

# FTB Lite 975

SIMPLEX, DUPLEX, MULTI-FIBER  
BIDIRECTIONAL CERTIFIER

■ The first and only fully automated, always-connected certifier, up to 24 fibers—bidir OLTS, with optional OTDR/iOLM onboard.



WITH ALWAYS-ON  
LTE CONNECTIVITY

## KEY FEATURES

Simplex, duplex and multi-fiber test up to 24 fibers (24F)

Bidirectional Tier-1 OLTS measurements: Insertion loss (IL), optical return loss (ORL), fiber length

Upcoming OTDR-based capabilities (optional) for troubleshooting and fiber characterization with EXFO's intelligent Optical Link Mapper (iOLM)

End-to-end automation from one-touch referencing, touchless FasTest™ testing through reporting to advanced troubleshooting

Polarity and continuity validation

SmartRef™: One-touch referencing and troubleshooting with visual diagnostics. Supports remote referencing up to 10 km apart

Lower ownership costs: No mandatory custom cables

Always-on mobile connectivity 2G/3G/4G LTE

Free 36-month basic data plan provided for real-time visibility (EXFO Exchange)

Large 8-in high-visibility touchscreen optimized for maximum usability

Compliant with recommended test procedures as per industry standards (IEC 61300-3-4, IEC 60793-1-40, ITU-T G.650, TIA-568.3)



## APPLICATIONS

Intra-data center

Campus data center interconnect (DCI)

Metro/longhaul DCI

Telco and FTTx

## RELATED PRODUCTS



Fiber inspection scope  
FIP-500




CD/PMD tester  
FTBx-570




Cleaning supplies for  
duplex and multi-fiber  
connectors




Test cords  
FTB Lite 975



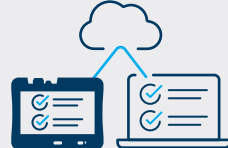
**Up to 24-fiber connectors**  
Native simplex, duplex, multi-fiber (Base-8/12/16/24) link testing with port adapter.



**Tier-1 and Tier-2 tester**  
Bidirectional OLTS (ORL, IL, length and polarity) and optional OTDR-based capabilities (via upcoming software update).



**SmartRef™**  
One-touch and foolproof referencing for accurate validation with visual diagnostics. Supports remote referencing up to 10 km apart.



**End-to-end automation**  
From touchless FasTes™ testing through reporting and optional OTDR-based troubleshooting.

## UP TO 24 FIBERS

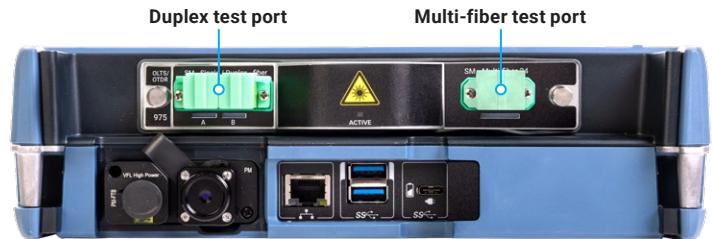
Today's high-fiber-count environments require versatile testing for simplex, duplex, and multi-fiber 24.

The FTB Lite 975 supports evolving data center and AI infrastructure with a flexible design for test cords that streamlines certification across simplex, duplex, and base-8/12/16/24 multi-fiber cables with multiple connector types (MPO/MMC/LC).



### Duplex model

Enables testing based on simplex and duplex fiber.



### Multi-fiber model

Enables testing based on simplex, duplex and multi-fiber up to 24 fibers.

