TDR Cable Tester for CATV

Features

- Excellent for Digital Services Provisioning
- Easy to Use - Anyone Can Use It
- TestWizard™ - One-button Testing
- Automatic Return Loss Measurements
- Automatic Multiple Event Marking
- High-resolution, Short Pulse Width (1 ns)
- Withstands a Two Meter Drop
- Large, Backlit, High-resolution Display (640 X 440), 7.2 in. Diagonal
- Internal Memory for 20 Waveforms and Notes
- Serial Printer Output for Stored or Displayed Waveforms

Applications

- Digital Service Provisioning
- Locate Sources of Signal Reflections
- Find Bad Splices, Poor Connections that Can Degrade BER

The TV220 delivers high performance, yet is so easy to use that little or no training is required. This leading edge TDR can test more system bandwidth and expose faults that have been previously invisible to TDR yet still an impairment to digital signals. The TV220 also introduces one-button testing.

Testing at Higher Bandwidth

Because the TV220 tests at a high bandwidth (it uses a 400 MHz acquisition system), it tests more of your system capacity. This enables users to pinpoint more faults that can cause micro-reflections which can degrade digital transmission BER. Only the TV220 has the bandwidth to enable you to find problems that may exist only at higher frequencies.

High SNR

The TV220 also has extremely high signal-to-noise ratio (SNR). Tempo proprietary circuit designs reduce the noise level so that "bumps" on the trace represent real faults, not just noise. Events that were previously difficult or impossible to find are clearly visible (because the noise is much lower) with the TV220. This means that you can clearly see faults further away.

High Resolution

High-resolution performance allows the TV220 to locate problem components in the customer drop. The TV220 uses a pulse width of only 1 ns which means the operator can clearly identify multiple events that are less than 2 feet apart. This enables the technician to tell which of two components on a cable is causing the problem, even when they are close together. This is particularly important in troubleshooting drops, because components such as splitters and ground blocks can be very close together.

TestWizard Testing

But the most innovative feature in the TV220 is TestWizard automated testing and event marking. Now, instead of meticulously setting up the TDR and then carefully interpreting the meaning of the displayed waveform, you push one button to get a high-resolution, low-noise trace, with the events clearly marked. This means substantial savings in training time and reduced time to get accurate, repeatable measurements.

The Only TDR for Digital Services

High bandwidth, high resolution, high SNR and ease of use make the TV220 the only logical choice for digital services. The TV220 tests more of the capacity of your cable, finds faults that are closer to the ends and finds faults that are closer together than any other TDR available.

CableScout TV220 Helps Solve Tough Problems

Any TDR can find a break or major problem, but what about those small nagging cable faults that keep your system from running smoothly? CableScout TV220 can find those really tough-to-identify problems, and it is easy (see examples below). A high performance TDR does not have to be difficult to use. This one makes even the first time user look like a pro.

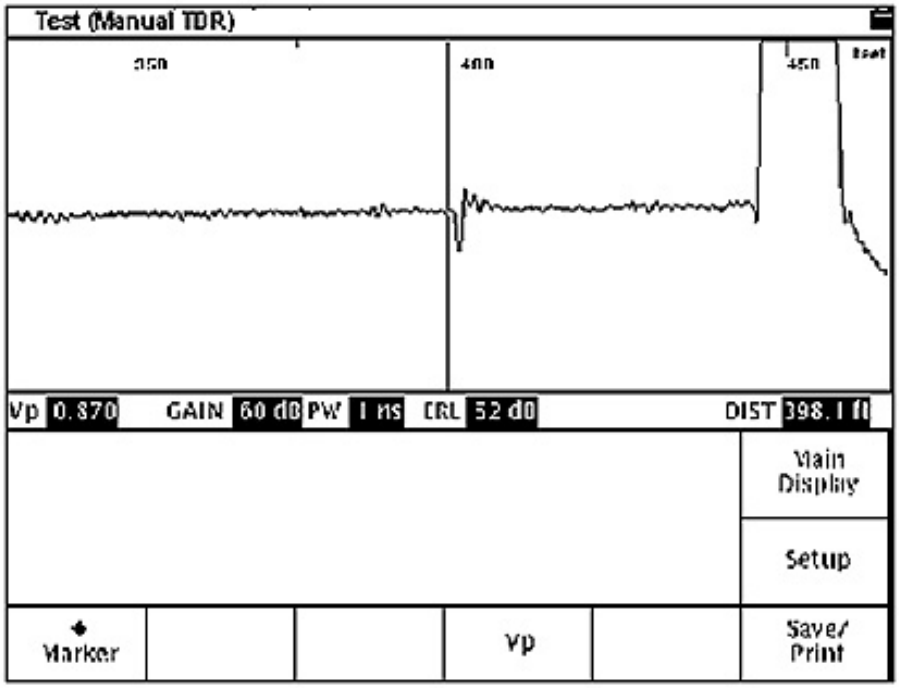
The TV220 - Designed for You

If your job is to maintain or find faults on coaxial cable, the Tempo CableScout TV220 is built for you. With the TV220, you'll spend less time operating the instrument and more time analyzing and repairing faults.

