

PMC-UNIV-TEST
PCI and PMC Compatible Carrier

Dynamic Engineering
150 Dubois St. Suite C
Santa Cruz, CA 95060
831457-8891
831457-4793 FAX

©2018 by Dynamic Engineering.
Other trademarks and registered trademarks are owned by their
respective manufactures.

This document contains information of proprietary interest to Dynamic Engineering. It has been supplied in confidence and the recipient, by accepting this material, agrees that the subject matter will not be copied or reproduced, in whole or in part, nor its contents revealed in any manner or to any person except to meet the purpose for which it was delivered.

Dynamic Engineering has made every effort to ensure that this manual is accurate and complete. Still, the company reserves the right to make improvements or changes in the product described in this document at any time and without notice. Furthermore, Dynamic Engineering assumes no liability arising out of the application or use of the device described herein.

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.



Table of Contents

| | |
|---|-----------|
| PRODUCT DESCRIPTION | 4 |
| Headers and TestPoints | 6 |
| PMC Module Backplane IO Interface Pin Assignment | 7 |
| Construction and Reliability | 8 |
| Thermal Considerations | 8 |
| WARRANTY AND REPAIR | 9 |
| Service Policy | 9 |
| Out of Warranty Repairs | 9 |
| For Service Contact: | 9 |
| SPECIFICATIONS | 10 |
| ORDER INFORMATION | 11 |

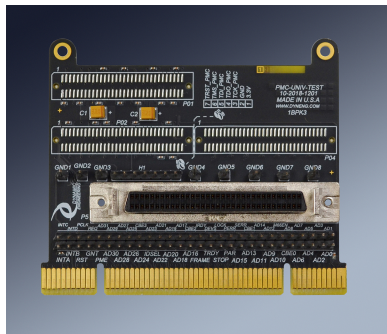
List of Figures

| | |
|---|----------|
| FIGURE 1 PMC-UNIV-TEST PN4 INTERFACE STANDARD | 7 |
|---|----------|

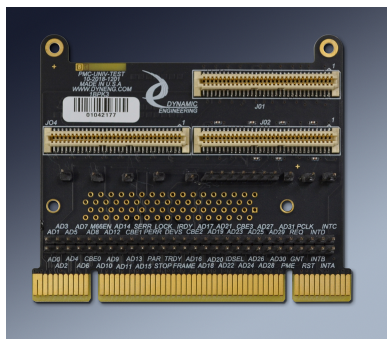
Product Description

PMC-UNIV-TEST and PMC-UNIV-TEST-ENG are part of the Dynamic Engineering PCI and PMC Compatible family of modular I/O components. Both adapt a PMC to one PCI slot. The devices are for test support. Testpoints for the PCI bus plus JTAG are provided on both versions.

In a PCI position, the B side is forward the A side is the rear. PMC-UNIV-TEST has the Host/carrier side connectors mounted to the A side. The PMC will have it's main component side forward in this configuration. The SCSI connector is routed to the Jn4 / Pn4 PMC connector to provide a method of connecting to “user IO” while testing.



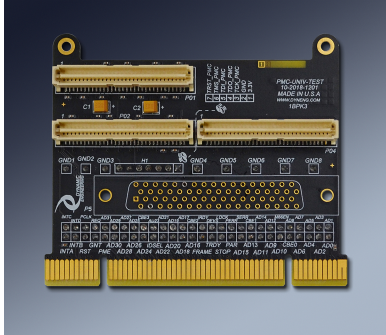
“B” Front side with the testpoints and SCSI.



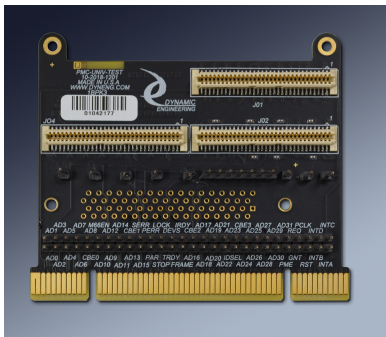
“A” Rear side with carrier type connectors to mate to PMC.

Note mounting holes to optionally connect PMC to Carrier via 10 mm standoff positions.

PMC-UNIV-TEST-ENG has some modifications when compared with the standard version. The B side PMC type connectors are added, the SCSI is removed, and the testpoints are moved to the opposite side. In this configuration the PMC side connectors can be installed into the host board, and the PMC can be installed into the carrier connectors on the A side [now facing up]. The testpoints are now on the A side to make them more convenient and provide a method of probing the PCI bus while the PMC is installed into the carrier via PMC-UNIV-TEST-ENG.



“B” Front side with the PMC type connectors – “plugs into host”



“A” Rear side with carrier type connectors to mate to PMC.

Note headers are this side for the –ENG configuration as it will be up to mate with the PMC. The headers will be away from the PMC A secondary riser may be required with cPCI etc depending on how low the PMC connectors are located to the bottom edge of the carrier.

Special features:

- Passive 32 bit Universal voltage design
- Bypass capacitors on all PMC power pins plus 10 uF on 5V and 3.3V.
- JTAG header routed to PMC connections
- PCI test points – easy to read staggered Silk labels both sides
- 8 grounds to support logic analyzer connection as well as oilloscope
- User IO [Pn4] available through SCSI connector on standard model.

