

# MaxTester 945 Telco OLTS

FULLY AUTOMATED FASTEST™ BIDIRECTIONAL MEASUREMENTS FOR INSERTION LOSS, OPTICAL RETURN LOSS AND FIBER LENGTH



- First tablet-inspired multifunction optical loss test set (OLTS) measuring insertion loss (IL), optical return loss (ORL) and fiber length at two wavelengths in 5 seconds via fully automated bidirectional FasTesT™ analysis.



ConnectorMax

COMPATIBLE WITH



EXFO | Connect

## KEY FEATURES

Unmatched FasTesT™ performances: 100% automated bidirectional test at two wavelengths under 5 seconds

100% automated fiber inspection: one-step process with pass/fail analysis at both fiber ends

Onboard assistant and diagnosis to eliminate reference errors

Bright, 7-inch high-resolution touchscreen display—the biggest in the market

Optical return loss (ORL) meter

Market-leading onboard PDF reporting solution and essential PC-based post-processing included for all users

Best-in-class singlemode distance range of 200 km

EXFO Connect-ready for cloud-based test assets management

WiFi and Bluetooth connectivity (optional)

## APPLICATIONS

FTTx construction

Telecommunications and outside plant network testing

## RELATED PRODUCTS



Fiber inspection scope  
FIP-400B (WiFi or USB)

## FastReporter

Advanced data post-processing software  
FastReporter



Cleaning accessories

# THE NEXT GENERATION OF AUTOMATED OLTS: MORE FEATURES, GREATER PERFORMANCE

Ever since its introduction in 1996, the patented FasTesT™ technology revolutionized the industry by fully automating the test sequence, saving countless hours of testing and troubleshooting in the field. Proven in thousands of diverse network deployments across the globe, FasTesT™ truly enables CAPEX/OPEX savings.

The MaxTester 945 boasts a 7-inch touchscreen, the largest and most user-friendly display in the industry to simplify tasks for the technician. The MaxTester 945 also allows for 100% automated fiber inspection at both ends of the fiber link. Paired with the FIP-400B automated fiber inspection scopes and powered by FasTesT™, this OLTS brings the latest and the best in innovation and automation at your fingertips.

## THE BENEFITS

### Trustworthy test results

#### Fully automated fiber inspection

Fiber inspection is at the heart of ensuring that accurate references and measurements can be made. The MaxTester 945 integrates EXFO's fully automated line of fiber inspection scopes to assess and certify connector health within a few seconds. EXFO's FIP-430B (USB) and FIP-435B (wireless) rely on elaborate algorithms that do the hard work for you to automatically center, focus, capture and analyze the connector image. No user intervention needed: achieve repeatable and accurate inspection, 100% of the time.

#### Onboard step-by-step animated reference assistant

Accurate and repeatable test results start with proper test cord referencing. Accurate referencing greatly reduces common mistakes often encountered in the field. Thanks to the reference assistant's animated and interactive interface this step of the testing sequence is now as simple and easy as it can be.



#### Test shorter links than ever before

Thanks to highly accurate optics, this OLTS can test with extreme precision short links with very low loss.

#### EXFO's patent-pending one-cord simplex reference method

Greatly reduces test uncertainty for greater test accuracy which is a key factor when testing short fiber links such as drop fibers in FTTH networks.

### Test efficiency

- FasTesT™: acquisition time less than three seconds
- Online reporting–live from the field
- Maximum simplicity and fast learning curve with onboard user assistance:
  - **Port LED indicators:** guide the user through the referencing and testing processes. LED indicators show the user which optical port to connect to the fiber. A beep indicates that the connection is established to confirm continuity.
  - **Onboard diagnosis:** throughout the referencing and testing processes, the MaxTester delivers real-time information on test cord health as well as pass/fail results according to preset or custom criteria. When testing, the MaxTester delivers loss and length data, and can even identify the presence of a macrobend (refer to side picture).
  - **Margin meters:** indicate the result status as well as the margin according to preset thresholds.

