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Test & Measurement

- sales
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Complimentary Reference Material

This PDF has been made available as a complimentary service for you to assist in evaluating this model for your testing requirements.

TMG offers a wide range of test equipment solutions, from renting short to long term, buying refurbished and purchasing new. Financing options, such as Financial Rental, and Leasing are also available on application.

TMG will assist if you are unsure whether this model will suit your requirements.

Call TMG if you need to organise repair and/or calibrate your unit.

If you click on the “Click-to-Call” logo below, you can call us for FREE!

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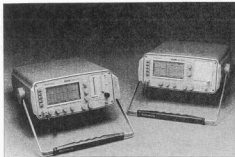
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1502B/1503B Metallic TDR Cable Testers

TYPICAL APPLICATIONS

- Telephony
- Computer/LAN
- CATV
- Power Company Field Testing
- Communications Providers
- Cable Manufacturing Tests
- Third Party Maintenance
- Airline Maintenance/Testing

Time Domain Reflectometry (TDR)

The portable, rugged 1502B and 1503B TDR Cable Testers are portable maintenance tools that are simple to operate and will test most dual conductor metallic cable under virtually any condition. The 1500B Series uses TDR to identify and locate cable faults. When the tester is connected to the line to be tested it sends out electrical pulses that are reflected back to the tester by impedance changes in the cable. The 1500B Series TDRs display impedance changes in the cable as a function of distance. Moving the cursor to the displayed fault produces an on-screen readout of distance to the fault.

FEATURES

- Easy to Use
- Information Screens
- High Contrast LCD
- Portable
- Waveform Storage
- PC Controllable
- Optional Chart Recorder
- Optional Battery Pack

Typical Cable Measurements

- Distance to faults
- Cable propagation velocity
- Loss and load mismatch
- Quantification of damage from opens, shorts, frays, crimps and water
- Faulty taps and unterminated lines in LAN and CATV environments
- Stripline and cable impedance
- Characterizing LAN installations

1502B High Resolution MTDR

The 1502B transmits 200 ps rise time step pulses down the cable under test. The reflected energy is displayed on the LCD and the type of fault can then be determined by the user. When testing 50 ohm

cable with a velocity of propagation equal to 0.66, the 1502B Metallic TDR allows the determination of 0.5 ohm cable faults. Multiple faults as close together as 0.8 of an inch can be resolved.

The 1502B has a menu selectable ohm-at-cursor function that allows direct readout of impedances. The 1502B is matched to 50 ohm cables, but may be used on others by adjusting the front panel vertical scale control or using optional impedance adapters.

The 1502B has a range of 2000 feet and is the best MTDR for high resolution fault location on short lengths of cable.

1503B General Purpose MTDR

The 1503B MTDR provides high-energy, 1.2-size shaped pulses for testing long cable runs. The 1503B has 2, 10, 100 and 1000 nanosecond pulse widths. Use of the 2 ns pulse width results in determination of multiple faults as close together as one foot. Cable impedances of 50, 75, 93, and 125 ohms are selectable at the front panel. The 1503B is input protected to 400 volts.

The 1503B has a range of 50,000 feet and is the best metallic TDR for general purpose applications.

1503B Option 06 for Ethernet Testing

The 1503B with Option 06 allows TDR testing of an active Ethernet bus. Tests are provided for detecting transceivers that ignore the collision signal (babbling transceivers) and transceivers that ignore the carrier sense signal.

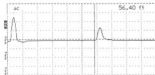
Menu Selections

The 1502B and 1503B offer a variety of parameters and information that can be accessed using menus. The main menu allows you to access: Help Screens; Velocity of Propagation Values; Impedances of Different Cables; Instrument Front Panel Configurations; and Instrument Diagnostics.

YT1 Chart Recorder

For permanent records of cable tests, the Option 04 (YT1) chart recorder is available for both the 1502B and 1503B.

Cursor 56.40 ft
Distance/Div 10 ft/div
Vertical Scale 4.00 dB
VF 0.56
Noise Filter 1 amp
Power ac
Pulse Width 10 ns
Impedance 50 Ω



Teletronic 1503B TDR

Date _____
Cable _____
Notes _____
Input Trace _____
Stored Trace _____
Difference Trace _____

1503B YT1 Chart Recording

CHARACTERISTICS

1502B METALLIC TDR CABLE TESTER

Test Signal—Step rise $\sqrt{}$
Amplitude—300 mV nominal into 50 Ω load.
System Rise Time—200 ps (1.15 in./2.92 cm).
Output Impedance—50 ohms \pm 1%.
Electrostatic Discharge Protection—1 kV/500 pF capacitor/1 k resistance.
DC Input Protection— \pm 1 A.
Maximum Range—2,000 ft/625 meters.
Distance Readout Resolution—0.004 ft/0.001 m.
Noise Filtering—1 to 128 averages.
Vertical Scale—0.5 to 500 mV/div.
Dist/Div—0.1 to 200 ft/div; 0.025 to 50 m/div.
Environmental—Meets capabilities of a Type III, Class 3, Style C instrument (except EMI where it meets FCC Part 15.3.A, and VDE: 0871, Class B) as prescribed by MIL-T-28800D.

