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Est. 1988

User Manual

PMC2PCI

PMC TO PCI Converter

Revision B
Corresponding Hardware: Revision C/D
10-2001-1203

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.

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Connection of incompatible hardware is likely to cause serious damage.

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Product Description

For development or production use the 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.
- 10Ω series resistors on the A/D bus
- Clamping diodes on the control interface signals
- Zero delay buffer on clock.
- 3.3 and 5V PCI slots are on the rear of the card PMC Host sets the signal levels.
- LEDs on key voltages
- Onboard 10 A switching regulator for PMC 3.3V supply
- Shunt selectable regulated or slot provided 3.3V
- Slot selectable secondary VIO reference voltage.
- 32 or 64 bit operation – PMC Host must support 64 bit operation for that width to work in the PCI slot
- 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.

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

The only shunt selection is for the 3.3V source. Install for the on-board 10A regulator and open for the PMC supplied 3.3V power. The 3.3V LED should illuminate in either case.

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

The 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 [PnX] 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 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. For Windows® based systems “PCIView” is recommended.

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 installed 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 the PMC2PCI than the PMC2PCI itself, and it is smart system design when it can be achieved.

Construction and Reliability

The PMC2PCI is constructed out of 0.062 inch thick FR4 material. The components on the PMC2PCI are tied into the internal power planes to spead 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.

The 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. The 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 PCI installed has a high heat dissipation then forced air cooling is recommended.

Warranty and Repair

Dynamic Engineering warrants this product to be free from defects in workmanship and materials under normal use and service and in its original, unmodified condition, for a period of one year from the time of purchase. If the product is found to be defective within the terms of this warranty, Dynamic Engineering's sole responsibility shall be to repair, or at Dynamic Engineering's sole option to replace, the defective product. The product must be returned by the original customer, insured, and shipped prepaid to Dynamic Engineering. All replaced products become the sole property of Dynamic Engineering.

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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. The current minimum repair charge is $100. 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:

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lnterNet Address 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:	n/a
Initialization:	shunt selection for 3.3V source
Interface:	PCI via PMC slot
Dimensions:	Standard length and width PMC card. Components on meet standard PMC dimensions.
Construction:	FR4 Multi-Layer Printed Circuit, Through Hole and Surface Mo Components.

Order Information

standard temperature range 0-70ºC

PMC2PCI	PMC into PCI slot adapter http://www.dyneng.com/pmc2pci.html

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