

CPCI Backplane Manual

PRODUCT DOCUMENTATION

PD17 CP-ADAP-P47-PB (6U)

Reference ID: 24229 PD17

Revision: 01

Issued: August 29, 2003



The product described in this manual is in compliance with all applied CE standards.



Revision History

Manual/Product Title:		CPCI Backplane Manual: Product Documentation: CP-ADAP-P47-PB (6U)
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Rev. Index	Brief Description of Changes	Date of Issue
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Imprint

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This manual was realized by: **TPD/Engineering, PEP Modular Computers GmbH.**



1. CPCI Backplane Introduction

The specific product description provided with this product documentation is part of the PEP's CPCI Backplane manual. For further information, in particular regarding general details as well as safety and warranty statements, refer to the CPCI Backplane Manual, ID 24229.

2. CP-ADAP-P47-PB (6U) Power Distribution Adapter

The main features of the CP-ADAP-P47-PB (6U) power distribution adapter which is designed for applications requiring input power distribution via power bars are described in the following table:

Table 1: Distinctive Features of Backplane CP-ADAP-P47-PB (6U)

Feature	Specification
Form Factor	6U
Size	39.6*128.7 mm
Number of Slots	1, 4HP PSU slot
Bus Resolution	–
Bus Frequency	–
Rear I/O Connectivity	–
Hot-Swap Capability	Yes
Power Supply Connectors	2, 47-pin Positronic PCIH47 connectors (input) 2 sets of power bar terminals, 6 and 5 each terminals (output)
Redundant Power Supply	Optional
Flexible Grounding Option	Yes
Fan Connector	Optional
MSD Connector	Optional
PS-ON Connector	–
Reset Function Connector	Optional
IPMB Extension Connector	IPMB0/1
System MON-CTRL Connector	Yes

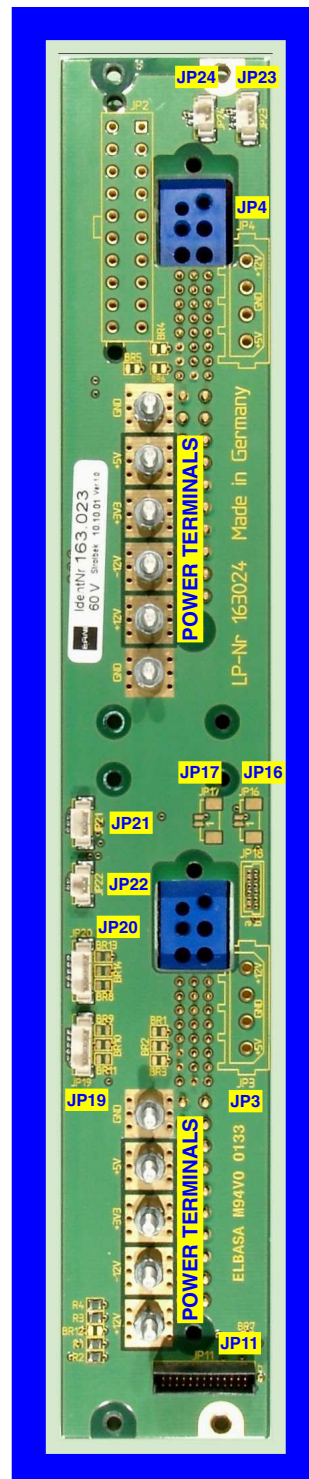


3. Board Layout

Figure 1: CP-ADAP-P47-PB (6U) Board Layout (Front)



Figure 2: CP-ADAP-P47-PB (6U) Board Layout (Reverse)





4. Interfaces

4.1 Power Supply and Line Input

The V1 ... V4 output voltages from the power supply unit to the backplane are connected via two 47-contact, female, Positronic type power supply connectors – P1 and P2.

The main power supply input power is connected directly to pins 45, 46, and 47 of the power supply connector. This is accomplished by means of a single, closed barrel pass-through contact for each pin via the reverse side of the backplane.

