

Communications

XRT5793

Quad E1 Line Interface Unit

Features

- Meets CCITT G.703 Pulse Mask Template for 2.048Mbps (E1) Rates
- Transmitter and Receiver Interfaces Can Be:
 - Single Ended, 75 Ohm Capacitive or Transformer Coupled
 - Balanced, 100 Ohm or 120 Ohm Transformer Coupled
- Minimum Return Loss is 20dB (Receive) and 18dB (Transmit), Exceeds G.703 and ETSI 300 166 Specifications
- Bipolar Outputs Can Be Disabled Individually (High Z Outputs)
- System Interface is TTL Compatible on Digital Input and TTL/CMOS Compatible on Digital Output Pins
- Individual Channel Loss of Signal Detection, Local and Remote Digital Loopback
- Low Power, CMOS Technology
- Over-Temperature Protection

Applications

- Multi-Line E1 Interface Cards
- E1 Network Equipment
 - Multiplexers
 - Cross Connects
 - Switching Systems
- Fault Tolerant Systems

The XRT5793 is an optimized line interface unit, built using low power CMOS technology. This 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.

The XRT5793 is targeted for multi-line E1 line card applications where real estate and low power consumption 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. The XRT5793 is pin-compatible with the XRT5794, which supports a fifth channel. The fifth channel is for redundancy and dedicated monitoring on any of the eight bipolar paths.