



A Division of WESCO Distribution, Inc.

## TEST EQUIPMENT CATALOG



**CATV/RF TEST**

**FIBER OPTIC/FTTX TEST**

**VoIP/TELECOM TEST**

**NETWORK/ETHERNET TEST**

**ELECTRICAL/VOLTAGE TEST**

**SATELLITE TEST**

**FIBER OPTIC SPLICERS**

**UNDERGROUND CABLE LOCATORS**



[www.tvcinc.com](http://www.tvcinc.com)

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## questions

### *Not sure which product to use?*

Call your local TVC representative. Our sales staff and technical product managers will talk you through your project, recommending the best product for your application.

Some products presented in this catalog may not be available for world-wide sale. Please contact your local TVC representative for full details. **NOTICE:** Technical specifications are direct from manufacturers. Before utilizing any product, customers should determine the suitability of the product for its intended use.

# PROFESSIONAL SERVICES

System operators are navigating new revenue generating business services, engaging numerous different suppliers for planning, integration, implementation, products and delivery information. TVC Communications can simplify this process and become your sole resource to provide end-to-end solutions.

TVC's Business Services Product Managers, Sales Engineers and Account Managers provide a wide range of technical support services including system design, product support and supply chain management to assist you in launching the latest technologies, identifying critical cost-saving opportunities.

## Feasibility Studies and Project Management

TVC Communications can evaluate your current infrastructure, helping you maximize bandwidth within the confines of your existing network. Once completed, we will make recommendations for expansion, adding new technologies and services to increase revenue generating deliverables. TVC can be your complete project management partner. Contact us before your project even begins. From site surveys, custom bill of materials, product recommendations, procurement and logistical management expertise, TVC, backed by years of successful deployments, will be the extra resource you need to get the project completed – on time and on budget.

## Network Design Services

You do not need TVC to tell you without increased bandwidth capabilities new applications cannot be deployed. TVC can help you take full advantage of your network, both as it exists today and for preparing for future expansions, with the aim of increasing your revenues.

TVC's network design service professionals will help you navigate the latest applications and understand the technology driving these ventures, from simple VOD services to complex IP and Metro Ethernet applications.

TVC Design Services include:

- Backbone Transport Design – including solutions for Next Generation SONET/SDH, Ethernet over SONET/SDH (EoS), Ethernet (10, 40GbE), Wavelength Division Multiplexing (WDM), and Optical Transport Network (OTN).
- Access Network Design - for DOCSIS, FTTx (GePON, GPON, RFoG), Wireless and Point-to-Point applications.
- Outside Plant Design - including custom Underbridge designs, creating specific mechanical or topographic oriented designs.
- Customer Premise Network Design – meeting MoCA and HomePNA specific requirements.



## Network Upgrades and Provisioning

Upon completion of planning, design and installation, the most critical phase of the project occurs – Turn-Up. Providing System Verification Testing for all new applications, TVC will ensure your new revenue-generating services are fully operational on day one. TVC can also provide integration, provisioning and billing software for all new applications.

## Installation

TVC has a network of sub-contractors strategically located throughout North America, the Caribbean Islands and Mexico for large scale communication roll-outs and installations for VoIP, Data, Video (RF and IP) and Assembly services. With state of the art software and an infrastructure that allows for real time reporting, TVC provides complete turn-key service.



## Continuing Monitoring and Service

Once new services, applications and technologies are deployed and operational, the service commitment from TVC does not stop. TVC provides full post-project launch services, including on-site network training, firmware and software upgrades, network status monitoring, and, most importantly, maintenance support. TVC's Technical Professionals will troubleshoot any residual issues, providing in-field service where applicable, and have full access and support from equipment manufacturing engineers.





# CATV/RF TEST



CATV/RF

## SIGNAL LEVEL METERS

### TRILITHIC MODEL THREE™

The Model Three™ Signal Level Meter is ideal for CATV installations - featuring a wide range of tests for analog and digital channel measurements. This rugged instrument can be customized, streamlining tests and making your installations and troubleshooting more efficient.

With the press of a single key, the meter performs a complete test of all channels in the selected user channel plan to specified limits. It can also be set to automatically perform Level, Spectrum, Tilt (Favorite), Hum, QAM, and Limit tests at programmed intervals, unattended.

- 5 MHz to 1 GHz Standard Frequency Coverage
- Full Scan, Single Channel, and Spectrum Modes
- Data Logging
- Digital Signal Measurements: Power, MER, Pre- and Post-FEC, BER (Including Deep Interleave)

P/N	Description
2011346110	Signal Level Meter With Constellation. Range: 5 MHz to 1 GHz; Accuracy: $\pm 50$ ppm ( $20^{\circ}\text{C} \pm 5^{\circ}\text{C}$ )



### TRILITHIC TR-3 SIGNAL LEVEL METER

This simple to use meter provides fast and efficient measurements including signal level measurement, tilt measurement to balance your system, and it features six favorite channels and an extended battery life.

The TR-3 is ready to use with the standard NCTA channel plan and includes a protective rubber bumper, carrying strap, charger, user's manual and a spare F-type connector.

- 46 MHz to 1 GHz Frequency Coverage
- 6 Favorite Channels
- Automatic Tilt Calculation
- Analog and Digital Power Readings

P/N	Description
2011348000	Signal Level Meter. Range: 46 MHz to 1 GHz; Accuracy: $\pm 2.0$ dB @ $20^{\circ}\text{C} \pm 5^{\circ}$ (@ $68^{\circ}\text{F} \pm 9^{\circ}$ )



### TRILITHIC TPNA-1000 TRIPLE PLAY NETWORK ANALYZER

The hand-held TPNA-1000™ Triple Play Network Analyzer offers a full complement of analog and digital test functions, an imbedded DOCSIS 2.0 cable modem and highly sought after auto test functionality. The TPNA-1000 Triple Play Network Analyzer provides a full complement of standard testing tools, previously only available in high-end multi-function meters.

With this full complement of testing capabilities and automated quality assurance tests, a simple user interface, large color screen and a relatively low price point, the new TPNA-1000 is the most cost-effective multi-function analyzer available today and is the ideal solution for all fulfillment techs and contractors.

- Increase technician productivity and efficiency
- Comprehensive installation and service test capability
- Cost-effective solution
- Automated tests improve consistency and accuracy

P/N	Description
2011447000	Triple Play Network Analyzer. Range: 5 MHz to 1 GHz; Accuracy: $\pm 10$ ppm $\times 10^{-6}$



### SADELCO DISPLAYMAX® 5000

The DisplayMax 5000 provides a complete test solution for today's installation workforce. The 5000 series measures analog and digital channel power as well as quality measurements such as MER, BER and C/N. Return levels are measured using a built-in DOCSIS modem, insuring sufficient headroom for reliable modem operation. Finally, shielding is verified by measuring Leakage and Ingress. All these tests from a single, low cost and easy to use field instrument.

- Modem Return Level
- MER, BER and C/N
- Leakage and Ingress Detection
- Analog, QAM, QPSK and 8-VSB
- 1000 MHz Tuning Range Optional

P/N	Description
DisplayMax 5000	Frequency Range: 5 to 872 MHz; Typical Accuracy: $\pm 0.5$ dB

Multiple configurations available. Please check with your TVC representative or [www.tvcinc.com](http://www.tvcinc.com) for details.

## Sadelco



# CATV/RF TEST

## SIGNAL LEVEL METERS

CATV/RF

### SADELCO DISPLAYMAX® 800 & 800CLI

The DisplayMax 800CLI is powerful enough to maintain the headend, yet simple enough for routine installation checks. With a wide range of measurement options, a technician can quickly check an individual channel, favorite channels, all channels, tilt, leakage, ingress, C/N or HUM.

- Full Spectrum Display
- Leakage (800CLI) and Ingress Detection
- Data Recording
- Auto-Calibration

P/N	Description
DisplayMax 800	Without Leakage Detection, Tuning Range: 5 to 872 MHz; Typical Accuracy: ± 0.5 dB
DisplayMax 800CLI	With Leakage Detection, Tuning Range: 5 to 872 MHz; Typical Accuracy: ± 0.5 dB

**Sadelco**



### SENCORE SLM 1475 SIGNAL LEVEL METER

The SLM 1475 enables today's RF professional to test and analyze a variety of RF signals, including terrestrial (off-air), satellite, and cable signals. The SLM 1475 also provides decoded video and program streams for all in-the-clear channels.

#### Terrestrial

- Accurately measures analog and digital signal levels
- Full-color, decoded ATSC video for quick visual quality assurance
- Digital quality measurements including MER, Noise Margin, Pre/Post BER and Average Peak Level

#### Cable

- Full tuning capabilities from 4-1000 MHz for both analog and digital signals including QAM 64 and QAM 256 Annex B
- Provides accurate signal level measurements, plus signal quality measurement for analog and digital signals including C/N, Pre/Post BER, MER, EVM, and Constellation

P/N	Description
SLM 1475	Portable Satellite/Cable/Broadcast Signal Level Meter

**sencore**



### SENCORE SLM 1476CM PORTABLE SIGNAL LEVEL METER

The SLM 1476CM provides everything installers and operators are looking for in a signal level meter. Capable of analog and digital measurements, including Pre/Post BER, MER, Spectral Display, DOCSIS 2.0 Network Testing, plus Leakage and Ingress Testing capabilities all at an affordable price. Designed to easily test multiple DOCSIS channels. The SLM 1476 provides a pass/fail test which can be logged.

- Digital measurement capabilities including: Average power, Pre/Post BER, MER, and Constellation for QAM, also provides 8-VSB/ATSC testing capabilities
- All Channel/Frequency Tuning: From 4-1000 MHz (UHF/VHF/CABLE) allowing return path signal testing as well as testing high frequency channels with ease
- Analog measurement capabilities including Signal Level, A/V ratio, and C/N

P/N	Description
SLM 1476CM	Handheld QAM/8-VSB/DOCSIS 2.0 Signal Level Meter



### SENCORE SLM 1477 PORTABLE SIGNAL LEVEL METER

The SLM 1477 provides everything installers and operators are looking for in a signal level meter. Capable of analog and digital measurements, including Pre/Post BER, MER, spectral display, DOCSIS 3.0 network testing, leakage and ingress testing capabilities all at an affordable price. The SLM 1477 provides a pass/fail test which can be logged and directly transferred to an ftp server.

- Digital measurement capabilities including: Average power, Pre/Post BER, MER and Constellation for QAM, also provides 8-VSB/ATSC testing capabilities
- DOCSIS 3.0 Testing - verify channel bonding
- Threshold test-user definable thresholds for pass/fail logging
- Optical Power Meter (optional)
- All Channel/Frequency Tuning: From 4-1000 MHz (UHF/VHF/CABLE) allowing return path signal testing as well as testing high frequency channels with ease

P/N	Description
SLM 1477	Handheld QAM/8-VSB/DOCSIS 3.0 Signal Level Meter



# CATV/RF TEST

## Sadelco

CATV/RF



## RETURN PATH TEST

### SADELCO RT100 RETURN PATH TESTER

RT100 is a portable three-frequency signal generator that can be used for a wide variety of testing and troubleshooting applications. Used in conjunction with a Signal Level Meter, the gain or loss of any system component can be quickly measured. Multiple carriers allow testing in both the upstream and downstream paths. RT100 can be used to test and balance return amplifiers or to test and troubleshoot home wiring. In cases of high modem output levels (or inability to lock) the modem can be replaced by the RT100. Next, signal level measurements are made at each connection point heading back upstream until the source of low gain is identified. Once the problem is fixed, the modem is reconnected and tested to verify normal transmit levels.

- Troubleshoot High Modem Levels
- Verify All System Components
- Qualify Home Wiring

P/N	Description
RT100	Return Path Tester. Standard Frequencies: 8 MHz (Return / Upstream); 34 MHz (Return / Upstream); 60 MHz (Forward / Downstream)

## TEST PROBE

### TRILITHIC I-STOP REVERSE TEST PROBE

The I-Stop Reverse Test Probe is a test accessory that you can use with most signal level meters to take bi-directional signal measurements with no risk of power damage.

Just screw the probe into a distribution tap's unused KS port and a spring-loaded "stinger" connects a 20 dB resistive test point circuit to the hardline. The bi-directional connection lets a meter or analyzer measure forward and reverse signals, as well as reverse ingress. A built-in AC/DC blocking circuit protects the meter or analyzer from damage from online power up to 90 volts.

- Taps unused KS ports for bi-directional measurements
- Protects instruments from damage caused by line power
- Tracks reverse ingress to the nearest tap

P/N	Description
2010838001	Reverse Test Probe

## XFTP

TRILITHIC



## MULTI-FUNCTION TEST SET

### GREENLEE SIDEKICK® PREM BASIC MODEL 2

The Sidekick® Prem is a simplified test solution designed to achieve results for the Telco technicians' Outside Plant and Customer Premise testing requirements. The Sidekick® Prem has standard Sidekick® features for testing Outside Plant twisted-pair cables and ADSL2/2+ modem for gathering sync data.

The Sidekick® Prem has a built-in Test Telephone and a tone generator that can work with most Inductive amplifiers for pair identification. It has the ability to test premise coax and twisted-pair cabling. The graphical user interface and touch screen make operation simple and intuitive. The test set can be used as a go/no-go meter by using the built in Auto Scripts or as a conventional Sidekick® tester.

- 3 test meters in 1. Test twisted-pair cables and premise coax, gather sync data and conduct pair identification for increased workforce productivity
- Intuitive touch screen navigation requires minimal training for quick deployment
- Stress Test finds faults not detected by other tests, reducing repeats and improving the customer experience
- Long battery life reduces downtime
- Field upgradable

P/N	Description
Sidekick® PREM Basic Model 2	Multifunctional OSP and CPE Testing Meter

## GREENLEE

COMMUNICATIONS  
A Tecton Company



# CATV/RF TEST

## SIGNAL LEAKAGE

CATV/RF

### TRILITHIC CT-2 / CT-3 CHANNEL TAGGERS

When several cable systems operate in the same area, it is often difficult to determine which system is the source of a detected leak. The CT-2/CT-3™ solves this problem by tagging the system video carrier with low frequency modulation. Used as a system with Trilithic's leakage receivers, (including the Super Plus™, Seeker and Seeker Lite<sup>2</sup>™) the CT-2/CT-3 eliminates all "false alarm" triggers.

- The Solution to False Alarms
- Isolates Leaks in Over-Built Systems
- Compatible with Super Plus, Seeker and Seeker Lite<sup>2</sup>



P/N	Description
2010670001	CT-2 Headend Channel Tagger. Modulates on to one of the standard video carriers in the systems midband channel line-up
2010762000	CT-3 Headend Channel Tagger. Generates a tagged carrier at a customer-specified frequency. Used when a suitable video channel is not available

### TRILITHIC SEARCHER PLUS GT LEAKAGE DETECTOR

Searcher Plus GT is the first Leakage Measurement Receiver built specifically for systems employing digital set top terminals that cannot tolerate "tagged" leakage carriers. The GT provides enhanced "false alarm" resistance and many of the features of the Super Plus without the use of a tagged leakage test signal.

- Testing installations for excessive leakage
- Walking down the source of leakage
- Near field preventative maintenance measurements



P/N	Description
2011233121	Searcher Plus GT, Frequency 121.2625
2011233127	Searcher Plus GT, Frequency 127.2625
2011233133	Searcher Plus GT, Frequency 133.2625
2011233139	Searcher Plus GT, Frequency 139.2500

### TRILITHIC SUPER PLUS LEAKAGE DETECTOR

The Super Plus leakage receiver is designed for the new era of digital program services and overbuilt systems. Its high immunity to "false alarms" from other signal sources (even leaks from other systems) makes the Super Plus the perfect instrument for identifying leaks in noisy or overbuilt areas. Because the Super Plus only responds to carriers that have been "tagged" by a CT-2 (Channel Tag) or CT-3 (Tagged Carrier Inserter), it rejects the effects of ignition noise and power line interference.

- Testing installations for excessive leakage
- Walking down the source of leakage
- Near field preventative maintenance measurements



P/N	Description
2011235121	Super Plus, Frequency 121.2625
2011235127	Super Plus, Frequency 127.2625
2011235133	Super Plus, Frequency 133.2625
2011235139	Super Plus, Frequency 139.2500

### TRILITHIC SEEKER LITE<sup>2</sup> LEAKAGE DETECTOR

Seeker Lite<sup>2</sup> Cable TV leakage detector is specifically designed for efficient subscriber installations, displaying numerical measurements of leaks on up to three selectable channels and emitting a tone proportional to leak strength.

- Numerical Measurement Display
- Directional for Leak Location
- Stable, repeatable readings and built in directional antenna simplify leak location
- "Cruise Mode" offers continuous surveillance for long periods at reduced battery current
- Tough, simple to use and very cost-effective, the Seeker Lite<sup>2</sup> is the ideal leakage measurement instrument for insuring leakage—and ingress—free installations, every time

P/N	Description
2011002103	Seeker Lite <sup>2</sup> , Default Frequencies: 121.2625 MHz; 127.2625 MHz; 133.2625 MHz; 139.2500 MHz; 146.2625 MHz



# CATV/RF TEST



CATV/RF

## TDRs

### GREENLEE TV90 CABLE SCOUT® TDR

The TV90 is designed for ease-of-use. You'll spend less time operating the TDR and more time repairing faults. Simply select the cable type to be tested and the TV90 does the rest. Impedance, VoP, gain, pulse width and vertical position are automatically selected and adjusted as you scan the cable. Just move the cursor to the fault to pinpoint its location.

- Find location of damage in drops
- Find impedance mismatches
- Locate bad passive devices

P/N	Description
TV90	CableScout TDR. Test Signal Output 1/2 sine.; Amplitude (into 75 Ohm) 6 ns pulse: 5V -12 ns pulse: 6V



### GREENLEE TV220 CABLESCOUT® TDR

CableScout TV220 is a high performance Time Domain Reflectometer for coaxial applications. The TV220 is designed to quickly locate faults that effect digital services in the Cable TV Network. High Frequency acquisition system exposes faults invisible to other TDR's. High signal-to-noise ratio (SNR) allows for precision multiple fault location accuracy.

- TestWizard™ Testing – One-Button Testing
- Automatic Return Loss Measurements
- Automatic Multiple Event Marking
- High-Resolution, Short Pulse Width (1 ns)

P/N	Description
TV220	CableScout TDR. Test Signal Output 1/2 sine; Amplitude (into 75 Ohm) 4V into 75 Ohm



### T<sup>3</sup> INNOVATION SNAP SHOT™ FAULT FINDER/CABLE LENGTH MEASUREMENT TDR

With the complexity of today's electrical, data, voice and video signal carrying systems, you need a tool that is fast, accurate and easy to use to see down the wire and show the exact conditions that exist. Snap Shot™ is that tool. Made in America with American technology, Snap Shot™ is the new 21st century tool for testing every type of cable in any industry. Advanced Spread Spectrum TDR technology works in all wire environments and is immune to voltage, current, or data stream disruptions.

- Accuracy of 1% or better
- Works on energized cables
- Ability to measure length on live telephone lines

P/N	Description
SS200	Snap Shot™ Main Unit with CA001, CA002, CA003, AD001 and AD002
CA001	Cable Assembly, Insulated Push on F to RJ45 Plug
CA002	Cable Assembly, Insulated BNC to Alligator Clips
CA003	Cable Assembly, Insulated Push-On F-Conn to Alligator Clips
AD001	F-Connector Coupler, High Performance F81
AD002	Adapter, F-Jack to BNC Jack



### MEGGER TDR500 QUALIFYR TDR

The Megger QualiFyr TDR500 cable fault locator breaks new ground as a cost-effective, high specification hand-held Time Domain Reflectometer for locating faults on metallic cables. Designed for the field engineer requiring a low cost solution to field testing, the QualiFyr TDR500 offers all the benefits of MEGGER quality and reliability in an affordable package.

- Simple operation
- Warble tone generator
- Velocity factor from 0.30 to 0.99
- Range to 10,000 ft (3 km)

P/N	Description
TDR500	TDR, 30 m to 3 km Range; Accuracy ±1% of range ± pixel at 0.67VF





## TDRs

CATV/RF

### MEGGER CFL510F TDR

The Megger CFL510F is a compact, ergonomically engineered Time Domain Reflectometer designed for field use. As such it is housed in tough, ABS flame-retardant housings and protected from the ingress of dust and moisture to IP54. Additionally, the product comes complete with multi-purpose test and carry cases designed for hands free neck-strap and tool-belt use.

- The Megger CFL510F features all the benefits of a simple low cost hand held TDR
- Ease of use is a key feature and with a simple one key/one function approach, the CFL510F reduces keying errors and consequently results in shorter test times
- Automatic Event Location further simplifies operation producing a reduction in training time and product familiarization

P/N	Description
CFL510F	Hand-held Time Domain Reflectometer. Includes Test and carry pouch and bed of nails test lead set. Optional Accessories available: Miniature Clip Test Lead Set



### MEGGER CFL535F TDR

The CFL535F can be used on any cable consisting of at least two insulated metallic elements, one of which may be the sheath or shield of the cable. Dual inputs and large graphic display allow a wide range of comparative tests to be performed between cable pairs or stored traces. The instrument has 15 trace memories, which allows previous test results to be displayed. The included download software allows transfer of the waveform data to a computer for analysis and storage for future reference.

- Dual input and output ports
- 15 internal memory positions
- RS-232 interface to a PC or printer (included software)
- Help menu
- 5 user selectable pulse widths per range
- Trace averaging

P/N	Description
CFL535F	Monochrome Standard TDR
CFL535FM	Monochrome Rechargeable TDR

*Included Accessories: Test and carry pouch, Serial data lead, 2 x miniature clip test lead set, Carry strap for pouch, TraceMaster software and User Guide.*



### MEGGER TDR900 HAND-HELD TIME DOMAIN REFLECTOMETER/CABLE LENGTH METER

The Megger TDR900 is an advanced instrument capable of measuring cable lengths and finding distance to an open or a short using Time Domain Reflectometry. It offers exceptional features and a range capability normally associated with far more expensive instruments. The measurement range spans from 15 feet (5 m) to 10,000 feet (3 km) with a minimum resolution of 20 inches (50 cm).

The TDR900 can be used for any cable consisting of at least two insulated metallic elements, one of which may be the sheath or shield of the cable. The Meter has automatic internal matching networks to allow testing of 25Ω, 50Ω, 75Ω, 100Ω, 125Ω, or 150Ω cables. (These correspond to Power, Telephony, CATV, and LAN cables.)

- Full autoranging for measuring the length of Power, Telephony, CATV and LAN cables, provides distance to an open or short
- Extra large, high resolution backlit LCD
- Automatic output impedance control of 25, 50, 75, 100, 125 or 150 ohms
- User-friendly menu on screen operation
- Cable length calibration function
- Internal library of 39 standard cable types

P/N	Description
TDR900	Hand-held Time Domain Reflectometer/Cable Length Meter. Includes alligator clip adapter, user manual and soft carrying case



# CATV/RF TEST



CATV/RF

## TDRs

### AEA TECHNOLOGIES 20/20 TDRs

The **6020-R5031** Metallic Step TDR for coaxial cables with F connector only. Has a cable User List preloaded with 30+ common 75Ω hard line and drop coax and 100Ω twisted pair Cat 2 – 6 cables. The list can be edited and appended by the user up to 56 cables. Displays both range and impedance of the cable and has two cursors for marking events. Included are rechargeable NiMH batteries with about 7.5 hrs of continuous operation on a single charge.

The **6020-R5041** 20/20F Network TDR-CATV is a Metallic Step TDR for coaxial or twisted pair cables. The TDR has a cable User List preloaded with 30+ common 75Ω hard line and drop coax and 100Ω twisted pair Cat 2– 6 cables. The list can be edited and appended by the user up to 56 cables. Network model has both F and RJ-45 connectors. Backlit LCD displays both range and impedance of the cable and has two cursors for marking events. Included are rechargeable NiMH batteries with about 7.5 hrs continuous operation on a single charge.

P/N	Description
6020-R5031	20/20F TDR. Includes AC Charger and DC Vehicle Charger; F-to-Alligator Clip Test Lead (TDR usable on a single 100Ω twisted pair), Belt Case with shoulder strap, strand hook and adapter pockets, Operator Manual and Quick Start Guide, Serial Cable and CD with TDR PC Vision software™, literature and training PPTs
6020-R5041	20/20F Network TDR-CATV. Includes AC Wall Adapter and DC Vehicle Adapter for charging, F-to-Alligator Clips and RJ45-to-Dual Telco Clips Test Leads, Belt Case with shoulder strap and strand hook, Operator Manual and Quick Start Guide, Serial Cable and CD with TDR PC Vision™ software, literature and training PPTs

Multiple configurations available. Please check with your TVC representative or [www.tvcinc.com](http://www.tvcinc.com) for details.



## SPECTRUM/SIGNAL ANALYZERS



### KATHREIN ADAM 3000 ANALOG AND DIGITAL ANTENNA MEASUREMENT SYSTEM

With ADAM 3000 Kathrein presents a measurement instrument of the latest generation in compact mounting form, tabletop unit and also as black box, which leaves nothing to be desired for tests of antenna- and cable-installations, even including professional headends.

Functions

- MER – measurement for all digital modulation types
- BER – measurement pre and post Viterbi
- Spectrum analyzer
- Simultaneous spectrum and picture analysis

P/N	Description
ADAM 3000	Analog and Digital Antenna Measurement System



### KATHREIN MSK-125 SIGNAL ANALYZER

The MSK-125 has been designed as a portable multiple standard selective signal meter for analog TV, Satellite and FM Radio and for the digital standards DVB-C, DVB-S(2) and DVB-T/DVB-H. The unit is equipped with a high-quality, transfective 5.7" TFT VGA resolution color screen and a two-line, 22-digit LC display to show measured values.

The calibrated spectrum function features a sweep rate of approximately two seconds.

- Frequency ranges MHz TV: 47-862, Satellite: 920-2,150, FM: 87-108
- Frequency resolution kHz TV/FM: 50, Satellite: 125
- Transmission standards B/G, I, D/K, M, N

P/N	Description
MSK-125	Signal Analyzer



### KATHREIN MSK-200 DIGITAL TRANSPORT STREAM ANALYZER

The MSK-200 TV Analyzer is 10 vital pieces of test equipment wrapped up into one compact device. Features include a full spectrum analyzer from 5 MHz to 3.1 GHz, a real-time color constellation analyzer for all DVB standards, memory oscilloscope, MPEG-4 and analog TV monitor, real-time MER/BER analyzer with in-depth measurement capabilities, and simultaneous spectrum and picture transport stream monitoring with its high quality digital/analog receiver. Make transmission and reflected RF measurements with the built-in return loss bridge. The MSK-200 even has a built-in internet browser and a full PC is integrated for user data processing and office tasks.

P/N	Description
MSK-200	75 Ohm socket as measuring connection
MSK-200/50	50 Ohm N-type socket as measuring connection





## VIDEO/MPEG TEST

CATV/RF

### SENCORE DTU-236 RF PROBE AND RFXPERT

The DTU-236 RF Probe and RFXpert software is a comprehensive solution designed to provide real-time analysis and monitoring of terrestrial signals (8-VSB, QAM A/B/C and NTSC RF channels). The RFXpert software is intended to be loaded by the end-user on a PC or laptop and work in conjunction with the DTU-236 RF Probe. RFXpert provides complete RF analysis and logging, along with transport stream recording.

- True demodulated digital reading for MER, Pre-BER, Post-BER and EVM
- A proof-positive method of signal documentation or drop-point comparisons with programmable, user defined logging and auto-inspection capabilities

P/N	Description
DTU-236	8-VSB, QAM, ASI USB Probe



### SENCORE DTU-245, ASI/SDI INPUT AND OUTPUT USB PROBE

- Convenient, compact USB adapter that can be used to capture and generate MPEG2 transport streams (DVB-ASI) and uncompressed serial digital video (SDI)
- USB powered - no power supply required
- Independent operation of input and output:
  - o Full-duplex: maximum combined bit-rate of 160 Mbps
  - o Half-duplex: Full DVB-ASI and SDI bit-rate range

P/N	Description
DTU-245-SDP	USB-2 ASI/SDI Input+Output Adapter with DtGrabber+, DtTV and StreamXpress Software
DTU-245-SXP	DTU-245-SDP with StreamXpert TS Analyzer Software



### SENCORE MSA 1850 MPEG SERVICE ANALYZER

The MSA 1850 MPEG Service Analyzer enables engineers to analyze compressed audio, video, and data services on any terrestrial broadcast, cable head-end, satellite, or telco network. To ensure that operators always have the right physical inputs, the MSA 1850 comes standard with ASI, SMPTE310M, 8-VSB, QAM, and Ethernet connections. It provides detailed transport stream and physical layer analysis for complete system confidence all in a field-ready, ruggedized chassis.

- Centralized analysis of terrestrial broadcast, cable, or telco signals
- Local and remote monitoring with intuitive web interface
- HD and SD MPEG2 and H.264 support along with 4:2:2 MPEG2

P/N	Description
MSA 1850	MPEG Service Analyzer



### SENCORE TSM 1770 TRANSPORT STREAM MONITOR

The TSM 1770 Transport Stream Monitor enables engineers to monitor compressed audio, video, and data services on any terrestrial broadcast, cable head-end, satellite, or telco network. With full support for ASI, SMPTE310M, 8-VSB, QAM, and Ethernet physical inputs, it provides detailed transport stream and physical layer monitoring for complete system confidence.

- Centralized monitoring of terrestrial broadcast, cable, or telco signals
- Local and remote monitoring with intuitive web interface
- HD and SD MPEG2 and H.264 support along with 4:2:2 MPEG2

P/N	Description
TSM 1770	Transport Stream Monitor



### SENCORE VB12-RF IP AND QAM/8-VSB MONITORING PROBE

Sencore has extended its award-winning VideoBRIDGE™ product line with the launch of the VB12-RF, a highly portable RF/IP monitoring appliance for terrestrial and cable applications. With complete ETR101-290 analysis and alarming, the VB12-RF includes an interface for RF, ASI and IP in a compact and ruggedized chassis smaller than most laptop computers.

- 1x SFP GigE port
- 1x 10/100T Mbps Ethernet management port
- 1x ASI Input and 1x ASI output port
- Built-in 100-240VAC PSU

P/N	Description
VB12-RF	Portable Monitoring/Measuring Probe for Terrestrial, Cable and IP Network Troubleshooting



# CATV/RF TEST



## TONE & PROBES

### GREENLEE 402K CATV TONE/PROBE KIT

Designed specifically for the CATV industry, the 402K Cable Tone Test Kit sends tone through any passive device along the cable path, such as splitters, traps and directional couplers. No more figuring out non-tagged or mistagged cable drops. The 402K is simple to use and provides fast, accurate results.

- Designed for the CATV market
- Kit allows you to tone through splitters directional couplers and traps

P/N	Description
402K	CATV Tone/Probe Kit



### GREENLEE 601K-G TONE/PROBE KIT

Greenlee is proud to introduce the 601K-G, a fully upgraded version of our entry-level 601K Tone and Probe Tracing kit. The 601K-G Tone and Probe kit offers superior tracing for low voltage applications such as telephone, data, and security alarm wiring. Essential equipment for the internal wiring technician, the 601K-G provides the ability to check voltage on wire pairs as well as generate a tagging tone along the wire which is then picked up by the tracing probe.

Included in the 601K-G kit is the 77M-G one-line Tone Generator with short circuit checker, the 200B-G Tracing Probe with adjustable volume control, an alternate flat/spade plastic probe tip, and a nylon carrying case.

P/N	Description
601K-G	Basic Tracing Kit



### GREENLEE 701K-G PROFESSIONAL TONE/PROBE TRACING KIT

Easy operation and superior tracing for low voltage applications including telephone, data and security alarm wiring. Checks voltage on wire pairs and generates a tagging tone along the wire that is picked up by the tracing probe. Traces single conductors or cables within bundles, either at midpoint or at remote ends. Includes an LED headlight for working in dark spaces, a headset jack, audible circuit beeper and external warble-select on the tone generator. Large speaker for noisy environments. Features an LED headlight, headset jack, short circuit beeper and external warble-select.

P/N	Description
701K-G	Professional Tone and Probe Tracing Kit
701K-G/6A	Professional Tone and Probe Tracing Kit w/ABN Test Clips



### GREENLEE 801K PREMIUM TONE/PROBE KIT

Designed for more accurate wire identification, the 801K virtually eliminates power-related noise from their tone and probe operation. The 801K Premium Tone and Probe Kit offers all the features professionals are looking for. Includes the 77HP/6A High Power Tone Generator with bent nose piercing clips, increased talk battery supply and higher voltage protection and the 200FP Filter Probe for filtering out AC hum. Tone, probe and generator come housed in the rugged woven polyester 700C Dual Carry Case designed for years of dependable use. All components are also available separately.

P/N	Description
801K	Premium Tone and Probe Kit



### GREENLEE 802K DIGITAL LAN TRACING KIT

The 802K Digital LAN Tracing Kit is a powerful, unique troubleshooting and tracing solution for LANs and other types of VDV wiring. The industry standard 200FP filter probe is designed to eliminate hum from fluorescent lights and AC power wiring that can obscure tracing tones, and the AT8L LAN Toner not only generates multiple tracing tones and provides basic wiring tests, but indicates the presence of 10/100Base-T network service.

P/N	Description
802K	Premium Tone and Probe Kit



## TONES & PROBES

CATV/RF

### JDSU TURBO-TONE™ HIGH-POWERED TONE GENERATOR

The high-power Turbo-Tone™ Tone Generator enables signal detection 20 miles away and makes hearing tone through walls and enclosures easier with multiple tones and power levels suited for network, signal wire, coax, and telephone cable applications. Four tone amplitude levels include normal and half plus, turbo normal and half, with the half amplitude unbalanced for stronger signal effect on twisted pairs.

- Unbalanced tone mode supports longer distances on UTP cables
- Constant amplitude output ensures no signal decrease as battery discharges

P/N	Description
TG201	Turbo-Tone High-Power Tone Generator with angled bed-of-nails cord set. Includes 19 cm (7.5 in) RJ12 to RJ12 cable for no-fault connection to RJ11 or RJ45 jacks, lanyard, and pouch requires 9-volt battery (not included)
KP105	Turbo-Tone High-Power Tone Generator Kit with alligator clips set and Tone Tracer Probe. Includes Turbo-Tone High-Power Tone Generator with alligator clips set, 19 cm (7.5 in) RJ12 to RJ12 cable for no-fault connection to RJ11 or RJ45 jacks, Tone Tracer Probe, round and paddle-style tips, lanyard, and pouch



### JDSU TONE TRACER

The Tone Tracer is an ergonomic, high-sensitivity probe for field service professionals. Used in conjunction with any analog tone generator, the Tone Tracer identifies wire and cable without having to make direct metallic contact with the conductor. The Tone Tracer can be used with a wearable headset or a standard cell phone headset.

- Recessed "on" switch
- Tip replacement without opening case

P/N	Description
TT100	Tone Tracer Probe. Includes round probe tip (TT30), paddle-style probe tip (TT35), and 9-volt battery
KP101	Tone Generator with angled bed-of-nails cord set and Tone Tracer Probe. Includes Tone Tracer Probe, round and paddle-style tips, lanyard, Tone Generator, 60.96 cm (2 ft) RJ11 to angled bed-of-nails clip set, 19 cm (7.5 in) RJ12 to RJ12 cable for no-fault connection to RJ11 or RJ45 jacks, and pouch



### CABLEMATIC PREMISE TONER DROP CABLE CONTINUITY TESTER

- LED indicates DC shorts, splitters, and other self-grounding devices in cable
- Loud audio tone identifies line carrying signal
- Checks circuit integrity in new and/or installed cable
- Right angle male push-on connector lets you work in tight areas
- Female push-on connector for speed toning
- Tests up to 5,000 ft (1500 m) of cable

P/N	Description
RPT-AAA	Premise Toner Drop Cable Continuity Tester



### WHITE SANDS ENGINEERING TESTERHT TEST KIT – F, BNC, RCA, SMB

The TesterHT kit simplifies the testing and remote identification of coaxial cable assemblies. The pocket toner verifies continuity, shorts or opens, while adapter cables enable the toner to be used with a variety of A/V connectors including BNC, RCA, F and SMB. Because of the fixed pin design used in our connectors they can be tested prior to crimping, saving time and connectors.

P/N	Description
TESTERHT	Test Kit for F, BNC, RCA and SMB Connectors



### WHITE SANDS ENGINEERING TESTERBC TEST KIT – F, BNC, RCA, 1.0/2.3

The TesterBC kit simplifies the testing and remote identification of broadcast coaxial cable assemblies. The pocket toner verifies continuity, shorts or opens, while adapter cables enable the toner to be used with a variety of A/V connectors including BNC, RCA, F and 1.0/2.3. Because of the fixed pin design used in our connectors they can be tested prior to crimping, saving time and connectors.

P/N	Description
TESTERBC	Test Kit for F, BNC, RCA and 1.0/2.3 Connectors





# CATV/RF TEST

## TONE & PROBES

### KLEIN TOOLS TONECUBE & PROBEPLUS KIT

Trace wire paths and identify cables in common wiring systems. Includes nylon carrying case with belt loop and D-ring.

P/N	Description
VDV500-808	Includes TONEcube Tone Generator and PROBEplus Tone Tracing Probe



### KLEIN TOOLS TRACEALL TONE & PROBE

Trace wire paths and identify cables in common wiring systems. Heavy-duty RJ11 jack on tone generator for long life and repeated connections. Includes RJ11 adapter to convert tone generator to an alligator-clip configuration. Dual material chassis fits comfortably in your hand.

P/N	Description
VDV526-054	TraceAll Tone & Probe



### FLUKE NETWORKS INTELLITONE™ POCKET TONERS

The Pocket Toner® tools are pocket-sized, durable test devices that allow users to quickly and easily test voice, data, video cables for open and short circuits, continuity, AC/DC voltage and dial tone.

