

PCE-7B13-64B1E (PCE-5B12-64B1E) Backplane: 13(12)-slot BP for 14 slots Chassis, 1 PICMIG 1.3, 2(1) PCIe, 6 64-bit PCI-X, 4 32-bit PCI

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

- 2 Two Port USB Cable p/n: 1700002204
- PCE-7B13-64B1E(PCE-5B12-64B1E) User Manual 2nd. ED p/n: 20027B1301
- M4*6*0.7 Round Screws [15 pcs.] p/n: 1939000410
- 2 years quality warranty card p/n: 2190000902

If any PCE-7B13-64B1E (PCE-5B12-64B1E) of these items are missing or damaged, contact your distributor or sales representative immediately.

Standard Functions

- **PICMIG 1.3 slots:**
PCE-7B13-64 supports PCE-7xxx CPU boards
PCE-5B12-64 supports PCE-5xxx CPU boards
- **PCIe slots:**
PCE-7B13-64 Supports two PCIe x8 slot
PCE-5B12-64 Supports one PCIe x16 slot
- **64-bit PCI-X slots:**
Four 64 Bit / 66Mhz PCI-X slot
Two 64 Bit / 100Mhz PCI-X slot
- **Chipset:**
Intel 6700PXH
- **32-bit PCI:**
Four 32 Bit / 33Mhz PCI slot
- **USB (2.0) support:** Four Universal Serial Bus ports to Backplane

Mechanical and Environment:

- Dimensions: 327.66 x 297.67 mm
- Power supply voltage: +12V, +5V, -12V, -5V, +3.3V, +5VSBY
- Power requirements: Refer to the CPU Board , add-on Card & Peripherals
- Operating temperature: 0 ~ 60°C
- Weight: 0.6kg (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-7B13-64B1E (PCE-5B12-64B1E) series Rev. B1.

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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

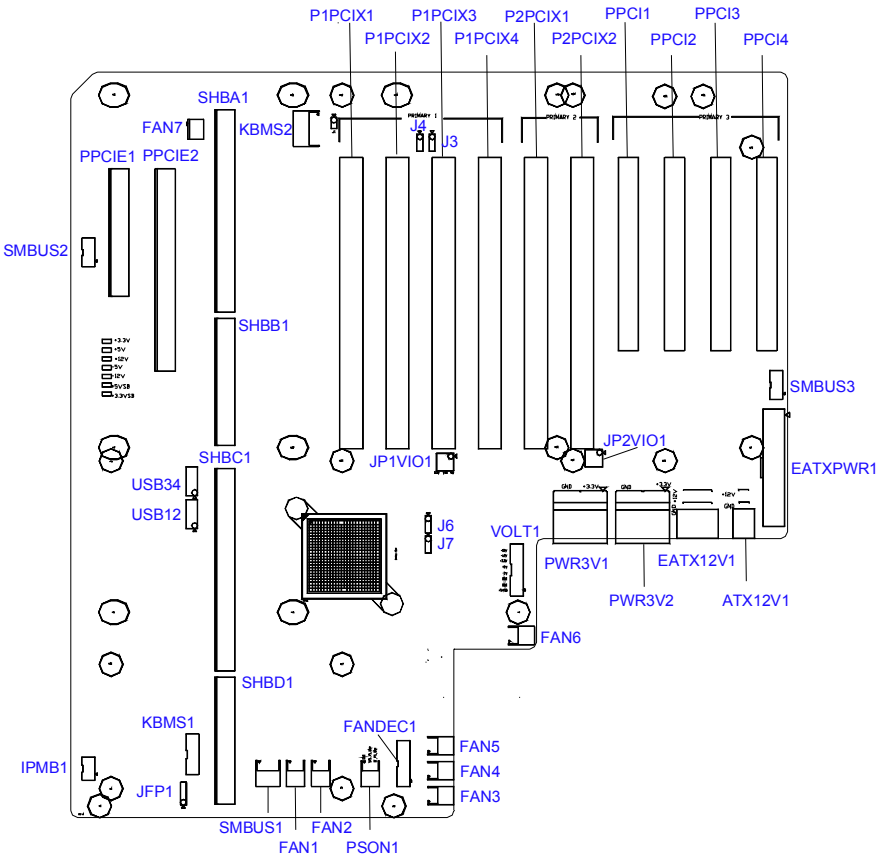
| Part Reference | Function |
|------------------|---|
| SHBA1~SHBD1 | PICMG 1.3 CPU board slot |
| PPCIE1 | PCE-7B13-64: PCIe x8 slot PCE-5B12-64: Not Available |
| PPCIE2 | PCE-7B13-64: PCIe x8 slot PCE-5B12-64: PCIe x16 slot |
| P1PCIX1~P1PCIX4 | 64 Bit / 66MHz PCI-X Bus Slot (Primary 1) |
| P2PCIX1, P2PCIX2 | 64 Bit / 100MHz PCI-X Bus Slot (Primary 2) |
| PPC11~PPC14 | 32 Bit / 33MHz PCI Bus Slot (Primary 3) |
| EATXPWR1 | ATX2.0 24-Pin Power connector |
| ATX12V1 | ATX 12V 4-pin power connector |
| EATX12V1 | ATX 12V Auxiliary 8-pin power connector |
| PWR3V1 | 3.3V Auxiliary power connector |
| PWR3V2 | 3.3V Auxiliary power connector |
| VOLT1 | Alarm board/CMM Power connector. |
| FAN1 | FAN Connector |
| FAN2 | FAN Connector |
| FAN3 | FAN Connector |
| FAN4 | FAN Connector |
| FAN5 | FAN Connector |
| FAN6 | FAN Connector |
| FAN7 | FAN Connector |
| FANDEC1 | Fan speed detector connector |
| SMBUS1 | SMBus connector for chassis monitor |
| SMBUS2 | SMBus connector for chassis monitor |
| SMBUS3 | SMBus connector for chassis monitor |
| KBMS1 | External Keyboard/Mouse Connector |
| KBMS2 | External Keyboard/Mouse Connector |
| JFP1 | Power and Reset Button connector |
| IPMB1 | IPMB Connector |
| USB12 | Two USB port pin header |
| USB34 | Two USB port pin header |

