

SONET/SDH Transport Overhead Terminating Transceiver

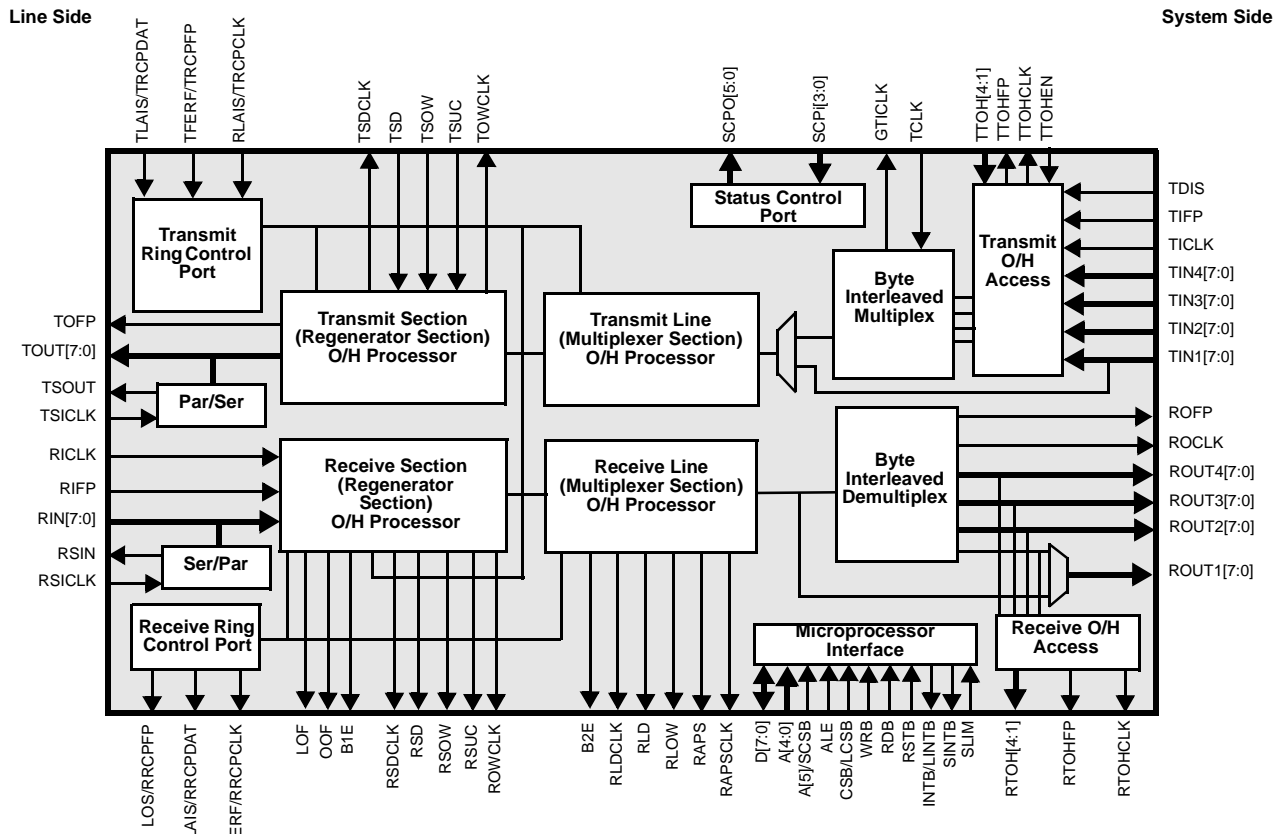
FEATURES

- Monolithic, SONET/SDH Transport Overhead Terminating Transceiver for use in STS-1, STS-3 (STM-1), or STS-12 (STM-4) applications.
- Operates in STS-1 bit-serial mode, STS-1 byte-serial mode, STS-3/STM-1 byte-serial mode, or STS-12/ATM-4 byte-serial mode.
- Compatible with PM5355 S/UNI-622™ physical layer interface, PM5344 SPTX SONET/SDH Path Terminating Transceiver, and with commercially available 622 Mbit/s serial-to-parallel conversion devices.
- Performs byte-interleaved multiplexing of lower-rate, drop-side, SONET/SDH data streams.
- Optionally inserts the framing bytes (A1 and A2) and the STS identification bytes (C1) in to the transmit stream.
- Performs frame synchronous descrambling and scrambling.
- Compares the bit-interleaved parity error detection codes (B1 and B2) for the receive stream. Inserts B1 and B2 in the transmit stream.
- Inserts line Far-End Block Errors (FEBEs) into the Z2 growth byte based on received B2 errors.
- Accumulates near-end errors (B1 and B2) and far-end errors (Z2).
- Extracts and inserts the order wire channels (E1 and E2).
- Extracts and inserts the data communications channels (D1-D3 and D4-D12).
- Extracts and inserts the section user channel (F1).
- Extracts and inserts the Automatic Protection Switch (APS) channel (K1 and K2). The receive APS bytes are also filtered and extracted into internal registers.
- Detects Loss Of Signal (LOS), Out Of Frame (OOF), Loss Of Frame (LOF), Far-End Receive Failure (FERF), line Alarm Indication Signal (AIS), and protection switching byte failure alarms.
- Inserts FERF and AIS in the transmit stream.
- Provides LOS insertion, framing pattern error insertion, and coding violation insertion (B1 and B2) for diagnostic purposes. B1 and B2 error can also be generated "on-the-fly" using an error insertion mask.
- Provides a transmit and receive ring control port, allowing alarm and maintenance signal control and status to be passed between mate STTXs for applications in ring-based add/drop multiplexers.
- Low power, +5 V, CMOS technology. Device has TTL/CMOS-compatible inputs and outputs.
- Available in a high performance 208-pin copper slugged (28 by 28 mm) Plastic Quad Flat Pack (PQFP) package.

