# Telecommunications Test Equipment Catalog

A Better Way to Procure Your Equipment



# Specialists in Telecommunications Equipment

Electro Rent specializes in providing industry-leading test equipment to support the telecommunications industry. With ever increasing data rates, evolving standards and growing complexity of telecommunications system, keeping up with testing technologies and requirements can be a challenge. Each year, we make significant investments in our inventory to ensure that the latest technologies are available as they are introduced.

# Your Premier Test Equipment Partner

We know what it takes to deliver the right equipment on time, with rental and financial solutions that make sense for your organization.

Through our global fleet of \$1B worth of electronic test equipment assets from more than 200 manufacturers, our solutions help companies solve test and measurement in today's fast-moving business environment.

## Experience Our Extensive Inventory

Browse our catalog for the most popular telecommunications test equipment offerings. If you don't see what you need, give us a call. We have thousands of additional models in stock and new acquisitions arrive all the time.

### Rent or Purchase, It's Your Choice

Electro Rent has been renting the latest telecommunications equipment for decades, but did you also know that most of what you see is also available for purchase? Electro Rent is a distributor for most of our OEM partners including: Anritsu, EXFO, Fluke Networks, Fujikura/AFL, Keysight, Rohde & Schwarz and Viavi Solutions.

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# Global Reach, Local Support

Supported by our inventory, we help businesses around the world with unrivaled local support, logistics hubs, and expertise.

Our innovative test procurement solutions are designed to integrate seamlessly into your existing operations. We work with you to drive down your overall cost of testing by increasing productivity while reducing equipment management costs.



# Industry-Leading Test Equipment Rental Solutions

The ultimate in flexibility, our rental packages provide access to the latest test equipment in a fast and affordable way. With the world's largest inventory and constant investment to keep our product portfolio up to date, renting helps you access the latest equipment, when and where you need it.

#### FULL FLEXIBILITY

Upgrade, extend, or end your rental as needed

#### **EXTENSIVE INVENTORY**

Thousands of instruments are in stock and ready to rent today

#### PAY FOR USE, NOT FOR LIFE

Rent from as little as one week, with low-cost, long-term plans available

### MINIMIZE OWNERSHIP COSTS

Maintenance and calibration included

#### LOCAL PRESENCE

Local logistics hubs, as well as sales and support offices

#### FAST DELIVERY

Delivery typically within 24-48 hours of your order

#### **EXPERT SUPPORT**

Support and advice from our team of specialists, supported by our OEM partners

#### THE LATEST TECHNOLOGY

Our updated and refreshed inventory ensures leading products from world-class manufacturers

We offer independent advice on products from 200 world-class manufacturers.

**ROHDE&SCHWARZ** 

Make ideas real



**SUMITOMO** 

ELECTRIC













Fluke Networks DSX2-8000 | DSX Cable Analyzer V2 without WiFi; 2 GHz Copper Modules

- Unmatched Speed for CAT6A, 8, Class FA, I/II and All Current Standards
- Modular Design Supports Copper Certification 0
- Taptive User Interface Simplifies Set-up, and Eliminates Errors
- Intertek Verified to TIA Level 2G
- Copper Cable Certifiers Endorsed by Cabling Vendors Worldwide

### **Optical Loss Test Sets**

Optical Loss Test Sets, (OLTS), can be used in pairs, to measure insertion loss, (IL), and optical return loss (ORL). Once the pair of units have been referenced and calibrated, they can be used to take end-to-end measurements on any section of installed fiber. These tests enable verification of the IL and ORL variables and can identify any transposed fibers. Identification of mis-matched fibers is especially important when testing MPO fibers and connectors. Testing using an OLTS is simpler than with an OTDR, but two technicians are required, at different physical locations and if any problems are identified, an OTDR may be required for more detailed analysis.



Fluke Networks DSX2-5000 | DSX Cable Analyzer V2 with WiFi; 1 GHz Copper Modules

- DSX Cable Analyzer Series Copper Cable Certifiers
- Unmatched Speed for CAT6A, Class FA, I/II and All Current Standards
- Analyze Test Results and Create Professional Test Reports Using 0 LinkWare Management Software



#### EXFO MaxTester 945P | Fiber Certifier Optical Loss Test Set

- Optimized for Data Center and Enterprise Tier-1 Fiber Certification
- FastTest Performance Certifies Two Fibers at Two Wavelengths in 2.6 Seconds
- Instrument Pairs or Singles Available
- Automated Fiber Inspection with Pass/Fail Results on Both Fiber 0 **End-Faces**
- Onboard PDF Reporting



Tech Tip

#### Fluke Networks DSX2-8000Q01 | Full Cable Analyzer, OTDR, OLTS Test Kit All in One

- Quad OTDR, Quad OLTS, DSX-8000V2 Cable Analyzer 2 GHz CAT8 with Fiber Inspection Tool and WiFi Integrated
- Unmatched Speed for CAT6A, 8, Class FA, I/II and All Current Standards
- Versiv Modular Design Supports Copper Certification
- ANSI/TIA-1152-A Level 2G





