

PX-8S

ISA/PCI Bridge Backplane

User's Manual

Version 3.0



IEI Technology Corp.

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Introduction

PX-8S is exactly the backplane what you want, even in the future. As you know, most of the adapters are of PCI bus, and ISA adapters are on the decrease in the market. If this problem have bothered you for a long time, then PX-8S is the right answer for you. In order to solve the problem, PX-8S, includes 6 32-bit PCI slots (5V/3.3V) on board, gives the great flexibility for your system's extension. We have added a DC power outlet (including +5V, -5V, +12V, and -12V) on PX-8S to keep system more stables. You can acquire a power supply with great stability, even as the system work under heavy load. Besides, we also add a connector for ATX power supply to which you can connect your SBC (SBC must have the ability to use ATX power).

Product Features

Standard

- ◆ PCI-conforms to PICMG 2.1 specification.
- ◆ ISA-conforms to IEEE P996 specification.

PCB

- ◆ The Printed Circuit Boards (PCB) overall dimension is 264.2mm x 218mm (10.4"x 8.6") and total thickness is 1.6mm (4 layers).
- ◆ Mounting holes are provided and are located to conform to the baby AT form factor. Mounting holes are connected to Signal ground internally.
- ◆ Operating Temperature; 0 to 60°C (32 to 140°F).
- ◆ Storage Temperature; -20 to 85°C (-4 to 185°F).
- ◆ Humidity; 5% to 95%, non-condensing.
- ◆ EMI/Safety; Meets FCC, CE Class A and UL, CSA and TUV.

Connector

- ◆ Dual slots PCI/ISA for the CPU board.
- ◆ One ISA slots for full-size ISA board.
- ◆ Six 32-bit PCI slots for full-sized boards on the Primary bus, all slots are Master/Slave configurable by using Bus Mastering Scheme.
- ◆ One AT standard power connector, 12 pins, 5A max, per pin for +5V, -5V, +12V, -12V voltages and Ground.
- ◆ One ATX standard power connector; 20 pins, 5A max, per pin for +3.3V, +5V, +5VSB, -5V, +12V, and -12V voltages, Ground, and power Good signal.
- ◆ One ATX control connector to distribute signals coming from the CPU boards onto connector

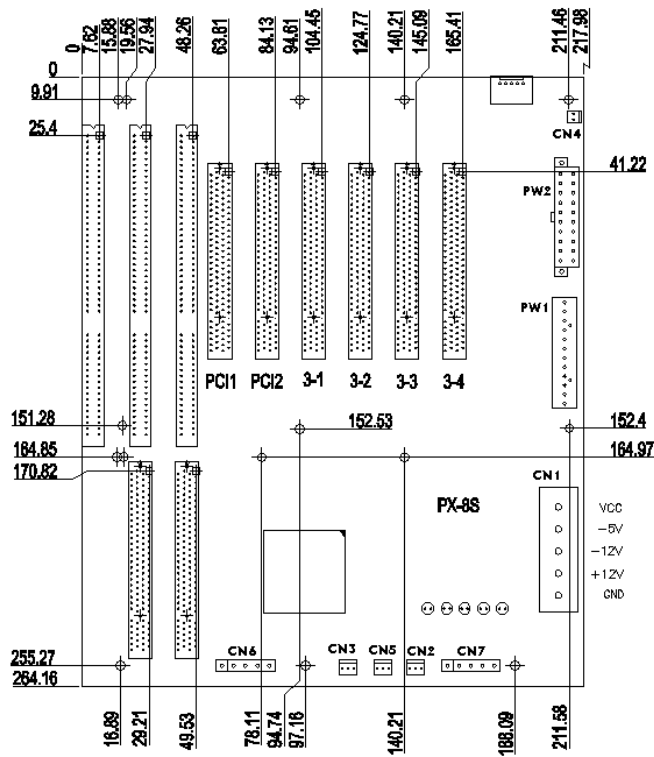
for soft on/off ATX power supply.

