

# LXT441

## Switched 56 / DDS Integrated DSU / CSU

### General Description

The LXT441 is an integrated transceiver and data formatter for Switched 56 (SW56) and Digital Data Service (DDS) Data Service Unit/Channel Service Unit (DSU/CSU) and Office Channel Unit (OCU) applications.

The LXT441 line interface section performs transmit pulse shaping and receive signal data and timing recovery at the user-network 4-wire metallic interface. The device operates at loop speeds of 56 kbps and 72 kbps, supporting SW56, 56 kbps DDS with or without secondary channel (SC) and 64 kbps clear channel DDS services.

The integrated DSU circuit provides a DCE interface and connects directly to data terminal equipment (DTE) using standard EIA530 control leads. Data formatting includes DDS framing, control code handling, loop code generation and detection, and zero code suppression processing.

The LXT441 has an on-chip 8-bit microprocessor interface that simplifies device configuration, status reporting, and SW56 call processing, and may be used for parallel data transfer to and from the 4-wire physical link.

### Features

- Supports most popular data rates for new DSU/CSUs
  - Switched 56 and 56 kbps DDS (DDS-PRI, 56 kbps loop speed)
  - 56 kbps DDS with secondary channel (DDS-SC, 72 kbps loop speed)
  - 64 kbps clear-channel DDS (CC-64K, 72 kbps loop speed)
- Switched 56 Call Control via EIA control leads or microprocessor
- Receiver performance monitoring
- Idle Code Transmission (CMI, DMI)
- Transmit timing recovered from network or supplied by system
- Network Control Code Detection and Generation
- CSU and DSU latching and non-latching loopbacks
- Available in 44-pin PLCC
- Single 8.192 MHz crystal or clock input
- 5V only CMOS process technology

### Applications

- Leased-line DDS and Switched 56 DSU/CSUs
- Internet Service Provider (ISP) Equipment
- Internal DSU for Routers, Bridges and PC add-in cards
- Frame Relay Access Devices (FRAD)
- OCU Cards for Channel Banks and DLC Systems

### LXT441 Block Diagram