#### Fluke Networks CFP2-100 | Certifiber Pro V2, with WiFi (OLTS)

- Tier-1 Certification of Fiber Cables
- Single Mode, Multimode and Quadmode OLTS with 850, 1300, 1310, 1550nm Wavelengths
- Power Range: 0dBm to -65dBm (850nm) 0dBm to -70dBm (All Other Wavelengths)
- Compact Fluke Networks Versiv V2 Mainframe
- Integrated USB and WiFi for Reporting and Project Management
- Models Available with Included Inspection Probes

#### Viavi Solutions MPOLX | SmartClass Fiber MPO Optical Loss Test Set

- Measures Optical Loss on MPO Type Fiber Connections
- Quadmode OLTS with 850, 1300, 1310, 1550nm Wavelengths
- Certifies All Fibers in MPO Connection and Checks MPO Polarity
- Includes Two P5000i Fiber Inspection Probes
- Integrated USB and WiFi for Reporting and Project Management

# Choosing the Right Tester











#### Viavi Solutions OLTS-85P-35 | Quadmode Tier 1 Optical Loss Test Kit with Patch Cord Microscopes

- $\circ$   $\;$  Fiber Inspection and Tier 1 Testing in One Solution
- Measure Optical Loss, Polarity, Length
- Encircled Flux Compliant
- Generate Certification Reports



# **EXFO FTBx-730D-SM8** | Singlemode OTDR Module, 1310/1550/1650 nm, 39/38/39dB

- $\circ$   $\;$  Best OTDR Tool for Through Splitters in PON Networks, Up to 1 x 128  $\;$
- $\circ \quad 1650 \text{ nm Live Fiber Access}$
- $\circ$   $\;$  iOLM for Guided One-Touch Multiple Acquisitions and Clear
- GO/NO GO Results
- Dynamic Range of 39dB for 82-Mile Point-to-Point Distance
- o Packaged with FTB-1v2-Pro Mainframe
- Carrier Approved



# **EXFO TK-PXM-LXM-QUAD MPO** | Singlemode and Multimode Tier-1 OLTS Certification Kit

- $\circ$  ~ Power Meter and Light Source in One Set
- $\circ$   $\,$  Certify MPO-12 Cables and Connectors  $\,$
- 1 Second Test Speed
- Calibrated Wavelengths: 580, 1300, 1310, 1550 nm
- Tier-1 Certification with Insertion Loss and Polarity

## Testing Using an OTDR

Optical Time Domain Reflectometer (OTDRs) work by injecting optical pulses into the fiber under test and measuring the light that is reflected from various points along the fiber. The reflected light is used to characterize the fiber under test with the strength of the return pulses being integrated against time and plotted as a function of fiber length. By using an OTDR at various points in the network, the feeder and distribution sections of the network can be tested independently. The OTDR can identify and locate each network component and can measure splice loss, connector loss and reflectance along with total endto-end loss and optical return loss (ORL). The tests must be performed using two wavelengths, enabling detection of bends on the link, which give higher losses at 1550 nm than at 1310 nm.



#### EXFO FTBx-720D-Q1-QUAD | QUAD OTDR Module 850/1300nm, 1310/1550nm

- $\circ$   $\,$  Quad OTDR with Singlemode and Multimode Testing  $\,$
- New Swap-out Optical Connector Reduces Downtime
- iOLM for Guided One-Touch Multiple Acquisitions and Clear GO/ NOGO Results
- $\circ$   $\;$  Dynamic Range of 36dB in Singlemode  $\;$
- Good for Both Fronthaul and Backhaul Applications Including FTTA, DAS and Small Cells
- Packaged with FTB-1v2-Pro Mainframe







## EXFO FTBx-730C-SM3 | Singlemode OTDR Module, 1310/1550/1625nm, 39/38/39dB Best OTDR Tool for Through Splitters in PON Networks, Up to 1 x 128

- Singlemode 1310nm/1550nm /1625nm
- SM3 Models Available with 1625nm Live Fiber Access
- iOLM for Guided One-Touch Multiple Acquisitions and Clear GO/NO GO Results
- Dynamic Range of 39dB for 82-Mile Point-to-Point Distance
- Packaged with FTB-1v2-Pro Mainframe
- Carrier Approved

# Fluke Networks OFP2-100 | Optifiber Pro OTDR V2 with Built in WiFi

- Good for Both Enterprise, Data Centers, Outside Plant, or FTTx Applications
- Single Mode, Multimode and Quadmode OTDR with 850, 1300, 1310, 155nm Wavelengths
- Compact Fluke Networks Versiv V2 Mainframe
- o Integrated USB and WiFi for Reporting and Project Management

