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WireScope 155

- Tests installed cabling for compliance with TIA 568A Category 5 and ISO 11801 Class D specifications. Fully implements TIA TSB-67 requirements, including laboratory-grade level II measurement accuracy.
- The first 155 MHz cable analyzer to fully qualify Category 5 cabling for ATM — Covers extended frequency range employed by 155 Mbps ATM equipment.
- Unique *Digital Spectrum Analysis* (DSA) technology measures network-specific channel response — Provides accurate pass/fail qualification for high speed networking standards.
- Automatic setup for *Basic Link* and *Channel* test configurations — Attaching test probes automatically configure the WireScope 155 for Basic Link or Channel Pass/Fail limits.
- Auto-troubleshooting mode for failing cable runs — WireScope 155 identifies probable error sources for quick problem isolation and repairs.
- Simultaneous far end NEXT (Near End Crosstalk) testing with the DualRemote 155. A single Autotest measures NEXT from both ends of the cable, saving time and ensuring complete test coverage.
- Locally stores 500 cable test reports from multiple test sites. Reports can be printed or uploaded to any Windows-based PC — Nonvolatile memory protects test data without requiring battery power.
- Included ScopeData software can run tests directly from a Windows PC attached to the WireScope 155. Logs full frequency plots for all tested cables when run in this mode.

Optimized for Both Basic Link and Channel Testing

The TIA TSB-67 specification for Category 5 field testing defines two test configurations to suit the most common situations in which cabling is usually tested. Because these test configurations differ, the TSB-67 specification defines separate pass/fail limits for the *Basic Link* and *Channel.* The WireScope 155 tests both of these configurations.

Basic Link Testing

Covers just the permanent portion of the cabling from the wall outlet to the first point of termination in the telecom closet. Used when cabling must be tested before patch cords and cross-connections are present, usually just after the permanent portion of the cabling is first installed.

Channel Testing

Channel testing encompasses the entire cable run, including the permanent portion of the cable (the Basic Link), *plus* the patchcords at both ends and all termination blocks and cross connections in between. It is important to test the full Channel configuration when qualifying a cable run for use with a particular network type (such as ATM or Fast Ethernet) or when troubleshooting.



The Performance Leader in Hand-Held Network Tools

SCOPE COMMUNICATIONS, INC.

Fast and Accurate Basic Link Testing

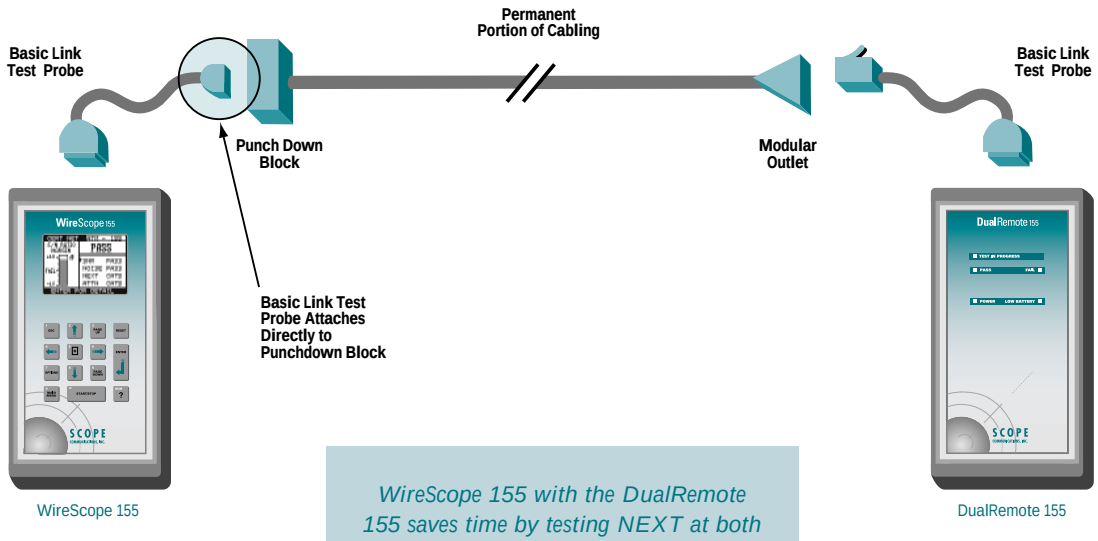
Designed to make Basic Link testing quick and accurate, the WireScope 155 offers the following features:

