

Quad T1/E1 Line Interface Unit

FEATURES

- Monolithic single-chip device that integrates four full-featured T1/E1 duplex DSX-1 compatible line interface circuits in a single device.
- Supports B8ZS, HDB3, and AMI line codes.
- Provides receive clock recovery and line performance monitoring.
- Provides transmit jitter attenuation with programmable line build-out.
- Directly interfaces to the PM4344 TQUAD Quad T1 Framer, PM6344 EQUAD Quad E1 Framer, PM4388 TOCTL Octal T1 Framer, PM6388 EOCTL Octal E1 Framer, PM8313 D3MX M13 Multiplexer, and PM7344 S/UNI-MPH™ Quad T1/E1 Multi-PHY SATURN™ ATM User Network Interface.
- Software-compatible with the PM4341A T1XC Single T1 Transceiver, PM6341 E1XC Single E1 Transceiver, and PM4351 COMET Single T1/E1 Transceiver.
- Provides an 8-bit microprocessor bus interface for configuration, control, and status monitoring.
- Low power 5 V CMOS technology.
- Available in a rectangular 128-pin 14 by 20 mm Plastic Quad Flat Pack (PQFP) package.
- -40 to +85° industrial temperature operation.

RECEIVE SECTION

- Provides dual- or single-rail digital PCM outputs.
- Supports reception of G.703 signals with up to 6 dB attenuation and reception of DSX-1 compatible signals using an external 1:2 turns ratio transformer and passive components.
- Provides Loss Of Signal (LOS) and Alarm Indication Signal (AIS) alarm detection. Detects violations of the ANSI T1.403 12.5% pulse density rule over a moving 192 bit window.
- Minimum sensitivity of 75 mV with a 1:2 turns ratio transformer allows for terminating or bridged performance monitoring applications.
- Accommodates up to 0.4 UI peak-to-peak, high frequency jitter as required by AT&T TR 62411.
- Detects Line Code Violations (LCVs),

- and accumulates up to 8191 LCVs for performance monitoring purposes.
- Detects both programmable in-band loopback activate and deactivate code sequences received in the DS1/E1 data stream.

TRANSMIT SECTION

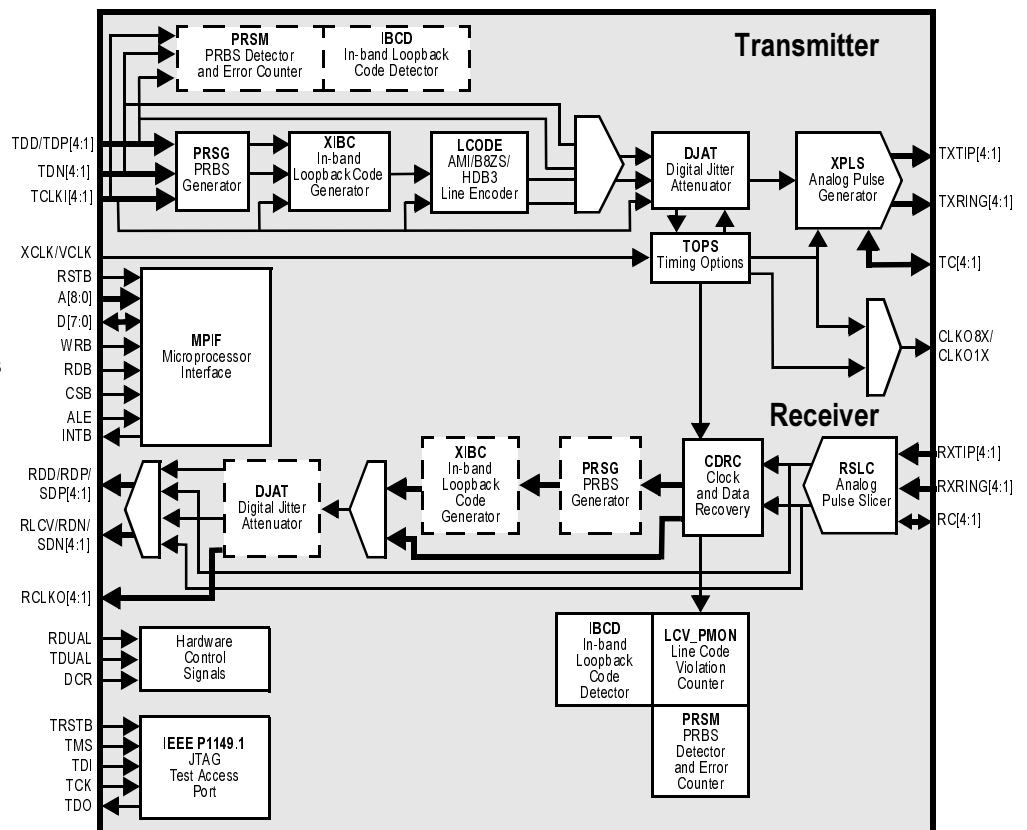
- Optionally accepts dual-rail digital PCM inputs. Accepts gapped data streams to support higher rate demultiplexing. Supports unframed mode.
- Optionally performs B8ZS or HDB3 encoding for single-rail PCM signals.
- Generates DSX-1 compatible pulses with programmable pulse shape using only an external 1:1.36 turns ratio transformer.
- Accommodates standard cable types such as ABAM, PIC, and Coax.
- Selectable line length and line type for DS1 transmit pulse build-out.
- Detects violations of the ANSI T1.403 12.5% pulse density rule over a moving 192 bit window.