Headers and TestPoints

PCI 56 testpoints are supplied each labeled with the PCI signal attached. Some names are truncated to allow larger easier to read print.

JTAG TRST, TDI, TDO, TMST, TCK plus a 3.3V and a Ground reference to interface with the installed PMC via the JTAG signals.

GND 8 Ground testpoints are spaced along the top of the PCI signals to support Logic Analyzer and Oscilloscope reference. Each are labeled GND.

PMC Module Backplane IO Interface Pin Assignment

The figure below gives the pin assignments for the PMC Module IO Interface – from Pn4 to the PCIeBPMCX1 connectors. Also see the User Manual for your PMC board for more information.

| SCSI II [P2] | | Pn4 | |
|--------------|----|-----|------|
| 35 | 36 | 1 | 2 |
| 1 | 2 | 3 | 4 |
| 37 | 38 | 5 | 6 |
| 3 | 4 | 7 | 8 |
| 39 | 40 | 9 | 10 |
| 5 | 6 | 11 | 12 |
| 41 | 42 | 13 | 14 |
| 7 | 8 | 15 | 16 |
| 43 | 44 | 17 | 18 |
| 9 | 10 | 19 | 20 |
| 45 | 46 | 21 | 22 |
| 11 | 12 | 23 | 24 |
| 47 | 48 | 25 | 26 |
| 13 | 14 | 27 | 28 |
| 49 | 50 | 29 | 30 |
| 15 | 16 | 31 | 32 |
| 51 | 52 | 33 | 34 |
| 17 | 18 | 35 | 36 |
| 53 | 54 | 37 | 38 |
| 19 | 20 | 39 | 40 |
| 55 | 56 | 41 | 42 |
| 21 | 22 | 43 | 44 |
| 57 | 58 | 45 | 46 |
| 23 | 24 | 47 | 48 |
| 59 | 60 | 49 | 50 |
| 25 | 26 | 51 | 52 |
| 61 | 62 | 53 | 54 |
| 27 | 28 | 55 | 56 |
| 63 | 64 | 57 | 58 |
| 29 | 30 | 59 | 60 |
| 65 | 66 | 61 | 62 |
| 31 | 32 | 63 | 64 |
| 33 | 67 | | Open |
| 34 | 68 | | Open |

FIGURE 1

PMC-UNIV-TEST PN4 INTERFACE STANDARD

Read table:

P2-1 = Pn4-3

P2-35 = Pn4-1

etc.

Signals are matched length and differentially routed with 100 ohm impedance

Construction and Reliability

PMC-UNIV-TEST is constructed out of 0.062 inch thick high temp RoHS compliant FR4 material.

Surface mounted components are used. The connectors are SMT for the PMC bus and through hole for the testpoints and IO.

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, 200 insertion cycles minimum. These connectors make consistent, correct insertion easy and reliable. With careful installation the connectors will last longer and jamming on will result in a shorter lifespan.

The PMC Module is secured against the carrier with the PMC connectors. It is recommended, for enhanced security, that the PMC mounting screws are installed. The screws and stand-off's are supplied with the PMC from the OEM. Dynamic Engineering has screws, standoffs, blank bezels and other PMC hardware available at a reasonable cost if your PMC was not shipped with some of the required attachment hardware or if it has been misplaced.

Thermal Considerations

If the PMC installed has a large heat dissipation; forced air cooling is recommended. Since the PMC is vertical and the lid is off the box, standard air-flow may need to be enhanced.



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
Dynamic Engineering
150 DuBois St. Suite C
Santa Cruz, CA 95060
831-457-8891 831-457-4793 fax Internet Address support@dyneng.com



Specifications

| | |
|----------------------|---|
| Logic Interfaces: | PCI 32 bit Universal Voltage. |
| Access types: | All PCI supported |
| CLK rates supported: | 25-66 [likely work at higher rates as PCI signals are matched and controlled.] |
| Software Interface: | Passive, no SW required for adapter |
| Testpoints: | PCI signals plus JTAG and grounds |
| Interface: | PMC front bezel directly, rear IO via SCSI connector. |
| Dimensions: | minimized to cover as little of the PMC as possible. |
| Construction: | High Temp FR4 Multi-Layer Printed Circuit, Through Hole and Surface Mount Components. |

Order Information

standard temperature range -40↔85°C

PMC-UNIV-TEST

Vertical mount component side forward PMC adapter into PCI. 32 bit universal voltage PCI bus interface. Testpoints on PCI, JTAG signals. Impedance controlled, matched length routing. SCSI connector differentially routed to Pn4 for rear IO applications.

-ROHS [ROHS compliant parts and process]

-ENG add second connector set, remove SCSI, switch headers to A side.

<http://www.dyneng.com/PMC-UNIV-TEST.html>

HDEterm68

<http://www.dyneng.com/HDEterm68.html>

68 pin SCSI II to 68 screw terminal converter with DIN rail mounting.

HDEcabl68

<http://www.dyneng.com/HDEcabl68.html>

SCSI cables with latch blocks or thumbscrews and various lengths are available. Custom lengths can be ordered.

All information provided is Copyright Dynamic Engineering

