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PrPMC800 Series

High-Performance Processor PMC

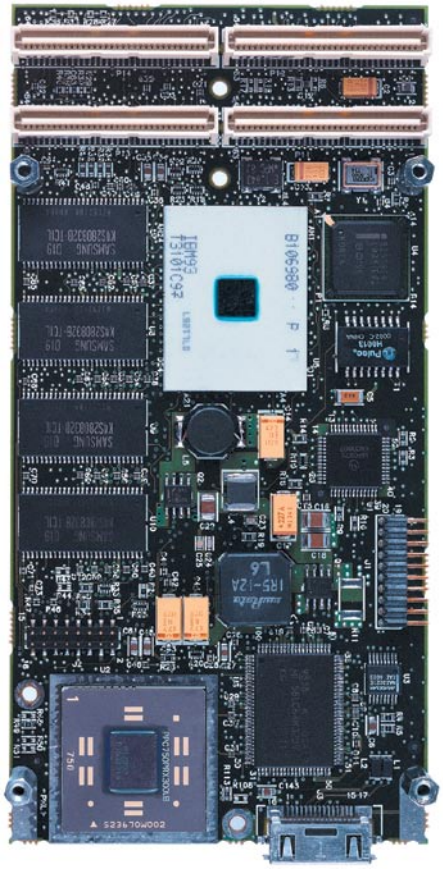
Embedded Computing for Business-Critical Continuity™

The Emerson PrPMC800 series processor PCI mezzanine card (PMC) is the ideal solution when time-to-market and flexibility are important.

- MPC7410 PowerPC® microprocessor
- AltiVec technology
- Latest high-performance PowerPlus III Architecture
- 2MB/1MB of L2 cache
- Up to 512MB on-board ECC SDRAM
- 32MB on-board flash
- 72-bit ECC memory controller ASIC
- Single-wide PMC with a 66/33 MHz PCI interface
- Optional 10/100BaseT Ethernet interface
- 64-bit PCI host bridge
- One asynchronous serial debug port
- Hardware DMA channel
- Four 32-bit timers
- Two watchdog timers

The Emerson PrPMC800 series processor PCI mezzanine card (PMC) is the ideal solution when time-to-market and flexibility are important. In addition to the highlighted features, this PMC module also includes a full-length heatsink, creating a CPU package capable of handling the thermal requirements of complex tasks.

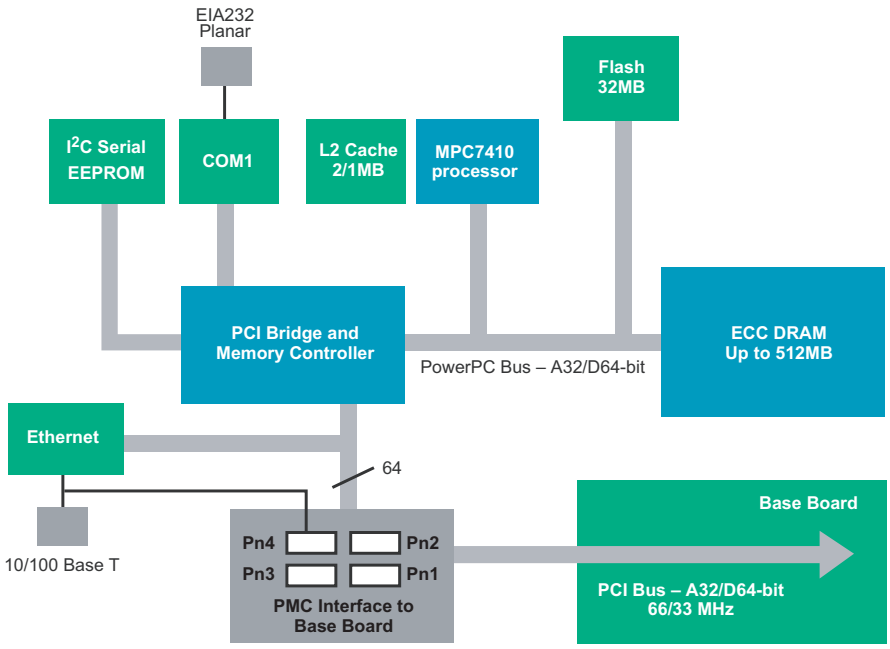
Processor PMC (PrPMC) modules provide a complete host CPU and memory subsystem to a base board full of PCI-based I/O controllers in a compact, rugged, industry standard form factor. The PrPMC isolates the complexities of a high-speed CPU, cache and memory signals from application-specific hardware, enabling OEMs to focus on their market requirements while simplifying their product release. These modules also simplify CPU and memory upgrades in performance-driven embedded and telecom applications.



