PX-14S2-RS

ISA/PCI Bridge Backplane
User's Manual

Version 3.0

IEI Technology Corp.

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Contents

Introduction

PX-14S2 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-14S2 is the right answer for you. In order to solve the problem, PX-14S2, includes 7 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-14S2 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 264.1mm 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 connector 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.
- Six ISA slots for full-size ISA board.
- Seven 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

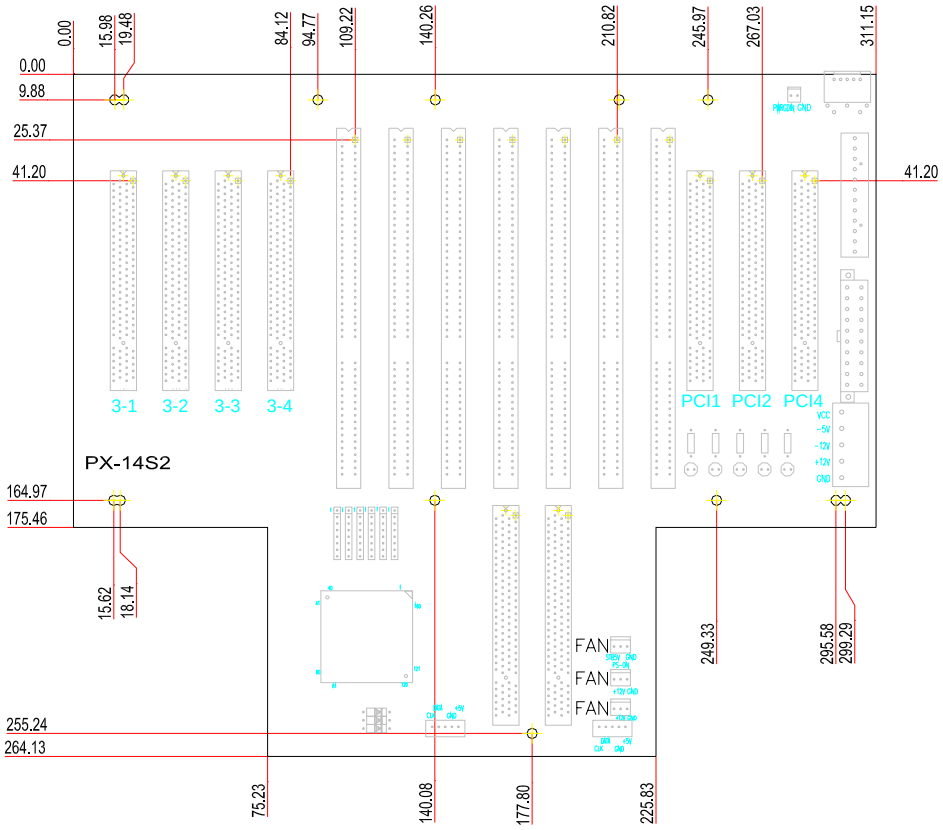
for soft on/off ATX power supply.

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

Routing List

SIGNAL	PIN No.	PCI 1	PCI 2	PCI 4	PCI 3-1	PCI 3-2	PCI 3-3	PCI 3-4
REQ#	**B18**	REQ0#	REQ1#	REQ3#	S_REQ0#	S_REQ1#	S_REQ2#	S_REQ3#
GNT#	**A17**	GNT0#	GNT1#	GNT3#	S_GNT0#	S_GNT1#	S_GNT2#	S_GNT3#
CLOCK	**B16**	CLK0	CLK1	CLK3	S_CLK0	S_CLK1	S_CLK2	S_CLK3
IDSEL	**A26**	AD31	AD30	AD28	S_AD23	S_AD22	S_AD21	S_AD20
INTA#	**A6**	B	C	A	D	C	B	A
INTB#	**B7**	C	D	B	A	D	C	B
INTC#	**A7**	D	A	C	B	A	D	C
INTD#	**B8**	A	B	D	C	B	A	D

Board Drawing



Connectors

CONNECTOR	DESCRIPTION
ISA7/PCI1 & ISA8/PCI2	PICMG connectors
PCI3-PCI9	32-BIT PCI BUS connectors
ISA1-ISA6	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

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

Fan connector (CN3,CN5)

PIN	NAME
1	NC
2	+12V
3	GND

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 a AT power supply (Image. 5).

