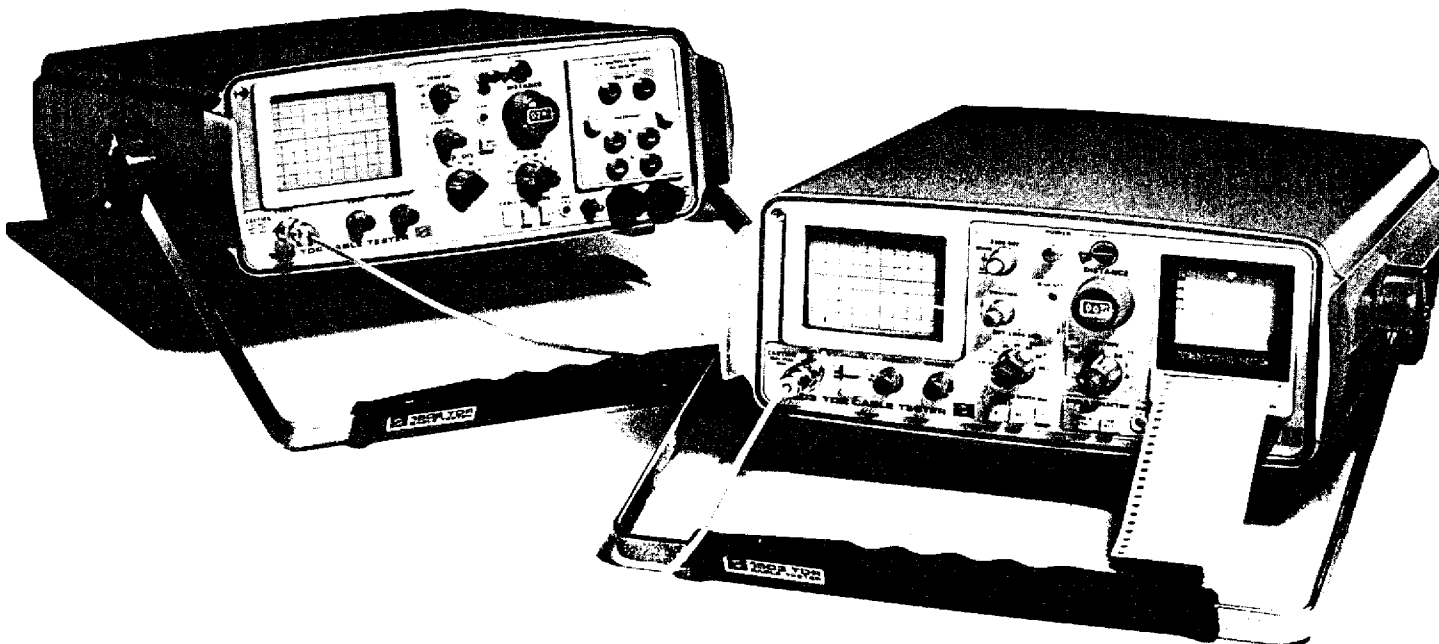




TEKTRONIX METALLIC CABLE TESTERS: ACCURATE TIME DOMAIN REFLECTOMETRY FOR FIELD MAINTENANCE, LONG-RANGE AND SHORT-RANGE



1502/1503

Portable. Battery-Powered, Self-Contained, Lightweight

Rugged. Meets MIL-T-28800, Type III, Class 3, Style A

Versatile. Tests Any Type Paired-Conductor and Coax Cable

Easy to Use. Produces Results With Minimal Operator Training

The 1502 is appropriate for testing coax and other cables in aircraft, ships, radar sites, etc. It uses a step-pulse and provides fault resolution to 0.6 inch on short cables. The 1502 performs to a maximum of 2000 feet.

The 1503 tests long runs of coax or twisted pair cables in telephone and other communications applications. It provides high-energy, 1/2-sine-shaped pulses. Range of the 1503, dependent upon cable type, is up to 50,000 feet.

ORDERING INFORMATION

- 1502 Short Range TDR Cable Tester **\$6,200**
1503 Long Range TDR Cable Tester **\$5,200**

OPTIONS

- Option 01 — (1503 Only) Distance Cal. **+\$375**
Option 02 — (1502 Only) With Static Suppressor. **+\$150**
Option 04 — With Cable Tester Recorder. **+\$1,050**
Option 05 — With Cable Tester Metric Version. **NC**
Option 76 — GM (P7) Phosphor. **+\$35**

INTERNATIONAL POWER PLUG OPTIONS

- Option A1 — Universal Euro 220 V, 50 Hz.
Option A2 — UK 240 V, 50 Hz.
Option A3 — Australian 240 V, 50 Hz.
Option A4 — North American 240 V, 60 Hz.
Option A5 — Switzerland 220 V, 50 Hz.

