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Technical Reference Manual for TP CR1/PMC 32-bit 3U CompactPCI PMC Carrier

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CONVENTIONS

Throughout this manual the following conventions will apply:

- # or * after a name represents an active low signal. e.g. INIT* or INIT#
- h denotes a hexadecimal number. e.g. FF45h
- byte represents 8-bits
- word represents 16-bits
- dword represents 32-bits

GLOSSARY OF TERMS

BIOS ..... Basic Input Output System
CPCI ..... CompactPCI
CPU ..... Central Processing Unit
GND..... Ground
I/O ..... Input/Output
LFM..... Linear Feet per Minute
NC..... Not Connected
PCI..... Peripheral Component Interconnect
PMC..... PCI Mezzanine Card
ROM ..... Read Only Memory

REVISION HISTORY

Revision	Summary of Changes	Date
01	First Release	September 2007
02	Minor corrections	November 2007

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1 INTRODUCTION AND OVERVIEW

1.1 General

This manual is a guide and reference handbook for engineers and systems integrators who wish to use the Concurrent Technologies TP CR1/PMC 32-bit 3U CompactPCI® PMC Carrier Card.

The card is designed to interface with any suitable single width PMC module using a PCI™ bus interface compliant with V2.2 of the PCI signaling specification.

The TP CR1/PMC is a 3U single slot card capable of supporting 32-bit 33/66 MHz PCI bus connections between the CompactPCI bus and a PMC. PMC rear I/O from PMC J14 to CompactPCI J2 connector is supported.

The board is also available in extended temperature, Ruggedized Air-Cooled and Ruggedized Conduction-Cooled versions. Further details on these options are given in Section 1.2. References to the board in this document will use the name TP CR1/PMC unless they apply only to a specific variant, in which case the full name will be used.

The board is also available, as the TP CR2/PMC, with 64-bit 33/66 MHz PCI bus connections between the CompactPCI bus and a PMC module. There is an option for 21-bits of PMC rear I/O from PMC J13 to CompactPCI J2.

1.2 Standard, Extended Temperature and Ruggedized Options

1.2.1 Standard (N-Series), Extended Temperature (E-Series and K-Series) Options

The TP CR1/PMC is available as variants which are qualified to either a standard or extended range of operating and storage temperatures. Please see Section A.2.1 for specifications for the temperature ranges and Section A.2.2 for the shock and vibration ranges supported by the TP CR1/PMC. Consult your distributor or Concurrent Technologies directly for further details of the extended temperature options.

For all these variants, a jumper is provided on board to control the PCI bus speed on the TP CR1/PMC. See Sections 2.3 and 2.4.1 for further details.

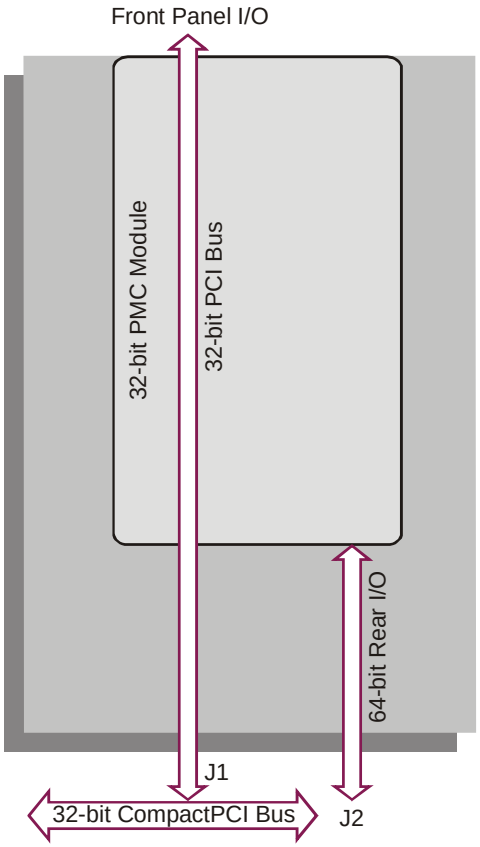


Figure 1-1 Overview

1.2.2 Ruggedized Air-Cooled (RA-Series) Options

The TP CR1/PMC is available as Ruggedized Air-Cooled variants designated TP CR1/PMC-RA. These offer extended temperature ranges as well as a higher specification for shock and vibration. Please see Section A.2.1 for specifications on the temperature range and Section A.2.2 for the shock and vibration ranges supported by the TP CR1/PMC-RA. Consult your distributor or Concurrent Technologies directly for further details of the ruggedized options.

For these variants, the PCI bus speed is factory configured according to the specific variant ordered. These are distinguished by the order suffix as detailed on the TP CR1/PMC-RA datasheet and in Section 2.4.2 of this manual.