RoHS 5/6 Pb SOLDER EXEMPT

EMERSON™ Network Power

PrPMC800 Block Diagram



Specifications

PROCESSOR

- Microprocessor: MPC7410 class
- Clock Frequency: 400 – 500 MHz
- On-chip Cache (I/D): 32KB/32KB
- L2 Cache: 1MB – 2MB
- Cache Bus Clock Frequency: 180 MHz – 225 MHz

MEMORY

- ECC Protected Main Memory: PC100 SDRAM
- On-board Capacity: Up to 512MB
- Single Cycle Accesses: 10 read/5 write
- Read Burst Mode: 8-1-1-1 idle; 3-1-1-1 aligned page hit (CL3)
- Write Burst Mode: 4-1-1-1 idle; 3-1-1-1 aligned page hit
- User I²C Serial EEPROM: 8KB
- EEPROM/Flash: 32MB surface mount (on-board programmable), up to 512MB addressable on carrier (optional)

SYNCHRONOUS SERIAL PORT

- Controller: 16C550 compatible
- Number of Ports: One
- Configuration: DTE
- Async Baud Rate, b/s max.: 38.4K EIA-232, 115Kb/s raw

IEEE P1386.1 INTERFACE

- Address/Data: A32/D32/D64, PMC Pn1, Pn2, Pn3, Pn4 connectors
- PCI Bus Clock: 33 MHz or 66/33 MHz capable
- Signaling: 3.3V output; VIO input
- Power: +3.3V
- Height: 13.5 mm from top of carrier board (one slot)
- Module Type: Single-wide

ETHERNET

- Controller: Intel® 82559ER/82551IT
- PCI Bus Master: 33 MHz with PCI burst
- Connector: Models configured for Ethernet routing via Pn4 do not have a front bezel.

COUNTERS/TIMERS

- Real-Time Timers/Counters: Four 32-bit programmable
- Watchdog Timers: Two, time-out generates interrupt or reset

MISCELLANEOUS

- Reset, Abort and JTAG/COP via on-board debug connector
- Two planar LEDs for Fail and CPU active

POWER REQUIREMENTS

(AltiVec disabled)

	+ 3.3V ± 5% @ 20° C
PrPMC8005E-12xx:	3.3 A typical, 3.9 A maximum
PrPMC8005E-13xx:	4.1 A typical, 4.5 A maximum
VIO:	PCI buffer diode clamping voltage

DEMONSTRATED MTBF

(based on a sample of eight boards in accelerated stress environment.)

- Mean: 190,509 hours
- 95% Confidence: 107,681 hours

SAFETY

All printed wiring boards (PWBs) are manufactured with a flammability rating of 94V-0 by UL recognized manufacturers.

ENVIRONMENTAL

	Operating	Non-operating
Temperature:	0° C to +55° C, forced air cooling	
Humidity (NC):	5% to 85%	5% to 95%
Vibration:	1.0 G sine sweep, 5.0 to 100 Hz, 25 octaves/min	0.5 G sine sweep; 50-500 Hz; 0.1 octaves/min 3.0 G sine sweep; 5-50 Hz; 0.25 octaves/min

ELECTROMAGNETIC COMPATIBILITY (EMC)

- Intended for use in systems meeting the following regulations:
  - U.S.: FCC Part 15, Subpart B, Class A (non-residential)
  - Canada: ICES-003, Class A (non-residential)
- This product was tested in a representative system to the following standards:
  - CE Mark per European EMC Directive 89/336/EEC with Amendments; Emissions: EN55022 Class B; Immunity: EN50082-1

Ordering Information

Part Number	Description
33 MHz PCI, Front Ethernet	
PRPMC8005E-1261	450 MHz MPC7410, 256MB ECC SDRAM
33 MHz PCI, Rear Ethernet	
PRPMC8005E-1259	450 MHz MPC7410, 128MB ECC SDRAM
PRPMC8005E-1269	450 MHz MPC7410, 256MB ECC SDRAM
66 MHz PCI, No Ethernet	
PRPMC8005E-2261	450 MHz MPC7410, 256MB ECC SDRAM
PRPMC8005E-2271	450 MHz MPC7410, 512MB ECC SDRAM
Note: Additional PrPMC800 series models may be available; contact your local sales representative.	
Documentation	
PPMC800A/IH	PrPMC800 Installation and Use manual
PPMC800A/PG	PrPMC800 Programmer's Reference Guide

SOLUTION SERVICES

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PrPMC800-D1 2/08

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