- ◆ One P10 standard power connector, 5A max. per pin for +5V and Ground.
- ◆ Two DC power outlet.
- ◆ Pairs of header for local connection of a fan power, keyboard, and power LEDs.

Routing List

PCI SLOT	1	2	3-1	3-2	3-3	3-4
IDSEL	AD31	AD30	S_AD23	S_AD22	S_AD21	S_AD20
INTA	B	C	D	C	B	A
INTB	C	D	A	D	C	B
INTC	D	A	B	A	D	C
INTD	A	B	C	B	A	D

Board Drawing



Connectors

CONNECTOR	DESCRIPTION
ISA2/PCI1 & ISA3/PCI2	PICMG connectors
PCI3-PCI8	32-BIT PCI BUS connectors
ISA1	16-BIT ISA BUS connectors
PW1	P8/P9 power connector
PW2	ATX power connector
KB1	AT keyboard connector
CN1	DC power outlet
CN2	ATX P/S control connector
CN3,CN5	Fan connector
CN4	Power good signal output
CN6,CN7	Extend keyboard connector

Pin Assignment

P8/P9(PW1)	
PIN	NAME
1	PWR OK
2	+5V
3	+12V
4	-12V
5	GND
6	GND
7	GND
8	GND
9	-5V
10	+5V
11	+5V
12	+5V

ATX(PW2)			
PIN	NAME	PIN	NAME
1	+3.3V	11	+3.3V
2	+3.3V	12	-12V
3	GND	13	GND
4	+5V	14	PS_ON
5	GND	15	GND
6	+5V	16	GND
7	GND	17	GND
8	PWR OK	18	-5V
9	STB5V	19	+5V
10	+12V	20	+5V

Power Extension(CN1)	
PIN	NAME
1	+5V
2	-5V
3	-12V
4	+12V
5	GND

ATX control connector(CN2)	
PIN	NAME
1	STB5V
2	PS_ON
3	GND

Power Good output(CN4)	
PIN	NAME
1	Power Good
2	GND

Fan connector(CN3,CN5)	
PIN	NAME
1	NC
2	+12V
3	GND

Ext. K/B(CN6,CN7)	
PIN	NAME
1	K/B CLK
2	K/B DATA
3	NC
4	GND
5	+5V

K/B ONNECTOR(KB1)	
PIN	NAME
1	K/B CLK
2	K/B DATA
3	NC
4	GND
5	+5V

Installation Guide

➤ Chassis

Make sure the copper lifting stands are placed below all the mounting holes of your backplane.

➤ SBC

Apply only one full-sized SBC over PICMG slot or half-sized SBC over ISA slot.

Apply your ISA/PCI cards over ISA/PCI slot (Image 1).

➤ Power Supply

1.If you use AT power supply, attach the P8/P9 connector to PW1 (Image. 2).

2.If you use ATX power supply, attach the 20-pin ATX power connector to PW2 (Image. 3).

Besides, you need to apply one 3-pin ATX power control cable between your SBC and backplane over the 3-pin header CN2. (A toggle switch is required over your SBC for this application. Image. 4).

3.If you use ATX power supply, you may also plug a switch into pin-2 and pin-3 of CN2. In this application, the 3-pin ATX power control cable is not required, and your ATX power supply will then act as AT power supply (Image. 5).