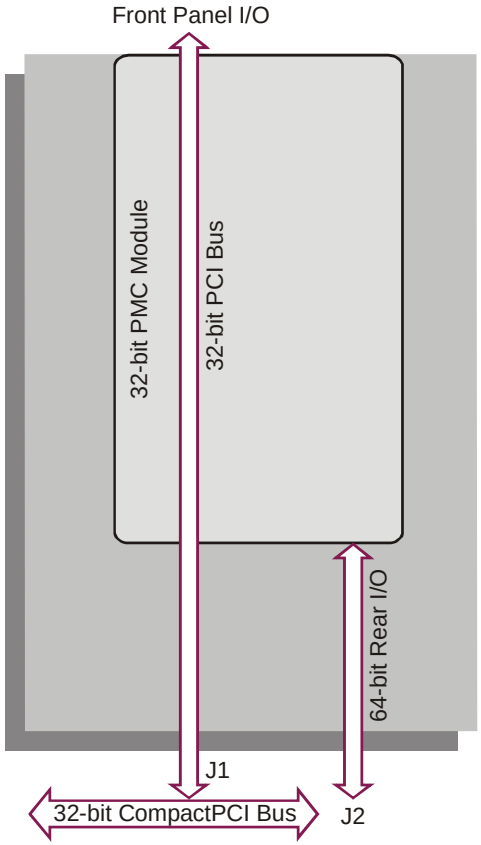


Figure 1-2 Overview of Ruggedized Air-Cooled Boards

1.2.3 Ruggedized Conduction-Cooled (RC-Series) Options

The TP CR1/PMC is also available as Ruggedized Conduction-Cooled variants designated TP CR1/PMC-RC. These offer extended temperature ranges, a higher specification for shock and vibration and do not require any forced airflow through the chassis. Please see Section A.2.1 for specifications on the temperature range and Section A.2.2 for the shock and vibration ranges supported by the TP CR1/PMC-RC. Consult your distributor or Concurrent Technologies directly for further details of the ruggedized options.

For these variants, the PCI bus speed is factory configured according to the specific variant ordered. These are distinguished by the order suffix as detailed on the TP CR1/PMC-RC datasheet and in Section 2.4.2 of this manual.

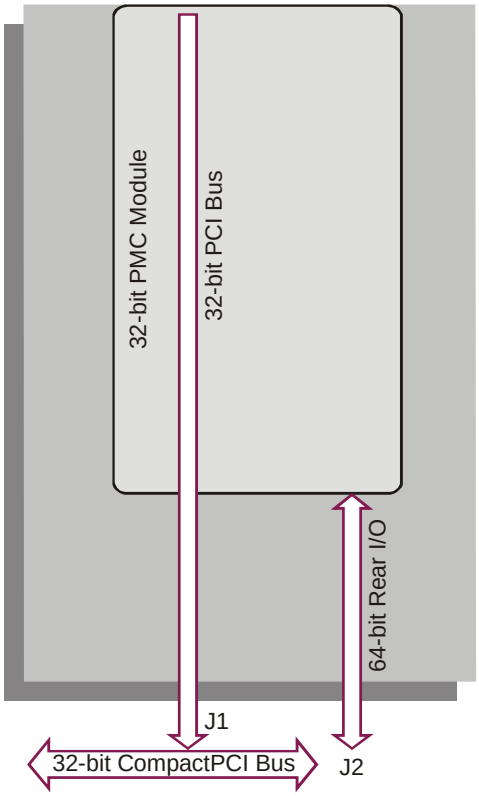


Figure 1-3 Overview of Ruggedized Conduction-Cooled Boards

1.2.4 Differences between Standard, Extended Temperature and Ruggedized Options

Table 1-1 indicates the features supported by the extended temperature and ruggedized boards.

Version	Series	Front Panel Interfaces	Rear I/O Interfaces	PCI bus speed is user-configurable
Standard Temperature	N-Series	✔	✔	✔
Extended Temperature	E-Series	✔	✔	✔
	K-Series	✔	✔	✔
Ruggedized Air-Cooled	RA-Series	✔	✔	✕
Ruggedized Conduction-Cooled	RC-Series	✕	✔	✕

Table 1-1 Key Differences between N, E, K, RA and RC Series

NOTE: The sections of this manual which detail the user-configurable PCI bus and the front panel interfaces only apply to versions which support these features.

1.3 TP CR1/PMC Main Features

The TP CR1/PMC is a member of Concurrent Technologies' range of 3U CompactPCI boards. It can be used on any 32-bit 3U CompactPCI backplane. The card does not support Hot-swap. The TP CR1/PMC carrier card supports the standard 10mm height PMC module format.

1.3.1 PMC Site

The TP CR1/PMC supports one single width PMC. The PMC site can be used in 32-bit, 33 MHz or 32-bit, 66 MHz CompactPCI systems. Rear I/O connections between PMC J14 and CompactPCI J2 connectors conform to the pin mapping defined in PICMG 2.3 R1.0 PMC on CompactPCI specification.

1.3.2 CompactPCI Interface

The TP CR1/PMC provides a passive connection between the CompactPCI backplane and the PMC module. Series terminating resistors are provided but no bridge chip or buffer devices are fitted. The PMC I/O voltage will match the system’s CompactPCI bus I/O voltage.

1.4 Compliance to RoHS 2002/95/EC

This product is offered in a form which complies to the RoHS 2002/95/EC directive. The European Union RoHS 2002/95/EC directive restricts the use of six materials in electronic components and assemblies. Specifically, these materials are Lead (Pb), Mercury (Hg), Cadmium (Cd), Hexavalent Chromium (Cr VI), Polybrominated Biphenyls (PBB) and Polybrominated Diphenyl Ethers (PBDE). Concurrent Technologies is committed to compliance to the RoHS directive.



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2 INSTALLATION

2.1 General

This chapter contains general information on unpacking and inspecting the TP CR1/PMC after shipment, and specific information on how to configure board options and install the board onto a PMC baseboard.

CAUTION: It is strongly advised that when handling the TP CR1/PMC and its associated components the user should at all times wear an earthing strap to prevent damage to the board as a result of electrostatic discharge.

The list below outlines the steps necessary to configure and install the board. Each entry in the list refers to a section in this chapter which will provide more details of that stage of the procedure. It is recommended that the board is configured in the sequence below.

1) Unpack the board - see Section 2.2.
2) Check that the board jumper settings match the required operating mode. See Section 2.3 and Section 2.4 for details.
3) Install the board - see Section 2.5.

