

PX-14S3

ISA/PCI Bridge Backplane

User's Manual



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Introduction

PX-14S3 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-14S3 is the right answer for you. In order to solve the problem, PX-14S3, includes 12 32-bit PCI slots (5V/3.3V) on board, gives the great flexibility for your system's extension. We have DC power outlet (including +5V, -5V, +12V, and -12V) on PX-14S3 to keep system more stable. 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 311.2mm (10.4"x 12.3") 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 slot for full-size ISA board.
- ◆ Twelve 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, and -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

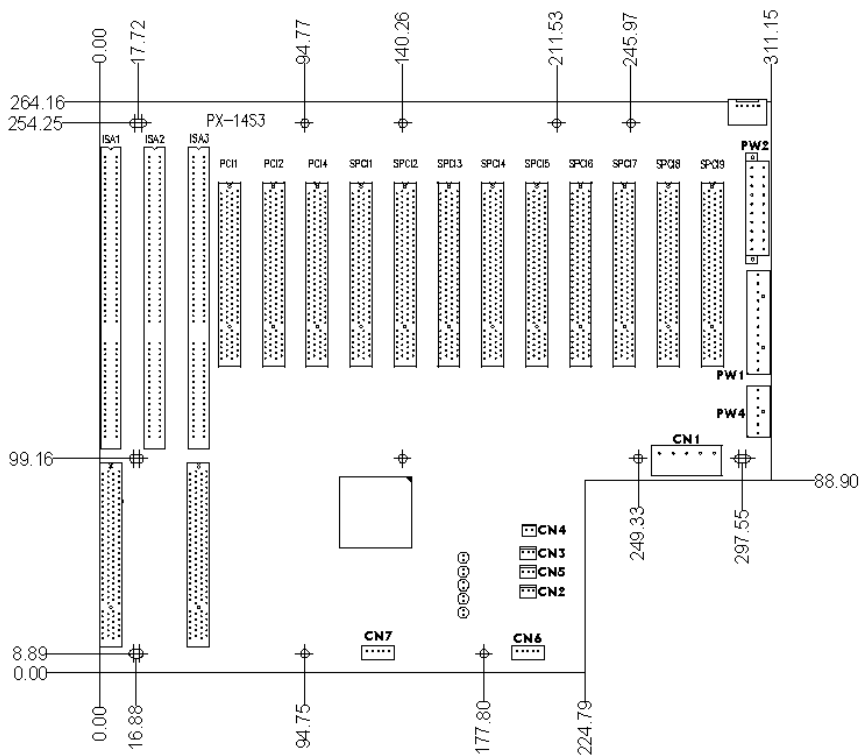
for soft on/off ATX power supply.

- ◆ One DC power outlet.
- ◆ Pairs of header for local connection of a fan power, keyboard and power LEDs.

Routing List

PCI SLOT	1	2	4	3-1	3-2	3-3	3-4	3-5	3-6	3-7	3-8	3-9
IDSEL	AD31	AD30	AD28	S_AD20	S_AD21	S_AD22	S_AD23	S_AD24	S_AD25	S_AD26	S_AD27	S_AD28
INTA	B	C	A	D	A	B	C	D	A	B	C	D
INTB	C	D	B	A	B	C	D	A	B	C	D	A
INTC	D	A	C	B	C	D	A	B	C	D	A	B
INTD	A	B	D	C	D	A	B	C	D	A	B	C

Board Drawing



Connectors

CONNECTOR	DESCRIPTION
ISA1/PCI1 & ISA3/PCI2	PICMG connectors
PCI3-PCI14	32-BIT PCI BUS connectors
ISA2	16-BIT ISA BUS connectors
PW1	P8/P9 power connector
PW2	ATX power connector
PW4	P10 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	2	+3.3V
3	+3.3V	4	-12V
5	GND	6	GND
7	+5V	8	PS_ON
9	GND	10	GND
11	+5V	12	GND
13	GND	14	GND
15	PWR OK	16	-5V
17	STB5V	18	+5V
19	+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

