المواصفات الفنية الخاصة بالمناقصة العامة

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General Specifications of subscriber Loop Analyzer

General

Complete testing of POTS and ISDN subscriber loops

The subscriber Loop Analyzer must be a microprocessor-controlled integrated test set that provides full-featured POTS aned fundamental ISDN testing. The functions include fault location and repair verification on twisted-pair, quad and coaxial cable (utilizing capacitance bridge, resistance bridge and Time Domain Reflect meter (TDR) functions).

The subscriber loop analyzer executes a wide range of individual tests, or performs automatic test routines as specified by the user to categorize and sectionalize problems.

Specific tests and measurements performed by the unit include:

- Voltage – detects and measures the presence of exchange or foreign DC or AC voltages.
- Tone – provides a test tone for conductor identification; user-selected tones from 1 to 40 kHz for transmission measurements.
- Current – measures DC loop current.
- Ohms – measures conductor and insulation resistance up to 1000 megohms.
- TDR – full-featured TDR with user-selectable pulse widths, length, gain zoom, filter and Vp. Four modes of operation:

Single trace – provides graphical representation of events on a pair.
Dual trace – allows active comparison of two traces.
Differential – displays difference between two circuits.
Crosstalk – displays the crosstalk from one pair to the other.

- Resistance fault location – displays distance to fault.
- Opens – locates opens at distances up to 100,000 ft. (30 km).
- Splits – locates splits on paired cable.
- Ringer count – counts the number of ringers on a particular loop.
- Load coil count – indicates the presence of load coils in a loop circuit.

• Wideband loss – loss measurements to 200 kHz for pre-qualifying ISDN and HDSL.
• Loss – measures voice band loss.
• Noise – measures noise metallic and noise to ground in dBrn.
• Longitudinal balance – provides active measurement of line balance.

Flexible, practical features

The subscriber loop analyzer is designed for functionality and ease of use. Features of the unit include:
• IR port - infrared port for downloading future software programs.
• Self-calibration – internal instrument calibration and setup procedures.
• Graphical user interface – user-friendly, icon-based display of test results.
• Replaceable five color-coded banana jacks for test connections.
• HELP function – an internal help menu provides information as needed during operation.
• Telephone – internal telephone or "talk set."
• Rechargeable nickel metal hydride batteries – with battery charger, plus alkaline battery holder.
• Modular hardware and software design – for easy upgrades, investment protection.
• Backlit high resolution/high contrast LCD display.

Rugged, weatherproof design

The hand-held test set is housed in a lightweight, ergonomically designed case for portability and ease of handling. The unit is weather-resistant and weighs only 3.3 pounds (1.5 kg).

Physical Specifications

Size (h = * w= *d=)cm
Net Weight(.) with battery and soft case ( )
Shipping Weight
Material High impact grade ABS

Environmental Specifications

Operating temperature 0° to 140°F (-18 to 60°C)
Storage temperature -40° to 165°F (-40 to 75°C)
Humidity 0-95%, non-condensing

Electrical Specifications

Main Functions	Range	Resolution	Accuracy
Voltage (DC):	0 to 99.9 V	0.1 V	1% ± 0.5 V
	100 to 300 V	1 V	3%
Voltage (AC):	0 to 99.9 V	0.1 V	1% ± 0.5 V
	100 to 250 V	1 V	3%
Current :	0 to 59.9 mA	0.1 mA	1% ± 0.3 mA
	60 to 110 mA	0.1 mA	2%
Resistance (DC):	0 to 9999 Ω	1 Ω	1% ± 5 Ω

