

**High Density VT/TU Mapper and M13 Multiplexer**

**FEATURES**

- Monolithic device which integrates a SONET/SDH VT1.5/VT2/TU-11/TU-12 bit asynchronous mapper with ingress or egress performance monitoring, a full featured M13 multiplexer with DS-3 framer, and a SONET/SDH DS-3 mapper in a single device.
- T1 tributary modes of operation:
  1. Single STS-1, AU3 or TUG3 Bit Asynchronous VT1.5 or TU-11 Mapper with ingress or egress link monitoring per T1 tributary.
  2. Up to 28 T1 streams M13 multiplexed into a DS-3, with the DS-3 then asynchronously mapped into an STS-1/STM-0 SPE.
  3. DS-3 M13 Multiplexer with ingress or egress link monitoring per T1 tributary.
  4. Up to 28 DS-3 multiplexed T1 streams mapped as bit asynchronous VT1.5 virtual tributaries or TU-11 tributary units, providing a transmultiplexing function between M13 and SONET/SDH.
  5. Up to 21 T1 streams mapped as bit asynchronous VT2 virtual tributaries into a STS-1 SPE or TU-12 tributary units into a STM-1/VC3 or TUG3 from a STM-1/VC4.

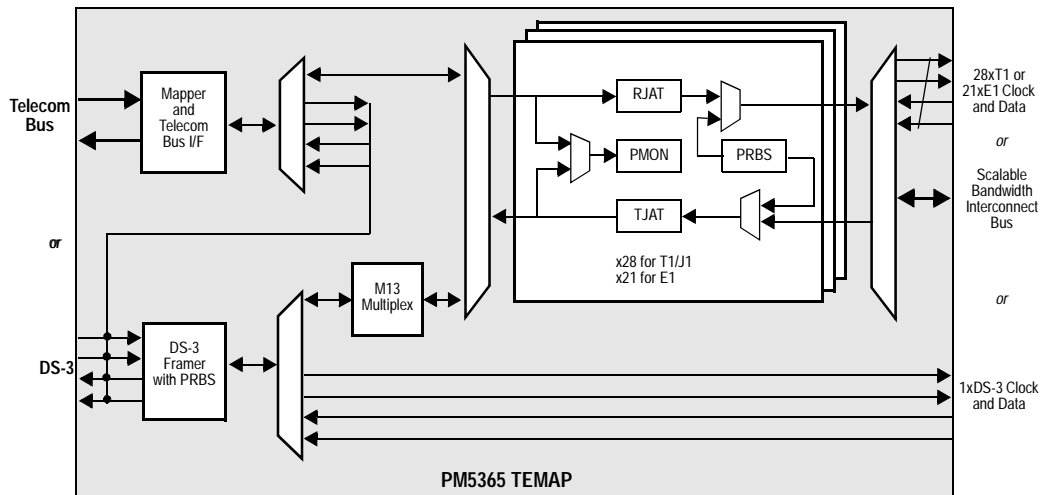
- E1 tributary mode of operation consists of a single STS-1, AU3 or TUG3 Bit Asynchronous VT2 or TU-12 Mapper with ingress or egress per tributary link monitoring.
- Supports a byte-serial Scalable Bandwidth Interconnect (SBI™) bus interface for high density system side device interconnection of up to 84 T1 streams, 63 E1 streams, 3 DS-3 streams or 3 E3 streams.
- Interfaces with a byte-wide Telecom Add/Drop bus, interfacing directly with the PM5362 TUPP-PLUS and PM5342 SPECTRA-155.
- Up to 28 VT1.5/TU-11 or 21 VT2/TU-12 tributaries can be passed as transparent virtual tributaries (with pointer processing) between the SONET/SDH TelecomBus on the line side and the SBI bus on the system side.
- Supports the M23 and C-bit parity DS-3 formats.
- Supports stand alone unchannelized DS-3 framer mode for access to the entire DS-3 payload. When configured to operate as a DS-3 framer, gapped transmit and receive clocks can be optionally generated for interface to link layer devices which only need access to payload data bits.
- Provides an on-board programmable pseudo-random binary sequence (PRBS) generator and detector for

- error testing at DS-3 rates and an on-board pseudo-random binary sequence generator and detector on each tributary for error testing at either DS1 or E1 rates.
- Supports jitter attenuation in both ingress and egress directions on a per-tributary basis.
- Supports performance monitoring in either ingress or egress directions on a per-tributary basis.
- Software compatible with the PM8315 TEMUX.
- Supports an IEEE P1149.1 JTAG test port.
- Provides a 8-bit microprocessor bus interface for configuration, control, and status monitoring.
- Low power +2.5/3.3 V CMOS technology.
- Available in a high density 324-pin PBGA (23 mm by 23 mm) package.
- -40 °C to +85 °C Industrial temperature operation.

