

# DYNAMIC ENGINEERING

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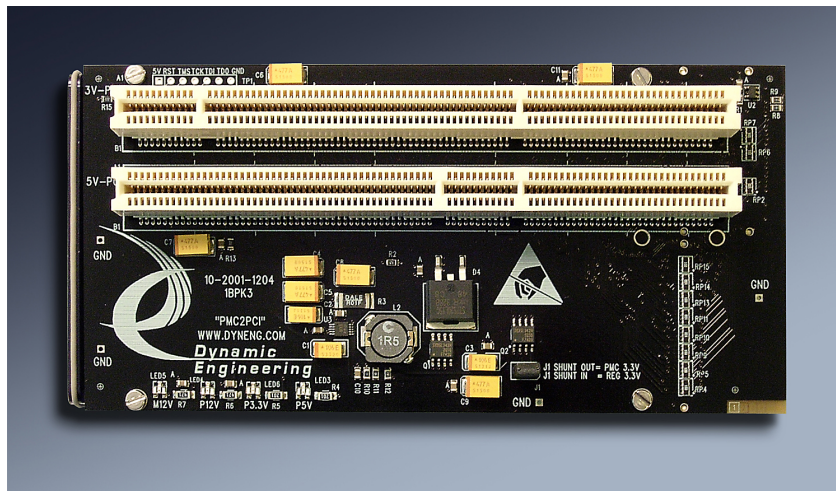
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Est. 1988

## User Manual

# PMC2PCI

## PMC TO PCI Converter



Revision 8p0

Corresponding Hardware: Revision 8

10-2001-1208

**PMC2PCI**  
PCI and PMC Compatible Carrier

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The electronic equipment described herein generates, uses, and can radiate radio frequency energy. Operation of this equipment in a residential area is likely to cause radio interference, in which case the user, at his own expense, will be required to take whatever measures may be required to correct the interference.

Dynamic Engineering's products are not authorized for use as critical components in life support devices or systems without the express written approval of the president of Dynamic Engineering.

Connection of incompatible hardware is likely to cause serious damage.



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## Product Description

For development or production use PMC2PCI card to install a PCI form factor device into a PMC compatible slot. Use less expensive or off-the-shelf components until your PMC card is ready or for temporary debugging situations. For production mode situations the available riser card will reduce the effective height of the installed PCI card. The PMC2PCI is 64/66 capable and compatible with 32/33 systems. Both VIO voltages are supported.

### **Special features:**

- Single width PMC card with blank bezel.
- 10 $\Omega$  series resistors on the A/D bus
- Clamping diodes on the control interface signals
- Zero delay buffer on clock.
- 3.3 and 5V PCI positions are on the rear of the card. PMC Host signal levels.
- Voltage checking for 12V, -12V, 5V, 3.3V with LEDs to indicate if correct voltage present.
- Slot selectable secondary VIO reference voltage.
- 32 or 64 bit operation – PMC Host must also support 64 bit
- 66 or 33 MHz operation. PMC Host clock speed supported up to 66 MHz.
- JTAG programming support for PCI slots
- Busmode set to respond to PMC.

PMC2PCI is ready to use with the default settings. Just install PMC2PCI onto the PMC slot, and the PCI card into the PMC2PCI.

The PCI sockets are keyed and labeled for 3.3 or 5V PCI cards. The PMC slot only supports one PCI attachment. Only one PCI card should be installed at a time to prevent conflicts. Select either the 3.3V or the 5V slot. If your application requires one of each or two of the same type to be used we can add a bridge to the design to allow expansion from one PMC slot to at least 2 active PCI slots. Please contact Dynamic Engineering for this option or any other custom modifications that your system may require.



# Applications Guide

## Interfacing

Some general interfacing guidelines are presented below. Do not hesitate to contact the factory if you need more assistance.

### Installation

PMC2PCI is mounted to the host card prior to installation within the chassis. For best results: with the host bracket installed, install the PMC at an angle so that the PMC2PCI front panel bezel penetrates the host bracket then rotate down to mate with the PMC [JnX] connectors.

There are four mounting locations. Two screws into the PMC mounting bezel and two for the standoffs near the PMC bus connectors. The PMC2PCI bezel and stand-offs are pre-installed. Screws are supplied to mount to the host.

