

PCE-5B12(7B13)-07 Backplane: 12(13)-slot BP for 14-Slot Chassis, 1 PICMG 1.3, 4(5) PCIe, 7 32-bit/33-MHz PCI Startup Manual

Packing List

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-5B12(7B13)-07 Startup Manual
- M4*6*0.7 Round Screws (20 pieces) 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 Slot:**

PCE-5B12-07 supports PCE-5XXX CPU Cards
PCE-7B13-07 supports PCE-7XXX CPU Cards

Note: PCE-7B13-07A1E does NOT support Advantech PCE-7210 CPU card due to its chipset architecture difference.

- **PCIe Slots:**

PCE-5B12-07: 1 PCIe x16, 3 PCIe x4
PCE-7B13-07: 2 PCIe x8, 3 PCIe x4

- **32-bit PCI Slots:**

PCE-5B12-07: 7 32-bit/33-MHz PCI
PCE-7B13-07: 7 32-bit/33-MHz PCI

- **USB (2.0) support:** Four Universal Serial Bus ports to Backplane

Note: Some add-on cards installed on this backplane may cause CPU card BIOS resource allocation problems, if this occurs please contact Advantech technical support staff for help in solving the problems.

Mechanical and Environment

- **Dimensions:** 327.66 x 315.45 mm
- **Power supply voltage:** +12 V, +5 V, -12 V, -5 V, +5 V SBY, +3.3 V
- **Power requirements:** Depends on the CPU board, add-on card & peripherals
- **Operating temperature:** 0 ~ 60° C

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-5B12(7B13)-07 series.

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Connectors and Jumpers

This table shows the function of each jumper and connector:

| Connectors | |
|-----------------|---|
| Label | Function |
| SHBA1~SHBD1 | PICMG1.3 CPU board slot |
| PPCIE2 | PCIe x 16 slot (Only on PCE-5B12-07) |
| PPCIE1, PPCIE2 | PCIe x8 slots (Only on PCE-7B13-07) |
| P1PCIE1~P1PCIE3 | PCIe x4 slots |
| P1PCI1~ P1PCI3 | 32 Bit / 33 MHz PCI Bus slots |
| P2PCI1~P2PCI4 | 32 Bit / 33 MHz PCI Bus slots |
| EATXPWR1 | ATX2.0 24-pin Power Connector |
| EATX12V1 | ATX 12V Auxiliary 8-pin Power Connector |
| ATX12V1 | ATX 12V 4-pin Power Connector |
| PWR3V1 | 3.3V Auxiliary Power Connector |
| PWR3V2 | 3.3V Auxiliary Power Connector |
| VOLT1 | Alarm board / CMM Power Connector |
| FAN1~6 | FAN Connector (Horizontal Type) |
| FAN7 | FAN Connector (Vertical Type) |
| FANDEC1 | FAN speed detector Connector (Optional) |
| SMBUS1~SMBUS3 | System Management Bus (Optional) |
| JFP1 | Power and Reset button Connector |
| IPMB1 | IPMB Connector (Optional) |
| USB12 | Two USB port pin header |
| USB34 | Two USB port pin header |

Note: In this backplane's default configuration, FAN-DEC1, SMBUS1~SMBUS3, IPMB1 pin-headers are NOT populated, those footprints are reserved for customization.

| Jumpers | |
|---------|-------------------------|
| Label | Function |
| PSON1 | ATX / AT Mode Selection |

EATXPWR1

| Pin | Name |
|-----|----------|
| 1 | 3.3 V |
| 2 | 3.3 V |
| 3 | GND |
| 4 | 5 V |
| 5 | GND |
| 6 | 5 V |
| 7 | GND |
| 8 | Power OK |
| 9 | 5 V SBY |
| 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 |

ATX12V1

| 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 | 3.3V |
| 2 | 3.3V |
| 3 | 3.3V |
| 4 | GND |
| 5 | GND |
| 6 | GND |

| VOLT1 | |
|-------|---------|
| Pin | Name |
| 1 | 5 V SBY |
| 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-SMBBUS |
| 3 | C-SMBDAT |
| 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 |

| PSON1: ATX / AT Mode Selection | |
|--------------------------------|----------|
| Setting | Function |
| 1-2 | AT Mode |
| 2-3* | ATX Mode |