The Pocket Toner® comes in three models and several different kit configurations so no matter what your job, you can safely install and test. All models of the Pocket Toner include these features:

- Low voltage protection for both the main body and detachable toner unit
- Dual audible indicators
- Bi-gender adaptable toner section
- Removable push-on connector
- Lightweight, durable anodized aluminum
- Auto shut off
- Replaceable parts
- Uses one AAA battery



P/N	Description
PTNX1	Pocket Toner® NX1. Includes NX1 unit, toner, F-type (M-push, Speed 81™) adapters and 1-AAA battery
PTNX2	Pocket Toner® NX2. Includes NX2 unit, toner, F-type (M-push, Speed 81™) adapters and 1-AAA battery
PTNX2-DLX	Pocket Toner® NX2 Deluxe Kit. Includes NX2 unit, toner, 66 block adapter, RJ-11 adapter, RJ-45 adapter, Dial Tone Detective™, alligator clips with RJ-45 adapter, F-type (F, 9-M-push, M-71, Speed 81™) adapters, RCA (M, F) adapters, BNC (M, F) adapters, 1-AAA battery and deluxe case with belt clip
PTNX2-CABLE	Pocket Toner® NX2 Cable Kit. Includes NX2 unit, toner, alligator clips adapter, F-type (F, M-push, M-71, Speed 81™) adapters, 1-AAA battery and small canvas case
PTNX8	Pocket Toner® NX8. Includes NX8 unit, toner, F-type (M-push, Speed 81™) adapters, 1-AAA battery and deluxe case with belt clip
PTNX8-CABLE	Pocket Toner® NX8 Cable Kit. Includes NX8 unit, toner, 8 ID caps, alligator clips, F-type (F, 9-M-push, M-71, Speed 81™) adapters, 1-AAA battery and deluxe case with belt clip
PTNX8-CT	Pocket Toner® NX8 Cable and Telephone Kit. Includes NX8 unit, toner, 8 ID caps, 66 block adapter, RJ-11 adapter, Dial Tone Detective™, alligator clips with RJ-11 adapter, F-type (F, 9-M-push, M-71, Speed 81™) adapters, 1-AAA battery and deluxe case with belt clip
PTNX8-DLX	Pocket Toner® NX8 Deluxe Kit. Includes NX8 unit, toner, 8 ID caps, 66 block adapter, RJ-11 adapter, RJ-45 adapter, Dial Tone Detective™, alligator clips with RJ-45 adapter, F-type (F, 9-M-push, M-71, Speed 81™) adapters, RCA (M, F) adapters, BNC (M, F) adapters, 1-AAA battery and deluxe case with belt clip
PTNX8-VV-PRO	Pocket Toner® NX8 Voice and Video Pro Kit. Includes NX8 unit, toner, 8 ID caps, 66 block adapter, 8-RJ-11 adapters, RJ-45 adapter, Dial Tone Detective™, alligator clips with RJ-11 adapter and RJ-45 adapter, F-type (F, 9-M-push, M-71, Speed 81™) adapters, RCA (M, F) adapters, BNC (M, F) adapters, 1-AAA battery and deluxe case with belt clip
ADAP-PTNX-KIT	Accessory Kit. Includes alligator clips and RJ-45 adapter, alligator clips and RJ-11 adapter, Dial Tone Detective™, RJ-11 adapter, 66 block adapter, RJ-45 adapter, F-type (F, M-Push, Speed 81, 71™) connectors, RCA (M, F) connectors, BNC (M, F) connectors and 2-wire clip adapters

# CATV/RF TEST

## TONE & PROBES

CATV/RF

### FLUKE NETWORKS PRO3000 ANALOG TONE AND PROBE

The Pro3000 Tone and Probe Kit is the innovative analog tone and probe. Easily identify individual pairs with its patented SmartTone™ technology (five different tones for exact pair identification). The large powerful speaker on the probe allows you to hear through drywall, wood or other enclosures to find wires quickly and easily. Kit includes pouch.

- Select solid or alternating tone options, indicated with solid or flashing LEDs
- Exclusive SmartTone™ technology can generate five separate analog tones when the pair is shorted at the far end
- Works on de-energized AC wire, telephone/twisted pair wire, all voice and data category rated cable, all coax cable, speaker wire and security wire

P/N	Description
26000900	Pro3000 Analog Tone & Probe Kit
26100900	Pro3000 Analog Probe
26200900	Pro3000 Tone Generator
26100103	Pro3000 Analog Probe Replacement Tip (two per bag)
26300000	Earpiece for Pro3000/Pro2000 Probe



### FLUKE NETWORKS INTELLITONE™ PRO TONER AND PROBE

The IntelliTone Probe Digital and Analog Toner finds cables other toners/probes can't. Speeds cable location with advanced sensing modes. New SmartTone™ feature precisely locates individual wire pairs. Digital signal rejects noise and safely tones active networks. Powerful troubleshooting capabilities include datacom link, two line telecom service ID and twisted-pair cable wiremap.

- IntelliTone digital processing eliminates noise and false signals
- New SmartTone™ analog toning precisely isolates individual wire pairs
- Locates cables safely and effectively on active networks

P/N	Description
MT-8200-60A	IntelliTone Pro 200 Kit. Includes IntelliTone Pro 200 Toner and 200 Probe, coax F connector adapter, two RJ11 and two RJ45 patch cables, test leads with alligator clips, lanyards, owners CD and quick start guide and two 9 volt batteries



## CONTINUITY TESTERS

### KLEIN TOOLS COAX EXPLORER™ TESTER

Tests and verifies coaxial cable continuity. Compact size fits easily into pocket or pouch. Bright LED indicates cable status (good-open-short) and simple push-button operation.

P/N	Description
VDV512-057	Coax Explorer™ Tester



### KLEIN TOOLS COAX EXPLORER™ PLUS TESTER

Quickly tests map/ID up to 4 locations simultaneously. Compact size fits easily into pocket or pouch. Bright LED indicates status and location of cable and push-button for simple operation. Color coded remotes simplify identification. Includes convenient remote holder.

P/N	Description
VDV512-058	Coax Explorer™ Plus Tester



# CATV/RF TEST



CATV/RF

## COAX MAPPERS

### JDSU TESTIFIER™ CABLE TESTER

The Testifier™ cable tester provides full cable test and tone generation in one unit for telecom, datacom, and cable installers and technicians. The easy-to-use Testifier features one-button operation to initiate telco, network, and coax modes for diagnostic tests and results. The main unit includes built-in RJ11 and RJ45 jacks for testing 6-wire and 8-wire twisted pair and F-connector for testing coax.

- Displays tests for shorts, opens, miswires, reversals, and split pairs in wiremap format
- Integrated jacks for telco and network connections, F-connector for coax

P/N	Description
TP350	Testifier Cable Tester with onboard cable test remote. Includes 30.48 cm (1 ft) RJ45 to alligator clips cable, 19 cm (7.5 in) RJ12 to RJ12 cable for no-fault connection to RJ11 or RJ45 jacks, nylon case, and 9-volt battery
KP321	Testifier Cable Tester with onboard cable test remote, 30.48 cm (1 ft) RJ45 to alligator clips cable, 19 cm (7.5 in) RJ12 to RJ12 cable for no-fault connection to RJ11 or RJ45 jacks, set of 20 RJ45 ID-only remotes, and case



### JDSU TESTIFIERPRO™ CABLE TESTER

The TestifierPRO™ Cable Tester provides telecom, datacom, and cable installers and technicians with cable test, length measurement, and hub blink functions in one unit. The easy-to-use TestifierPRO Cable Tester requires one-button operation to initiate telco, network, and coax modes for diagnostic tests and results. The main unit includes built-in RJ11 and RJ45 jacks for testing six-wire and eight-wire twisted pair and F-connector for testing coax.

- Identifies cable termination on active ports by blinking port LED
- Measures cable length using patented cable capacitance method
- Displays single-ended test results in wiremap format for opens, shorts, and split pairs

P/N	Description
TP650	TestifierPRO Cable Tester with cable test remote. Includes 30.48 cm (1 ft) RJ45 to alligator clips cable, two 30.48 cm (1 ft) patch cables with RJ45 connectors, #1 coax cable test remote, and pouch. Requires 9-volt battery (not included)
TP655	TestifierPRO Cable Tester with 8 cable test remotes. Includes 30.48 cm (1 ft) RJ45 to alligator clips cable, two 30.48 cm (1 ft) patch cables with RJ45 connectors, 30.48 cm (1 ft) coax cable, #1 thru #8 coax cable test remotes, and pouch. Requires 9-volt battery (not included)



### KLEIN TOOLS VDV SCOUT™ PRO TESTER KIT

Simultaneous testing of video and data cables saves time and improves efficiency. Combines multiple VDV test functions and mapping kits. Tests voice (RJ11/12), data (RJ45), and video (F-connector coax) connections. Kit includes VDV Scout™ Pro Tester, 5 location RJ45 Remotes, 5 location F-Connector Remotes, one F to F Barrel Connector.

P/N	Description
VDV501-809	VDV Scout™ Pro Tester Kit



### T<sup>3</sup> INNOVATION COAX CLARIFIER

Dark unpowered coax systems give no clue as to their design, condition or configuration. The new Coax Clarifier by T3 Innovation makes it simple and easy to discern the layout of a coax network, locate faults on individual cable runs, identify remotes through splitters, and determine cable run length. In addition, separate wiremapping sets allow a technician to map out the entire coax system and measure the quality and characterization of the overall network for carrying services, such as high grade video, surveillance data and HD programming.

- Identifies cable faults
- Displays cable run quality
- Detects Coax RF Remotes through splitters
- Locates splitters in the system
- Tests and grades splitter performance

P/N	Description
CC200	Coax Clarifier™ with 2 Coax RF Remotes, RK104, CA004, AD002, AD004 (3), AD005 (4), and CP100
CC210	Coax Clarifier™ with 4 Coax RF Remotes, RK104, CA004, AD002, AD004 (5), AD005 (4), and CP100
CC220	Coax Clarifier™ with 4 Coax RF Remotes, RK112, CA004, AD002, AD004 (5), AD005 (4), and CP100
CC250	Coax Clarifier™ with 4 Coax RF Remotes, TP200 Tone Probe, RK112, CA004, AD004 (5), AD005 (4), and CP200



# CATV/RF TEST

## WIRE MAPPERS/FINDERS

CATV/RF

### GREENLEE NETCAT® NC-100 MICRO DIGITAL VDV WIRING TESTER

- Tests shielded twisted pair (STP), unshielded twisted pair (UTP) and coaxial cables
- TIA/EIA standard wiring pair verification
- Detects shorts, opens, reversed polarity, crossed and split pairs
- Generates three distinct, selectable digital tone patterns for cable tracing and troubleshooting
- Tracing modes can be adjusted for high performance LAN cables
- Complete set of connector types standard (telephone, LAN and coax)
- Nested remote allows end-to-end testing of all wiring types
- Simple testing of LAN wiring and phone lines

P/N	Description
NC-100	NETcat® Micro Digital Voice, Data and Video Wiring Tester



### GREENLEE NETCAT® Pro2 NC-500 STRUCTURED WIRING TROUBLESHOOTER

The NETcat® Pro2 is a digital tool for fast, accurate checking of cables, wiring and network service. Operated using a back-lit touch screen display, the NETcat® Pro2 tests wiring continuity and proper pair allocation, measures the length of cables, determines if network service is available and identifies Power over Ethernet (PoE) cables. When used with the NC-510 Accessory Kit, containing seven (7) expansion remote test modules, the NETcat® Pro2 can uniquely test coax or twisted pair jacks from a central location eight (8) at a time. Using a fingertip or the built-in stylus, the screen can be used to control and display a range of tests from fault finding to TDR length measurement. The display can be set to English, Spanish, French or German language.

P/N	Description
NC-500	NETcat Pro2 Digital VDV Wiring Troubleshooter
NC-510	NETcat Pro2 Accessory Kit w/carry case and seven (7) digital remotes
NC-520	NETcat Pro2 Digital VDV Wiring Troubleshooter and Accessory Kit



### GREENLEE LAN & A/V CABLE-CHECK™

Quickly and easily test RJ45, cable TV "F", RCA, and BNC cabling used in smart home installations.

- Tests RJ45 patch cords and network installations to identify good connections, opens, shorts or cross-connections
- Combination network and coax tester
- Connection type: RJ45 UTP or STP modular plug and cable TV "F" coaxial
- Identifies data and telephone connection schemes
- Maps cable pin-out
- Tests continuity of cable TV cables and installed cable runs
- Max. length: 1,650' (500 m)

P/N	Description
PA1594	LAN & A/V Cable-Check™



### GREENLEE WIRE FINDER/MINI LOCATOR

Used to trace energized or degenerated wires in walls and drop ceilings.

- Determines the approximate depth of a wire before digging begins
- Transmitter and receiver are fully-adjustable for accurate locating
- Reliable results on buried cables to depths of 3' and lengths up to 1000'
- Quick-change test leads for use in any industry, even international power outlets
- Voltage protection allows use on live AC circuits
- Automatic shutoff prevents accidental battery discharge

P/N	Description
508S	Wire Finder/Mini Locator



# FIBER OPTIC/FTTx TEST



## OPTICAL TEST PLATFORMS

### EXFO FTB-200-V2 COMPACT PLATFORM

The intelligent platform built for the supertech; delivers the best performance on the market for optical, Ethernet and SONET/SDH testing.

#### Key Features and Benefits

- Intel ATOM processor with Windows Embedded Standard for maximized productivity and unique versatility
- Flexible connectivity with USB, mobile, Wi-Fi and Bluetooth capabilities
- Compatible with 11 families of modules for multiple field testing applications:
  - CWDM network characterization at eight wavelengths
  - 40G and ROADM commissioning with an optical spectrum analyzer
  - Multiservice testing with a next-generation SONET/SDH analyzer
  - Fiber characterization and construction with OTDR, loss, dispersion and multitest modules
  - Business service activation with OTDR and Ethernet test modules
  - Carrier Ethernet testing from 10 Mbit/s to 10 Gbit/s

P/N	Description
FTB-200-V2	Compact Platform

Multiple configurations available. Please check with your TVC representative or [www.tvcinc.com](http://www.tvcinc.com) for details.



FIBER OPTIC/FTTx

### EXFO FTB-1 PLATFORM

Handheld modular platform optimized for fast, powerful, dedicated FTTH and Ethernet test applications.

#### Applications

- OTDR/FTTH testing
- Ethernet testing

#### Key Features and Benefits

- Flexible connectivity: USB, mobile, Wi-Fi and Bluetooth capabilities
- Utilities: supports third-party applications and the tools that enable technicians to complete their work in the field
- Test management/reporting: lets you take advantage of the EXFO Connect environment to monitor field operations (local and remote)
- PC-oriented: Intel ATOM processor with Windows Embedded Standard operating system, for optimized productivity and versatility
- Power management: latest battery technology for unmatched operation autonomy

P/N	Description
FTB-1	Platform for dedicated FTTH and Ethernet test applications

Multiple configurations available. Please check with your TVC representative or [www.tvcinc.com](http://www.tvcinc.com) for details.



### EXFO FTB-500 PLATFORM

The result of over 10 years of proven leadership in multimodular test platforms, the FTB-500 delivers a whole new spectrum of network testing possibilities, a whole new testing paradigm: more advanced applications, faster setups, test cycles and reporting, wireless communication and reporting, and universal compatibility with all EXFO FTB modules, past, present and future.

Designed for network experts, this high-end, highly evolutive platform enables true next-generation network testing.

#### The true next-gen network enabler

- Full fiber characterization: industry-renowned OTDRs combined with the most advanced dispersion analyzers
- Industry-exclusive: distributed PMD analysis
- 10G, 40G and 100G-ready
- Most compact and powerful Ethernet, SONET/SDH, OTN and Fibre Channel analyzers

#### A network testing powerhouse

- Choose the best fit: four-slot or eight-slot configurations
- Faster setups and faster testing
- Universal wireless connectivity
- Full backward compatibility with all FTB modules

P/N	Description
FTB-500	Platform

Multiple configurations available. Please check with your TVC representative or [www.tvcinc.com](http://www.tvcinc.com) for details.





# FIBER OPTIC/FTTx TEST

## OPTICAL TEST PLATFORMS

### ANRITSU CMA5000a MULTI-LAYER NETWORK TESTING PLATFORM

The CMA5000a is a field portable, network testing platform designed for installation, maintenance and troubleshooting of today's complex networks. It features a common user interface, open architecture design and numerous test technologies that allow the platform to evolve with user testing needs and address ever-changing telecommunication infrastructures.

- One platform does it all:
  - physical layer applications (OTDR, PMD, CD, OSA)
  - transport layer applications (1/10 GbE, SDH/SONET to 10G)
- Common Windows® based user interface simplifies use
- Modular design allows maximum flexibility
- Simultaneous operation of multiple test applications
- Connector inspection microscope option

P/N	Description
CMA5000a	Multi-Layer Network Testing Platform

Multiple configurations available. Please check with your TVC representative or [www.tvcinc.com](http://www.tvcinc.com) for details.



## OTDRs

### EXFO AXS-100 Access OTDR

EXFO's AXS-100 Access OTDR combines the industry's leading OTDR technology with power meter functionalities in one powerful handheld unit. Optimized for point-to-point testing of passive optical networks (PON) within FTTx architectures, it offers several wavelength configurations and a wide range of options, for first-class flexibility and full coverage of short-haul OTDR test applications.

#### Applications

- FTTx last-mile in-service troubleshooting
- Point-to-point link testing
- CATV network testing

#### Key Features and Benefits

- Wavelengths: 1310/1550/1625 nm
- Dynamic range: 29/28/28 dB
- In-service PON troubleshooting using 1625 nm port
- Battery autonomy: 8 hours

P/N	Description
AXS-100	Access OTDR. Designed for single-mode OTDR troubleshooting; 1310/1550/1625 nm, 29/28/28 dB

Multiple configurations available. Please check with your TVC representative or [www.tvcinc.com](http://www.tvcinc.com) for details.



### EXFO AXS-110 ALL-FIBER OTDR

EXFO's AXS-110 All-Fiber OTDR helps you boost test productivity for inside-plant applications. Its exceptional 0.8 m event dead zone enables you to easily locate and characterize all events between the transmitter and the headend's fiber, access and FTTH network applications, where events are usually closely spaced.

#### Applications

- FTTx/MDU PON network testing
- LAN/WAN testing
- Private network testing

#### Key Features and Benefits

- Event dead zone: 0.8 m
- Wavelengths: 850/1300/1310/1490/1550/1625 nm
- Dynamic range: up to 37 dB
- Battery autonomy: 8 hours

P/N	Description
AXS-110	LAN/WAN Test Solution OTDR

Multiple configurations available. Please check with your TVC representative or [www.tvcinc.com](http://www.tvcinc.com) for details.



# FIBER OPTIC/FTTx TEST



## OTDRs

### EXFO FTB-720/FTB-730 OTDRs

The intelligent platform built for the supertech—delivers the best performance on the market for optical, Ethernet and multiservice testing.

#### Applications

- Access network testing
- LAN/WAN characterization (FTB-720)
- FTTx/MDU test challenges within PON networks (FTB-730)

#### Key Features and Benefits

- Dynamic range of up to 35 dB (FTB-720) / Dynamic range of up to 39 dB (FTB-730)

P/N	Description
FTB-720	LAN/WAN Access OTDR. 850 ± 20, 1300 ± 20, 1310 ± 20, 1550 ± 20, 1625 ± 15 (filtered) nm
FTB-730	PON FTTx/MDU OTDR. 1310 ± 20, 1490 ± 10, 1550 ± 20, 1625 ± 10, 1650 ± 7 nm

Multiple configurations available. Please check with your TVC representative or [www.tvcinc.com](http://www.tvcinc.com) for details.



FIBER OPTIC/FTTx

### EXFO FTB-7200D/7300E/7400E/7500E/7600E METRO/CWDM OTDRs

Combines EXFO's renowned optical performance and unparalleled software analysis with both short dead zones and high dynamic range values, delivering the versatility needed to test long-haul, CWDM and metro links with a single OTDR.

#### Applications

- Access network testing
- LAN/WAN characterization

#### Key Features and Benefits

- Dynamic range of up to 50 dB
- Event dead zone as low as 1 meter
- Four wavelengths (12CD-23B model) combined with an optional visual fault locator
- Controlled launch conditions for more accurate loss measurements

P/N	Description
FTB-7200D	LAN/WAN Access OTDR. Dynamic range at 20 μs (dB) 27/26/36/34
FTB-7300E	PON FTTx/MDU OTDR. Dynamic range at 20 μs (dB) 39/35/37/39/37
FTB-7400E	Metro/CWDM OTDR. Dynamic range at 20 μs (dB) 42/40/41/41
FTB-7500E	Metro/Long-Haul OTDR. Dynamic range at 20 μs (dB) 45/45/45
FTB-7600E	Ultra-Long-Haul OTDR. Dynamic range at 20 μs (dB) 50/50/48

Multiple configurations available. Please check with your TVC representative or [www.tvcinc.com](http://www.tvcinc.com) for details.



### EXFO FTB-730-iOLM INTELLIGENT OPTICAL LINK MAPPER

Using an automated multipulse acquisition approach and filled with advanced algorithms, the iOLM is an OTDR-based application that delivers detailed information on every element on the link, in a single button operation—providing maximum intelligence and simplicity for expert-level link characterization.

#### Applications

- FTTx/MDU test challenges within PON networks
- Access point-to-point (P2P) network testing

#### Key Features and Benefits

- Turn complex OTDR information into simple and accurate analysis with the Link-Aware technology
- Identify each event of the network and obtain a straightforward fiber link status with the Optical Link View
- Benefit from Prompt Diagnosis to fix network issues quickly and efficiently
- Accelerate troubleshooting by eliminating manipulations with the In-Line Optical Power Meter

P/N	Description
FTB-730-iOLM	FTB-730-iOLM Intelligent Optical Link Mapper

Multiple configurations available. Please check with your TVC representative or [www.tvcinc.com](http://www.tvcinc.com) for details.



### AFL OFL250-50 HANDHELD OTDR

The OFL250-50 from AFL Telecommunications is a 1550 nm single-mode OTDR with an integrated optical power meter (OPM), 1550 nm laser source (OLS), and visual fault locator (VFL) in a handheld package weighing only 0.8 kg (1.7 lb). With short dead zone and mid-range dynamic range performance, the OFL250-50 is ideal for trouble-shooting (dark) single-mode fibers in local area, metro area, and FTTx networks.

The OFL250-50 provides automatic and manual setup, precision event analysis, a 12-hour battery life, internal data storage, and USB connectivity. OTDR and OPM test ports are equipped with tool-free adapters, which can be changed in seconds.

P/N	Description
OFL250-50U-ENG	1550 nm, single-mode OTDR



# FIBER OPTIC/FTTx TEST

## OTDRs



### AFL OFL280 FLEXTESTER

The OFL280 FlexTester offers an unmatched combination of fiber optic test functions, ease-of-use, portability, and value. All OFL280 FlexTester models include an integrated single-mode 1310/1550 nm OTDR with PON and standard test modes, optical power meter, 1310/1550 nm laser source, and visual fault locator. For many users the two-wavelength OFL280-100 will provide the best balance of functionality and value. Testing at 1310 and 1550 nm is normally sufficient to certify point-to-point or FTTx PON fibers and allows the detection of macro bends. The three wavelength OFL280-101 and OFL280-102 models add 1625 nm or 1490 nm respectively. Testing at 1625 nm allows certification of the L band for transport use. Testing at 1490 nm is required by some network operators to certify FTTx PONs. The filtered, three wavelength OFL280-103 can certify dark fibers at 1310/1550 nm, fault-locate live FTTx fibers at 1625 nm, and measure FTTx power levels at 1490 and 1550 nm, all from a single test port.



FIBER OPTIC/FTTx

P/N	Description
OFL280-100	1310/1550 nm OTDR, OLS, OPM, VFL for out-of-service point-to-point and FTTx PON testing
OFL280-101	1310/1550/1625 nm OTDR, OLS, OPM and VFL
OFL280-102	1310/1490/1550 nm OTDR, OLS, OPM and VFL
OFL280-103	1310/1550/1625 nm OTDR, OLS, OPM and VFL with ServiceSafe™ live fiber detection, 1625 nm live PON OTDR, and integrated PON Power Meter

Multiple configurations available. Please check with your TVC representative or [www.tvcinc.com](http://www.tvcinc.com) for details.

### AFL C860 QUAD OTDR AND CERTIFICATION TEST KIT

The C860 QUAD Certification and OTDR Test Kit from AFL Telecommunications includes one handheld C840 QUAD OLTS Tester and one C850 QUAD OTDR/OLTS with built-in auto test functionality. With this kit, technicians can troubleshoot and perform both Tier 1 and Tier 2 certification tests of MM and SM fiber networks, store results and create professional test reports.

The C850 is both a QUAD Certification Tester and full-featured QUAD OTDR in a compact case with a large transfective touch screen display suitable for both indoor and outdoor operation. The C850 features single-mode and multimode OTDR capabilities, both single-mode and multimode Optical Light Sources (OLS), Visual Fault Locator (VFL, 650 nm), and an Optical Power Meter (OPM). The C840 QUAD Certification Tester includes VFL, OPM, and both single-mode (1310/1550 nm) and multimode (850/1300 nm) OLS. The C840 may be used alone as a traditional power meter or light source to measure fiber loss or as a visual fault locator to find fiber breaks.



P/N	Description
C860-100-LP1-H1	C860 Test Kit with cleaning accessories
C860-100-LP1-H2	C860 Test Kit with SC/LC reference jumpers, SC/LC fiber rings, and cleaning accessories
C860-100-LP1-H5	C860 Test Kit with SC/ST reference jumpers, SC/ST fiber rings, and cleaning accessories

Multiple configurations available. Please check with your TVC representative or [www.tvcinc.com](http://www.tvcinc.com) for details.

### AFL M700 COMPACT SINGLE-MODE OTDR

The M700 OTDR from AFL combines ease of use (Touch and Test™) and functionality in a field-rugged, hand-held package. With single-mode dynamic ranges up to 40 dB and multimode dynamic ranges of 26 dB, the M700 OTDR is ideal for testing and troubleshooting LAN/WAN, metro, FTTx and long haul networks. Industry leading dead zones of less than 1.0 m enhance users' ability to locate and measure events. Testing at 1310 and 1550 nm is normally sufficient to certify point-to-point or FTTx PON fibers and allows the detection of macrobends.

The M700 supports Full Auto, Expert (manual) and Real-Time OTDR test modes, precision event analysis, multi-wavelength testing, and visual inspection per 61300-3-35 using the DFS1 Digital FiberScope allowing users the ability to view and document connector end-face images with their OTDR traces. Pass/Fail acceptance to TIA/ISO values or user-defined values can be set to alert the test operator of failing or marginal events. These capabilities simplify the user experience, reduce training time and testing errors enabling even novices to get the job done quickly and accurately.



P/N	Description
M700-20U-01	M700 SM 1310/1550 nm OTDR
M700-21U-01	M700 SM 1310/1550/1625 nm OTDR
M700-24U-01	M700 QUAD Long Range OTDR
M700-25U-01	M700 QUAD OTDR
M700-H1	M700 Hard case w/ One-Clicks and Cletop
M700-H9	M700 Hard case w/ OLS4, OFS300-200, Fiber Rings, Jumpers, One-Clicks and Cletop

Multiple configurations available. Please check with your TVC representative or [www.tvcinc.com](http://www.tvcinc.com) for details.

# FIBER OPTIC/FTTx TEST



## OTDRs

### ANRITSU MT9083 ACCESS MASTER OTDR

The ACCESS Master MT9083 Series represents the latest generation of mini-OTDRs that delivers full featured OTDR performance plus loss test set and quality of service measurement in a surprisingly small and lightweight package.

- Compact, lightweight, rugged
- 8+ hr battery life
- Impressive < 1 m deadzones and up to 45 dB dynamic range
- Enhanced display for direct sunlight viewing
- Integrated power meter, light source, visual fault locator
- FTTx/PON support up to 1 x 128
- Connector inspection microscope option
- Over 25 models available including single-mode and multimode

P/N	Description
MT9083	Access Master OTDR

Multiple configurations available. Please check with your TVC representative or [www.tvcinc.com](http://www.tvcinc.com) for details.



FIBER OPTIC/FTTx

### ANRITSU MT9090A NETWORK MASTER MODULAR PLATFORM

The new, palm-size MT9090A modular platform from Anritsu is designed for technicians to quickly and cost-effectively isolate network problems.

#### MU909014x/15x $\mu$ OTDR

- High-end OTDR performance in a pocket-size package
- 1310/1550 nm models with up to 37 dB for I&M
- 1625 nm and 1650 nm models for in-service troubleshooting
- Complete PON testing through splitters up to 1 x 64
- General purpose OTDR for all network types

#### MU909020A CWDM Tester

- Monitor wavelength and drift on all 18 CWDM channels
- ITU-T G.695 and G.694.2 compliant

#### MU909060A 10/100/1000MB Ethernet Tester

- Supports ITU-T Y.1564 and IPv6
- Comprehensive I&M Ethernet tester
- PING, RFC2544, multiple streams
- RJ45 and SFP interfaces

P/N	Description
MT9090A	Network Master Modular Platform

Multiple configurations available. Please check with your TVC representative or [www.tvcinc.com](http://www.tvcinc.com) for details.



### GREENLEE HANDHELD SINGLE-MODE OTDR

- Compact hand held design
- Measures length and defect of coiled fiber
- Up to 35 dB dynamic range
- Large LCD display, backlit
- Fiber analysis software for data management and report generation

P/N	Description
920XC-20C-UPC-NAFC	Single-mode OTDR. 1310/1550 nm ( $\pm$ 20 nm); 35/35 dB



### FITEL LBT-101 MINI OTDR

Short range optical test tool for live fiber testing of FTTx.

- Ultra Compact and Portable: 7.5" x 3.75" x 1.75"
- Live Fiber Testing Capability: Uses 1610 nm wavelength, filters other wavelengths
- Built-In Fiber Spool: Measure from the first connector, no launch cables to purchase
- Engineered for the "Last Mile": Extremely simple operation, high resolution for close events

P/N	Description
LBT-101	Short Range FTTx Optical Tester





## OTDRs

CORNING

### CORNING OV-MINI OTDR

Corning Cable Systems OV-Mini Optical Time Domain Reflectometer (OTDR) provides a rugged, handheld and lightweight solution for testing and troubleshooting fiber optic networks. This handheld OTDR gives the operator the flexibility of testing single-mode and 50 and 62.5 μm multimode systems with the same unit. The OV-Mini provides complete connectivity flexibility (with USB stick compatibility and USB cable download) and top user-friendliness (offering one-touch testing).

P/N	Description
MiniBK	MiniBK Multimode/Single-mode OTDR with power supply, Li-Ion batteries, CD with OTSView PC emulation software and user's manual, USB data transfer cable, SC and ST® Compatible OTDR port, cleaning supplies and soft carrying case
MiniDK	MiniDK Multimode/Single-mode OTDR with power meter and VFL, power supply, video inspection software, Li-Ion batteries, CD with OTSView PC emulation software and user's manual, USB data transfer cable, SC and ST Compatible OTDR port, cleaning supplies and soft carrying case
MiniXK	MiniXK Multimode/Single-mode OTDR with power meter and VFL, video inspection probe, power supply, video inspection software, Li-Ion batteries, CD with OTSView PC emulation software and user's manual, USB data transfer cable, SC and ST Compatible OTDR port, cleaning supplies and soft carrying case
MiniXK-TK	MiniXK Multimode/Single-mode OTDR with power meter and VFL, video inspection probe, separate handheld multimode/single-mode source, power supply, video inspection probe software, Li-Ion batteries, CD with OTSView PC emulation software and user's manual, USB data transfer cable, SC and ST Compatible OTDR port, cleaning supplies and soft carrying case



### CORNING OV-1000 OTDR

Corning Cable Systems OV-1000 Optical Time Domain Reflectometer (OTDR) provides testing flexibility by combining a rugged platform with field-interchangeable multimode, single-mode and advanced testing modules. Designed for testing and troubleshooting of LAN, Telco, CATV and FTTx networks, all OTDR modules can be used as continuous wave (CW) light sources. A power meter and visual fault locator (VFL) are available as options on the mainframe. The OV-1000 utilizes Windows® CE technology, which allows for a fast power-up time of four seconds from sleep mode.

P/N	Description
1000BK-SD34*	Short-Range Dual Single-mode OTDR (module 400-SD34) with SC and FC OTDR port adapters
1000BK-SD37*	Mid-Range Dual Single-mode OTDR (module 400-SD37) with SC and FC OTDR port adapters
1000BK-MD26*	Dual Multimode OTDR (module 400-MD26) with SC and ST® OTDR port adapters
1000BK-MDSD*	Dual Multimode and Single-mode OTDR (module 400-MDSD) with SC and ST OTDR port adapters
1000DK-SD34+	Short-Range Dual Single-mode OTDR (module 400-SD34) mainframe has power meter and VFL, SC and FC OTDR and power meter port adapters, OTS batch software
1000DK-SD37+	Mid-Range Dual Single-mode OTDR (module 400-SD37) mainframe has power meter and VFL, SC and FC OTDR and power meter port adapters, OTS batch software
1000DK-MD26+	Dual Multimode OTDR (module 400-MD26) mainframe has power meter and VFL, SC and ST OTDR and power meter port adapters, OTS batch software
1000DK-MDSD+	Dual Multimode and Dual Single-mode OTDR (module 400-MDSD) mainframe has power meter and VFL, SC and ST OTDR and power meter port adapters, OTS batch software

\* Basic Kits include OV-1000 mainframe, power supply, battery, appropriate OTDR port adapters, CD with OTSView PC emulation software and manual, cleaning supplies and hard-shell transit case.

+ Deluxe Kits include OV-1000 mainframe with power meter and VFL, power supply, battery, appropriate OTDR port adapters, CD with OTSView PC emulation software and manual, OTS PC batch processing software, cleaning supplies and hard-shell transit case.



### WILCOM FR4 MINI OTDR

Wilcom's FR4 is a lightweight, hand-held and easy to use mini OTDR is an ideal unit for field to measure optical fiber from one end during installation, repair and verification of a new or existing fiber network. This unit is available in multimode or single-mode with single, dual, tri, or quad wavelengths making it ideal for LAN, Metro or Fiber-to-the-Home (FTTH) applications. Unit Includes: 110V AC adapter, Certification Software, Data Transfer Cable, SC Interchangeable Adapter, Soft Carry Case, and Instruction Manual.

P/N	Description
FR4-1310	OTDR Single-mode, Wavelength 1310 nm
FR4-1550	OTDR Single-mode, Wavelength 1550 nm
FR4-1315	OTDR Single-mode, Dual Wavelength 1310/1550 nm
FR4-QUAD	OTDR Single-mode/Multimode, Quad Wavelength 850/1300/1310/ 1550 nm
FR4-850	OTDR Multimode, Wavelength 850 nm
FR4-1300	OTDR Multimode, Wavelength 1300 nm
FR4-8513	OTDR Multimode, Dual Wavelength 850/1300 nm

Wilcom





# FIBER OPTIC/FTTx TEST



## OTDR ACCESSORIES

### EXFO SPSB

Used in conjunction with an OTDR, the FTB-SPSB covers the OTDR's dead zone, enabling loss measurement on the first and last connections of a fiber under test.

Typically, the length of an OTDR's dead zone is equivalent to that of the optical pulse plus a few meters. The chosen launch test cable should therefore be longer than the pulse dead zone used for the tests. For instance, a 1  $\mu$ s pulse is approximately 100 m long; selecting a 150 m SPSB or a 300 m LTC/PSB would therefore be appropriate.

P/N	Description
SPSB-XXX-XX-XX	Launch Test Cable. Comes in a soft, easy-to-carry-everywhere pouch

*Multiple configurations available. Please check with your TVC representative or [www.tvcinc.com](http://www.tvcinc.com) for details.*



### AFL OTDR FIBER RINGS

Fiber Rings of 150 m of fiber are ideal for premises fiber network test applications. Fiber Rings of 500 m and 1 km of single-mode fiber are designed for broadband, long-haul fiber network test applications.

P/N	Description
FR1-SM-150- y1- y2	Standard, One Fiber - Single-mode; 150 m (492 ft) where y1 & y2 are user selected connector types

*Multiple configurations available. Please check with your TVC representative or [www.tvcinc.com](http://www.tvcinc.com) for details.*



### CORNING OTDR LAUNCH FIBER, ACCESS JUMPER

Corning Cable Systems offers two OTDR launch cable solutions. Used for connecting between the OTDR and system-under-test, these solutions can also be used on the far end of the system-under-test as a receive fiber. Both options come with a wide variety of configurations depending on customer application. The first solution is a small, portable test bag (PTB) that offers a low cost, compact launch cable and can be placed inside most OTDR transit cases. The PTB also offers a carabiner for attaching to an equipment rack, belt loop, bucket lift or messenger. The second option is a portable test fiber case (PTF), which offers a ruggedized, easy-to-configure solution. The rugged construction allows for shipment of the launch cable separate from the OTDR case.

P/N	Description
	Part numbers vary to customers needs. Please check with your TVC representative or <a href="http://www.tvcinc.com">www.tvcinc.com</a> for details.



### EXFO BFA-3000 UNIVERSAL BARE FIBER ADAPTER

The BFA-3000 is an essential accessory for performing fast, accurate and repeatable power measurements on non-connectorized fiber or components. Its innovative, spring-loaded mechanism enables easy, consistent positioning of bare fibers for connection to a power meter via the FOA-3000 Adapter. This bare fiber adapter is perfect for repeatable power measurements using EXFO's OHS-1713-UH Ultra-High-Power™ Optical Head.

P/N	Description
BFA-XX	Bare Fiber Adapter

*Multiple configurations available. Please check with your TVC representative or [www.tvcinc.com](http://www.tvcinc.com) for details.*



### ANRITSU FIBERCONNECT

The FiberConnect is the ultimate time saving solution for coupling unterminated fiber or optical components to test equipment. By allowing the user to perform optical measurements without terminating, which requires additional equipment and procedures, test time can be significantly reduced over 50% compared to other methods. The low loss and highly repeatable connection made using the FiberConnect is similar to that of connectorized fiber.

- Highly repeatable
- Easy-to-use
- Low insertion loss and back reflection
- Evaluation of fiber span or components without termination
- Significant reduction of test time

P/N	Description
FiberConnect1-XXX	FiberConnect Bare Fiber Adapter

*Multiple configurations available. Please check with your TVC representative or [www.tvcinc.com](http://www.tvcinc.com) for details.*



# FIBER OPTIC/FTTx TEST

## OPTICAL POWER METERS



### EXFO FPM-300 POWER METER

Automatically uses the proper calibration parameters when combined with the FLS-300 or FOT-300 source units.

#### Applications

- Power measurement
- Link-loss characterization

#### Key Features and Benefits

- Highly accurate unit offering 10 calibrated wavelengths and reference values
- No offset nulling required, reducing measurement time
- Autonomy of over 300 hours

P/N	Description
FPM-302	Power Meter. Power meter port Ge. Power Range: +10 to -60 dBm
FPM-302X	Power Meter. Power meter port Gex. Power Range: +26 to -50 dBm

Multiple configurations available. Please check with your TVC representative or [www.tvcinc.com](http://www.tvcinc.com) for details.



### EXFO FPM-600 POWER METER

Offers a memory capacity of 1000 data items and converter software, for easy data management and USB transfer to a PC. Comes with more than 40 calibrated wavelengths.

#### Applications

- Optimized for CWDM power measurement
- Link-loss characterization and LAN/WAN certification

#### Key Features and Benefits

- Adapts to all network types: LAN, CWDM, DWDM, etc.
- Error-free, time-saving features: automatic wavelength recognition, and no offset nulling required
- High accuracy, wide dynamic range and high power measurement capability (up to 26 dBm)
- User-configurable pass/fail thresholds with LED indicator

P/N	Description
FPM-602	Power Meter. Power meter port Ge. Power Range: +10 to -70 dBm
FPM-602X	Power Meter. Power meter port Gex. Power Range: +26 to -55 dBm

Multiple configurations available. Please check with your TVC representative or [www.tvcinc.com](http://www.tvcinc.com) for details.



### EXFO PPM-350C PON POWER METER

Enables quick, on-site testing of all PON signals, anywhere on the network; provides unique workflow management, for faster PON deployments.

#### Applications

- BPON, EPON and GPON configurations
- Service activation and troubleshooting
- Data storage and reporting capabilities

#### Key Features and Benefits

- Simultaneous measurement of all PON signals, anywhere on the network
- Innovative workflow management, for boosted test routine efficiency
- Protected data format, for guaranteed test result authenticity

P/N	Description
PPM-35XC	PON Power Meter

Multiple configurations available. Please check with your TVC representative or [www.tvcinc.com](http://www.tvcinc.com) for details.



