PM8312 TEMUX 32

## High-Density 32-Channel T1/E1/J1 Framer with Integrated VT/TU Mappers & M13 Multiplexer

PRODUCT OVERVIEW

The PM8312 TEMUX 32 device is a 64-Mbit/s multi-channel T1/E1 framer with integrated VT/TU Mappers and an M13 Multiplexer.

PRODUCT HIGHLIGHTS

- This monolithic device integrates:
  - 32 T1 framers.
  - 32 E1 framers.
  - One SONET/SDH VT1.5/VT2/TU11/TU12 bit asynchronous or byte synchronous mapper.
  - One full-featured M13 multiplexer with DS3 framer.
  - One SONET/SDH DS3 mapper for terminating DS3-multiplexed T1 streams, SONET/SDH-mapped T1 streams or SONET/SDH-mapped E1 streams.
- The SPE/STS-1 can be programmed for various T1, E1 or DS3 modes of operation.
- Supports a wide range of T1, E1 and J1 framing formats.
- Supports DS3 framing modes such as M23, C-bit parity, and ITU-T Recommendation G.747.

- Stand-alone unchannelized E3 framer mode (ITU-T Rec. G.751 or G.832) for access to the entire E3 payload.
- Flexible line-side and system-side interface support:
  - Supports a 19.44-MHz Scaleable Bandwidth Interconnect (SBI™) Interface for high-density line-side device interconnection to PMC-Sierra's T1/E1 line interface products, including the 8-port PM4323 OCTLIU LT and the 32-port PM4329 HDLIU.
  - Provides a 19.44 or 77.76 MHz SONET/SDH Add/Drop Telecom bus interface for seamless connection with PMC-Sierra's SONET/SDH devices.
  - Supports byte-serial Scaleable Bandwidth Interconnect (SBI) interface at 19.44 MHz or 77.76 MHz for high-density system-side device interconnection to PMC-Sierra's link layer products.
  - Supports 8 Mbit/s H-MVIP system interface for all T1 or E1 links, a separate 8 Mbit/s H-MVIP system interface for all T1/E1 CAS channels, and a separate 8 Mbit/s H-MVIP system interface for all T1 or E1 CCS and V5.1/V5.2 channels.
  - Supports 28 T1 or 21 E1 links in DS3 or SONET/SDH mode and up to 32 T1 or E1 links when using the line-side SBI interface.
  - Supports transparent virtual tributaries when the SBI interface is used with a SONET/SDH mapper.