- Allows insertion of framed or unframed in-band loopback code sequences.
- Supports transmission of the AIS.
- Provides a 48-bit FIFO for jitter attenuation in each transmit path. FIFO full or empty indications allow for bit-stuffing in higher rate multiplexing applications.
- Provides up to 55 dB of jitter attenuation as per AT&T TR 62411.

APPLICATIONS

- T1 Channel Service Units (CSU)
- T1/E1 Multiplexers and Digital Private Branch Exchanges (PBX)
- Digital Access and Cross-Connect Systems (DACS) and Electronic DSX Cross-Connect Systems (EDSX)
- T1/E1 Frame Relay Interfaces
- T1/E1 ATM Interfaces
- T1/E1 ATM Circuit Emulation Interfaces
- SONET Add/Drop Multiplexers (ADM)
- T1/E1 Test and Performance Monitoring Equipment

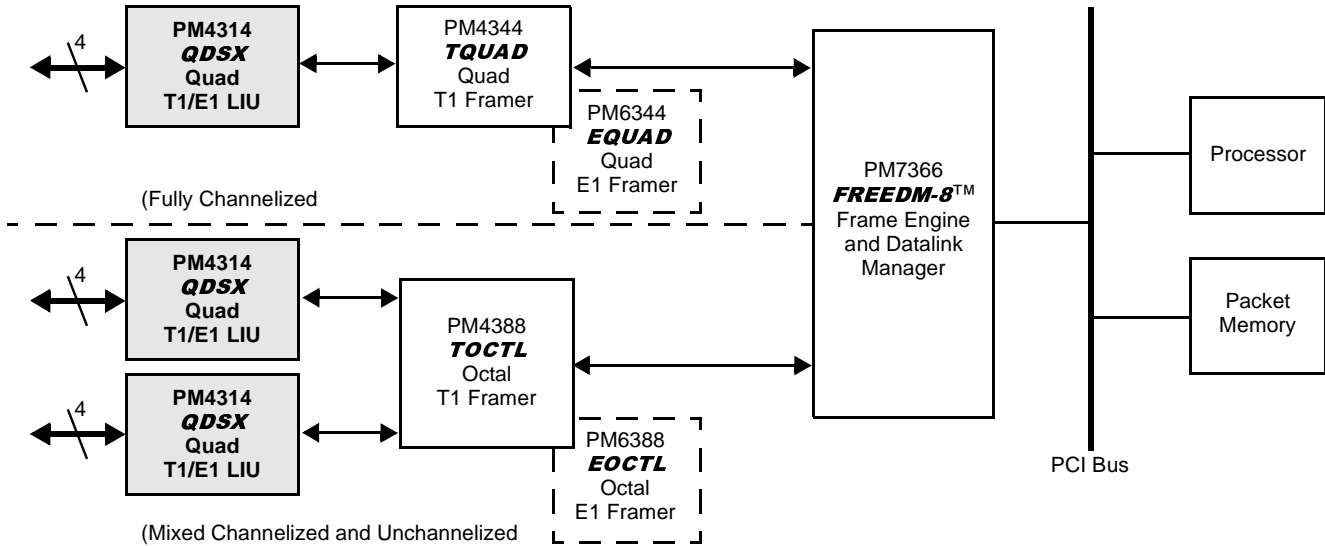
BLOCK DIAGRAM



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TYPICAL APPLICATIONS

HIGH DENSITY HDLC APPLICATION



T1 OR E1 MULTI-PHY ATM UNI

