

LinkTest™ SINGLE+

Tests Async, Sync, DDS, T1 & FT1, E1 & F E1 , T3E3



Portable T1E1, T3E3 Test Set



Interfaces V.35, RS232, RS422/RS530, X.21, HSSI, DDS, T1E1 , T3E3



Displays G.821 performance measurements



Data rates from 50 bps to 50 Mbps



Front panel, Windows GUI or command line interface control



Overview

The GL's LinkTest™ SINGLE+ is a sophisticated bit error rate tester in a compact, hand held package. The unit can test a wide variety of communications facilities and equipment including DDS, T1, fractional T1, E1 , fractional E1 , T3 and E3 NTUs, multiplexers, CSU/DSUs, T1 CSUs, DTUs and TIUs.

Main Features

- Tests asynchronous, synchronous, DDS, T1 and fractional T1, E1 and fractional E1 , T3E3 facilities and equipment
- Interfaces V.35, RS232, RS422/RS530, X.21, HSSI, DDS, T1E1 , T3E3
- Data rates from 50 bps to 50 Mbps
- Displays G.821 performance measurements
- Built-in speaker for monitoring DS0s or timeslots
- Controlled from the Front panel, Windows GUI or Command Line Interface
- Works with AC or battery power

Please visit <http://www.gl.com/linktestsingleplus.html> for more details.



GL Communications Inc.

818 West Diamond Avenue - Third Floor. Gaithersburg, MD 20878 • (V) 301-670-4784 (F) 301-670-9187

Web Page Address: <http://www.gl.com/> • E-Mail Address: info@gl.com

Operation

The LinkTest™ *SINGLE+* can be controlled from the front panel or from a local or remote terminal. It includes a two-line LCD display and nineteen LED indicators that show selected mode, test and operating parameters. Parameters are selected by scrolling through values stored in the Tester.

Applications

The LinkTest™ *SINGLE+* is designed to fulfill the requirements of a broad range of applications that may be used to test data communications equipment, networks, systems and line facilities. It simulates real data passing through a data communications link, and then determines the performance of a piece of equipment or that of a network.

Typical applications include,

- Final test departments
- Field installations of data communications equipment,
- Field evaluations of data communications equipment,
- Field monitoring of data communications facilities
- Field problem isolation

LinkTest™ *SINGLE+* can test:

- **Async Mode** - Tests asynchronous modems and CRT terminals
- **Sync Mode** - Tests the customer interface on DDS, T1 and T3 CSU/DSUs, mux channels and synchronous modems.
- **DDS Mode** - Simulates a DDS CSU/DSU to test a DDS line or emulates a central office to test DDS CSU/DSUs
- **T1 Mode** - Tests T1 lines, CSU/DSUs both short and long haul, T1 mux and drops from T3 mux
- **E1 Mode** - Tests E1 lines, NTUs and DTUs, E1 mux and drops from T-3/E3 mux
- **T3 Mode** - Tests T3 lines and mux and T1E1 channels on T3 facilities
- **E3 Mode** - Tests E3 lines and mux

T1 and E1 Testing

In the T1 and E1 modes, the Tester displays bit errors, transmit and receive frequency, test seconds, bit error rate and G.821 performance measurements (erred seconds, severely erred seconds, degraded minutes and available and unavailable times).

A variety of test patterns can be inserted in all or selected DS0s/timeslots, continuous or non-contiguous, making the tester ideal for fractional T1 or E1 testing. In the T1 mode, it also displays RX level in db and volts.

T3 and E3 Testing

The LinkTest™ *SINGLE+* can test T3E3 networks and CSUs. It performs G.821 measurements and displays bit errors, bit error rate, frequency and more.

Async and Sync Testing

In addition to T1 and E1, the LinkTest™ *SINGLE+* provides asynchronous and synchronous test modes.

