

# Pm8560

## PMC Module

■ Embedded Computing for  
Business-Critical Continuity™

### Processor PMC with up to eight E1/T1/J1 interfaces

- Processor PMC module (VITA32-2003) with up to eight software selectable E1/T1/J1 interfaces
- Freescale Semiconductor MPC8560 PowerQUICC III communication processor
- Up to 512MB DDR SDRAM with ECC
- Up to 32MB flash
- PCI bus operation of 32-bit/66 MHz
- 10/100/1000 Ethernet port
- Optional CTbus clock support
- Optional rear transition module for ATCA® or PICMG 2.16/CompactPCI PSB blades supporting E1/T1/J1 interfaces
- Quality assured by over 30 years of design experience and a TL 9000 and ISO 9001:2000 certified quality management system. (FM 26789)

The Pm8560 from Emerson Network Power is a Processor PCI Mezzanine Card (Processor PMC) module with up to eight E1/T1/J1 interfaces.

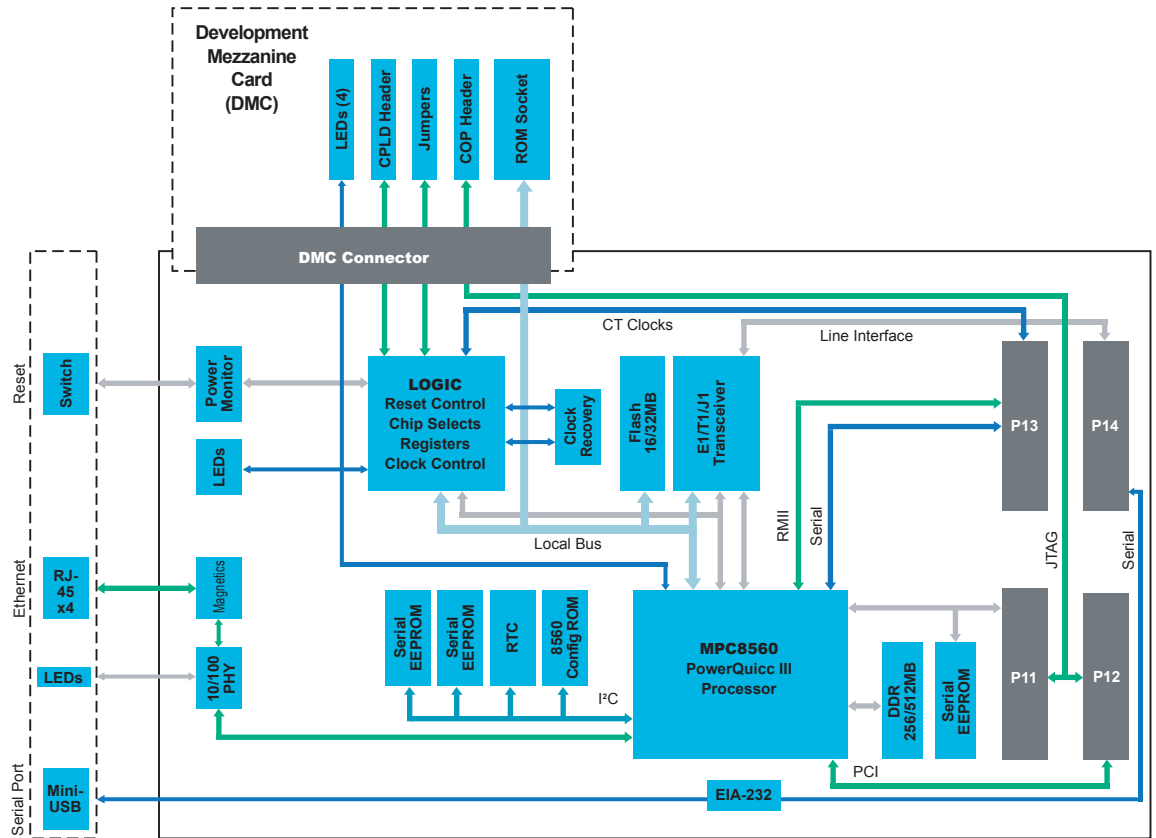
The Pm8560 is ideal for 3G (UTMS & W-CDMA) and 2.5G (GPRS) data and signaling applications. The module is capable of supporting a wide variety of protocols including SS7 and SIGTRAN. Other applications include signaling gateways and softswitches as a signaling interface card.

The Pm8560 includes a reduced media-independent interface (RMII) on Pn3 for Ethernet PHYs and management interface.