- Basic Link Autotest function runs the four required TSB-67 tests to determine an overall Category 5 Pass/Fail result
- Direct attachment in the wiring closet to all popular punch down blocks
- Auto-configuration for the Basic Link test limits when Basic Link test probes are attached

Configuring the WireScope 155 for a Basic Link test is completely automatic. The intelligent test port auto-identifies the Basic Link test probes when they are attached and sets the WireScope 155 for the appropriate test limits.

WireScope 155 and the DualRemote 155 measure NEXT from both cable ends during the Autotest. A unique auto-trigger function saves time by starting the Autotest as soon as the DualRemote 155 is connected at the far end.

Basic Link Test Configuration



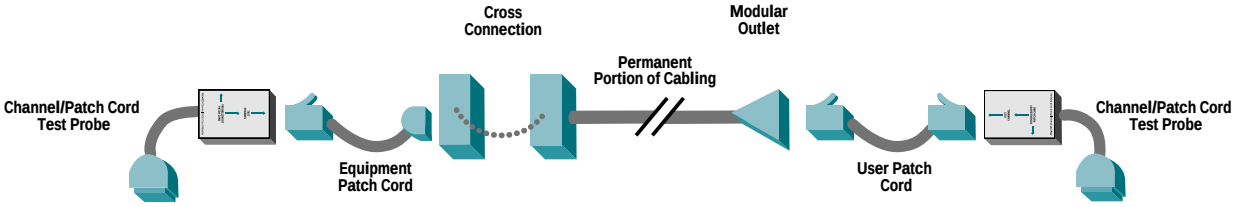
WireScope 155 with the DualRemote 155 saves time by testing NEXT at both cable ends during the Autotest

The Most Comprehensive Channel Testing Available

The purpose of channel testing is to ensure the operation of real network equipment over the entire cable run (patch cables and cross connections included). WireScope 155 not only tests Channels against generic cabling requirements (i.e. Category 5) but also optionally against additional requirements specific to each supported LAN standard — ensuring the most accurate and complete Channel test qualification.

- Channel Autotest function runs the four required TSB-67 tests to determine an overall Category 5 Pass/Fail result
- Optionally tests against 20 supplemental network-specific standards
- Optional extended frequency scan up to 155 MHz for 155 Mbps ATM Channel qualification
- Attaching Channel test probes automatically configures WireScope 155 for Channel test limit

Channel Testing Configuration





WireScope 155

WireScope 155 autoconfigures for channel limits when channel probes are attached



DualRemote 155

AUTOTEST TOOL QUICKLY IDENTIFIES PROBLEM SOURCES

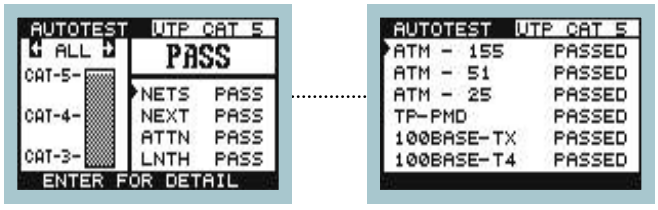
Autotest Produces Simple Overall Pass/Fail Results

An easy to read top-level test result screen indicates overall pass or fail. You can zoom in on any test parameter result for more detail. Cable grade (i.e. Cat 5 or Class D) is determined according to TSB-67 or ISO 11801 (depending on selected mode).



