

LXT400

All Rate Extended Range Switched 56/DDS Transceiver

General Description

The LXT400 is an integrated line interface circuit for Switched 56 (SW 56) and Digital Data Service (DDS), compatible with any combination of 19 to 26 AWG cable. The LXT400 operates at any of 17 preset data rates from 2.4 kbps to 72.0 kbps, providing appropriate transmit pulse shaping, receive signal detection and timing recovery at the metallic interface between the carrier and the customer installation. The LXT400 offers a variety of diagnostic features including loopback, line status and equalizer monitor outputs, while conforming to AT&T, ANSI and Bellcore specifications.

The LXT400 transmit section includes switched capacitor filters, continuous reconstruction filters, and a 50% AMI encoder. The AMI pulse is synchronized with the transmit clock.

The LXT400 receive section performs line equalization, data extraction and timing recovery. The LXT400 has a BER of less than 10^{-7} with up to 49 dB of cable attenuation at the Nyquist frequency for 56, 64 and 72 kbps, and 40 dB at the lower rates. The LXT400 is an advanced CMOS device which requires only a single +5 V power supply.

Features

- Enhancements:
 - Three new data rates: 38.4, 51.2, and 64.0 kbps
 - Improved accuracy in line attenuation reporting
 - Simplified transmit digital timing
- Integrated transmitter, receiver and timing recovery on a single CMOS chip
- Transparent to framing and coding
- Receive equalizer filters allow data recovery from signals with up to 40 dB of attenuation at the Nyquist frequency at line rates below 56 kbps, and up to 49 dB at the 56, 64 and 72 kbps line rates
- Single 4.096 MHz crystal or master clock input
- Digital back-end loopback
- Equalizer output monitor pin
- Line status (loop length, RLOS, etc.) information available for maintenance purposes
- Low power consumption (200 mW typical)
- Available in 28-pin plastic DIP and PLCC
- Single 5 V only CMOS technology

LXT400 Block Diagram