### Riser

A riser card is available to allow the PCI card to be installed parallel to the PMC instead of perpendicular. The Riser card will save most of the PCI card height and potentially reduce the number of slots that are required. Please check with [sales@dyneng.com](mailto:sales@dyneng.com) or the Dynamic Engineering webpage for available riser options.

### Start-up

Make sure that the "system" can see your hardware before trying to access it. Many BIOS will display the PCI devices found at boot up on a "splash screen" with the VendorID and CardID for the PCI card installed and an interrupt level. Look quickly! If the information is not available from the BIOS then a third party PCI device cataloging tool will be helpful.

**Watch the system grounds.** All electrically connected equipment should have a fail-safe common ground that is large enough to handle all current loads without affecting noise immunity. Power supplies and power consuming loads should all have their own ground wires back to a common point.

**Power all system power supplies from one switch.** Connecting external voltage to the PCI card when it is not powered can damage it, as well as the rest of the host system. This problem may be avoided by turning all power supplies on and off at the same time. This applies more to the PCI card installed into PMC2PCI than to the PMC2PCI itself, and it is smart system design when it can



be achieved.

## **Construction and Reliability**

PMC2PCI is constructed out of 0.062 inch thick high temp, ROHS compliant FR4 class material. The components on PMC2PCI are tied into the internal power planes to spread the dissipated heat out over a larger area. This is an effective cooling technique in the situation where a large portion of the board has little or no power dissipation. In addition the power dissipation of the SMT regulator and the zero delay buffer are minimal.

Surface mount and through hole components are used.

PMC Module connectors are keyed and shrouded with Gold plated pins on both plugs and receptacles. They are rated at 1 Amp per pin, 100 insertion cycles minimum. These connectors make consistent, correct insertion easy and reliable.

The PMC Module is secured against the carrier with the PMC connectors. It is recommended, for enhanced security against vibration and to help with the PCI card installation, that the PMC mounting screws are installed. PMC2PCI is shipped with the bezel mounted and the stand-offs installed. Screws are supplied to secure to the host card.

Dynamic Engineering has replacement screws, standoffs, blank bezels and other PMC hardware available at a reasonable cost.

## **Thermal Considerations**

If the installed PCI has high heat dissipation forced air cooling is recommended. Please note: many Dynamic Engineering PMC carriers have options for built in fans.



## Warranty and Repair

Please refer to the warranty page on our website for the current warranty offered and options.

<http://www.dyneng.com/warranty.html>

## Service Policy

Before returning a product for repair, verify as well as possible that the suspected unit is at fault. Then call the Customer Service Department for a RETURN MATERIAL AUTHORIZATION (RMA) number. Carefully package the unit, in the original shipping carton if this is available, and ship prepaid and insured with the RMA number clearly written on the outside of the package. Include a return address and the telephone number of a technical contact. For out-of-warranty repairs, a purchase order for repair charges must accompany the return. Dynamic Engineering will not be responsible for damages due to improper packaging of returned items. For service on Dynamic Engineering Products not purchased directly from Dynamic Engineering contact your reseller. Products returned to Dynamic Engineering for repair by other than the original customer will be treated as out-of-warranty.

## Out of Warranty Repairs

Out of warranty repairs will be billed on a material and labor basis. Customer approval will be obtained before repairing any item if the repair charges will exceed one half of the quantity one list price for that unit. Return transportation and insurance will be billed as part of the repair and is in addition to the minimum charge.

## For Service Contact:

### Customer Service Department

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support@dyneng.com



## Specifications

Logic Interfaces:	PCI Interface 33/32 ⇔ 66/64
Access types:	PCI bus accesses
CLK rates supported:	33 or 66 MHz PCI clock rates
Software Interface:	transparent
Initialization:	shunt selection for 3.3V source
Interface:	PCI via PMC slot
Dimensions:	Standard length and width PMC card. Components on rear of card do not meet standard PMC dimensions.
Construction:	FR4 Multi-Layer Printed Circuit, Through Hole and Surface Mount Components.

## Order Information

standard industrial temperature range -40⇔85°C

PMC2PCI

PMC into PCI slot adapter

<https://www.dyneng.com/pmc2pci.html>

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