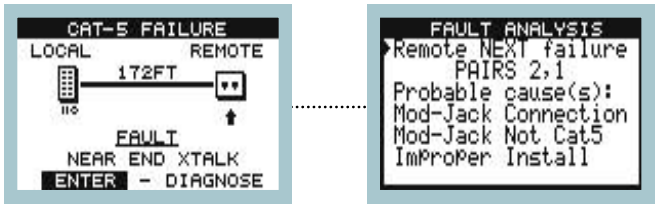
Qualifies the Channel for 20 Different Network Specifications

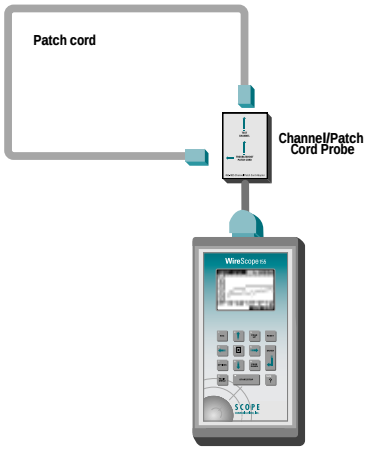
WireScope 155 optionally supports supplemental network-specific Pass/Fail qualification when configured for the Channel Autotest. With a single test, you can qualify the cable run for Cat 5 or Class D and 20 different network specifications. Digital Spectrum Analysis (DSA) technology ensures accurate high speed network-specific channel response simulation for reliable Pass/Fail testing.



Context-Sensitive Test Failure Explanations

WireScope 155 makes cable repair simpler by highlighting failing cables and identifying the most probable error sources.



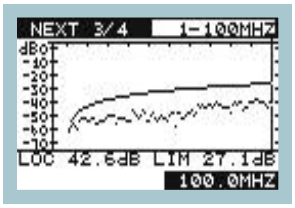


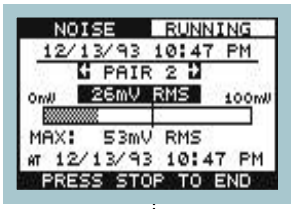
Unique Patch Cord Probe Zeros in on Problems

A poor quality patchcord is one of the most common channel defects. Suspected patchcords can be qualified with a loopback test directly at the main tester without requiring retrieval of the DualRemote 155 from the far end, speeding fault isolation. Requires Channel/Patch Cord probe.

NEXT and Attenuation

For further analysis, up to 12 plots of NEXT and 4 plots of attenuation can be viewed for each cable with the TIA or ISO limits superimposed. Useful in analyzing marginal cable runs and in finding which pair combinations offer the best and worst performance.



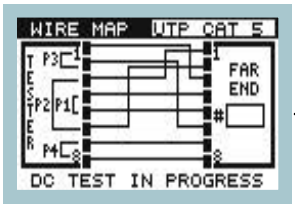


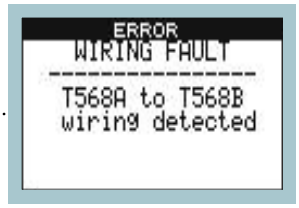
Ambient Noise Detection

To assist in troubleshooting, the ambient noise test can be left running for hours to find and time-stamp the worst case noise levels on the tested cabling.

WireMap Identifies Miswirings

The WireMap tool analyzes cabling for miswirings, breaks, shorts or split pairs and graphically depicts the problem if a fault is detected.

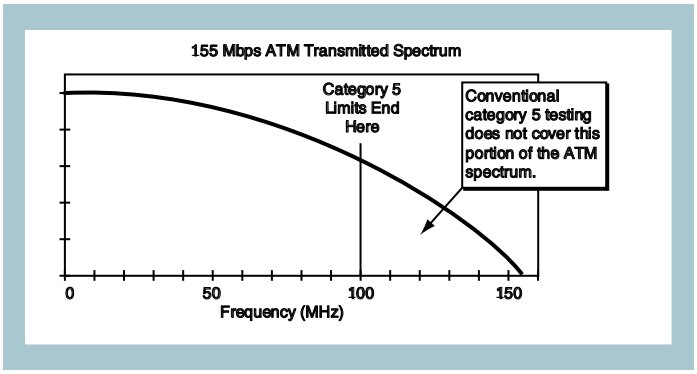




First Cable Tester To Cover 155 MHz Frequency Range

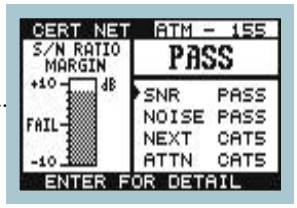
The WireScope 155 is the first field cable analyzer to cover the entire frequency range required for accurate 155 Mbps ATM cable qualification.