Jumpers

| Part Reference | Function |
|----------------|--|
| JP1VIO1 | Primary 1 PCI-X Bus VIO voltage selection |
| JP2VIO1 | Primary 2 PCI-X Bus VIO voltage selection |
| J3 | Primary 1 PCI(-X) Bus capability selection |
| J4 | Primary 1 PCI Bus freq. selection |
| J6 | Primary 2 PCI Bus freq. selection |
| J7 | Primary 2 PCI(-X) Bus capability selection |
| PERSON1 | ATX/AT mode selection |

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2. Board Layout



Board Layout: Jumper and Connector Locations

3. Connector Pin Definitions

EATXPWER1

| Pin | Name |
|-----|----------|
| 1 | 3.3V |
| 2 | 3.3V |
| 3 | GND |
| 4 | 5V |
| 5 | GND |
| 6 | 5V |
| 7 | GND |
| 8 | Power OK |
| 9 | 5VSBY |
| 10 | 12V |
| 11 | 12V |
| 12 | 3.3V |
| 13 | 3.3V |
| 14 | -12V |
| 15 | GND |
| 16 | PSON# |
| 17 | GND |
| 18 | GND |
| 19 | GND |
| 20 | -5V |
| 21 | -5V |
| 22 | 5V |
| 23 | 5V |
| 24 | GND |

ATX12V1

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

EATX12V1

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

PWR3V1

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

PWR3V2

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

VOLT1

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

FAN1 - FAN7

| Pin | Name |
|-----|---------------|
| 1 | GND |
| 2 | 12V |
| 3 | FANIO1~FANIO7 |

FANDEC1

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

3. Connector Pin Definitions (cont.)

SMBUS1 ~ SMBUS3

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

KBMS1 ~ KBMS2

| Pin | Name |
|-----|--------|
| 1 | KBCLK |
| 2 | KBDAT |
| 3 | MSDAT |
| 4 | GND |
| 5 | 5V |
| 6 | MS_CLK |

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 | 5V |
| 2 | 5V |
| 3 | 5V |
| 4 | PB_VIO |
| 5 | PB_VIO |
| 6 | PB_VIO |
| 7 | 3.3V |
| 8 | 3.3V |
| 9 | 3.3V |