* Default



| JFP1 | |
|------|--------|
| Pin | Name |
| 1 | VCC |
| 2 | PWRBTN |
| 3 | RESET# |
| 4 | GND |

Board Layout

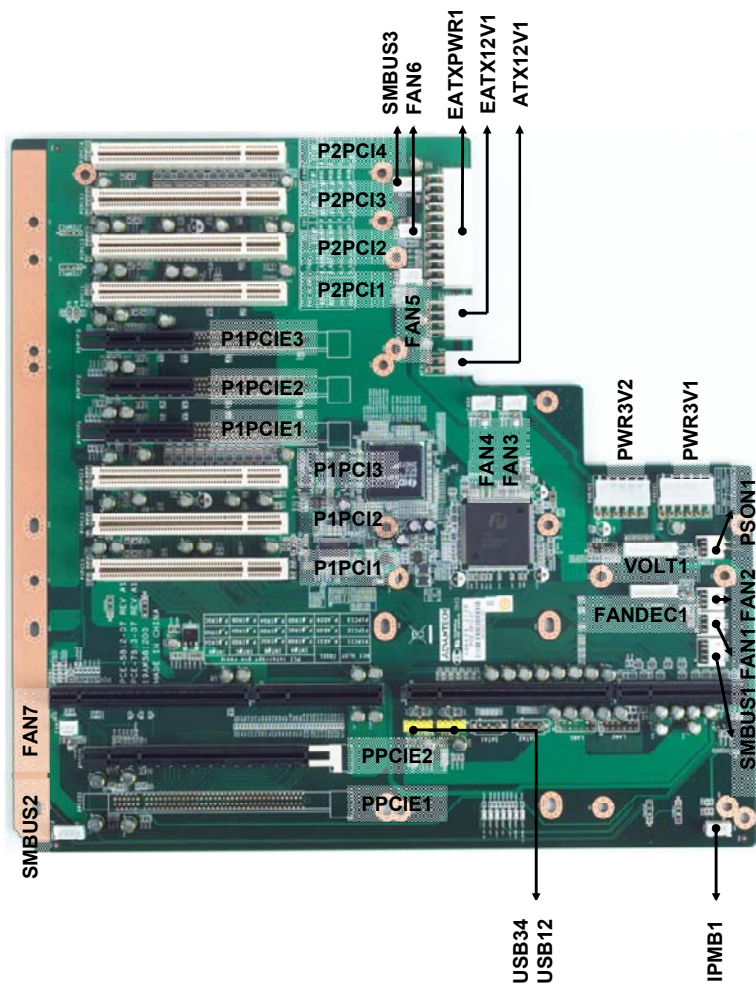


Figure 1: Board Layout

- Note:**
1. Some add-on cards installed on this backplane may cause CPU card BIOS resource allocation problems, if this occurs please contact Advantech technical support staff for help in solving the problems.
 2. In this backplane's default configuration, FANDEC1, SMBUS1~SMBUS3, IPMB1 pin-headers are NOT populated, those footprints are reserved for customization.
 3. PCE-7B13-07A1E does NOT support Advantech PCE-7210 CPU card due to its chipset architecture difference.

