PrPMC8150

High-Performance Processor PMC
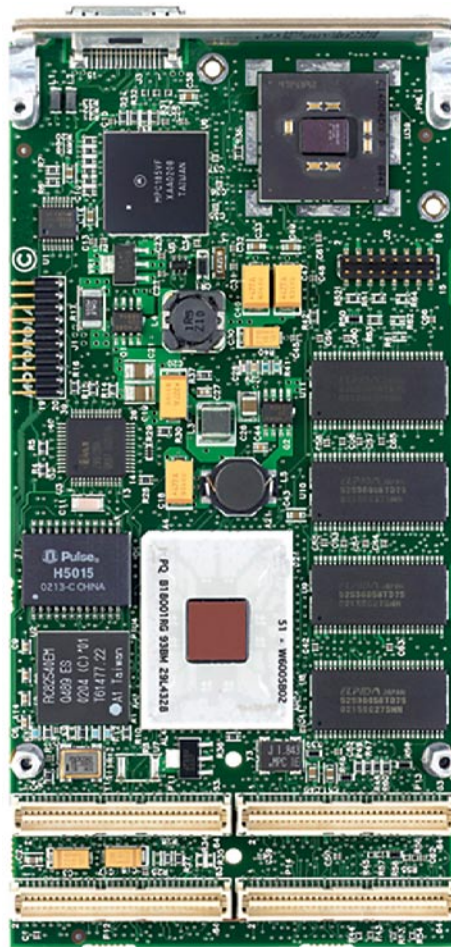
The Emerson PrPMC8150 series processor PCI mezzanine card (PMC) is the ideal solution when time-to-market and flexibility are important.
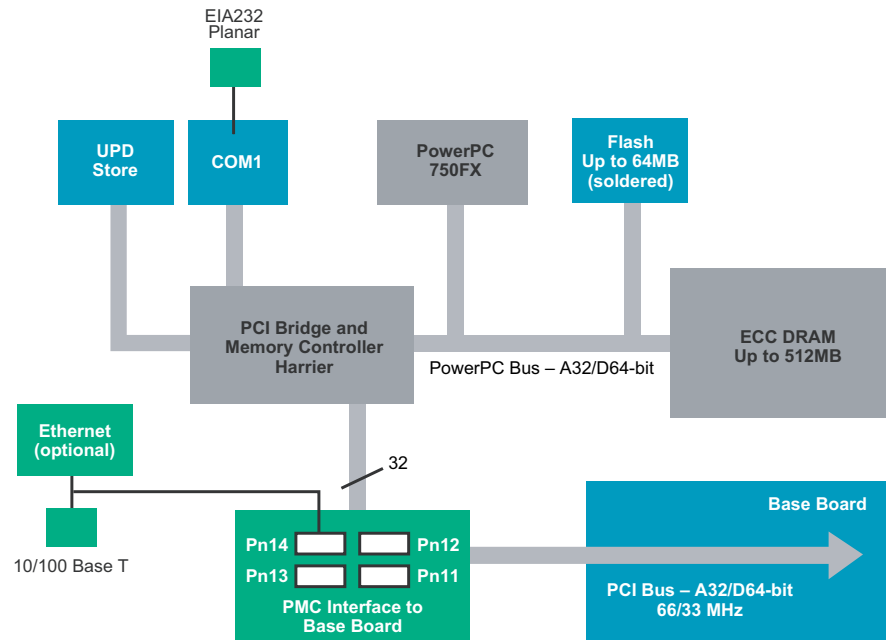
- PowerPC® 750FX microprocessor
- High-performance PowerPlus III Architecture
- Up to 512MB on-board ECC SDRAM
- Up to 64MB on-bo ard flash
- 72-bit ECC memory controller
- Single-wide PMC with a 33/66 MHz PCI interface
- Optional 10/100/1000BaseT Ethernet interface
- 64-bit PCI host bridge
- Asynchronous serial debug port
- Hardware DMA
- Four 32-bit timers
- Two watchdog timers

The Emerson PrPMC8150 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 includes a full-length heatsink, creating a CPU package capable of handling the thermal requirements of complex tasks.

