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Find the *Rastergraf / Peritek PMB-P* at our website: *Click HERE*

Rastergraf

PMB-P

PMC to PCI Adapter Board with On-board PCI Bridge



Features

- 32 and 64-bit PCI Bus compatibility
- Test Points and Power LEDs
- Optional VME P2 connector
- On-board PCI bridge
- Asynchronous operations at up to 2.5:1 clock speed differential.

Applications

- Eases debugging of PMC boards
- Enables use of low cost PCs for PMC development
- Ideal for deploying Rastergraf PMC graphics solutions

Rastergraf - graphics and PMC carriers for embedded systems

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The PMB-P

The PMB-P is a high performance, active PMC-to-PCI adapter board. This single slot PCI board enables any 32-bit or 64-bit PMC (PCI Mezzanine Card) module to be plugged into a standard PCI slot.

The PMB-P is form and fit compatible with Rastergraf's PMA-P passive adapter. Its PLX PCI6154 bridge chip is similar to the Intel 21154 but offers extended capabilities, including asynchronous operations at up to 2.5:1 clock speed differential.

The PMB-P is a Universal PCI board that plugs into any PCI slot; 32 or 64 bit, 33 or 66 MHz, 3.3 or 5 Volt VIO. The board's PMC (local side) slot supports 33 or 66 MHz independent of the host bus, local 32-bit or 64-bit operation, and local clock slaved to the host PCI Clock. Jumpers allow the user to select the operation mode.

Separate power planes are provided for +3.3V and ground. Bypass capacitors are located at regular intervals across the board and at all PMC and PCI power pins, including +12V, -12V, +5V, +3.3V, and VIO.

To aid in debugging, the PMB-P has Test Point pins and LED indicators for BUSMODE1, +12V, -12V, +5V, +3.3V and VIO. It also has a connector for the JTAG port. PMC Index Pin holes are provided for both 3.3V and 5V PMC signaling pins so that the PMB-P can be configured for either bus environment.

An optional VME P2-type connector can be included which "breaks out" the User I/O signals on the PMC Pn4 connector. The traces between the Pn4 and the P2 connector are carefully routed for length-matching and reduced crosstalk effects. The PMB-P provides optional local 3.3V generation because many PCI bus machines do not supply it.

The PCI bridge allows the trace lengths to comply with the PCI specification (something a passive carrier like the PMA-P cannot do) and which some PCI devices require for proper operation at 66 MHz.

Rastergraf also makes an active (bridged) dual-PMC site CompactPCI product, the PMB-CPMC-to-CompactPCI adapter. Also available are passive (bridgeless) single PMC slot PCI (PMA-P) and CompactPCI (PMA-C) boards. Please check our web site for more information: http://www.rastergraf.com.

Product Specifications

Form Factor	Single slot PCI
PCI Compatibility	Revision 2.2, 33/66 MHz, 32/64 bit PCI
PMC Compatibility	IEEE 1386-2001. Universal signaling (3.3V or 5V VIO) PMC VIO is protected with a PTC resettable fuse to prevent damage if a target PMC card is hardwired to the wrong VIO.
PMC Connectors	J1-J4
Pn4 to "VME P2" Connector	optional
Environment	
	Operating temperature: 0°C to 70°C Storage temperature: -40°C to +85°C Humidity: 5% - 95% non-condensing
Power Requirements	+3.3V ±5%, 0.6 A (max), plus additional power consumed by PMC installed on carrier
PCI and PMC Clocks	Jumpers allows PCI and PMC clocks to be locked to (33/33, 66/33, or 66/66) or asynchronous (any PCI to any PMC clock) Cypress CY222150 clock generator defaults to local 66 MHz PMC operation, but can be programmed to a arbitrary frequency which allows the PMC slot to be under/over clocked.
M66EN	PCI M66EN and PMC M66EN jumpers to force either bus to 33 MHz if necessary.
I^2C Control	I^2C bus via bridge GPIO bits controls local clock generator and temperature sensor.
Temperature Monitor	LM75 temperature sensor. Accuracy of +/- 3 C from -55 to +125 C. Alarm output programmable and available on chip pin, but not wired into design.
PLX PCI6154 EEPROM	2Kbit EEPROM can be programmed to autoload bridge registers and VPD, as well as holding user defined non-volatile data.
Testpoints and LEDs	Power: (3.3V, 5V, -12V, +12V, PCI VIO, PMC VIO) and PMC BUSMODE1 output.
Local 3.3V Regulator	Jumper selectable. Used if PCI bus does not support 3.3V.
JTAG jumpers	Allow bypassing of the PCI JTAG signals or can be configured to program the PMC card.

Important Notices:

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The PMB-P is manufactured and sold under license from Curtiss-Wright Controls Embedded Computing. Contact Rastergraf, Inc. for additional information.

Ordering Information

Standard Configurations:

PMB-P
Single-slot PMC-to-PCI adapter board, PMC connectors, indicator LEDs, temperature sensor, EEPROM, clock generator.

PMB-P/P2
Single-slot PMC-to-PCI adapter board, VMEbus P2-style connector with PMC Pn4 user I/O connections, indicator LEDs, temperature sensor, EEPROM, clock generator.

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