### EXFO EPM-50 POWER METER

Allows power measurements up to 26 dBm with battery autonomy of over 300 hours; comes with a specific high power configuration for CATV and Telco markets.

#### Applications

- High power model for CATV and Telco applications
- Enterprise/LAN for single-mode and multimode measurements

#### Key Features and Benefits

- Tone recognition for fiber identification
- Universal push-pull interface
- Reference function for direct loss measurements

P/N	Description
EPM-50	Power Meter

Multiple configurations available. Please check with your TVC representative or [www.tvcinc.com](http://www.tvcinc.com) for details.



# FIBER OPTIC/FTTx TEST



## OPTICAL POWER METERS

### AFL OPM1 OPTICAL POWER METER

The OPM1 Optical Power Meter may be used to measure optical power (dBm) in Premises, Telco, or Broadband fiber optic networks. When used with an LED or Laser light source, the OPM1 can also measure the attenuation (insertion loss) of multimode or single-mode cables.

- 850, 1300, 1310, 1550 nm
- Premises (Ge) and broadband (InGaAs) models
- Displays optical power (dBm)

P/N	Description
OPM1-2C	Calibrated at 850, 1300, 1310, and 1550 nm for testing LAN, Ethernet, FDDI, Token Ring, and single-mode fiber systems such as Telco, WAN, and CATV
OPM1-3C	Operates at 850, 1300, 1310, and 1550 nm but offers greater temperature stability needed for outside plant 1550 nm testing as with WAN, CATV, and Telco systems



### AFL OPM4 OPTICAL POWER METER

The OPM4 is designed for measuring optical power in Premises, Telco, or Broadband networks and for performing insertion loss measurements on multimode or single-mode fiber optic links.

- Multimode or single-mode applications
- Wave ID (auto identification and switching)
- Multiple-wavelength testing

P/N	Description
OPM4	Optical Power Meter, 2 x AA batteries, protective rubber boot, user's guide, and carry case

*Multiple configurations available. Please check with your TVC representative or [www.tvcinc.com](http://www.tvcinc.com) for details.*



### AFL OPM5 OPTICAL POWER METER

The OPM5 is a full-featured OPM is designed for measuring optical power in Premises, Telco, or Broadband networks and for performing insertion loss measurements on multimode or single-mode fiber optic links.

- Multimode or single-mode applications
- File management system organizes stored test data
- Wave ID (auto identification and switching)
- 270 Hz, 330 Hz, 1 kHz, 2 kHz Tone Detection

P/N	Description
OPM5	Optical Power Meter, 2 x AA batteries, AC, protective rubber boot, USB cable, Windows® compatible software and user's guide, OPM5 user's guide, and carry case

*Multiple configurations available. Please check with your TVC representative or [www.tvcinc.com](http://www.tvcinc.com) for details.*



### AFL CSM1-3 CONTRACTOR SERIES OPTICAL POWER METER

The CSM1 is a palm-sized, cost-effective unit is designed for measuring optical power in Premises, Telco, or Broadband fiber optic networks and for performing insertion loss measurements on multimode or single-mode fiber optic links. Weighing only 0.4 lb, this power meter is ideal for field use.

- Multimode or single-mode applications
- 270, 330, 1000, 2000 Hz Tone Detection
- Power measurements in dBm or  $\mu W$ ; insertion loss in dB

P/N	Description
CSM1-X	Optical Power Meter, 2.5 mm Universal adapter cap, 2 x AA batteries, user's guide, and carry case

*Multiple configurations available. Please check with your TVC representative or [www.tvcinc.com](http://www.tvcinc.com) for details.*



### AFL ADAPTER CAPS, TIPS, & TEST PORT ADAPTERS

These standard thread-on adapter caps are used to mate non-angled and angled single-fiber and dual-fiber connectors to optical power meter ports on the AFL M700, OPM1, OPM4, OPM5, T400, T500, and ORL3 series test sets.

P/N	Description
8800-00-0200	FC Adapter Cap
8800-00-0209	SC Adapter Cap
8800-00-0214	2.5 mm Universal
8800-00-0224	1.25 mm Universal

*Additional adapter caps available. Please check with your TVC representative or [www.tvcinc.com](http://www.tvcinc.com) for details.*



# FIBER OPTIC/FTTx TEST

## OPTICAL POWER METERS

### ANRITSU CMA5 POWER METERS AND LIGHT SOURCES

**Power Meter:** The CMA5 Series Power Meters are economical, accurate and easy to use handheld units for attenuation and power throughput measurements on point-to-point fiber optic links.

The CMA5 Power Meters are ideal for testing single-mode and multimode fibers in various types of applications, thanks to multiple wavelength calibration at 850/1300 nm for datacom testing needs, 1310/1550/1625 nm for all WDM testing, as well as 1490 nm for FTTx testing needs.

**Light Source:** The CMA5 Series Light Sources provide an economical and stable laser source for use in point-to-point attenuation measurement. They feature a rugged design, built to withstand the difficult testing environment of fiber optic cable installation and maintenance.

The CMA5 Light Sources are ideal for testing single-mode and multimode fibers as they are offered in a variety of wavelengths to meet testing applications from datacom with 850 and 1300 nm to WDM with 1310/1550 nm wavelength.

- Pocket-sized and rugged design
- Multiple calibration wavelengths to address all network types
- Multimode (850 nm / 1300 nm) or Single-mode (1310 nm / 1550 nm) sources
- Measures up to +23 dBm optical power (Power Meter)

P/N	Description
5P100	Power Meter. Calibrated Wavelength 850, 1300, 1310, 1490, 1550, 1625 nm. Measurement Range +10 to -60 dBm
5P100C	Power Meter. Calibrated Wavelength 850, 1300, 1310, 1490, 1550, 1625 nm. Measurement Range +23 to -50 dBm
5L83	Light Source. Wavelength: 850/1300 nm $\pm$ 20 nm. Output power -7 dBm (MM fiber)
5L35	Light Source. Wavelength: 1310/1550 nm $\pm$ 20 nm. Output power -7 dBm (SM fiber)

**Anritsu**  
Discover What's Possible™



FIBER OPTIC/FTTx

### GREENLEE 560XL FIBER OPTIC POWER METER

- Easy to use - three buttons control all functions
- Loss measurements in (dB) power measurements in (dBm). 0.01dB measurement resolution
- Multi-wavelength storage - stores and recalls reference power levels for faster, more efficient measurements
- Snap on connector interface adapts to FC, SC and ST connectors
- Long battery life - approximately. 100 hours continuous operation
- User selectable auto shut-off

P/N	Description
560XL	Fiber Optic Power Meter. 850/1300/1310/1550 nm; Power Range: -3 dBm to -60 dBm

**GREENLEE COMMUNICATIONS**  
A Testtron Company



### WILCOM POWER METERS

The FM Series Fiber Meters are hand-held, compact, lightweight, and easy-to-use battery powered optical power meters. Together with any of Wilcom's Fiber Sources, this team makes a perfect combination for accurately testing multimode and single-mode optical fiber systems.

The **FM8515B** measures optical power from + 5 dBm to -70 dBm with calibrated wavelengths of 850, 1300, 1310 and 1550 nm making these units ideal for general single-mode and multimode fiber optic testing.

The **FM8515C** CATV Power Meter offers measurements in dBm, dBr, and milli-watts. The unit can store a reference measurement for easy loss measurement calculations. The optical input port on the FM power meters accepts any Wilcom thread-on style adapter caps. Adapter caps are required for operation and must be ordered separately.

Model **FM-1318** offers measurements in dBm, dBr, and microwatts. The optical input port on the FM1318 accepts any Wilcom thread-on style adapter caps. Adapter caps are required for operation and must be ordered separately.

P/N	Description
FM8515B	Optical Power Meter. Application: Wavelengths 850, 1300, 1310, 1550 nm; Power Range is +5 dBm to -70 dBm
FM8515C	Optical Power Meter. Application: Wavelengths 850, 1300, 1310, 1550 nm; Power range is +23 dBm to -50 dBm
FM1318	Optical Power Meter - FTTx. Application: Wavelengths 850, 1300, 1310, 1490, 1550, 1625 nm; Power range is +5 dBm to -70 dBm

**Wilcom**



# FIBER OPTIC/FTTx TEST



FIBER OPTIC/FTTx

## OPTICAL LASER SOURCES

### EXFO FLS-300 LIGHT SOURCE

The FLS-300 Light Source can transmit with a wavelength-identification digital encrypted protocol, so that any compatible unit—the FPM-300 Power Meter and the FOT-300 Optical Loss Test Set—can automatically use the proper calibration parameters. This feature reduces the need for communication between the two technicians and decreases the potential for error.

#### Applications

- Link-loss characterization
- Fiber identification

#### Key Features and Benefits

- Can transmit with a wavelength-identification digital encrypted protocol so that any compatible unit can automatically use the proper calibration parameters
- Autonomy of 120 hours
- Instrument identification available in six languages

P/N	Description
FLS-300	Light Source

Multiple configurations available. Please check with your TVC representative or [www.tvcinc.com](http://www.tvcinc.com) for details.

### EXFO FLS-600 LIGHT SOURCE

Part of EXFO's 600 handheld series, the FLS-600 Light Source is designed for first-class versatility. Choose among laser, LED models, as well as various wavelength options. What's more, you can save time by building a list of your "favorite" wavelengths and only sweep through these wavelengths when testing.

Using the FLS-600 in Auto-Switching mode allows you to automatically toggle between available wavelengths. When using this source with a compatible power meter (FPM/FOT-600), the latter recognizes the wavelength in use and switches to the proper calibration parameter.

#### Applications

- Link-loss characterization
- LAN/WAN certification

#### Key Features and Benefits

- Up to three single-mode wavelengths (1310, 1550, and 1490 or 1625 nm) on a single port, or four wavelengths (850/1300 nm and 1310/1550 nm) on two ports
- Error-free, time-saving test features
- Compliant with the IEC 61280-4-1 standard (using an external conditioner)

P/N	Description
FLS-600	Light Source

Multiple configurations available. Please check with your TVC representative or [www.tvcinc.com](http://www.tvcinc.com) for details.



### EXFO ELS-50 OPTICAL LIGHT SOURCE

ELS-50 Light Source provides excellent stability and high measurement accuracy for up to three single-mode wavelengths (1310, 1490 and 1550 nm) or two multimode wavelengths (850 and 1300 nm). It is the perfect complement to the FiberBasix 50 EPM-50 Power Meter when it comes to measuring attenuation on fiber-optic links.

#### Applications

- Telco/CATV and FTTH models; dual and triple wavelengths
- Enterprise/LAN models; single-mode and multimode

#### Key Features and Benefits

- Excellent power stability for reliable loss measurements
- Interchangeable connector adapters
- Tone generation for fiber identification
- Easy-to-use interface for error-free testing
- Cost-effective, rugged and highly reliable

P/N	Description
ELS-50	Light Source

Multiple configurations available. Please check with your TVC representative or [www.tvcinc.com](http://www.tvcinc.com) for details.





## OPTICAL LASER SOURCES



### AFL OLS2 DUAL LASER LIGHT SOURCE WITH WAVE ID

The OLS2-Dual is a handheld, rugged Laser Source designed for performing insertion loss measurements on single-mode fiber optic links when used with an Optical Power Meter. When paired with an Optical Fiber Identifier, the OLS2-Dual may be used for fiber identification.

The OLS2-Dual features 1310 nm and 1550 nm Laser output from a single output port and offers several modes of operation. Each wavelength may be transmitted individually at CW or with user selectable modulated tone. Also, each wavelength may be transmitted with Wave ID. When transmitting with Wave ID, the OLS2-Dual supports transmitting pairs of wavelengths in an alternating pattern.

- Dual wavelengths from a single port
- Dual or single Wave ID, CW, Tone
- 270 Hz, 330 Hz, 1 kHz, 2 kHz Tone

P/N	Description
OLS2-Dual	Optical Light Source, protective rubber boot, 2 x AA batteries, user's guide, and carry case



### AFL OLS4 INTEGRATED LED AND LASER LIGHT SOURCE WITH WAVE ID

The OLS4 is a handheld, rugged, integrated two-port LED and Laser Light Source designed for performing insertion loss measurements on multimode or single-mode fiber optic links when used with an Optical Power Meter. When paired with an Optical Fiber Identifier, the OLS4 may be used for fiber identification.

The OLS4 features 850/1300 nm LED output from a multimode output port and 1310/1550 nm Laser output from a single-mode output port. Each wavelength may be transmitted individually at CW or with user selectable modulated Tone (SM output). Also, each wavelength may be transmitted with Wave ID.

- Integrated LED and Laser Light Source
- Dual wavelengths from a single port
- Dual or single Wave ID, CW, Tone (SM output)

P/N	Description
OLS4	Optical Light Source, protective rubber boot, 2 x AA batteries, mandrels, user's guide, and carry case



### AFL OLS7-FTTH & OLS7-3 TRIPLE WAVELENGTH LASER SOURCES

The OLS7-FTTH (1310/1490/1550 nm) and OLS7-3 (1310/1550/1625 nm) are handheld, rugged Laser sources designed for performing insertion loss measurements on single-mode fiber optic links when used with an Optical Power Meter. When paired with an Optical Fiber Identifier, both models may be used for fiber identification.

The OLS7-FTTH and OLS7-3 feature a triple wavelength Laser output from a single port and are easy to operate. Each wavelength may be transmitted individually at CW or with user selectable modulated Tone. Also, each wavelength may be transmitted with Wave ID.

- Triple wavelengths from a single port
- Triple, dual, or single Wave ID, CW, Tone
- 270 Hz, 330 Hz, 1 kHz, 2 kHz Tone

P/N	Description
OLS7-FTTH	Optical Light Source, protective rubber boot, 2 x AA batteries, user's guide, and carry case
OLS7-3	Optical Light Source, protective rubber boot, 2 x AA batteries, user's guide, and carry case



### AFL CSS1-SM CONTRACTOR SERIES DUAL LASER LIGHT SOURCE

The CSS1-SM is a palm-sized, cost-effective dual Laser source designed for performing insertion loss measurements on single-mode fiber optic links when used with an Optical Power Meter. When paired with an Optical Fiber Identifier, the CSS1-SM may be used for fiber identification.

The CSS1-SM features 1310 nm and 1550 nm Laser output from a single output port and is easy to operate. Each wavelength may be transmitted individually at CW or with user selectable modulated Tone. The output port is equipped with UCI based removable adapters to allow the output connectors to be inspected and cleaned.

- Dual wavelengths from a single port
- CW and modulated Tone
- 270, 330, 1000, 2000 Hz Tone

P/N	Description
CSS1-SM	Optical Light Source 2 x AA batteries, user's guide, and carry case



# FIBER OPTIC/FTTx TEST

## OPTICAL LASER SOURCES

### GREENLEE 580XL LASER SOURCE

The 580XL is the perfect light source for performing insertion loss testing on single mode fiber optic cabling. Dual wavelength output (1310 nm and 1550 nm) enables fast and accurate insertion loss measurements. Once the user has set the reference with an optical power meter, the 580XL Laser source provides a stable output for hours of continuous measurements.

- 1310/1550 nm wavelengths
- Stable calibrated output
- Fixed connector interface FC, ST, SC
- Continuous wave and modulated output
- Long battery life - approximately 80 hours continuous operation

P/N	Description
580XL-FC	1310/1550 nm Laser Source with FC Interface
580XL-SC	1310/1550 nm Laser Source with SC Interface
580XL-ST	1310/1550 nm Laser Source with ST Interface



FIBER OPTIC/FTTx

### FITEL ID-L LIGHT SOURCE

The Light Source ID-L used in conjunction with the Fitel LightFinder™ Fiber Optic Identifier offers you all the right tools to make your job easier. The ID-L is a light weight, hand-held unit that features a single button control to change the output mode from CW, 270 Hz, 1 kHz, and 2 kHz. The ID-L is battery powered and includes an auto-shutdown function.

- 4 Wavelength Lineup
- 1310/1490/1550/1610 nm
- Boost Function
- Activating the BOOST function increases the output signal by 10 dB
- Selection of 4 frequencies
- CW / 270 Hz / 1 kHz / 2 kHz
- Lightweight design for easy handling
- Operate more than 60 hours on battery
- Removable Adapter For Easy Cleaning
- RoHS Compliant

P/N	Description
ID-L	Light Source



## OPTICAL TEST KITS

### EXFO FOT-930 MaxTester MULTIFUNCTION LOSS TESTER

Designed for network service providers, network installers and CATV operators, the FOT-930 MaxTester provides fully automated loss test results in 10 seconds for up to three wavelengths, as well as automatic ORL and fiber-length measurement. It combines a powerful light source, a power meter, a visual fault locator, a full-duplex digital talk set and a video fiber inspection probe, and it comes with a large, high-resolution color display and nine hours autonomy—all this and more in an ergonomic, eye-catching handheld package built for today's fiber-optic testing requirements. This unit easily and efficiently provides complete, high-quality test documentation. Its data logging and management features help users quickly access and download test results to any PC through the RS-232 port for in-depth analysis and first-class report generation.

#### Applications

- Bidirectional link-loss and ORL characterization
- High-fiber-count network construction
- FTTx construction

#### Key Features and Benefits

- Combines a powerful light source, a power meter, a visual fault locator, a full-duplex digital talk set and a video fiber inspection probe
- High-resolution color display and nine hours autonomy
- Ideal for testing FTTx-based cable TV, POTS and high-speed data services

P/N	Description
FOT-932	Multifunction Loss Tester. Detector type Ge; Measurement range (dBm) +10 to -70
FOT-932X	Multifunction Loss Tester. Detector type GeX; Measurement range (dBm) +26 to -55
FOT-933	Multifunction Loss Tester. Detector type InGaAs; Measurement range (dBm) +6 to -73

Multiple configurations available. Please check with your TVC representative or [www.tvcinc.com](http://www.tvcinc.com) for details.



# FIBER OPTIC/FTTx TEST

## OPTICAL TEST KITS

### EXFO AXS-200/350 OPTICAL LOSS TEST SET

Features a Pass/Fail LED indicator and lets you set your own thresholds for loss measurements, specifically designed for first-class ease of use.

#### Applications

- Ideal for FTTH deployments as well as CWDM and DWDM network assessment
- Fiber Inspection Probe and VFL capabilities

#### Key Features and Benefits

- Ideal for network-link characterization
- Clear, LED-based pass/fail assessment
- Error-free, semi-automatic loss testing
- Straightforward step-by-step loss testing wizard
- Fiber inspection probe port to prevent dirty and damaged connector problems
- CWDM test solution ready with high power detector
- Compliant with the IEC 61280-4-1 standard (using an external conditioner)

P/N	Description
AXS-200/350	Optical Loss Test Set; 800 to 1650 nm; +10 to -75 dBm

Multiple configurations available. Please check with your TVC representative or [www.tvcinc.com](http://www.tvcinc.com) for details.



FIBER OPTIC/FTTx

### EXFO FIBERBASIX 50 HANDHELD TESTERS

FiberBasix 50 Handheld Testers deliver simple, accurate measurement of signal attenuation during fiber-optic cable installation. Buy the ELS-50 Light Source or EPM-50 Power Meter individually, or choose from five test kits designed for specific users/testing needs: LAN, outside plant, contractors, FTTH and CATV.

The FiberBasix 50 series includes two highly convenient instruments:

- The ELS-50 Light Source, combining up to three wavelengths in a single configuration
- The EPM-50 Power Meter, which offers high accuracy and referencing capabilities

#### An FTTx Test Solution

These products are part of EXFO's series of FTTx optical test products. They allow for the testing of passive optical networks (PONs) at the three main wavelengths (1310, 1490 and 1550 nm) used in fiber-to-the-home (FTTH) and fiber-to-the-premises (FTTP) networks and comply with the ITU-T G.983 and G.984 Recommendation series and the IEEE 802.3ah standard.

#### ELS-50

ELS-50 Light Source: Multiwavelength Capability

EXFO's ELS-50 Light Source provides excellent stability and high measurement accuracy for up to three single-mode wavelengths or two multimode wavelengths. It is the perfect complement to the FiberBasix 50 EPM-50 Power Meter when it comes to measuring attenuation on fiber-optic links.

#### EPM-50

EPM-50 Power Meter: High Accuracy and Easy Referencing

The EPM-50 Power Meter provides highly accurate power measurements, as well as reference value setting capabilities. It offers power autonomy of 300 hours, for reliable, long-lasting performance in the field.

#### Applications

- Link-loss characterization (ELS-50 Light Source)
- Power measurement (EPM-50 Power Meter)

#### Key Features

- Easy-to-use interface for error-free testing
- Interchangeable connectors, for first-class flexibility
- Cost-effective, rugged and highly reliable
- Ideal for testing and troubleshooting optical premises networks
- Five test kits to choose from: LAN, outside plant, contractor, FTTH and CATV

P/N	Description
FBK-51	LAN Test Kit
FBK-52	Outside Plant Test Kit
FBK-53	Contractor Kit
FBK-54	FTTH Test Kit
FBK-55	CATV Test Kit

Multiple configurations available. Please check with your TVC representative or [www.tvcinc.com](http://www.tvcinc.com) for details.



# FIBER OPTIC/FTTx TEST



## OPTICAL TEST KITS

### AFL SLP4-6D, SLP4-FTTH AND SLP4-7 TEST KITS

The SLP4-6D Test Kit combines the OPM4-4D Optical Power Meter and OLS2-Dual Laser Light Source and is ideally suited for testing single-mode fiber optic networks. The OLS2-Dual features 1310 nm and 1550 nm Laser output from a single output port and offers several modes of operation. Each wavelength may be transmitted individually at CW or with user selectable modulated Tone. Also, each wavelength may be transmitted with Wave ID. When transmitting with Wave ID, the OLS2-Dual supports transmitting pairs of wavelengths in an alternating pattern.

The SLP4-FTTH and SLP4-7 model combine the OPM4-4D Optical Power Meter and either OLS7-FTTH (1310/1490/1550 nm) or OLS7-3 (1310/1550/1625 nm) Laser source respectively. The OLS7-FTTH and OLS7-3 feature a triple wavelength Laser output from a single port and are easy to operate. Each wavelength may be transmitted individually at CW or with user selectable modulated Tone. Also, each wavelength may be transmitted with Wave ID.

P/N	Description
SLP4-6D	OLS2-Dual optical light source, OPM4-4D optical power meter, AA batteries, protective rubber boots, adapter cap, SLP4-6D test kit user's guide, and carry case
SLP4-7	OLS7-3 optical light source, OPM4-4D optical power meter, AA batteries, protective rubber boots, adapter cap, SLP4-7 test kit user's guide, and carry case
SLP4-FTTH	OLS7-FTTH optical light source, OPM4-4D optical power meter, AA batteries, protective rubber boots, adapter cap, SLP4-FTTH test kit user's guide, and carry case

Multiple configurations available. Please check with your TVC representative or [www.tvcinc.com](http://www.tvcinc.com) for details.



FIBER OPTIC/FTTx

### AFL SLP5 TRIPLE WAVE TEST KITS

The SLP5 triple wavelength single-mode Test Kits are available in two models, SLP5-FTTH and SLP5-7. The SLP5-FTTH and SLP5-7 model combine the OPM5-4D Optical Power Meter and either OLS7-FTTH (1310/1490/1550 nm) or OLS7-3 (1310/1550/1625 nm) LASER source respectively.

- Wave ID (auto identification and switching)
- Triple, dual, or single Wave ID, CW, Tone
- File management system organizes stored data
- 270 Hz, 330 Hz, 1 kHz, 2 kHz Tone

P/N	Description
SLP5-7	OLS7-3 optical light source, OPM5-4D optical power meter, AA batteries, protective rubber boots, adapter cap, USB cable, Windows® compatible software and user's guide, SLP5-7 test kit user's guide, and carry case
SLP5-FTTH	OLS7-FTTH optical light source, OPM5-4D optical power meter, AA batteries, protective rubber boots, adapter cap, USB cable, Windows® compatible software and user's guide, SLP5-FTTH test kit user's guide, and carry case

Multiple configurations available. Please check with your TVC representative or [www.tvcinc.com](http://www.tvcinc.com) for details.



### AFL CKSM-2 CONTRACTOR SERIES MULTIMODE AND SINGLE-MODE TEST KIT

Combining the CSM1-2 Optical Power Meter, CSS1-MM Dual LED light source, and CSS1-SM Dual Laser source, the CKSM-2 is a cost-effective test kit designed for performing insertion loss measurements on multimode as well as single-mode fiber optic links. Weighing only 0.4 lb each, units are compact and convenient for field use.

The CSS1-MM and CSS1-SM sources feature Dual output, 850 /1300 nm LED or 1310/1550 nm Laser respectively, from a single output port. Both CSS1 models offer 2 modes of operation, continuous wave (CW) and user selectable modulated Tone.

- CW and modulated Tone
- 270, 330, 1000, and 2000 Hz Tone
- Power measurements in dBm or  $\mu W$ ; insertion loss in dB

P/N	Description
CKSM-2	CSS1-MM Dual LED source, CSS1-SM Dual Laser source, CSM1-2 optical power meter, AA batteries, 2.5 mm universal adapter cap, UCI-SC connector, 50 and 62.5 $\mu m$ mandrels, user's guide, and carry case



### AFL C880 QUAD CERTIFICATION TEST KIT

Combining two C840 Certification Testers, the C880 QUAD Certification Test Kit is designed for testing and troubleshooting both multimode and single-mode fiber links. Each tester includes an integrated Visual Fault Locator (VFL, 650 nm), both single-mode (Laser 1310/1550 nm) and multimode (LED 850/1300 nm) Optical Light Sources (OLS), and an Optical Power Meter (OPM). Each tester may be used alone as a traditional Power Meter, Light Source or Visual Fault Locator.

- Integrated OPM, OLS, and VFL (650 nm)
- OLS Sources: 850/1300 nm LED and 1310/1550 nm Laser sources
- Dual-wavelength certification Pass/Fail
- Two fibers bi-directional and single fiber testing

P/N	Description
C880	QUAD Certification Test Kit

Multiple configurations available. Please check with your TVC representative or [www.tvcinc.com](http://www.tvcinc.com) for details.





# FIBER OPTIC/FTTx TEST

## OPTICAL TEST KITS

### ANRITSU CMA50 LOSS TEST SETS

Fast, accurate and easy-to-use, Anritsu's CMA50 line of Loss Test Sets are designed for attenuation and throughput measurements of fiber optic links. With up to four lasers in the same unit and a power meter calibrated to 26 different wavelengths, CMA50 meets any testing requirement from FTTx PON networks, to CWDM to long haul telephony links to multimode LAN, and CATV.

- Up to 4 high power sources out of a single port – SM or MM
- Integrated visual fault locator
- Stores up to 100,000 data sets
- ORL option
- Measurements up to +27 dBm
- Calibrated at 26 wavelengths including CWDM

P/N	Description
50LTS35	Dual-Wavelength Loss Test Set, LD. 1310/1550 ±20 nm -7 dBm (G.652 fiber)
50LTS83	Dual-Wavelength Loss Test Set, LED 850/1300 ±20 nm -18 dBm (62.5/125 μm fiber)
50LTS3456	Four-Wavelength Loss Test Set, LD. 1310/1490/1550/1625 ±20 nm -7 dBm (G.652 fiber)
50LTS8335	Four-Wavelength Loss Test Set, LED on MM port -7 dBm (G.652 fiber); LD on SM port -18 dBm (62.5/125 μm fiber); 850/1300/1310/1550 ±20 nm
50PMS	Optical Power Meter: 850/1300/1310/1490/1550/1625 nm plus CWDM wavelengths (ITU-T G694.2); +10 to -75 dBm

Multiple configurations available. Please check with your TVC representative or [www.tvcinc.com](http://www.tvcinc.com) for details.



FIBER OPTIC/FTTx

### JDSU ORL-55 SMART OPTICAL RETURN LOSS METER

The ORL-55 Smart Optical Return Loss Meter is a high-performance, easy-to-use instrument for field, laboratory, and production use. It combines three different functions in one field-optimized instrument, including an Optical Return Loss Meter, an Optical Power Meter, and a triple-wavelength Laser Source.

- High-precision ORL testing at 2 or 3 wavelengths (single-mode 1310, 1490, 1550, 1625 nm)
- Three instruments in one: Return Loss Meter/Power Meter/Laser Source
- TRIPLEtest function for simultaneous measurements at three wavelengths in real time
- Auto-zeroing function (patent pending) for increased measurement accuracy

P/N	Description
BN 2287/21	ORL-55 Smart Optical Return Loss Meter 1310/1550 nm
BN 2287/22	ORL-55 Smart Optical Return Loss Meter 1310/1490/1550 nm
BN 2287/23	ORL-55 Smart Optical Return Loss Meter 1310/1550/1625 nm



### GREENLEE MULTIMODE AND SINGLE-MODE FIBER OPTIC TEST SET

- Insertion loss test set for multimode and single-mode fiber
- 1310/1550 nm loss measurements; 850/1300 nm loss measurements
- Connector for FC, SC or ST

P/N	Description
5890-FC	Multimode and Single-mode Fiber Optic Test Set w/FC Interface
5890-SC	Multimode and Single-mode Fiber Optic Test Set w/SC Interface
5890-ST	Multimode and Single-mode Fiber Optic Test Set w/ST Interface



### FLUKE NETWORKS FIBER QUICKMAP

Fiber QuickMap™ is a new category of fiber troubleshooter for the enterprise, quickly and efficiently locating connections and breaks in a multimode fiber network. One button testing means anyone can instantly become an advanced troubleshooter. Six seconds of test time leads to immediate visibility and understanding of a multimode channel's links to identify any potential problem areas, whether they are high loss or reflective incidents, or fiber breaks. Reducing hours of blind and inefficient trial-and-error troubleshooting down to seconds, Fiber QuickMap™ is the go-to troubleshooter for use in today's multimode fiber data centers and enterprises.

P/N	Description
FQM-MAIN	Fiber QuickMap™ mainframe with carrying pouch
FQM-KIT	Fiber QuickMap™ Kit with Test Reference Cords (50 and 62.5 μm for both SC/SC and SC/LC) and carrying pouch
FTS900	Fiber QuickMap™ Kit with Test Reference Cords (50 and 62.5 μm for both SC/SC and SC/LC), VisiFault Visual Fault Locator and carrying case
FTS1000	Fiber QuickMap™ Troubleshooter Kit with Test Reference Cords (50 and 62.5 μm for both SC/SC and SC/LC), VisiFault Visual Fault Locator, and SimpliFiber Pro power meter and multimode source, and carrying case





# FIBER OPTIC/FTTx TEST



## OPTICAL TEST KITS

### FLUKE NETWORKS DTX-CLT CERTIFIBER® OPTICAL LOSS TEST SET

DTX-CLT CertiFiber® Optical Loss Test Set provides a complete Tier 1 fiber certification (loss, length, and polarity) solution for both multimode and single-mode fiber. Leveraging the market-leading DTX™ CableAnalyzer interface, it performs easy and quick validation of fiber link performance and installation quality, measurement of optical loss at multiple wavelengths, and polarity confirmation. It even measures fiber length, eliminating the need for unreliable guesswork and estimation methods. Save, upload, manage, and print comprehensive certification reports using Fluke Networks' popular LinkWare™ PC software.

P/N	Description
DTX-CERTIFIBER-M	Multimode DTX-CLT CertiFiber; includes DTX-MFM2 and one set of 50 μm SC/SC test reference cords
DTX-CERTIFIBER-S	Single-mode DTX-CLT CertiFiber; includes DTX-SFM2 and one of SM SC/SC test reference cords
DTX-CERTIFIBER-MS	Multimode and Single-mode DTX-CLT CertiFiber; includes DTX-MFM2 and DTX-SFM2 and one set each of 50 μm and SM SC/SC test reference cords
DTX-CERTIFIBER/MU	Replacement mainframe for DTX-CLT CertiFiber
DTX-CERTIFIBER/RU	Replacement remote for DTX-CLT CertiFiber
DTX-MFM2	Set of two DTX Multimode Fiber Modules
DTX-GFM2	Set of two DTX Gigabit Multimode fiber modules
DTX-SFM2	Set of two DTX Single-mode fiber modules



FIBER OPTIC/FTTx

### FLUKE NETWORKS FIBER ONE SHOT™ OPTICAL TEST SET

Fiber OneShot™ is a pocket-sized optical test set designed to take the complexity out of single-mode fiber testing. Fiber OneShot's one-button-test capability will quickly and accurately verify if a fiber is active and find the distance to a break or end, dirty end face or reflective event—going from zero to 9,999 feet (0 - 6,000 meters displayed in metric mode). This portable FTTx tester is designed to increase productivity and decrease training time. The Fiber OneShot allows testing anywhere in the network—central office, node, hub, drop or optical network terminal (ONT) — and is fast, affordable, lightweight and accurate.

P/N	Description
FIBR-1-KIT	Fiber OneShot Optical Test Set, SC adapter, UPC-APC, UPC-UPC 1-meter launch cords, holster, case, 22 language-Quick Reference Card (QRC) on CD, manual, batteries
FIBR-1-SHOT	Fiber OneShot Optical Test Set, SC adapter, holster, 22 language-QRC on CD, manual, batteries
FIBR-1-KIT-VF	Fiber OneShot Optical Test Set, SC adapter, UPC-APC, UPC-UPC 1-meter launch cords, holster, case, 22 language-QRC on CD, manual, batteries + VisiFault-Visual Fault Locator with 2.5 mm universal adapter
FIBR-1-KIT-PM	Fiber OneShot Optical Test Set, SC adapter, UPC-APC, UPC-UPC 1-meter launch cords, holster, case, 22 language-QRC on CD, manual, batteries + SFPOWERMETER-SimpliFiber Pro optical power meter; SC adapter included
FIBR-1-KIT-VFPM	Fiber OneShot Optical Test Set, SC adapter, UPC-APC, UPC-UPC 1-meter launch cords, holster, case, 22 language-QRC on CD, manual, batteries + VisiFault-Visual Fault Locator with 2.5 mm universal adapter + SFPOWERMETER-SimpliFiber Pro optical power meter; SC adapter included



### FLUKE NETWORKS FIBER ONE SHOT™ PRO OPTICAL TEST SET

Fiber OneShot™ PRO takes the complexity out of single-mode fiber testing by analyzing fiber links and measuring faults up to 15 miles in less than five seconds. Whether you are troubleshooting FTTx, Hybrid Fiber Coax (HFC), fiber links between Central Offices, or working on regional or rural access networks, Fiber OneShot PRO is your first response to fiber trouble. The simple, one-button test feature means no training and can cut the average job time by 30 percent. This new class of tester fills the gap between a VFL and OTDR because it easily and quickly locates lossy connections, high-loss faults and breaks in a single-mode fiber network.

P/N	Description
FIBR-1-SHOTPRO	Fiber OneShot PRO only. Includes meter, SC adapter, 22-language quick reference guide on CD, manual and batteries
FIBR-1-KITPRO	Fiber OneShot PRO-SC-Kit. Includes meter, SC adapter, UPC-UPC 2-meter patch cord, holster, case, 22-language quick reference guide on CD, manual and batteries
FIBR-1-KITPRO-VF	Fiber OneShot PRO-SC-Kit with VisiFault. Includes meter, SC adapter, UPC-UPC 2-meter patch cord, holster, case, 22-language quick reference guide on CD, manual and batteries plus the VisiFault Visual Fault Locator with 2.5 mm universal adapter
FIBR-1-KITPRO-PM	Fiber OneShot PRO-SC-Kit with SimpliFiber Pro. Includes meter, SC adapter, UPC-UPC 2-meter patch cord, holster, case, 22-language quick reference guide on CD, manual and batteries plus SimpliFiber Pro optical power meter and SC adapter
FIBR-1-PRO-LSPM	Fiber OneShot PRO-SC-Kit with SimpliFiber Pro and Light Source. Includes meter, SC adapter, UPC-UPC 2-meter patch cord, holster, case, 22-language quick reference guide on CD, manual and batteries plus SimpliFiber Pro optical power meter and 1310/1550 nm Light Source



# FIBER OPTIC/FTTx TEST

## OPTICAL TEST KITS

**FLUKE**  
networks

### FLUKE NETWORKS SIMPLIFIBER PRO® OPTICAL POWER METER AND FIBER TEST KITS

SimpliFiber Pro is an improved Fiber Test Set that simplifies and shortens the front-line testing process by:

- Reducing the multiple steps and using a simultaneous dual-wavelength testing feature to measure the range of power levels in just half the time
- Allowing for a non-touch solution to check for a live fiber without having to plug into ports
- Enabling a network technician to do time-consuming procedures that normally require a team

SimpliFiber® Pro Optical Power Meter and Fiber Test Kits provide you with all the tools you need to help you verify proper installation and maintain fiber-optic cabling systems. Available in kits or a la carte, these tools are simple and effective and provide you with the capability to measure loss and power levels, locate faults and polarity issues, and inspect connector end-faces.



FTK1300

P/N	Description
FTK2000	Basic Verification Kit (Single-mode). Includes SimpliFiber Pro Power Meter, 1310/1550 nm single-mode source (SC port), and carrying case
FTK2100	Single-mode Fiber Verification Kit. Includes SimpliFiber Pro optical power meter, two single-mode sources (1310/1550 and 1490/1625 nm), carrying case, and SC power-meter adapter
FTK1450	Complete Fiber Verification Kit. Includes SimpliFiber Pro Power Meter, 850/1300 nm and 1310/1500 nm sources (SC port), two (2) FindFiber Remote ID sources, FT500 FiberViewer Video Microscope, VisiFault VFL, LC and ST adapters, NFC-KIT-BOX cleaning equipment, and carrying case
FTK1000	Basic Verification Kit (Multimode.) Includes SimpliFiber Pro Power Meter, 850/1300 nm multimode source (SC port), and carrying case
FTK1300	Full-Featured Verification Kit with FiberViewer. Includes SimpliFiber Pro Power Meter, 850/1300 nm source (SC port), FindFiber Remote ID source, FT120 FiberViewer Optical Microscope, VisiFault VFL, LC and ST adapters, and carrying case
FTK1350	Full-Featured Verification Kit with FiberInspector Mini. Includes SimpliFiber Pro Power Meter, 850/1300 nm source (SC port), FindFiber Remote ID source, FT500 FiberViewer Video Microscope, VisiFault VFL, LC and ST adapters, and carrying case
CIQ-FTKSFP	Copper and Fiber Technician's Kit. Includes the CableIQ (CIQ-KIT) and SimpliFiber Pro (FTK1000) Fiber Test Kit
MS2-FTK	Copper and Fiber Basic Technician's Kit. Includes the MicroScanner (MS2-100) and SimpliFiber Pro (FTK1000) Fiber Test Kit



FTK1350

### CORNING OTS-600 SERIES LIGHT SOURCE AND POWER METER

The OTS-600 Series is ideal for optical network certification. The unit is designed for testing and troubleshooting of various telecommunication networks, with ease of use achieved using a large color LCD screen, soft-key menus and a testing wizard. The OTS-600 Series models provide source and meter in one unit to improve bi-directional testing productivity and the auto wavelength switching and detection feature cuts typical testing time in half while reducing the potential for errors.