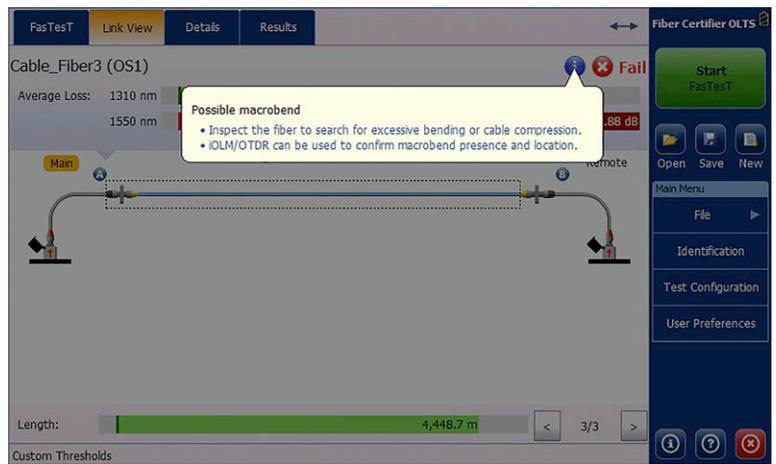
- The MaxTester 945 includes a *Test Again* feature allowing the user to retest failed fibers in three steps:
  1. Go back in test results
  2. Quickly and correctly identify the failed fiber by looking at the pass/fail status
  3. Press *Test Again*

### Optimized test sequence

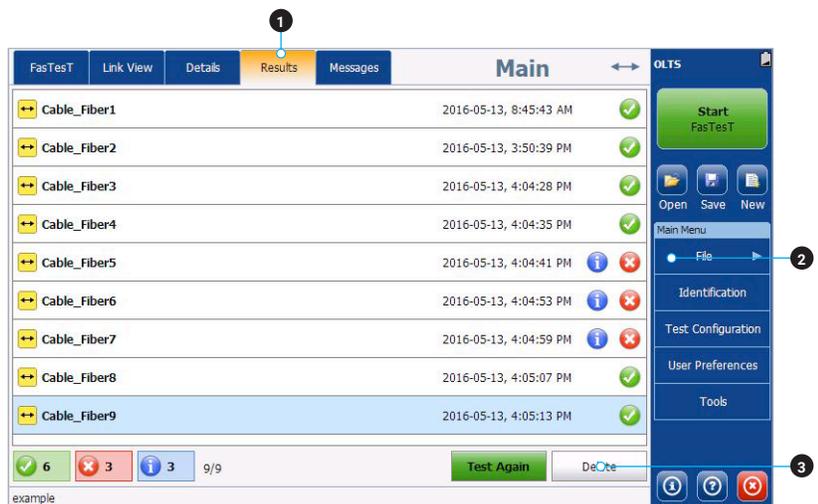
- **Real-time continuity feature:** the main and remote units emit visual and audible signals to let the technicians on both ends know that a connection has been established on the specific fiber under test. This also allows the technicians to start the test right away, saving time on each fiber tested.
- **Text messaging capabilities:** allows users to send text messages through the fiber under test faster than other test sets in the industry.

### ORL meter

The ORL meter allows the user to perform a single-ended ORL measurement of network components or a link section. This live meter shows measurement fluctuation in real time.

