 28
INTA	INT 15	INT 10	INT 5	INT 0
INTB	INT 12	INT 11	INT 6	INT 1
INTC	INT 13	INT 8	INT 7	INT 2
INTD	INT 14	INT 9	INT 4	INT 3

Note: To isolate the concept of a common IRQ for PCI resources, the pin names IRQ0 ~ IRQ15 on the PCIe to PCI-X bridge have been changed to INT0 ~ INT15.

### Primary 3 PCI 32-bit Interrupt Pin Route

Slot	PPCI1	PPCI2	PPCI3	U3 (PI7C8150)
IDSEL	AD 31	AD 30	AD 29	AD 28
INTA	INT B	INT C	INT D	
INTB	INT C	INT D	INT A	
INTC	INT D	INT A	INT B	
INTD	INT A	INT B	INT C	

### Secondary PCI 32-bit Interrupt Pin Route

Slot	SPCI1	SPCI2	SPCI3	SPCI4	SPCI5
IDSEL	AD20	AD21	AD22	AD23	AD24
INTA	INT A	INT B	INT C	INT D	INT A
INTB	INT B	INT C	INT D	INT A	INT B
INTC	INT C	INT D	INT A	INT B	INT C
INTD	INT D	INT A	INT B	INT C	INT D

## 5. Jumper Settings

### J5: Primary 1 PCI Bus Frequency Selection

Jumper Setting	Function
1 - 2 closed pins	PCI 66 MHz



2 - 3 closed pins	PCI 33 MHz (default)
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### J8: Primary 2 PCI Bus Frequency Selection

Jumper Setting	Function
1 - 2 closed pins	PCI 66 MHz



2 - 3 closed pins	PCI 33 MHz (default)
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### J6: Primary 1 PCI(-X) Bus capability Selection:

Jumper Setting	Function
1 - 2 closed pins	PCI-X 66 MHz mode (default)



2 - 3 closed pins	2 - 3: PCI mode
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### J9: Primary 2 PCI(-X) Bus Capability Selection

Jumper Setting	Function
1 - 2 closed pins	PCI-X 66 MHz mode (default)

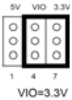


2 - 3 closed pins	PCI mode
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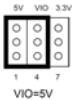
### JP1VIO1: Primary 1 PCI-X Bus VIO Voltage Selection

Jumper Setting	VIO
	3.3 V (default)



VIO=3.3V

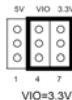
	5 V
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VIO=5V

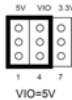
### JP2VIO1: Primary 2 PCI-X Bus VIO Voltage Selection

Jumper Setting	VIO
	3.3 V (default)



VIO=3.3V

	5 V
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VIO=5V

### PSO1: ATX/AT Mode Selection

Jumper Setting	Function
1 - 2 closed pins	AT mode



2 - 3 closed pins	ATX mode (default)
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## 6. Block Diagram