- Source and meter in one unit
- Auto wavelength switching and detection
- USB data ports

P/N	Description
OTS-600SD	Single-mode Test Kit with OS-404RXD (1310/1550 nm) Laser source and integrated 650 nm VFL, OM-610 power meter, (2) Li-Ion rechargeable batteries and (2) AC power adapters, USB cable for data transfer, OTS-View software (1) SC source port adapter, (1) SC meter adapter, (1) ST compatible meter adapter, (1) LC meter adapter, (2) wrist straps, cleaning supplies, hard transit case and user's manual

Multiple configurations available. Please check with your TVC representative or [www.tvcinc.com](http://www.tvcinc.com) for details.

**CORNING**



### CORNING LTK-400 SERIES LIGHT SOURCE AND POWER METER

The LTK-400 Series offers a complete, cost-effective solution for link-loss testing of both multimode and single-mode systems for those users who do not require data storage capabilities. The LTK offers unparalleled performance by combining a source that has one of the highest output powers in the industry with a meter that has 10 calibrated wavelengths from 830 to 1625 nm.

- Rugged handheld design that can withstand the harshest testing environments
- Excellent cost-effective solution for testing fiber optic systems when data storage is not required
- Both the source and meter have field-interchangeable port adapters

P/N	Description
LTK-400SD	Single-mode Loss Test Kit including OS-404XD source (1310/1550 nm) Laser and OM-410 meter (no data storage), AA batteries for both units, (2) AC power supplies, SC and ST compatible jumpers and adapters for SM, manual, (1) SC source port adapter, (1) ST compatible source port adapter, (1) SC meter port adapter, (1) ST compatible meter port adapter, (2) wrist straps, plastic case of cleaning supplies, and padded carrying case

Multiple configurations available. Please check with your TVC representative or [www.tvcinc.com](http://www.tvcinc.com) for details.



# FIBER OPTIC/FTTx TEST



## MICROSCOPES & VIDEOSCOPIES

### EXFO FIP-400 FIBER INSPECTION PROBE

#### Applications

- Inspection of dirty/damaged connectors

#### Key Features and Benefits

- Easy back-panel connector inspection
- Image-capture capability for report documentation
- Ideal for all types of connectors: APC, UPC, MTP and more

P/N	Description
FIP-400	Fiber Inspection Probe. Standard Accessories include Video inspection probe (single or dual magnification), FC-SC tip for bulkhead, U25M universal patchcord tip for 2.5 mm ferrule and Plastic case divided into various compartments for tips

Multiple configurations and adapter tips available. Please check with your TVC representative or [www.tvcinc.com](http://www.tvcinc.com) for details.



FIBER OPTIC/FTTx

### EXFO CONNECTORMAX ANALYSIS SOFTWARE

Delivers clear-cut pass/fail verdicts, eliminating guesswork in the field, helping you save time and money.

#### Applications

- Connector inspection and certification
- IEC/IPC-compliant network acceptance testing

#### Key Features and Benefits

- Automatic pass/fail analysis in the portable FTB-1, FTB-200 and FTB-500 platforms
- Lightning-fast: results in a few seconds through simple one-touch operation
- Compatible with EXFO's FIP-400 series probes

P/N	Description
FPSA	Platform - Fiber inspection probe analysis software for portable platform
FPSAMF	Platform - ConnectorMax kit: Single-fiber analysis and reporting; Multiple-fiber connectors wizard and reporting
FPSA-PC	PC - Fiber inspection probe analysis software for PC or laptop*
FPSAMF-PC	PC - ConnectorMax kit: Single-fiber analysis and reporting, Multiple-fiber connectors wizard and reporting

\*The FIP-400-USB2, USB 2.0 Converter Module is required and sold separately.



### AFL VS300 VIEW SAFE INSPECTION SCOPE

The VS300 Video Fiber Scope removes concerns for eye safety while inspecting optical fiber connectors. The design eliminates the optical path to the eye by utilizing a miniature camera and a state-of-the-art micro-display that achieves unparalleled clarity and resolution.

- Video Technology
- No optical path to your eye
- 400X magnification

P/N	Description
VS300	Inspection Scope, 2 x AA batteries, neck strap, 2.5 mm universal adapter cap, and user's guide



### AFL OFS300 OPTICAL MICROSCOPE

The OFS300 is a versatile Optical Fiber Scope with precision 200X magnification. This handheld and rugged scope is used for inspection of optical fiber connectors for scratches, dirt, or other problems normally associated with poor transmission performance.

- Laser safety filter installed
- Precision 200X zoom

P/N	Description
OFS300	Inspection Scope, 2 x AA batteries, neck strap, 2.5 mm universal adapter cap, user's guide



### AFL DFS1 DIGITAL FIBERSCOPE

The DFS1 Digital FiberScope supports magnified video inspection of fiber optic connectors to ensure end-faces are free of damage and contamination. The DFS1 illuminates fiber end-faces and delivers magnified fiber end-face images via USB port for display and archiving on AFL's M-series OTDRs (M200, M700) or C-series OTDRs and Certification Testers (C840, C850, C860, C880). Using AFL's SimpleView™ software, users may connect the DFS1 to a USB port on their laptop or PC to view fiber end-faces on the PC's display.

P/N	Description
DFS1-XX-XXXX	DFS1 Digital FiberScope

Multiple configurations and adapter tips available. Please check with your TVC representative or [www.tvcinc.com](http://www.tvcinc.com) for details.



# FIBER OPTIC/FTTx TEST

## MICROSCOPES & VIDEOSCOPIES

### LIGHTEL VIEWCONN®

ViewConn® (VC-6200) enables users to inspect fiber connectors for contamination, clean the connectors, and re-inspect, ensuring optimal signal quality while reducing installation time. The USB port allows full image capture capability for documentation - all from one hand-held unit.

- Field of View ~ 425  $\mu\text{m}$  x 320  $\mu\text{m}$
- Resolution 0.5  $\mu\text{m}$  detectable
- Focus Manual Adjustment, 2 mm max travel

P/N	Description
VC-6200	ViewConn®

### LIGHTEL VIEWCONN® PLUS

The ViewConn® Plus dual microscope design can significantly reduce inspection time. Patchcords drop into the top mounted scope, and with the flip of a switch, you can inspect in-adapter connectors with the hand held probe. In seconds, both male and female connector pairs can be inspected without changing tips.

Like all ViewConns, the VC-6200-PL has a built-in patchcord cleaner allowing you to inspect, clean and re-inspect the connector while helping keep your hands free. A USB output is included for image capture and storage on your PC.

P/N	Description
VC-6200-PL	ViewConn® Plus

### LIGHTEL VIEWCONN® PRO

ViewConn® Pro (VC-8200) is an integrated system for fiber optic connector inspection, evaluation, documentation and cleaning. An integrated power meter is also available as a customer installable add-in. With built in Wi-Fi, ViewConn Pro can send its Pass/Fail analysis reports via email to other locations or store them directly within the unit.

The Lightel originated dual microscope concept allows rapid inspection of both male and female connectors without changing tips. The auto-centering feature allows faster connector endface location and analysis with the probe.

P/N	Description
VC-8200	ViewConn® Pro

### LIGHTEL VC6-OPM/-H POWER METERS

The VC6-OPM and VC6-OPM-H are Lightel's optical power meters designed to integrate with ViewConn®. Able to store up to 999 readings, the VC6-OPM or VC6-OPM-H shares ViewConn's batteries and large easy-to-read display screen. They add accurate optical power testing to ViewConn's cleaning and inspection capabilities creating an integrated 3-in-1 hand-held device. Either OPM can be purchased in a set with a ViewConn, or added to your ViewConn when you need it.

- Calibrated Wavelength 850, 1300, 1310, 1490, 1550, 1625 nm
- Resolution 0.01 dB (0.1 dB when < -55 dBm)

P/N	Description
VC6-OPM	Power Meter. Power Range -60 ~ +10 dBm
VC6-OPM-H	Power Meter. Power Range -45 ~ +26 dBm

### LIGHTEL CI-1100 FIBER OPTIC CONNECTOR INSPECTOR

- Comprehensive line of tips for both PC and APC type connectors, including extended tips in three lengths, 60° and 90° angled tips for applications with tight access, and tips for ribbon connectors
- Uses our Series 2 inspection tips, and can also use all our CI-1000 tips with an optional adapter

P/N	Description
CI-1100-A2	Connector Inspector
CI-1100-AB2	Connector Inspector with additional USB2.0 Adapter and image capture software CD

### LIGHTEL DI-1000 DIGITAL INSPECTION PROBE

The ergonomically designed DI-1000 is Lightel's all digital video microscope probe. It connects directly to your PC through the computer's USB2.0 port. Featuring easy single finger focusing, a built-in image freeze/capture button, and detectable resolution to 0.5  $\mu\text{m}$ , the DI-1000 package includes our free ConnectorView™ (standard) software, providing digital zoom, image display, image capture, auto-calibration and basic analysis tools.

The DI-1000 uses Series 2 inspection tips, and can also use all our CI-1000 tips with an optional adapter.

P/N	Description
DI-1000-XX	Digital Inspection Probe

Multiple configurations and adapter tips available. Please check with your TVC representative or [www.tvcinc.com](http://www.tvcinc.com) for details.



VC6-OPM-H



VC6-OPM





# FIBER OPTIC/FTTx TEST



## MICROSCOPES & VIDEOSCOPIES

### JDSU FBE-S Access Kits

FBE-S Series kits are designed for the field installer who primarily encounters the more common applications in today's fiber optic networks. These kits include a FBE Series probe hard wired to a handheld video display. FBE Series probes utilize their own inspection tips (FBET Series), which will support the more common connector configurations in fiber networks.

P/N	Description
FBE-SM1	Probe Kit. Includes Video inspection probe microscope (200X) hard wired to HD3 display, interchangeable FBET inspection tips (4) in soft case, SC and LC bulkhead tips, Universal 2.5 mm and 1.25 mm patch cord tips; soft-sided carrying case
FBE-SM2	Probe Kit. Includes Video inspection probe microscope (400X) hard wired to HD3 display, interchangeable FBET inspection tips (4) in soft case, SC and LC bulkhead tips, Universal 2.5 mm and 1.25 mm patch cord tips; soft-sided carrying case
FBE-SM5	Probe Kit. Includes Video inspection probe microscope (400X) hard wired to HD3-P display with integrated patch cord microscope, interchangeable FBET inspection tips (2) in soft case, SC and LC bulkhead, interchangeable FMAE adapters (2) Universal 2.5 mm and 1.25 mm patch cord adapters, soft-sided carrying case



FIBER OPTIC/FTTx

### JDSU FM-C SERIES FIBER MICROSCOPES

The FM-C200 is a ruggedized field scope with magnification of 200x and coaxial illumination. It comes with a universal 2.5 mm adapter for inspecting FC, SC and ST connectors.

The FM-C400 is a ruggedized field scope with magnification of 400x and coaxial illumination. It comes with a universal 2.5 mm adapter for inspecting FC, SC and ST connectors.

P/N	Description
FM-C200	C-Series Fiber Microscope 200x Coaxial Illumination, 2.5 mm FMA Adapter
FM-C400	C-Series Fiber Microscope 400x Coaxial Illumination, 2.5 mm FMA Adapter



### JDSU FM-DI SERIES FIBER MICROSCOPE

The FM-DI100 is a dual illumination 100x Microscope. It uses a pair of white LED's to provide both coaxial and oblique illumination. This lighting technique facilitates detecting fine scratches and precisely determining their location relative to the core. The Microscope includes a universal 2.5 mm adapter for inspecting FC, SC and ST connectors. The DI Series accepts FMAE Series adapters, but can be configured to accept FMA adapters with the use of a coupler.

The FM-DI200 is a dual illumination 200x Microscope. It uses a pair of white LED's to provide both coaxial and oblique illumination. This lighting technique facilitates detecting fine scratches and precisely determining their location relative to the core. The Microscope includes a universal 2.5 mm adapter for inspecting FC, SC and ST connectors. The DI Series accepts FMAE Series adapters, but can be configured to accept FMA adapters with the use of a coupler.

P/N	Description
FM-DI100	DI-Series Fiber Microscope 100x, Dual Illumination, 2.5 mm FMAE Adapter
FM-DI200	DI-Series Fiber Microscope 200x, Dual Illumination, 2.5 mm FMAE Adapter



### JDSU FM-L SERIES FIBER MICROSCOPE

The FM-L-series Microscopes use oblique illumination to provide users with a clear view of surface debris and core condition. It is available in 100, 160, and 200X magnification models that use energy-efficient light emitting diode (LED) illumination to provide 100,000+ hours of lamp life. The FM-L microscope uses FMA-series adapters that let users inspect various connector types. Also, its durability, ergonomic design, optical performance, and ease-of-use make it the optical instrument of choice for viewing fiber terminations in sensitive installations.

- Rugged, ergonomic design for field use
- LED illumination for 100,000+ hour life
- Oblique illumination for superior view of fiber end face cleanliness and core condition

P/N	Description
FM-L100	100X oblique illumination field microscope; 2.5 mm FMA adapter
FM-L160	160X oblique illumination field microscope; 2.5 mm FMA adapter
FM-L200	200X oblique illumination field microscope; 2.5 mm FMA adapter
FM-LX100	100X oblique illumination field microscope
FM-LX160	160X oblique illumination field microscope
FM-LX200	200X oblique illumination field microscope





# FIBER OPTIC/FTTx TEST

## MICROSCOPES AND VIDEOSCOPIES

### JDSU HP3-60-P4 FIBER INSPECTION & TEST SYSTEM

The JDSU HP3-60-P4 (with integrated patch cord microscope) inspection and test system combines fiber inspection and optical power measurement into a single seamless handheld device. The result is a significant increase in workflow efficiency and a decrease in total inspection and test time.

The HP3-60-P4 system, derived from the popular HD3 series, provides high-quality image resolution in a compact, portable design. The integrated power meter offers quick, easy, and convenient field measurement of optical power and attenuation. Easy push-button operation makes the device simple and straightforward, while the inspect-test process establishes optimal workflow practices.

- Inspects both sides of fiber interconnect, and accurately tests and measures optical power with one device
- Integrated functions and features eliminate switching between multiple devices
- Input for FBP series probe microscope and a dedicated patch cord microscope (PCM) let users quickly and easily inspect both sides of fiber interconnects

P/N	Description
FIT-HP3-60	Handheld display with integrated Power Meter
FIT-HP3-60-P4	Handheld display with integrated Power Meter and 400X patch cord microscope
FIT-S105	KIT: Dual-mag (200/400X) fiber inspection probe microscope and tips, handheld display with integrated power meter and 400X PCM, carrying case
FIT-S105-C	KIT: Dual-mag (200/400X) fiber inspection probe microscope and tips, handheld display with integrated power meter and 400X PCM, cleaning materials, carrying case



FIBER OPTIC/FTTx

### safety first

#### The Basic Rules For Safe And Efficient Testing

Thorough connector/adaptor care and cleaning is where accurate testing starts, as dirt or damage can lead to erroneous test results, poor transmission and even permanent harm to the link, especially in the case of high-power transmission. So before performing a connection, ensure that connectors/ adapters are clean and exempt of any defect.

- **Always** turn off any laser source before inspecting or cleaning connectors, components or bulkheads. Invisible radiation can seriously damage your eyesight.
- **Always** wear the appropriate safety glasses whenever required in the work environment.
- **Always** keep a protective cap on unused connectors, and store unused protective caps in sealed container, to prevent contamination.
- **Always** use appropriate optical cleaning tools.
- **Never** use alcohol, solvent or wet cleaning without a way to ensure that it does not leave a residue on the endface, as such a residue can harm the equipment.
- **Never** reuse any tissue, swab or cleaning reel. Always discard used tissues and swabs properly.
- **Never** pull or twist any fiber or test jumper.

Source: Compliments of EXFO

### FLUKE NETWORKS FIBERINSPECTOR™ MINI & FIBERINSPECTOR™ PRO

The FiberInspector video microscopes enable inspection of end-faces on all types of installed fiber. The portable video microscopes project a crisp, clear image of microscopic debris and end-face damage. Use either the convenient Mini or the full-featured Pro that has a larger screen, rugged boot and wide array of adapter tips.

P/N	Description
FT500	FiberInspector Mini Video Microscope
FT525	FiberInspector Mini Video Microscope with Cleaning Kit
FT600	FiberInspector Pro Video Microscope
OFTM-5352	FiberInspector Pro for OptiFiber Certifying OTDR
OPV-FT600	FiberInspector Pro for OptiView Integrated Network Analyzer



### FLUKE NETWORKS FIBERVIEWERS™

The FiberViewers are handheld microscopes used to inspect the ends of fiber optic connections. They ensure your termination is smooth, clean and ready for optical transmission. Inspect multimode and single-mode fiber end-faces quickly, and protect eyes from harmful infrared rays with the built-in safety filter.

P/N	Description
FT120	FiberViewer, 200X
FT140	FiberViewer, 400X



# FIBER OPTIC/FTTx TEST



## OPTICAL FIBER IDENTIFIERS

### EXFO LFD-200 LIVE FIBER DETECTORS

The LFD-200 Live Fiber Detector allows you to accurately detect traffic and measures signals anywhere on single-mode and multimode fibers without having to disconnect them. Check for signal presence before rerouting or maintenance, perform continuity tests and check cable labeling. Based on non-destructive macrobending technology, this compact live fiber detector does not disrupt traffic, nor damage or overstress the fiber, enabling efficient, accurate and reliable data acquisition.

#### Applications

- Non-intrusive fiber identification
- Traffic direction verification

#### Key Features and Benefits

- Traffic, optical tone and continuous signal detection
- Direct dBm measurements
- LFD-200E model: wide power range of 23 to -50 dBm

P/N	Description
LFD-201	Standard live fiber detector without core power reading display (0 to -40 dBm)
LFD-202	Live fiber detector with core power reading display (0 to -40 dBm)
LFD-202E	Core power reading display (23 dBm to -50 dBm)

Multiple configurations available. Please check with your TVC representative or [www.tvcinc.com](http://www.tvcinc.com) for details.



FIBER OPTIC/FTTx

### EXFO LFD-250B LIVE FIBER DETECTOR

Traditional live fiber detectors (LFDs) use thumb-activated fiber bending at a fixed angle to enable the detector to read the power leaking from the jacket. Since the bending is fixed and optimized for one wavelength and one fiber type, the bending often causes:

- Excessive loss
- Unreliable fiber detection (fiber activity is not detected)
- Unreliable tone/traffic detection
- Permanent damage to the fiber

The LFD-250B Live Fiber Detector introduces step-motor-activated bending and makes fixed-angle bending—and the drawbacks stated above—a thing of the past.

#### Applications

- Non-intrusive fiber identification and power measurement
- Traffic direction verification

#### Key Features and Benefits

- Induces minimal loss:  $\leq 1$  dB
- Fail-safe detection and results
- Detects if a fiber is active or not prior to maintenance
- Locates a particular dark fiber using tone recognition (270 Hz, 1 kHz, 2 kHz)
- Identifies traffic direction on a live fiber

P/N	Description
LFD-250B	Live Fiber Identifier



### EXFO LFD-300B/TG-300B FIBERFINDER LIVE FIBER IDENTIFIER/TONE GENERATOR

Enables technicians to identify a specific live fiber without having to disconnect it and, above all, without having to guess. The end results: no more network outages caused by inadequate fiber detection or identification, and a minimized need to access the network, helping prevent errors.

#### Applications

- Non-intrusive power measurement and fiber identification

#### Key Features and Benefits

- Pinpoints a specific live fiber using EXFO's FiberFinder™ functionality
- Induces minimal loss:  $\leq 1$  dB
- Locates a particular dark fiber using tone recognition (270 Hz, 1 kHz, 2 kHz)
- Improved: faster test cycle—three times faster

P/N	Description
LFD-300B	Live Fiber Identifier
TG-300B	Tone Generator
TK-FF	FiberFinder kit, including one TG-300B, one LFD-300B and a soft carrying bag



# FIBER OPTIC/FTTx TEST

## OPTICAL FIBER IDENTIFIERS

### AFL OFI OPTICAL FIBER IDENTIFIERS

The OFI 200D and OFI 400 Optical Fiber Identifiers are rugged, handheld, and easy-to-use fiber optic test instruments designed to detect optical signals transmitted through a single-mode fiber without disrupting traffic. During installation, maintenance, rerouting, or restoration it is often necessary to isolate a specific fiber. By simply clamping an Optical Fiber Identifier onto a gently bent fiber, the unit will indicate if there is [No Signal], [Tone], or [Traffic] and identify signal direction.

- Rugged, handheld, lightweight
- Accepts 250  $\mu\text{m}$ , 900  $\mu\text{m}$  coated fiber, 3 mm jacketed fiber cable, and ribbon fiber
- No head swapping or adjustments

P/N	Description
OFI 200D	Fiber Identifier. Includes User's guide and carry case
OFI 400	Fiber Identifier with relative core optical power display. Includes User's guide and carry case
OFI 400HP	High Power Optical Fiber Identifier. Includes user's guide and soft carry case



### AFL OFI-FTTx ACTIVE ONT DETECTOR

The OFI-FTTx is a rugged, handheld optical fiber identifier designed to identify the presence or absence of an active Optical Network Terminal (ONT) on FTTx F2 fibers at the Fiber Distribution Hub (FDH). During a test the F2 fiber does not have to be removed from service. Thus the OFI-FTTx can verify whether a splitter pigtail at the FDH is connected to an active circuit before it is disconnected for fault location or re-use. The OFI-FTTx can help verify FTTx network records and recover splitter pigtails and F2 fibers that are connected at the FDH but, in fact, are available for new subscribers.

P/N	Description
OFI-FTTx	Active ONT Detector for PONs, user's guide and carry case



### WILCOM OPTICAL FIBER IDENTIFIERS

Wilcom's Optical Fiber Identifiers are ruggedized and easy to use non-intrusive probes for installation and maintenance of fiber optic systems. These units are used by technicians to detect live and dark fibers, the direction of the traffic, relative core power and test tones. The units come with three easy-to-change adapter heads for jacketed, coated or ribbon fiber; optional 2 mm and 1.6 mm adapter heads are also available. Can be used for both single-mode and multimode. These units utilize local detection technology (non-destructive macro-bend detection); the need to open the fiber at the splice point for identification and interrupting services is eliminated.

P/N	Description
F6121A	Basic Optical Fiber Identifier with tone and lock
F6222	Enhanced Optical Fiber Identifier with digital display
F6222C	CATV Optical Fiber Identifier with digital display
F6225	Extended Range Optical Fiber Identifier



### CORNING CHECKPOINT™ PRO

The Checkpoint™ PRO is a lightweight, handheld, easy-to-use tool to safely and effectively identify the transmission direction, fiber path and relative core power on live optical fibers.

The Checkpoint PRO uses the super-low insertion loss local detection method of macro-bending. This allows for detection of the optical signals during installation and maintenance without disconnecting the fiber or interrupting the traffic signal. The Checkpoint PRO eliminates the need to open the optical fiber at the splice point reducing the probability of interrupting service to your customer.

- Fixed head design
- Live traffic testing
- Tone signal testing
- Detects 2 kHz, 1 kHz and 270 Hz

P/N	Description
Checkpoint™ PRO	Fiber Identifier with carrying case and operating instructions



# FIBER OPTIC/FTTx TEST

## OPTICAL FIBER IDENTIFIERS



### FITEL LIGHTFINDER™ ID-H/R FIBER OPTIC IDENTIFIER

The LightFinder™ ID-H/R Fiber Optic Identifier is a lightweight, handheld, easy-to-use tool to safely and effectively identify the transmission direction, fiber path, and relative core power on live optical fibers. The LightFinder™ Fiber Optic Identifier uses the super-low insertion loss local detection method of macro-bending. This allows for detection of the optical signals during installation and maintenance without disconnecting the fiber or interrupting the traffic signal.

- Wide dynamic range
- No Head changing or adjustments
- LCD screen adoption
- Detects the signal without disrupting traffic
- Detects the tone signal and traffic signal
- Super low insertion loss

P/N	Description
ID-H/R	LightFinder™ Fiber Optic Identifier



FIBER OPTIC/FTTx

### JDSU FI-60 LIVE FIBER IDENTIFIER

The JDSU FI-60 LFI enables users to easily detect the optical signal without disconnecting fiber or disrupting network traffic. The FI-60 LFI also includes the unique JDSU SafeChek™ system, which ensures safe and repeatable engagement with most fiber types without the hassle of changing out costly dies. The FI-60 also converts to an Optical Power Meter (OPM), providing twice the value for your investment and reducing the number of tools carried on the job.

- SafeChek easy-pull trigger system ensures repeatable engagement with fiber cable
- LFI head accepts multiple cable diameters (250 μm to 3 mm jacketed fibers)
- Durable metal input adapters (2.5 and 1.25 mm) for OPM
- Measure both absolute (dBm) and relative (dB) power
- Store and recall up to 100 OPM readings

P/N	Description
FI-60	Live Fiber Identifier with removable LFI attachment



## VISIBLE FAULT LOCATORS



### EXFO FLS-240 POCKET PAL VISUAL FAULT LOCATOR

Straightforward solution for identifying breaks, bends, faulty connectors or splices, as well as other causes of signal loss.

#### Key Features and Benefits

- Detects faults over distances of up to 5 km
- Bright red laser at 635 nm
- Universal connector for 2.5 or 1.25 mm ferrule

P/N	Description
FLS-24X-UNIV	Pocket Pal Visual Fault Locator

Multiple configurations available. Please check with your TVC representative or [www.tvcinc.com](http://www.tvcinc.com) for details.



### AFL HiLite AND VF12 VISUAL FAULT IDENTIFIERS



The HiLite and VF12 are compact and powerful visible red laser sources designed to troubleshoot faults on fiber optic cables. Light generated by these units will escape from sharp bends and breaks in jacketed or bare fibers, as well as poorly mated connectors. They enable technicians to quickly identify faults in fiber optic jumper cables, distribution frames, patch panels, and splice trays.

- Visible red laser source, 650 nm
- High power, 1.0 mW
- Compact size

P/N	Description
VF12	VF12 unit, instruction card and carrying case
HiLite	HiLite unit, instruction card and carrying case



# FIBER OPTIC/FTTx TEST

## VISIBLE FAULT LOCATORS

### WILCOM F6230A VISUAL FAULT LOCATOR

Wilcom's pocket Visual Fault Locator is an ideal tool for locating tight bends, bad connectors, and testing of continuity of fiber optic spans and patch cords. The unit comes with a universal connector which can connect to any 2.5 mm ferrule; an optional adapter for 1.25 mm ferrule is also available. Can be used for both single-mode and multimode.

P/N	Description
F6230A	Visual Fault Locator

**Wilcom**



### GREENLEE VISUAL FAULT FINDER 170XL

The 170XL visual fault locator is an indispensable tool for quickly identifying bending losses and breaks in optical fibers. If a fiber is bent too tightly, red laser light will be seen escaping through the cable jacket. Likewise if a fiber is broken, escaping light will be visible where the break is located.

- Continuous wave output mode for steady fault location
- Find breaks to 3 km
- Easy-to-use quick interface fits all 2.5 mm connector interfaces (FC, SC, ST)

P/N	Description
170XL	Visual Fault Finder

**GREENLEE COMMUNICATIONS**  
A Testrad Company



### CORNING VFL-350 VISUAL FAULT LOCATOR

The VFL-350 Visual Fault Locator is a compact pen design fault locator used to check single-mode and multimode optical fiber cables and components for faults or to locate individual fibers in a bundle. By transmitting a bright beam of red light into a fiber, breaks or improper terminations can be seen as a glowing red light. This device fits all 2.5 mm connector ferrules and is ideal for field installation of UniCam® MT-RJ and LC Connectors containing the continuity test set (CTS) feature. There is an optional 1.25 mm adapter for the LC connectors. The VFL-350 operates on two AAA batteries and emits laser light of 635 nm (Laser Class 2 in accordance with IEC 825-2) with an output power less than 1.0 mW. The robust and compact metal housing makes the device suitable for daily on-site use.

P/N	Description
VFL-350	Visual Fault Locator. Includes dust cap, universal 2.5 mm adapter, 2 AAA batteries and carrying case

**CORNING**



### FLUKE NETWORKS VisiFAULT™ VISUAL FAULT LOCATOR

The VisiFault™ Visual Fault Locator (VFL) can diagnose and repair simple fiber link problems. The laser-powered VisiFault locates fibers, verifies continuity and polarity, and helps find breaks in cables, connectors and splices. Continuous and flashing modes make for easier identification. Compatible with 2.5 mm and 1.25 mm connectors for easy connection. Ruggedly constructed for demanding field-testing. Long battery life for hours of use.

- Locates faults including tight bends, breaks and bad connectors
- Accelerates end-to-end fiber checks
- Easily verifies polarity and identifies fibers

P/N	Description
VisiFault	Visual Fault Locator with 2.5 mm universal adapter
NF380	Universal VisiFault Adapter for connector with 1.25 mm ferrules

**FLUKE networks**



### JDSU VISUAL FAULT LOCATOR

- Compact, ergonomic design for ultimate portability
- Visible wavelength is 650 nm
- High powered laser (1 mW) for single-mode (> 7 km) and multi-mode (> 5 km) connectors
- Continuous or Flash illumination
- Universal connector interface for quick and easy connection
- 2.5 mm connector input (1.25 mm adapter available)

P/N	Description
FFL-100	Visual Fault Locator, Ruggedized - Includes 2.5 mm adapter
FFL-050	Visual Fault Locator, Pocket Size
FFL-U12	1.25 mm adapter for FFL-100
FFL-050-U25	1.25 mm adapter for FFL-050

**JDSU**





# FIBER OPTIC/FTTx TEST

## FIBER OPTIC CLEANING SUPPLIES



### AFL CLETOP CASSETTE CLEANER SERIES

The Cletop Connector Cleaner is a rugged palm-sized cleaner that offers exceptional performance with a proven track record. The choice of many leading manufacturers and telecom carries worldwide for nearly 20 years – Cletop is a name you can rely on.

- Cletop Series - Original version (proven reliability)
- Cletop – S Series - Second generation cleaner offering the same Cletop cleaning performance with “Drop-in” replacement tape cartridge and ergonomic design that works equally well for left or right handed operators

P/N	Description
<b>Cletop – S Series</b>	
8500-10-0020MZ	Cletop - SA with Blue Tape
8500-10-0029MZ	Cletop - SB with Blue Tape
8500-10-0016MZ	Cletop - SB with White Tape
8500-10-0021MZ	Replacement Tape Type S - Blue
8500-10-0017MZ	Replacement Tape Type S - White
<b>Cletop – Original Series</b>	
8500-10-0027MZ	Cletop Type A with Blue Tape
8500-10-0011MZ	Cletop Type A with White Tape
8500-10-0028MZ	Cletop Type B with Blue Tape
8500-10-0014MZ	Cletop Type B with White Tape
8500-10-0032MZ	Cletop for MT-RJ with pins (White Tape)
8500-10-0033MZ	Cletop for MPO/MTP with pins (White Tape)
8500-10-0012MZ	Replacement Tape Blue
8500-10-0015MZ	Replacement Tape White



FIBER OPTIC/FTTx

### AFL ONE-CLICK CLEANER

The One-Click Cleaner is an easy-to-use option for cleaning connectors in adapters. Simply insert the One-Click Cleaner into an adapter and push until an audible “click” is heard. The One-Click Cleaner uses the mechanical push action to advance an optical grade cleaning tape while the cleaning tip is rotated to ensure the fiber end-face is effectively, but gently, cleaned.

- Cleans both APC and UPC connectors
- Ergonomic, comfortable design with single action cleaning
- Precise mechanical action delivers consistent cleaning results

P/N	Description
8500-05-0001MZ	One-Click Cleaner SC, ST, FC (500 cleans)
8500-05-0002MZ	One-Click Cleaner LC/MU (500 cleans)
8500-05-0004MZ	One-Click Cleaner ODC (outdoor connector, 500 cleans)
8500-05-0005MZ	One-Click Cleaner Mini-100 SC, ST, FC (100 cleans)
8500-05-0006MZ	One-Click Cleaner Mini-100 LC/MU (100 cleans)
8500-05-0007MZ	One-Click Ultra Cleaner 2.5 SC, ST, FC (enlarged cleaning area, 500 cleans)



### CORNING SINGLE-FIBER AND MULTIFIBER CONNECTOR CLEANING KITS

The Single-Fiber and Multifiber Connector Cleaning Kits are designed for effective cleaning and visual inspection of fiber optic connector end-faces in LAN, central office and outside plant environments, whether fully accessible or through an adapter. Whether performing a ‘dry’ clean, ‘wet’ clean or a combination of the two, each kit offers all the products recommended for cleaning connectors. Since electrostatic discharge (ESD) is a concern during a ‘dry’ clean, these kits contain cleaners specifically formulated to dissipate static when the end-face is pulled across a cleaner surface or a stick is inserted into an adapter. To facilitate end-face inspection prior to mating, as recommended, a 200x microscope is included in the deluxe kits.

P/N	Description
TKT-CLEAN-SFC-M	Deluxe Kits contain recommended products to effectively clean and inspect 2.5 mm and 1.25 mm single-fiber connector
TKT-CLEAN-MFC-M	Deluxe Kits contain recommended products to effectively clean and inspect multi-fiber connectors such as MT-RJ and MTP® Connectors



# FIBER OPTIC/FTTx TEST

## OPTICAL FAULT LOCATORS

### WILCOM FR2 FIBER RANGER FAULT LOCATOR

Wilcom's FR2 Fiber Ranger Fault Locator is a ruggedized, light weight and easy to use optical fault locator for both single-mode and multimode applications. It is designed with a reflective technology that allows you to pinpoint optical faults in the connectors, end of fiber, and clean breaks within 20 kilometers. This unit has been designed with the user in mind with easy to use features. It is a must have for testing applications in Wide Area Networks (WAN), telecommunications span of 20 Kilometers, fiber to the curb, and installation and maintenance of both single-mode and multimode fiber optic systems.

P/N	Description
FR2-SC	Optical Fault Locator
FR2-ST	Optical Fault Locator
FR2-FC	Optical Fault Locator

**Wilcom**



FIBER OPTIC/FTTx

### PHOTONIX FLASHFINDER® AERIAL LEAK DETECTION PROBE

The PX-Q650 Flashfinder™ aerial leak detection probe is state of the art in precision fiber optic fault location. It is designed to find infrared radiation from firearm, rodent, or burn damage in aerial cables as well as internal splice enclosure fiber faults. While an OTDR can find approximate distance to a problem, pinpointing problems in the real world is more often about luck, intuition, or trial and error.

- Long range and local heads
- Sunlight and fluorescent light immunity
- Easy to use red-dot sighting scope
- Standard 9V battery operation

P/N	Description
PX-Q655	Flashfinder™ Set: LD Scope and HiPwr +5 Tracer Source
PX-Q656	Flashfinder™ Set: LD Scope and Dual HiPwr +5 Tracer Source
PX-Q657	Flashfinder™ Set: LD Scope and VHiPwr +15 Tracer Source

**PHOTONIX**  
TECHNOLOGIES



### PHOTONIX FLASHPISTOL™ LEAK DETECTION PROBE

The Flashpistol™ optical leak detectors are the most sensitive fiber light finding instruments on the market today. Designed to locate energy leaks in fiber optic systems due to splice loss, connector loss, breakage, or bending and to identify fibers over long distances. By simply sweeping over a fiber, the leak detection probe will give an audio and visual indication whenever it encounters a light loss point. Often performing the same function as a visible laser source, this product is used in OTDR dead zone areas or splice enclosures where exact pinpointing of a fault is critical.

- Identify Fibers At More Than 300 Kilometers
- Long Distance And Local Applications
- Optimize Mechanical Splices And Connectors

P/N	Description
PX-Q504	Flashpistol® LD Set: Probe and 1550 nm MedPwr +1 Tracer Source
PX-Q505	Flashpistol® LD Set: Probe and 1550 nm HiPwr +5 Tracer Source
PX-Q507	Flashpistol® LD Set: Probe and 1550 nm VHiPwr +15 Tracer Source



## FTTx/IP TRIPLE-PLAY TEST

### EXFO AXS-200/650 IP TRIPLE-PLAY TEST SET

Offers a quick, yet thorough method for deploying triple-play services - IP-based data, VoIP and IPTV - facilitated by Pass/Fail-driven automated tests.

- Simple, affordable residential IP triple-play testing with Pass/Fail indication
- IPTV and VoIP service assurance using a comprehensive range of QoS metrics
- Feature-rich, but cost-effective: Ethernet 10/100 termination and Ethernet 10/100 pass through with triple-play QoS measurements

P/N	Description
TK-AXS-650	IP Triple-Play Test Set

Multiple configurations available. Please check with your TVC representative or [www.tvcinc.com](http://www.tvcinc.com) for details.

**EXFO**  
EXPERTISE REACHING OUT



# FIBER OPTIC/FTTx TEST

## FTTx/IP TRIPLE-PLAY TEST

### EXFO FTB-8525/8535 PACKET BLAZER FIBRE CHANNEL AND ETHERNET TEST MODULES

Fully integrated test solution for performance assessment of Fibre Channel and Ethernet networks.

#### Applications

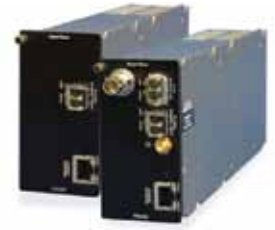
- Fibre Channel service characterization
- Ethernet performance validation

#### Key Features and Benefits

- 1x, 2x, 4x and 10x full-line-rate Fibre Channel traffic generation and BER testing
- FC-0, FC-1 and FC-2 logical layer configuration for Fibre Channel port definition, testing and performance analysis
- Round-trip latency measurement and buffer-to-buffer credit estimation
- Complete EtherSAM (ITU-T Y.1564) test suite. EtherSAM is the new standard for turning up and troubleshooting mobile backhaul and business Ethernet services
- True wire-speed, stateful TCP throughput test for undisputable SLA reinforcement for Ethernet services
- Ethernet services performance validation through RFC 2544, BER testing and multistream generation and analysis
- 10 Mbit/s to 10 Gbit/s Ethernet testing capabilities

P/N	Description
FTB-85xx	Fibre Channel and Ethernet Test Modules

Multiple configurations available. Please check with your TVC representative or [www.tvcinc.com](http://www.tvcinc.com) for details.



FIBER OPTIC/FTTx

## OPTICAL SPECTRUM ANALYZER

### EXFO FTB-5240S/BP OPTICAL SPECTRUM ANALYZERS

The all-new FTB-5240S and FTB-5240BP Optical Spectrum Analyzer (OSA) series covers your DWDM applications and all channel spacings, from 50 GHz DWDM to CWDM. This is what we call “no-compromise performance”, whatever your network specificities and testing requirements.

#### Applications

- Characterization of all channel spacings, from 50 GHz DWDM to CWDM
- ROADM and 40 Gbit/s testing
- In-band OSNR ROADM testing

#### Key Features and Benefits

- In-band OSNR measurement for 40 Gbit/s and ROADM deployments
- One-button operation for easy setup and automatic measurement
- Truly portable spectral characterization for DWDM network commissioning
- Over 90 dB dynamic range per scan
- Flexibility to analyze WDM, EDFA, drift, spectral transmittance and DFB laser

P/N	Description
FTB-5240S	Optical Spectrum Analyzer
FTB-5240BP	High Resolution Optical Spectrum Analyzer

Multiple configurations available. Please check with your TVC representative or [www.tvcinc.com](http://www.tvcinc.com) for details.