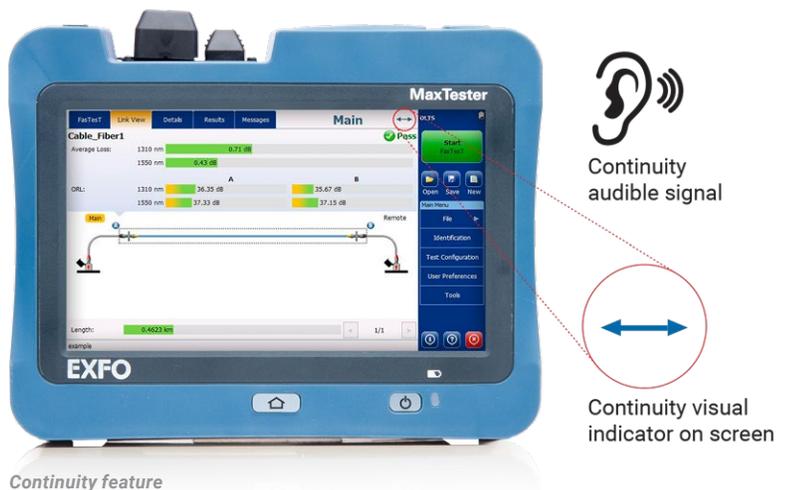


Onboard diagnosis helps the technician take proper action



See results clearly and test again easily

- 1 Results tab lists all the fibers tested in a cable
- 2 Pass/Fail status indicated under Results
- 3 Test Again button to retest a "failed fiber" using the same settings



Continuity feature

## DISCOVER THE INDUSTRY'S FIRST FULLY AUTOMATED FIBER INSPECTION SCOPES

Housing a unique automatic focus adjustment system, EXFO's fiber inspection scope series automates each operation in the sequence of inspecting a connector endface. The result: **fiber inspection is now a quick, one-step process that can be performed by technicians of all skill levels.**

### Automated models

**The FIP-500:** wireless, autonomous and fully automated scope featuring the fastest inspection in the industry for both multi-fiber and single-fiber connectors. All-day testing without the need to recharge batteries or offload results.

**The FIP-435B:** connected to EXFO platforms or your smart device, this fully automated wireless scope enables connector certification in one step. View and store results on your EXFO platform or smart device.

**The FIP-430B:** fully automated inspection scope featuring USB wired connectivity to PC and EXFO platforms.

### Semi-automated and manual models

**The FIP-420B:** semi-automated scope featuring a manual focus adjustment. USB wired connectivity to PC and EXFO platforms.

**The FIP-410B:** basic inspection features for manual inspection. USB wired connectivity to PC and EXFO platforms.

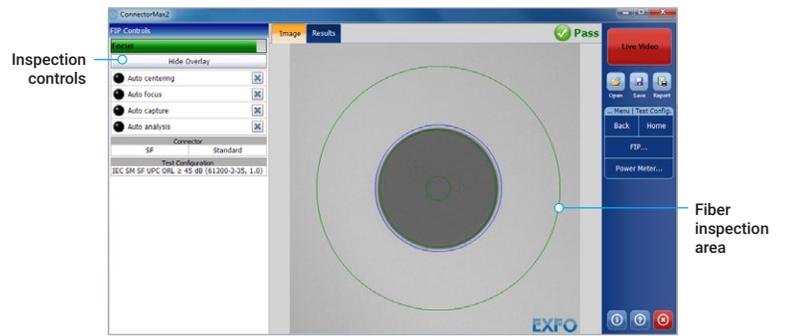


FEATURES	USB WIRED			WIRELESS	AUTONOMOUS
	FIP-410B	FIP-420B	FIP-430B	FIP-435B	FIP-500
Image capture	•	•	•	•	•
Five-megapixel CMOS capturing device	•	•	•	•	•
Automatic fiber image-centering function and focus adjustment		•	•	•	•
Automatic fiber image-focus adjustment			•	•	•
Onboard pass/fail analysis		•	•	•	•
Pass/fail LED indicator		•	•	•	•
USB connectivity to an EXFO platform or PC	•	•	•	•	
Wireless connectivity to an EXFO platform or PC				•	
Wireless connectivity to a smartphone				•	•
Semi-automated multifiber / MPO inspection	•	•	•	•	
Fully automated multifiber / MPO inspection					•
Onboard touch screen and data storage					•
SmarTips with automated thresholds and quick-connect mechanism					•

For more information, visit [www.EXFO.com/fiberinspection](http://www.EXFO.com/fiberinspection).