#### EXFO FTBx-945 | Fiber Certifier Optical Loss Test Set

- o Optimized for Data Center and Enterprise Tier-1 Fiber Certification
- FastTest Performance Certifies Two Fibers at Two Wavelengths in 2.6 Seconds
- Instrument Pairs or Singles Available
- Automated Fiber Inspection with Pass/Fail Results on Both Fiber End-Faces
- $\circ$   $\,$  For Use with FTB-2-PRO Modular Platform



### Data Center/In-Building Cabling



#### Viavi Solutions E4146QUAD | Multimode/Singlemode 850/1300/1310/1550nm Quad OTDR

- Ideal Test Tool for Contractors/Installers that Need Both Singlemode and Multimode
- Serves Enterprise, Access, Metro and Support of Wireless Fronthaul/ Backhaul Networks
- Smart Link Mapper (SLM) for Instant Pass/Fail Results Analysis
- Dynamic Range of 37dB in Singlemode, 27dB for Multimode
- Packaged in T-Berd 2000 Portable Mainframe



#### Viavi Solutions E41DWDMC-PC | Tunable DWDM PC OTDR - C-BAND

- Packaged with OneAdvisor ONA-800A
- End-to-End Link Characterization
- OTDR Trace Interpretation is Also Simplified with the Smart Link Mapper (SLM)
- Validating New WDM Routes for New Customers or Capacity Increases
- Verifying End-to-End Continuity Prior to Service Turn-Up



#### **EXFO FTBx-5255** | Optical Spectrum Analyzer with **Polarization Controller**

- Wavelength Range: 1250 to 1650 nm
- High-speed DWDM with OSNR Measurements
- **CWDM Spectral Analysis** 0
- Available with FTB2-Pro Mainframe









We have thousands more instruments in our comprehensive equipment inventory. Scan QR Code to view our full selection.





#### Fujikura (AFL) 90S+ | Core Alignment Fusion Splicer

- Core Alignment Technology Achieves Consistent Lower Splice Loss
- Average Splice Loss of 0.01 to 0.04dB
- Tool-Less Replaceable Electrodes
- Ships with CT-50 Cleaver, Carry Case, and 90S Standard Package Accessories
- Cleaver Tracking and Upkeep with Wireless Communication
- Improved Real-Time Arc Control for Fibers with Poor Cleave Angles 0
- **Distribution Fiber Repair** 0
- OSP Cable Installation and Repair

#### Fujikura (AFL) FSM90R12-K | Fusion Splicer Kit with CT50

- Prepare and Fuse Up to 12 Fibers at a Time
- Same Core Alignment Technology Expanded to 12 Fibers
- Tool-Less Replaceable Electrodes
- Automated Wind Protector, Tube Heater and Splice Operation
- Ships with CT-50 Cleaver, Carry Case, and FSM90R Standard Package Accessories
- Data Center Cable Installation
- Trunk Cable Repair with Splice-on MPOs

#### Sumitomo TYPE-201E-VS | Handheld Fusion Splicer

- Clad alignment: Insertion Loss (Typical): 0.05dB for SMF Splice Speed (Typical): 11 Sec for SMF
- Single Automatic Oven:
  - Heating Time (Typical): 30 Sec for 60mm Sleeve
- Splice while charging, 100 Splice Battery-Life
- Intuitive Touch Display
- 3000 Splice Electrode Life

#### Sumitomo Q102-M12+ | Ribbon Fusion Splicer

- 1 to 12 Ribbon Fiber Count
- Automatic Fiber Alignment
- Splice Time: 11 Sec (SM 12c Quick Mode), 14 Sec (SM 12c Std Mode)
- 28 Sec (FPS-6 Sleeves, 40 mm 1-12c Quick Mode)
- 180 Splice and Heat Cycles Per Charge



### **Optical Loss Test Sets**

A key factor in fiber installation is understanding the power loss on a complete fiber run. Several factors affect the overall distance a fiber will be able to reach. Optical loss test sets, or OLTS units, measure the power that the run will be able to deliver. Testing with OLTS requires a pair of units. One has a laser source on one end of the fiber run with the other end having a precision optical power meter. OLTS units are used to certify that a fiber cable run can deliver an optimum level of light power at the end of the run. If problems occur, troubleshooting with an OTDR would be the next step.