BLOCK DIAGRAM

PMC-SIERRA
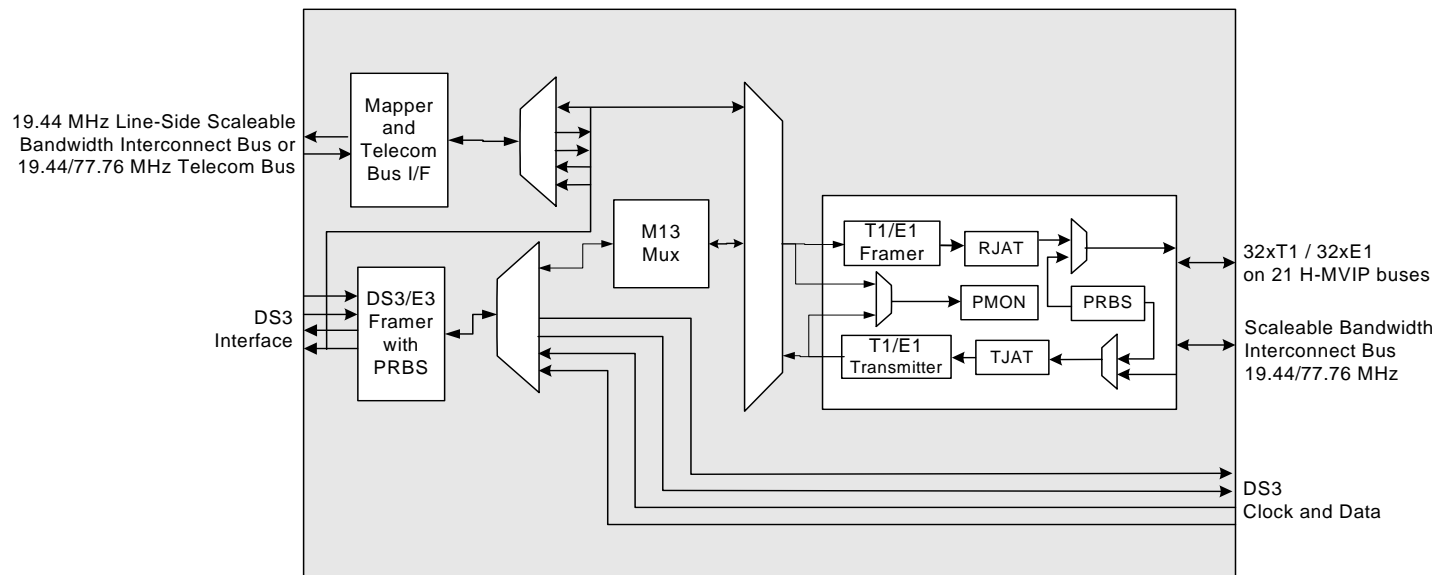
- Supports insertion and extraction of arbitrary rate (e.g. fractional DS3) data streams to and from the SBI bus interface.

• Provides jitter attenuation in the T1/E1 tributary receive and transmit directions.

• Provides three independent de-jittered T1 or E1 recovered clocks for system timing and redundancy.

• Provides per-link diagnostic and line loopbacks.

• Provides PRBS generators and detectors at DS3 and E3 rates, and on each tributary for error testing at T1, E1 and NxDS0 rates as recommended in ITU-T O.151, O.152.

• Provides a generic eight-bit microprocessor bus interface for configuration, control and status monitoring.

• Provides a standard five-signal P1149.1 JTAG test port for boundary scan board test purposes.

• Feature-rich functional software drivers available with device.

VOLTAGE

• Low power 1.8 V/3.3 V CMOS technology. All pins are 5 V tolerant.

PACKAGE

• 324-pin fine pitch PBGA package (23 mm x 23 mm).

• Supports industrial temperature range (-40 °C to 85 °C) operation.

APPLICATIONS

• Wireless Base Station Controllers or Radio Network Controllers

• Wireless Base Stations or 3G Node Bs

• Access and Edge Routers

• Multi-Service Switches

• Mult-Service Edge Aggregation Equipment

• Multi-Service Provisioning Platforms

• Voice and Media Gateways

• xDSL and FTTx Uplink Cards

TYPICAL APPLICATIONS

Channelized T3 Line Card
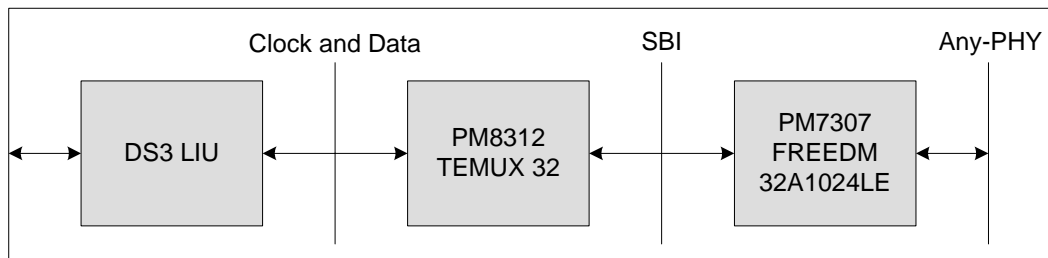
Wireless Radio Network Controller or Multiservice Edge Aggregation Line Card

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