## CWDM/DWDM ANALYZERS & OTDRs

### EXFO FTB-7400E CWDM OTDR

Combines EXFO's renowned optical performance and unparalleled software analysis with both short dead zones and high dynamic range values, delivering the versatility needed to test long-haul, CWDM and metro links with a single OTDR.

#### Applications

- Metro and CWDM network testing

#### Key Features and Benefits

- Event dead zone of 0.8 m and attenuation dead zone of 4 m for pinpoint event location
- Low water peak fiber testing at 1383 nm for characterizing new fiber or assessing the degradation of legacy fiber
- Up to four test wavelengths for legacy, CWDM and DWDM link characterization
- Dynamic range of up to 42 dB for long-haul testing
- Tests through CWDM-based multiplexers and demultiplexers at ITU-recommended wavelengths

P/N	Description
FTB-7400E-CWS	Metro/CWDM OTDR. Wavelengths 1470 ±3/1490 ±3/1510 ±3/1530 ±3 nm
FTB-7400E-CWCL	Metro/CWDM OTDR. Wavelengths 1550 ±3/1570 ±3/1590 ±3/1610 ±3 nm

Multiple configurations available. Please check with your TVC representative or [www.tvcinc.com](http://www.tvcinc.com) for details.



# FIBER OPTIC/FTTx TEST

## CWDM/DWDM ANALYZERS & OTDRs



### EXFO FOT-5200 CWDM ANALYZER

Delivering extremely fast measurement of CWDM channel power.

#### Applications

- Installation, maintenance, repair of any CWDM network
- Cellular backhaul activation for telco and CATV operators

#### Key Features and Benefits

- Up to 16 CWDM channels
- Save and download data
- Broadband power-meter feature
- Bar graph, plus table of results
- Fastest and smallest CWDM tester on the market

P/N	Description
FOT-5200-C16-XX	FOT-5200 CWDM Analyzer

Multiple configurations available. Please check with your TVC representative or [www.tvcinc.com](http://www.tvcinc.com) for details.



FIBER OPTIC/FTTx

### JDSU OCC-55 SMART OPTICAL CWDM CHANNEL CHECKER

The OCC-55 is an innovative selective Power Meter for CWDM applications. The OCC-55 is a low-cost alternative solution to optical spectrum analyzers. It scans CWDM systems and automatically records all channel key measurements including wavelength, frequency and related power level.

- Measure up to 18 CWDM wavelengths specified by ITU-T G.694.2 standards
- Report generation with OFS-355 SMART Optical Reporting Software

P/N	Description
BN 2277/40	OCC-55 CWDM Channel Checker



OCC-55

### JDSU OCC-56 SMART OPTICAL DWDM CHANNEL CHECKER

The OCC-56 SMART Optical DWDM Channel Checker is an innovative selective Power Meter for DWDM applications. The OCC-56 is a low-cost alternative solution to optical spectrum analyzers (OSA) and automatically scans power levels for channels defined in the ITU-T grid.

- Supports C-band and L-band applications
- Low-cost alternative to an OSA

P/N	Description
BN 2277/41	OCC-56 C (C-band) CWDM Channel Checker
BN 2277/42	OCC-56 L (L-band) CWDM Channel Checker



OCC-56

## DISPERSION ANALYZER

### EXFO FTB-5700 SINGLE-ENDED DISPERSION ANALYZER

Combines CD and PMD measurement into a highly automated, high-efficiency, single-ended test solution.

#### Applications

- Accurate, complete 10 Gbit/s, 40 Gbit/s and 100 Gbit/s qualification
- Metro, core and long-haul network testing
- Underground and aerial cable testing

#### Key Features and Benefits

- Fewer truck rolls and reduced OPEX: single-ended testing of multiple links from one location
- Polarization mode dispersion (PMD) and chromatic dispersion (CD) measurements for all types of networks
- Accurate results on the first measurement, thanks to a testing approach compliant with the latest standards, including EIA/TIA FOTP-243 for PMD and EIA/TIA FOTP-175B for CD

P/N	Description
FTB-5700	Single-Ended Dispersion Analyzer; 1475 to 1626 nm

Multiple configurations available. Please check with your TVC representative or [www.tvcinc.com](http://www.tvcinc.com) for details.



# VoIP/TELECOM TEST



## INSIDE WIRE TESTERS

### GREENLEE SIDEKICK V.O.C.

The Sidekick V.O.C. is the test set to troubleshoot twisted pair applications. This lightweight, hand-held meter quickly and accurately uncovers intermittent troubles that other test sets can't detect.

- Identifies defective Inside Wire and jacks
- Measures resistance, AC/DC volts, quasi square wave, and pair balance
- Identifies shorts, opens, crosses and grounds
- Provides tone for twisted pair or crossed conductor identification
- Single set-up for testing Tip-Ring, Tip-Ground, and Ring-Ground with ground connection

P/N	Description
1143-5000	Sidekick V.O.C.



### GREENLEE SIDEKICK® PLUS

The Sidekick® Plus Advanced Cable Maintenance Test Set is a multifunction test tool that will improve any technician's testing and troubleshooting capabilities on twisted pair. Building on a trusted design and patented technology, this lightweight, hand-held meter quickly and accurately uncovers intermittent troubles that other test sets can't detect. It uses digital technology to combine VOM and loop current tests, longitudinal balance (Stress Test), transmission and noise, open locator, load coil detection, RFL and a powerful TDR into one easy-to-use test set. Test functions can be selected and used individually, or run automatically by using the innovative Auto-test.

- Complete metering of voltage, current and resistance on copper cables
- Measurement of distance to opens
- Line quality tests for noise, loss, and power influence
- Multimode wire tracing tone
- Resistance fault locator (RFL) and calculator
- Powerful Time Domain Reflectometer (TDR)

P/N	Description
1155-5001	Sidekick® Plus Test Set



### GREENLEE SIDEKICK T&N DELUXE TELECOM FIELD TESTER

The Sidekick T&N combines the functions of the Sidekick 7B plus the features of transmission and noise testing. The result is an even more versatile test set that identifies frequently missed faults as well as tests and qualifies the transmission quality of POTS lines. The additional features include:

- Five transmission and noise tests
- Determines the stressed noise susceptibility of dry and working pairs
- Measures resistance, AC/DC volts, and capacitive kick
- Provides tone for twisted pair or cross conductor identification
- Single setup for testing Tip-Ring, Tip-Ground, and Ring-Ground
- Minimal drying effect in all ranges

P/N	Description
1137-5002	Sidekick T&N



VoIP/TELECOM

## how to

### Quick Overview on How to Use the Tempo Sidekick V.O.C. on a New Install to Verify that there are no Inside Wiring Problems

1. Interview the customer on how his /her phones have been working.
2. Connect the red and black (ring and tip) connectors of the Sidekick to the pair of the inside wires to be tested. Connect the green connector to a ground source.
3. Do the AC test to confirm that there is no AC present tip to ring (T-R), ring to ground (R-G) and ring to ground (R-G).
4. Remove the ILEC/eMTA from the loop, perform a DC test to verify that there is no DC.
5. Move the green connector to another wire or another pair in the inside wire.
6. Rotate dial to Stress Test. Verify stress test reference ground. Final reading should be less than 20 dBnC.
7. Switch dial to Leakage Test and wait 15 seconds, reverse polarity, wait 15 more seconds, reverse polarity again and wait 15 more seconds. The needle should be near infinity. Do this for each of T-R, R-G and T-G.

From the time you begin with the AC test to completion should take less than 10 minutes.

Source: Compliments of Greenlee



## INSIDE WIRE TESTERS



### JDSU TESTIFIERPRO™ CABLE TESTER

The TestifierPRO™ Cable Tester provides telecom, datacom, and cable installers and technicians with cable test, length measurement, and hub blink functions in one unit. The easy-to-use TestifierPRO Cable Tester requires one-button operation to initiate Telco, network, and coax modes for diagnostic tests and results. The main unit includes built-in RJ11 and RJ45 jacks for testing six-wire and eight-wire twisted pair and F-connector for testing coax.

- Identifies cable termination on active ports by blinking port LED
- Measures cable length using patented cable capacitance method
- Displays single-ended test results in wiremap format for opens, shorts, and split pairs



P/N	Description
TP650	TestifierPRO Cable Tester with cable test remote. Includes 30.48 cm (1 ft) RJ45 to alligator clips cable (TP40), two 30.48 cm (1 ft) patch cables with RJ45 connectors (TP55), #1 coax cable test remote (TP65), and pouch. Requires 9-volt battery (not included)
TP655	TestifierPRO Cable Tester with 8 cable test remotes. Includes 30.48 cm (1 ft) RJ45 to alligator clips cable (TP40), two 30.48 cm (1 ft) patch cables with RJ45 connectors (TP55), 30.48 cm (1 ft) coax cable (TG30), #1 coax cable test remote (TP65), and pouch. Requires 9-volt battery (not included)

VoIP/TELECOM

### MEGGER MIT410-TC2 AND MIT430-TC2 INSULATION RESISTANCE AND CONTINUITY TESTERS

The Megger MIT410-TC2 and MIT430-TC2 insulation resistance and continuity testers have been designed specifically for use within the telecommunications industry. Unique telecommunications-related features include a soft canvas carrying bag with shoulder strap and rugged snap hook to attach to a tool belt, and a "bed of nails" test lead set.

The model MIT430-TC2 offers extensive results storage capability for later recall and Bluetooth download capability for wireless transfer of stored results to a PC.

The instruments allow the user to determine the condition of the insulation of the twisted copper cable pair, which could cause problems for services such as voice, video, and data or VoIP. When the insulation becomes weak or brittle, causing cracks or exposing copper within the cable, or water ingresses into the cable, the insulation resistance test will identify these situations immediately.

- Insulation testing up to 500V and 200GΩ
- Patented analog arc and dual digital display
- Cat IV 600V rating
- TRMS and DC Voltage measurement



P/N	Description
1001-368	Model MIT410-TC2
1001-369	Model MIT430-TC2, result storage, download capability

## acronyms

ADM ..... Add/drop multiplexer (or multiplexing)	FTTx ..... Fiber-to-the-x, where x = (H)ome, (C)urb, (B)uilding, (N)ode, (P)remises, etc.	NIU ..... Network interface unit	QoS ..... Quality of service
APC ..... Angled physical contact/angled polished connector	GPON ..... Gigabit-capable passive optical network	OC ..... Optical carrier (transport rate)	RBOC ..... Regional Bell operating company
ATM ..... Asynchronous transfer mode protocol	HDTV ..... High-definition television	OLA ..... Optical line amplifier	RF ..... Radio frequency
BER ..... Bit error rate (ITU-T uses bit error ratio)	HFC ..... Hybrid fiber coaxial transmissions	OLT ..... Optical line terminal/termination	RFC ..... Request for comment (IETF)
BPON ..... Broadband passive optical network	IEC ..... International electrotechnical commission	OLTS ..... Optical loss test set	ROADM ..... Reconfigurable optical add/drop multiplexer
CD ..... Chromatic dispersion	IEEE ..... Institute of electrical and electronic engineers	ONT ..... Optical network terminal/termination	RTD ..... Round-trip delay
CMT ..... Cable modem termination system	ILEC ..... Incumbent local exchange carrier	ONU ..... Optical network unit (non-transmitting ONT)	Rx ..... Receiver
CO ..... Central office	IP ..... Internet protocol	OPM ..... Optical power meter	SDH ..... Synchronous digital hierarchy
CWDM ..... Coarse wavelength-division multiplexing	ITU ..... International telecommunication union	ORL ..... Optical return loss	SLA ..... Service level agreement
DBS ..... Direct broadcast service	ITU-T ..... International telecommunication union - telecommunications standardization sector	OSA ..... Optical spectrum analyzer	SM ..... Single-mode
DFB ..... Distributed-feedback (laser)	λ ..... Wavelength	OSNR ..... Optical signal-to-noise ratio	SMF ..... Single-mode fiber
DWDM ..... Dense wavelength-division multiplexing	LFD ..... Live fiber detector	OSP ..... Outside plant	SNR ..... Signal-to-noise ratio
EDFA ..... Erbium-doped fiber amplifier	MFD ..... Mode-field diameter	OTDR ..... Optical time-domain reflectometer	SONET ..... Synchronous optical network
ENIU ..... Ethernet network interface unit	MM ..... Multimode	p2mp ..... Optical point-to-multipoint	TDM ..... Time-division multiplexing
EPON ..... Ethernet-ready passive optical network	MITTR ..... Mean time to repair	p2p ..... Point-to-point	TDMA ..... Time-division multiple access
FDH ..... Fiber distribution hub	NF ..... Noise figure (noise from an optical amplifier in dB)	PBX ..... Private branch exchange	TIA ..... Telecommunications Industry Association
FEC ..... Forward error correction		PC ..... Polished connector	Tx ..... Transmitter
FO ..... Fiber-optic		PLC ..... Planar lightwave (or lightguide) circuit	UPC ..... Ultra-polished connector
FP ..... Fabry-Perot (laser)		PMD ..... Polarization mode dispersion or physical   medium dependent	VFL ..... Visual fault locator
		PON ..... Passive optical network	VOD ..... Video-on-demand
		POTS ..... Plain old telephone service	VoIP ..... Voice-over-Internet protocol
		PSTN ..... Public switched telephone network	WDM ..... Wavelength-division multiplexing

Source: Compliments of EXFO

# VoIP/TELECOM TEST



VoIP/TELECOM

## BUTT SETS

### FLUKE NETWORKS TS<sup>®</sup>19 TEST SET

The TS<sup>®</sup>19 test set combines all essential test set features in one set. This test set was specifically designed for in-house telecom technicians. Its high impedance monitor prevents accidental disruption of service from clipping onto a data line while in Monitor mode, thus ensuring the integrity of critical data lines. Features such as tone (DTMF) or pulse operation, talk/monitor capabilities, polarity test button and last number redial make this test set the perfect combination of features and price.

- High impedance DataSafe™ operation in monitor mode
- Tone (DTMF) and pulse operation
- Last number redial

P/N	Description
19800009	TS <sup>®</sup> 19 test set with ABN
19800003	TS <sup>®</sup> 19 test set with banana jacks to alligator clips

### FLUKE NETWORKS TS<sup>®</sup>22 TEST SET SERIES

The TS<sup>®</sup>22 Test Set Series offers an unbeatable combination of reliability, durability and expanded utility. The unique built-in amplified speaker provides three audio levels for hands free listening and use with automated voice-response systems. The TS<sup>®</sup>22A offers a two-way speakerphone. Store up to nine, 18-digit telephone numbers in speed dial.

- TS<sup>®</sup>22 Test Set has an amplified speaker for hands-free monitoring
- TS<sup>®</sup>22A Test Set has a two-way speakerphone for true hands-free conversation
- DropSafe™ reliability passes 20 foot drop test
- RainSafe™ protection in severe weather conditions

P/N	Description
22800009	TS <sup>®</sup> 22 test set with ABN
22800007	TS <sup>®</sup> 22 test set with ground start cord
22800004	TS <sup>®</sup> 22 test set with 346A plug
22800001	TS <sup>®</sup> 22 test set with piercing pin clips
22801001	TS <sup>®</sup> 22A test set with piercing pin clips
22801004	TS <sup>®</sup> 22A test set with 346A plug
22801007	TS <sup>®</sup> 22A test set with ground start cord
22801009	TS <sup>®</sup> 22A test set with ABN

### FLUKE NETWORKS TS<sup>®</sup>25D TEST SET

The TS<sup>®</sup>25D Test Set features data lockout and lockout override, making you completely safe in talk or monitor mode. Includes DSL/POTS filtering technology and a built-in analog tone generator. The Talk Battery function provides voltage to carry voice conversation on non-powered pairs. Also includes caller ID and call-waiting caller ID function. Large LCD makes the intuitive menus easy-to-read and use.

- Caller ID and Call Waiting Caller ID
- Amplified speakers for hands-free monitoring
- Data lockout and data lockout override
- Tone generator for wire identification

P/N	Description
25501109	TS <sup>®</sup> 25D test set with ABN kit (includes pouch and earpiece)
25501009	TS <sup>®</sup> 25D test set with ABN
25501004	TS <sup>®</sup> 25D test set with 346A plug

### FLUKE NETWORKS TS<sup>®</sup>30 TEST SET

The TS<sup>®</sup>30 Test Set features the latest in case design. The ergonomic non-slip grip handle provides improved handling of the set in all weather conditions. Includes DataSafe™ operation so technicians can clip onto a line in Monitor mode, without disrupting existing data traffic.

- High impedance DataSafe™ operation in Monitor mode
- DropSafe™ reliability passes 20 foot drop test
- RainSafe™ protection in severe weather conditions
- Mute switch

P/N	Description
30800009	TS <sup>®</sup> 30 test set with ABN
30800001	TS <sup>®</sup> 30 test set with piercing pin clips

# VoIP/TELECOM TEST

## BUTT SETS

### FLUKE NETWORKS TS®40 TEST SET SERIES

Fluke Networks TS®40 Series of test sets come with all the features you need to be more productive in the field, including a high-fidelity, two-way, hands-free amplified speakerphone for true hands-free conversation. Advanced testing functions for low and high voltage and low current detection are displayed in easy-to-read LEDs. Always-on Monitor Mode simplifies operation and speeds testing; just clip on to the pair and it is monitoring. The TS®40 Test Set incorporates DataSafe™ protection in Monitor Mode, enhanced with a superior high-impedance monitor to protect data lines. The TS®44 DLX Test Set includes data lockout and lockout override.

- DataSafe™ operation with Superior High Impedance Monitor
- Advanced testing functions for low/high voltage and low (mA) current
- Always-on Monitor Mode
- High fidelity, 2-way speakerphone for true hands-free conversations
- TS®44 includes data lockout, lockout override and DSL/POTS filtering

P/N	Description
50801001	TS®44PRO test set with piercing pin clips
50801004	TS®44PRO test set with 346A plug
50801009	TS®44PRO test set with ABN/PP clips
50801RJ9	TS®44PRO test set with ABN/PP and RJ11 plug
42801001	TS®42DLX test set with piercing pin clips
42801004	TS®42DLX test set with 346A plug
42801009	TS®42DLX test set with ABN

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### FLUKE NETWORKS TS®52 TEST SET SERIES

Fluke Networks TS®52 PRO Caller-ID test set features the latest in test set technology. Designed with a superior LCD user interface, it allows you to see what cannot be heard in any outside plant environment. The back lit LCD and phosphorescent (glow-in-the-dark) keypad brings light to even the darkest of work environments, providing perfect line diagnostic clarity. Equipped with 2-way Speakerphone and DataSafe™ Pro data protection technology featuring superior high-impedance monitoring, Data Lockout and Lockout Override. Patent-pending filtering technology allows a technician to safely draw dial tone on a live DSL/POTS shared line to test the POTS service while protecting the DSL from downing or disruption.

- Display – back lit LCD and glow-in-the-dark keypad
- DataSafe™ with data indication – superior high-impedance monitoring, lockout and override, making you completely safe in any mode
- DropSafe™/RainSafe™ – passes 20-foot drop test and designed for use in rainy conditions
- DSL/POTS Filtering Technology – allows technicians to clip on a live DSL line to test POTS service without downing or disrupting data service
- 2-way hands-free speakerphone

P/N	Description
52801009	TS®52 PRO test set with angled-bed-of-nails, cord with piercing pin
52801004	TS®52 PRO test set with 346A plug
52801001	TS®52 PRO test set with piercing pin cord
52801RJ9	TS®52 PRO test set with angled-bed-of-nails, cord with piercing pin and RJ11 plug



### GREENLEE TELE-MATE COMMUNICATIONS TEST SET

Designed for communications wiring installation and repair to quickly verify the quality of a new installation.

- Headset for hands-free operation
- Rugged design for demanding use
- Compact design and durable belt clip make it easy to carry
- Built-in ringer
- Tone/Pulse dialing
- Last number redial
- Line polarity indication

P/N	Description
PE810	Tele-Mate Communication Test Set

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A Hubert Company





## BUTT SETS

### GREENLEE TELE-MATE™ PRO TELEPHONE TEST SET

The Tele-Mate Pro Telephone Test Set will help you deal with the increasing complexity of telecom installation and maintenance.

- Complete telephone test set with ringer
- Phone to phone intercom
- Caller ID with name display
- Line voltage and current display
- High voltage detect and lockout
- High current detect and lockout
- Amplified loudspeaker line monitor
- Headset or hand set operation
- Tone and pulse dialing

P/N	Description
PE830	Tele-Mate™ Pro Telephone Test Set



### GREENLEE TELEPHONE TEST SETS

Waterproof tested to an IEC IP67 rating, these test sets are so impervious to water they can actually withstand submersion.

The PE950 and PE961 feature our DigAlert over-voltage alarm and lock-out function to eliminate the danger of damaging or knocking out digital service lines.

The new PE961 provides full ADSL compatibility.

- Versatile dialing (tone and pulse, built-in ringer with adjustable ring tones, speed dial memory, and last number redial)
- Precise hook flash
- Microphone mute
- Easy-to-use talk and monitor keys
- Audible and visual mode indicators
- Polarity test in any mode
- Low battery indicator
- Drop tested to 20 feet
- Digital safe monitor
- Automatic ground-start operation
- Unique quick-release belt clip
- Premium cordset with bed-of-nails and piercing pin clips

P/N	Description
PE930	Test Set with Adjustable Ringer
PE940	Test Set with Amplified Speaker
PE945	Test Set with 2-Way Hands Free
PE950	Test Set with Amplified Speaker and DigAlert Lockout
PE960	Test Set with 2-Way Hands Free and DigAlert Lockout



### GREENLEE BUTT SET

The PA1780 Butt Set is a telephone test set repair technicians use for line testing and temporary communications. Powered by phone lines, there is no need for an external power source. Butt Set provides DTMF and dial pulse output plus ring and monitor modes. The high impedance monitor mode doesn't interfere with data, conversation or signaling, while the LED identifies polarity. Telephone Test Set stores up to 10 frequently dialed numbers, Tangle-Free Cloth Cords (field replaceable), Angle Booted 66 Clips w/Bed-of-Nails (ABN) and Piercing Spike and 2.5 mm headset jack.

- Phone line powered eliminates need for external power source
- Provides DTMF (touch tone) and dial pulse output
- Talk, ring and monitor modes

P/N	Description
PA1780	Butt Set



# VoIP/TELECOM TEST

## WIRE MAPPERS



### FLUKE NETWORKS MICROMAPPER™

The MicroMapper quickly and easily tests twisted pair cabling, giving you visibility of opens, shorts, crossed, reversed and split pairs. Just push the TEST button and MicroMapper will automatically scan all wire pairs for any existing faults in your cable.

MicroMapper's built-in tone generator works with the IntelliTone™ Pro Probe or any other analog probe, allowing you to trace cable through walls, floors, and ceilings.

The MicroMapper also includes a remote unit that allows one person to test installed cabling or patch cords.

- Gain new vision into verifying basic Ethernet cabling integrity quickly and easily
- Tests twisted-pair cables automatically for continuity and all major miswires
- Speeds troubleshooting with easy-to-read pair-based LED fault indicators
- Identifies hidden cables clearly with powerful inductive tone generator
- Enables one-person testing of installed cables with separate remote unit



P/N	Description
MT-8200-49A	MicroMapper and MicroMapper Remote, patch cable, 6-volt alkaline battery and user guide

VoIP/TELECOM

### JDSU LANROAMERPRO™ CABLE TESTER



The LanRoamerPRO™ is a Length Measurement Tool, Cable Tester, and Tone Generator in one unit. The LCD, four momentary buttons, single end testing capability, and other features make the LanRoamerPRO an easy-to-use tool for residential, datacom, telecom, and cable contractors and installers.

- Measures cable length in feet or meters
- Two-line, 16-character alphanumeric LCD with icon flags displays test results in wiremap format
- Conducts single-ended tests on shorts, splits, and opens

P/N	Description
TP600	LanRoamerPRO Cable Tester with onboard cable test remote. Includes 30.48 cm (1 ft) RJ45 to alligator clips cable, two 30.48 cm (1 ft) patch cables with RJ45 connectors, wire configuration sticker, and nylon pouch. Requires 9-volt battery (not included)
TP607	LanRoamerPRO Cable Tester Kit with 8 cable test remotes. Includes 30.48 cm (1 ft) RJ45 to alligator clips cable, RJ45 to coax F-connector adapter, two 30.48 cm (1 ft) patch cables with RJ45 connectors, wire configuration sticker, and nylon pouch. Requires 9-volt battery (not included)



### GREENLEE LAN ProNAVIGATOR™ TESTER



Test data and telephone cable for proper pairing for EIA/TIA-568A & B, Token Ring, 10Base-T & common Cat 5, Cat 5e, Cat 6 configurations. Also tests continuity of 50 and 75 ohm coaxial cables with BNC terminations.

- Combination UTP/STP and coaxial cable tester for patch cords or installed cable runs
- Simple PASS/FAIL test results in one second - quickly move on the next test site
- Test status lights at both ends (main unit and remote)
- One-button, simple testing (PASS/FAIL or fault find) to detect: good connections, opens, crossed wires and split pairs
- Traces wires with tone and remote lights
- Quick fault analysis

P/N	Description
PA1543	LAN ProNavigator™ Tester



## training

TVC Sales and Product Management personnel will perform product training at customer or project site locations – wherever the need, at your convenience. In addition, TVC conducts WebEx/remote training on many of our products.



# VoIP/TELECOM TEST

## TDRs & FAULT FINDERS



### FLUKE NETWORKS TS®90 CABLE FAULT FINDER

The TS®90 is an easy-to-use three tools in one tester – a Fault Locator, a Cable Inventory Manager and a Toner with SmartTone™ technology. (Up to 2,500 feet). Easily find the distance to opens or shorts on electrical wire, telephone wire, security wire and coax. Displays distance reading rather than waveform.

- Works on any two or more conductor cable up to 2,500 feet (762 meters)
- Instantly measures distance to open or any fault from one end of any cable pair
- Patented SmartTone™ tone generator positively identifies pair
- Measures cable distance on spool
- Measures constantly while 'on'

P/N	Description
26500090	TS®90 Cable Fault Finder with BNC to alligator clips



### FLUKE NETWORKS TS®100 CABLE FAULT FINDER

The TS®100 is our easy-to-use three tools in one tester—a Fault Locator, a Cable Inventory Manager and a Toner with SmartTone™ technology—up to 3,000 feet. Easily find the distance to opens or shorts on electrical wire, telephone wire, security wire and coax. Displays distance reading rather than waveform.

- Works on any two or more conductor cable up to 3,000 feet (915 meters)
- Instantly measures distance to open or any fault from one end of any cable pair
- Patented SmartTone™ tone generator positively identifies pair
- Measures cable distance on spool
- Measures constantly while 'On'

P/N	Description
2327747	TS®100 cable fault finder with BNC to alligator clips
2327932	TS®100 with BNC to banana to ABN
2327959	TS®100 metric cable fault finder with BNC to alligator clips
2327967	TS®100 line cord, BNC to alligator clip



VoIP/TELECOM

### FLUKE NETWORKS TS®100 PRO CABLE FAULT FINDER WITH POWERBT™ BRIDGE TAP

The new TS®100 PRO Cable Fault Finder with PowerBT™ Bridge Tap Detect not only provides open/short circuit detection—to 8,000 feet (2.4 kilometers)—but is also a telecom technician's first line of defense against bridge taps. Because bridge taps are a significant source of DSL network performance problems, they need to be identified and fixed quickly before causing customer attrition. The TS100 PRO can accurately locate multiple bridge taps in seconds on up to 3,200 feet (975 meters) of cable with the touch of a button.

- Bridge tap detection at the touch of a button.
- Reports distance to multiple bridge taps up to 3,200 feet (975 meters)
- Tests opens and shorts up to 8,000 feet (2.4 kilometers)
- Patented SmartTone™ for exact pair identification
- Built-in TDR and toner

P/N	Description
TS100-PRO-BT-TDR	TS®100 PRO Cable Fault Finder TDR Kit with Bridge Tap Detect



## VERIFICATION TEST



### FLUKE NETWORKS MICROSCANNER² CABLE VERIFIER

The MicroScanner² streamlines voice/data/video cable and service testing. Revolutionary user interface displays available services (10/100/1000 Ethernet, POTS, PoE), cable length (with true TDR technology for finding distance to shorts and opens), wiremap, cable ID, and distance to fault all on one screen. Test RJ11, RJ45, and Coax with no adapters. Built-in IntelliTone digital and analog toning precisely locates virtually any cable or pair.

P/N	Description
MS2-100	MicroScanner² Cable Verifier. Includes MicroScanner² Cable Verifier with main wiremap adapter, multi-language Getting Started Guide, user CD, batteries, and Fluke Networks carry pouch
MS2-KIT	MicroScanner² Professional Kit. Includes MicroScanner² Cable Verifier with main wiremap adapter, remote identifiers #2-7, IntelliTone Pro 200 probe, shielded twisted-pair RJ45 patch cord, RJ11 patch cord, clip-set RJ45 to 8 alligator clip bare wire adapter, F Coax push on patch cord, accessory soft pouch, (2) AA alkaline batteries, (1) 9V alkaline battery, MicroScanner² Getting Started Guide, MicroScanner² Owners CD, IntelliTone Pro Getting Started Guide, IntelliTone Pro owners CD, packaged in a deluxe Fluke Networks carry case

Multiple configurations available. Please check with your TVC representative or [www.tvcinc.com](http://www.tvcinc.com) for details.



# VoIP/TELECOM TEST

## QUALIFICATION TEST

### FLUKE NETWORKS CABLEIQ™ QUALIFICATION TESTER

CableIQ is the first qualification tool designed for network technicians who need to troubleshoot connectivity problems and qualify cabling bandwidth. It determines if your cabling is qualified to support 10/100, VoIP or Gigabit Ethernet.

- Troubleshoots why existing cabling plant can't support the desired network bandwidth
- Discovers what's at the end of any cable and displays device configuration (speed/duplex/pairing)

P/N	Description
CIQ-100	CableIQ Qualification Tester. Includes CableIQ with remote adapter, CableIQ Reporter software CD, (2) RJ45-RJ45 patch cord, USB cable, coax "F" push-on adapter, owners CD and quick start guide, (4) AA batteries, soft carry case
CIQ-KIT	CableIQ Advanced IT Kit. Includes CableIQ main unit with remote adapter, CableIQ Reporter software CD, IntelliTone 200 Digital Probe, Remote IDs #2-7, (2) RJ45-RJ45 patch cord, USB cable, coax "F" push-on adapter, 75-ohm coax patch cord, RJ45/11 universal coupler, RJ11-RJ11 patch cord, owners CD and quick start guide, (4) AA batteries, test accessory soft pouch, hard carry case

Multiple configurations available. Please check with your TVC representative or [www.tvcinc.com](http://www.tvcinc.com) for details.

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## CABLE ANALYZERS

### FLUKE NETWORKS DTX CABLEANALYZER™

The DTX CableAnalyzer™ Series from Fluke Networks is the testing platform for today—and tomorrow. This revolutionary platform significantly reduces total time to certify by improving every aspect of the testing process. It all starts with a 9-second Cat 6 Autotest that's several times faster than other testers—and fiber testing that's five times faster. DTX also gives you a complete solution for 10 Gig testing over copper, Basic Tier 1 fiber testing, and Extended Tier 2 fiber testing with the industry's only modular OTDR. The DTX makes you ready for whatever the world throws at you—today and tomorrow.

- Independently verified by ETL to meet ISO Level IV and TIA Level III Accuracy requirements
- Analyze test results and create professional test reports using LinkWare reporting software

P/N	Description
DTX-1800	CableAnalyzer. Includes DTX-1800 Main and Smart Remote, LinkWare PC Software, 128MB MMC Card, Cat 6A/Class EA Permanent Link Adapters (2), Cat 6/Class E Channel Adapters (2), Headsets for Talk (2), AC Chargers (2), Carrying Case, USB Interface Cable (Mini-B), Serial RS-232 Cable (DB9 to IEEE1394), User Manual

Multiple configurations available. Please check with your TVC representative or [www.tvcinc.com](http://www.tvcinc.com) for details.

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### JDSU CERTIFIER40G: NEXT-GENERATION CABLE CERTIFIER

The revolutionary Touch2 design, with intuitive touch screen at both ends makes using the Certifier40G the easiest cable tester ever. The full screen at both ends allows users in the field to minimize their walking time by initiating, configuring, and storing tests from either side of a link or channel.

- Improve installer productivity up to 50 percent by eliminating unnecessary walking between local and remote units, with a Touch2 system that lets them view and analyze test results at both ends
- Protect your investment with the most advanced tester in the market that certifies beyond TIA-568/ISO 11801 standards, with a 1600 MHz measurement frequency

P/N	Description
NGC-4500-FA- X*	Certifier40G Class FA copper kit (class FA adapters not included) with NA power cord
NGC-4500-MM-X*	Certifier40G Class-FA copper and tier I fiber multimode kit (Class-FA adapters not included)
NGC-4500-MMSM-X*	Certifier40G Class-FA copper and tier I fiber multimode and single-mode kit (Class-FA adapters not included)
NGC-4500-6ACH2	Certifier40G Cat 6A channel adapter pair
NGC-4500-6ALKIT2	Certifier40G Cat 6A permanent link testing kit
NGC-4500-TERACH2	Certifier40G CLASS FA TERA channel adapter pair
NGC-4500-TERAL2	Certifier40G CLASS FA TERA permanent link adapter pair
NGC-4500-GGARJCH2	Certifier40G CLASS FA GG45/ARJ45 channel adapter pair
NGC-4500-GGARJL2	Certifier40G CLASS FA GG45/ARJ45 permanent link adapter pair

\*(NA/EU/UK/AU) Please specify regional cables: North America (NA) Type A, European (EU) Type C, United Kingdom (UK) Type G, Australian (AU) Type I.

JDSU



## LOOP TESTERS

### EXFO AXS-200/610 30 MHz COPPER TEST SET

Identify copper problems affecting triple-play quality using the AXS-200/610—part of the SharpTESTER Access Line.

#### Applications

- Single-ended wideband frequency response and balance tests identify high-frequency, service-affecting faults
- Prequalification of subscriber loops for carrying ADSL2+ or VDSL2
- Spectrum qualification of circuits in any VDSL2 band plan (12, 17 and 30 MHz)
- Loop and fault analysis using proven TDR and FDR techniques

#### Key Features and Benefits

- Visual reports, graphs and histograms, displaying signal and noise issues
- 30 MHz spectrum analysis for VDSL2 and video prequalification and troubleshooting
- Automated clear, pass/fail results speeding up and simplifying test cycles

P/N	Description
AXS-610	30 MHz Copper Test Set

Multiple configurations available. Please check with your TVC representative or [www.tvcinc.com](http://www.tvcinc.com) for details.



### EXFO AXS-200/650 IP TRIPLE-PLAY TEST SET

Offers a quick, yet thorough method for deploying triple-play services—IP-based data, VoIP and IPTV—facilitated by pass/fail-driven automated tests.

#### Applications

- Optimized for FTTH IP triple-play service commissioning and verification
- Internet connectivity assessment using ping, traceroute and HTTP/FTP speed testing

#### Key Features and Benefits

- Simple, affordable residential IP triple-play testing with pass/fail indication
- IPTV and VoIP service assurance using a comprehensive range of QoS metrics
- Feature-rich, but cost-effective: Ethernet 10/100 termination and Ethernet 10/100 pass through with triple-play QoS measurements

P/N	Description
TK-AXS-650	IP Triple-Play Test Set

Multiple configurations available. Please check with your TVC representative or [www.tvcinc.com](http://www.tvcinc.com) for details.



VoIP/TELECOM

### EXFO FTB-8105 TRANSPORT BLAZER DSn/PDH AND SONET/SDH ELECTRICAL TEST MODULE

Supports DSn, PDH, SONET and SDH electrical rates up to 155 Mbit/s. Ideally suited for TDM field service deployment and maintenance activities.

#### Applications

- DSn/PDH access network testing
- Ethernet-over-DSn/PDH network service turn-up

#### Key Features and Benefits

- Supports DSn, PDH, SONET and SDH electrical rates up to 155 Mbit/s in a single-slot module
- Dual Rx DSn
- Intuitive, feature-rich user interface with automated test scripting with multi-user remote management capabilities

P/N	Description
FTB-8105	DSn/PDH and Sonet/SDH Electrical Test Module

Multiple configurations available. Please check with your TVC representative or [www.tvcinc.com](http://www.tvcinc.com) for details.



### EXFO MaxTESTER DSL

Fast, easy-to-use and cost-effective ADSL2+/VDSL2 and Ethernet test set for installing FTTx services over DSL.

#### Applications

- ADSL2+ and VDSL2 service verification—check the DSL service parameters from the central office to the customer premises
- Internet qualification—log into the ISP and ensure a working service
- In-home testing—prove operation and connectivity right up to the customer's equipment

#### Key Features and Benefits

- ADSL2+ testing, with optional VDSL2 for hybrid networks
- Ethernet testing for qualifying FTTx service at the customer premises
- IPTV test suite for automated quality of service (QoS) testing
- Data testing and Web browser for complete service qualification

P/N	Description
MAX-630	MaxTester DSL

Multiple configurations available. Please check with your TVC representative or [www.tvcinc.com](http://www.tvcinc.com) for details.



# VoIP/TELECOM TEST

## LOOP TESTERS

### EXFO FTB-810 NetBlazer Series Transport Tester

Offers comprehensive, yet simple test suites for field technicians to easily turn up, validate and troubleshoot transport circuits covering all DSn/PDH and SONET/SDH interfaces up to 10 Gbit/s.

#### Applications

- DSn/PDH
- SONET/SDH

#### Key Features and Benefits

- Complete test suite for DSn/PDH and SONET/SDH interfaces up to 10 Gbit/s
- Simplified BER testing with pass/fail indicators based on user-defined thresholds
- Unprecedented configuration simplicity with hybrid touchscreen/keypad navigation and data entry
- No data interpretation errors with revolutionary new GUI on 7-inch TFT screen, historical event logger, visual gauges and 3D-icon depictions of pass/fail outcomes
- Simpler reporting with integrated Wi-Fi and Bluetooth connectivity capabilities
- Centralized support for injection/monitoring of errors and alarms, trace messaging, overhead monitoring/manipulation and performance monitoring statistics
- Extended field autonomy with compact, lightweight platform equipped with a long-duration battery pack



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P/N	Description
FTB-810	DSn/PDH and SONET/SDH Up to 2.5 Gbit/s NetBlazer Series Transport Tester
FTB-810G	DSn/PDH and SONET/SDH Up to 10 Gbit/s NetBlazer Series Transport Tester

Multiple configurations available. Please check with your TVC representative or [www.tvinc.com](http://www.tvinc.com) for details.

VoIP/TELECOM

### FLUKE NETWORKS 990DSL COPPERPRO™ TEST SET

The CopperPro offers a broad range of Plain Old Telephone Services (POTS) troubleshooting, fault location and line qualification capabilities. Its Wideband/TDR option adds high frequency transmission testing and qualification functions for services like ADSL, HDSL and HDSL2, ISDN, T1, E1 and DDS.