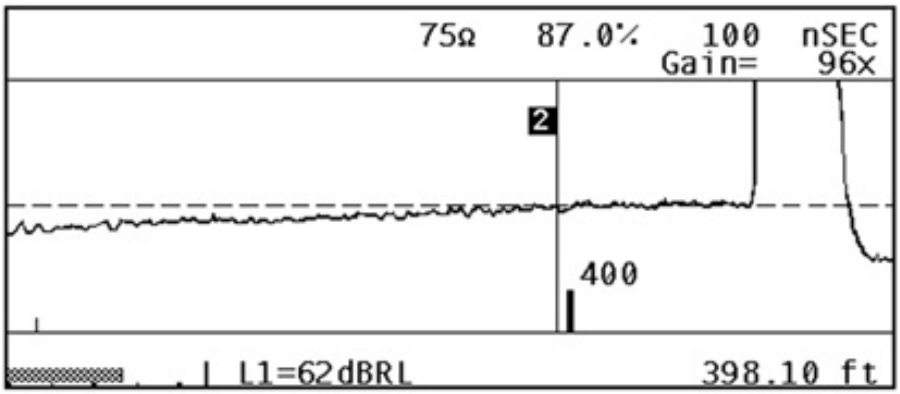
You know the problems we're talking about - the annoying small ones that cause a 3 dB notch near the upper end of your bandwidth. Now you can accurately locate them - fast and easy.

You get all this performance in the industry's most rugged TDR package. Come snow, rain, heat, humidity, dead of night or untrained user, CableScout TV220 keeps working, because you have to.

The Advantage of High Bandwidth and High SNR



TV220 Cable test clearly shows the fault at 398 feet.



Typical TDR test misses the fault completely.

The two displays above demonstrate the TV220 advantage. Both traces were taken on the same cable which had a small amount of sheath damage. This type of damage affects only the performance of the higher channels in a CATV system. The trace on the left (measured with the TV220) clearly shows the damage located at 398 feet. The second trace on the right (measured with another TDR) does not show the event.

Characteristics

Test Signal Output - 1/2 Sine.

Amplitude - 4 V into 75 Ohm.

Pulse Width - 1 ns, 5 ns, 25 ns.

Output Impedance - 75 Ohm.

Acquisition System Bandwidth - 400 MHz.

TestWizard Testing
Automatically marks faults. Operator choice of three levels of event marking:
- Mark largest event.
- Mark three largest events.
- Mark all events.

Return Loss -
Automatic at cursor location.
Resolution: ±1 dB.

Input Protection - ±400 VDC + peak AC up to 440 Hz, 30-second duration.

Maximum Distance Range - 12,000 ft. (3,658 m), depending on cable type and condition.

Gain - 0 to 72 dB.

Waveform Storage - Minimum of 20 waveforms with notes.

Distance Accuracy - Feet:
0 to 2,000 ft.: ±2 ft. ± uncertainty in Vp.
2,001 to 6,000 ft.: ±3 ft. ± uncertainty in Vp.
6,001 to 12,000 ft.: ±4 ft. ± uncertainty in Vp.

Distance Accuracy - Meters:
0 to 610 m: ±0.6 m ± uncertainty in Vp.
610 to 1830 m: ±0.9 m ± uncertainty in Vp.
1830 to 3658 m: ±1.2 m ± uncertainty in Vp.

Display -
Resolution: 640 x 440 (281,600 pixels).
Size: 7.2 inch.
Type: high contrast LCD.
Backlight: operator switchable.

Waveform Display Resolution - 0.33% of selected range, 4.5 cm (0.15 ft.) minimum.

Display Ranges - Twelve display ranges from 6 ft. (1.8 m) to 12,000 ft. (3,658 m), plus single-button zoom window.

Output Port - Serial 9-Pin D type connector.

Environmental, EMC, Safety

Distance Measurements - Meters, feet, nanoseconds.

Temperature -
Operating: -10° C to +40° C (+11° F to +104° F).
Nonoperating: -20° C to +60° C (-4° F to +140° F).

Humidity - 10% to 95% (noncondensing).

Field Usage - Shock, water and dust resistant.

Durability - Survives drop of 2 meters (6 ft.) to concrete in standard soft case. Drip proof, dust resistant.

EMI Emissions -
-EN55011, class A.
-FCC Part 15, Subpart B, Class A.
-EN60555-2

AC Operation -
Voltage Ranges: 110 V, 220 V or 240 V with appropriate AC to DC adapter.
Line Frequency: 50 Hz to 60 Hz.

DC Operation -
Voltage Range: 9 to 16 VDC @ 1 A (charging and operating).

Battery Operation -
Type: internal lead acid rechargeable battery.
Operating Time: typically 8 hours continuous operation (backlight off).
Battery Savers (user selectable) **-** Shutoff: 5 to 30 minutes or disabled.
Backlight: shutoff 5 to 30 minutes, disabled or always on.

Dimensions	**cm**	**in.**
Height	24	9.5
Width	30	11.5
Depth	9	3.5
Weight	**kg**	**lbs.**
Net	3	6.4

CableScout TV220 TDR
Includes: BNC-to-Alligator Clips Test Leads,
2 m Coaxial Jumper Cable,
F-to-BNC Barrel Adapter,
F-to-F Barrel Adapter,
F-Type to KS Test Adapter,
Soft Carrying Case with Shoulder Strap,
U.S. AC Adapter/Charger (120 VAC, 60 Hz, 9 V @ 1 A),
DC Cigarette Lighter Adapter Cable,
User Manual,
Quick Reference Card,
Rechargeable Internal Battery

Options
Opt. 1C - Changes Adapter/Charger to 119-4240-00 Universal Euro Adapter/Charger (220 VAC).
Opt. 2C - Changes Adapter/Charger to 119-4239-00 United Kingdom Adapter/Charger (240 VAC).
Opt. 3C - Changes Adapter/Charger to 119-4238-00 Australian Adapter/Charger (240 VAC).
Opt. 6C - Changes Adapter/Charger to 119-4241-00 Japanese Adapter/Charger (240 VAC).
Opt. L2 - Italian language. **Opt. L4 -** Spanish language.

Optional Accessories
Hard Travel Case - Order 016-1210-00.