## POWERFUL CONNECTOR ENDFACE IMAGE VIEWING AND ANALYSIS SOFTWARE

- Automatic pass/fail analysis of the connector endfaces
- Lightning-fast results in seconds with simple one-touch operation
- Complete test reports for future referencing
- Stores images and results for record-keeping



Clear pass/fail results

## FastReporter

Data post-processing software

### GET ALL ADVANCED CAPABILITIES FOR FREE

FastReporter is a consolidated data management and post-processing solution designed to improve results quality as well as auditing and reporting productivity.

Download the latest version of FastReporter, launch the application and create your EXFO Exchange account to get the full range of capabilities, at no cost. EXFO Exchange automates and optimizes workflows, troubleshooting, field testing and reporting within a secured collaborative software platform for each step of network deployment.

FEATURES	FastReporter (version 3)	
	Basic	Full (now free with EXFO Exchange account)
Number of files	Up to 24 results	Unlimited
Measurement type	OTDR, iOLM, FIP, OLTS, OPM, CD, PMD	
Results viewer	•	•
Reporting – Basic (PDF)	•	•
Reporting – Advanced (Excel, PDF, custom)		•
Basic analysis – Bidir (OTDR and iOLM)	•	•
Advanced editing		•
Automated validation and results correction		•
Job management and identification edition	One file	Batch processing
Hundreds of additional features		•

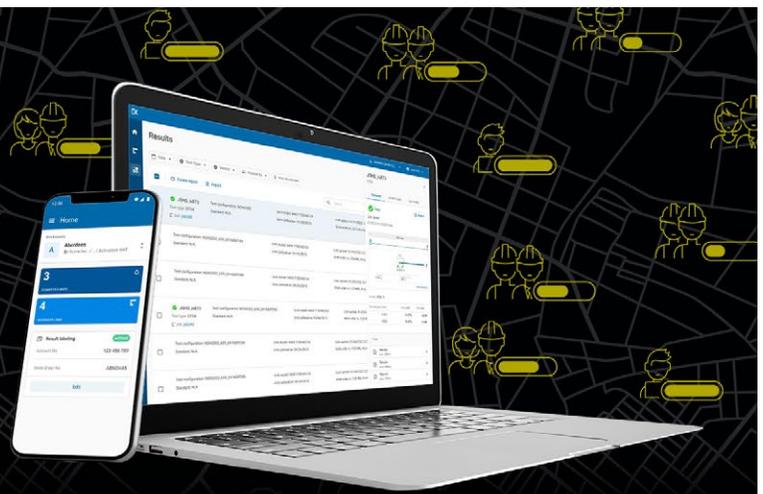
Comparison of basic and full versions of FastReporter (version 3).



# SHARE TEST RESULTS. BOOST COMPLIANCE. UNLOCK INSIGHTS.

**Cloud-hosted solution for sharing test results and ensuring compliance.**

Paired with EXFO's leading test instruments, EXFO Exchange drives an entire ecosystem, while integrating seamlessly with existing operation processes.



## KEY BENEFITS



**Automate test results management**



**Boost compliance and efficiency**



**Improve collaboration and visibility**



**Access comprehensive reporting**



**Unlock insights to see what matters**

## SIMPLE SETUP IN THREE STEPS

1

### Create your free EXFO Exchange account

Begin your journey by creating an EXFO Exchange account. Setting up your account is quick and easy.



2

### Install the mobile app

Download the EXFO Exchange app to allow test data from compatible EXFO devices to be uploaded securely to the cloud (free of charge).



For MaxTester and FTB users, install the native app.



3

### Save time and boost efficiency

Once your account created—and the mobile app installed and paired with compatible EXFO devices—all test results will be sent to the cloud. On the web app, you will see field test results from all invited testers.



