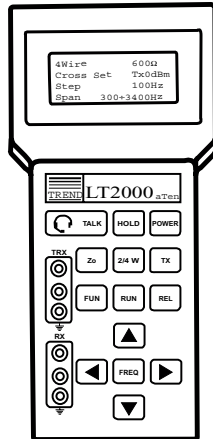


LT2000 Line Tester



Copper pair
qualification
for the new
digital age.

Key Features

- ▶ Ideal for DSL technologies
- ▶ Quick and easy tests
- ▶ Suitable for the latest in copper technologies
- ▶ Intuitive menu Intercom facility

Overview

The LT2000 Line Tester is the latest in a long-line of high quality world-renowned testers. Both easy to operate and cost effective, this tool is essential when working on pre- or post-installation or maintenance projects.

The LT2000 is a handheld field instrument for verification of the quality of copper pairs for both analogue and digital transmissions with bandwidth requirements between 200Hz and 2MHz. The LT2000 has the ability to perform a number of measurements including Noise, Level Attenuation, Crosstalk and Return Loss. These can be performed on a variety of transmission systems including Base Band, 160 kbit/s, 1.5 Mbit/s, 2 Mbit/s, HDSL and ADSL.

With the roll-out of DSL services ever increasing, the LT2000 is an invaluable tool for the field engineer

Using just one line tester the measurements can be performed over a swept frequency range, allowing lines to be qualified for ADSL deployment. Using two line testers, one transmitting and one receiving, the attenuation of the loop, and the Far End Crosstalk (FEXT) can be measured over the frequency spectrum.

Using the supplied headphones and the intercom facility built into the LT2000 allows the field engineers to communicate over a copper pair being tested between the local and remote units.

Typical Application

Line testing for DSL deployment

Technically Speaking

The parameters which can affect the performance of a copper pair and hence its suitability for DSL transmission are measured using either one LT2000 at one end of the line or at each end. Measurements are compared to standard limits to result in a pass or fail of the line.

The LT2000 is a multi-function device and can perform the following tests:

- **Attenuation Meter** - Using an LT2000 at each end of the line, one as a generator and one as a receiver, to measure the attenuation of the line over the frequency spectrum
- **Noise and Level Meter** - Using an LT2000 at one end of the line to measure noise
- **Return Loss Meter** - Using an LT2000 to measure the level of echo-sign caused from the impedance mismatching of the line
- **Crosstalk Meter** - Near End Crosstalk (NEXT) using an LT2000 at one end of the line to measure how much signal is coupled from the transmitting line to the receiving line. The LT2000 can also be used to measure Far End Crosstalk
- **Longitudinal Balance Meter** - Using one LT2000 and a special adaptor to measure the balance attenuation of the line referred to ground or another conductor

The Complete Package

- Tester
- Soft Carry Case
- (2) Banana/Crocodile Cables
- (1) 150/600 ohm Balanced Measurement Adaptors
- (2) 150 ohm Terminations
- (2) 600 ohm Terminations
- (1) Headset

Specifications

General

Display - LCD; 4 lines x 16 characters

Connectors - Input connector "RX" triple banana jack (a-b-Gnd)
Input/Output connector for external power/charger
Polarised connector for external power/charger
FCC68 4-4 connector for headset

Power - Internal: NiMh rechargeable batteries. (3 hours of operational use).
External: 11 to 32 Vdc/1.5 to 0.6A

Temperature (operational) - 0-50°C

Temperature (storage) - -10°C - 50°C

Size - 2.1H x 4.0W x 10D cm

Weight - 1kg

Level Generator:

Output impedances - <10 ohm, 150 ohm (120 or 135 ohm optional), 600 ohm balanced (=5µF series)

Output frequency bands - 200 Hz to 2MHz

Resolution - 1 Hz from 200 Hz up to 10 kHz; 100 Hz from 10 KHz up to 2 MHz

Frequency accuracy/stability - $\leq \pm 50$ ppm

Harmonic distortion - $\leq 0.5\%$

Output level - 0.0 dBm \pm 0.2 dBm @ 10 kHz

Selective Level Metre:

Input impedances - 150 ohm (120 or 135 ohm optional) 600 ohm \geq 200 k ohm balanced (5µF series)

Tunable frequencies - Tracking with TX frequency (200 Hz to 2 MHz)

Resolution - 1 Hz from 200 Hz up to 10 kHz; 100 Hz from 10 kHz up to 2 MHz

Tuning accuracy/stability - $\leq \pm 50$ ppm

Selectivity ($f_0 > 800$ Hz) - ≤ -0.5 dB @ + 30 Hz (f_0); ≥ -50 dB @ + 500 Hz (f_0)

Level measurements - absolute (dBm) and relative (dBr)

Input range - ≤ -100 to +5 dBm/resolution: 0.1 dB

Hybrid circuit - Return Loss - ≥ 40 dB with nominal load

Noise floor (TX off) - ≤ -100 dBm @ 600; ≤ -95 dBm @ 120 to 150 ohm

Intrinsic cross talk - ≤ -90 dBm @ 1 MHz

Frequency image/spurious rejection - ≥ 60 dB ($f_0 \geq 800$ Hz)

Automatic Measurements in Sweep Mode:

Automatic measurements:

- Noise (or level):
 - frequency & level readout of min. and max. noise level
 - RMS noise level readout on programmed wideband
- Return-loss:
 - frequency & level readout of min. and max. echo level
- Near Crosstalk:
 - frequency & level readout of min. and max. cross level

Operating programmable bands:

(1 step/sec. speed)

- “base band” - from 200 Hz min. to 10 kHz max. (100, 200, 400, 1000Hz selectable step)
- “high band” - from 10 kHz min. to 2 MHz max. (0.1, 0.2, 0.4, 1, 2, 4, 10 and 20 kHz selectable step)

Sweep Generator:

(10 step/sec. speed)

- “base band” - from 200 Hz min. to 10 kHz max. (100, 200, 400, 1000 Hz selectable step)
- “high band” - from 10 kHz min. to 2 MHz max. (0.1, 0.2, 0.4, 1, 2, 4, 10 and 20 kHz selectable step)

Product Name
LT2000 Line Tester

Code
TSU5050