## OTDR/iOLM-EQUIPPED MODEL HARDWARE-READY

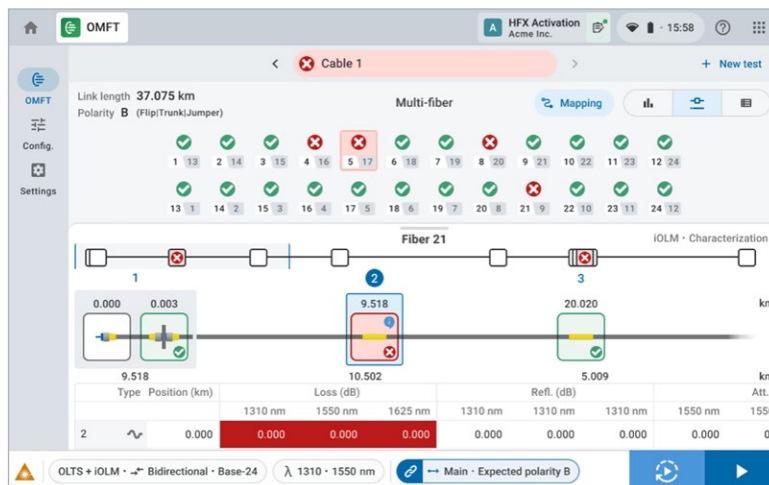
Factory-configured at order with a forward-looking architecture, this test instrument is designed to evolve with your needs.

### Upcoming capabilities via simple software updates

**Unidirectional iOLM**  
Single-ended Tier-2 troubleshooting; test from one end to quickly locate faults on links under test. Remote unit is optional.

or

**Onboard bidirectional OTDR/iOLM**  
Complete link characterization of every element along the link for each individual fiber (e.g., connectors, splices), enabled by EXFO's patented iOLM technology.



## WHY IS ACCURACY CRITICAL IN HIGH-FIBER-COUNT CONTEXTS?


Today's networks operate with increasingly tight optical budgets. Any deviation in referencing can directly induce false negative measurements, impact pass/fail decisions and overall confidence in the infrastructure.

### SmartRef™ (patent pending)


With SmartRef™, the FTB Lite 975 ensures :

- An optimized reference without multiple manual steps, removing operator dependency and reducing the risk of errors.
- Stable and repeatable reference values, independent from connectors repeatability, unlike traditional methods.
- High-accuracy results no matter the configuration or connector types, eliminating compatibility constraints.


With SmartRef™, the FTB Lite 975 delivers the easiest referencing ever:




**High-accuracy**  
Runs an automatic process in one-step, optimized for multifiber connections, to minimize errors and false negatives—backed by  $\pm 0.1$  dB IL measurement uncertainty.



**Remote**  
Reduces dispatches by referencing 2 units remotely using the fiber under test (FUT), up to 10 km.



**Visual diagnostic**  
Eliminates guesswork with detailed visual diagnostics of each individual fiber on the link (24F, duplex, simplex).



**Flexibility**  
Allows flexible and precise referencing, every time, for all connector types—a major innovation.

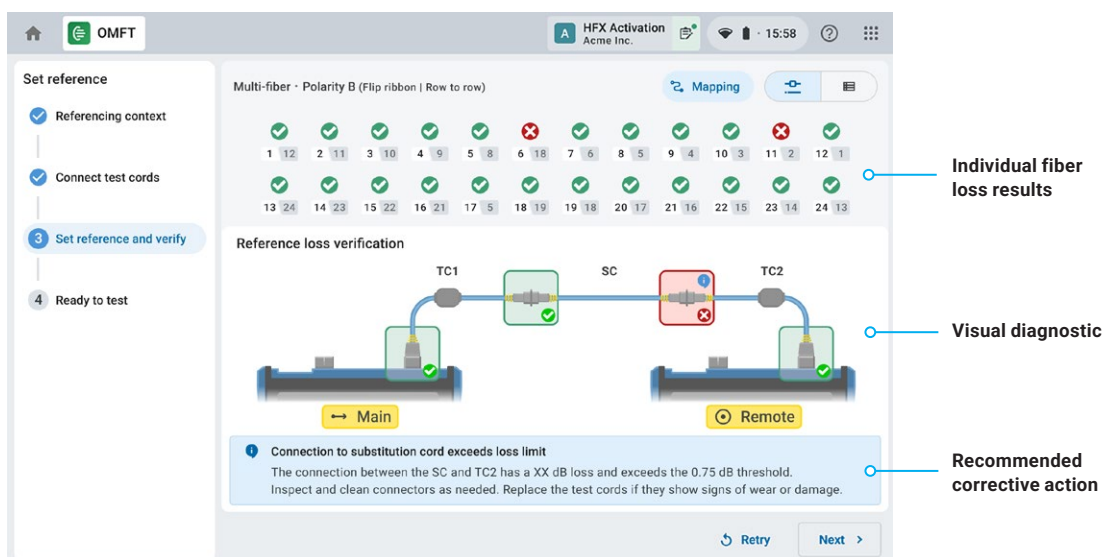


Figure 1. Reference assistant with visual diagnostic and recommended action when the reference process is failing.