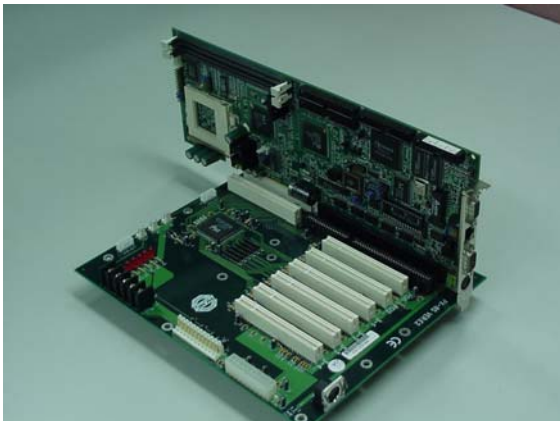


Image 1

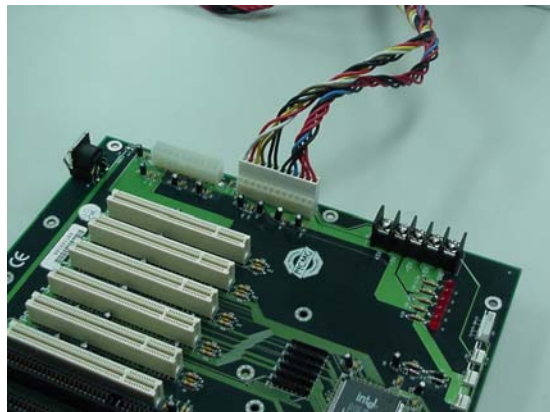


Image 2

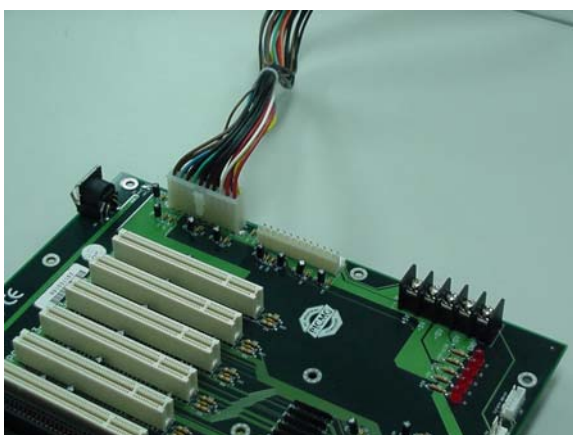


Image 3

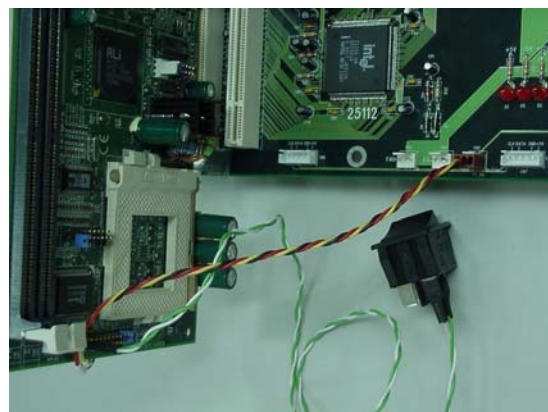


Image 4

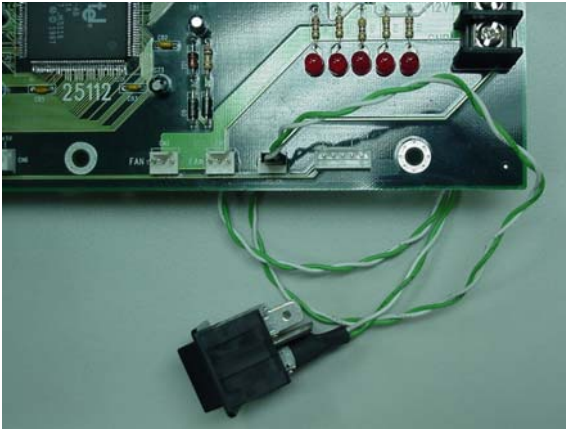


Image 5



Image 6



Image 7

➤ **Keyboard**

- 1.If you use a AT keyboard, attach a 5-pin keyboard connector cable between your SBC and backplane over the 5-pin shrouded header CN6. Also connect another similar 5-pin keyboard cable on chassis onto CN7. This will then enable the chassis keyboard DIN connector. (Image 6)
- 2.If you use a PS/2 keyboard, simply attach them to the PS/2 connector on SBC. (Image 7)

➤ **Fan**

CN3 and CN5 are fan connectors. Please refer to the pin assignment table for proper connection.