OPTIONAL ACCESSORIES (1502)

- Chart Recorder — Order 016-0506-04 **\$1,100**
Chart Paper — (One Roll) Order 006-1658-01 **\$7.25**
(100 Roll Case) Order 006-1658-02 **\$575**
Accessory Pouch — Order 016-0351-00 **\$31**
Impedance Adaptors — (50/75 Ω) Order 017-0091-00*1 **\$195**
(50/93 Ω) Order 017-0092-00*1 **\$195**
(50/125 Ω) Order 017-0090-00*1 **\$195**

*1 Should be purchased with the following connectors.

- Connectors — (BNC Female-to-GR) Order 017-0063-00 **\$50**
(BNC Male-to-GR) Order 017-0064-00 **\$90**

OPTIONAL ACCESSORIES (1503)

- Chart Recorder — Order 016-0506-06 **\$1,100**
Chart Paper — (One Roll) Order 006-1658-01 **\$7.25**
(100 Roll Case) Order 006-1658-02 **\$575**
Isolation Network — (For balanced line). Order 013-0169-00 **\$275**
Adaptor Cables (BNC-to-Clips) — (Nine foot) Order 012-0671-02 **\$80**
(30 foot) Order 012-0671-03 **\$90**
Direct Current Adaptor With Filter — 25 foot cord (for use with standard 12 V automobile lighter plug with negative ground). Order 015-0327-00 **\$260**
Pulse Inverter — Order 015-0495-00 **\$75**

ADDITIONAL INFORMATION

1500 Series TDR Cable Testers Brochure — Order 27-AX-3004-4.

A variety of training accessories are also available including workbooks, videotapes, etc.

Prices, terms and conditions may change without notice.

LOGISTICS INFORMATION

For logistics data, see Tektronix Logistics Data Book.

1503B METALLIC TIME DOMAIN REFLECTOMETER (MTDR)

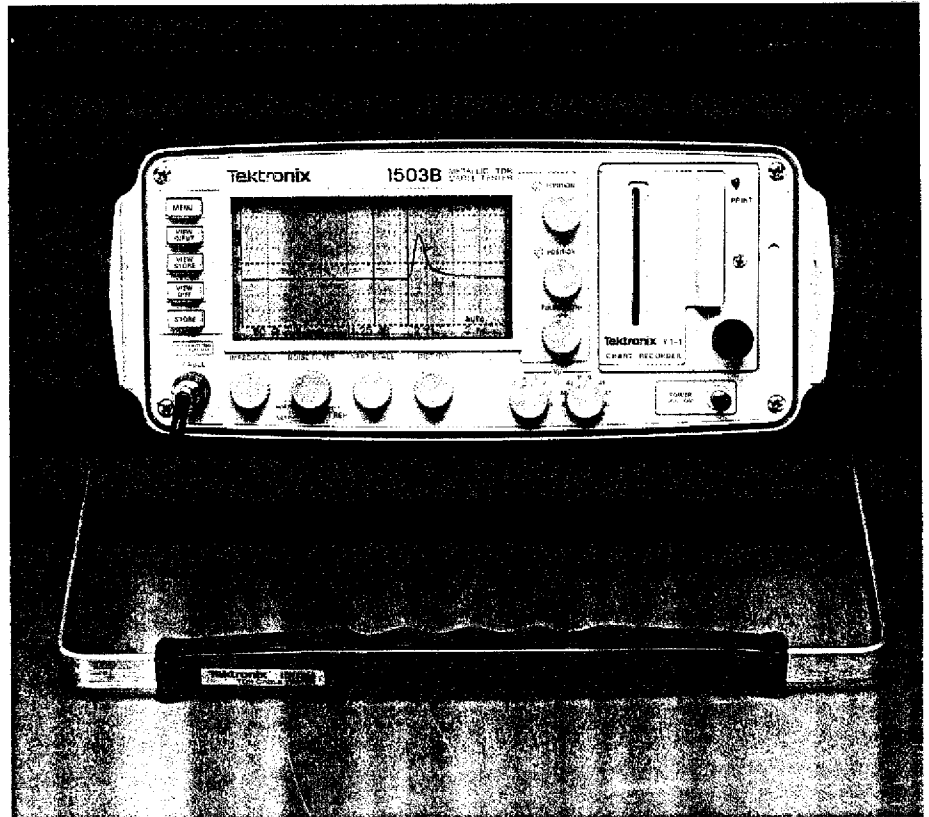
The 1503B is designed to quickly and easily locate opens, shorts, crimps and other defects in metallic cables up to 50,000 feet (15,000 meters) in length.

Through a process similar to radar, the 1503B transmits electrical pulses down the cable under test. Impedance changes in the cable reflect some of the pulse energy back to the 1503B. The reflections are displayed on a backlit, HyperTwist, high contrast nematic LCD display. The characteristics of the displayed trace allow the user to determine the nature of the cable fault.

