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Find the *Mercury Computer Systems / Echotek RW++-PMC* at our website: *Click HERE*

ECHOTEK™ SERIES

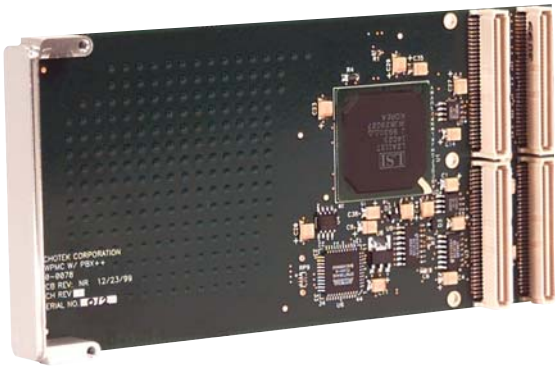
DATASHEET

Computer Systems, Inc. MERCURY

PCI to RACE++ PMC Interface Module

Easy Access to High-Performance RACEway and RACE++ Switch Fabric

- Open architecture via PCI bus to standard PMC interface
- Flexible data transfer options
- Choice of commercial, extended temperature, or conduction cooling



RW++-PMC

The Echotek™ Series PCI to RACE++® PMC interface module from Mercury Computer Systems provides a master and slave interface to many processor boards in a convenient PMC form factor. This module offers easy access to the high-performance RACEway and RACE++ switch fabric for any VME board with a standard PMC site that conforms to the IEEE P1014-1987 and VME64 extension standard. The board is available in a range of cooling options for a variety of applications in benign to rugged environments that may require commercial, extended temperature, or conduction cooling.

The interface module bridges data from the RACEway or RACE++ fabric to either 32- or 64-bit wide PCI buses using the PXB++ ASIC. The module can operate in two modes: RACE++ mode (66 MHz) or RACE 1.0 mode (40 MHz) for compatibility with RACE 1.0 systems.

Data transfer is controlled via direct access or a linked-list DMA controller with a peak data transfer rate of 264 MB/s using RACE++, or 160 MB/s using RACE 1.0. Transfers can be initiated and controlled from either the RACEway side or the PCI side.

Features

- PCI Version 2.1 compliant, 32/64 bits wide, 40 MHz RACEway
- ANSI/VITA 5 compliant
- Compatible with 66 MHz RACE++
- RACEway bus/master and slave interface
- PCI bus master and slave interface
- 3.3V or 5V PCI signaling
- RACEway data burst rates of up to 160 MB/s
- RACE++ burst data rates of up to 264 MB/s
- Transfers initiated from the PCI interface
- DMA support through link-list DMA controller
- VxWorks® real-time operating system board-support package
- Software support for programming under MCOE™

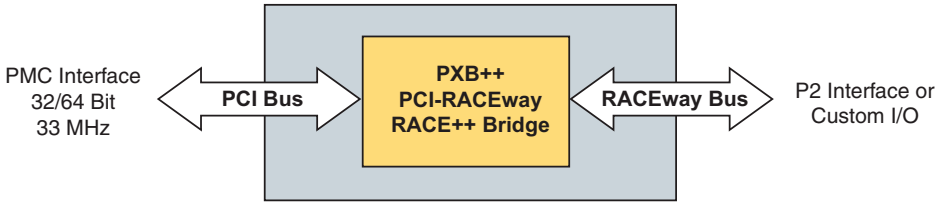


Figure 1. *RW++-PMC functional block diagram*

Ordering Information

Model	Part Number	Ruggedization
RW++-PMC	12-0021/CC291A	Commercial
RW++-PMC	12-0021/CC395	Extended temperature
RW++-PMC-L200C	12-0041/CC312	Conduction cooled

Specifications

Size and form factor	Single-width PMC module
Power requirements	5V, 1.2A
RACEway interface	ANSI/VITA 5-1944 (40 MHz) RACE++ (66 MHz)
PCI interface	PCI Version 2.1 compliant, 32/64 bits
Ruggedization levels	Commercial, extended temperature, conduction cooled
Operating temperature	
Commercial	0°C to 55°C with 300 ft/min airflow
Extended temperature	-20°C to +65°C with 300 ft/min airflow
Conduction cooled	-40°C to +75°C at the normal interface
Storage temperature	-45°C to +85°C
Vibration	
Commercial	0.002g2/Hz from 10 Hz to 2000 Hz random and 2g sinusoidal from 5 Hz to 500 Hz
Extended temperature	0.002g2/Hz from 10 Hz to 2000 Hz random and 2g sinusoidal from 5 Hz to 500 Hz
Conduction cooled	Random, 0.11g2/Hz from 15 Hz to 2000 Hz per MIL-STD-810E ~12g RMS
Shock	
Commercial	20g peak sawtooth, 11 ms duration
Extended temperature	20g peak sawtooth, 11 ms duration
Conduction cooled	40g peak sawtooth, 11 ms duration
Humidity	
Commercial	Up to 95% RH
Extended temperature	Up to 95% RH with varying temperature, 10 cycles, 240 hr
Conduction cooled	Up to 95% RH with varying temperature, 10 cycles, 240 hr
Cooling	
Commercial	Commercial grade, cooled by blown air, for use in benign environments and software development applications
Extended temperature	Similar to commercial but conformally coated and temperature characterized
Conduction cooled	Mechanically compliant with IEEE-1101.2-1992. Designed for severe environment applications with high levels of shock and vibration, small space envelope, and restricted cooling. Optional environment stress screening.

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339.01E-0207-echorwpmcds

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