- Replaces up to twelve traditional test sets
- Troubleshoots and qualifies lines for POTS, ADSL and other special services
- Time Domain Reflectometer (TDR) feature allows precision fault location

P/N	Description
990DSLWT	CopperPro Loop Tester with Wideband and TDR
9900DSL	CopperPro Tester with Basic POTS features

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### FLUKE NETWORKS COPPERPRO™ SERIES II BROADBAND LOOP TESTER

CopperPro Series II is the latest generation of the leading copper loop test and analysis test sets. It provides a complete range of troubleshooting, fault locating, testing and qualification capabilities, all in a rugged, handheld easy-to-use DSL test set. New features include broadband noise identification for VDSL, advanced TDR capabilities for locating short bridge taps and other VDSL affecting impairments, and an optional VDSL modem for verifying service connectivity and performance.

- Quickly qualify the facilities for DSL services including ADSL, VDSL, HDSL, T1, and other special services
- Easily identify and locate possible problems to ensure reliable performance
- Install new services efficiently with fewer call-backs

P/N	Description
990DSL2+	CopperPro Next Gen Copper Loop Analyzer w/TDR and wideband spectral analysis for ADSL2+
990VDSL	CopperPro Next Gen Copper Loop Analyzer w/TDR and wideband spectral analysis for VDSL



### FLUKE NETWORKS 635 QUICKBERT-T1

Compact, handheld T1 Test Set for construction, installation and troubleshooting applications. Perfect for cell backhaul applications.

- Instantaneous detection and display of framing, line coding, errors, alarms, level, frequency and more
- Transmits and receives common Bit Error Rate Test (BERT) patterns and includes all common loop codes
- Compact, rugged and easy to use

P/N	Description
635	QuickBERT-T1, carrying case, ToolPak™, and necessary cables and adapters





# NETWORK/ETHERNET TEST

## NETWORK TESTERS



### EXFO FTB-8120NGE/8130NGE POWER BLAZER NEXT-GENERATION MULTISERVICE TEST MODULES

SONET/SDH, OTN, Ethernet and Fibre Channel test functions in the industry's smallest and most efficient form factor—a new standard in multiservice field testing.

#### Applications

- MSTP, MSPP and ROADM field installation, commissioning and service turn-up
- DS<sub>n</sub>/PDH and SONET/SDH up to OC-192/STM-64
- OTN (ITU-T G.709) with FEC testing and ODU multiplexing up to 10.7 Gbit/s
- 10/100/1000M, GigE and 10 GigE (LAN/WAN) BERT and RFC 2544 testing
- 1x, 2x, 4x and 10x Fibre Channel testing

#### Key Features and Benefits

- 1x, 2x, 4x and 10x Fibre Channel testing DS0/E0 to OC-192/STM-64/OTU2: 10 Mbit/s to 10 Gbit/s LAN/WAN as well as 1x, 2x, 4x and 10x Fibre Channel testing in the industry's smallest form factor
- Fully integrated solution for assessing the performance of Ethernet transport networks, including RFC 2544, BER testing and multistream generation and analysis
- Comprehensive Fibre Channel test capabilities, including framed and unframed BERT, buffer-to-buffer credit estimation and round-trip latency measurements
- OTN forward error correction (FEC) and optical channel data unit (ODU) multiplex testing capabilities as per ITU-T G.709
- Offers ODU0 (1.25 Gbit/s) container with Gigabit Ethernet and SONET/SDH client signals for qualifying newly and efficiently mapped transport and datacom services over OTN

P/N	Description
FTB-81xx	Next-Generation Multiservice Test Modules

Multiple configurations available. Please check with your TVC representative or [www.tvcinc.com](http://www.tvcinc.com) for details.



### FLUKE NETWORKS NETTOOL SERIES II INLINE NETWORK TESTER

The NetProve™ diagnostics isolates and documents network device and application connectivity issues in seconds. Connect inline at 10/100Gig to see actual traffic between network and end devices to solve problems fast. Diagnose IP phone problems and measure VoIP call quality. Troubleshoot PoE and network cabling.

- Verify, isolate, and document network connectivity and application port response problems faster than ever before with automated NetProve diagnostics
- NetTool Series II is the only handheld troubleshooting tool with inline vision into 10, 100 and Gigabit links to see the actual traffic between the network and end devices like PCs, access points and security cameras
- Internal wiremap - WireView Cable ID, cable length, opens, shorts, and split pairs

P/N	Description
NTS2-PRO	NetTool Series II Pro includes 10/100/1000Mbps inline, NetProve diagnostics, IntelliTone toning, NetTool Connect PC software, WireView Wiremapper #1, set of 4 AA alkaline batteries, USB to mini-USB cable, Ethernet cable, Getting Started Guide, CD with Multi-language User Manuals, and soft carrying case

Multiple configurations available. Please check with your TVC representative or [www.tvcinc.com](http://www.tvcinc.com) for details.



### FLUKE NETWORKS ETHERSCOPE™ SERIES II NETWORK ASSISTANT

The EtherScope™ Series II is a handheld Ethernet Analyzer combining essential tools to help first responders quickly identify what and where the problem is so they can fix it fast. Troubleshoot 10, 100 and Gigabit links, copper and optical fiber cabling wired and wireless LANs. Measure and characterize link performance at rates up to 1 Gbps.

- The right combination of troubleshooting tools in a handheld platform to help network professionals solve a wide range of problems fast
- Analyze 10/100/Gigabit twisted pair and Gigabit fiber optic Ethernet LANs, troubleshoot switched networks, discover devices, networks and VLANs and monitor traffic statistics
- Characterize the performance of LAN and WAN links. Measure throughput, latency and frame loss per RFC 2544 at rates up to 1 Gbps over copper or optical fiber cabling

P/N	Description
ES2-LAN-SX	LAN analyzer with Fiber option
ES2-LAN-SX/I-LRD	LAN analyzer with Fiber and ProVision/RFC2544 options, plus a LinkRunner Duo Reflector kit
ES2-PRO-SX/I-ACK **	LAN and WLAN analyzer with Fiber and ProVision/RFC2544 options, plus an AirCheck Wi-Fi Tester
ES2-PRO-SX/I-LRDACK **	LAN and WLAN analyzer with Fiber and ProVision/RFC2544 options, plus a LinkRunner Duo Reflector kit, an AirCheck Wi-Fi Tester, and an extended accessories kit

\*\*For sale only in countries where the AirCheck Wi-Fi Tester is certified



NETWORK/ETHERNET



# NETWORK/ETHERNET TEST

## NETWORK TESTERS

### JDSU LANSCAPERPRO™ NETWORK TESTER

In network mode testing, the easy-to-use LanScaperPRO enables quick identification at unknown RJ45 jacks for active Ethernet, POTS, token ring, or other devices as well as for presence of devices using power over Ethernet (PoE) at the other end of the jack or cable being tested.

- Identifies and measures power delivered by IEEE 802.3af PoE and legacy Cisco In-Line Power
- Detects and reports speed and capabilities for active Ethernet and other devices up to 1 Gbps

P/N	Description
NT800	LanScaperPRO Cabling and Network Tester with cable test remote. Includes 30.48 cm (1 ft) RJ45 to alligator clips cable (TP40), two 30.48 cm (1 ft) cables with RJ45 connectors (TP55), two 19 cm (7.5 in) RJ12 to RJ12 cables for no-fault connection to RJ11 or RJ45 jacks (TP20), and nylon case. Requires four AA batteries (not included)
NT850	LanScaperPRO Cabling and Network Tester Kit with 8 cable test remotes and probe. Includes 30.48 cm (1 ft) RJ45 to alligator clips cable, two 30.48 cm (1 ft) cables with RJ45 connectors, two 19 cm (7.5 in) RJ12 to RJ12 cables for no-fault connection to RJ11 or RJ45 jacks, Tone Tracer Probe, and nylon case. Requires four AA batteries (not included)



## NETWORK WIRE MAPPERS

### JDSU NET-RITE™ CONTINUITY AND WIREMAP TESTER

The Net-Rite™ Cable Tester is an economical, compact Continuity and Wiremap Tester for Ethernet cable. The ergonomic handheld unit is easy to use with no buttons to push to initiate testing. The auto-on feature starts the test when a short or remote is detected. The removable onboard remote enables longer cable runs and enables testing up to 305 meters (1,000 feet).

- Tests Ethernet cable for opens, shorts, split pairs, miswires, and reversals
- Shows cable faults per TIA568 specifications
- Displays test results on full LCD, including PASS and FAIL
- Onboard remote stores in the bottom of the main unit
- Auto-on when short or remote is sensed
- Auto-off when remote is disconnected

P/N	Description
TP250	Net-Rite Cable Tester with onboard cable test remote. Includes four 6-volt button cell batteries
KP260	Net-Rite Cable Tester with Trace-Rite™ Tone Generator. Includes Trace-Rite Tone Generator with Probe, RJ11 to alligator clips cord set, and Net-Rite Cable Tester with onboard cable test remote



## METRO ETHERNET TESTERS

### EXFO AXS-200/850 ETHERNET TEST SET

Delivers comprehensive, yet straightforward test functionalities for installing, turning up or maintaining Ethernet and IP services.

#### Applications

- Performance assessment of Carrier Ethernet services
- Installation, activation and maintenance of metro Ethernet networks
- Deployment of active Ethernet (point-to-point) access services

#### Key Features and Benefits

- Bidirectional RFC 2544 testing with independent results for each direction tested simultaneously
- Traffic generation and monitoring for network performance testing
- Multiple background streams traffic for Carrier Ethernet services testing
- Bit-error-rate testing (BERT) up to layer 4
- Cable testing
- Intelligent network autodiscovery for simplified loopback testing
- Configurable VLAN and Q-in-Q capability
- QoS, ToS and diffserv capabilities
- Pass/fail results (LED indicators) with user-defined thresholds

P/N	Description
AXS-850	Ethernet Test Set

Multiple configurations available. Please check with your TVC representative or [www.tvcinc.com](http://www.tvcinc.com) for details.



# NETWORK/ETHERNET TEST



## METRO ETHERNET TESTERS

### EXFO AXS-200/805/855 MULTILAYER ACCESS TEST SET

The industry's first all-in-one handheld solution for dual E1/DS1, DS3, ISDN PRI and Ethernet testing. Delivers comprehensive, yet straightforward test functionalities for installing, turning up or maintaining.

#### Applications

- Performance assessment of Carrier Ethernet services
- Installation, activation and maintenance of metro Ethernet networks
- Deployment of active Ethernet (point-to-point) access services

#### Key Features and Benefits

- Compact, lightweight platform purpose-built for harsh field environments
- Eliminates errors in data interpretation with radically simple, intuitive interface
- Validates test results with real-time insertion of voice traffic using talk-set capability
- Increases technician efficiency by allowing to run up to three tests simultaneously
- Turnkey Ethernet testing, including simultaneous bidirectional RFC 2544, multistream traffic generation, BERT and intelligent autodiscovery for end-to-end single-technician testing

P/N	Description
AXS-855	Multilayer Access and Ethernet Test Set
AXS-805	Multilayer Access Test Set

Multiple configurations available. Please check with your TVC representative or [www.tvcinc.com](http://www.tvcinc.com) for details.



### EXFO FTB-8510B PACKET BLAZER ETHERNET TEST MODULE

Fully integrated test solution for performance assessment of Ethernet transport networks.

#### Applications

- Performance validation of carrier-grade Ethernet services
- IPTV testing and analysis (option available only with the FTB-500 platform)

#### Key Features and Benefits

- Complete EtherSAM (ITU-T Y.1564) test suite. EtherSAM is the new standard for turning up and troubleshooting mobile backhaul and business Ethernet services
- Throughput, back-to-back, latency and frame loss measurements as per RFC 2544 (bidirectional results)
- Multistream generation and analysis, allowing quality of service (QoS) verification through VLAN and ToS/DSCP prioritization testing
- True wire-speed, stateful TCP throughput test for undisputable SLA reinforcement for Ethernet services
- IPTV testing and analysis
- Up to 1 Gbit/s full-line-rate data capture and decode
- Complete Carrier Ethernet services portfolio: PBB-TE (MAC-in-MAC), MPLS, MPLS-TP, 802.3ah and IPv4/IPv6
- 1x and 2x Fibre Channel testing

P/N	Description
FTB-8510B	Ethernet Test Module

Multiple configurations available. Please check with your TVC representative or [www.tvcinc.com](http://www.tvcinc.com) for details.



NETWORK/ETHERNET

### EXFO FTB-8510G PACKET BLAZER 10 GIGABIT ETHERNET TEST MODULE

Offers performance assurance for Ethernet-based services, supporting 10 Gigabit Ethernet WAN and LAN rates for total network testing. Provides all the test and measurement functionalities required to verify service-level agreement (SLA) conformity.

#### Applications

- Performance validation of carrier-grade 10 gigabit Ethernet services
- BERT, RFC 2544 and advanced layer 3 and 4 traffic generation and analysis

#### Key Features and Benefits

- Complete EtherSAM (ITU-T Y.1564) test suite. EtherSAM is the new standard for turning up and troubleshooting mobile backhaul and business Ethernet services
- LAN and WAN PHY capability in a single module
- Fully integrated functionality for assessing the performance of Ethernet transport networks
- Packet jitter measurement to qualify Ethernet transport networks for transmission of delay-sensitive traffic such as video and voice-over-IP (VoIP)
- Throughput, back-to-back, latency and frame loss measurements as per RFC 2544 (bi-directional)
- Multistream generation and analysis, allowing quality of service (QoS) verification through VLAN and ToS/DSCP prioritization testing
- Up to 10 Gbit/s full-line-rate data capture and decode
- MPLS, MPLS-TP, PBB-TE and IPv4/IPv6 support for complete Carrier Ethernet validation

P/N	Description
FTB-8510G	10 Gigabit Ethernet Test Module

Multiple configurations available. Please check with your TVC representative or [www.tvcinc.com](http://www.tvcinc.com) for details.



# NETWORK/ETHERNET TEST

## METRO ETHERNET TESTERS



### EXFO BV10 PERFORMANCE ENDPOINT UNIT

Highly cost-effective Ethernet performance monitoring device providing complete network visibility for mobile backhaul, Carrier Ethernet and PTN networks.

#### Applications

- Ethernet performance monitoring

#### Key Features and Benefits

- Fully integrated in EXFO's end-to-end mobile backhaul solution for service turn-up, troubleshooting and performance monitoring
- Offers complete network visibility at a third of the cost of traditional Ethernet NID solutions
- Simple and remote management for zero-truck-roll network maintenance
- Completely standards-based, supporting Ethernet OAM, with 802.1ag and Y.1731 message response as a performance endpoint, as well as TWAMP (RFC 5357)
- Capability to perform full-line-rate loopback from layer 2 up to layer 4 with rates of 10/100/1000 Mbit/s



P/N	Description
BV10	Performance Endpoint Unit

Multiple configurations available. Please check with your TVC representative or [www.tvcinc.com](http://www.tvcinc.com) for details.

### EXFO FTB-860 NETBLAZER SERIES ETHERNET TESTERS

Offers field technicians comprehensive, yet simple test suites to quickly and easily turn up, validate and troubleshoot Ethernet services, with full EtherSAM capabilities, from 10 Mbit/s to 10 Gbit/s.

#### Applications

- Deployment, validation and troubleshooting of access and metro Ethernet services
- Comprehensive testing across 10 Mbit/s to 10 Gbit/s network environments

#### Key Features and Benefits

- Accelerate Ethernet service activation with bi-directional EtherSAM (ITU-T Y.1564) and RFC 2544 test suites, multistream traffic generation, Through mode and bit-error-rate (BER) testing
- Experience unprecedented configuration simplicity with hybrid touchscreen/keypad navigation and data entry
- Increase technician autonomy and productivity with intelligent discovery of remote EXFO Ethernet testers, as well as in-service testing via dual-port Through mode
- Eliminate errors in data interpretation with revolutionary new GUI on 7-inch TFT screen, historical event logger, visual gauges and 3D-icon depictions of pass/fail outcomes
- Integrated applications to test VoIP services, and additional IP test utilities including VLAN scan and LAN discovery via EXpert VoIP and EXpert IP test tools



P/N	Description
FTB-860	Ethernet 10/100/1000 Base-T electrical tester
FTB-860G	Ethernet 10/100/1000 Base-T electrical and GigE optical tester
FTB-860GL	Ethernet 10/100/1000 electrical, GigE optical and 10 GigE LAN/WAN tester

Multiple configurations available. Please check with your TVC representative or [www.tvcinc.com](http://www.tvcinc.com) for details.

### EXFO FTB-880 NETBLAZER MULTISERVICE TESTER

Offers comprehensive, yet simple test suites for field technicians to easily turn up, validate and troubleshoot DSn/PDH, SONET/SDH and Ethernet services up to 10 Gbit/s.

#### Applications

- Deployment, validation and troubleshooting of access and metro Ethernet services
- Comprehensive testing across 10 Mbit/s to 10 Gbit/s network environments
- DSn/PDH and SONET/SDH

#### Key Features and Benefits

- Comprehensive testing for DSn/PDH, SONET/SDH and Ethernet interfaces up to 10 Gbit/s
- Simplified BER testing with pass/fail indicators based on user-defined thresholds
- Faster Ethernet service activation with bi-directional EtherSAM (ITU-T Y.1564) and RFC 2544 test suites, multistream traffic generation, Through mode and bit-error-rate (BER) testing
- Higher technician autonomy and productivity with intelligent discovery of remote EXFO Ethernet testers, as well as in-service Ethernet testing via dual-port Through mode
- No data interpretation errors with revolutionary new GUI on 7-inch TFT screen, historical event logger, visual gauges and 3D-icon depictions of pass/fail outcomes
- Centralized support for injection/monitoring of errors and alarms, trace messaging, overhead monitoring/manipulation and performance monitoring statistics
- Integrated applications to test VoIP services, and additional IP test utilities, including VLAN scan and LAN discovery via EXpert VoIP and EXpert IP test tools



P/N	Description
FTB-880-FLEX	NetBlazer Multiservice Tester

Multiple configurations available. Please check with your TVC representative or [www.tvcinc.com](http://www.tvcinc.com) for details.

# NETWORK/ETHERNET TEST



## METRO ETHERNET TESTERS

### EXFO ETS-1000 ETHERNET ANALYZER

Cost-effective handheld Ethernet analyzer enabling service providers to turn-up and install Carrier Ethernet services.

#### Applications

- Installation and turn-up of Carrier Ethernet services

#### Key Features and Benefits

- Two 10/100/1000Base-T and GigE independent test ports
- Throughput, back-to-back, latency and frame loss measurements as per RFC 2544 (asymmetric results)
- Multistream, up to layer 4 traffic generation and analysis, allowing quality of service (QoS) verification through VLAN, TOS/DSCP prioritization testing
- MPLS route prioritization validation with up to three MPLS labels (MPLS option)
- Through mode testing for troubleshooting applications
- TCP/IP network configuration test suite including, TCP client, DNS lookup and ARP monitor

P/N	Description
ETS-1000	Ethernet Analyzer

Multiple configurations available. Please check with your TVC representative or [www.tvcinc.com](http://www.tvcinc.com) for details.



### EXFO ETS-1000L ETHERNET LOOPBACK DEVICE

Cost-effective, compact Ethernet loopback tool that can be used as a remote unit to return test traffic, enabling service providers to turn-up and install carrier Ethernet services.

#### Applications

- Installation and turn-up of Carrier Ethernet services

#### Key Features and Benefits

- 10/100/1000Base-T and GigE ports
- Can be used as a remote loopback/reflector for all Carrier Ethernet validation tests including RFC 2544, bit-error rate (BER) and quality of service (QoS)
- Selectable loopback at layers 1 through 4
- Complete interoperability with EXFO's Ethernet analyzers (ETS-1000, AXS-200/850 series, RTU-310/310G) and Ethernet test modules (FTB-8510B, FTB-8510G, FTB-8525/8535 and FTB-8120NGE/8130NGE)
- 802.3ah remote loopback support

P/N	Description
ETS-1000L	Ethernet Loopback Device



NETWORK/ETHERNET

### EXFO RTU-310 IP SERVICES TEST HEAD

Enables carriers to ensure the reliability and performance of their Ethernet-based services; provides all the necessary measurement tools for service turn-up, troubleshooting as well as verifying service-level agreements.

#### Applications

- Performance validation of carrier-grade Ethernet services
- IPTV testing and analysis

#### Key Features and Benefits

- Complete EtherSAM (ITU-T Y.1564) test suite. EtherSAM is the new standard for turning up and troubleshooting mobile backhaul and business Ethernet services
- Throughput, back-to-back, latency and frame loss measurements as per RFC 2544 (bi-directional results)
- Multistream generation and analysis, allowing quality of service (QoS) verification through VLAN and ToS/DSCP prioritization testing
- True wire-speed and stateful TCP throughput testing
- SLA reinforcement for Ethernet services
- IPTV testing and analysis
- Complete Carrier Ethernet services portfolio: PBB-TE (MAC-in-MAC), MPLS, MPLS-TP 802.3ah and IPv4/IPv6
- 1x and 2x Fiber Channel testing

P/N	Description
RTU-310	IP Services Test Head

Multiple configurations available. Please check with your TVC representative or [www.tvcinc.com](http://www.tvcinc.com) for details.



# NETWORK/ETHERNET TEST

## METRO ETHERNET TESTERS

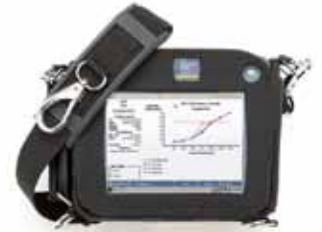


### FLUKE NETWORKS METROSCOPE™ SERVICE PROVIDER ASSISTANT

The MetroScope Service Provider Assistant is the next generation in field test equipment for installing and troubleshooting carrier Ethernet services over copper or fiber. Complete RFC 2544 testing plus jitter and server response measurements support advanced services, while flexible scripting optimizes testing times. The unique Reflector accessory allows end-to-end testing without a second MetroScope.

- Complete RFC 2544 Service Level Agreement (SLA) Testing
- Jitter and Server response time measurements
- Powerful customized scripting for optimized testing

P/N	Description
MTSCOPE	MetroScope Mainframe including 10/100/1000Base-T and 10/100/1000Base-X SFP Port, AC adapter/battery charger, remote wiremap adapter, 128MB Compact-Flash card, Documentation CD, carrying case
MTSCOPE-KIT	MetroScope Mainframe including 10/100/1000Base-T and 10/100/1000Base-X SFP Port, rechargeable Li-Ion battery pack, AC adapter/battery charger, Auto lighter charger, remote wiremap adapter, 128MB Compact-Flash card, Documentation CD, carrying case and LinkReflector including 10/100/1000Base-T port



### JDSU VALIDATOR™ AND VALIDATOR-NT™ ETHERNET SYSTEM SPEED CERTIFIERS

The Validator™ series of Ethernet Network Management Tools—Validator™ and Validator-NT™—offer a complete solution to test and speed certify the data-carrying capabilities of Ethernet network cables up to 1 Gb/s by testing for noise in the network, detecting faults in the cabling wiring, and ensuring that cables are able to support the speed capabilities of active equipment.

- Conducts Bit Error Rate (BER) testing to speed certify Ethernet data transmission speed up to 10/100/1000Base-T (1 Gb/s)
- Measures Signal-to-Noise Ratio and Skew to uncover impairments to Ethernet data transmission
- Tests for opens, shorts, split pairs, miswires, and reversals and measures distance to opens and shorts - supports all network, telco, and coax cables
- Identifies cable termination on active Ethernet ports with hub flash

P/N	Description
NT950	Validator Ethernet Speed Certifier Kit
NT955	Validator-NT Ethernet Speed Certifier and Active Network Tester Kit



### JDSU VALIDATORPRO™ AND VALIDATORPRO-NT™

Building on the capabilities of the JDSU Validator and Validator-NT, the JDSU ValidatorPRO series of Ethernet Network Management Tools offers a complete solution to test copper and fiber Ethernet cables. The ValidatorPRO Ethernet speed certifier with integrated optical power meter and accompanying Plan-Um cable management software delivers the power to test both copper and fiber cabling, determine if cables can support Gigabit Ethernet, and perform troubleshooting for cable installations. The ValidatorPRO performs all tests offered by the Validator and Validator-NT, including speed certifying the data-carrying capabilities of copper Ethernet network cables up to 1 Gb/s by testing for noise in the network, detecting faults in the cabling wiring, and ensuring that cables can support the speed capabilities of active equipment.

- Measures optical power on single-mode and multimode fiber
- Conducts BER testing to speed certify Ethernet data transmission speed up to 10/100/1000Base-T (1 Gb/s)
- Measures SNR and skew to uncover impairments to electrical Ethernet data transmission

P/N	Description
NT1150	ValidatorPRO Ethernet speed certifier with integrated optical power meter
NT1155	ValidatorPRO-NT Ethernet speed certifier with integrated optical power meter including active network tests



### XFTP WILD CAT ETHERNET CABLE TESTER

The XFTP WildCAT™ Ethernet Cable Tester is the ideal tester for measuring speed and performance of Cat 3, Cat 5e, and Cat 6 Ethernet cable while adhering to ANSI/TIA/EIA-568-B and ISO/IEC standards. With its full compliment of Auto Test functions including wire map, length, propagation delay, DC loop resistance, and insertion loss, no Ethernet cable will be safe from this tester's capability to see if it is performing at sub-standard levels.

- Connections Include RJ45, F, RJ11, and 2-wire
- Supports American Standard TIA/EIA-568-B and International Standard ISO/IEC 11801
- CAT 5e Test Results in Less than 30 Seconds, Cat 6 Results in Less than 63 seconds

P/N	Description
2011630000	XFTP WildCAT, Includes XFTP WildCAT Ethernet Cable Tester, AC battery charger and User's manual





# NETWORK/ETHERNET TEST



## DATA WIRE TESTERS

### KLEIN TOOLS LAN SCOUT™ JR. TESTER

The Klein VDV526-052 LAN Scout™ Junior Tester is easy to use and conveniently compact; it has a large display for easy identification and rubber molding for added comfort. Tests twisted pair data wiring (RJ45) connections. Dual function buttons operates test functions and tone generator. Self-storing remote and four (4) LR44 6V alkaline batteries are included.

- Tests twisted pair data wiring (RJ45) connections
- Easy to use, compact tool saves time and money on the job
- Features dual function button—operates test functions and tone generator
- Large display for easy identification and self-storing remote

P/N	Description
VDV526-052	LAN Scout™ Jr. Tester



### GREENLEE TOOLS PC CABLE-CHECK™ PRO

This Universal Tester maps cables, detects good connections, opens, shorts or crosses. It works with over 20 types of cables including: LAN & Telephone, Serial, Coaxial, USB, VGA, Mini-USB, S-video, FireWire, PS/2 Keyboard & Parallel Printer.

- Instantaneous detection and display of framing, line coding, errors, alarms, level, frequency and more
- Transmits and receives common Bit Error Rate Test (BERT) patterns and includes all common loop codes
- Compact, rugged and easy to use

P/N	Description
PA1577	PC Cable-Check™ Pro



## GIGABIT ETHERNET LINK TESTER

### FLUKE NETWORKS LINKRUNNER™ PRO NETWORK MULTIMETER

The Network Link Tester empowers technicians to resolve a broader range of today's connectivity problems. It verifies link at 10/100/Gig, pings up to 10 key devices, detects Power over Ethernet (PoE), resolves 802.1X conflicts, identifies nearest switch with CDP/EDP/LLDP discovery protocols, and generates professional link status test reports to expedite trouble ticket resolution.

- Link at 10/100/Gig – identify device capabilities and confirm actual speed/duplex status
- Ping key devices – measure response of DHCP, router, DNS, and other devices or URLs
- Verify 802.1X settings – authenticate with EAP type, user name, certificates, and password

P/N	Description
LRPRO-KIT	LinkRunner Pro Extended Test Kit. Includes LinkRunner Pro, IntelliTone Pro 200 Probe, WireView Cable IDs #1-6, CLIP-SET RJ45 to 8 alligator clip bare wire adapter, LinkRunner Connect software CD, test accessory soft pouch, USB cable, LinkRunner Pro Getting Started Guide, IntelliTone Pro Getting Started Guide, four (4) AA alkaline batteries, one 9V alkaline battery, packaged in a deluxe Fluke Networks carry case

Multiple configurations available. Please check with your TVC representative or [www.tvcinc.com](http://www.tvcinc.com) for details.



## WiFi TESTER

### FLUKE NETWORKS AIRCHECK™ WI-FI TESTER

AirCheck allows users to quickly troubleshoot 802.11 a/b/g/n network availability, connectivity, and security all in a dedicated, handheld tool. Its intuitive interface allows you to quickly see wireless network usage and easily determine if it's Wi-Fi traffic or non-Wi-Fi interference, plus identify and locate wireless Access Points whether authorized or rogue.

- Dedicated, handheld 802.11 a/b/g/n tester with instant-on technology
- Fully supports 2.4 and 5.0 GHz frequency bands
- Rapidly perform a Wi-Fi discovery to fully assess your current wireless security settings and network availability

P/N	Description
AirCheck	AirCheck Wi-Fi Tester. Includes AirCheck tester, USB cable, soft case, Getting Started Guide, CD with AirCheck Manager software and User Manual

Multiple configurations available. Please check with your TVC representative or [www.tvcinc.com](http://www.tvcinc.com) for details.



NETWORK/ETHERNET

# ELECTRICAL/VOLTAGE TEST

## MULTIMETERS

FLUKE®

### FLUKE 77 IV SERIES DIGITAL MULTIMETER

The Fluke 77 IV Digital Multimeter has the features needed to repair most electrical and electronic problems. This meter is simple to use and has significant improvements over Fluke's original 70 Series with more measurement functions, conformance to the latest safety standards, and a much larger display that's easier to view.

- Large Display
- Free your hands with the optional TPAK magnetic hanger
- Min/Max to record signal fluctuations
- Ergonomic overmolded housing with integrated probe holders
- Auto and Manual ranging
- Meets Measurement Category 1000V CAT III and Category IV 600V safety standards

P/N	Description
Fluke 77 IV	Digital Multimeter for field service or bench repair. Includes Installed 9V battery, test lead set and user manual

### FLUKE 115 FIELD SERVICE TECHNICIANS MULTIMETER

The Fluke 115 is a compact True-RMS Meter for field service technicians. It is the solution for a wide variety of electrical and electronic testing applications.

- Resistance, continuity, frequency and capacitance
- Measures 10 AC/DC current measurement (20A overload for 30 seconds)
- Compatible with optional magnetic hanger (ToolPak™)
- Min/Max/Average with elapsed time to record signal fluctuations

P/N	Description
Fluke 115	Multimeter. Includes Holster, Installed 9V battery, 4 mm silicone test lead set and user manual

### FLUKE 179 MULTIMETER & TOOLPAK™ COMBO KIT

These two products are bundled together so they can be ordered with a single part number at a lower price than purchasing the items separately. Now you can get more out of your Fluke 179 Digital Multimeter with the ToolPak Magnetic Meter Hanging Kit.

- True-RMS AC voltage and current for accurate measurements on non linear loads
- Large digit display with analog bar graph
- Temperature and capacitance

P/N	Description
Fluke 179/TPAK	Fluke 179 Multimeter & ToolPak™ Combo Kit

### FLUKE 117 ELECTRICIAN'S MULTIMETER WITH NON-CONTACT VOLTAGE

The Fluke 117 is a compact True-RMS Meter for commercial applications. It is the ideal meter for demanding settings like commercial buildings, hospitals and schools. The 117 includes integrated non-contact voltage detection to help get the job done faster.

- VoltAlert™ technology for non-contact voltage detection
- AutoVolt automatic AC/DC voltage selection
- True-RMS for accurate measurements on non-linear loads

P/N	Description
Fluke 117	Electrician's Multimeter with Non-Contact Voltage. Includes 4 mm silicone test lead set, Holster and user manual
Fluke 117/322 Kit	Fluke 117 True-RMS digital multimeter with non-contact voltage detection and Fluke 332 Compact clamp meter, TPAK Magnetic Meter Hanging Strap, TL75 Hard Point test lead set, and C115 Deluxe soft carrying case with shoulder strap

### FLUKE 289 FLUKEVIEW FORMS COMBO KIT

Maximize productivity with the combined Fluke 289 and FlukeView forms combo kit. With built-in data logger and TrendCapture capability, the 289 helps you track down elusive, intermittent problems, monitoring equipment with any of its functions while you do other jobs. Overlay your logged data from six meters or six time periods to find cause and effect relationships or for condition monitoring applications in FVF software. Turn your data into meaningful graphs and tables for a professional report. The 289/FVF combo kit gives you a practical and affordable approach to predictive maintenance.

P/N	Description
Fluke-289/FVF	Includes Fluke-289 True-RMS Industrial Logging Multimeter with TrendCapture, FlukeView Forms Software and cable, 80BK-A Temperature probe, TL 71 Silicon Test Lead Set, AC72 Alligator Clips TPAK Magnetic Meter Hanger for hands-free operation, Soft case for meter protection and accessory storage



# ELECTRICAL/VOLTAGE TEST

## MULTIMETERS

**FLUKE®**

### FLUKE 80 SERIES V DIGITAL INDUSTRIAL MULTIMETERS

- Unique function for accurate voltage and frequency measurements on adjustable speed motor drives and other electrically noisy equipment (87V)
- Built-in thermometer conveniently allows you to take temperature readings without having to carry a separate instrument (87V)
- Optional magnetic hanger for easy set-up and viewing while freeing your hands for other tasks
- Large digit display with bright, two-level backlight makes the 80-Series V significantly easier to read than older models

P/N	Description
Fluke 83V	Multimeter
Fluke 87V	Multimeter
Fluke 87V/E2 Kit	Industrial Electrician Combo Kit

Please check with your TVC representative or [www.tvcinc.com](http://www.tvcinc.com) for details on each unit.



### TRILITHIC XPro DIGITAL MULTIMETER

The XPro Digital Multimeter is designed and engineered for your daily use for electrical testing. Measure AC/DC voltage, AC/DC Current, Resistance, Capacitance, Temperature, Frequency, Transistor, Diode and Continuity. The multimeter features a convenient large LED screen with full icon display, data hold, sleep mode and full range overload protection. The XPro Digital Multimeter comes complete with battery, test lead, point contact temperature probe and multi-purpose socket.

- Overload Protection
- Data hold
- Sleep Mode
- Easy-to-read LCD

P/N	Description
2011332000	XPro Digital Multimeter

**XFTP**  
TRILITHIC



### TRILITHIC XPro LITE PALM-SIZE DIGITAL MULTIMETER

The XPro Lite Digital Multimeter is an ideal tool for electrical maintenance. Measure AC/DC voltage, AC/DC Current, Resistance, Temperature, Diode and Continuity. The multimeter features a convenient large LED screen and data hold function. The XPro Lite Multimeter comes complete with battery, test lead, and point contact temperature probe.

- Data hold
- Easy-to-read LCD

P/N	Description
2011331000	XPro Lite Digital Multimeter



### AMPROBE 5XP-A COMPACT DIGITAL MULTIMETER WITH VolTect™

The 5XP-A Digital Multimeter provides superior features and accuracy in a smaller form factor. The 5XP-A has unique features such as VolTect™ non-contact voltage detection and our exclusive Magne-Grip™ holster that frees both hands for work. The 5XP-A is the right choice for residential, commercial and general troubleshooting applications.

- Display 3-1/2 digit liquid crystal display (LCD) with a maximum reading of 1999
- Polarity Automatic, positive implied, negative polarity indication
- Operating Environment 0°C to 50°C at <70% R.H.
- Stated accuracy at 23°C ± 5°C, <75% relative humidity

P/N	Description
5XP-A	Compact Digital Multimeter

**AMPROBE®**



### AMPROBE 15XP-B DIGITAL MULTIMETER VolTect™ NON-CONTACT VOLTAGE DETECTION

Amprobe 15XP-B is the right choice for electronics engineers and field service technicians, featuring TTL logic test for digital circuits, diode test for component level troubleshooting, a special 2000MΩ measurement range, and an integrated tilt stand for convenience on the bench.

- Autoranging display for faster measurements
- TTL logic test for digital circuits
- Integrated tilt stand for easy bench use
- 750V AC / 1000V DC—highest voltage rating in this size of meter
- Special 2000MΩ measurement range

P/N	Description
15XP-AB	Digital Multimeter



ELECTRICAL/VOLTAGE

# ELECTRICAL/VOLTAGE TEST

## MULTIMETERS



### AMPROBE 30XR-A MANUAL RANGING DIGITAL MULTIMETER

For non-contact voltage testing, Amprobe 30XR-A Digital Multimeter offers Voltect™ non-contact voltage technology built into the 30XR-A along with a full complement of measurement functions.

- Non-contact voltage detector
- Separate door for easy battery and fuse access
- Manual Ranging; Display: 3-1/2 digit LCD, 1999 counts
- Display Update Rate: 2.5/sec, nominal
- Power Battery: 9V NEDA 1604, JIS 006P, IEC 6F22
- Operating Temperature: 0°C to 45°C at < 70% R.H

P/N	Description
30XR-A	Manual Ranging Digital Multimeter



### AMPROBE 33XR-A MANUAL RANGING DIGITAL MULTIMETER

The 33XR-A is a manual ranging digital multimeter with temperature and capacitance for field service technicians.

- Min/Max, Relative, Peak and Data Hold
- Auto power off to save battery life
- Separate door for easy battery and fuse access
- Magne-Grip™ Holster with magnetic hanging strap
- Display: 3-3/4 digit LCD, 3999 counts with 41-segment analog bar graph
- Display update rate: 2/sec, nominal
- Overrange indication

P/N	Description
33XR-A	Manual Ranging Digital Multimeter



### AMPROBE 34XR-A TRUE RMS DIGITAL MULTIMETER

The 34XR-A is a True RMS Digital Multimeter with temperature and backlight for contractors and field service technicians.

- Autoranging; Display: 3-3/4 digit LCD, 3999 counts with 41-segment analog bar graph
- Display Update Rate: 2/sec, nominal
- Operating Temperature: 0°C to 45°C at < 70% R.H
- True RMS digital multimeter with temperature and backlight
- Overrange indication

P/N	Description
34XR-A	True RMS Digital Multimeter



### AMPROBE 35XP-A DIGITAL MULTIMETER

The compact 35XP-A Digital Multimeter offers all the right features for HVAC and plant maintenance. It measures temperature, plus capacitance for motor run/start test, and offers 0.1µA resolution for flame sensor testing.

- Temperature measurement capability to 1000°C/1832°F (Type K thermocouple included)
- 750V AC/1000V DC - highest voltage rating in this class of meter
- Capacitance for motor run/start test
- 0.1µA resolution for flame sensor testing
- Frequency to 1 MHz
- Resistance to 40MΩ

P/N	Description
35XP-A	Digital Multimeter



### AMPROBE 37XR-A TRUE RMS DIGITAL MULTIMETER

The 37XR-A is a True RMS digital multimeter with component and logic test for troubleshooting electronics at the bench or on the job site.

- True RMS with component and logic test
- Inductance to 40 H, frequency to 40 MHz, capacitance to 400 µF, logic to 20 MHz
- Input warning tone when test leads are in wrong jack
- 10 Amps AC/DC, fully safety fused

P/N	Description
37XR-A	True RMS Digital Multimeter



# ELECTRICAL/VOLTAGE TEST

## MULTIMETERS



### AMPROBE 38XR-A TRUE RMS DIGITAL MULTIMETER W/OPTICAL PC INTERFACE

The 38XR-A is a True RMS digital multimeter with optical PC interface for engineers designing and troubleshooting industrial automation and control systems.