JP2VIO1

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

4. PCI Routing Tables

Primary 1 PCI-X Channel B 64-bit

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

Primary 2 PCI-X Channel A 64-bit

| | PCI Slot | P2PCIX1 | P2PCIX2 |
|------------------|----------|---------|---------|
| PCI-X | IDSEL | AD 31 | AD 30 |
| Interrupt | INTA | INT 7 | INT 2 |
| Pin | INTB | INT 4 | INT 3 |
| Route | INTC | INT 5 | INT 0 |
| | INTD | INT 6 | INT 1 |



Note: Original pin assignment from the PCIe-PCIX bridge names the pins, "IRQ0-IRQ15". In order to isolate the concept of a common IRQ in PCI resources, we have renamed those pins, "INT0-INT15" for better understanding.

Primary 3 PCI 32-bit



| | PCI Slot | PPCI1 | PPCI2 | PPCI3 | PPCI4 |
|------------------|----------|-------|-------|-------|-------|
| PCI | IDSEL | AD 31 | AD 30 | AD 29 | AD28 |
| Interrupt | INTA | INT B | INT C | INT D | INT A |
| Pin | INTB | INT C | INT D | INT A | INT B |
| Route | INTC | INT D | INT A | INT B | INT C |
| | INTD | INT A | INT B | INT C | INT D |

5. Jumper Settings



J3: Primary 1 PCI(X) Bus capability selection:

| Jumper Setting | Function |
|--|----------------------------|
| 1 - 2 closed pins  | PCI-X 66MHz mode (default) |
| 2 - 3 closed pins  | 2 - 3: PCI mode |



J4: Primary 1 PCI Bus Frequency selection:

| Jumper Setting | Function |
|--|---------------------|
| 1 - 2 closed pins  | PCI 66MHz |
| 2 - 3 closed pins  | PCI 33MHz (default) |




PS0N1: ATX/AT Mode Selection

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



JP1VIO1: Primary 1 PCI-X Bus VIO voltage selection

| Jumper Setting | VIO |
|---|----------------|
|  VIO=3.3V | 3.3V (default) |
|  VIO=5V | 5V |



J7: Primary 2 PCI(X) Bus Capability selection

| Jumper Setting | Function |
|--|------------------------|
| 1 - 2 closed pins  | PCI-X 66MHz mode |
| 2 - 3 closed pins  | PCI mode |
| Pin header open  | PCI-X 100MHz (default) |

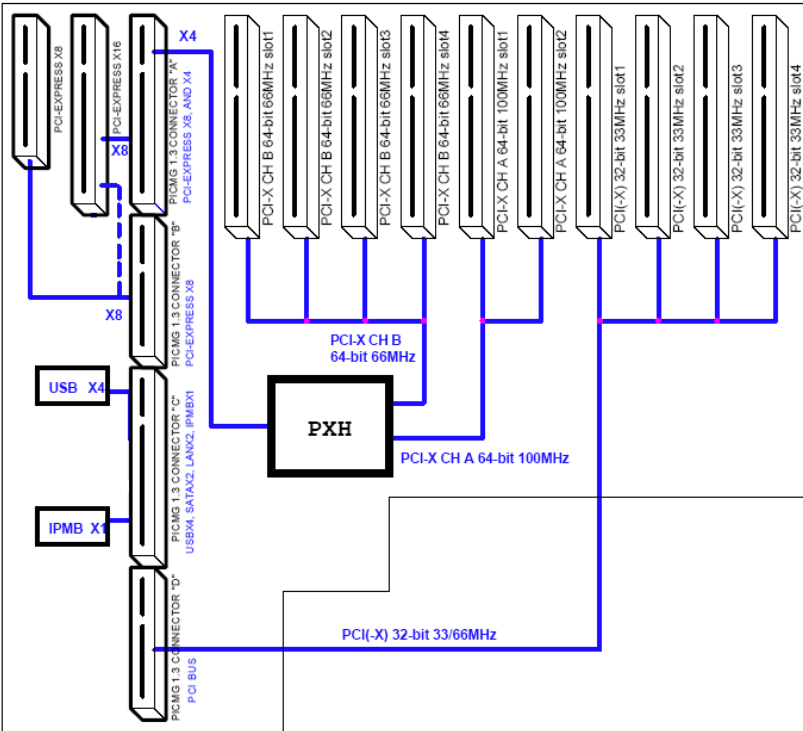
J6: Primary 2 PCI Bus Frequency selection