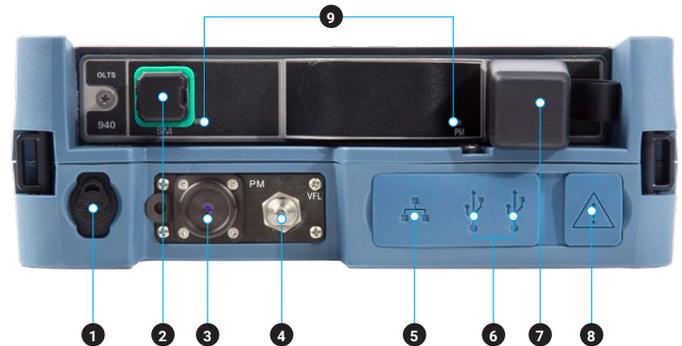
# SMALL ENOUGH TO BE HANDHELD. LARGE ENOUGH FOR FULL-SCREEN VIEWING.

## TABLET-INSPIRED DESIGN

With a 7-inch, high-resolution touchscreen—the most efficient display in the industry—the MaxTester 945 OLTS delivers an unprecedented user experience. It features integrated WiFi/Bluetooth connectivity and instant boot up. The MaxTester 945 OLTS also ensures a full day of field work with 12 hours of battery autonomy and its internal memory capacity for 150,000 test results.

## PACKAGED FOR EFFICIENCY

- |                                     |  |
|-------------------------------------|--|
| 1 Stylus                            | 8 AC adapter   |
| 2 FasTesT™ singlemode port          | 9 LED indicators                                     |
| 3 High-power power meter (optional) | 10 Home/switch application and screen capture (hold) |
| 4 Visual fault locator (optional)   | 11 Power on/off/stand by                             |
| 5 10/100 Mbit/s Ethernet port       | 12 Battery LED status                                |
| 6 Two USB 2.0 ports                 | 13 Built-in WiFi/Bluetooth (optional)                |
| 7 Standard power meter              | 14 Stand support                                     |



**POWER METER SPECIFICATIONS<sup>a</sup>**

Detector type	GeX
Uncertainty <sup>b</sup>	±(5 % + 10 nW)
Measurement range (dBm)	25 to -50 <sup>c</sup>
Wavelengths range (nm)	850, 1300, 1310, 1490, 1550, 1577, 1625, 1650
Tone detection (Hz)	270/330/1000/2000

**SOURCE SPECIFICATIONS<sup>a</sup>**

Output power (dBm) <sup>c</sup>	SM1 (1310 nm/1550 nm): 2.5 SM3 (1310 nm/1550 nm/1625 nm): 1 / -1 / -5 SM4 (1310 nm/1490 nm/1550 nm): 1 / -5 / -1
Output power stability (dB)	±0.05 over 8 hours

**FASTEST™ SPECIFICATIONS<sup>a</sup>**

Testing speed <sup>c</sup>	FasTesT™ Simplex: 3 seconds (two wavelengths, bidirectional, automated, IL + fiber length) FasTesT™ Simplex: 6 seconds (three wavelengths, bidirectional, automated, IL + ORL + fiber length)
Wavelengths (nm) <sup>c</sup>	Singlemode (laser) 1310 ± 20 1490 ± 10 1550 ± 20 1625 ± 10
Loss range (dB) <sup>d</sup>	Singlemode simplex: 45
Length measurement range (km) <sup>e</sup>	Singlemode: 200
Length measurement uncertainty <sup>c</sup>	Simplex: ±(1 m + 0.5 % x length)
ORL measurement range (dB) <sup>c, f</sup>	50
ORL measurement uncertainty (dB) <sup>c, f, g</sup>	±1
FasTest mode	Simplex

**ORL METER<sup>a, g</sup>**

	<b>All singlemode wavelengths</b>
ORL range (APC/UPC link) (dB) <sup>c, h, i</sup>	65/55
ORL uncertainty (dB) <sup>c, h, j</sup>	±0.5
Resolution (dB)	0.01

a. All specifications valid at 23 °C ± 1 °C and 1550 nm, on batteries and after 15 minutes of warm up, unless otherwise specified.