The 1503B has 2, 10, 100, and 1000 nanosecond pulse widths. When using the 2 ns pulse width on 50 ohm cable with a V_p of .66, multiple faults as close as 10" can be detected. Cable impedances of 50, 75, 93, and 125 ohms are selectable for testing different types of cable.

The 1503B features include:

- Rugged and portable, designed for field use.
- Menu-Driven Operation for easy test set-up.
- Help Screens provide information on instrument operation and measurements.
- Information Screens provide cable impedance and V_p values.
- Distance measurements in feet or meters.
- Digital Filtering reduces displayed noise, resulting in a cleaner waveform display.
- Vertical and Horizontal Delta Modes allow easy Delta measurements.
- Waveform Storage allows comparison of the current and previously recorded waveform.
- Option 06 allows testing on an active Ethernet bus.
- Optional Printer provides hard copies of test results.
- Optional DC Operation eliminates the need for outlets and extension cords.
- Input protection to 400 volts.



TYPICAL CABLE MEASUREMENTS

Cable Return Loss in dB
Cable Propagation Velocity
Distance to damage from Opens,
Shorts, Frays, Crimps and Water
Faulty Taps and Unterminated Lines
in LAN and CATV Networks
Characterizing LAN installations

REPRESENTATIVE USERS

Telephony
Computer/LAN
CATV
Power Companies
Third Party Maintenance
Cable Manufacturers
Airlines

1503B METALLIC TDR SPECIFICATIONS

Test Signal:

1/2 Sine

Amplitude:

-2.5V Terminated
-5.0V Unterminated

Pulsewidths:

2nsec, 10nsec, 100nsec, 1000nsec

Output Impedance:

50 ohm, 75 ohm, 93 ohm, 125 ohm

Input Protection:

±400 Volts (DC – peak AC)

Maximum Range:

50,000 ft/15,000 m

Distance Readout Resolution:

.04 ft/.01 m

Noise Filtering:

1 to 128 averages

Vertical Scale:

0 dB to 63.75 dB gain

Vertical Accuracy:

±3% of Full Scale

Dist/Div:

1 ft/div to 5000 ft/div
.25 m/div to 1000 m/div

Horizontal Accuracy:

2% ± 1 ft/div of measured distance
plus uncertainty in V_o.

Environmental:

Meets capabilities of Type III, Class 3,
Style C instruments (except EMI
where it meets FCC: Part 15, 3, A,
and VDE: 0871, Class B) as
prescribed by MIL-T-28800D.

Power:

AC 115/230 volts/DC 12V Battery
Pack or External Options

For further information, contact:

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ORDERING INFORMATION

1503B Metallic TDR
Option 03 Battery Pack
Option 04 YT1 Chart Recorder
Option 05 Metric
Option 06 Ethernet Testing
Option A1 Universal Euro
220V/16A, 50 Hz
Option A2 UK 240v/13A, 50 Hz
Option A3 Australian 240v/10A,
50 Hz
Option A4 North American
240v/15A, 60 Hz
Option A5 Switzerland 220v/10A,
50 Hz

Included Accessories

1 Operator's Manual (070-6268-00)
1 AC Power Cord
1 50 Ohm BNC Terminator
(011-0123-00)
1 Precision 50 Ohm Cable
(012-0482-00)
1 BNC Connector, Female-to-Female
(103-0028-00)
Accessory Pouch (016-0814-00)
1 Option Port Cover (200-3453-00)
1 Battery Pack Port Cover
(200-3452-00)
1 Calculator Slide Rule (063-1419-00)
1 Spare Fuse

Optional Accessories

Battery Pack (016-0813-00)
YT1 Chart Recorder
Chart Paper (1 roll) (006-7647-00)
Chart Paper (25 rolls) (006-7677-00)
Chart Paper (100 rolls)
(006-7681-00)
Service Manual (070-6269-00)
Adapter, Direct Current
(015-0327-00)
Adapter 50/25 Ohm (017-0090-00)
Adapter 50/75 Ohm (017-0091-00)
Adapter 50/93 Ohm (017-0092-00)
BNC Female-to-N Male
(103-0045-00)
BNC Female-to-Crimp Leads
(013-0076-01)
BNC Female-to-Dual Banana Plug
(103-0090-00)
BNC Female-to-F Male
(103-0158-00)
BNC Male-to-N Female
(103-0058-00)
BNC Male-to-UHF Female
(103-0032-00)
BNC Male-to-Dual Binding Post
(103-0035-00)
Connector, GR-to-BNC Male
(017-0064-00)
Connector, GR-to-BNC Female
(017-0063-00)
Terminator, 75 Ohm BNC
(011-0102-00)

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COMMITTED TO EXCELLENCE