DATA SHEET

Communications

XRT5794

EVALUATION MANUAL

Quad E1 Line Interface Unit

Features
• Compliant with ITU G.703 Pulse Mask Template for 2.048Mbps (E1) Rates
• Four Independent CEPT Transceivers
• Supports Differential Transformer Coupled Receivers and Transmitters
• On Chip Pulse Shaping for Both 75W and 120W Line Drivers
• Compliant with ITU G.775 LOS Declaration/Clearing Recommendation
• Optional User Selectable LOS Declaration/Clearing Delay
• Logical Inputs Accept either 3.3V or 5.0V Levels
• Ultra-Low Power Dissipation
• +3.3V or 5.0V Supply Operations
• Individual Transmit Channel Over Temperature Protection

Applications
• SDH Multiplexer
• Digital Cross Connects

The XRT5794 is an optimized line interface unit, built using low power CMOS technology. The device contains four independent E1 channels for primary rate, PCM applications up to 2.048Mbps. Each channel performs the driver and receiver functions necessary to convert bipolar signals to TTL/CMOS compatible logic levels and vice versa. The device supports single ended or balanced line interfaces on each channel, thereby providing the user an option of reducing system cost and board space by replacing the transformer with a capacitor.

Each of the four drivers can be independently disabled, allowing maximum flexibility in system power management. Output pulses are fully CCITT G.703 compliant. Moreover, the return loss is at least 18dB over a frequency range of 51kHz to 3.072MHz.

The slicing circuit in the receive path is able to tolerate a maximum of 12dB of cable loss with a minimum input sensitivity of 600mV over the operating temperature range. Return loss on the receive interfaces is minimum 20dB from 51kHz to 3.072MHz.

Local and remote loopbacks can be performed on any of the four channels. A separate loss of signal (LOS) detection circuitry and a LOS pin is provided for each input. A fifth transmitter has been provided to support dedicated monitoring and testing purposes on any of the eight bipolar paths. For designers not requiring the fifth (monitor) driver, EXAR offers the XRT5793, a pin compatible version of the XRT5794.

The XR-T5794 is targeted for multi-line E1 line card applications where real estate, low power consumption and back-up redundancy are critical. Also, the device may be used in T1 applications (1.544Mbps) which do not require meeting the DSX-1 cross connect pulse template.