2249
Data Link Test Module 3

FEATURES

- Data Link Test Module (DLTM3)
- Supports HSSI, TTL, and dual RS-449 interfaces through software selection
- Transmit and Receive supported for all interfaces
- Supports data rates from100 bps to 35 Mbps in 1 bps resolution
- Supports internal generated clock or externally supplied clock
- Supports 7 unique PRN codes
- Independent delay of data and clock signals
- OS independent remote control
- Apogee Extended Remote Control (APEX) Compatible

OVERVIEW

The 2249 Data Link Test Module resides in an AL6301 chassis to provide the user with a link testing solution. The DLTM3 provides a flexible test module for testing links through either a TTL, HSSI, or RS -449 interface. Multiple DLTM3 modules can be placed within a single AL6301 chassis.

The DLTM3 transmits a selected PRN pattern out on a selected serial interface. The data is output with a clock that can either be internally generated or supplied by the user through the ST input. The delay feature of the DLTM3 allows for independent delay of the data and clock output from the DLTM3 on the active interface. This feature allows intentional skewing of the data and/or clock to correct for the downstream equipment under test.

The DLTM3 receives a signal from the unit under test and determines the error rate of the data being received. This allows the DLTM3 to perform a full duplex test on the equipment under test. The receive side synchronizes to the incoming serial stream and detects any errors based on the programmed PRN pattern.

SPECIFICATIONS

INTERFACES

- TTL
  - BNC connector
  - 75 Ohm input termination
- HSSI
  - Tyco/AMP 787190-5 connector
  - 100 Ohm differential termination
- RS-449 (two)
  - DB-25 connector
  - 100 Ohm differential Termination

TRANSMIT RATES

- 100 bps—35 Mbps internally generated clock
  - 1 bps resolution
- Externally sourced clock through ST input
  - Externally sourced rates supported up to the maximum internally generated rate

DATA CONFIGURATION / MEASUREMENT

- DATA/CLOCK may be inverted independently at transmit and receive interface
- 7 PRN patterns supported:
  - 2^7-1, 2^9-1, 2^{11}-1, 2^{15}-1, 2^{20}-1, 2^{23}-1, 2^{31}-1
- Error injection on transmit side
- Multiple Measurements available
  - Received bit rate
  - Bit Count
  - Bit Error Count
  - Bit Error Rate
  - Symmetry
  - Seconds in Test
- Manual reset of accumulated measurements

DELAY FEATURE

- FAST DELAY
  - Supports rates up to 35 Mbps
  - Delay from 12nS to 200nS
- MID DELAY
  - Supports rates up to 10Mbps
  - Delay from 12ns to 7.5uSec
- COARSE DELAY
  - Recommended for rates below 1Mbps
  - Delay from 500nS to 40mS
  - +-10nS jitter on signal output

REMOTE CONTROL

- Control through AL6301 chassis
- APEX Compatible

POWER

- Power received from backplane of AL6301 chassis
- Power consumption of module TBD

MECHANICAL

- 9.75" L x 5.2" H x 4.0" D
- Weight: approximately TBD lbs

ENVIRONMENT

- Operating temperature: 0° C to +55° C
- Storage temperature: -40° C to +70° C
- Humidity: up to 95% non-condensing

APPLICATIONS

Real-time testing of data link transmission of telemetry data from its source location to one or multiple destinations.