b. Uncertainty is valid at calibration conditions.

c. Typical.

d. Typical value, at 1550 nm for singlemode.

e. At 1550 nm for singlemode.

f. ORL measurement available on MaxTester 945 singlemode wavelengths only.

g. No discrete reflectance greater than -65 dB. Up to 45 dB.

h. After a manual reference and zero. Measurement made with 2-m reference patchcord with SC/APC connectors (all discrete reflectances ≤ -65 dB).

i. After a manual reference and zero. Measurement made with 2-m reference patchcord which has one SC/UPC connector on the fiber under test side (all discrete reflectances ≤ -55 dB).

j. Up to 45 dB.

**VISUAL FAULT LOCATOR (VFL) (optional)**

Laser, 650 nm $\pm$ 10 nm
CW/Modulate 1 Hz
Typical $P_{out}$ in 62.5/125 $\mu$ m: > -1.5 dBm (0.7 mW)
Laser safety: Class 2

**LASER SAFETY****ENVIRONMENTAL SPECIFICATIONS**

Temperature	Operating	-10 °C to 50 °C (14 °F to 122 °F)
	Storage	-30 °C to 70 °C (-22 °F to 158 °F) <sup>a</sup>
Relative humidity		0 % to 95 % non-condensing

**GENERAL SPECIFICATIONS**

Display	7-in (178-mm) outdoor-enhanced touchscreen, 800 x 480 TFT
Size (H x W x D)	166 mm x 200 mm x 68 mm (6 <sup>9</sup> / <sub>16</sub> in x 7 <sup>7</sup> / <sub>8</sub> in x 2 <sup>3</sup> / <sub>4</sub> in)
Weight (with battery)	1.5 kg (3.3 lb)
Interfaces	Two USB 2.0 ports RJ45 LAN 10/100 Mbit/s Optional WiFi/Bluetooth
Storage	6 GB internal memory (150 000 test results, typical)
Battery <sup>b</sup>	Rechargeable lithium-polymer battery 12 hours of operation
Power supply	AC/DC adapter, input 100-240 VAC, 50-60 Hz
Warranty	Three (3) years
Recommended recalibration period	Three (3) years

a. -20 °C to 60 °C (-4 °F to 140 °F) with the battery pack.

b. Typical.

## ORDERING INFORMATION

MAX-945-XX-XX-XX-XX-XX-XX-XX

**Optical configuration**

SM1 = Singlemode 1310/1550 nm, IL and ORL  
 SM3 = Singlemode 1310/1550/1625 nm, IL and ORL  
 SM4 = Singlemode 1310/1490/1550 nm, IL and ORL

**Connector**<sup>a</sup>

EA-EUI-28 = APC/DIN 47256  
 EA-EUI-89 = APC/FC narrow key  
 EA-EUI-91 = APC/SC  
 EA-EUI-95 = APC/E-2000  
 EA-EUI-98 = APC/LC

**VFL and power meter**

00 = Without VFL and power meter  
 VFL = With VFL  
 PM2X = With power meter; GeX detector  
 VPM2X = With VFL and power meter; GeX detector

**WiFi and Bluetooth**

00 = Without RF components  
 RF = With RF capability (WiFi and Bluetooth)

**Inspection scope model**<sup>b</sup>

00 = Without inspection scope  
 FP410B = Digital video inspection probe  
 Triple magnification  
 FP420B = Analysis digital video inspection probe  
 Automated pass/fail analysis  
 Triple magnification  
 Autocentering  
 FP430B = Automated analysis digital video inspection scope  
 Automated focus  
 Automated pass/fail analysis  
 Triple magnification  
 Autocentering  
 FP435B = Wireless analysis digital video inspection scope<sup>c</sup>  
 Automated focus  
 Automated pass/fail analysis  
 Triple magnification  
 Autocentering