The PrPMC8150 processor PMC is the evolutionary upgrade for applications that demand more performance from the PrPMC8000 family. The PrPMC8150 provides a PowerPC 750FX processor up to 800 MHz, up to 64MB of flash, up to 512MB of on-board memory, optional Gigabit Ethernet, and optional front-panel or rear P14 I/O.

RoHS 5/6 Pb SOLDER EXEMPT

EMERSON™
Network Power

PrPMC8150 Block Diagram

EIA232 Planar

| UPD Store | COM1 | PowerPC 750FX | Flash Up to 64MB (soldered) |

PCI Bridge and Memory Controller Harrier

PowerPC Bus – A32/D64-bit

ECC DRAM Up to 512MB

Ethernet (optional)

10/100 Base T

32

Pn14 Pn12
Pn13 Pn11

PMC Interface to Base Board

Base Board

PCI Bus – A32/D64-bit 66/33 MHz

Specifications

PROCESSOR

- Microprocessor: PowerPC 750FX
- Clock Frequency: 700 MHz or 800 MHz
- On-chip Cache (I/D): 32KB/32KB
- L2 Cache: 512KB
- Cache Bus Clock Frequency: 700 MHz or 800 MHz

MEMORY

- ECC Protected Main Memory: PC100 SDRAM
- On-board Capacity: 128MB, 256MB, or 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 I^{2}C Serial EEPROM: 8KB
- EEPROM/Flash: 32MB or 64MB surface mount (on-board programmable), up to 512MB addressable on carrier (optional)

ASYNCHRONOUS 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 P11, P12, P13, P14 connectors
- PCI Bus Clock: 33 MHz or 33/66 MHz
- 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® 82540EM
- PCI Bus Master: 66/33 MHz with PCI burst
- Connector: 10/100/1000BaseT routed to front panel, optional routing to P14 connector for carrier board I/O

REAL-TIME CLOCK

- Controller: MAX 6900
- Configuration: Real-time clock via I²C with super capacitor for up to 12 hours of backup power

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, CPU

POWER REQUIREMENTS

	+ 3.3V ± **5%** @ 20° C
PrPMC8150-3271 (10/100Mb Ethernet only):	14.5 watts typical
PrPMC8150-4371 (Gigabit Ethernet) :	16.3 watts typical
VIO:	PCI buffer diode clamping voltage

ENVIRONMENTAL

	Operating	Non-operating
Temperature:	0° C to +55° C, forced air cooling	−40° C to +85° C
Humidity (NC):	10% to 90%	10% to 90%
Vibration:	0.5 G RMS, 20–2000 Hz random	20–2000 Hz random

SAFETY

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

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)
- Emerson board products are tested in a representative system to the following standards:
  - ▲ CE Mark per European EMC Directive 89/336/EEC with Amendments; Emissions: EN55022 Class * (see note below); Immunity: EN55024

*Note: Class A (nonresidential) for front Ethernet versions and Class B for rear and no Ethernet versions.

Ordering Information

Part Number	Description
PrPMC8150-1371	800 MHz, 512MB ECC, 64MB flash, no Ethernet, 5E
PrPMC8150-3271	750FX at 700 MHz, 512MB ECC, no MPC185 rear Ethernet (PrPMC800-like PN4), 5E
PrPMC8150-4371	800 MHz, 512MB ECC, 64MB flash, rear Gigabit Ethernet, 5E
Related Products	
PIM5E-11	PMC I/O module for PrPMC8150 with Gigabit Ethernet, 5E

SOLUTION SERVICES

Emerson Network Power provides a portfolio of solution services optimized to meet your needs throughout the product lifecycle. Design services help speed time-to-market. Deployment services include global 24x7 technical support. Renewal services enable product longevity and technology refresh. Plus solution extras include enhanced warranty and repairs.

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The global leader in enabling
Business-Critical Continuity™.

- AC Power Systems
- Connectivity
- DC Power Systems
- **Embedded Computing**
- Embedded Power
- Integrated Cabinet Solutions
- Outside Plant
- Power Switching & Control
- Precision Cooling
- Services
- Site Monitoring
- Surge & Signal Protection

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