P10(PW4)	
PIN	NAME
1	+5V
2	+5V
3	+5V
4	GND
5	GND
6	GND

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

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

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

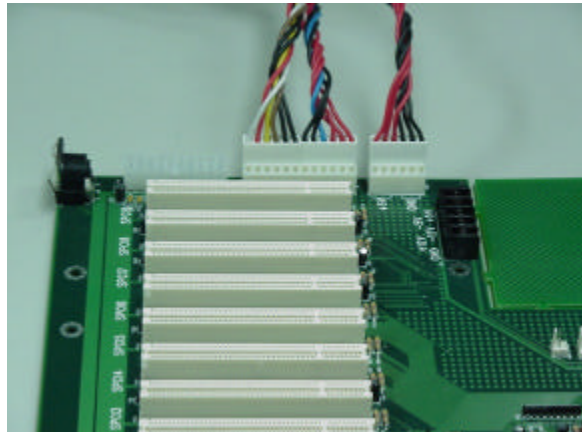


Image 2

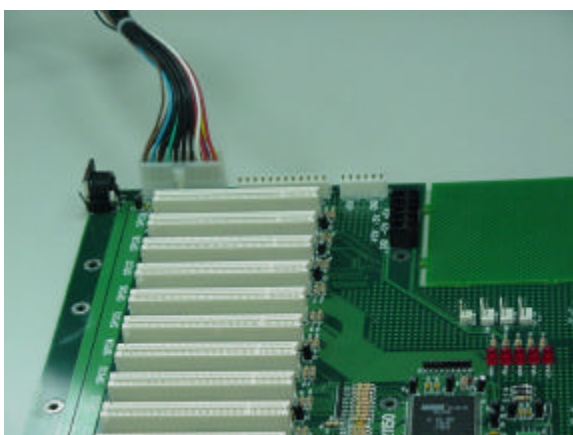


Image 3

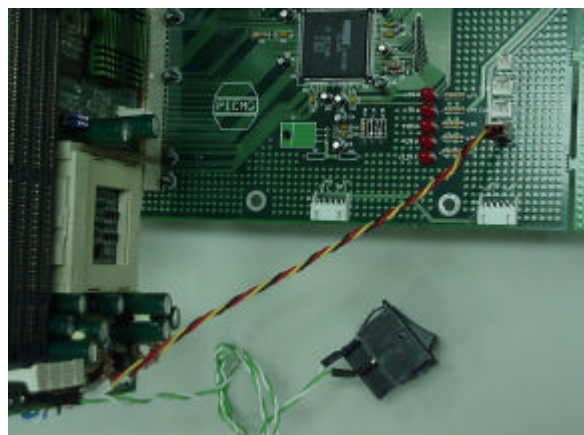


Image 4

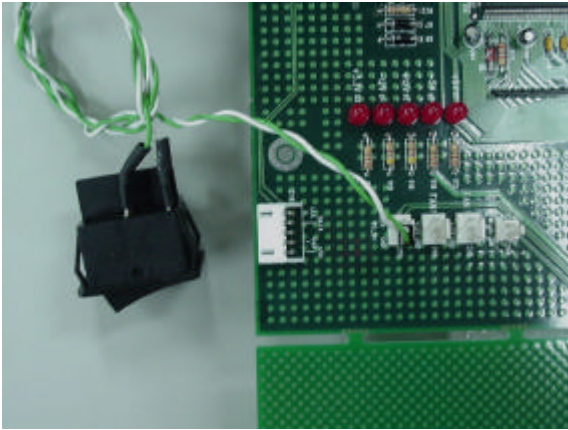


Image 5

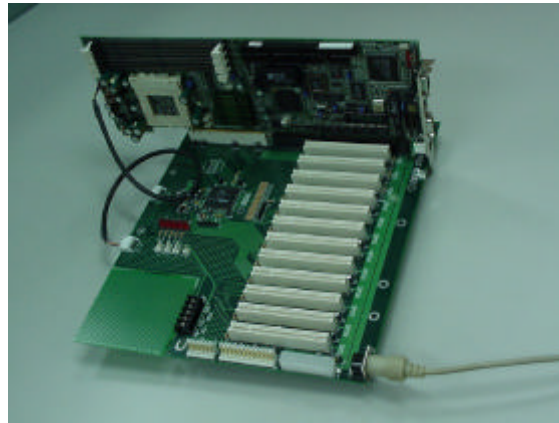


Image 6



Image 7

➤ **Keyboard**

- 1.If you use 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 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.

➤ **Additional Power Connectors**

PW4 are additional power connectors used to draw more power and balanced the power distribution for full loading system. Users need to make a P8-like power connector with three +5V (P10) pins and three ground pins. For pin assignment, please refer to pin assignment section (Image 2)