APPLICATIONS

- OC-N to OC-M Multiplexers
- SONET/SDH Add/Drop Multiplexers
- SONET/SDH Terminal Multiplexers
- ATM Transmission Systems
- Broadband ISDN User Network Interfaces (UNIs)
- SONET/SDH Test Equipment

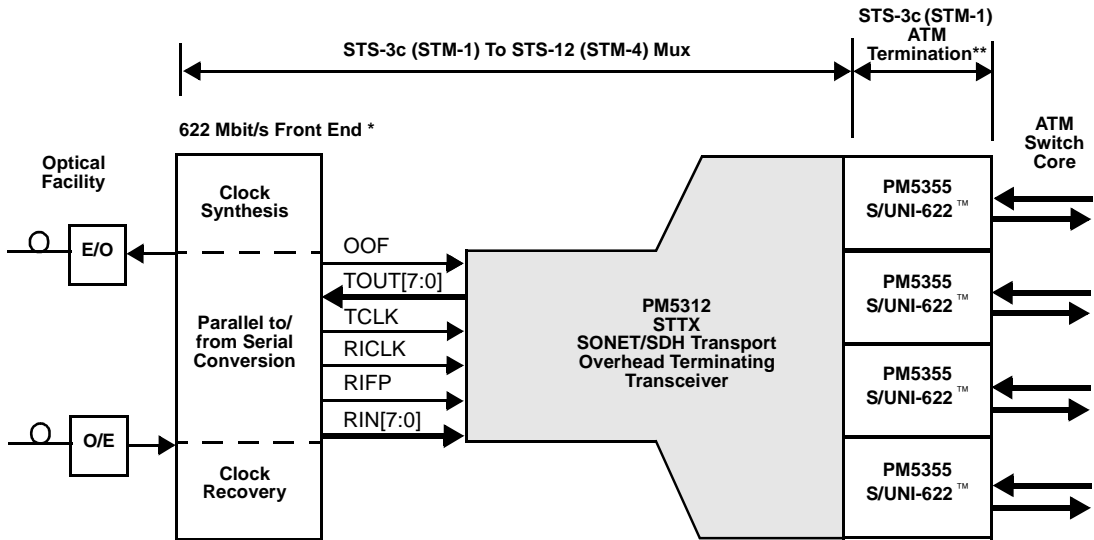
BLOCK DIAGRAM



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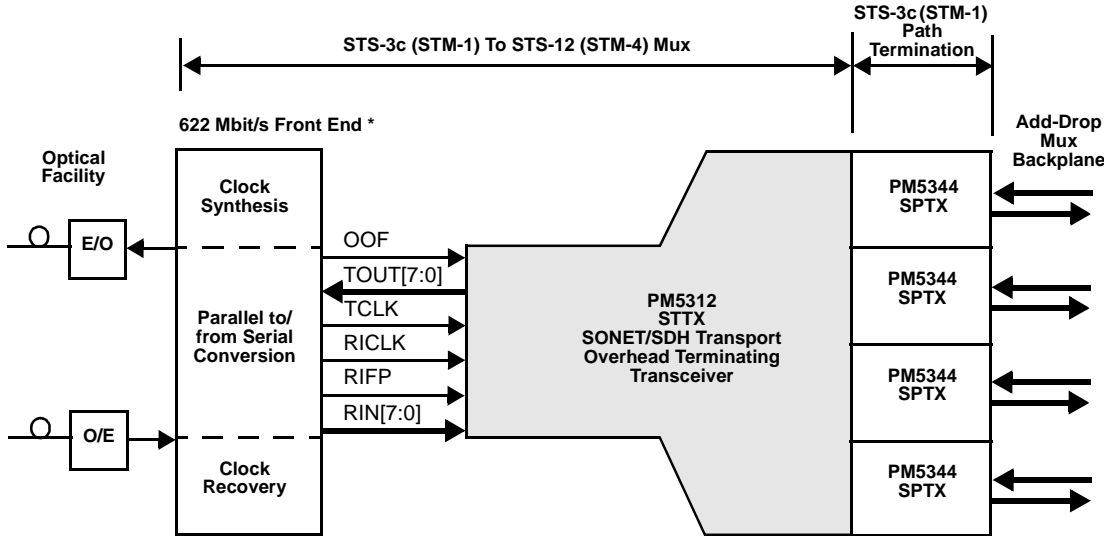
TYPICAL APPLICATIONS

622 Mbit/s STS-12/STM-4 ASYNCHRONOUS TRANSFER MODE MULTIPLEXER



* Contact PMC-Sierra Applications regarding 622 Mbit/s front-end alternatives. ** S/UNI-622 operating in STS-3c mode.

622 Mbit/s STS-12/STM-4 ADD-DROP MULTIPLEXER AGGREGATE INTERFACE



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