### APPLICATION NOTE

Learn more about SmartRef™

[Download your free copy](#) for an in-depth read >



### WHITE PAPER

High-precision referencing in multi-fiber OLTS applications

[Get your free copy](#) >





## 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.

### FastReporter

**Advanced FastReporter capabilities included with EXFO Exchange.**

FastReporter is a consolidated data management and postprocessing solution designed to improve results quality as well as auditing and reporting productivity. When logging in to your EXFO Exchange account on your PC, you will have access to all advanced capabilities for FastReporter, including:

- Results viewer
- Advanced reporting formats (Excel, PDF, custom)
- Advanced editing
- Automated validation and results correction



Get started >



## PRODUCT OVERVIEW <sup>a</sup>

- 1 Simplex and duplex SC optical ports
- 2 Laser-active LED
- 3 Singlemode multifiber port (MPO-24)
- 4 VFL
- 5 Power meter
- 6 10/100/1000 Mbit/s Ethernet port
- 7 Two USB 3.0 ports
- 8 Charger/battery LED
- 9 USB-C PD port
- 10 Mount for hand/shoulder strap
- 11 Power on/off/stand by button
- 12 Power ON/OFF LED status indicator
- 13 Speaker
- 14 8-inch (203-mm) color touchscreen
- 15 Built-in LTE/Wi-Fi/Bluetooth radios
- 16 Kickstand



a. Model on display: FTB-LITE-975-SM1-DMF24

SPECIFICATIONS<sup>a</sup>

TECHNICAL SPECIFICATIONS – OLTS			
		For simplex and duplex connectors: FTB-LITE-HP-975-SM1-DF FTB-LITE-HP-975-SM3-DF	For simplex, duplex and multi-fiber connectors: FTB-LITE-HP-975-SM1-DMF
Testing speed	Unidirectional <sup>b</sup>	≤ 3 s	Simplex/Duplex fiber: ≤ 3 s Multi-fiber (12/24): 4/5 s
	Bidirectional	≤ 3 s	Simplex/Duplex fiber: ≤ 3 s Multi-fiber (12/24): 5/6 s
Connector interface type		Simplex- and duplex-fiber SC/APC (2 × SC/APC, uniboot-compatible)	Simplex- and duplex-fiber SC/APC (2 × SC/APC, uniboot-compatible) MPO-24 APC-pinned (male)
Wavelengths (nm)		1310 ± 20, 1550 ± 20, 1625 ± 10	1310 ± 20, 1550 ± 20
Insertion loss range (dB)			45
Total insertion loss measurement uncertainty (dB) <sup>c</sup>			±0.1
Insertion loss repeatability (dB)			±0.05
Insertion loss display resolution (dB)			0.01
ORL display resolution (dB)			0.01
Length measurement range (km)			120 <sup>d</sup>
Length measurement uncertainty (m) <sup>e</sup>			±2
ORL measurement limit (dB) <sup>f</sup>			45
ORL measurement uncertainty <sup>f,9</sup>			±1.5 dB (up to 45 dB)
Polarity types		A-B (crossover) A-A (straight)	Duplex port: A-B (crossover), A-A (straight) Multi-fiber port: A (straight ribbon), B (flip ribbon)
Laser safety		Class 1, USA FDA: 21 CFR 1040.10, EU: EN/IEC 60825-1	