**Extra FIPT-400B tips**<sup>d</sup>**Bulkhead tips**

FIPT-400-FC-APC = FC/APC tip for bulkhead adapter  
 FIPT-400-FC-SC = FC and SC tip for bulkhead adapter<sup>e</sup>  
 FIPT-400-LC = LC tip for bulkhead adapters  
 FIPT-400-LC-APC = LC/APC tip for bulkhead adapter  
 FIPT-400-MU = MU tip for bulkhead adapters  
 FIPT-400-SC-APC = SC/APC tip for bulkhead adapter<sup>f</sup>  
 FIPT-400-SC-UPC = SC/UPC tip for bulkhead adapter  
 FIPT-400-ST = ST tip for bulkhead adapter

**Patchcord tips**

FIPT-400-U12M = universal patchcord tip for 1.25 mm ferrules  
 FIPT-400-U12MA = universal patchcord tip for 1.25 mm ferrules APC  
 FIPT-400-U16M = universal patchcord tip for 1.6 mm ferrules  
 FIPT-400-U20M2 = universal patchcord tip for 2.0 mm ferrules (D4, Lemo)  
 FIPT-400-U25M = universal patchcord tip for 2.5 mm ferrules<sup>e</sup>  
 FIPT-400-U25MA = universal patchcord tip for 2.5 mm ferrules APC<sup>f</sup>

**Multifiber tips**<sup>g</sup>

FIPT-400-MTP2 = MTP/MPO UPC tip for bulkhead adapter  
 FIPT-400-MTPA2 = MTP/MPO APC tip for bulkhead adapter  
 FIPT-400-MTP-MTR = MTP/MPO multirow UPC tip for bulkhead adapter  
 FIPT-400-MTP-MTRA = MTP/MPO multirow APC tip for bulkhead adapter

**Tip kits**

FIPT-400-LC-K = LC tip kit including:  
 FIPT-400-LC: LC tip for bulkhead adapters,  
 FIPT-400-LC-APC: LC/APC tip for bulkhead adapter,  
 FIPT-400-U12M: universal patchcord tip for 1.25 mm ferrules,  
 FIPT-400-U12MA: universal patchcord tip for 1.25 mm ferrules APC  
 FIPT-400-LC-K-APC = LC tip kit including:  
 FIPT-400-LC-APC: LC/APC tip for bulkhead adapter,  
 FIPT-400-U12MA: universal patchcord tip for 1.25 mm ferrules APC  
 FIPT-400-LC-K-UPC = LC tip kit including:  
 FIPT-400-LC: LC tip for bulkhead adapters,  
 FIPT-400-U12M: universal patchcord tip for 1.25 mm ferrules  
 FIPT-400-MTP-MTR-K = MTP/MPO multirow APC and UPC tip for bulkhead adapter<sup>g</sup>

**Base tips**

APC = Includes FIPT-400-U25MA and FIPT-400-SC-APC  
 UPC = Includes FIPT-400-U25M and FIPT-400-FC-SC

Example: MAX-945-SM1-EI-EUI-89-VFL-RF-FP435B-UPC

- Connector adapters are the same on singlemode source ports and power meter ports.
- Includes ConnectorMax2 software.
- RF option mandatory and included with this model.
- This list represents a selection of fiber inspection tips that covers the most common connectors and applications but does not reflect all the tips available. EXFO offers a wide range of inspection tips, bulkhead adapters and kits to cover many more connector types and different applications. Please contact your local EXFO sales representative or visit [www.EXFO.com/FIPTips](http://www.EXFO.com/FIPTips) for more information.
- Included when UPC base tips are selected.
- Included when APC base tips are selected.
- Includes a bulkhead adapter for patch cord inspection.

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EXFO serves over 2000 customers in more than 100 countries. To find your local office contact details, please go to [www.EXFO.com/contact](http://www.EXFO.com/contact).

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