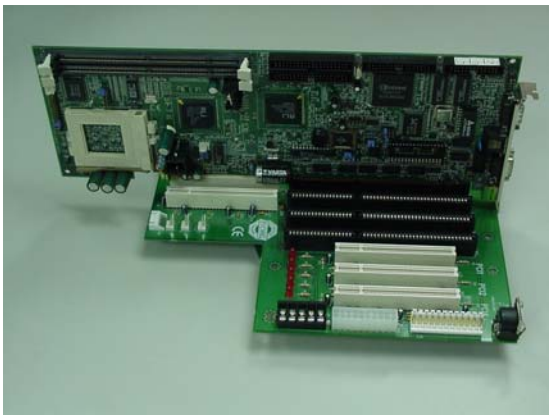


Image 1

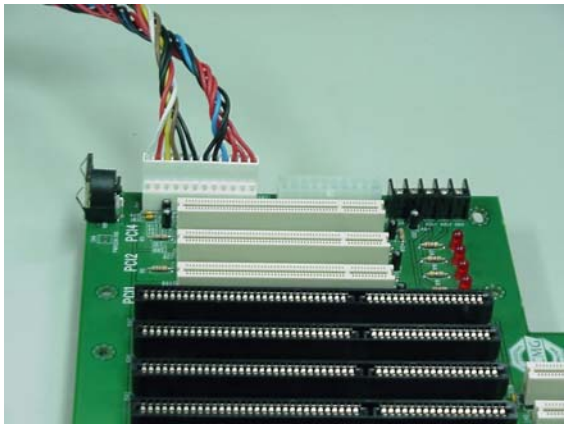


Image 2

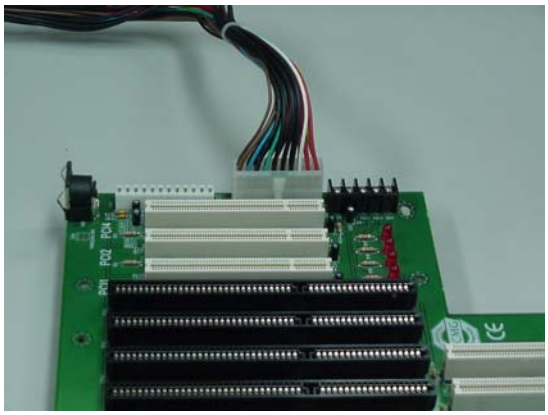


Image 3

Image 4

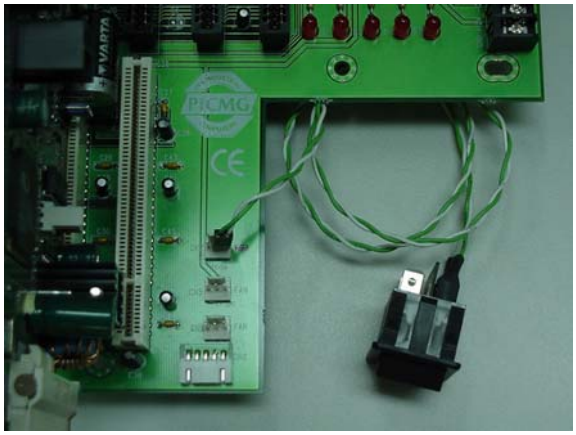


Image 5

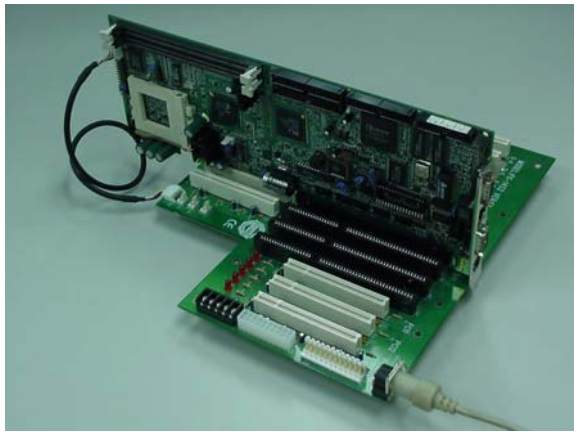


Image 6

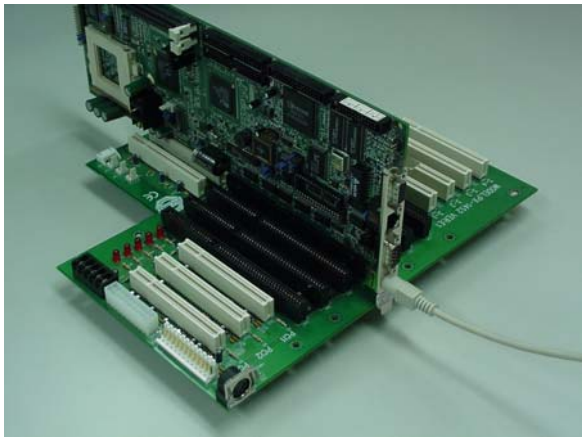


Image 7

➢ 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.