#### EXFO FTBx-945 | Fiber Certifier Optical Loss Test Set

- Optimized for Data Center and Enterprise Tier-1 Fiber Certification
- FastTest Performance Certifies Two Fibers at Two Wavelengths in 2.6 Seconds
- Instrument Pairs or Singles Available
- Automated Fiber Inspection with Pass/Fail Results on Both Fiber **End-Faces**
- For use with FTB-2-PRO Modular Platform



#### EXFO MaxTester 945P | Fiber Certifier Optical Loss Test Set

- Optimized for Data Center and Enterprise Tier-1 Fiber Certification
- FastTest Performance Certifies Two Fibers at Two Wavelengths in 2.6 Seconds
- Instrument Pairs or Singles Available
- Automated Fiber Inspection with Pass/Fail Results on Both Fiber End-Faces
- Onboard PDF Reporting



#### Fluke Networks CFP2-100 | Certifiber Pro V2, with WiFi (OLTS)

- Tier-1 Certification of Fiber Cables
- Single Mode, Multimode and Quadmode OLTS with 850, 1300, 1310, 1550nm Wavelengths
- Power Range: 0dBm to -65dBm (850nm) 0dBm to -70dBm (All Other Wavelengths)
- Compact Fluke Networks Versiv V2 mainframe
- Integrated USB and WiFi for reporting and project management
- Models Available with Included Inspection Probes



#### Viavi Solutions MPOLX | SmartClass Fiber MPO Optical Loss Test Set

- Measures Optical Loss on MPO Type Fiber Connections
- Quadmode OLTS with 850, 1300, 1310, 1550nm Wavelengths
- Certifies All Fibers in MPO Connection and Checks MPO Polarity
- Includes Two P5000i Fiber Inspection Probes
- Integrated USB and WiFi for Reporting and Project Management



#### Viavi Solutions OLTS-85P-35 | Quadmode Tier 1 Optical Loss Test Kit with Patch Cord Microscopes

- Fiber Inspection and Tier 1 Testing in One Solution
- Measure Optical Loss, Polarity, Length
- Encircled Flux Compliant
- Generate Certification Reports

### EXFO TK-PXM-LXM-QUAD MPO | Singlemode and Multimode Tier-1 OLTS Certification Kit

- Power Meter and Light Source in One Set
- Certify MPO-12 Cables and Connectors
- 1 Second Test Speed
- Calibrated Wavelengths: 580, 1300, 1310, 1550 nm
- Tier-1 Certification with Insertion Loss and Polarity 0

#### EXFO FTBx-720D-01-0UAD | OUAD OTDR Module 850/1300nm. 1310/1550nm

- Quad OTDR with Singlemode and Multimode Testing
- New Swap-Out Optical Connector Reduces Downtime
- iOLM for Guided One-Touch Multiple Acquisitions and Clear GO/ NOGO Results
- Dynamic Range of 36dB in Singlemode
- o Good for Both Fronthaul and Backhaul Applications Including FTTA, DAS and Small Cells
- Packaged with FTB-1v2-Pro Mainframe

### Testing Using an OTDR

Optical Time Domain Reflectometer (OTDRs) work by injecting optical pulses into the fiber under test and measuring the light that is reflected from various points along the fiber. The reflected light is used to characterize the fiber under test with the strength of the return pulses being integrated against time and plotted as a function of fiber length. By using an OTDR at various points in the network, the feeder and distribution sections of the network can be tested independently. The OTDR can identify and locate each network component and can measure splice loss, connector loss and reflectance along with total endto-end loss and optical return loss (ORL). The tests must be performed using two wavelengths, enabling detection of bends on the link, which give higher losses at 1550 nm than at 1310 nm.



#### EXFO MAX-730D-SM3 | MaxTester FTTx/PON/Metro OTDR; SM OTDR 1310/1550/1625 nm

- OTDR for Passive Optical Network Deployment and Installation
- Works with PON Splitters Up to 1 x 128
- 39 dB Dynamic Range for 82 mi Point-to-Point
- FTTx Service Activation: GPON, EPON, XGS-PON, 10GE EPON
- $\circ \quad \text{Live Fiber Troubleshooting} \\$



#### Viavi Solutions E4146QUAD | Multimode/Singlemode 850/1300/1310/1550nm Quad OTDR

- $\circ$   $\,$  Ideal Test Tool for Contractors/Installers that Need Both Singlemode and Multimode
- Serves Enterprise, Access, Metro and Support of Wireless Fronthaul/ Backhaul Networks
- Smart Link Mapper (SLM) for Instant Pass/Fail Results Analysis
- Dynamic Range of 37dB in Singlemode, 27dB for Multimode
- Packaged in T-Berd 2000 Portable Mainframe



#### Viavi Solutions E41DWDMC-PC | Tunable DWDM PC OTDR - C-BAND

- Packaged with OneAdvisor ONA-800A
- End-to-End Link Characterization
- OTDR Trace Interpretation is Also Simplified with the Smart Link Mapper (SLM)
- Validating New WDM routes for New Customers or Capacity Increases
- Verifying End-to-End Continuity Prior to Service Turn-up