INSTALLATION

2.2 Unpacking and Inspection

Immediately after the board is delivered to the user's premises the user should carry out a thorough inspection of the package for any damage caused by negligent handling in transit.

CAUTION: If the packaging is badly damaged or water-stained the user must insist on the carrier's agent being present when the board is unpacked.

Once unpacked, the board should be inspected carefully for physical damage, loose components etc. In the event of the board arriving at the customer's premises in an obviously damaged condition Concurrent Technologies or its authorized agent should be notified immediately.

2.3 Default Jumper Settings

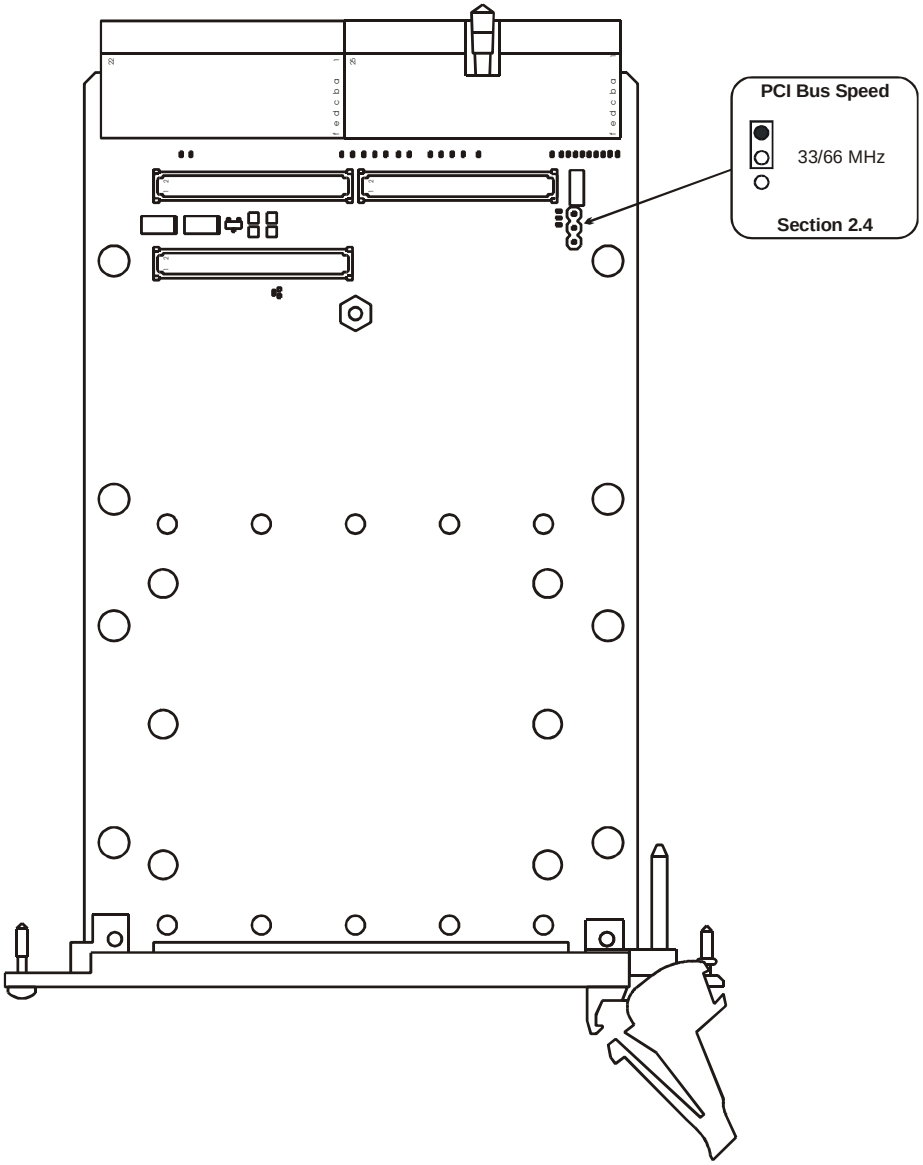


Figure 2-1 Default Jumper Settings (Standard and Extended Temperature Versions)

NOTE: The ruggedized air-cooled and ruggedized conduction-cooled versions do not have any jumper options. See Section 2.4.2 for full details on how the PCI bus is configured for ruggedized versions.

2.4 CompactPCI Configuration

The options for configuring the PCI bus vary between the different environmental versions of the board. The following sections describe the different settings for each variant.

2.4.1 Standard and Extended Temperature Versions

The standard and extended temperature variants of the board are fitted with a configuration jumper which allows a user to force 33 MHz operation. Figure 2-2 shows the location of the jumper on the board and the selection settings.

