

CPCI Backplane Manual

PRODUCT DOCUMENTATION

PD14 CP-ADAP-P47-PB (3U)

Reference ID: 24229 PD14

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 (3U)
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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 (3U) Power Distribution Adapter

The main features of the 3U CP-ADAP-P47-PB 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 (3U)

Feature	Specification
Form Factor	3U
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	47-pin Positronic PCIH47 (input) Power bar, 5 terminals (output)
Redundant Power Supply	Optional
Flexible Grounding Option	Yes
Fan Connector	Optional
MSD Connector	Optional
PS-ON Connector	–
Reset Function Connector	–
IPMB Extension Connector	Optional (IPMB0)
System MON-CTRL Connector	Yes



3. Board Layout

Figure 1: CP-ADAP-P47-PB (3U) Board Layout (Front)

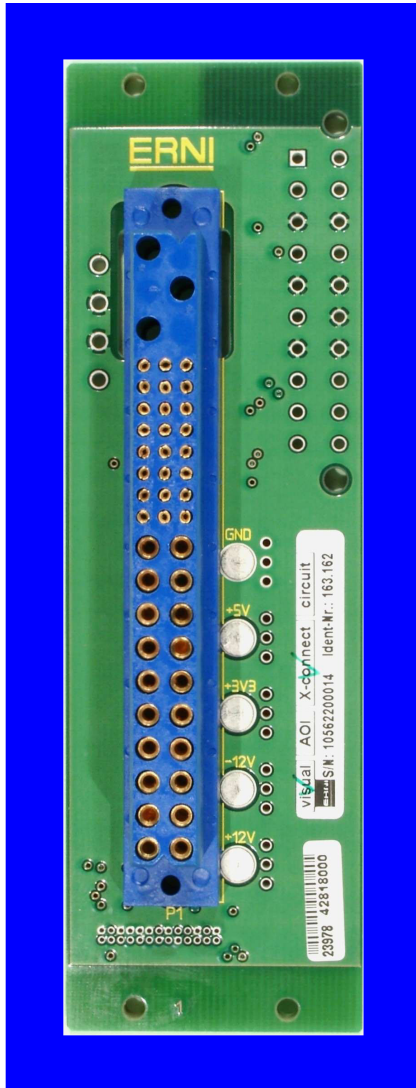
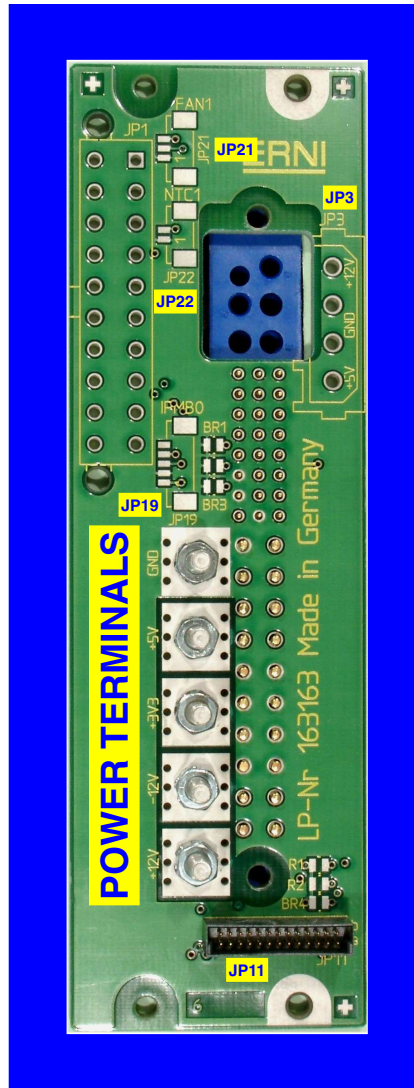


Figure 2: CP-ADAP-P47-PB (3U) Board Layout (Reverse)





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 a 47-contact, female, Positronic type power supply connector.