# **EXFO FTBx-730D-SM8** | Singlemode OTDR Module, 1310/1550/1650 nm, 39/38/39dB

- Best OTDR Tool for Through Splitters in PON Networks, Up to 1 x 128
- 1650 nm Live Fiber Access
- $\circ$  ~ iOLM for Guided One-Touch Multiple Acquisitions and Clear
- GO/NO GO Results
- Dynamic Range of 39dB for 82-Mile Point-to-Point Distance
- Packaged with FTB-1v2-Pro Mainframe
- Carrier Approved

# Fluke Networks OFP2-100 | Optifiber Pro OTDR V2 with Built in WiFi

- Good for Both Enterprise, Data Centers, Outside Plant, or FTTx Applications
- Single Mode, Multimode and Quadmode OTDR with 850, 1300, 1310, 155nm Wavelengths
- Compact Fluke Networks Versiv V2 Mainframe
- o Integrated USB and WiFi for Reporting and Project Management



#### EXFO MAX-730C-SM2 | Singlemode OTDR 1310nm/1550/1625 nm, 39/38dB

- Best OTDR Tool for Through Splitters in PON Networks Up to 1 x 128
- Singlemode 1310nm/1550nm and Live Mode 1625 nm
- Great Alternative to MAX-730D
- $\circ~$  iOLM for Guided One-Touch Multiple Acquisitions and Clear GO/NO GO Results

#### Viavi Solutions OSA-110R | Optical Spectrum Analyzer

- Wavelength Range: 1250 to 1650 nm
- $\circ$   $\,$  In-Band OSNR for ROADM and 40 G Networks
- CWDM and DWDM Spectral Analysis
- Available with TB/MTS6000A V2 Mainframe



Both Singlemode reless Fronthaul/ Ilts Analysis



#### **EXFO FIP435B** | Wireless Analysis Digital Video Inspection Probe

- Complete Connectivity Aided by Android or iOS Wireless Devices
- 100% Automated, One-Step Inspection Process 0
- High-Res 5 Megapixel Imager to Capture Every End-Face Detail
- Full Reporting Capabilities on Mobile Devices
- Onboard Rechargeable Battery Supporting a Full Day of Inspection and Preventing Your Smart Device to Drain its Charge
- Ideal Inspection Solution for Fiber-to-the-Antenna (FTTA) and Remote Radio Head (RRH) Applications Where Tower Climbers



#### Viavi Solutions INX-760-KIT2 | Automated Probe Microscope

- Utilizes FPT Inspection Tips
- 0 Automatically Configures Optical Settings
- Tests Simplex, Duplex, Multi-fiber Connectors 0
- MPO 12 x 1 Tested in 10 Seconds 0
- Includes Bulkhead Tips: MPO/PC, MPO/APC, LC/PC, LC/APC, 0 SC/PC, SC/APC
- Mating Adapters: MPO, LC Duplex, SC Duplex



#### Fluke Networks FI-1000-KIT | USB Fiber Inspection Video Probe for Versiv

- Connects via USB to Versive2
- View and Document Inspection Results
- 0 Kit Contains Universal Tips: 2.5mm, 1.25mm, LC Tip, SC/FC Tip, Carry Case



#### Anritsu MS9740B | Optical Spectrum Analyzer

- Wide Range: 600 to 1750 nm
- Dynamic Range >58 dB with -90 dB Optical Sensitivity
- Fast Wavelength Sweep Times <0.2 s



#### Anritsu MP2110A | BERTWave Sampling Oscilloscope

- Bit Error Rate Testing for Optical interfaces from 10G to 800G
- Built-In Clock Recovery
- Optical Transceivers Supported: SFP28, QSFP28, CFP2/4/8, SFP56, QSFP56, OSFP, QSFP-DD
- NRZ and PAM4 Supported



#### Viavi Solutions ONT804D | Optical Network Tester

- Linux OS with Support for VNC Remote Operation
- Runs Stand-Alone Applications Like Wireshark
- Modules Support 400G, 800G, 2x200GE, 2x400GE, 8x100GE and Fibre Channel

# Tech Tip



### Clean and Inspect Before You Connect

Dirty and/or damaged fiber connectors are one of the most common causes of optical network problems. When operators operate under amplified OPEX pressure and must speed up fiber deployments, preventing any network failures can make a difference. Inspection and cleaning are essential to successful fiber installation. We have the tools you need to get the job done right.



#### **Keysight N1000A/N1060A** | Precision Waveform Analyzer; 50/85 GHz

- N1000A DCA-X Mainframe
- N1060A 2 Channel/Clock Recovery/Precision Timebase Combo
- Make Precision Measurements on High-Speed Designs from 50 MBd to 80 MBd
- 16, 32 or 64 G NRZ and PAM4 Clock Recovery
- Jitter Spectrum Analysis and Clock Recovery Emulation
- Electrical Inputs: 1.0 mm Male (1.0 Female to 1.85 Female Adapters Included)



### Transmission Testing

Ensuring that newly installed fiber runs are ready to support traffic is often the last step in bringing up a network. Once the fiber is certified to carry light power, it then needs to be tested to carry data. Pipes with 100 GbE, 200 GbE, and 400 GbE are becoming more common, supporting massive bandwidth demands for telco providers, large data centers, and enterprises experiencing ever-expanding growth.