with CO voltage 0 to 9999 Ω 1 Ω 1% ± 50 Ω
10 k to 99.9 kΩ 0.1 kΩ 1%
100 k to 999 kΩ 1 kΩ 3%
1 M to 9.9 MΩ 0.1 MΩ 3%
10 M to 99 MΩ 1 MΩ 5%
100 M to 990 MΩ 10 MΩ 10%
Opens (no noise) 0 to 3,000 ft (0 to 1000 m) 1 ft (1 m) 1% ± 3 ft
3,000 to 10,000 ft (1 km to 3 km) 1 ft (1 m) 3%
10,000 to 50,000 ft (3 km to 15 km) 10 ft (10 m) 5%
50,000 to 100,000 ft (15 km to 30 km) 100 ft (100 m) 10%
RFL
Fault range 0 to 20 MΩ — —
Resistance to 0 to 99.99 Ω 0.01 Ω 0.1% of RTS ± 0.01 Ω
fault (no noise) 100 to 999.9 Ω 0.1 Ω) 0.2% of RTS ± 0.01 Ω
1 kΩ to 7 kΩ 1.0 Ω 1.0% of RTS ± 0.01 Ω
Loss (& frequency) -40 to +10 dBm, 200 to 3000 Hz 0.1 dB, 1 Hz
0.5 dB, 2 Hz
-40 to +10 dBm, 3000 to 9995 Hz 0.1 dB, 5 Hz 0.5 dB, 10 Hz
-40 to +10 dBm, 10 k to 19.9 kHz 1 dB, 10 Hz 1 dB, 20 Hz
Wideband loss -40 to +10 dBm, 20 k to 200 kHz 1 dB, 100 Hz 2
dB, 0.1 kHz
Noise metallic 0 to 50 dBrnc (-90 to -40 dBm0p) 1 dB 2 dB
Noise to ground 40 to 100 dBrnc (-50 to 10 dBm0p) 1 dB 2 dB
Longitudinal balance 62 to 40 dB 1 dB 2 dB
Tone output
ID 200 to 1000 Hz, fixed level 1 Hz 1%
User defined 200 to 9995 Hz, -20 to +1 dBm 1 Hz, 0.1 dB 1% Hz,
0.2 dB
User defined 10 k to 19.99 kHz, -20 to +1 dBm 10 Hz, 1 dB 2% Hz,
1 dB
ISDN 40 kHz, +6 dBm fixed level — 2%, 2 dB
Dial mode DTMF, Pulse Standard Standard
TDR
Ranges 3 ft–300 ft, 20 ft–1,000 ft, 1 ft (1 m) 0.6% range
50 ft–3,000 ft, 150 ft. 10,000 ft,
450 ft–30,000 ft
(0–100 m, 5–300 m, 15–1,000m,
45–3,000 m, 140–10,000 m)
Pulse width 5 nS, 34 nS, 235 nS, 1600 nS Fixed values —
Velocity input 0.50 to 0.99 (150 to 299 uS/m) 0.01 (1 uS/m) —
Modes Single trace, dual trace, — —
differential, memory, crosstalk

ISDN
Link test Active/inactive — —
Error test Near-end & far-end block errors 1 error 1 error
Auto Same specifications as full tests See above See above

Accessories

Test leads Five 5 ft (1.5 m) test leads with 2 mm gold-plated banana plugs one
end and chrome-plated alligator clips on other end (black/red, blue/yellow, green)
RFLstrap 1.5 ft (0.5 m) with alligator clips on three ends
AC/DC adaptor 100-250 Vac (50/60 Hz) input; 12 Vdc (1 A) output
Soft case Heavy-duty fabric case for unit and test leads
Battery holder Plastic holder for 6 AA(LR6) batteries
Battery pack Custom 1.2 amp-hour Nickel metal hydride

Toolbox Functions

Resolution Accuracy

Load coil count 0 to 4 1 1
Ringer count 0 to 5 1 1
Ohms/distance 0-9999 Ohms 0.1Ω —
calculator 0-165000 ft (0-50 km) 1 ft (0.1 m) —
Caller ID Number, name, date, time — —
Carrier level -4 to -32 dBm 1 dBm 2 dBm
Self-calibrate Yes or no

Tenderer must

- Support the Instrument maintenance
- Support the training in local area
- Offering sample to test it (if possible)