- Backlight, True RMS with optical PC interface
- Frequency to 10 MHz, capacitance to 400  $\mu$ F, temperature to 2372°F
- 10 Amps AC/DC, fully safety fused
- Continuity beeper

P/N	Description
38XR-A	True RMS Digital Multimeter with Optical PC Interface



### AMPROBE HD110C/HD160C HEAVY-DUTY DIGITAL MULTIMETERS

The HD110C is designed for professional use in harsh environments. The meter is unusually rugged and reliable in everyday heavy use applications. The meter is made using waterproof construction to prevent dirt, grime and moisture from entering the case and causing inaccurate readings or damaging shorts.

Built of tough, fire-retardant thermoplastic resistant to grease and chemical spills, with all sensitive components shock-mounted for a drop resistance to at least eight feet. HD110C has an extended voltage measurement capability of 1500V DC and 1000V AC, unmatched by any other line of digital multimeters. The extended voltage ranges can withstand transients up to 12kV.

Model HD160C has an extended voltage measurement capability of 1500V DC and 1000V AC, unmatched by any other line of digital multimeters. The extended voltage ranges can withstand transients up to 12kV.

- Highest voltage capability, measuring to 1500V DC and 1000V AC
- Cat IV 1000V rated
- Special sealing for environment and water resistance. IP67 rated
- Constructed with drop-resistant housing and PCB mounting

P/N	Description
HD110C	Heavy-Duty Digital Multimeter
HD160C	Heavy-Duty Digital Multimeter with True-RMS



### GREENLEE DM-200A DIGITAL MULTIMETER

- Auto and manual ranging
- Non-contact and single-probe voltage detection
- Beep-Jack™ audible and visible warning to guard against improper A and mA terminal plug in
- High visibility 6000 count LCD display
- Auto power off, display backlight, analog bar graph
- PC interface capability using optional USB RS-232 cable with data recording PC software

P/N	Description
DM-200A	Digital Multimeter
DM-210A	Digital Multimeter. Capacitance and temperature measurement capability



### GREENLEE DML-430A DIGITAL LOGGING METER

- Auto and manual ranging
- Beep-Jack™ audible and visible warning to guard against improper A and mA terminal plug in
- Capacitance and Dual-input temperature measurement capability
- Low impedance mode
- AutoCheck™ feature provides automatic selection of AC volts, DC volts or resistance with low impedance for ghost voltage elimination
- True RMS (AC + DC)
- Peak (crest) hold; Min, Max
- Data Logging Capability: 87,000 points stored single channel, 43,000 points stored dual channel
- Intelligent auto-power off, display backlight, analog bar graph
- PC interface capability using optional USB RS-232 cable with data recording PC software

P/N	Description
DML-430A	Digital Logging Meter



ELECTRICAL/VOLTAGE



# ELECTRICAL/VOLTAGE TEST

## MULTIMETERS



### GREENLEE DM-510A PROFESSIONAL PLANT DIGITAL MULTIMETER

- Auto and manual ranging
- Non-contact and single-probe voltage detection
- Beep-Jack™ audible and visible warning to guard against improper A and mA terminal plug in
- Capacitance and temperature measurement capability
- Low impedance mode
- AutoCheck™ feature provides automatic selection of AC volts, DC volts, or resistance with low impedance for ghost-voltage elimination
- True RMS
- PC interface capability using optional USB RS-232 cable with data recording PC software



P/N	Description
DM-510A	Professional Plant True RMS Digital Multimeter

### GREENLEE DM-8X0A DIGITAL MULTIMETERS

- Auto and manual ranging
- Beep-Jack™ audible and visible warning to guard against improper A and mA terminal plug in
- Capacitance measurement capability. DM-830A also has Dual-input Temperature measurement capability
- Intelligent auto-power off, display backlight, analog bar graph
- True RMS
- PC interface capability using optional USB RS-232 cable with data recording PC software
- DM-830A: AutoCheck™ feature provides automatic selection of AC volts, DC volts or resistance with low impedance for ghost voltage elimination



P/N	Description
DM-810A	Professional Plant True RMS Digital Multimeter
DM-820A	True RMS Digital Multimeter. Non-contact and single probe voltage detection
DM-830A	True RMS Digital Multimeter with AutoCheck™ feature

ELECTRICAL/VOLTAGE

### KLEIN TOOLS MULTIMETERS

The MM100 features battery test function and includes test leads and battery. Measures AC/DC voltage - 600V and DC current - 10A.

The MM1000 is an auto ranging voltage measurement multimeter. Measures AC/DC Voltage - 1000V and AC/DC Current - 10A. Features analog bar graph and includes thermocouple, test leads and battery.

The MM200 is an auto ranging voltage multimeter. Measures AC/DC Voltage - 600V, AC/DC Current - 10A and capacitance, temperature and frequency.

The MM2000 is an Electrician's/HVAC TRMS Multimeter. Features a backlit display, analog bar graph and low impedance. Measures AC/DC Voltage - 1000V and AC/DC Current - 10A. Includes thermocouple, test leads and batteries.



P/N	Description
MM100	Manual Ranging Multimeter
MM1000	Electrician's Multimeter
MM200	Auto Ranging Multimeter
MM2000	Electrician's/HVAC TRMS Multimeter

### MEGGER AVO410 TRUE RMS MULTIMETER

The Megger AVO410 digital multimeter has been designed for the contracting electrician and has the additional features that also make the instrument suitable for wide range of applications and users.

- 6000 count backlit digital display
- True RMS reading on AC mode
- 1000V DC / 750V AC ranges
- 10A AC/DC ranges
- Resistance, frequency and capacitance ranges
- Cat IV 600V safety rating

P/N	Description
1001-613	AVO410 Digital Multimeter



# ELECTRICAL/VOLTAGE TEST

## CLAMP-ON MULTIMETERS

### FLUKE 321/322 CLAMP METERS

The Fluke 321 and 322 are designed to verify the presence of load current, AC voltage and continuity of circuits, switches, fuses and contacts. These small and rugged clamp meters are ideally suited for current measurements up to 400A in tight cable compartments. The Fluke 322 also offers DC voltage measurements and has a higher resolution for loads below 40A.

- New smaller size fits easily into tight places
- Precise measurements with 1.8% basic accuracy
- Resolution up to 0.01A and 0.1V
- Measures AC current to 400A
- Measures AC volts to 600V
- Measures DC volts to 600V (Fluke 322 only)
- Resistance measurement to 400Ω
- Continuity for quick checking of shorts
- Automatic low battery indicator

P/N	Description
Fluke 321	Clamp Meter
Fluke 322	Clamp Meter

All models include: (2) AAA Alkaline batteries, Instruction card, Safety information sheet, Soft carrying case and Test leads.



Fluke321

Fluke322

### FLUKE 374 TRUE RMS AC/DC CLAMP METER

The Fluke 374 True RMS Clamp Meter can read up to 600V and 600A in both AC and DC modes. Additionally, the 374 is compatible with the new iFlex flexible current probe (sold separately), which increases the measurement range to 2500A AC and provides increased display flexibility, and improved wire access.

- iFlex flexible current probe (sold separately) expands the measurement range to 2500A AC while providing increased display flexibility, ability to measure awkward sized conductors and improved wire access
- Cat IV 600V, Cat III 1000V
- Proprietary inrush measurement technology to filter out noise and capture motor starting current exactly as the circuit protection sees it
- Ergonomic design fits in your hand and can be used while wearing personal protective equipment
- Large, easy to read backlight display automatically sets the correct measurement range so you do not need to change the switch positions while taking a measurement

P/N	Description
Fluke 374	True RMS AC/DC Clamp Meter. Includes Coated instruction card, Safety information sheet, Soft carrying case, TL75 test leads and Two AA Alkaline batteries



ELECTRICAL/VOLTAGE

### MEGGER DCM340 CLAMP METER

The DCM340 is a highly versatile instrument and ideal for use in the installation, maintenance, monitoring or checking of AC or DC electrical systems and equipment.

The DCM340 is safety rated to IEC 61010-1 Cat III 60V, and is drop-tested to 1.2 m onto a hard floor. It is supplied with test leads and a carry case, and a full 1-year manufacturers warranty.

- DC and AC current and voltage
- 600A and 600V
- Resistance and continuity
- 3 ½ digit, 4000 count display with backlight
- High resolution digital bargraph
- Peak, min/max and data-hold functions
- Zero-offset REL mode for comparative measurements
- Supplied complete with test leads and carry case
- IEC61010 Cat III 600V

P/N	Description
1000-305	DCM340 Digital Clamp Meter; 600A AC and DC; 600V AC and DC; 400Ω; 400 Hz

## Megger®



# ELECTRICAL/VOLTAGE TEST

## CLAMP-ON MULTIMETERS



### AMPROBE ACD-10 PLUS CLAMP-ON MULTIMETER

Amprobe's ACD-10 PLUS meter offers thinner jaws over standard clamp meters. Allowing access to tight measurement areas and still accommodating conductors up to 25 mm. It also measures capacitance and frequency. Frequency is measured by either jaws or test leads. Very versatile clamp multimeter.

- AC and DC Voltage to 600V
- AC Current to 600A
- Thin Jaws, only 10 mm (0.4") thick
- Resistance to 40MΩ

P/N	Description
ACD-10 PLUS	600A Clamp-On Multimeter



### AMPROBE ACD-10 TRMS-PLUS 600A CLAMP-ON MULTIMETER

The ACD-10 TRMS-PLUS Meter offers thinner jaws over standard clamp meters. Allowing access to tight measurement areas and still accommodating conductors up to 25 mm. Also measure Capacitance and Frequency. Frequency is measured by either jaws or test leads. True RMS version for noisy measurement environments for a more accurate reading.

- AC and DC Voltage to 600V
- AC Current to 600A
- Resistance to 40MΩ

P/N	Description
ACD-10 TRMS-PLUS	600A Clamp-On Multimeter TRMS



### AMPROBE ACDC-100 DIGITAL CLAMP-ON MULTIMETER

The ACDC-100 offers superior AC/DC measurement capabilities, highest product quality and enhanced ergonomics with Red, Rubber, Ribs™ design. The TRMS version addresses needs of professionals who rely on performance and reliability.

- Large, easy to read LCD display
- Auto and manual ranging
- Relative zero mode

P/N	Description
ACDC-100	AC/DC Digital Clamp-On
ACDC-100 TRMS	TRMS AC/DC Digital Clamp-On



### AMPROBE ACD-15 TRMS-PRO 2000A DIGITAL CLAMP-ON MULTIMETER WITH VolTEC™

The ACD-15 TRMS-PRO offers a wide range of measuring features built into one, professional meter. The TRMS version with backlight display, improves performance and reliability.

- TRMS and Backlight Screen
- Non-contact Voltage Level Detection
- Diode Test
- Audible continuity

P/N	Description
ACD-15 TRMS PRO	2000A Digital Clamp-On Multimeter TRMS



### GREENLEE CM-450 TRUE RMS CLAMP METER

- AC amperage, AC/DC voltage measurement
- True RMS for the most accurate measurement where harmonics are present
- Resistance measurement
- Audible continuity test
- Auto power off for longer battery life
- Data hold to capture measurements

P/N	Description
CM-450	AC Clamp-On Meter, True RMS



# ELECTRICAL/VOLTAGE TEST



## CLAMP-ON MULTIMETERS

### KLEIN TOOLS CLAMP-ON METERS

The CL100 features a backlit display and worklight. Tests diode and continuity. Includes case, test leads and batteries.

The CL1000 is a non-contact voltage tester. Features a backlit display, worklight and analog bar graph. Includes case, test leads and batteries.

The CL1100 is an auto-ranging clamp meter that measures AC/DC voltage, AC/DC current, resistance, capacitance, frequency, duty cycle and temperature. Includes case, test leads, thermocouple and batteries.

The CL200 measures temperature, frequency and capacitance. Features diode and continuity test. Includes case, thermocouple, test leads and batteries.

The CL2000 is a True RMS clamp-on non-contact voltage tester that measures DC current. Features a backlit display and worklight and analog bar graph.

The CL2100 is an auto-ranging clamp meter that measures AC/DC voltage, AC/DC current, resistance, capacitance, frequency, duty cycle, and temperature. Also tests non-contact voltage, diodes and continuity. Includes case, test leads, thermocouple and batteries.

The CL3000 is an open jaw current measurement clamp-on meter. Measures capacitance and frequency. Includes case, test leads and battery.

The CL3100 is designed specifically for hook current measurement for tight areas. Automatically selects current or voltage measurement. Includes case, test leads and battery.



P/N	Description
CL100	600A AC Clamp Meter
CL1000	400A AC Clamp Meter
CL1100	400A AC Clamp with Temperature
CL200	600A AC Clamp Meter with Temperature
CL2000	400A AC/DC True RMS Clamp Meter
CL2100	400A AC/DC True RMS Clamp with Temperature
CL3000	200A AC Fork Meter
CL3100	200A Hook Meter

ELECTRICAL/VOLTAGE

## CIRCUIT BREAKER LOCATOR



### KLEIN TOOLS DIGITAL CIRCUIT BREAKER FINDER

Quickly, accurately, and automatically find the corresponding circuit breaker of any 120V standard outlet. Features flashing arrow indicator for easy identification and a strong transmitter that reaches distances up to 1,000 feet.

Manufactured for 90 - 120V operation. Microprocessor controlled for more reliable identification. Does not require interruption of service; power can be left on.

P/N	Description
ET300	Digital Circuit Breaker Finder



### distribution

TVC's unique position in the market, including its long standing relationships with key manufacturers, allows us to stock and deliver the products where and when our customers need it. With automated inventory management, vendor managed inventory programs, emergency order expediting, and regionally stocking facilities, TVC delivers 98% on-time and claim free shipments per day with a 99% same day fulfillment rate.

# ELECTRICAL/VOLTAGE TEST

## VOLTAGE DETECTORS



### FLUKE NETWORKS C9970 SERIES VOLTAGE DETECTOR

These Voltage Detectors detect AC and DC voltages through a long-life carbide tip, which is protected by a plastic cap when not in use. To use the Voltage Detector, you simply place the carbide tip on the object in question, press the magnetic trigger, and observe the LEDs. If the green LED illuminates, the surface being touched is free from electrical hazards. If the red LED flashes, dangerous voltage is present.



P/N	Description
C9970	Voltage Detector and Probe Cap
C9973	Voltage Detector Kit. Includes Voltage Detector, probe cap, storage bag, temporary bond, ground cord and handbook
C9974	Voltage Detector Kit with Test Probe

### GREENLEE GT-12 NON-CONTACT SELF-TESTING VOLTAGE DETECTOR

- Use to detect voltage in outlets, lighting fixtures, circuit breakers, wires and cables or to find a break in a wire
- Designed and Assembled in the USA
- Automatic self-test verifies the integrity of the unit
- Bright LED's and audible alarm sound if voltage is present
- Silent-mode feature for use in quiet settings
- Safe, non-contact voltage detection
- Automatically turns off after five minutes of non-use to conserve battery life
- Low battery indicator



P/N	Description
GT-12	Non-Contact Self-Testing Voltage Detector

### GREENLEE GT-16 ADJUSTABLE NON-CONTACT VOLTAGE DETECTOR

- Adjustable to safely detect power and low voltage
- Safely detects AC voltage without touching the bare conductor
- Adjustable for use on power wiring plus lighting, thermostats and other low voltage circuits
- Use to detect voltage in outlets, lighting fixtures, wires and cables
- Finds breaks in wires
- Identifies hot and neutral conductors
- Low battery Indication



P/N	Description
GT-16	Adjustable Non-Contact Voltage Detector

ELECTRICAL/VOLTAGE

### TELCO SALES, INC. FVD FOREIGN VOLTAGE DETECTOR WITH LEATHER POUCH

The FVD tests for potentially hazardous AC voltage that may be encountered by communications technicians.

P/N	Description
FVD/FVDP	Foreign Voltage Detector with Leather Pouch

FVD/FVDP



### FLUKE 1AC A1 II VOLTALERT

The next generation VoltAlert™ AC non-contact Voltage Testers from Fluke are easy to use — just touch the tip to a terminal strip, outlet, or supply cord. When the tip glows red and the unit beeps, you know there's voltage present. Electricians, maintenance, service, safety personnel, and homeowners can quickly test for energized circuits in the workplace or at home.

- Voltbeat™ technology and continuous self-test — so you always know it's working
- Upon detection, tip glows and beeper sounds
- Cat IV 1000V for added protection
- Expanded range: 90V to 1000V AC or 200V to 1000V AC depending on model
- 20V to 90V AC control circuit model also available



P/N	Description
Fluke 1AC A1 II	AC Voltage Detector 90-1000V Flat-tip



# ELECTRICAL/VOLTAGE TEST

## VOLTAGE DETECTORS

FLUKE®

### FLUKE T5 VOLTAGE, CONTINUITY AND CURRENT TESTERS

The Fluke T5 Electrical Testers let you check voltage, continuity and current with one compact tool. With the T5, all you have to do is select volts, ohms, or current and the tester does the rest. OpenJaw™ current lets you check current up to 100A - without breaking the circuit. Its tough test leads stow neatly in the back of the tester, making it easy to tote the T5 in your tool pouch. Detachable SlimReach™ test probes are customized for national electrical standards. The test leads accept optional accessories such as clips and specialty probes. Available in 600V and 1000V models.

P/N	Description
Fluke T5-1000	1000V Voltage, Continuity and Current Tester
Fluke T5-600	600V Voltage, Continuity and Current Tester

All models include 4 mm detachable probes and Instruction sheet.



### KLEIN TOOLS NON-CONTACT VOLTAGE TESTERS

The NCVT-1 is non-contact detection of voltage in cables, cords, circuit breakers, lighting fixtures, switches, outlets, and wires. High intensity, bright green LED indicates the tester is operational and aids in illuminating the workspace. When voltage is detected, a high intensity, bright red LED illuminates and a warning tone sounds. Cat IV 1000V rating provides expanded operation and protection. 50 to 1000V AC power operating range allows broad application. Package contains insert card with integrated owner's manual and 2 AAA 1.5 volt batteries.

The NCVT-2 automatically detects and indicates low voltage (12-48V AC) and standard voltage (48-1000V AC) allowing broad application. Non-contact detection of standard voltage in cables, cords, circuit breakers, lighting fixtures, switches, outlets and wires. Non-contact detection of low voltage in security, entertainment, communications, environmental control, and irrigation systems. Cat IV 1000V rating provides expanded operation and protection.

P/N	Description
NCVT-1	Non-Contact Voltage Tester
NCVT-2	Dual Range Non-Contact Voltage Tester

KLEIN TOOLS® 150th ANNIVERSARY

NCVT-1



NCVT-2



### KLEIN TOOLS ELECTRONIC VOLTAGE TESTER

The ET series Electronic Voltage Testers featuring solid state design is safer than solenoid testers and indicates voltage without battery. Low impedance to reduce false readings. Voltage indicated by lights, vibration and tone.

P/N	Description
ET100	Electronic Voltage Tester
ET200	Electronic Voltage/Continuity Tester with continuity beeper and bright work light



ET200

ELECTRICAL/VOLTAGE

## DIGITAL EARTH CLAMPS

Megger®

### MEGGER DET14C AND DET24C DIGITAL EARTH CLAMPS

The DET14C and DET24C represent a new generation of earth/ground clamp-on resistance testers. These instruments induce a test current into earth systems and measure ground resistance in multi-ground installations without needing to disconnect the ground. They offer market leading access, advanced features, simple operation and Cat IV 600V safety protection.

- Elliptical clamp shape improves access to earth cables and straps up to 50 mm
- Low maintenance flat jaw interface
- Measures ground resistance from 0.05Ω to 1500Ω
- Measures True RMS ground leakage current from 0.5 mA RMS to 35A RMS

P/N	Description
1000-761	DET14C Digital earth test clamp-on meter
1000-762	DET24C Digital earth test clamp-on meter

Included accessories for DET14C and DET24C: Carrying case, Carrying strap (wrist loop), User guide CD-ROM, Calibration check, and Battery AA (Alkaline) (4 required).

Included accessories for DET24C: USB IrDA dongle and PowerDB Lite software.

DET14C



DET24C

# ELECTRICAL/VOLTAGE TEST

## GROUND LOOP TESTERS

### FLUKE 1630 EARTH GROUND CLAMP METER

The clamp-on ground testing technique used by the Fluke 1630 Clamp Meter simplifies ground loop testing and enables non-intrusive leakage current measurement. The compact and rugged design makes the Fluke 1630 easy to use in small places and harsh environments, while the 'display hold' and the continuity testing with an audible alarm function ensures convenience in use. The novel technique means that earth ground loop testing and continuity testing can be completed without breaking the circuit.

- A wide ground loop resistance range, from 0.025Ω to 1500Ω, to satisfy all requirements
- Large jaw opening of 35 mm (1.38 in) for tests on ground conductors and/or equipotential bus bars
- Measurement of ground leakage current, from 0.2 mA to 1000 mA, without needing to disconnect - ideal for system troubleshooting
- Wide AC current measurement range from 0.2A to 30A allows one instrument for multiple applications

P/N	Description
Fluke 1630	Earth Ground Clamp Meter. Includes Rugged carrying case with shoulder strap, Resistance test loop, 9V battery, User's manual included

FLUKE®



### GREENLEE CMGRT-100 GROUND RESISTANCE TESTER

Reads ground resistance down to 0.10Ω.

- Fully autoranging with data hold to capture readings
- Convenient alarm and 99-point memory functions
- Measures up to 30A RMS ground or leakage current
- Measures currents down to 1mA
- Accessories included: (1) 9V battery, molded carrying case, test resistance loop

P/N	Description
CMGRT-100	Ground Resistance Measurement 0.10 to 1200Ω Ground/Leakage Current Measurement 299mA; 2.999A, 29.99A Display 3-3/4-digit LCD, 2999-count Jaw Opening 1.25" (32 mm) Measurement Category Cat III, 150V per UL 3111-1

**G** GREENLEE.  
COMMUNICATIONS  
A Tulsco Company



ELECTRICAL/VOLTAGE

## POWER QUALITY ANALYZER

### FLUKE 430 SERIES THREE-PHASE POWER ANALYZER

These three-phase power quality meters help you locate, predict, prevent and troubleshoot problems in power distribution systems. These easy-to-use power quality tools are a must have for any person who maintains or troubleshoots three phase power. The new IEC Class A standards for flicker and power quality are built right in to take the guess work out of power monitoring.

- Complete three-phase troubleshooting tool measures virtually every power system parameter: voltage, current, frequency, power, power consumption (energy), unbalance and flicker, harmonics and inter-harmonics. Captures events like dips and swells, transients, interruptions and rapid voltage changes
- Logger function can record the detail you need. Detailed, user-configurable long-time recording gives you the MIN, MAX and AVG readings of up to 100 parameters on all 4 phases with selectable averaging time down to 0.5 seconds. Enough memory is available to record 400 parameters with 1 minute resolution for up to a month
- Four channels simultaneously measures voltage and current on all three phases and neutral

P/N	Description
Fluke 435	Power Quality Analyzer (three-phase) with Logger Function. Includes C435 Water-tight hard case with rollers, 4 current clamps, i430-Flex-4pk, Cat IV 600V, 5 Test leads, 4 black, 1 green; BC430 Battery Charger Eliminator, SW43W FlukeView Software, Power Log Software, OC4USB Optical Cable for USB, WC100 Color localization set, and User Manual (CD-ROM)
Fluke 435/Basic	Includes the Fluke 435 and the accessories listed above, except for 4 current clamps, i430-Flex-4pk
Fluke 434	Power Quality Analyzer (three-phase). Includes C430 Hard carrying case, 4 current clamps, i400s, Cat IV 600V; 5 Test leads, 4 black, 1 green; BC430 Battery Charger Eliminator, SW43W FlukeView Software. OC4USB Optical Cable for USB, WC100 Color localization set, and User Manual (CD-ROM)
Fluke 434/Basic	Includes the Fluke 434 and the accessories listed above, except for 4 current clamps; i400s
Fluke 434/LOG	Upgrade Kit: Adds the Logger Function of the 435 to the 434

FLUKE®



# SATELLITE TEST

## SATELLITE TEST



### TRILITHIC XFTP SAT-2150 SATELLITE METER

The XFTP SAT-2150 Meter makes satellite installation and alignment simple and fast. Perfect for installers and contractors, this satellite meter provides self-calculated azimuth, elevation and polarization for initial dish setup, signal level tuning and measures digital satellite signal, BER and C/N quickly to confirm a quality signal.

Using simple bar graphs and audio tone, the XFTP SAT-2150 provides the necessary tools for fine-tuning the dish position, and provides power to the LNB for dish setup without a receiver or TV connected. With the Easyfinder feature, even the most novice user can step through dish setup with ease.

This satellite meter is pre-configured with a list of the most commonly used satellites in North America. It also allows storage of up to 80 satellite configurations and 80 measurement records. With the companion software, the user can download various satellite configurations from around the world.

- Displays Dish Orientation (Azimuth, Elevation, Polarization)
- Simultaneous Display of Signal Strength and Quality of Signal
- QPSK Signal Level, C/N and BER Measurements
- C & K Band

P/N	Description
2011175000	XFTP SAT-2150 Satellite Meter



### TRILITHIC XFTP SAT LITE™ SATELLITE METER

The XFTP SAT LITE™ Meter makes satellite installation and alignment simple and fast. Perfect for installers and contractors, this satellite meter provides signal level and signal quality tuning for easy dish alignment and measures digital satellite BER and C/N quickly to confirm a quality signal.

Using simple bar graphs and audio tones, the XFTP SAT LITE provides the necessary tools for fine-tuning the dish position, and provides power to the LNB for dish setup without a receiver or TV connected.

Weighing less than two pounds, this easy-to-setup and easy-to-use satellite meter is all you need for successful satellite dish alignment. The XFTP SAT LITE comes with a bag, strap, charger, and an operation manual.

- Simultaneous Display of Signal Strength and Quality of Signal
- QPSK, C/N and BER Measurements
- C & K Band

P/N	Description
2011185001	XFTP SAT LITE Satellite Meter



### SCHOMANDL SM 120 DIGITAL SATELLITE METER

The SM 120 is fully automatic. Simply turn the antenna until you receive any signal, and the SM 120 will identify the satellite and display the data of the transferred transport stream into the NIT channel table.

With the automated measurement routine and the membrane protected keypad, it has the capability to show all measured values, like MER, BER, Channel Spectrum, Constellation Diagram, Transport Stream information, Audio Sound as well as live TV pictures on the display, even when operating in harsh weather conditions.

The SM 120 is designed for all world markets and can receive up to 16 satellites and store the data of up to 10,000 records.

- Spectrum Analyzer 900-2200 MHz
- Audio AC3, AC3+, HE-AAC
- DVB-S/S2 Receiver 900-2200 MHz
- LNB Voltage 14/18V, 22 kHz

P/N	Description
SM 120	Digital Satellite Meter



SATELLITE



see the SM 120 demonstrated

See a complete video demonstration of the SM 120 at [http://www.tvcinc.com/video\\_SM120/sm120.html](http://www.tvcinc.com/video_SM120/sm120.html) or on TVC's YouTube Channel at <http://www.youtube.com/user/TVCCcommunications>

Once you see the SM 120 in action you will be amazed!

# FIBER OPTIC SPLICERS

## SPLICERS



### AFL FSM-60S FUSION SPLICER

The FSM-60S Fusion Splicer sets the standard for core alignment fusion splicing by incorporating a user-friendly interface with enhanced features to provide a rugged and reliable Fusion Splicer. The new rugged construction adds improved reliability by resisting shock, dust, and rain, and can withstand a 30" drop test.

- Rugged construction providing shock, dust and moisture resistance
- Dual monitor position with automatic image orientation
- Automatic arc calibration and fiber identification
- User-selectable fiber clamping method – sheath clamp or fiber holders
- 2 year manufacturer's warranty
- Color LCD display with anti-reflective coating for excellent visibility in bright sunlight



P/N	Description
S014532	FSM-60S Fusion Splicer Kit (with cleaver). Includes CT30A Cleaver, ADC-13 AC Adapter, ACC-14 AC Cord, Spare Electrodes (pair), Sheath Clamp, USB Cable, Splicer Carrying Strap, Quick Reference Guide, Video Instruction Manual, JP-05 Splice Sleeve Cooling Tray, and Transit Case with Carrying Strap
S014562	FSM-60S Fusion Splicer Kit (with cleaver, battery and cord). Includes BTR-08 Battery, DCC-14 Battery Charge Cord, CT30A Cleaver, ADC-13 AC Adapter, ACC-14 AC Cord, Spare Electrodes (pair), Sheath Clamp, USB Cable, Splicer Carrying Strap, Quick Reference Guide, Video Instruction Manual, JP-05 Splice Sleeve Cooling Tray, and Transit Case with Carrying Strap

### AFL FSM-18S FUSION SPLICER

The FSM-18S Fusion Splicer is a low cost, fixed V-groove, single fiber Fusion Splicer with the same robust features offered in other high end models. The new rugged construction adds improved reliability by resisting shock, dust, and rain, and withstands a 30" drop test.

- Rugged construction providing shock, dust and moisture resistance
- Dual monitor position with automatic image orientation
- Automatic arc calibration
- User-selectable fiber clamping method – sheath clamp or fiber holders
- Long life battery (up to 150 splice/heat cycles per charge)
- Green friendly – RoHS and WEEE compliant



P/N	Description
S014528	FSM-18S Fusion Splicer Kit (with cleaver). Includes CT30A Cleaver, ADC-13 AC Adapter, ACC-14 AC Cord, Spare Electrodes (pair), Sheath Clamp, USB Cable, Splicer Carrying Strap, Quick Reference Guide, Video Instruction Manual, JP-05 Splice Sleeve Cooling Tray, and Transit Case with Carrying Strap
S014560	FSM-18S Fusion Splicer Kit (with cleaver, battery and cord). Includes BTR-08 Battery, DCC-14 Battery Charge Cord, CT30A Cleaver, ADC-13 AC Adapter, ACC-14 AC Cord, Spare Electrodes (pair), Sheath Clamp, USB Cable, Splicer Carrying Strap, Quick Reference Guide, Video Instruction Manual, JP-05 Splice Sleeve Cooling Tray, and Transit Case with Carrying Strap

## FIBER OPTIC SPLICERS

### AFL SpliceMate™ FSM-11S FUSION SPLICER

SpliceMate (FSM-11) is a small and portable Fusion Splicer designed to meet the challenges posed by today's fiber networks. SpliceMate fits in the palm of your hand, yet it's smart and reliable enough to be used with confidence by inexperienced operators.

- Highly portable
- Dual camera inspection
- 3.5" dual direction monitor
- 40-second tube heater
- Auto arc calibration



P/N	Description
S013988	FSM-11S Fusion Splicer Kit (with cleaver). Includes FSM-11S Fusion Splicer, CT-30 Cleaver, FH-50-250 Fiber Holders (Pair), BTC-04 Battery Charger, BTR-07 Battery, ADC-10 Adapter (for BTC-04), ACC-09 Power Cord (for ADC-10), Spare Electrodes (Pair), Operation Manual, Transit Case



# FIBER OPTIC SPLICERS

## SPLICERS



### AFL FSM-60R12 FUSION SPLICER

The FSM-60R12 Fusion Splicer offers versatility and reliability. The new ribbon splicer withstands a drop test of up to 30" and continues to splice. And enhanced, robust features enable the FSM-60R12 to resist shock, dust, and rain so that unfortunate environmental conditions do not negatively impact productivity.

- Rugged construction providing shock, dust and moisture resistance
- Dual monitor position with automatic image orientation
- Automatic arc calibration and ribbon fiber identification
- Auto-start tube heater
- Simultaneous battery charge and splicer operation
- Long life battery (up to 90 splice/heat cycles per charge)



P/N	Description
S014534	FSM-60R12 Fusion Splicer Kit (with cleaver and stripper). Includes CT-30 Cleaver, HJS-02 Hot Jacket Stripper, FH-50-12 Fiber Holders (pair), ADC-13 AC Adapter, ACC-14 AC Cord, Magnifier, JP-05 Splice Sleeve Cooling Tray, USB Cable, Splicer Carrying Strap, Spare Electrodes (pair), Quick Reference Guide, Video Instruction Manual, and Transit Case with Carrying Strap
S014563	FSM-60R12 Fusion Splicer Kit (with cleaver, stripper, battery and cord). Includes CT-30 Cleaver, HJS-02 Hot Jacket Stripper, FH-50-12 Fiber Holders (pair), BTR-08 Battery, DCC-14 Battery Charge Cord, ADC-13 AC Adapter, ACC-14 AC Cord, Magnifier, JP-05 Splice Sleeve Cooling Tray, USB Cable, Splicer Carrying Strap, Spare Electrodes (pair), Quick Reference Guide, Video Instruction Manual, and Transit Case with Carrying Strap

### CORNING OPTISPLICE® M90e FUSION SPLICER

The M90e Fusion Splicer offers two core-alignment technologies, the LID-SYSTEM™ and the Core Detection System (CDS). The LID-SYSTEM has advanced technology available for splicing 250 micron Single-mode fibers, providing a splice loss measurement after the splice is completed. Alternately, the camera-based CDS system is optimized for speed and versatility, working with either 250 or 900 micron coated fibers and with bend-insensitive fibers such as Corning® ClearCurve™ fiber. The M90e provides an advanced set of features, yielding precise performance while reducing training and maintenance costs, all in a compact, user-friendly fusion splicer.

- Long-haul, CATV, Telco and LAN applications
- Accurately splices current, legacy, dissimilar and specialty fiber types
- Splices 900 μm pigtails utilizing three-dimensional core alignment technology – the core detection system (CDS) mode

P/N	Description
M90e-OSM-T-H	OptiSplice® M90e Fusion Splicer with FBC-006 cleaver, carrying case with wheels, fast heat-shrink oven, splice tray holder, AC power supply w/US cord, Li-Ion battery with external charger, 1-year limited warranty, operators manual on CD, USB worklight, maintenance tool kit

Multiple configurations available. Please check with your TVC representative or [www.tvinc.com](http://www.tvinc.com) for details.



### CORNING OPTISPLICE® CDS FUSION SPLICER

The OptiSplice CDS Fusion Splicer offers the speed and versatility of a video-camera-based core-alignment technology known as the core detection system (CDS). The CDS system works on both 250 and 900 micron fibers and offers a fast total splice cycle time for a core-alignment fusion splicer. The OptiSplice CDS provides an advanced set of features, yielding precise performance while reducing training and maintenance costs, all in a compact, user-friendly fusion splicer.

- Touch screen with graphical user interface
- Built-in interactive training videos
- 3-axis core-alignment by the CDS system
- RoHS compliant

P/N	Description
OSCDS-OSM-T-H	OptiSplice® CDS Fusion Splicer with FBC-006 cleaver, carrying case with wheels, fast heat-shrink oven, splice tray holder, AC power supply w/US cord, Li-Ion battery with external charger, 1-year limited warranty, operator's manual on CD, USB worklight, maintenance tool kit

Multiple configurations available. Please check with your TVC representative or [www.tvinc.com](http://www.tvinc.com) for details.





# FIBER OPTIC SPLICERS

## SPLICERS

CORNING

### CORNING OPTISPLICE® ONE HANDHELD FUSION SPLICER

The OptiSplice® One Handheld Fusion Splicer is a durable, reliable and affordable splicer for restoration and installation of Enterprise, Telco, CATV and FTTx networks with single fibers. This innovative tool features an intuitive user interface for easy menu navigation and dual cameras provide a clear view of the fibers, allowing for a splice loss estimate of the completed splice.

- Graphical user interface
- Ergonomic layout

P/N	Description
OS1-0SM-T-H	OptiSplice® One Handheld Fusion Splicer with cleaver, 1 set of 250 $\mu$ m handlers, fast heat-shrink oven, carrying case, 1 Li-Ion battery, external battery charger, AC power supply with US cord, operator's manual (English), detachable splice tray holder/screen cover and 1-year limited warranty



### CORNING OPTISPLICE® RIBBON FUSION SPLICER

The OptiSplice® Ribbon Handheld Fusion Splicer is a sturdy and reliable high-performance splicer for restoration and installation of ribbon cable with 2-, 4-, 6-, 8-, or 12-fiber ribbons or single fibers. This innovative tool features a graphical user interface (GUI) for easy menu navigation. Dual cameras provide a clear view of the fibers and allow for a splice loss estimate of the completed splice.

- Telco, CATV and FTTx networks
- Restoration and installation of ribbon cable
- Locations with limited workspace

P/N	Description
OSR-0SM-T-H	OptiSplice® Ribbon Handheld Fusion Splicer with cleaver, thermal stripper, 1 set of 12-fiber handlers, fast heat-shrink oven, carrying case, 1 Li-Ion battery, external battery charger, AC power supply with US cord, operator's manual (English), detachable splice tray holder/screen cover, and 1-year limited warranty



Multiple configurations available. Please check with your TVC representative or [www.tvcinc.com](http://www.tvcinc.com) for details.

### FITEL S178A CORE ALIGNMENT FUSION SPLICER

The FITEL S178A Hand-Held Core-Alignment Fusion Splicer is the latest, state-of-the-art addition to the S17x series of splicers. By combining speed, precision, durability and portability in one unit, the S178A Fusion Splicer brings an entirely new range of applications for core alignment splicing.

- Rugged and compact handheld design endure harsh environmental conditions
- Fast splice (7 sec) at super low loss and Fast Heating (25 sec)
- 200 cycles (Splicing and Heating) with new battery configuration
- Available for All METRO / LAN / FTTx fibers including ultra bend-insensitive fibers (e.g. EZBend™)
- Splicer is compatible with the Seikoh Giken and Diamond Splice-on-connector (SOC)
- Easy maintenance - Easy electrode replacement / mirror free alignment system
- Easy Software upgrade via the internet
- Easily exchanged fiber holder systems (tight holder / fiber holder / SOC holder)

P/N	Description
S178A	Splicer Kit with 250 and 900 $\mu$ m fiber holders

FITEL®



### FITEL S123C CLAD ALIGNMENT FUSION SPLICER

With its low profile and super rugged body, the FITEL S123C Series Fusion Splicer offers speedy operation for FTTx, LAN, backbone or long-haul installations.

Large battery capacity makes it possible to perform up to 70 cycles of splicing and heating, while it also offers a splice-on-connector (SOC) solution.

Combining portability, power flexibility and field ruggedness, the S123C Splicer delivers fast and consistent splicing with outstanding mobility and extreme ease-of-use.

P/N	Description
S123C-A	Splicing for single fiber (with Soft Case)
S123C-B	Splicing for single fiber (with Hard Case)
S123M4-A	Splicing for single to 4 ribbon fiber (with Soft Case)
S123M4-B	Splicing for single to 4 ribbon fiber (with Hard Case)
S123M8	Splicing for single to 8 ribbon fiber
S123M12	Splicing for single to 12 ribbon fiber



# FIBER OPTIC SPLICERS

## SPLICERS



### FITEL S153A ACTIVE CLAD ALIGNMENT FUSION SPLICER

The Fitel S153A using "Active V-Groove alignment" is the first choice for low cost field splicing equipment. The Active V-Groove technology used on the S153A delivers low loss splices with ease while eliminating common Fixed V-Groove splicing errors.

