

The PBP-02V1 backplane is fully PICMG Rev 2.1 compliant. It is a member of PBP's PCI product family and is intended to support all PICMG compliant boards on the market.

## Introduction

Traditional PC is outstanding with the all-in-one facility, in which processor seat, chipset, memory sockets, ISA/PCI slots, device and power connectors are accommodated over a single PCB. This would absolutely draw the limitation line on multiple peripheral cards adoption as well as the timing needed for board replacement in the event of system failure. The new generation industrial PC has made a new platform with a combination of two parts – SBC and backplane.

Different from traditional motherboards, industrial PC features on easily removable SBC as the working board that has PICMG or ISA form factor so that users may easily apply or remove the SBC from the system. Reducing the system down time is obviously visible. Backplane is hence designed with PICMG slots to hold the SBC as a system. Some backplanes also have ISA/PCI slots to hold ISA/PCI peripheral cards. This design has been proved successful to provide far more PCI slots than traditional motherboard could ever holds (4 PCI slots) to meet the requirement of current technology and market demands, especially in CTI market.

As a matter of fact, with the needs from industrial PC users moving on, applications with SBC and backplane have been fully required and are currently leading the industrial PC market.

## Design Philosophy

Our backplane is designed to meet customer's demand. Better power distribution, thick PCB with more ruggedness, and user-friendly designed are the key design routes. We hold the remind to produce backplane of trustable quality throughout the design phases, and this is how our backplane is made and presented.

In order to keep good power filtering and avoid fire explosion, Electrolytic capacitor and Ceramic capacitor are used to replace traditional Tantalum capacitor. All our backplane models have 4 layers with separate power layer and ground layer to reduce power noise. Assorted connectors, including keyboard connectors and power connectors, are provided for easy installation and expansion. All backplanes models are made to meet industrial grade environment requirement (temperature, humidity, etc.).

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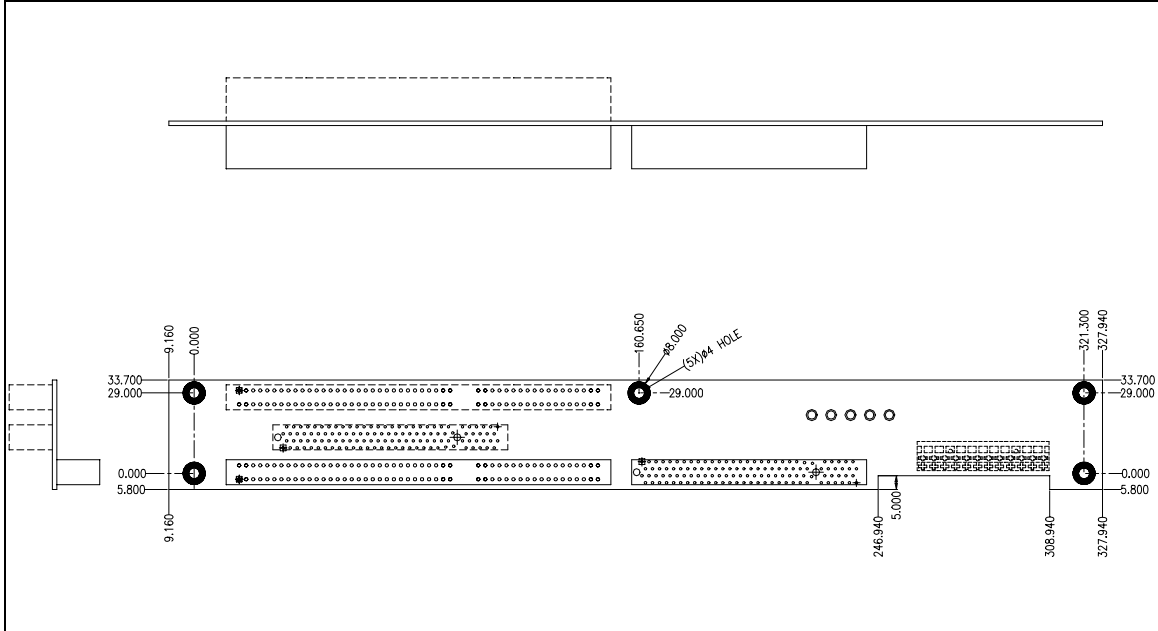
## Product Features

Connector	<ul style="list-style-type: none"> <li>◆ One PCI/ISA slots for the CPU board</li> <li>◆ One ISA slots for full-sized ISA boards</li> <li>◆ One 5V 32-bit PCI slots for full-sized boards on the Primary bus. The ID Select of these slots are configurable through jumpers</li> <li>◆ One AT standard power connector: 12 pins, 5A max. per pin for +5V, -5V, +12V, -12V voltages and Ground</li> <li>◆ 5 Power LED for DC power indication</li> </ul>
PCB	<ul style="list-style-type: none"> <li>◆ The Printed Circuit Board's (PCB) overall dimension is 49.5mm x 337mm and total thickness is 1.6mm (4 layers).</li> <li>◆ Mounting holes are provided and are located to conform to the baby AT form factor. Mounting holes are connected to Signal Ground internally.</li> <li>◆ Operating Temperature : 0°C ~ 55°C</li> <li>◆ Storage Temperature : -20°C ~ 75°C</li> </ul>
Standard	<ul style="list-style-type: none"> <li>◆ PCI- conforms to PICMG rev. 2.1 specification</li> <li>◆ ISA- conforms to IEEE P996 specification</li> </ul>

## Routing Table

	<i>PPC11</i>
<i>IDSEL</i>	AD31
<i>PIN A6</i>	B
<i>PIN B7</i>	C
<i>PIN A7</i>	D
<i>PIN B8</i>	A

## Board Drawing



## Jumpers and Connectors

JUMPER/ CONNECTOR	DESCRIPTION
PCI A1, ISA A1	PICMG connectors
PCI1	32-BIT PCI BUS connectors (primary)
ISA A2	8-BIT ISA BUS connector
CN1	P8/P9 power connector

## Pin Assignment

CN1 (P8 / P9)	
PIN	NAME
1	NC
2	+5V
3	+12V
4	-12V
5	GND
6	GND
7	GND
8	GND
9	-5V
10	+5V
11	+5V
12	+5V

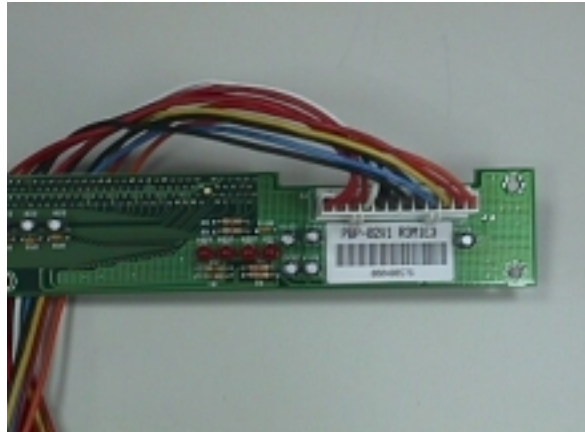
## Installation Guide

### 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 slots (**Fig. 1**).



**Fig. 1**



**Fig. 2**

### Power Supply

1. Please apply the P8/P9 connector over CN1 (**Fig. 2**).

### Peripheral Cards

1. Please apply your PCI card onto the PCI1 slot (**Fig. 3**).
2. Please apply your ISA card onto the ISA A2 slot (**Fig. 4**).



**Fig. 3**



**Fig. 4**