Electro Rent has been there from the start, supporting transmission testing from E1/DS1 electrical interfaces to SONET OC-192 and everything in between. We support all interface types you may encounter.

Here are just some of the technologies and applications we support:

- Multi-technology from 56k 400G
- BERT Testing
- RFC 2544/Y.1564 and OTN Test Methodologies
- Two-port testers for loopback testing 0
- CPRI/eCPRI protocols for 5G / tower testing 0
- IEEE-1588 PTP time protocols supported 0
- Separate optics are often available 0





#### Viavi Solutions ONA10-400GE-NOPT | OneAdvisor-1000 400G Portable Network Tester

- Performs 100GbE and 400 GbE BER Measurements
- OneAdvisor-1000 Mainframe and Ports Included in Unit
- Ports Include: 2x QSFP56-DD, 2x QSFP56, 2x SFP56-DD
- Optics Not Included





#### EXFO FTBx-88460-400GE | 400G Multi-Service Power Blazer 58585155515

- 400GE Portable System
- Windows Based OS
- Supports QSFP-DD Transceiver
- Packaged with FTB-4-PRO Base Mainframe
- FEC Testing 0
- BER Monitoring



#### Anritsu MU10401A/MT1000A | Network Master Mainframe with 400G Multirate Module

- 400G (QSFP-DD Port) 400G Optics Available Separately
- OTDR and 10G Transport/CPRI Module Can be Simultaneously Installed
- CPRI/OBSAI Protocol up to 25G Dual Channel
- Battery Operated Up to 1 hour Testing 400 GbE
- Carrier Approved

#### Viavi Solutions TM400GB-QO | 400G Transport Module for ONA-800

- Dual Port Testing up to 400GE
- Ethernet Rates: 400GE, 200GE, 4x100GE, 100GE with No FEC, RS (528,514) FEC or Full KP4 RS (544,514) FEC, 50GE on SFP56, 40GE, 25GE (FEC or Bypass), 10GE; 1GE and 10/100/1000
- Ports Available Include: QSFP-DD/QSFPx, OSFP and SFP-DD/SFPx
- ONA-800 Mainframe Available Separately
- Pairs with Other Modules in ONA-800 for OTDR and RF Capability in One Mainframe

#### EXFO FTBx-88260 | 10M-to-100G Multi-Service Power Blazer

- 100GE Down to 10M Capable
- RFC2544 Supported
- Packaged with FTB-1v2-PRO-DC Base Mainframe
- EXFO's Open Transceiver System (OTS)
- 0 iOptics Test Application
- 0 Battery Operated

#### EXFO MAX-890-ETH-100 | MaxTester 890: 10M-to-100G

- 100GE Package with Multiple Data Speeds Available
- Supports Multiple Transceivers
- Industries Fastest RFC 2544
- OSFP+/OSFP28 and CFP4 Modules Run Error-Free

Inspection Probe

**EXFO FIP435B** | Wireless Analysis Digital Video

100% Automated, One-Step Inspection Process

• Full Reporting Capabilities on Mobile Devices

• Complete Connectivity Aided by Android or iOS Wireless Devices

• High-Res 5 Megapixel Imager to Capture Every End-Face Detail

 Onboard Rechargeable Battery Supporting a Full Day of Inspection and Preventing Your Smart Device to Drain its Charge • Ideal Inspection Solution for Fiber-to-the-Antenna (FTTA) and Remote Radio Head (RRH) Applications Where Tower Climbers



#### Viavi Solutions MTS5800-100GE | TB 5800-100G Base 100GE Package Supports LR4 QSFP28

- 100GE Portable Test Unit
- 0 Windows 10
- RFC2544

• RFC2544

0

• SONET/SDH Capable

Battery Operated

Carrier Approved

- 0 Smart Loop Test
- Supports VIAVIs 4100-Series OTDR and COSA Modules

Handheld Network Tester, TB/MTS-5822P

Dual 10Mbps to 10Gbps Interfaces

Viavi Solutions TB/MTS-5822P | 10Mbps to 10G

10Mbps to 10GE Capable Dual Port Handheld Network Tester



### Viavi Solutions INX-760-KIT2 | Automated Probe Microscope Utilizes FPT Inspection Tips

- Automatically Configures Optical Settings
- Tests Simplex, Duplex, Multi-Fiber Connectors
- MP0 12 x 1 Tested in 10 Seconds
- Includes Bulkhead Tips: MPO/PC, MPO/APC, LC/PC, LC/APC, 0 SC/PC, SC/APC
- Mating Adapters: MPO, LC Duplex, SC Duplex