**APPLICATIONS**

- SONET/SDH Add/Drop and Terminal Multiplexers.
- DS-3 Transmultiplexers.
- Unchannelized DS-3 Frame Relay Interfaces.
- M23 or C-bit parity M13 Mux/Demux Equipment.

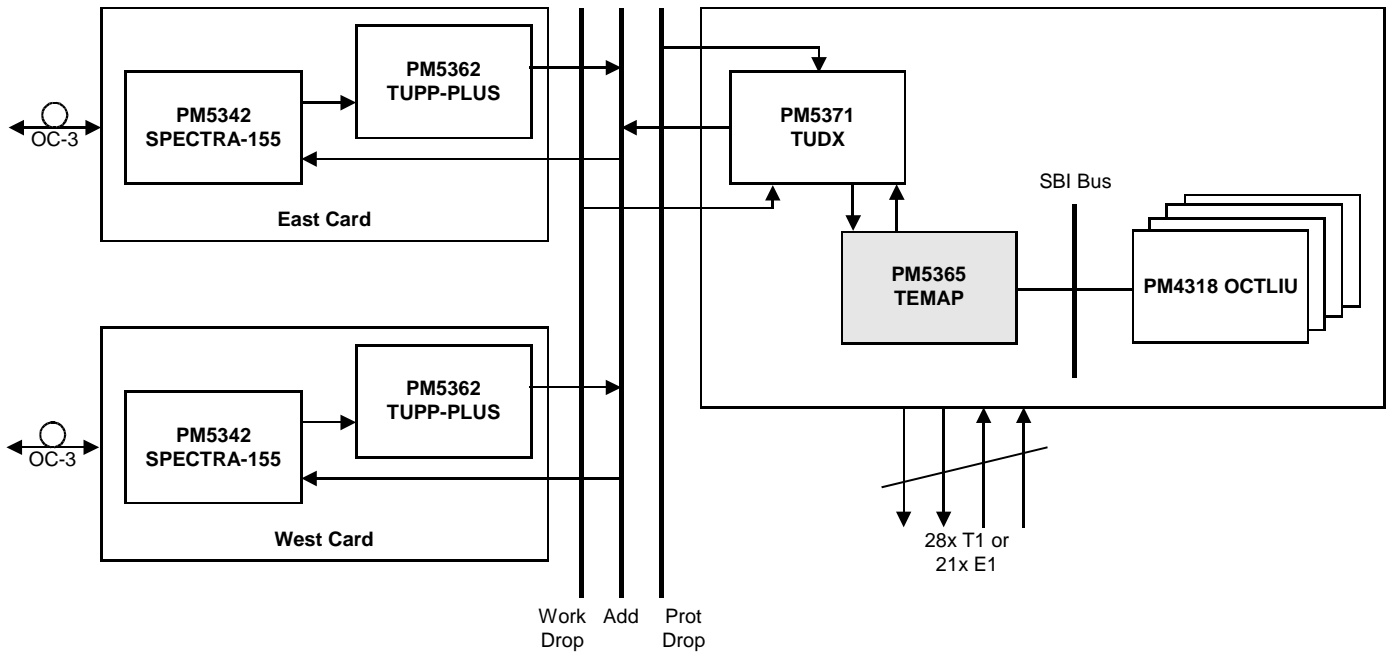
**BLOCK DIAGRAM**



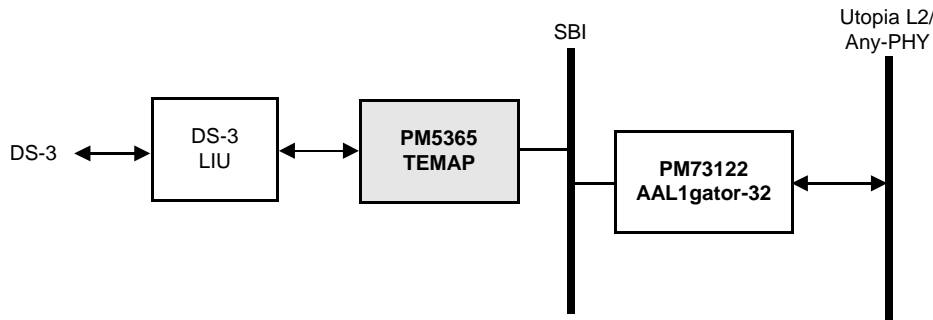
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**TYPICAL APPLICATIONS**

**SONET/SDH ADD/DROP MULTIPLEXER APPLICATION**



**UNSTRUCTURED CIRCUIT EMULATION APPLICATION**



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