OTHER TECHNICAL SPECIFICATIONS – OTDR (OPTIONAL)			
		For simplex and duplex connectors: FTB-LITE-HP-975-SM1-DF FTB-LITE-HP-975-SM3-DF	For simplex, duplex and multi-fiber connectors: FTB-LITE-HP-975-SM1-DMF24
Wavelengths (nm) <sup>c</sup>		1310 ± 20, 1550 ± 20, 1625 ± 10	1310 ± 20, 1550 ± 20
Dynamic range (dB) <sup>h</sup>		41/40/38	39/38

a. Typical. All specifications valid at 23 °C ± 2 °C with an SC/APC connector, at 1550 nm, after 15 min warm-up.

b. Two wavelengths, IL, fiber length, continuity.

c. Typical, including connector uncertainty.

d. Based on G.652 standard, for multifiber.

e. For a 5 km link, the total insertion loss is 3 dB, and the reflectance is -42 dB, excluding uncertainty related to the index of refraction.

f. At calibrated wavelengths.

g. Requires a good entry connector's health.

h. Typical dynamic range with longest pulse and three-minute averaging at SNR = 1.

**OTHER TECHNICAL SPECIFICATIONS – BUILT-IN POWER METER (GEX) (OPTIONAL) <sup>a</sup>**

Calibrated wavelengths (nm)	850, 1300, 1310, 1342, 1358, 1490, 1550, 1577, 1625, 1650
Selectable wavelengths (nm)	850, 1300, 1310, 1342, 1358, 1490, 1550, 1577, 1625, 1650
Power range (dBm) <sup>b</sup>	27 to -50
Uncertainty (%) <sup>c</sup>	±5
Display resolution (dB)	0.01 = max to -40 dBm 0.1 = -40 dBm to -50 dBm
Tone detection (Hz)	270/330/1000/2000

**OTHER TECHNICAL SPECIFICATIONS – VFL (OPTIONAL)**

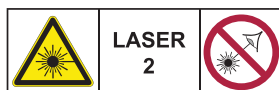
	VFL	High-Power VFL
Operation mode	Flashing (slow/fast) and continuous	Flashing (slow/fast) and continuous
Flashing frequency (Hz)	1 or 4	1 or 4
Wavelength (nm) (typical)	650	660
Emitter type	Laser	Laser
Power output (mW) (max.)	1	5
Distance range (km) (typical) <sup>d</sup>	7	12
Laser safety class	2	3R

**GENERAL SPECIFICATIONS**

Display	8-inch (203 mm), 1280×800, color touchscreen (viewable in sunlight)
Interfaces	USB-A ports (2) USB-C port with power delivery RJ45 LAN 10/100/1000 Mbit/s
RF comms <sup>e, f</sup>	Bluetooth, Wi-Fi, 2G/3G/4G LTE, GNSS (GPS/GALILEO/QZSS)
Storage	OLTS – simplex/duplex: 60,000, multi-fiber: 40,000
Battery	Rechargeable battery, up to 10 hours <sup>g</sup> of operation (bidirectional, 2 wavelengths)
Power supply	Input: AC/DC adapter, 100 to 240 V AC, 50 to 60 Hz, 1.5 A max. Output: 5 to 20 V DC, 3.0 A max., 45 W max., USB-C power delivery standard supported
Weight (including battery and module)	2.4 kg (5.3 lb)
Size (H × W × D)	198 mm × 249 mm × 71 mm (7.8 in × 9.8 in × 2.8 in)
Temperature	Operating: -10 °C to 40 °C (14 °F to 104 °F) Storage: -40 °C to 70 °C (-40 °F to 158 °F)
Relative humidity	0 % to 95 % non-condensing

**SERVICE AND CALIBRATION INFORMATION**

Warranty	1 year
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**LASER SAFETY <sup>g</sup> (COMPLIES WITH FDA 1040.10 AND IEC 60825-1:2014-05)**Without VFL (option): **IEC 60825-1:2014-05****DO NOT EXPOSE USERS OF TELESCOPIC OPTICS**With VFL (option): **IEC 60825-1:2014-05****DO NOT STARE INTO BEAM**With high-power VFL (option): **IEC 60825-1:2014-05****AVOID DIRECT EYE EXPOSURE****Applicability:**  
**Class 1M, 2M and 3R****WARNING:** Viewing the laser output with telescopic optical instruments (for example, telescopes and binoculars) may pose an eye hazard and thus the user should not direct the beam into an area where such instruments are likely to be used.