Physical connectivity of E1/T1/J1 spans the Pm8560 via rear transition modules (RTMs) that interface from either PICMG® 2.16/CompactPCI® Packet Switching Backplane (PSB) blades or AdvancedTCA® blades from Emerson's embedded computing product line.



## Block Diagram



## Specifications

### COMMUNICATION INTERFACES

#### T1/E1/J1

- Up to eight channelized E1 or T1/J1 spans
- Supports T1/CEPT and other user-defined protocols (customer provided software may be required)
- Automatically performs efficient packing
- Rear (PMC P14) E1/T1/J1 I/O
- Optional CompactPCI/2.16/CompactPCI PSB or ATCA transition module available for rear I/O applications supporting 16 ports per system blade
- Surge protection for E1/T1/J1 ports on passive transition module

#### Ethernet

- RMII through P13 connector
- 10/100/1000 BaseT Ethernet with front panel access

#### PTMC

- Subset of PTMC Configuration 2
- Serial Tx/Rx
- RMII
- RMII PHY Management I/F
- CT bus clocks

#### Other

- EIA-232 serial console port accessible via front panel or P14 connector

#### MEMORY

- Up to 512MB DDR SDRAM
- Up to 32MB flash memory
- Flash Architecture NOR

#### COMMUNICATIONS PROCESSOR

- Freescale PowerQUICC III MPC8560
- 800 MHz PowerPC® Book E core operation
- 266 MHz when core is 800 MHz RISC-based communications processor module (CPM)
- Communications functions
  - ▲ PCI bus interface
  - ▲ Ethernet controller
  - ▲ UART controller using SCC
  - ▲ TDM ports for eight T1/E1/J1 spans using MCC
  - ▲ ATM support via inverse multiplexing for ATM (IMA)
- System functions
  - ▲ DDR SDRAM controller
  - ▲ General purpose I/O (GPIO)
  - ▲ DMA
  - ▲ I<sup>2</sup>C controller

#### DEVELOPMENT MEZZANINE CARD (DMC)

- Optional plug-on card (side 2) to speed development
- EIA-232 debug serial port with cable to DB-9 connector
- JTAG header for PLD programming
- JTAG/COP header for software development
- Four software-readable configuration jumpers
- 32-pin PLCC 8-bit socket for software development
- Two user-programmable LEDs
- Single connector attached to PTMC module

#### OPTIONAL REAR TRANSITION MODULE (RTM) CompactPCI/CompactPCI PSB (PICMG 2.16) form factor

- Supports up to two Pm8560 modules
- Eight RJ-45 connectors supporting eight E1/T1/J1 ports from a single Pm8560 or eight RJ-45 connectors supporting 16 E1/T1/J1 ports from two Pm8560 modules (requires breakout cables)
- 100 ohms T1/J1 balanced interface
- 120 ohms E1 balanced interface
- T1/E1/J1 transformers with isolation and surge protection for every signal
- RJ-45 connectors supporting console/debug ports from each Pm8560 module

#### ATCA form factor

- Supports up to four Pm8560 modules on an ATCA baseboard
- Support for up to 32 E1/T1/J1 ports with four Pm8560s. TTIP, TRING, RTIP and RRING are routed from Zone 3 connector through transformers and surge protection out the rear I/O faceplate
- 100 ohms T1/J1 balanced interface
- 120 ohms E1 balanced interface
- T1/E1/J1 transformers with isolation and surge protection for every signal
- Micro-D connectors support serial I/O from Pm8560(s)
- Operating range: 0° to 55° C, 5-95% relative humidity (non-condensing)

#### OPERATING SYSTEM SUPPORT

- Linux Support Package (LSP) for MontaVista Carrier Grade Edition (CGE)
- Board Support Package (BSP) for Wind River VxWorks

#### PROTOCOL SUPPORT

- Optional SpiderSS7 layers MTP1, MTP2 and MTP3, and SpiderSIGTRAN M2UA, M3UA and SCTP (professional services may be required for porting/configuration)

#### PHYSICAL CHARACTERISTICS

- PMC form factor: 149.0 mm (5.87") x 74.0 mm (2.91")
- Baseboard and module fit in a single CompactPCI/CompactPCI PSB or ATCA slot
- Power requirements: +3 & +5 VDC @ 11.5W typical
- Operating range: 0° to 55° C, 5-95% relative humidity (non-condensing)

#### SPEC COMPLIANCE

- IEEE 1386.1 CMC/PMC
- VITA 32 Processor PMC

#### REGULATORY COMPLIANCE

- FCC Part 15 (US)
- ICES-003 (Canada)
- IEC/UL/CSA 60950
- NEBS: Telcordia
- EN55022
- EN55024
- EN300386

## SOLUTION SERVICES

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