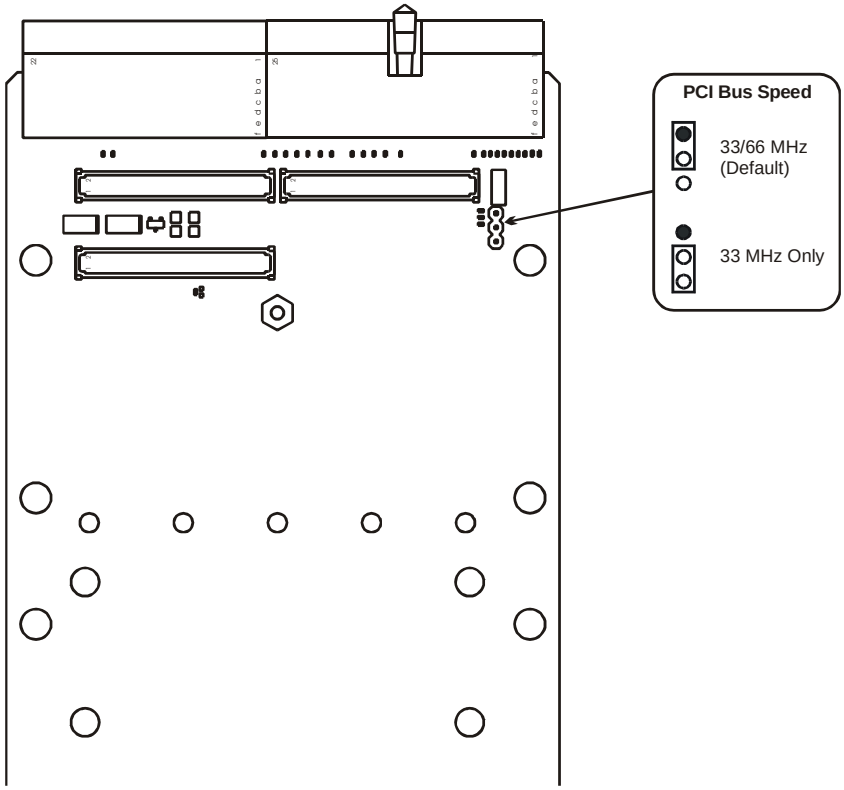


Figure 2-2 CompactPCI Configuration

NOTE: See Section 3.2 for further information on the CompactPCI interface.

2.4.2 Ruggedized Air-Cooled and Ruggedized Conduction-Cooled Versions

The PCI bus speed is configured at the factory according to the specific variant ordered and cannot be altered by the user. Table 2-1 shows how the PCI bus speed is configured on the different variants.

Order Number	PCI Bus Speed
TP CR1/PMC-x1Rx	33/66 MHz
TP CR1/PMC-x4Rx	33 MHz

Table 2-1 PCI Bus Configuration on TP CR1/PMC-RA and TP CR1/PMC-RC Variants

2.5 Installing or Removing a PMC Module

Before installing a PMC module, check that:

- Ensure V(I/O) has been configured on the CompactPCI backplane to be used.
- The PMC module you are using is compatible with the PCI V(I/O) on the CompactPCI backplane. See Section 2.4.1 for details.
- The PMC Detachable Polarizing Key on the TP CR1/PMC should be moved to the correct position corresponding to the I/O voltage on the CompactPCI bus. Figure 2-3 shows the location of the key for 3.3V V(I/O) and 5V V(I/O) configurations.

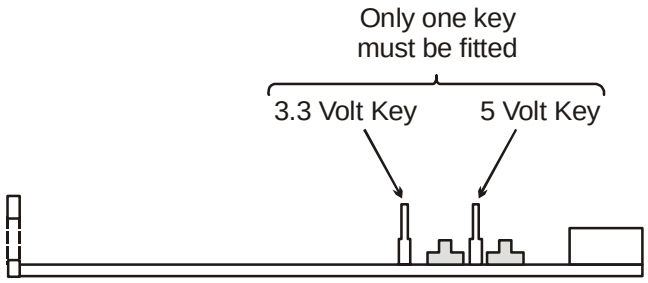


Figure 2-3 PMC Detachable Polarizing Key

CAUTION: Failure to observe the above steps may result in damage to the PMC module, the CompactPCI system or the TP CR1/PMC.

2.5.1 PMC Installation Instructions (All Air-Cooled Versions)

These instructions show how to fit a PMC module onto the Standard, Extended Temperature or Ruggedized Air-Cooled versions of the TP CR1/PMC.

NOTE: The TP CR1/PMC and TP CR1/PMC-RA are supplied with a PMC blanking plate which must be removed before a new module can be fitted.

NOTE: The TP CR1/PMC-RA can only meet it's full environmental specifications when the installed PMC module meets the required standard for shock and vibration.

1) Check that the standoffs are attached to the PMC module and then align the front of the PMC module with the opening in the front panel of the TP CR1/PMC.
2) Install the PMC module component side down, aligning the PMC connectors with their mating connectors on the TP CR1/PMC. Press them together so that the friction from the pins holds the PMC module in place.
3) Screw the PMC module in place using the four mounting screws.

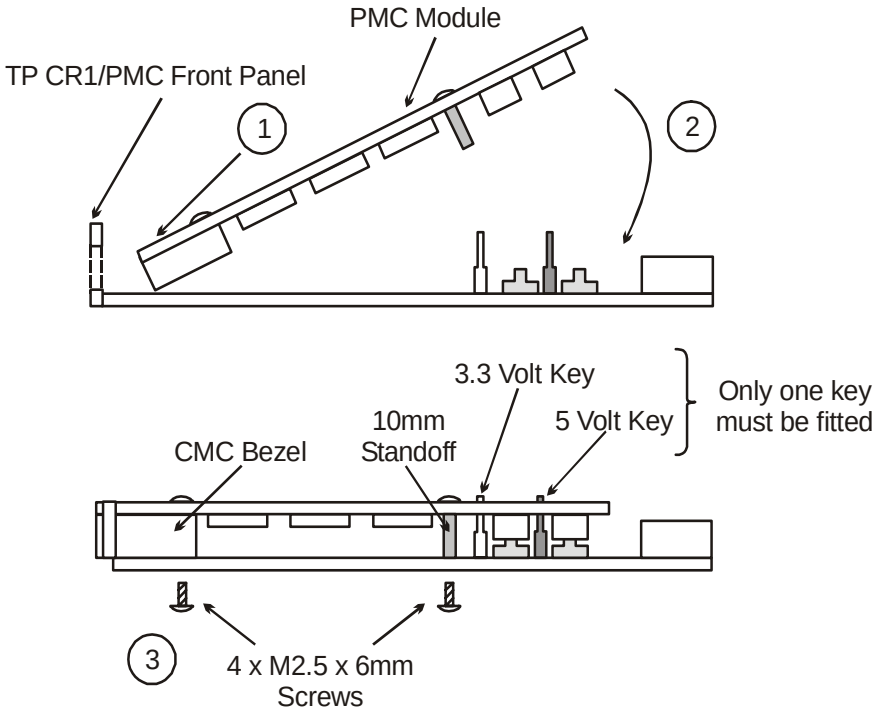


Figure 2-4 PMC Installation Diagram (All Air-Cooled Versions)

NOTE: If the board is likely to be subjected to mechanical vibration a suitable thread lock compound applied to the screws should be considered.