a. At 23 °C ± 1 °C, 1550 nm and FC connector. With modules in idle mode. Battery operated after 30-minute warm-up.

b. Typical.

c. At calibration conditions.

d. Depends on fiber attenuation and ambient light conditions.

e. Free 36-month basic data plan provided.

f. Restrictions may apply depending on country/region which will prevent EXFO from providing mobile connectivity. Contact EXFO for details.

g. Battery life varies significantly based on device configuration, usage, network and feature configuration, signal strength, settings and other factors.

## PURPOSE-BUILT TEST CORDS (INCLUDED)

Designed to support various types of connectors, these compact cords seamlessly adapt to a wide range of commercially available connectors. Simplex, duplex and multi-fiber test cords (12/16/24 fibers) are included with the unit to accommodate testing links with various connectors and configurations.

- 25-m long prepackaged test cords.
- Compatible with SmartRef™ for highly accurate results.



### SIMPLEX TEST CORDS

Part number	Used to test links with connector
SC-SM-SCA-SCA-25	SC/APC
SC-SM-SCA-SCU-25	SC/UPC
SC-SM-SCA-LCA-25	LC/APC
SC-SM-SCA-FCA-25	FC/APC
SC-SM-SCA-FCU-25	FC/UPC

### DUPLEX TEST CORDS

Part number	Used to test links with connector
DC-SM-SCA-SCA-25	Duplex SC/APC
DC-SM-SCA-SCU-25	Duplex SC/UPC
DC-SM-SCA-LCA-25	Duplex LC/APC
DC-SM-SCA-FCA-25	Duplex FC/APC
DC-SM-SCA-FCU-25	Duplex FC/UPC

### MULTI-FIBER TEST CORDS

Part number	Used to test links with connector
MC-MF24-SM-92F12	MPO-12/APC unpinned
MC-MF24-SM-92M12	MPO-12/APC pinned
MC-MF24-SM-92F16	MPO-16/APC unpinned
MC-MF24-SM-92M16	MPO-16/APC pinned
MC-MF24-SM-92F24	MPO-24/APC unpinned
MC-MF24-SM-92M24	MPO-24/APC pinned
MC-MF24-SM-116F16	MMC-16/APC unpinned
MC-MF24-SM-116M16	MMC-16/APC pinned
MC-MF24-SM-116F24	MMC-24/APC unpinned
MC-MF24-SM-116M24	MMC-24/APC unpinned

## SUBSTITUTION CORDS

Multi-fiber substitution cords are also offered to accommodate testing multi-fiber links with different genders, i.e., pinned (male) vs unpinned (female). When side-by-side referencing is preferred (not remote), and TC1 and TC2 genders don't match, a substitution cord must be used for reference.

### MULTI-FIBER SUBSTITUTION CORDS

Part number	To accommodate gender change
MC-MPO12-TrkPB	MPO-12/APC unpinned to pinned
MC-MPO16-TrkPB	MPO-16/APC unpinned to pinned
MC-MPO24-TrkPB	MPO-24/APC unpinned to pinned
MC-MMC16-TrkPB	MMC-16/APC unpinned to pinned
MC-MMC24-TrkPB	MMC-24/APC unpinned to pinned
MC-MPO12-JMPPB	MPO-12/APC pinned to unpinned
MC-MPO16-JMPPB	MPO-12/APC pinned to unpinned
MC-MPO24-JMPPB	MPO-24/APC pinned to unpinned
MC-MMC16-JMPPB	MMC-16/APC pinned to unpinned
MC-MMC24-JMPPB	MMC-24/APC pinned to unpinned