Figure 3: Orientation and Pinouts of the Positronic 47-pin Connector

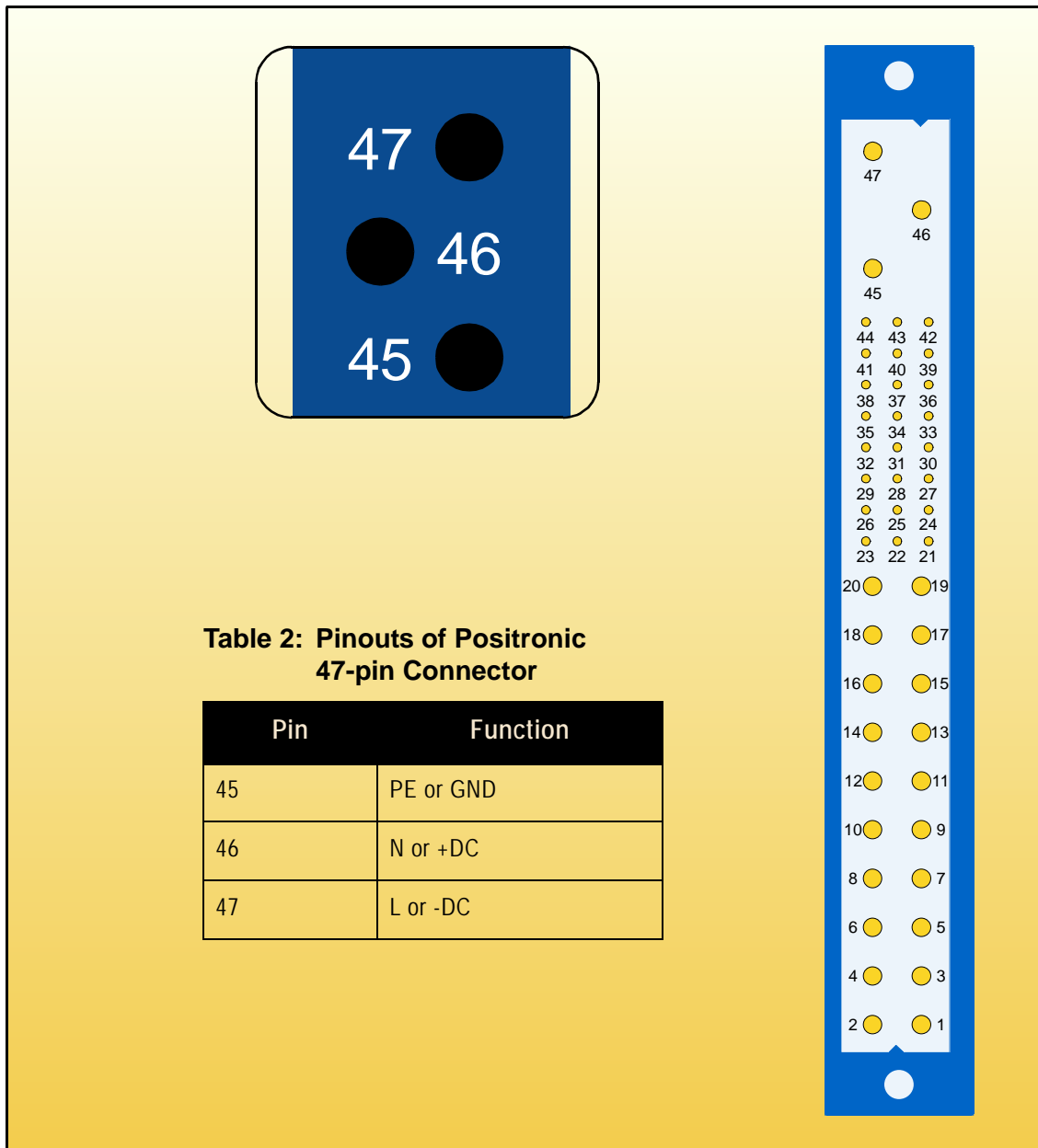




Table 3: Positronic 47-Pin Connector Pinout

PIN	SIGNAL NAME	DESCRIPTION	PIN	SIGNAL NAME	DESCRIPTION
1 - 4	V1	V1 OUTPUT (+5V)	32	V2ADJ	V2 ADJUST
5 - 12	RTN	V1 and V2 RETURN	33	V2 SENSE	V2 REMOTE SENSE
13 - 18	V2	V2 OUTPUT (+3.3V)	34	S RTN	SENSE RETURN
19	RTN	V3 RETURN	35	V1 SHARE	V1 CURRENT SHARE
20	V3	V3 OUTPUT (+12V)	36	V3 SENSE	V3 REMOTE SENSE
21	V4	V4 OUTPUT (-12V)	37	IMPB_SCL	IMPB SYS CLOCK
22	RTN	SIGNAL RETURN	38	DEG#	DEGRADE SIGNAL
23	RESERVED	RESERVED	39	INH#	INHIBIT
24	RTN	V4 RETURN	40	IMPB_SDA	IMPB SYS DATA
25	GA0	GA BIT 0	41	V2 SHARE	V2 CURRENT SHARE
26	RESERVED	RESERVED	42	FAL#	FAIL SIGNAL
27	EN#	ENABLE	43	IMPB_PWR	IMPB POWER
28	GA1	GA BIT 1	44	V3 SHARE	V3 CURRENT SHARE
29	NC	NOT CONNECTED	45	CGND	CHASSIS GROUND
30	V1SENSE	V1 REMOTE SENSE	46	ACN / +DC IN	AC INPUT NEUTRAL / +DC INPUT
31	GA2	GA BIT 2	47	ACL / -DC IN	AC INPUT LINE / +DC INPUT



Note...

The signal pinout assignment is a function of the power supply actually utilized with this backplane. Refer to the corresponding power supply documentation for the applicable signal pinout.



4.2 Fan Connectors

The backplane is equipped with four connectors for supplying power for fan(s) and for connecting a fan speed control device. JP21/23 (FAN1/2), are 3-contact male connectors which supply +12V for fan operation as well as the possibility to connect to a speed control device for regulating air flow within the system sub-rack. JP22/24 (NTC1/2), are 2-contact male connectors which provide a separate connection for a speed control device and are designed to be used in conjunction with JP21/23.

For fans that have their own speed control or where no control is required, pins 1 and 2 of JP21/23 can be used. For external speed control of fans, pins 2 and 3 of JP21/23 and pins 1 and 2 of JP22/24 are used. Pin 3 of JP21/23 and pin 2 of JP22/24 are connected internally on the board side to each other.

External air flow regulation can be accomplished using a negative thermal coefficient (NTC) device connected to JP22/24