2.5.2 PMC Installation Instructions (Ruggedized Conduction-Cooled Versions)

NOTE: Only PMC modules which have been designed for conduction cooling should be used with the TP CR1/PMC-RC. These can normally be identified by a conduction strip along the middle of the PMC, which will conduct heat generated by the PMC module into the TP CR1/PMC-RC.

NOTE: The TP CR1/PMC-RC can only meet it's full environmental specifications when the installed PMC module meets the required standard for shock and vibration.

NOTE: To improve cooling, a thermal conducting paste can be applied to contact the surfaces of the PMC module and base board.

1) Check that the standoffs are attached to the PMC module. Align the standoffs and the holes at the front and middle of the PMC module with the matching holes on the TP CR1/PMC-RC.
2) Lower the PMC module, component side down, fitting the PMC connectors into their mating connectors on the TP CR1/PMC-RC. Press them together so that the friction from the pins holds the PMC module in place.
3) Where the PMC module has holes for the screws, secure the PMC module in place using 5 mounting screws in the top of the front panel, 5 along the conducting strip, 5 behind the PMC connectors, 3 along each side of the PMC module and 2 on the underside of the board in the standoffs.

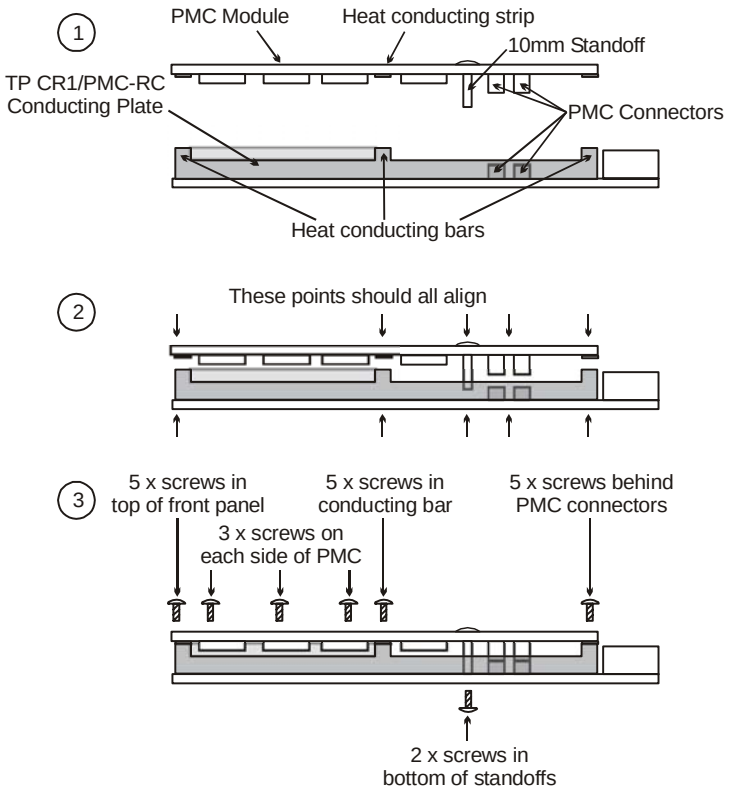


Figure 2-5 PMC Installation Diagram (Ruggedized Conduction-Cooled Versions)

NOTE: If the board is likely to be subjected to mechanical vibration a suitable thread lock compound applied to the screws should be considered.

3 FUNCTIONAL DESCRIPTION

3.1 PMC Site

The TP CR1/PMC supports one single width PMC. The PMC site can be used in 32-bit, 33 MHz or 32-bit, 66 MHz CompactPCI systems. Rear I/O connections between PMC J14 and CompactPCI J2 connectors conform to the pin mapping defined in PICMG 2.3 R1.0 PMC on CompactPCI specification.

Front panel connector access is supported on all variants except the RC-Series (ruggedized conduction cooled). All variants support PMC rear I/O.

3.2 CompactPCI Interface

The TP CR1/PMC provides a passive connection to the CompactPCI bus. Series termination resistors are provided as per the CompactPCI specification. However it should be noted that the signal lengths are longer than the CompactPCI specification allows. Although the TP CR1/PMC can be used in any peripheral slot, care should be taken that signal integrity is maintained on the CompactPCI backplane. It is recommended that the TP CR1/PMC is used in the slot furthest away from the system controller slot on all backplanes over three slots long.

The TP CR1/PMC is only suitable for use in peripheral slots and is not suitable for use in the system controller slot.

NOTE: The system controller slot is normally identified by a triangular glyph on the backplane.

The TP CR1/PMC may be used in 32-bit 33 MHz or 66 MHz CompactPCI systems. On standard and extended temperature boards an on-board jumper is provided to force 33 MHz operation. This should be used if the PMC module only supports 33 MHz operation or if you experience problems with 66 MHz operation.

NOTE: See Section 2.4 for further details regarding the on-board jumper and for how these options are set when using a ruggedized version of the board.