#### **EXFO FTB-5800** | Chromatic Dispersion Analyzer Module

- Wavelength Range: 1530 to 1625nm
- Designed for Ultra-Longhaul and 40/100 Gbit/s applications
- Designed for WDM Networks
- FTB-4 Pro Mainframe Available Separately



#### Fluke Networks FI-1000-KIT | USB Fiber Inspection Video Probe for Versiv

- Connects via USB to Versive2
- View and Document Inspection Results
- Kit Contains Universal Tips: 2.5mm, 1.25mm, LC Tip, SC/FC Tip, Carry Case

# Tech Tip

### Calibrate Your Equipment

Regular calibration helps to maintain the integrity of your instruments, ensuring accurate measurements and proper functioning. Calibration can identify potential issues with the equipment early on, allowing for timely maintenance and repairs, which minimize downtime and disruptions to the network.

## **Flectro Bent Telecom Hotline**

Our experienced Telecom Specialists are only a quick call away. Use this dedicated line to get direct access to telecom specialists.

# Call 800-966-8277

Open 5 AM to 5 PM PST

#### Drive/Walk Test



#### PCTEL GFlex | Scanning Receiver; 10 MHz to 8 GHz

- Measures Up to 120 5G Channels
- Ultra-Fast Concurrent 5G/4G Testing
- $\circ$   $\,$  20/100 MHz Wide Step IF Filter  $\,$
- I/Q Streaming-Ready Hardware
- $\circ \quad {\rm 5G\ Mobile\ Blind\ Scan}$
- Dual Polarization Beamforming Measurements
- 4G/5G Dynamic Spectrum Sharing (DSS)
- o 4 x 2 MIMO Measurements
- Upgradable to mmWave FR2 Bands



#### PCTEL HBFlex | 5G Drive Test Scanner

- Includes All FR1 Bands and All FR2 Band Licenses, All E-UTRA Bands in the 10 MHz to 6 GHz Range
- GSM, WCDMA, CDMA, EV-DO, TD-LTE, FD-LTE, Wi-Fi, NB-IoT, LTE-LAA, Wi-Fi, 3GPP 5G NR, with CDMA and EVDO Holdover (Software Licenses Required)
- $\circ ~$  mmWave Measurements 26 GHz to 40 GHz in FR2 Bands
- All Existing 2G, 3G, and 4G Bands
- Multi-Application Spectrum Clearing Interference Management Baseline Testing



#### PCTEL IBFlex | Drive Test Scanner; 570 MHz to 3.8 GHz

- 4G/5G Dynamic Spectrum Sharing (DSS) Support
- 2×2 and 4×2 LTE MIMO Measurements
- Connect with Bluetooth or USB
- o Blind Scan Simplifies Test Setup by Automatically Detecting Channels
- Spectrum Analysis and Channel Power Measurements for Any Wireless Technology



#### Rohde & Schwarz ROMES4 | Drive Test Software

- Universal Software Platform for Network Engineering, Optimization, and Troubleshooting
- Supports TSME6 and TSMA6 Scanners and the Latest Technologies, such as 5G, Nb-IoT and Cat-M1
- 5G NR, GSM, WCDMA, LTE, NB IoT, Cat-M1



#### Viavi Solutions (3Z) RFV2000 | Vision Antenna Alignment Tool

- Industry Leading Performance
- Built-in Camera
- Easy File Export
- Augmented Reality Displays a Bullseye Target in the 5-inch LCD Touch Screen Display
- Carrier Approved

#### Anritsu MW82119B | PIM Analyzer; 40W, Battery Operation

- Multiple Bands Available 600MHz, 700MHz, 850MHz, 1900/2100MHz
- 40W Output Power
- Battery Operated
- $\circ$   $\;$  Calibration Kits Available in Backpack and Hardcase Form



#### Rohde & Schwarz TSME6 | Ultracompact Drive Test Scanner; 350 MHz to 6 GHz

- o Different Multiband and Multi-Technology Scanners
- $\circ$   $\;$  Ideal for Verifying the Coverage of All Networks at Once
- Decodes Channels in Multiple Technologies
- Frequency Coverage up to 6 GHz (24-44 GHz with TSME30DC/ TSME44DC Downconverter)
- Support for Up to 4 x 4 MIMO Measurements



Analyzer; 2 MHz to 6 GHz

Anritsu S361E | Site Master Handheld Cable and Antenna

- Battery Operated
- Carrier Approved
- 4GHz and 6GHz available
- $\circ \quad \text{Touch Screen}$
- $\circ \quad \text{Easy USB Data Transfer} \\$
- Onboard Reporting



### 5G Tower Test



Anritsu S362E | Site Master Handheld Cable and Antenna Analyzer; 2 MHz to 6 GHz

- Dual Port Capable with Option 21
- 4 hour Battery Life
- Easy Reporting
- With 100 kHz to 6 GHz Spectrum Analysis