Board Dimensions

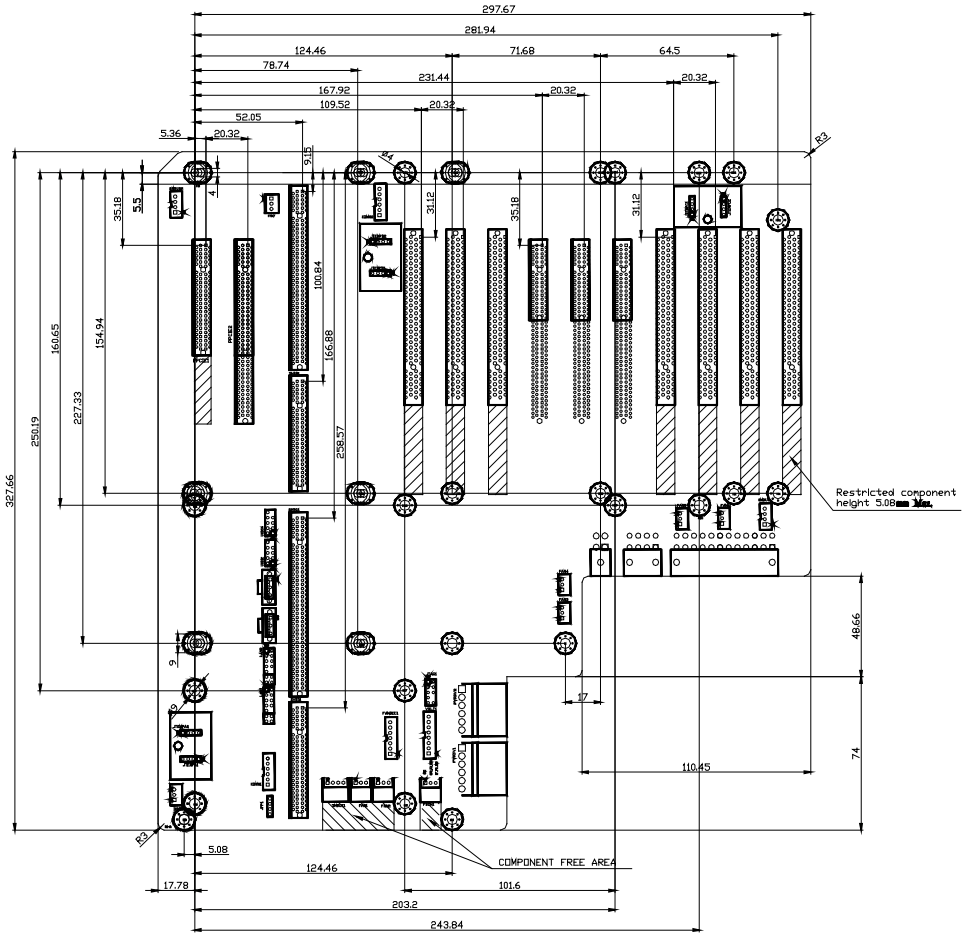


Figure 2: Board Dimensions

Board Diagram

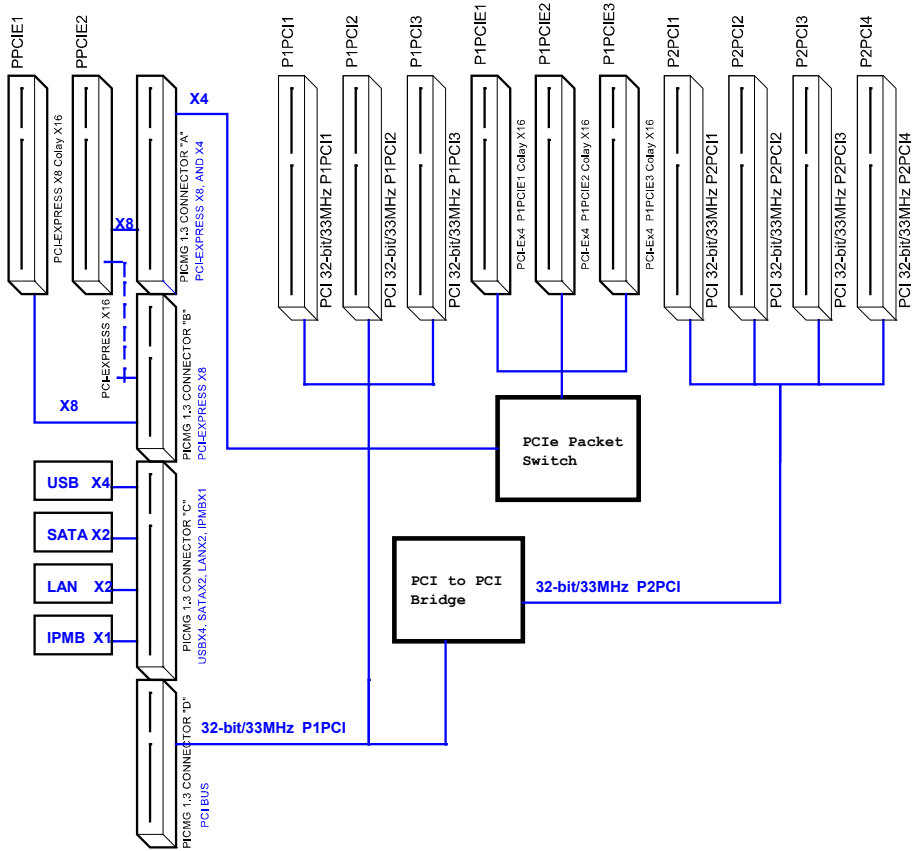


Figure 3: Board Diagram

PCI Routing Table

PCI 32-bit from ICH

| PCI Interrupt Pin Route | PCI Slot | PPCI1 | PPCI2 | PPCI3 |
|----------------------------|----------|-------|-------|-------|
| | IDSEL | AD31 | AD30 | AD29 |
| | INTA | INTB | INTC | INTD |
| | INTB | INTC | INTD | INTA |
| | INTC | INTD | INTA | INTB |
| | INTD | INTA | INTB | INTC |

PCI 32-bit from Switch

| PCI Interrupt Pin Route | PCI Slot | P2PCI1 | P2PCI2 | P2PCI3 | P2PCI4 |
|----------------------------|----------|--------|--------|--------|--------|
| | IDSEL | AD20 | AD21 | AD22 | AD23 |
| | INTA | INTA | INTB | INTC | INTD |
| | INTB | INTB | INTC | INTD | INTA |
| | INTC | INTC | INTD | INTA | INTB |
| | INTD | INTD | INTA | INTB | INTC |