- Active V-Groove, More Reliable than conventional Fixed V-Groove machines
- Rugged and compact hand held design for demanding environmental conditions
- Fast splice (9 sec) at super low loss and Fast Heating (25 sec)
- 200 cycles (Splicing and Heating) with Fitel series battery configuration
- Available for All METRO / LAN / FTTx fibers including ultra bend-insensitive fibers (e.g. EZ-Bend™)
- Splicer is compatible with the Seikoh Giken and Diamond Splice-on-connector (SOC)
- Easily exchanged fiber holder systems (tight holder/fiber holder/SOC holder)



P/N	Description
S153A-EX-900	Splicer Kit with 250 and 900 μm Fiber Holders

### SUMITOMO QUANTUM TYPE-Q101-CA CORE ALIGNMENT FUSION SPLICER™



The Quantum Type-Q101-CA marks the new standard for fusion splicers. The Quantum is the Industry's first and only core alignment fusion splicer with fully navigational touch screen interface for optimum user friendliness; SD port for virtually unlimited data storage, plus favorite program, video, audio, and software uploads; remote maintenance capability; the largest fiber view; and, the longest electrode life—with the legendary reliability common to all Sumitomo splicers.

Although it's also the lightest, smallest, and most advanced CA fusion splicer in the industry, the Quantum is more ruggedized with superior dust, shock and water-proof resistance making it the ideal choice for even the harshest environments. The built-in dual heater system, a Sumitomo Electric innovation, reduces heater wait time and improves splicing efficiency by 70%, yielding a splicer with the speed, performance, and specifications that advances fusion splicing technology.



P/N	Description
Type-Q101-CA-Kit-1	Splicer Kit with Accessories. Includes Type-Q101-CA Quantum Splicer, Hard Transit Case, Work Platform, AC Adapter, Standard Battery, Cleaning Tools, Fiber Protection Sleeve Cooling Tray, Manual and Fiber Optic Stripper
Type-Q101-CA-Kit-2	Splicer Kit with Accessories and FC-6S-5C Cleaver. Includes Type-Q101-CA Quantum Splicer, Hard Transit Case, Work Platform, AC Adapter, Standard Battery, Cleaning Tools, Fiber, Protection Sleeve Cooling Tray, Manual, Fiber Optic Stripper and FC-6S-5C Fiber Optic Cleaver
Type-Q101-CA-Kit-2R	Splicer Kit with Accessories. Includes Type-Q101-CA Quantum Splicer, Hard Transit Case, Work Platform, AC Adapter, Standard Battery, Cleaning Tools, Fiber Protection Sleeve Cooling Tray, Manual and Fiber Optic Stripper and FC-7R Hand-Held Automatic Blade Rotation Cleaver Precision Cleaver

### SUMITOMO TYPE-46 TOMCAT PLUS FUSION SPLICER

Sumitomo's Type-46 TomCat plus Fusion Splicer is the industry's first and only fixed v-groove fusion splicer with built-in dual heat shrink ovens featuring automatic splice and heater start functions, making the TomCat plus the fastest v-groove splicer available today. Like the proven Type-25e TomCat, the TomCat Plus utilizes passive diameter alignment splicing technology for repeatable low loss results.

P/N	Description
Type-46-KIT-1	Splicer Kit with Accessories. Includes Type-46 Fusion Splicer, Hard Transit Case, AC Interface/Battery Charger, Standard Battery, Cleaning Tools, Fiber Protection Sleeve Cooling Tray, Manual, Fiber Optic Stripper, 250 μm and 900 μm Fiber Holders and Fiber Protection Sleeves (50)
Type-46-KIT-2	Splicer Kit with Accessories. Includes Type-46 Fusion Splicer, Hard Transit Case, AC Interface/Battery Charger, Standard Battery, Cleaning Tools, Fiber Protection Sleeve Cooling Tray, Manual, Fiber Optic Stripper, 250 μm and 900 μm Fiber Holders, Fiber Protection Sleeves (50) and FC-6S-C Fiber Optic Cleaver
Type-46-KIT-2R	Splicer Kit with Accessories. Includes Type-46 Fusion Splicer, Hard Transit Case, AC Interface/Battery Charger, Standard Battery, Cleaning Tools, Fiber Protection Sleeve Cooling Tray, Manual, Fiber Optic Stripper, 250 μm and 900 μm Fiber Holders, Fiber Protection Sleeves (50) and FC-7R Hand-Held Auto and Blade Rotation Cleaver



FIBER OPTIC SPLICERS

# FIBER OPTIC SPLICERS

## SPLICERS



### SUMITOMO TYPE 25eU TOMCAT FUSION SPLICER

The Type-25eU TomCats incorporate all the features, functions and proven reliability of the Type-25 family—the industry’s most popular handheld splicers for FTTx, premise, and restoration applications—but with numerous enhancements. The Type 25eU features improved optical technology but utilizes an economical single camera system.



### SUMITOMO TYPE 25eS TOMCAT FUSION SPLICER

The Type-25e TomCats incorporate all the features, functions and proven reliability of the Type-25 family—the industry’s most popular handheld splicers for FTTx, premise, and restoration applications—but with numerous enhancements. The new TomCats feature improved optical technology utilizing an industry standard dual camera splice loss estimation system.

P/N	Description
TYPE-25eU-KIT-1	Splicer Kit with accessories, Type 25eU. Includes Fusion Splicer, Spare Electrodes, Battery and Charging Cable, Power Cord, V-Groove Brush, Operation Manual, 250 $\mu$ m and 900 $\mu$ m Fiber Holders, Jacket Remover and Hard Carrying Case
TYPE-25eU-KIT-2	Splicer Kit with accessories, Type 25eU. Includes Fusion Splicer, Spare Electrodes, Battery and Charging Cable, Power Cord, V-Groove Brush, Operation Manual, 250 $\mu$ m and 900 $\mu$ m Fiber Holders, Jacket Remover, Precision Optical Cleaver and Hard Carrying Case
TYPE-25eS-KIT-1	Splicer Kit with accessories, Type 25eS. Includes Fusion Splicer, Spare Electrodes, Battery and Charging Cable, Power Cord, V-Groove Brush, Operation Manual, 250 $\mu$ m and 900 $\mu$ m Fiber Holders, Jacket Remover and Hard Carrying Case
TYPE-25eS-KIT-2	Splicer Kit with accessories, Type 25eS. Includes Fusion Splicer, Spare Electrodes, Battery and Charging Cable, Power Cord, V-Groove Brush, Operation Manual, 250 $\mu$ m and 900 $\mu$ m Fiber Holders, Jacket Remover, Precision Optical Cleaver and Hard Carrying Case



### SUMITOMO TYPE 66 TUFFCAT FUSION SPLICER

The Type-66 TuffCat mass fusion splicer features the industry’s first Dual-Automatic-Splice Protection Sleeve Heater System. Utilizing precision v-groove alignment, the TuffCat can be used for all types of ribbon and single splicing with an optimum arrangement for ease of use in trunk, aerial or taut-sheath applications.

P/N	Description
Type-66-KIT-1	Splicer Kit with Accessories, Type 66. Includes Splicer, Cleaver, Heated Jacket Remover, Power Cord, V-Groove Brush, Spare Electrodes, Manual, 250 $\mu$ m Holders, 12ct. Ribbon Fiber Holders and Hard Case
Type-66- KIT-2	Splicer Kit with Accessories, Type 66. Includes Splicer, Cleaver, Heated Jacket Remover, Power Cord, V-Groove Brush, Spare Electrodes, Manual, 250 $\mu$ m Holders, 12ct. Ribbon Fiber Holders, Hard Case, Ribbonizing Tool and Consumable Kit



## HOT JACKET STRIPPERS



### AFL HOT JACKET STRIPPERS

The HJS-02 and HJS-03-24 Hot Jacket Strippers provide superior ribbon and field ribbonized stripping performance. They conserve power for field stripping when operating under battery power. A temperature selection switch is also provided for easy optimization in the field for different fibers or operating conditions. An optional single-fiber adapter may be used to provide easy, single-fiber capability for high strength splicing applications, or for single-fiber capability for difficult to strip fibers. These strippers also accept the fiber holders of the FSM-40F and FSM-40PM factory/lab splicers. An optional power assist tool for the HJS-03-24 allows smooth and controlled stripping of 24-fiber ribbons.

P/N	Description
S010340	HJS-02 Hot Jacket Stripper (12 fibers max.)
S013264	HJS-02-80 Hot Jacket Stripper (80 $\mu$ m cladding)
S012960	HJS-03-24 Hot Jacket Stripper (24 fibers max.)
S012964	HJS-03-24PA Power Assist Tool for HJS-03-24
S010496	AC Adapter for HJS-02 and HJS-03-24
S010428	SAD-01 Single Fiber Adapter for HJS-02



# FIBER OPTIC SPLICERS



## CLEAVERS

### AFL CT-10A SERIES FIBER CLEAVER

The CT-10A fiber optic cleaver provides high quality cleaving at an economical price. Designed for cleaving single fibers only, this cleaver is best suited for the installation of field installable connectors and mechanical splices. The rugged yet scaled-down design offers cleave quality approaching that of more expensive high precision cleavers. The long-life, 16-position flat diamond blade is easily replaced by the end user and performs cleaving operation in one single step. An optional scrap collector can be purchased separately.

P/N	Description
S014784	CT-10A Cleaver for Single Fibers: 250 to 900 $\mu\text{m}$ coating, 125 $\mu\text{m}$ cladding Cleave Length: 250 $\mu\text{m}$ : 6 to 20 mm; 900 $\mu\text{m}$ : 8 to 20 mm



### AFL CT-11A SERIES FIBER CLEAVER

The CT-11A fiber optic cleaver provides high quality cleaving at an economical price. Designed for cleaving single fibers only, this cleaver is suitable for the installation of field installable connectors and mechanical splices. Rugged and durable, the CT-11A is ideal for an FTTH installer or those who work in other harsh environments. The CT-11A fiber optic cleaver is supplied with a factory adjustment to the industry standard of eight degrees and is capable of producing angled cleaves of up to nine degrees. The angle cleaving mechanism is easy to use, simple to adjust, and consistent.

P/N	Description
S014785	CT-11A Cleaver for Single Fibers: 250 to 900 $\mu\text{m}$ coating, 125 $\mu\text{m}$ cladding Cleave Length: 250 $\mu\text{m}$ : 6 to 20 mm; 900 $\mu\text{m}$ : 8 to 20 mm



### AFL CT-30 SERIES FIBER CLEAVERS

The CT-30 Cleaver sets the standard for portability, reliability and ease of use. Available for either single fiber or ribbon splicing (up to 12 fiber ribbons) applications, the CT-30 Cleavers are compatible with all AFL Telecommunications fusion splicers. Designed for excellent portability, the CT-30 is equally at home in a splicing van or in a bucket truck and is ideal for FTTx applications. The 16-position blade yields 48,000 single-fiber cleaves, or 4,000 12-fiber ribbon cleaves before requiring replacement, and the built-in scrap collector conveniently stores fiber shards until they can be safely discarded.

P/N	Description
S014076	CT-30 Cleaver for Fiber Ribbons (up to 12 fibers), Cleave Length: 10 mm. Optical fiber holders required for operation
S014080	CT-30A Cleaver for Single Fibers: 250 $\mu\text{m}$ to 900 $\mu\text{m}$ coating, 125 $\mu\text{m}$ cladding, Cleave Lengths: 900 $\mu\text{m}$ : 10 mm to 20 mm; 250 $\mu\text{m}$ : 6 mm to 20 mm



### FITEL S315 FIELD CLEAVER

The S315's small, lightweight size makes it the perfect addition to any field splicing system. In addition, the unit's graduated scale allows for cleave lengths of 5 to 20 mm. Designed to accommodate 250  $\mu\text{m}$  and 900  $\mu\text{m}$  coating diameters, the S315 is FITEL's least expensive cleaver model.

The S315 field cleaver requires some skill to achieve the desired cleave angle so it may not be appropriate for some splicing applications.

P/N	Description
S315	Field Cleaver for cleaving 5 to 20 mm length adjusting with scale



### FITEL S325A ONE-STEP PRECISION CLEAVER

This compact unit delivers speed and precision. With a single button, you complete a secure cleave and the waste fiber is automatically collected. Excellent for hand-held and work bench use. Performs 32,000 cleaves.

- One-step action
- Easy fiber loading, all fiber types, single to 12-fiber ribbon
- Simple operation for all technicians
- High capacity waste fiber collection

P/N	Description
S325A	One Step Precision Cleaver. Includes S325A Cleaver Main Body, Soft Carrying Case, Normal Fiber Waste Bin, Single Fiber Adapter, Large Capacity Fiber Waste Bin, Operation Manual





# FIBER OPTIC SPLICERS

## CLEAVERS



### SUMITOMO FC-6M PRECISION OPTICAL CLEAVER

Built on a robust high-quality platform, the FC-6 is ideal for use with fusion splicing or other precision applications, setting a new standard for flexibility and performance. The FC-6 includes a single fiber adapter for 250 to 900 micron coated single fibers. An optional fiber scrap collector can be installed to help maintain loose scraps resulting from cleaving. The scrap collector automatically grabs and stores the scrap fibers as the cleaver's lid is raised following a completed cleave.

P/N	Description
FC-6S	Single Fiber Cleaver, Without Fiber Scrap Catcher
FC-6S-C	Single Fiber Cleaver, With Fiber Scrap Catcher
FC-6M	Single or Ribbon Cleaver, Without Fiber Scrap Catcher
FC-6M-C	Single or Ribbon Cleaver, With Fiber Scrap Catcher



### SUMITOMO FC-7 HANDHELD OPTICAL FIBER CLEAVER

The FC-7 is ideal for use in fusion splicing, field termination, or any other precision application. It has a simple cleaving operation that can be performed in the palm of the hand, which allows the user to take the cleaver to fiber in limited slack applications. A built-in fiber scrap collector handles scrap fibers resulting from the cleaving process.

P/N	Description
FC-7	Cleaver (Up to 4 ct. Ribbon)



### SUMITOMO FC-7R AUTOMATIC HANDHELD OPTICAL FIBER CLEAVER

The FC-7R is the most versatile tool available for optical fiber cleaving. The FC-7R includes an automatic blade rotation feature. With each cleave, the blade is automatically rotated to a different scoring position on the cleaver blade. The automatic blade rotation feature ensures that the owner receives the maximum number of precision cleaves from each cleaver blade without end-user adjustment.

P/N	Description
FC-7R	Automatic Blade Rotation Cleaver

### CORNING FIBER CLEAVERS

The FBC-001 ( $\leq 2^\circ$ ) is designed for cleaving fiber ends for multimode and single-mode OTDR testing, mechanical splicing, and UniCam® Connector installation.

P/N	Description
FBC-001	Cleaver. Bare Fiber Diameter: 100 to 140 $\mu\text{m}$ ; Fiber Type: Multimode or single-mode

The FBC-006 cleaver provides smooth, flat, perpendicular fiber end-faces (typically  $< 0.7^\circ$ ) necessary for low-loss fusion or mechanical splicing. Fast and easy to use, it produces high quality, repeatable cleaves for multimode and single-mode fibers in one simple step. The unit cleaves all 250  $\mu\text{m}$  coated fibers and 90  $\mu\text{m}$  buffered fibers.

P/N	Description
FBC-006	Cleaver. Bare Fiber Diameter: 80 to 140 $\mu\text{m}$ ; Fiber Type: Multimode, single-mode, NZDS

The Pretium Cleaver is a handheld, ergonomically designed, precision Cleaver enabling easy installation of UniCam® Pretium Cleaver Connectors. The Cleaver provides consistent cleaves regardless of operator skill level. It uses a dual-clamp for precision and a diamond blade for superior cleaving. There is consistent cleaving of 250 or 900 micron fibers and it is compatible with jacketed applications. The integrated scrap bin allows for easy collection of fiber waste when working in a variety of environments. The handheld Cleaver does not require a work surface in order to perform precision cleaves.

P/N	Description
FBC-009	Cleaver. Bare Fiber Diameter: 100 to 140 $\mu\text{m}$ ; Fiber Type: Multimode or single-mode

The FBC-012 Mass Fiber Cleaver provides excellent cleaves of one to 12 fibers using a simple one-step operation. The cleaver comes with a universal single-fiber guide that may be used when cleaving single fibers. The guide can be removed to allow the cleaver to hold common fiber handling adapters of mass fusion splicers or fiber handlers for UniCam Connector installation. The 12-position blade can be easily replaced in the field.

P/N	Description
FBC-012	Cleaver. Bare Fiber Diameter: 125 $\mu\text{m}$ nominal; Fiber Type: Multimode or single-mode

## CORNING



FBC-001



FBC-012



# FIBER OPTIC SPLICERS



## CLEANING KITS

### AFL SPLICER V-GROOVE CLEANING KIT

Contamination in the v-groove of the splicer is still a primary source of trouble for the splicing technician. This is especially problematic when splicing with a fixed v-groove Fusion Splicer. Environmental contamination, such as dust, dirt, and fiber coating debris, as well as, the silica deposits generated during the fusion process eventually find their way to the surface of the v-groove. To solve cleaning needs, The Splicer V-Groove Cleaning Kit integrates eight components into an affordable and effective inspection and cleaning solution for any fusion splicer. Small and lightweight, it fits easily into the Fujikura splicer transit case or it can be carried separately in its own carrying case.



P/N	Description
S014397	Splicer V-Groove Cleaning Kit. Includes Scrubber Brush with stiff tapered nylon bristles, Sweeper Brush with soft nylon bristles, Eye Loupe with 3X to 12X magnification, LED Pen Light with momentary or constant on switching, Cleaning Fluid that is nonflammable and environmentally safe, Lint-free Cotton Swabs, Instruction Sheet with illustrations, and Canvas Carrying Case
S014416	Splicer V-Groove Cleaning Refill Kit



### FLUKE NETWORKS CLEANING KITS

Dirt, dust and other contaminants are the enemy of high-speed data transmission over optical fiber. Today's network applications require more bandwidth, making loss budgets tighter than ever. It is critical that all optical connections are clean and free of contaminants to ensure application success.

Fluke Networks' Fiber Optic Cleaning Kits have the best tools to effectively remove the toughest contaminants with ease. Choose between the convenient Cleaning Cards or miniature Cleaning Cube when cleaning patch cords and select the appropriate-sized swabs when cleaning inside ports. All cleaning materials are lint-free and enable an optimal wet and dry cleaning process.



P/N	Description
FT525	Fiber Inspector Mini and Cleaning Kit. Includes Fiber Inspector Mini; complete cleaning supplies (cleaning cube, ten cleaning cards, solvent pen, 2.5 mm port cleaning swabs and 1.25 mm port cleaning swabs) and soft carrying case
NFC-Kit-Case	Fiber Optic Cleaning Kit. Includes cleaning cube with wipes, ten cards with sealed cleaning zones, solvent pen, 2.5 mm port cleaning swabs and 1.25 mm port cleaning swabs in a rugged carrying case
NFC-Kit-Box	Fiber Optic Cleaning Kit. Includes cleaning cube with wipes, five cards with sealed cleaning zones, solvent pen and 2.5 mm port cleaning swabs

### CORNING SINGLE-FIBER AND MULTI-FIBER CONNECTOR CLEANING KITS

Corning Cable Systems Single-Fiber and Multi-Fiber Connector Cleaning Kits are designed for effective cleaning of fiber optic connector end-faces in local area network (LAN), central office and outside plant environments, whether fully accessible or through an adapter. Whether performing a 'dry' clean, 'wet' clean or a combination of the two, each kit offers all the products recommended for cleaning connectors. Since electrostatic discharge (ESD) is a concern during a 'dry' clean, these kits contain cleaners specifically formulated to dissipate static when the end-face is pulled across a cleaner surface or a stick is inserted into an adapter. Consumables may be purchased individually to restock the kits when needed.



FIBER OPTIC SPLICERS

P/N	Description
TKT-CLEAN-SFC	Single-fiber connector cleaning kit contains recommended products to effectively clean 2.5 mm and 1.25 mm single-fiber connectors. Kit contains Fiber Optic Cleaning Wipes, 90 Wipes per pack, Fiber Optic Cleaning Fluid, Connector end-face cleaning, Fiber Optic Cleaning Sticks, 1.25 mm connectors and Fiber Optic Cleaning Sticks, 2.5 mm connectors
TKT-CLEAN-MFC	Multifiber connector cleaning kit contains recommended products to effectively clean multifiber connectors such as MT-RJ and MTP® connectors. Kits contains Fiber Optic Cleaning Wipes, 90 Wipes per pack, Fiber Optic Cleaning Fluid, Connector end-face cleaning, Fiber Optic Cleaning Sticks, 1.25 mm connectors, Fiber Optic Cleaning Sticks, 2.5 mm connectors, Fiber Optic Cleaning Cassette, Universal and Fiber Optic Cleaning Tool, OptiTip® connector

# FIBER OPTIC SPLICERS

## TOOL KITS



### TVC FIBER RESTORATION KIT

TVC Fiber Restoration Kit offers custom tool kits for all fiber optic preparation and restoration requirements.

#### P/N - TVCFRK

Kit Includes:

Part Number	Description
FO103-S	Fiber Optic Stripper
45162	Coaxial Cable Stripper
2312	Tape Measure
226	Tweezers
32721SH	Sharpie
630-1/2	Nut Driver
KS1	Kevlar Shears
CK6	Cable Splicer's Knife
F1-0006	Cotton Swabs
70035	Screwdriver
D2594C	Diameter Cutting Pliers
63050	Hi-Leverage Cutters
CFSP	Fiber Optic Protector Sleeves
SR	Seam Ripper
D318-5-1/2C	Needle Nose Pliers
FPF1000900	Fiber Prep Fluid
9000030026MZ	Fiber Wipes
MK02	Round Cable Jacket Stripper
95	Cable Ripper
ACS	Armored Cable Slitters
FI00053HARD	Hard Tool Case
FI00053STPN	Pallet for Tool Case



### TVC FIBER SPLICE KIT

TVC Fiber Splice Kit including Cleaver and Visual Fault Finder.

#### P/N - TVCFSK

Kit Includes:

Part Number	Description
FO103-S	Fiber Optic Stripper
FOCSS	Fiber Optic Cleaver
FOVFL	Visual Fault Locator
2312	Tape Measure
45162	Coax Cable Stripper
226	Tweezers
32721SH	Sharpie
630-1/2	Nut Driver
KS1	Kevlar Shears
CK6	Cable Splicer's Knife
F1-0006	Cotton Swabs
70035	Screwdriver
D2594C	Diameter Cutting Pliers
63050	Hi-Leverage Cutters
CFSP	Fiber Optic Protector Sleeves
SR	Seam Ripper
D318-5-1/2C	Needle Nose Pliers
FPF1000900	Fiber Prep Fluid
9000030026MZ	Fiber Wipes
MK02	Round Cable Jacket Stripper
95	Cable Ripper
ACS	Armored Cable Slitters
FI00053HARD	Hard Tool Case
FI00053STPN	Pallet for Tool Case

### CORNING OPTICAL FIBER ACCESS TOOL

The Fiber Access Tool (OFAT) is designed to provide mid-span fiber access in standard Corning Cable Systems ALTOS® Cables. This rugged hand tool will accommodate buffer tubes from 2.4 to 3.0 mm. The OFAT clamps over a buffer tube. As the tool is pulled along the buffer tube, two offset blades split the tube without damaging fibers inside.

P/N	Description
OFT-000	Optical Fiber Access Tool (OFAT) for accessing fibers in a buffer tube mid-span; accommodates buffer tubes with outside diameters of 2.4 mm to 3.0 mm

### CORNING NO-SLACK OPTICAL FIBER ACCESS TOOL

The no-slack optical fiber access Tool (NOFAT) is suitable for locations where no cable slack can be obtained and the buffer tubes must be accessed while remaining wrapped around the central member. The NOFAT's unique design allows buffer tubes to be entered in this situation. The tool provides a guide to allow a scalpel to slice the top off a buffer tube without cutting through the tube or fibers. The NOFAT is compatible with standard Corning Cable Systems ALTOS® Cable buffer tube sizes.

P/N	Description
NFT-000	No-Slack Optical Fiber Access Tool (NOFAT) for accessing fibers in a buffer tube midspan with no cable slack; accommodates buffer tubes with outside diameters of 2.4 to 3.0 mm; includes scalpel with blade, plastic box and two replacement blades

## CORNING



# FIBER OPTIC SPLICERS

## TOOL KITS

# CORNING

### CORNING UNIVERSAL ACCESS TOOL

The Universal Access Tool (UAT3) simplifies a mid-span access on any Corning Cable Systems single-tube fiber optic cable product, including ribbon cable. Unlike other access tools requiring strength and awkward handling, the UAT3's design allows controlled movement. Its unique drive mechanism easily pulls the tool along the tube as the T-handle is turned. As the tool passes down a length of tube, two blades on opposite sides of the tool score the outside of the tube.

These precise cuts on the outside of the tube may then be split to expose the bundled or ribbon fibers inside.

P/N	Description
UAT3-000	Universal Access Tool for accessing fibers mid-span in a Corning Cable Systems single-tube fiber optic cable product; accommodates tubes with outside diameters of 5 mm to 24 mm



### CORNING RIBBON SPLITTING TOOL

The Ribbon Splitting Tool is designed to allow separation of 12, 24 and 36-fiber ribbons into smaller ribbons. The tool closes around the ribbon fibers as the ribbon settles into the proper slot. With actuator depressed, the tool slides along a length of the ribbon, separating the length of ribbon that is needed into smaller-count ribbons. Multiple slots on the tool offer the ability to separate the original ribbon into two different ribbons with varying fiber count. The tool has slots to separate the ribbon into the following smaller ribbon fiber counts: 2/2, 2/4, 2/6, 4/4, 2/10, 4/8, 6/6, 12/12 and 12/24.

P/N	Description
RST-000	Ribbon Splitting Tool for separating ribbons in mid-span or at the cable end



### CORNING RIPCORDER PULLER FOR OUTDOOR CABLE TOOL

The Ripcord Puller for Outdoor Cable Tool, when used with a suitable cordless screwdriver, can easily pull ripcords through the sheath and/or steel tape armor found in most outdoor fiber optic cables.

P/N	Description
RPOC-001	Ripcord Puller for Outdoor Cable. This tool is used in conjunction with a cordless screwdriver (not included)



### CORNING ADVANCED TOOL KIT FOR THE FIBER OPTIC INSTALLATION PROFESSIONAL

This kit, with a pop-up handle and wheels, was designed by contractors for contractors. It includes tools for preparing fiber optic cables, splice closures, and fiber optic hardware. The kit also includes cable cleaners, a first aid kit, LED head lamp, safety vest, safety glasses and gloves.

P/N	Description
TKT-FIBERTECH-PRO	Advanced Tool Kit

TKT-FIBERTECH-PRO



### CORNING FUSION SPLICING TOOL KIT

This kit is designed to prepare cables and fiber for fusion splicing. It includes tools and supplies required for cable jacket removal and fusion splicing.

P/N	Description
M67-003	Fusion Splicing Tool Kit

M67-003



### CORNING BASIC SPLICING TOOL KIT

This kit contains tools necessary to enter buffer tubes and prepare to splice. This is for craftspeople who perform only splicing, not cable prep.

P/N	Description
TKT-SPLICE	Basic Splicing Tool Kit

TKT-SPLICE



FIBER OPTIC SPLICERS

# UNDERGROUND CABLE LOCATORS

## UNDERGROUND CABLE & MARKER LOCATORS



### 3M™ DYNATEL™ 2500 SERIES LOCATORS

Designed to be more accurate, faster and more integrated than any other locator on the market, the 3M™ Dynatel™ 2500 Series Locators and fault finders represent an advancement in locating and fault finding technology for the field professional. Offering a broad feature set with advanced digital processing, the 2500 Series locators combine simple interfaces with precision locating capabilities. All 2500 series locators offer six active frequencies and a maximum transmitter output of 12 watts providing a solution for virtually all challenging applications encountered in the field.

- Six active frequencies for direct connect
- Trace view mapping display mode
- Four induction frequencies with maximum allowed output power
- 12-watt transmitter
- All frequency mode in direct connect (four simultaneously)
- EMS-iD capability on select models

P/N	Description
2550	Pipe/Cable Locator
2550-iD	Pipe/Cable and Marker Locator
2573-ID/C12	2573-ID/C12 Cable/Pipe/Fault/EMS Locator
2573-C12	2573-C12 Cable/Pipe/Fault Locator

Multiple configurations available. Please check with your TVC representative or [www.tvinc.com](http://www.tvinc.com) for details.



### 3M™ DYNATEL™ CABLE/PIPE AND FAULT LOCATOR & CABLE/PIPE, FAULT AND MARKER LOCATOR

The 3M™ Dynatel™ Cable/Pipe and Fault Locator 2273M and Cable/Pipe, Fault and Marker Locator 2273M-iD incorporate advanced electronics to quickly and efficiently locate conductor or sheath (earth return) faults and trace the path of underground cables and pipes (with metallic tracer wire).

They provide accurate cable/pipe, or Sonde depth measurements, giving a digital readout in inches, feet and inches, or centimeters (user-selectable). Lightweight, compact and well balanced, these cable and pipe locators allow you to accurately and easily:

- Locate cable and pipe path
- Measure cable/pipe, or Sonde depth with the push of a button
- Display relative and absolute signal current in the cable or pipe
- Identify cable pairs through wet sections
- Locate energized power and CATV cable

Additional features in 2273M-ID/CATV:

- Pin-point conductor or sheath (earth return) faults and cable breaks
- Discriminate between light and heavy faults
- Tone shorts and grounds in aerial cable
- Locates all standard Electronic Marker System

P/N	Description
2273M-UC	Includes 2273M Receiver, 3 Watt Transmitter, 3" coupler, Carrying Bag
2273M-ID-CATV	Includes 2273M Receiver, 3 Watt Transmitter, 3" coupler, A-Frame Fault Locating Accessory, Carrying Bag, 3 Yr. Warranty

Multiple configurations available. Please check with your TVC representative or [www.tvinc.com](http://www.tvinc.com) for details.



### 3M™ DYNATEL™ 2273 ADVANCED CABLE/FAULT LOCATOR

The 3M™ Dynatel™ Advanced Cable/Fault Locator 2273 is a microprocessor-based system that incorporates advanced digital signal processing techniques to quickly and efficiently locate sheath (earth return) faults and trace the path of underground cables, both copper and fiber optic (with metallic trace wire). Lightweight, compact and well-balanced, the 2273 accurately:

- Locates cable path
- Measures cable or sonde depth with the push of a button
- Measures signal current in the cable
- Pinpoints sheath faults and cable breaks
- Discriminates between light and heavy faults
- Tones shorts and grounds in aerial cable
- Locates energized power cable

P/N	Description
2273-U3T3	Includes 2273 Receiver, 3 Watt Transmitter, 3" coupler, A-Frame Fault Locating Accessory

Multiple configurations available. Please check with your TVC representative or [www.tvinc.com](http://www.tvinc.com) for details.





# UNDERGROUND CABLE LOCATORS

## UNDERGROUND CABLE & MARKER LOCATORS



### 3M™ DYNATEL™ 2220M ADVANCED PIPE/CABLE LOCATOR

A new addition to the 3M™ Dynatel™ Locators series, the 2220M Locator is designed to provide a simple and accurate solution to locate buried pipes, cables and Sondes in even the most challenging field conditions. The rugged, highly sensitive receiver uses two active trace frequencies and provides a bar graph, signal strength and direction indication to the pipe/cable.

- Two active frequencies (8 kHz, 82 kHz)
- Dual frequency output
- Passive power, Sonde locating
- Single and dual peak modes with direction



P/N	Description
2220M-C3W	Includes 2220M Receiver, 3 Watt Transmitter, Carrying Bag
2220M-C3W3-CPLR	Includes 2220M Receiver, 3 Watt Transmitter, 3 in Coupler, Carrying Bag

*Multiple configurations available. Please check with your TVC representative or [www.tvcinc.com](http://www.tvcinc.com) for details.*

### 3M™ DYNATEL™ LOCATOR 2250M/M-ID SERIES

3M™ Dynatel™ Cable/Pipe Locator 2250M and Cable/Pipe and Marker Locator 2250M-iD incorporate advanced electronics to quickly and efficiently trace the path of underground cables and pipes (with metallic tracer wire). They provide accurate cable/pipe, or Sonde depth measurements, giving a digital readout in inches, feet and inches, or centimeters (user-selectable). Lightweight, compact and well-balanced, these cable and pipe locators allow you to accurately and easily:

- Locate cable and pipe path
- Measure cable/pipe, or Sonde depth with the push of a button
- Display relative signal current in the cable or pipe
- Identify cable using toning
- Tone shorts and grounds in aerial cable
- Identify cable pairs through wet sections
- Locate energized power and CATV cable



P/N	Description
2250M-ID/UCU12W-RT	Advanced Cable/Pipe Locator Communication/Utility 12W
2250M-ID/UC5W-RT	Ultra Advanced Cable/Pipe Locator Communication 5W
2250M-ID/UC3W-RT	Ultra Advanced Cable/Pipe Locator Communication 3W
2250M-UCU12W/RT	Advanced Cable/Pipe Locator Communication/Utility 12W
2250M-UC5W/RT	Ultra Advanced Cable/Pipe Locator Communication 5W
2250M-UC3W/RT	Ultra Advanced Cable/Pipe Locator Communication 3W

*Multiple configurations available. Please check with your TVC representative or [www.tvcinc.com](http://www.tvcinc.com) for details.*

### 3M™ 1420 EMS-iD MARKER LOCATOR/READ/WRITE

3M™ Dynatel™ 1420 EMS-iD Marker Locators are microprocessor-based systems that incorporate advanced digital signal processing techniques to quickly and efficiently locate underground facilities—even years after construction or maintenance.

Designed to be more accurate, faster and more integrated, the 1420-iD/1420E-iD EMS Marker Locators allow you to accurately and easily:

- Locate, read and write to 3M RFID markers
- Pinpoint the depth and location of all existing models of properly installed underground passive EMS markers
- Conduct direct depth reading of markers
- Locate two different marker frequencies simultaneously
- Advanced features detect more information about underground utilities

A feature exclusive to the 1420-iD/1420E-iD Locators is the ability to read, write and lock programmed information into the 3M™ Electronic Marker System iD Ball Markers 1400 Series. Information such as a pre-programmed unique identification number, facility data, owner information, application type, placement date and other details from up to 100 markers can all be stored with date/time stamp and GPS coordinates, and transmitted back to your PC through a standard RS232 serial port for enhanced resource management.

P/N	Description
1420	EMS-iD Marker Locator with iD read/write
1420E	EMS-iD Marker Locator with iD read/write (CE Approved Export Model)





# UNDERGROUND CABLE LOCATORS

## UNDERGROUND CABLE & MARKER LOCATORS



### GREENLEE TRACKER II™

- Traces the path and determines the depth of wires and metallic pipes on active or dead systems without having to deactivate the system
- Lightweight receiver provides audible and visual indications of signal strength
- Transmitter output and receiver sensitivity are fully adjustable for maximum accuracy
- Transmitter offers three methods of connection: direct, inductive coupler, and inductive antenna

P/N	Description
501	Tracker II™



### GREENLEE MARKER-MATE ELECTRONIC MARKER LOCATOR

Designed to locate buried electronic markers, including Omni Marker and Uni Marker.

- 5 ft depth range
- Detects up to seven different marker types
- Scan mode provides simultaneous detection of all marker types
- User-adjustable detection threshold
- Digital signal processor accuracy

P/N	Description
EML100	Marker Locator



### GREENLEE BURIED LINE LOCATOR

- LED and LCD signal strength indicators make it quick and easy to find exact line location
- Automatic signal boost makes it easy to trace lines, even those with very weak signals
- Receiver may be used in active or passive mode
- Receiver locates multiple passive frequencies with a single setting
- Receiver automatically locks out passive range when it detects a transmitter signal, reducing the chance of tracing other lines carrying weaker signals

P/N	Description
BLL-200	Buried Line Locator



## CABLE LOCATORS ACCESSORIES

### 3M™ 3019 CABLE LOCATOR COUPLER ACCESSORY KIT

The 3019 Accessory Kit contains a 3001 3" Dyna-coupler and a 9011 Coupler Cable with a case that can be attached onto the locator.

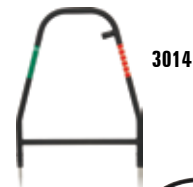
P/N	Description
3019	Cable Locator Coupler Accessory Kit



### 3M™ 3014 EARTH CONTACT FRAME

Used only when locating sheath (earth return) faults. It indicates direction to the fault and is color coded to correspond with the Receiver's indicator.

P/N	Description
3014	Earth Contact Frame



### 3M™ 9026 EARTH CONTACT FRAME CABLE

For use with the 3014 Earth Contact Frame for sheath (earth return) fault location; 4' in length.

P/N	Description
9026	Earth Contact Frame Cable



### 3M™ 9043 GROUND EXTENSION CABLE

Extends ground capability to 12'.

P/N	Description
9043	Ground Extension Cable



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In addition to our Test Equipment product selection, TVC offers a full breadth of products for your every need:

- Broadband Products
- Coaxial Cable
- Conduit & Innerduct
- Connectors & Heatshrink
- Digital Simulcast
- Digital Voice
- Drop Materials
- Fiber Optics
- FTTx
- Hardware
- Headend Equipment
- IP Networking
- Metro Ethernet
- Tools & Safety Equipment
- Twisted Pair
- Underground

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Marathon broadband products are installed in thousands of telecommunications networks domestically and internationally. Drop passives, pedestals, hardware and tool accessories are just some of the wide range of products to choose from. Technical and buying experts alike have come to recognize the Marathon brand to be synonymous with a highly reliable core product set that provides quality installation and performance at a superior value.

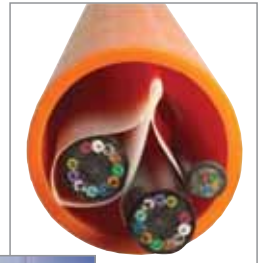


### MaxCell

FABRIC  
INNERDUCT

More Space. More Productivity.

MaxCell is a flexible, multi-celled, textile innerduct system design specifically for the network construction industry. MaxCell reduces the number of conduits required for new construction and eliminates the need for additional conduit in overlay applications. MaxCell configurations include one, two and three cell designs for use in 1" or larger conduits; and most available in Standard, Detectable, Riser, Plenum versions. MaxCell, a versatile solution for the complex problems faced by today's engineers, contractors and network providers.



### SEG

Satellite Engineering Group  
A Division Of TVC

Satellite Engineering Group, a leading broadband supplier and integrator, delivers products and custom services to the CATV, broadcast, and satellite marketplace. SEG provides installations, field maintenance and integration services for satellite systems and networks on a nationwide basis.



### Vikimatic

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TVC's Vikimatic brand of Outside Plant Products consists of diverse and original products to help provide timely solutions for a multitude of utility construction situations. Not only can Vikimatic provide custom MultiCell conduit configurations and PVC duct fittings, we can design and manufacture hardware assemblies to enable you to attach your conduit system to a bridge or tunnel.



### White Sands

Engineering  
A Division Of TVC

White Sands Engineering provides cable assemblies for the cable television, satellite, broadcast, telecom, home theater and security industries, as well as custom connectivity products for OEM and defense customers. Our broad product offering ranges from basic CATV jumpers to complex, custom-designed wiring harnesses.





## OUR TEST EQUIPMENT SUPPLIERS

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Backed by our knowledgeable and highly trained sales staff, TVC can ensure you have the right test equipment for both your day-to-day maintenance and your long-term projects.





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