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

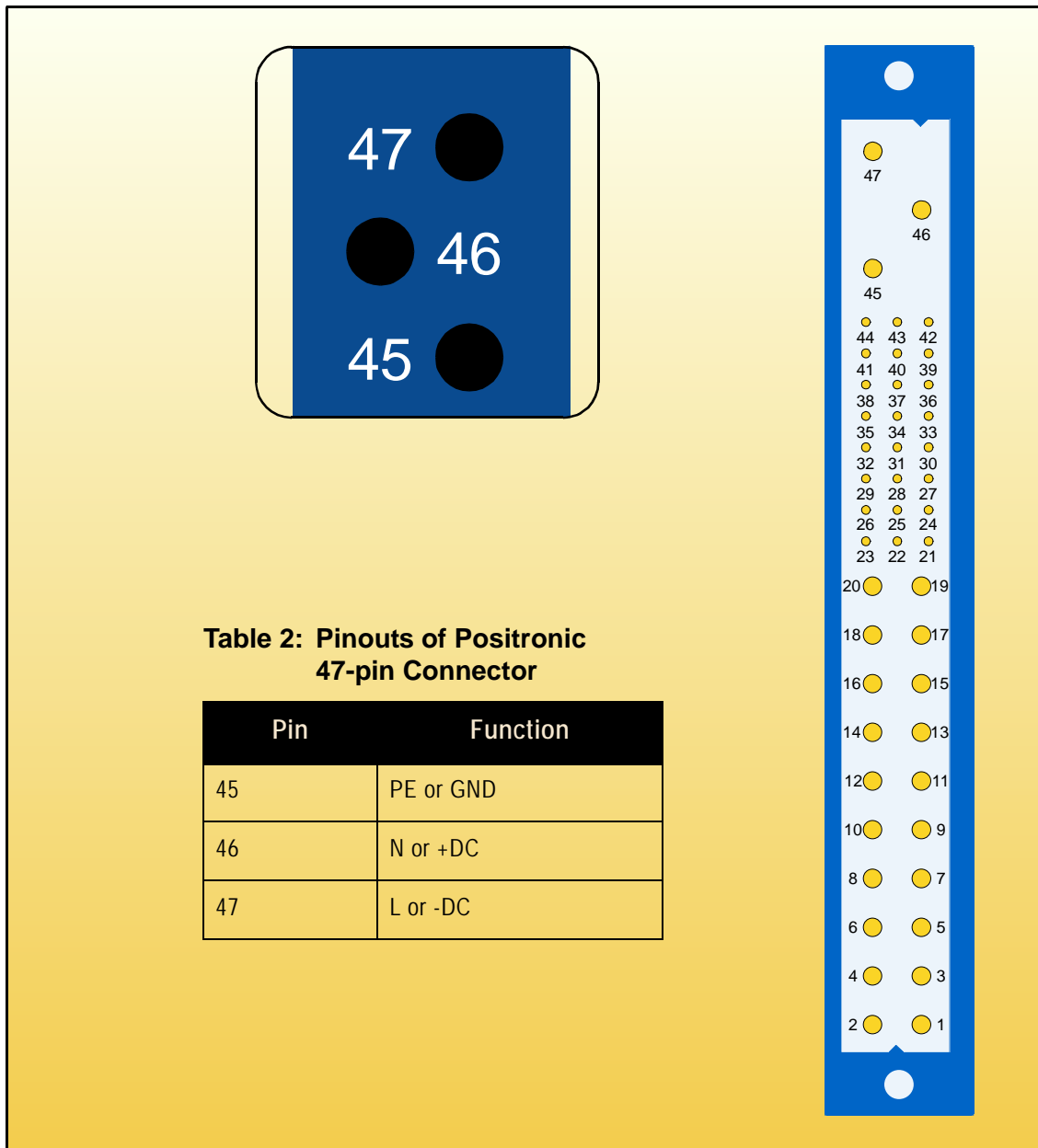




Table 3: Positronic 47-Pin Connector Pinout

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.