#### Keysight N991xA/B/C | FieldFox RF Combination Analyzer

- $\circ$   $\:$  Several Models Covering: 30 kHz to 4, 6.5, 18, 26.5 GHz  $\:$
- o B Version: 120 MHz of Real-Time Bandwidth
- $\circ$   $\,$  Performs Over-the-Air Measurements of 5G NR and LTE  $\,$
- Software Upgrades Available for 2-Port VNA Operation, Real-time Spectrum Analysis, Vector Voltmeter, Noise Figure and More
- Multiple Software Options Available for Rental



# Anritsu MS2720T | Spectrum Master Spectrum and Interference Analyzer

- Frequency Ranges: 9 kHz to 9, 20, 43 GHz
- Low DANL: -164 dBm
- Interference Analyzer: Spectrogram, Signal Strength, RSSI, Coverage Mapping
- PIM Analysis and Hunting



**Keysight N9952B** | FieldFox Microwave Combination Analyzer; 300 kHz to 50 GHz

- Cable and Antenna Analyzer, Network Analyzer and Spectrum Analyzer
- 120 MHz of Real-Time Bandwidth
- o Performs Over-the-Air Measurements of 5G NR and LTE in FR2 Bands
- Software Upgrades Available for 2-Port VNA Operation, Real-time Spectrum Analysis



# **EXFO FTBx-88260-FR1** | RF Spectrum Analyzer; 450 MHz to 6 GHz with RTSA

- Spectrum Analyzer, and TDD Gated Sweep, with TA-FR1 and FTBx-88260 System
- $\circ ~~$  5G FR1 Enabled Real Time Spectrum Analyzer
- FR2 Module Available Separately



#### **Rohde & Schwarz FPH** | Spectrum Rider Handheld Spectrum Analyzer

- Frequency Ranges: 5 kHz to 2, 4, 13, 26.5 GHz
- $\circ$   $\:$  Low DANL: -163 dBm  $\:$
- Software Applications Include: AM/FM Modulation Analysis, Signal Strength Mapping, Interference Analysis, Receiver Mode



#### Viavi Solutions SPA06MA | RF Spectrum Analyzer; 9 kHz to 6 GHz

- $\circ$   $\,$  Bundled with ONA-800  $\,$
- DANL to +25dBm
- $\circ \quad 100 \text{ MHz Real-time Bandwidth}$
- Carrier Approved



# Rohde & Schwarz ZVH | Handheld Cable and Antenna Analyzer

- Frequency Ranges: 100 kHz to 3.6, 8 GHz
- $\circ$   $\,$  2-Port Unit with Both One Port and Two Port Functions
- Measurements Include: DTF, Reflection/Transmission, 2-Port VNA, Spectrum and Spectrogram, Vector Voltmeter



# Anritsu MS2085A / MS2089A | NEW Site Master Cable and Antenna Analyzer

- 5 kHz to 4 or 6 GHz Operation
- Spectrum Analysis on the MS2089A with 5GNR, LTE FDD/TDD Analysis
- Real-Time Spectrum Analysis with 20 MHz or 40 MHz Operation

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# Anritsu MS2090A | Field Master Pro Handheld Spectrum Analyzer

- Frequency Ranges: 9 kHz to 9, 44 GHz
- 110 MHz Analysis Bandwidth with RTSA
- $\circ$   $\,$  5G NR, LTE FDD/TDD, RF and Modulation Quality Measurements
- Low DANL: -164 dBm



# Anritsu MS2720T | Spectrum Master Spectrum and Interference Analyzer

- Frequency Ranges: 9 kHz to 9, 20, 43 GHz
- $\circ$   $\:$  Low DANL: -164 dBm  $\:$
- Interference Analyzer: Spectrogram, Signal Strength, RSSI, Coverage Mapping
- PIM Analysis and Hunting



### Anritsu MW82119B | PIM Analyzer; 40W, Battery Operation

- $\circ$   $\;$  Multiple Bands Available 600MHz, 700MHz, 850MHz, 1900/2100MHz  $\;$
- 40W Output Power
- Battery Operated
- $\circ$   $\;$  Calibration Kits Available in Backpack and Hardcase Form

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#### Corporate Headquarters USA

FI-1000-KIT

0FP2-100

90S+

8511 Fallbrook Ave, Suite 200, West Hills, CA 91304, USA +1 800 553 2255 sales@electrorent.com

Fluke Networks

Fluke Networks

Fujikura/AFL

Canada 210 Brunel Rd, Unit 1-2, Mississauga, ON L4Z 1T5, Canada +1 800 553 2255 sales@electrorent.com

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Latin America 8511 Fallbrook Ave, Suite 200, West Hills, CA 91304, USA +1 800 553 2255 sales@electrorent.com



