

XRT91L31/XRT91L32

STS-12/STM-4 or STS-3/STM-1 SONET/SDH Transceiver

Exar Corporation offers an extensive portfolio of products for networking and transmission applications

The XRT91L30 and XRT91L32 are fully integrated SONET/SDH transceivers for SONET/SDH 622.08 Mbps STS-12/STM-4 or 155.52 Mbps STS-3/STM-1 applications. Each transceiver includes an on-chip Clock Multiplier Unit (CMU), which uses a high frequency Phase-Locked Loop (PLL) to generate the high-speed transmit serial clock from a slower external clock reference. They also provide Clock and Data Recovery (CDR) function by synchronizing its on-chip Voltage Controlled Oscillator (VCO) to the incoming serial data stream. The internal CDR unit can be disabled and bypassed in lieu of an externally recovered received clock from the optical module. Either the internally recovered clock or the externally recovered clock can be used for loop timing applications. The chip provides serial-to-parallel and parallel-to-serial converters using an 8-bit wide LVTTTL system interface in both receive and transmit directions. The transmit section includes an option to accept a parallel clock signal from the framer/mapper to synchronize the transmit section timing. The device can internally monitor Loss of Signal (LOS) condition and automatically mute received data upon LOS. An on-chip SONET/SDH frame byte and boundary detector and frame pulse generator offers the ability recover SONET/SDH framing and to byte align the receive serial data stream into the 8-bit parallel bus.



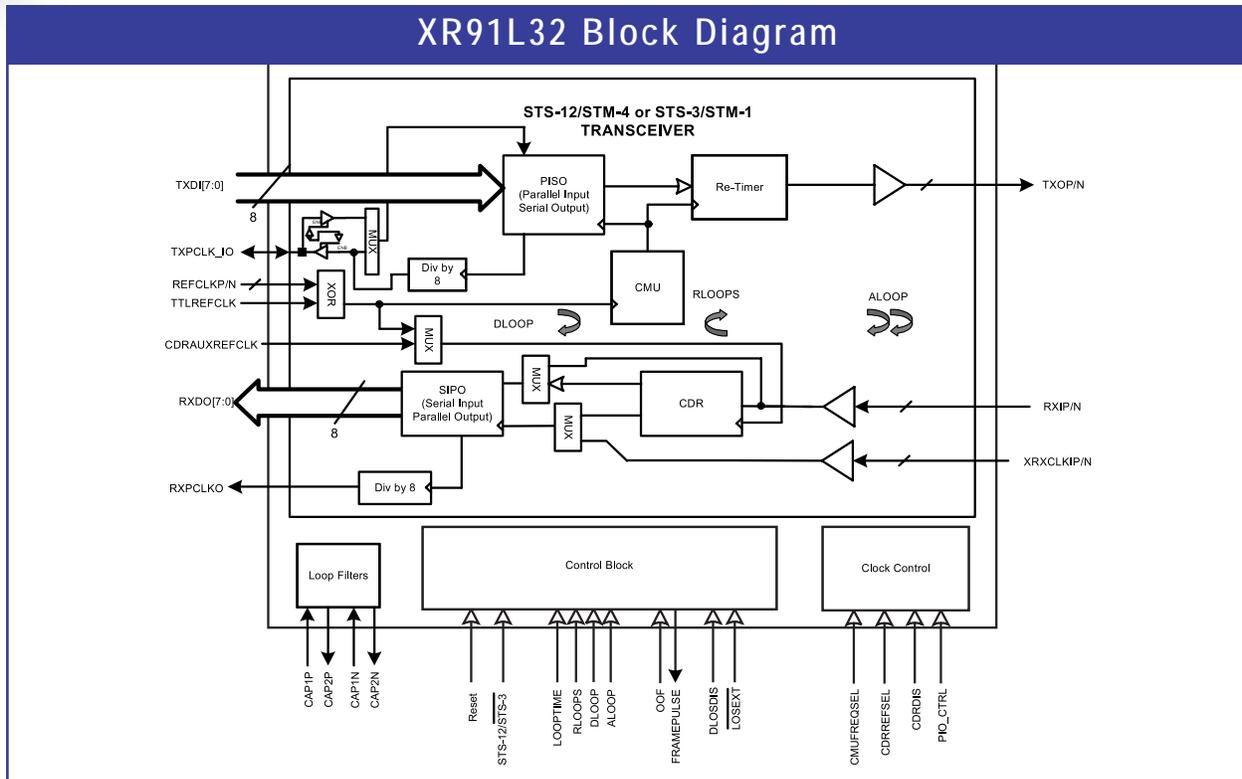
Major Features

- 622.08/155.52 Mbps Transceiver
- Single-chip fully integrated solution containing parallel-to-serial converter, clock multiplier unit (CMU), serial-to-parallel converter and clock data recovery (CDR) functions
- Targeted for SONET/SDH STS-12/STM-4 or STS-3/STM-1 Applications
- Internal FIFO decouples transmit input and output clocks

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Experience *Our* Connectivity.

XRT91L31/XRT91L32 STS-12/STM-4 or STS-3/STM-1 SONET/SDH Transceiver



Features

- Provides Local, Remote and Split Loop-Back modes as well as Loop Timing mode
- Diagnostics features include various lock detect functions
- Meets Telcordia, ANSI & ITU-T jitter requirements
- 3.3V PECL High-Speed Interface
- 8-bit TTL Parallel Interface
- Single 3.3 Volts Power Supply
- 500mW Typical Power Dissipation
- Packages: 10x10x2.0mm 64-pin QFP and 10x10x .0mm 100-pin QFP
- IEEE 1149.1 Compatible JTAG port
- No external passive components required
- No external heatsink or airflow required
- ESD greater than 2kV on all pins
- Reference frequency of 77.76/19.44 MHz
- Loss of Signal Detect on the High Speed interface

Applications

- SONET/SDH-based Transmission Systems
- Add/Drop Multiplexers
- Cross Connect Equipment
- ATM and Multi-Service Switches, Routers and Switch/Routers
- DSLAMS
- SONET/SDH Test Equipment
- DWDM Termination Equipment

Ordering Information

Product No.	Package	Operating Temp. Range
XRT91L31IQ	64-Pin QFP	-40°C to +85°C
XRT91L32IQ-F	100-Pin QFP	-40°C to +85°C