1503B METALLIC TDR CABLE TESTER

Test Signal—4 sine.
Amplitude—Briminated: -2.5 V. Underminated: -5.0 V.
Pulsewidths—2, 10, 100, 1000 nsec.
Output Impedance—50, 75, 93, 125 Ω .
Input Protection— \pm 400 V (dc + peak ac).
Maximum Range—50,000 ft/15,240 meters.
Distance Readout Resolution—0.04 ft/0.01 m.
Noise Filtering—1 to 128 averages.
Vertical Scale—0 to 63.75 dB Gals.
Dist/Div—1 to 5000 ft/div; 0.25 to 1000 m/div.
Environmental—Meets capabilities of a Type III, Class 3, Style C instrument (except EMI where it meets FCC Part 15.3.A, and VDE: 0871, Class B) as prescribed by MIL-T-28800D.

COMMON CHARACTERISTICS

The following characteristics are common to both the 1502B and 1503B.

POWER REQUIREMENTS

AC Power—Line Voltage: 115 V ac (90 to 132 V ac) and 230 V ac (180 to 250 V ac). Line Frequency: 45 to 440 Hz.
DC Power—Battery Pack Operation (Option 03): At least 5 hours (15 to 25°C charge and discharge temperature), no chart recordings. At least four hours, including 20 chart recordings.
Full Charge Time—20 hours maximum.

PHYSICAL CHARACTERISTICS

| Dimensions | mm | in. |
|--------------------------------------|------|------|
| Width (w/handle) | 315 | 12.4 |
| Width (w/o handle) | 300 | 11.8 |
| Height | 127 | 5.0 |
| Depth (handle extended) | 475 | 18.7 |
| Depth (handle not extended) | 419 | 16.5 |
| Weight— | kg | lb |
| Net (w/front cover and accessories) | 8.2 | 21 |
| Net (w/o front cover or accessories) | 7.3 | 15 |
| Domestic Shipping (complete) = | 11.1 | 27 |
| Export Shipping (complete) = | 16.3 | 42 |

ORDERING INFORMATION

1502B Metallic TDR \$5,870

Includes: AC power cord, 50 Ω BNC terminator (011-0123-00); Precision 50 Ω cable (012-0482-00); Female-to-female BNC connector (303-0024-00); Spare fuse; operator's manual (070-6266-00).

1503B Metallic TDR \$4,600

Includes: AC power cord, 50 Ω BNC terminator (011-0123-00); Precision 50 Ω cable (012-0482-00); Spare fuse; 9 ft BNC-to-clip lead cable (012-0871-02); Operator's manual (070-6266-00).

OPTIONS

Option 03—Battery Pack +\$175
Option 04—YTI Chart Recorder +\$950
Option 05—Metric Version NC
Option 06—Ethernet Testing +\$250
(1503B only)

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 (1502B/1503B)

Battery Pack—Order 016-0813-00. ** \$300
YTI Chart Recorder— \$1,195

Chart Paper— \$4
(1 roll) Order 006-7647-00.
(25 rolls) Order 006-7677-00.

Terminator—75 Ω BNC. \$140
(200 rolls) Order 006-7683-00. \$520

Order 011-0102-00 \$19.25

(1503B only)
Service Manual—Order 070-6267-00.
Contact your local sales representative.

Adapters— \$280
(Direct Current) Order 015-0327-00.
(50/125 Ω)¹ Order 017-0890-00. \$210

(50/75 Ω)¹ Order 017-0091-00. \$210
(50/93 Ω)¹ Order 017-0092-00. \$210

Connectors— \$8.50
BNC female-to-BNC male.
Order 103-0045-00.

BNC female-to-clip leads. \$40
Order 013-0076-00.

BNC female-to-dual banana plug. \$10
Order 103-0090-00.

BNC female-to-F male. \$5
Order 103-0158-00.

BNC male-to-N female. \$9.25
Order 103-0058-00.

BNC male-to-UHF female. \$6.50
Order 103-0032-00.

BNC male-to-dual binding post. \$18.25
Order 103-0035-00.

(GR-to-BNC male). \$100
Order 017-0864-00.

(GR-to-BNC female). \$55
Order 017-0863-00.

(1503B only)
Service Manual—Order \$100
070-6267-00.

Isolation Network—Order \$275
013-0109-00.

Connectors— \$40
BNC female-to-clip leads.
Order 013-0076-00.

BNC male-to-female. \$9.25
Order 103-0058-00.

BNC female-to-dual banana plug. \$10
Order 103-0090-00.

BNC male-to-dual binding post. \$18.25
Order 103-0035-00.

BNC male-to-BNC male. \$10
Order 103-0045-00.

BNC female-to-UHF male. \$6
Order 103-0032-00.

BNC female-to-type F male. \$5
Order 103-0158-00.

¹ Should be purchased with the following connectors: BNC female-to-GR 017-0063-00; BNC male-to-GR 017-0064-00.