The board will operate with the CompactPCI I/O voltage set to +5V or +3.3V.

CAUTION: The CompactPCI I/O voltage must be connected on the backplane before inserting the TP CR1/PMC. Failure to do so may result in damage to the TP CR1/PMC, the PMC module or the CompactPCI system.

NOTE: It is not recommended that more than one TP CR1/PMC is used on a backplane at the same time if operating at 66 MHz.

3.3 Power Supply Requirements

The TP CR1/PMC does not require a supply from the CompactPCI other than the I/O voltage from the backplane. Power for the PMC module is supplied directly from the CompactPCI backplane; the board supports +12V, -12V, +5V and +3.3V supplies. PMC I/O voltage is derived from CompactPCI I/O voltage.

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A SPECIFICATIONS

A.1 Functional Specification

- 32-bit, 33/66 MHz, +3.3/+5V PCI PMC interface using IEEE 1386-2001 standard pin-out
- 32-bit, 33/66 MHz, +3.3/+5V CompactPCI interface
- Single width PMC site
- Supports PMC standard 10 mm stacking height
- PMC rear I/O to CompactPCI J2

SPECIFICATIONS

A.2 Environmental Specification

A.2.1 Temperature Range

	Standard Temperature (N-Series)	Extended Temperature (E-Series)	Extended Temperature (K-Series)	Ruggedized Air-Cooled (RA-Series)	Ruggedized Conduction-Cooled (RC-Series)
Temperature Range (operating)	0°C to +55°C	-25°C to +70°C	-40°C to +85°C	-40°C to +75°C	-40°C to +85°C
Temperature Range (storage)	-40°C to +85°C	-40°C to +85°C	-40°C to +85°C	-45°C to +100°C	-45°C to +100°C
Temperature Rate of Change	2°C / min	2°C / min	2°C / min	7°C / min	7°C / min
Airflow (linear feet per minute)	200 LFM	200 LFM	200 LFM	200 LFM	0 LFM Conduction Cooled
Relative Humidity (operating)	10% to 90%	10% to 90%	10% to 90%	5% to 95%	5% to 95%
Relative Humidity (storage)	10% to 90%	10% to 90%	10% to 90%	5% to 95%	5% to 95%
Humidity Protection	Optional	Optional	Yes	Yes	Yes
Altitude (operating)	0 to 15,000 ft (0 to 4,572m)	0 to 15,000 ft (0 to 4,572m)	0 to 15,000 ft (0 to 4,572m)	-1,000 to 33,000 ft (-305 to 10,058m)	-1,000 to 50,000 ft (-305 to 15,240m)
Altitude (storage)	0 to 50,000 ft (0 to 15,240m)	0 to 50,000 ft (0 to 15,240m)	0 to 50,000 ft (0 to 15,240m)	-1,000 to 50,000 ft (-305 to 15,240m)	-1,000 to 50,000 ft (-305 to 15,240m)

Table A-1 Environmental Specifications

A.2.2 Shock and Vibration

	Standard Temperature (N-Series)	Extended Temperature (E-Series)	Extended Temperature (K-Series)	Ruggedized Air-Cooled (RA-Series)	Ruggedized Conduction Cooled (RC-Series)
Shock (operating)	20g, 11ms, ½ sine	20g, 11ms, ½ sine	20g, 11ms, ½ sine	40g, 11ms, ½ sine	40g, 11ms, ½ sine
Shock (non-operating)	30g, 11ms, ½ sine	30g, 11ms, ½ sine	30g, 11ms, ½ sine	40g, 11ms, ½ sine	40g, 11ms, ½ sine
Vibration - sinusoidal (operating)	2g at 5Hz to 2kHz	2g at 5Hz to 2kHz	2g at 5Hz to 2kHz	3g at 5Hz to 2kHz	5g at 5Hz to 2kHz
Vibration - sinusoidal (non-operating)	5g at 5Hz to 2kHz	5g at 5Hz to 2kHz	5g at 5Hz to 2kHz	5g at 5Hz to 2kHz	5g at 5Hz to 2kHz
Random Vibration (operating)				0.04 g^2/Hz, (10Hz to 1kHz); -6dB/octave (1kHz to 2kHz)	0.1 g^2/Hz (10Hz to 1kHz); -6dB/octave (1kHz to 2kHz)

Table A-2 Shock and Vibration Specifications

SPECIFICATIONS

A.3 Dimensions

Height	100 mm
Depth	160 mm
Width	20 mm
Weight	155 g (N, E, K-Series)
Weight	160 g (RA-Series)
Weight	200 g (RC-Series)

A.4 Electrical Specification

VOLTAGE	REGULATION	CURRENT (Typical)
+3.3V	±5%	0 A
+5.0V	±5%	0 A
CompactPCI I/O	±5%	<10 mA