Figure 4: Orientation and Pinouts of Connectors JP21/23 and JP22/24

Table 4: Pinout of JP21/23 Connectors

Pin	Function
1	GND
2	+12V
3	NTC1

Table 5: Pinout of JP22/24 Connectors

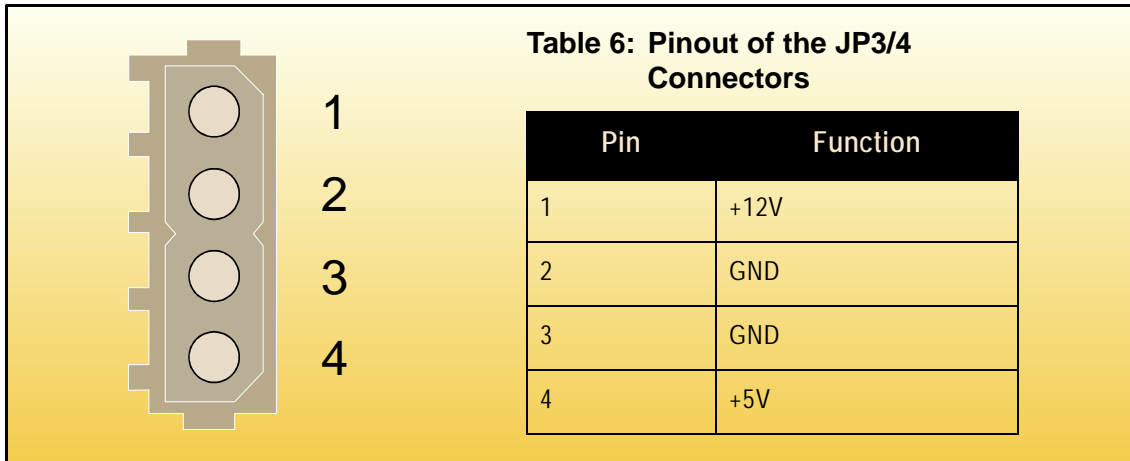
Pin	Function
1	GND
2	NTC1



4.3 MSD Connector JP3/4 (Optional)

Two 4-contact female connectors can be installed on the backplane for the connection of mass storage devices (drives) to the +5V/+12V power supply of the bus.

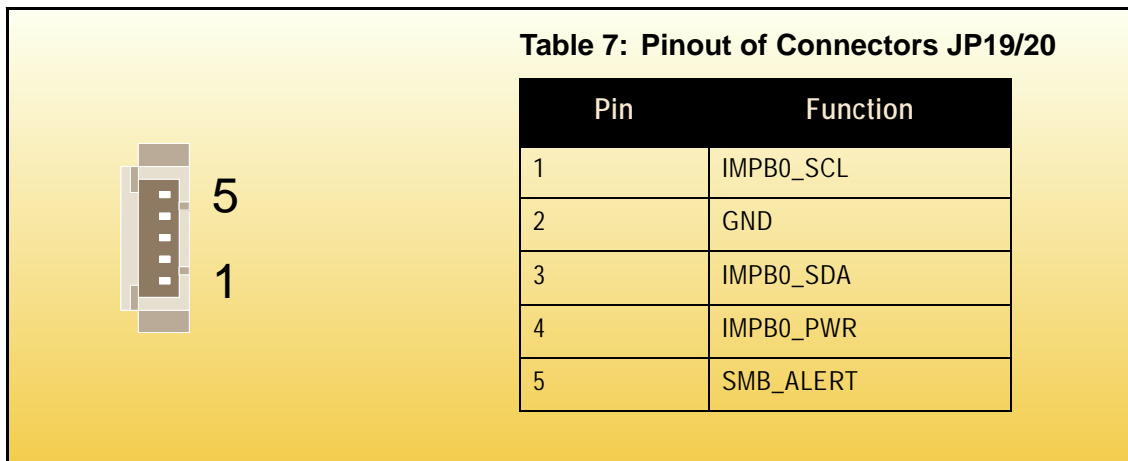
Figure 5: Orientation and Pinout of the MSD Connectors JP3/4



4.4 System Management Connector JP19/20

Two five-contact male system management bus (IPMB0/1) connectors, JP19/20, are provided for external interfacing to this bus.