## ACCESSORIES (OPTIONAL)

<a href="#">GP-10-061</a>	Medium-size soft carrying case	<a href="#">GP-2242</a>	Replacement hand strap
<a href="#">GP-10-097</a>	Rigid carrying case	<a href="#">GP-2304</a>	Spare AC/DC adapter
<a href="#">GP-1008</a>	VFL adapter (2.50 mm to 1.25 mm)	GP-2318	Replacement kickstand
<a href="#">GP-2155</a>	Carry-on size backpack	GP-2324	Replacement battery
<a href="#">GP-2235</a>	Spare stylus	GP-2321	Touchscreen protector film (qty 5)
GP-2320	Utility glove		

[GP-10-061](#)[GP-10-097](#)[GP-1008](#)[GP-2155](#)[GP-2235](#)[GP-2242](#)[GP-2304](#)

## ORDERING INFORMATION

## FTB-Lite-975-XX-XX-XX-XX-XX-XX-XX

## Optical configuration

- [SM1-DF](#) = SM simplex/duplex fiber, 1310/1550 nm
- [SM3-DF](#) = SM simplex/duplex fiber, 1310/1550/1625 nm
- [SM1-MF24](#) = SM simplex/duplex/multifiber 24, 1310/1550 nm

## Base hardware

- [OLTS](#) = OLTS capabilities
- [iOLMC](#) = OTDR-based capabilities (iOLM), including OLTS capabilities

## Power meter and VFL

- [00](#) = Without power meter or VFL
- [VFL](#) = Visual fault locator
- [VFLHP](#) = High power VFL
- [VPM2X](#) = VFL and power meter; GeX detector
- [VPM2XHP](#) = High-power VFL and power meter; GeX detector

## Connectivity

- [FRF](#) = With full RF capability (LTE, GNSS, Wi-Fi and Bluetooth)

## Single-fiber test cord

- [SC-SM-SCA-SCA-25](#) = SM SC/APC, 25 m
- [SC-SM-SCA-SCU-25](#) = SM SC/UPC, 25 m
- [SC-SM-SCA-LCA-25](#) = SM LC/APC, 25 m
- [SC-SM-SCA-LCU-25](#) = SM LC/UPC, 25 m
- [SC-SM-SCA-FCA-25](#) = SM FC/APC, 25 m
- [SC-SM-SCA-FCU-25](#) = SM FC/UPC, 25 m

## Duplex-fiber test cord

- [DC-SM-SCA-SCA-25](#) = SM duplex SC/APC, 25 m
- [DC-SM-SCA-SCU-25](#) = SM duplex SC/UPC, 25 m
- [DC-SM-SCA-LCA-25](#) = SM duplex LC/APC, 25 m
- [DC-SM-SCA-LCU-25](#) = SM duplex LC/UPC, 25 m
- [DC-SM-SCA-MDCA-25](#) = SM duplex MDC/APC, 25 m
- [DC-SM-SCA-MDCU-25](#) = SM duplex MDC/UPC, 25 m

## Multi-fiber test cord

- [MC-MF24-SM-92F12](#) = SM MPO-12/APC unpinned (female), 25 m
- [MC-MF24-SM-92M12](#) = SM MPO-12/APC pinned (male), 25 m
- [MC-MF24-SM-92F16](#) = SM MPO-16/APC unpinned (female), 25 m
- [MC-MF24-SM-92M16](#) = SM MPO-16/APC pinned (male), 25 m
- [MC-MF24-SM-92F24](#) = SM MPO-24/APC unpinned (female), 25 m
- [MC-MF24-SM-92M24](#) = SM MPO-24/APC pinned (male), 25 m
- [MC-MF24-SM-116F16](#) = SM MMC-16/APC unpinned (female), 25 m
- [MC-MF24-SM-116M16](#) = SM MMC-16/APC pinned (male), 25 m
- [MC-MF24-SM-116F24](#) = SM MMC-24/APC unpinned (female), 25 m
- [MC-MF24-SM-116M24](#) = SM MMC-24/APC pinned (male), 25 m

Example: FTB-LITE-HP-975-SM1-MF24-OLTS-VPM2X

**EXFO headquarters**    T +1 418 683-0211    Toll-free +1 800 663-3936 (USA and Canada)

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