Table A-3 Voltage and Current Requirements

A.5 Connectors

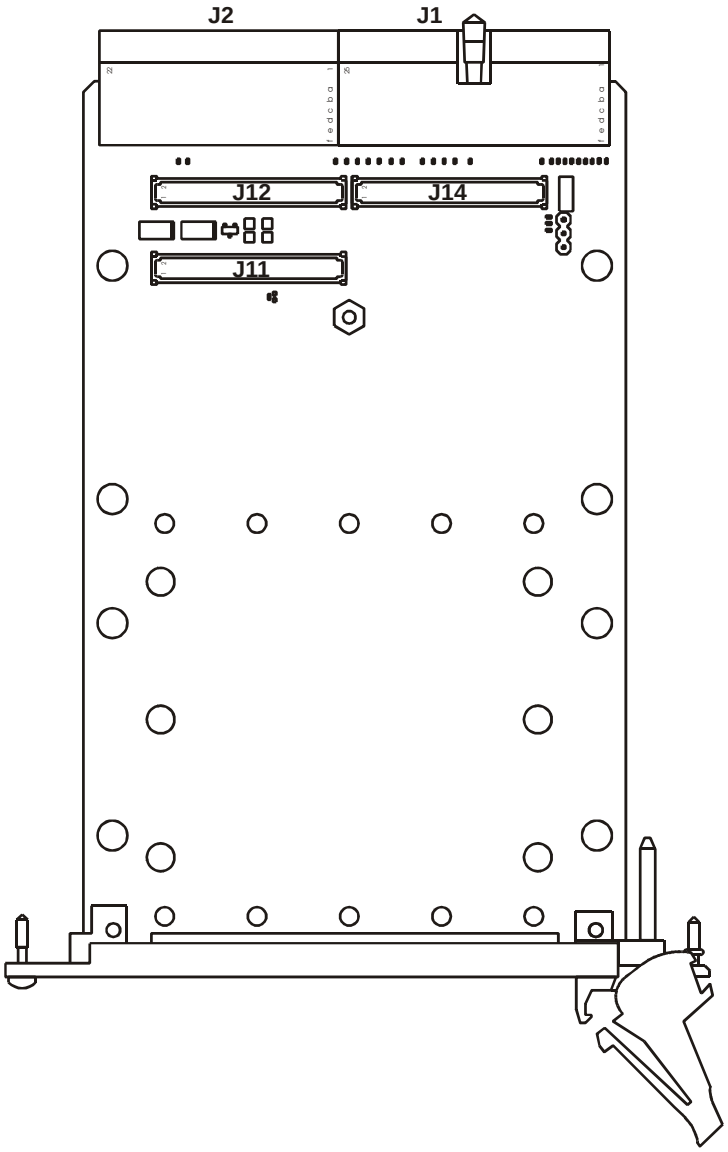


Figure A-1 Connector Layout



Figure A-2 Front Panel Connector (except TP CR1/PMC-RC)

NOTE: Front Panel I/O is not available on Ruggedized Conduction Cooled variants.

A.5.1 CompactPCI Interface (J1) Pin-outs

The CompactPCI interface connector J1 consists of a 150-pin connector with pins assigned as follows:

Pin	A	B	C	D	E	F	
25	+5V	NC	NC	+3.3V	+5V	GND	
24	AD[1]	+5V	CPCI V(I/O)	AD[0]	ACK64#	GND	
23	+3.3V	AD[4]	AD[3]	+5V	AD[2]	GND	
22	AD[7]	GND	+3.3V	AD[6]	AD[5]	GND	
21	+3.3V	AD[9]	AD[8]	M66EN	C/BE[0]#	GND	
20	AD[12]	GND	CPCI V(I/O)	AD[11]	AD[10]	GND	
19	+3.3V	AD[15]	AD[14]	GND	AD[13]	GND	J
18	SERR#	GND	+3.3V	PAR	C/BE[1]#	GND	1
17	+3.3V	NC	NC	GND	PERR#	GND	
16	DEVSEL#	GND	CPCI V(I/O)	STOP#	LOCK#	GND	C
15	+3.3V	FRAME#	IRDY#	BD_SEL#	TRDY#	GND	O
12-14	KEY AREA						N
11	AD[18]	AD[17]	AD[16]	GND	C/BE[2]#	GND	N
10	AD[21]	GND	+3.3V	AD[20]	AD[19]	GND	E
9	C/BE[3]#	IDSEL	AD[23]	GND	AD[22]	GND	C
8	AD[26]	GND	CPCI V(I/O)	AD[25]	AD[24]	GND	T
7	AD[30]	AD[29]	AD[28]	GND	AD[27]	GND	O
6	REQ#	PCI_PRESENT#	+3.3V	CLK	AD[31]	GND	R
5	NC	NC	PCI_RST#	GND	GNT#	GND	
4	NC	HEALTHY#	CPCI V(I/O)	NC	NC	GND	
3	INTA#	INTB#	INTC#	+5V	INTD#	GND	
2	NC	+5V	NC	NC	NC	GND	
1	+5V	-12V	NC	+12V	+5V	GND	
Pin	**A**	**B**	**C**	**D**	**E**	**F**	

Table A-4 CompactPCI J1 Interface Pin-outs

NOTE: PICMG 2.16 defines pin B6 as PCI_PRESENT#. In earlier PICMG specifications this pin is defined as GND.

A.5.2 CompactPCI Interface (J2) Pin-outs

The CompactPCI interface connector J2 consists of a 132-pin connector with pins assigned as follows:

