

XRT86SH328



Exar Corporation Offers an Extensive Portfolio of Products for Networking and Transmission Applications

The XRT86SH328 is an integrated VT/TU Mapper with 28 port T1/E1 Line Interface Units. The XRT86SH328 contains integrated DS1/E1/J1 framers for performance monitoring.

The XRT86SH328 processes the section, line and path overhead in the SONET/SDH data-stream. The processing of path overhead bytes within the STS-1s or

TUG-3s include 64 bytes of buffer for storing the section trace and path trace messages. Path overhead bytes can be accessed either by on-chip registers or a serial output port.

Each of the 28 T1 or E1 channels uses an internal De-Synchronizer circuit with a pointer leak algorithm. This removes the jitter due to mapping and pointer adjustments from the T1 or E1 signals that are de-mapped from the incoming SONET/SDH data-stream. These De-Synchronizer circuits do not need any external clock references for their operation. Additional PLLs provide clock smoothing to meet T1/E1 jitter / wander requirements.

The transmit blocks permit flexible insertion of TOH and POH bytes via both hardware and software control.

The receive blocks receive a SONET STS-1 signals or an SDH STM-1 signal and performs the necessary transport and path overhead processing.

A PRBS pattern generator and receiver is implemented within each of the 28 T1/E1 channels in order to implement and measure bit-error performance.

A general purpose microprocessor interface is included for control, configuration and monitoring.

FEATURES

- Integrated 28 T1/E1/J1 Short-Haul Line Interface Units
- Provides mapping of up to 28 T1 streams as Asynchronous VT1.5 into an STS-1 SPE or TU-11 tributary unit into an STM-1/VC-3 or TUG-3 from STM-1/VC-4
- Supports 28 T1 streams M13 multiplexed into a serial DS3
- Supports 21 E1 streams M13 multiplexed into a serial DS3 (compliant with ITU-T G.747)
- 28 T1 Streams M13 Multiplexed into a DS3 and DS3 is asynchronously mapped into STS-1
- 21 E1 Streams M13 Multiplexed into a DS3 (ITU-T G.747) and DS3 is asynchronously mapped into STS-1
- Supports 21 E1 mapped as asynchronous VT2 into an STS-1 SPE or TU-12 tributary units into STM-1/VC-3 or TUG-3 from a STM-1/VC-4
- Integrated PLLs to meet T1/E1 jitter / wander requirements

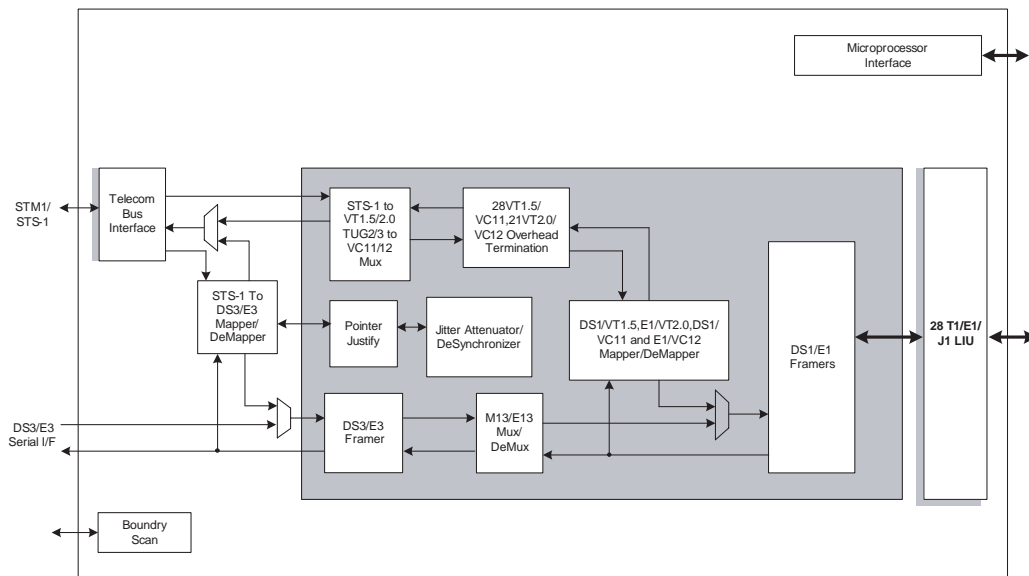


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BLOCK DIAGRAM



ADDITIONAL FEATURES

- Supports TU cross-mapping function TU-12/VC-11/T1
- Supports mixed mapping of VT-G/VT1.5 and VT-G/VT2
- Supports mixed mapping of TUG-2/TU-11 and TUG-2/TU-12
- 28 VT1.5/TU-11 or 21 VT-2/TU-12 tributaries can be passed as transparent between SONET/SDH telecom bus on the line side and Clock and Data on the system side
- Supports unframed T1/E1 signals
- Supports DS1/E1 performance monitoring in both egress and ingress direction
- VC-11/VC-12 tandem connection monitoring support

APPLICATIONS

- Channelized and unchannelized DS3 applications
- T1/E1 terminals
- SONET/SDH ADM

INTERFACES

- 28 T1/E1 connections
- DS3 serial connection
- TOH / POH Add/Drop Port
- Telecom bus
- General Purpose microprocessor interface

ORDERING INFORMATION

| Part Number | Package Type | Operating Temperature Range |
|----------------|--------------|-----------------------------|
| XRT86SH328IB | 568-BGA | -40°C to +85°C |
| XRT86SH328IB-F | 568-BGA | -40°C to +85°C |