- Generates test data in a choice of patterns and formats
- Users can choose from twenty-eight async and seventy-five sync test speeds
- Displays bit errors, bit error rate, and total test seconds
- In the async mode, it also displays characters received, character errors and erred seconds
- In the sync mode, it also displays TX frequency, RX frequency, CTS delay, G.821 measurements and more

DDS Testing

The tester also includes a DDS analyzer. It can operate at speeds from 2400 to 72,000 bps in normal and secondary channel modes. It can simulate a CSU/DSU to test networks or a network to test CSU/DSUs.

Specifications

ASync

Speeds	50 to 115,000 bps
Displays	Character Errors, Characters Received, Total Test Seconds and Erred Seconds
LEDS	Pattern Lock, Pattern Recovered, TXD, RXD, RTS, CTS, DSR, CD, and DTR
Patterns	2 ⁹ (511), 2 ¹¹ (2047), Binary, Fox Test, Mark and Space
Loops	Self-Test
Interfaces	V.35, RS530, RS422 and RS232 Physical: DB 25 pin Female

Sync

Speeds	1,200 to 50,000,000 bps
Displays	Bit Errors, Bit Error Rate, Test secs, Erred secs, Severely Erred secs, Degraded mins, Available, Unavailable, RX Freq, TX Freq, Bits Received, RTS Time, Round Trip Delay
LEDS	Pattern Lock, Pattern Recovered, Transmit Data, Receive Data, RTS (C), CTS, DSR, CD (I), DTR, TXC, RXC (S), and External TXC
Patterns	2 ⁹ (511), 2 ¹¹ (2047), 2 ¹⁵ , ITU 2 ¹⁵ , QRSS, 2 ²⁰ , ITU 2 ²⁰ , 2 ²³ , ITU 2 ²³ , 1 of 8, 3 of 24, Alt, Mark, Space, Round Trip Delay and User 3 - 32
Loops	Self-Test and V.54
Interfaces	V.35/DB25, RS530/DB25, RS422/DB25, RS232/DB25, X.21/DB15 and HSSI/50 pin

DDS

Speeds	2,400 to 72,000 bps
Displays	Bit Errors, Bit Error Rate, Test Secs, Erred Secs, , Secondary Errors, Severely Erred Secs, Degraded Mins, Available, Unavailable, RX Freq, TX Freq, Bits, RX Level dB, Simplex Current, Round Trip Delay and RLOS Secs
LEDS	Pattern Lock, Pattern Recovered, CMI (IDLE), All 1s, All 0s, RLOS, OOF, OOS, CSU Loop, DSU Loop and V.54 Loop
Patterns	2 ⁹ (511), 2 ¹¹ (2047), 2 ¹⁵ , QRSS, 1 of 8, 3 of 24, Alt, Mark, Space, DDS1, DDS2, DDS3, DDS4, Round Trip Delay and User 3 - 32
Loops	Self-Test, CSU Loop, DSU Loop and V.54 Loop
Interfaces	Four wire, Bipolar Physical: RJ48S

T1

Speeds	1,544,000 bps
Displays	Bit Errors, Bit Error Rate, Test Secs, Erred Secs, Severely Erred Secs, Degraded Mins, Available, Unavailable, RX Freq, TX Freq, Signaling Bits, Density Errs, Frame Errs, CRC Error, BPV Error, RX Level Volts & dB, Slips, Round Trip Delay
LEDS	Pattern Lock, Pattern Recovered, Frame Lock, AIS (Blue), RLOS, CRC Error, BPV, D4, ESF, AMI, B8ZS and Yellow
Patterns	2 ⁹ (511), 2 ¹¹ (2047), 2 ¹⁵ , ITU 2 ¹⁵ , QRSS, 2 ²⁰ , ITU 2 ²⁰ , 2 ²³ , ITU 2 ²³ , 1 of 8, 3 of 24, T1 DALY, T1 DALY UF, 55 Octet, 55 Octet UF, Alt, Mark, Space, Digimwatt, User 3 - 32, Round Trip Delay, DDS OCU Loop, DDS CSU Loop and DDS DSU Loop
Loops	Self-Test, ATT Loop U/D, ANSI Loop U/D, ATT Payload, ANSI Payload, Smart Jack 1 & 2 (Framed & Unframed) and V.54
Interfaces	DS1 Bipolar, 110 Ohm, AMI/B8ZS Coding Physical: RJ48C and Dual Bantam