| Jumper Setting | Function |
|--|---------------------|
| 1 - 2 closed pins  | PCI 66MHz |
| 2 - 3 closed pins  | PCI 33MHz (default) |

JP2VIO1: Primary 2 PCI-X Bus VIO voltage selection

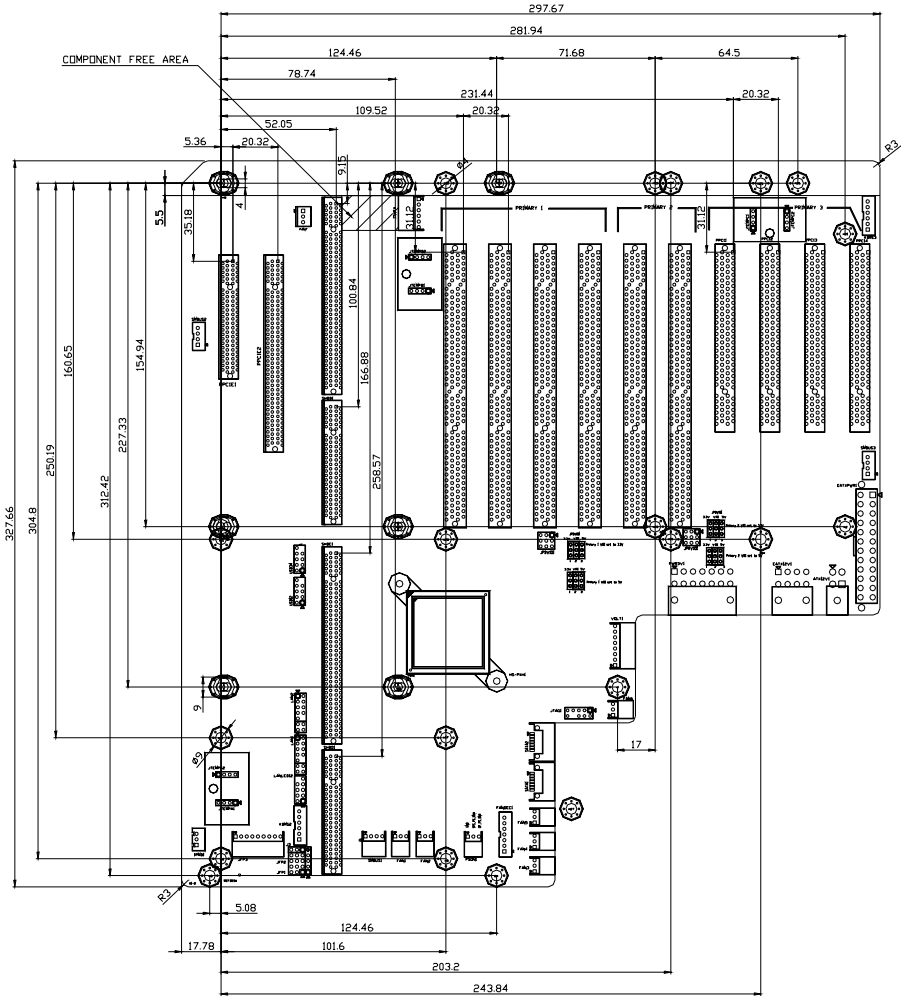
| Jumper Setting | VIO |
|---|----------------|
|  VIO=3.3V | 3.3V (default) |
|  VIO=5V | 5V |

6. Board Diagram



Board Layout: Jumper and Connector Locations

7. Board Dimensions



Board Dimensions (mm)