Pin	A	B	C	D	E	F	
22	GA4	GA3	GA2	GA1	GA0	GND	
21	NC	NC	NC	NC	NC	GND	
20	NC	NC	NC	NC	NC	GND	
19	NC	NC	NC	NC	NC	GND	
18	NC	NC	NC	NC	NC	GND	
17	NC	NC	NC	NC	NC	GND	J
16	NC	NC	NC	NC	NC	GND	2
15	NC	NC	NC	NC	NC	GND	
14	+3.3V	+3.3V	+3.3V	+5V	+5V	GND	C
13	PMC I/O5	PMC I/O4	PMC I/O3	PMC I/O2	PMC I/O1	GND	O
12	PMC I/O10	PMC I/O9	PMC I/O8	PMC I/O7	PMC I/O6	GND	N
11	PMC I/O15	PMC I/O14	PMC I/O13	PMC I/O12	PMC I/O11	GND	N
10	PMC I/O20	PMC I/O19	PMC I/O18	PMC I/O17	PMC I/O16	GND	E
9	PMC I/O25	PMC I/O24	PMC I/O23	PMC I/O22	PMC I/O21	GND	C
8	PMC I/O30	PMC I/O29	PMC I/O28	PMC I/O27	PMC I/O26	GND	T
7	PMC I/O35	PMC I/O34	PMC I/O33	PMC I/O32	PMC I/O31	GND	O
6	PMC I/O40	PMC I/O39	PMC I/O38	PMC I/O37	PMC I/O36	GND	R
5	PMC I/O45	PMC I/O44	PMC I/O43	PMC I/O42	PMC I/O41	GND	
4	PMC I/O50	PMC I/O49	PMC I/O48	PMC I/O47	PMC I/O46	GND	
3	PMC I/O55	PMC I/O54	PMC I/O53	PMC I/O52	PMC I/O51	GND	
2	PMC I/O60	PMC I/O59	PMC I/O58	PMC I/O57	PMC I/O56	GND	
1	PMC VI/O	PMC I/O64	PMC I/O63	PMC I/O62	PMC I/O61	GND	
Pin	**A**	**B**	**C**	**D**	**E**	**F**	

Table A-5 CompactPCI J2 Interface Pin-outs

A.5.3 PMC Connector Pin Assignments

Signal assignments on the PMC connectors are shown below in Tables A-6 to A-8.

Pin No.	Signal Name	Pin No.	Signal Name
1	4k7 PD-GND	2	-12V
3	GND	4	INTA#
5	INTB#	6	INTC#
7	10k PU-3.3V	8	+5V
9	INTD#	10	NC
11	GND	12	10k PU-3.3V
13	CLK	14	GND
15	GND	16	GNT#
17	REQ#	18	+5V
19	PMC V(I/O)	20	PAD31
21	PAD28	22	PAD27
23	PAD25	24	GND
25	GND	26	C/BE3#
27	PAD22	28	PAD21
29	PAD19	30	+5V
31	PMC V(I/O)	32	PAD17
33	FRAME#	34	GND
35	GND	36	IRDY#
37	DEVSEL#	38	+5V
39	GND	40	LOCK#
41	10k PU-PMC V(I/O)	42	10k PU-PMC V(I/O)
43	PAR	44	GND
45	PMC V(I/O)	46	PAD15
47	PAD12	48	PAD11
49	PAD9	50	+5V
51	GND	52	C/BE0#
53	PAD6	54	PAD5
55	PAD4	56	GND
57	PMC V(I/O)	58	PAD3
59	PAD2	60	PAD1
61	PAD0	62	+5V
63	GND	64	NC

Table A-6 PMC J11 Connector Pin Assignments

Pin No.	Signal Name	Pin No.	Signal Name
1	+12V	2	4k7 PD-GND
3	4k7 PU-PMC V(I/O)	4	NC
5	4k7 PU-PMC V(I/O)	6	GND
7	GND	8	NC
9	NC	10	NC
11	10k PU-3.3V	12	+3.3V
13	PCI_RST#	14	GND
15	+3.3V	16	GND
17	NC	18	GND
19	PAD30	20	PAD29
21	GND	22	PAD26
23	PAD24	24	+3.3V
25	IDSEL	26	PAD23
27	+3.3V	28	PAD20
29	PAD18	30	GND
31	PAD16	32	C/BE2#
33	GND	34	NC
35	TRDY#	36	+3.3V
37	GND	38	STOP#
39	PERR#	40	GND
41	+3.3V	42	SERR#
43	C/BE1#	44	GND
45	PAD14	46	PAD13
47	M66EN	48	PAD10
49	PAD8	50	+3.3V
51	PAD7	52	NC
53	+3.3V	54	NC
55	NC	56	GND
57	NC	58	NC
59	GND	60	NC
61	NC	62	+3.3V
63	GND	64	10k PU-3.3V

Table A-7 PMC J12 Connector Pin Assignments

Pin No.	Signal Name	Pin No.	Signal Name
1	PMC I/O1	2	PMC I/O2
3	PMC I/O3	4	PMC I/O4
5	PMC I/O5	6	PMC I/O6
7	PMC I/O7	8	PMC I/O8
9	PMC I/O9	10	PMC I/O10
11	PMC I/O11	12	PMC I/O12
13	PMC I/O13	14	PMC I/O14
15	PMC I/O15	16	PMC I/O16
17	PMC I/O17	18	PMC I/O18
19	PMC I/O19	20	PMC I/O20
21	PMC I/O21	22	PMC I/O22
23	PMC I/O23	24	PMC I/O24
25	PMC I/O25	26	PMC I/O26
27	PMC I/O27	28	PMC I/O27
29	PMC I/O29	30	PMC I/O30
31	PMC I/O31	32	PMC I/O32
33	PMC I/O33	34	PMC I/O34
35	PMC I/O35	36	PMC I/O36
37	PMC I/O37	38	PMC I/O38
39	PMC I/O39	40	PMC I/O40
41	PMC I/O41	42	PMC I/O42
43	PMC I/O43	44	PMC I/O44
45	PMC I/O45	46	PMC I/O46
47	PMC I/O47	48	PMC I/O48
49	PMC I/O49	50	PMC I/O50
51	PMC I/O51	52	PMC I/O52
53	PMC I/O53	54	PMC I/O54
55	PMC I/O55	56	PMC I/O56
57	PMC I/O57	58	PMC I/O58
59	PMC I/O59	60	PMC I/O60
61	PMC I/O61	62	PMC I/O62
63	PMC I/O63	64	PMC I/O64

Table A-8 PMC J14 Connector Pin Assignments

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