WireScope 155 runs an ATM test profile co-developed with FORE Systems Inc. that verifies compliance with the ATM Forum 155 Mbps UTP PMD specification. Digital Spectrum Analysis (DSA) technology simulates the channel response to a real ATM transceiver for accurate cabling Pass/Fail qualification.



Running the ATM Test Profile Tool

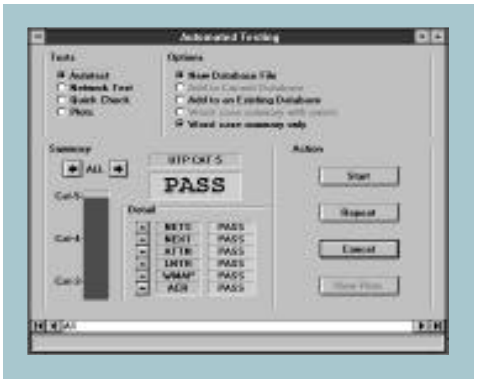
The 155 Mbps ATM test profile can be run independently or included as part of the Channel Autotest. The ATM test profile results screen shows an overall Pass/Fail reading, results for each of the parameters used in determining the overall result and a graphic safety margin indicator.



Software Manages Cable Testing and Results Data

ScopeData cable test data management and reporting software is bundled with the WireScope 155 at no additional charge. ScopeData can upload previously-stored test result data from the WireScope 155 or it can serve as a user interface for direct control of the cable testing process from an attached PC.

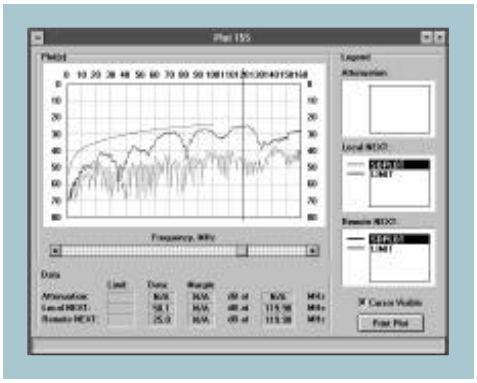
For further analysis, detailed NEXT and attenuation plots for all pairs can be displayed. When cable tests are controlled from an attached PC running ScopeData software, full plot data can be stored for all cable runs. Full plot data for a limited number of cables can be stored locally in the WireScope 155.



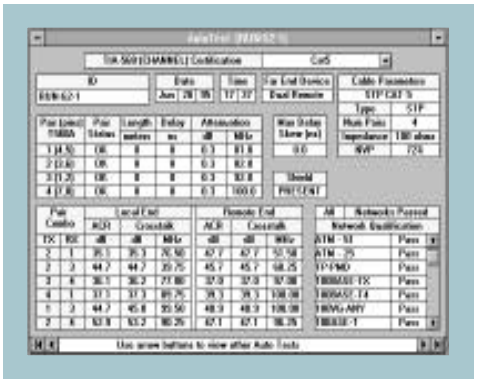
ScopeData Remote Control Screen

Quick and Easy Test Report Creation and Printing

Download an entire day's cable testing results (up to 500 reports) to a PC and the data is instantly formatted into ready-to-print reports. This entire process can be done in under five minutes. Print immediately or save the reports to print at another time.



ScopeData Detailed Plots Analysis Screen



Sample ScopeData Test Result Record

Rugged Design for Durability

- *Field Replaceable Test Probes*

  The intelligent test port in the WireScope 155 offers maximum accuracy and durability. Designed with low residual crosstalk in the connector and attaching probes, the WireScope 155 produces accurate and repeatable measurements every time. Detachable test probes protect the WireScope 155 against damage and connector wear. Worn probes can be easily replaced in the field without requiring servicing for the main tester unit.