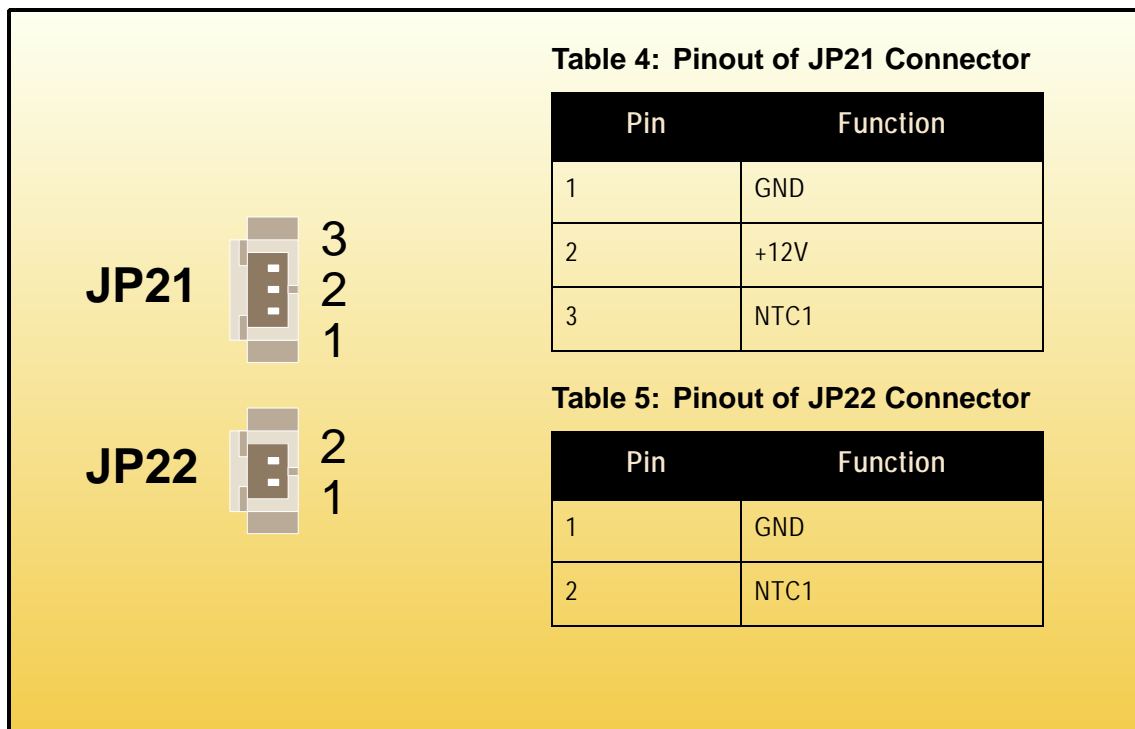
4.2 Fan Connectors (Optional)

The backplane can be equipped with connectors for supplying power for fan(s) and for connecting a fan speed control device. JP21 (FAN1), a 3-contact, male connector, supplies +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 (NTC1), a 2-contact male connector, provides a separate connection for a speed control device and is designed to be used in conjunction with JP21.

For fans that have their own speed control or where no control is required, pins 1 and 2 of JP21 can be used. For external speed control of fans, pins 2 and 3 of JP21 and pins 1 and 2 of JP22 are used. Pin 3 of JP21 and pin 2 of JP22 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

Figure 4: Orientation and Pinouts of Connectors JP21 and JP22





4.3 MSD Connector JP3 (Optional)

One 4-contact female connector 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 Connector JP3

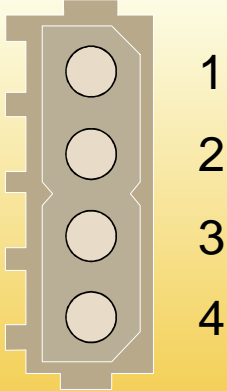


Table 6: Pinout of the JP3 Connector

Pin	Function
1	+12V
2	GND
3	GND
4	+5V

4.4 System Management Connector JP19 (Optional)

One five-contact male system management bus (IPMB0) connector, JP19, can be provided for external interfacing to this bus.

Figure 6: Orientation and Pinout of the CP3-BP8-P47-RIO IMPB0 Connector JP19

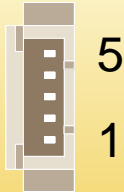


Table 7: Pinout of CP3-BP8-P47-RIO IMPB0 Connector JP19

Pin	Function
1	IMPB0_SCL
2	GND
3	IMPB0_SDA
4	IMPB0_PWR
5	SMB_ALERT



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 CP3-BP8-P47-RIO SMC Connectors JP11 and JP12

JP11

Table 8: Pinout of Connector JP11

Pin	Function	
	Pin Row A	Pin Row B
1	IMPB0_SCL	GND
2	IMPB0_SDA	IMPB0_PWR
3	N/C	GND
4	N/C	GND
5	N/C	GND
6	INH#	GND
7	FAL#	DEG#
8	PRST#	GND
9	GND	V1 SENSE (+5V)
10	V2 SENSE (+3.3V)	SENSE RTN
11	V3 SENSE (+12V)	GND
12	V1 SHARE (+5V)	V2 SHARE (+3.3V)
13	V3 SHARE (+12V)	GND



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.



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.
2. Addition of compatible pluggable power supplies installed either to the left or right of the backplane.

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 power distribution backplane for each additional power supply.