E1

Speeds	2,048,000 bps
Displays	Bit Errors, Bit Error Rate, Test Secs, Erred Secs, Severely Erred Secs, Degraded Mins, Available, Unavailable, RX Freq, TX Freq, CRC Errs, BPV Errs and Frame Errs
LEDS	Pattern Lock, Pattern Recovered, Frame Lock, AIS (Blue), RLOS, CRC Error, BPV, DMFA and RRA
Patterns	2 ⁹ (511), 2 ¹¹ (2047), 2 ¹⁵ , ITU 2 ¹⁵ , QRSS, 2 ²⁰ , ITU 2 ²⁰ , 2 ²³ , ITU 2 ²³ , 1 of 8, 3 of 24, Alt, Mark, Space, Digimwatt and User 3 - 32
Loops	Self-Test and V.54
Interfaces	G.703/704, 75 & 120 Ohm, HDB3 Coding Physical: Dual Bantam, Dual BNC and RJ48C

T-3

Speeds	44,736,000 bps
Displays	Bit Errors, Bit Error Rate, Test secs, Erred secs, Severely Erred secs, Degraded mins, Available, Unavailable, RX Freq, TX Freq, P-Bit Errs, C-Bit Errs, T3 & T2 Frame Errs, LCV Error, FEBE Error, Excessive 0s and LOS Secs
LEDS	Pattern Lock, Pattern Recovered, Frame Lock, AIS (Blue), RLOS, LOF, LCV, FEBE, Yellow, M13 and C-Bit
Patterns	2 ⁹ (511), 2 ¹¹ (2047), 2 ¹⁵ , ITU 2 ¹⁵ , QRSS, 2 ²⁰ , ITU 2 ²⁰ , 2 ²³ , ITU 2 ²³ , 1111, IDLE 1100, AIS 1010, 0000, 1 of 8 and User 3 - 32
Loops	Self-Test and CSU
Interfaces	DS3 Bipolar, 75 Ohm Physical: Dual Mini WEC0 560A

E3

Speeds	34,368,000 bps
Displays	Bit Errors, Bit Error Rate, Test Secs, Erred Secs, Severely Erred Secs, Degraded Mins, Available, Unavailable, RX Freq, TX Freq, LCVs, LOS Secs and Frame Errs
LEDS	Pattern Lock, Pattern Recovered, Frame Lock, AIS (Blue), RLOS, LOF, BPV, and RAI
Patterns	2 ⁹ (511), 2 ¹¹ (2047), 2 ¹⁵ , ITU 2 ¹⁵ , QRSS, 2 ²⁰ , ITU 2 ²⁰ , 2 ²³ , ITU 2 ²³ , 1 of 8, Alt, Mark, Space and User 3 - 32
Loops	Self-Test and LINE
Interfaces	G.703/751, 75 Ohm, HDB3 Coding Physical: Dual Mini WEC0 560A

Physical Dimensions

Mechanical	8.75" (22.2 cm) h x 7.5" (19.1 cm) w x 4" (10.2 cm) d
Weight	4.4 lbs (1.81 kg)

Buyer's Guide:

[LTS002](#) - LinkTest™ *SINGLE+*, Portable Single T1E1, T3E3 Test Set

Related Hardware

[LTS001](#) - LinkTest™ *SINGLE*, Hand Portable Single T1E1 Test Set

[LTS003](#) - LinkTest™ *DUAL*, Portable Dual T1E1, T3E3 Test Set with full color display

[LTS101](#) - LinkSim™, Portable Dual T1E1 Data Simulator for delay/error insertion with full color display