- *Field-Replaceable Rechargeable Batteries*

- *Solid Rubber Boot for Shock Protection*





SPECIFICATIONS

NEAR END CROSSTALK (NEXT)

TESTS ALL 24 PAIR COMBINATIONS

Frequency Range: 1-155 MHz

Step Size: 100 KHz, 150 KHz, 200 KHz, 250 KHz, 500 KHz, 1 MHz

Overall Accuracy: better than +/- 1 dB, 1 - 100 MHz
better than +/- 1.6 dB, 100.1 - 155 MHz

Resolution: 0.1 dB

ATTENUATION

Frequency Range: 1 to 155 MHz

Step Size: 1 MHz

Overall Accuracy: better than +/- 1 dB, 1 - 155 MHz

Resolution: 0.1 dB

AMBIENT NOISE

Continuously monitors and reports broadband and impulse ambient noise

Records peak noise and time of its occurrence

Bandwidth: 0 - 200 MHz

Sensitivity: 0.1 mV rms

WIREMAP

Identifies miswires, shorts, opens, reversals and split pairs

Detects shield continuity

Continuous graphic wiremap display — redraws map as changes occur

CABLE LENGTH (TDR)

Measures length of each pair and distance to faults

Automatically sets NVP for cables in the database

Calibrates NVP of a known length of cable

Minimum Distance: none

Max Distance: 3000 feet (914 meters)

Accuracy: greater of +/- 4% or +/- 2 feet (0.6 meters)

Resolution: +/- 2 feet (0.6 meters)

PROPAGATION DELAY MEASUREMENT

Independently measures one way propagation delay for each of 4 pairs

Reports total delay and delay skew between pairs.

Accuracy: greater of +/-4% or +/-3 ns

IMPEDANCE

Range: 50 - 150 ohms

Accuracy: +/- 5 ohms

LOOP RESISTANCE

Range: 5 - 1000 ohms

Accuracy: +/- 2%

SPLIT PAIR DETECTION

Detects split pairs on all pair combinations at the start of any measurement

SELF CALIBRATION

Measures and calibrates for transmit level and receiver transfer function before each measurement.

Calibration done at each frequency step in test band

SPECIFICATION DATABASES

Cable Database: Total capacity for 200 cable specifications: Listed by manufacturer part #

LAN Specification Database: Total capacity for 25 network-specific specifications

TIA-568 and ISO 11801 Limits: All limits for all categories and configurations

Specifications database is field-upgradable to support changing standards

DIMENSIONS

Size: 7.5" x 4" x 2", (19 x 10 x 5 centimeters)

Weight: 1.3 lbs. (0.6 kilograms)

POWER

Removable/Rechargeable NiCd battery

Battery life: 4-8 hours depending on use

Recharge time: 1-4 hours depending on battery state

Built in fast charger extends number of charges by eliminating memory effect

ENVIRONMENTAL

Operating temperature: 0º to 40º C

Storage temperature: -10º to 55º C

Operating humidity: 10-90% non condensing

INTERFACE

2.5" x 1.5" (6.4 x 3.8 centimeters) backlit display screen

128 x 64 pixels LCD

21 characters x 8 lines

Backlit graphics LCD with contrast controls

PORTS

Intelligent Test Port

BNC

Serial Port

Handshake: XON, XOFF, RDY/BSY

Baud Rate: 9600

MEMORY

Local Results Storage:

Up to 500 Autotests (summary reports)

Flash Memory equipped for easy software updating

Remote Results Storage (via ScopeData):

Full plots can be stored for all tests. Total limited only by disk space

*Specifications subject to change without notice.

ORDERING INFORMATION

MODEL

110 V VERSION

500-5200	WireScope 155 Product Kit

220 V VERSION

500-5210	WireScope 155 Product Kit

OPTIONAL PROBES AND ACCESSORIES

15727	110 Block Basic Link test probe 568A pairing
15740	110 Block Basic Link test probe 568B pairing
15730	BIX Block Basic Link test probe 568A pairing
15750	BIX Block Basic Link test probe 568B pairing
15731	Krone HiBand Basic Link test probe 568A pairing
15745	Krone HiBand Basic Link test probe 568B pairing
500-5230	Channel/Patch Cord test probe
15729	IBM Type I test probe
525-1510	Removable battery pack
450-0015	Self test probe

30 day warranty on test probes
1 Year hardware warranty (excluding test probes)
1 Year software maintenance warranty

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