Figure 6: Orientation and Pinout of the IMPB0/1 Connectors JP19/20

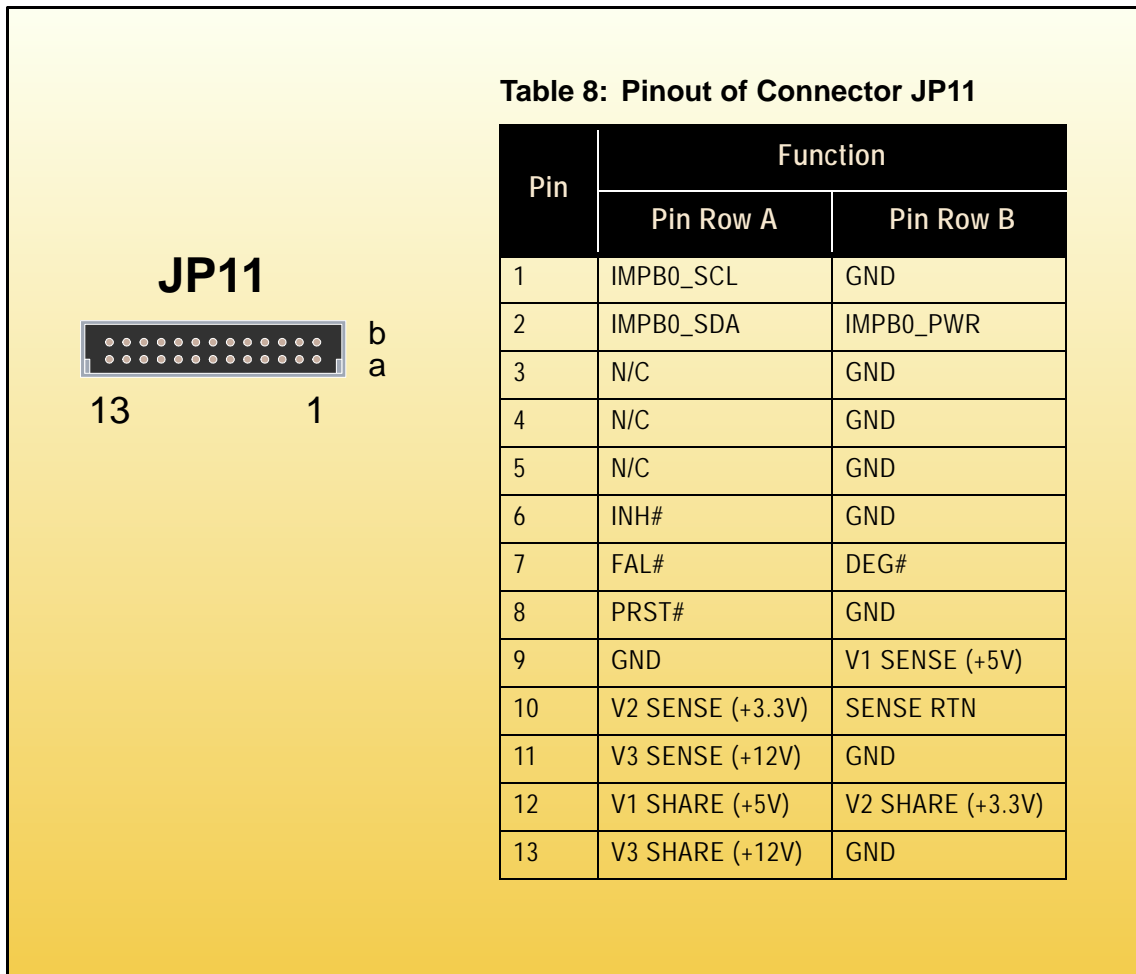




4.5 System Monitor and Control Connector JP11

This backplane is provided with a connector for system monitor and control signal interfacing to external devices. This is a 26-contact, male, double pin-row connector. The system management bus (IPMB0), the power supply monitor and control signals, and push button reset (PRST#) signal are all implemented on these connector.

Figure 7: Orientation and Pinout of the SMC Connectors JP11 and JP12



Note...

The signal pinout assignment is a function of the power supply actually utilized with this backplane. Refer to the corresponding power supply documentation for the applicable signal pinout.



4.6 Auxiliary Connectors and Signals (Optional)

There are two, two-contact, male auxiliary connectors, JP16 and JP17, optionally available on this backplane.

JP16 and JP17 make the signal lines, PRST and INH# respectively, available for external switches to either invoke a system reset or to switch the power supply on or off.

Orientation and Pinouts of CP6-BP8-P47-STD Connectors JP16 and JP17

JP17 **JP16**

Table 9: Pinouts of CP6-BP8-P47-STD Connectors JP16 and JP17

	Pin	Function
JP16	1	GND
	2	PRST
JP17	1	GND
	2	INH#

5. Optional System Configurations

5.1 Power Supply Options

The design of this power distribution backplane allows for several different power supply options:

1. The default configuration of a single compatible pluggable power supply, installed either in the upper or lower PS bay.
2. Addition of a compatible power supply installed in the upper/lower PS bay as required.
3. Addition of compatible power distribution backplanes installed either to the left or right of the backplane as required.

Option 1 is the standard configuration which is delivered with a 47-contact female Positronic type power supply connector.

Option 2 requires the installation of an additional compatible power supply in the appropriate PS bay.

Option 3 requires the installation of additional power distribution backplanes as required to support the application requirements. As in option 2, compatible power supplies are required.