

# FTB Lite 975

SIMPLEX, DUPLEX, MULTI-FIBER  
BIDIRECTIONAL CERTIFIER

- The first and only fully automated, always-connected solution natively combining bidirectional OLTS and OTDR-ready capabilities—up to 24 fibers.



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 capabilities for fault-finding 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, validation, and troubleshooting with visual diagnostics
- Lower ownership costs: No proprietary test cable required; use standard cables and cut costs
- 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 OTDR capabilities (via upcoming software update).



**SmartRef™**  
One-touch and error-proof referencing for accurate validation; troubleshooting with visual diagnostics.



**End-to-end automation**  
From touchless FasTest™ testing through reporting and OTDR-enabled troubleshooting.



**Lower ownership costs**  
No proprietary test cable required; use standard cables and cut costs.

## 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 port-adapter design 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 HARDWARE-READY

Built with a forward-looking architecture, this test instrument is designed to evolve with your needs, with no new hardware required.

### Upcoming capabilities via simple software upgrades

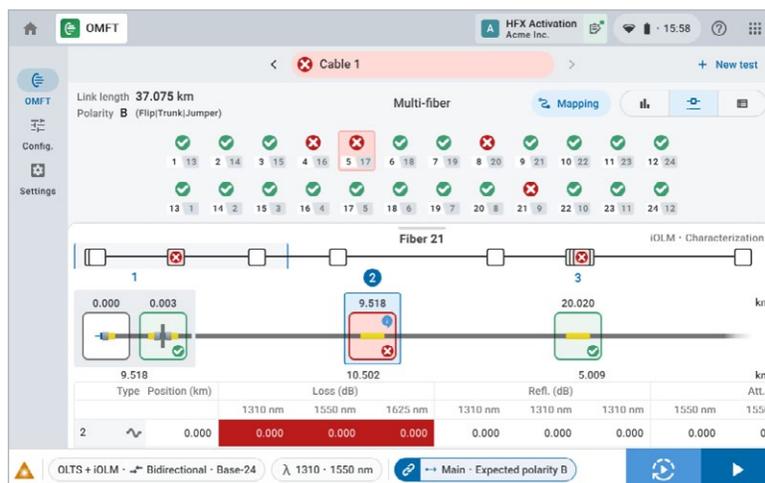
#### Fault Finder

Fault Finder is a troubleshoot-as-you-build feature to quickly find faults on links under test that exhibit a failure (e.g., breaks, bends, poor splices, or faulty connectors).

or

#### Onboard bidirectional OTDR

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?

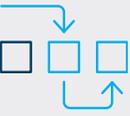
Today's networks operate with increasingly tight optical budgets. Any deviation in referencing can directly induce false negative measurements, impact pass/fail decisions and overall confidence in the infrastructure.

## 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:

 <p><b>High-accuracy</b> Runs an automatic process in one-step, optimized for multifiber connections, to minimize errors and false negatives—backed by <math>\pm 0.1</math> dB IL measurement uncertainty.</p>	 <p><b>Remote</b> Reduces dispatches by referencing 2 units remotely using the fiber under test (FUT), up to 10 km.</p>	 <p><b>Visual diagnostic</b> Eliminates guesswork with detailed visual diagnostics of each individual fiber on the link (24F, duplex, simplex).</p>	 <p><b>Flexibility</b> Allows flexible and precise referencing, every time, for all connector types—a major innovation.</p>
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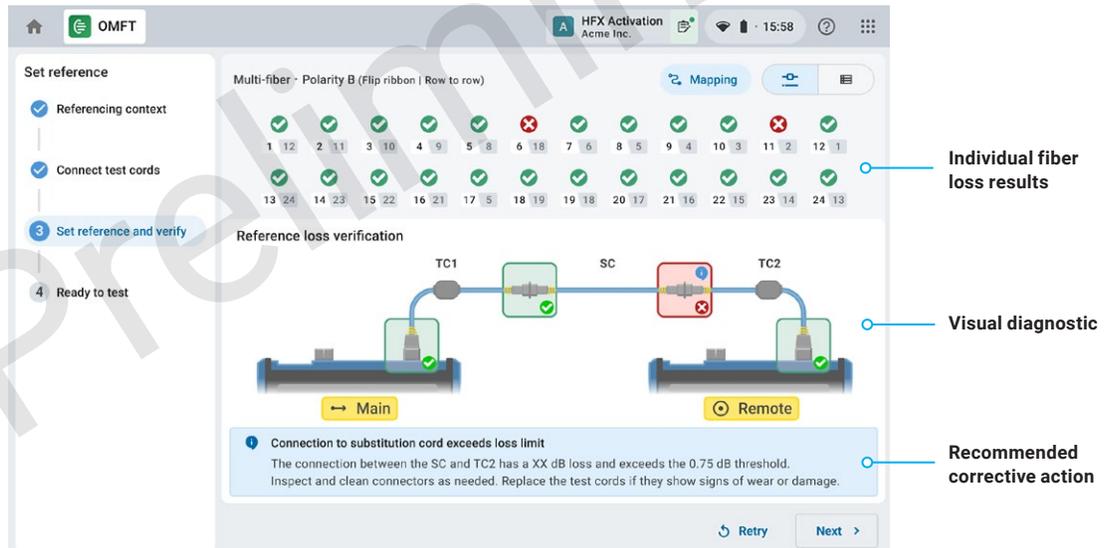


Figure 1. Reference assistant with visual diagnostic and recommended action when the reference process is failing.



### APPLICATION NOTE

Learn more about SmartRef™ and the benefits of this innovation.

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





## HOW CONFIDENT ARE YOU ABOUT YOUR TEST PROCEDURES BEING FOLLOWED?

The FTB Lite 975 Series builds upon EXFO's innovation in OTDR testing with a secure, rugged mobile-connected platform.

EXFO's FTB Lite 975 Series features always-on mobile connectivity, designed to solve issues, such as lack of compliance and expertise, inefficient processes, and delays in getting the latest updates.

**Always-on mobile connectivity** provides:

1. **Streamlined compliance and automated validation:** Automated job tracking and real-time reporting confirm adherence to methods of procedure (MoP) ensure compliance with testing standards while reducing errors and administration time.
2. **Enhanced collaboration and efficiency:** Real-time data sharing, automated uploads, and cloud-based reporting enable seamless teamwork, faster decision-making, and accelerated project timelines.
3. **Valuable insights:** Automated access to comprehensive live data to perform analytics and extract insights, enabling informed decision-making and planning.



### 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

- 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



SPECIFICATIONS <sup>a</sup>

TECHNICAL SPECIFICATIONS – OLTS		
Models	For simplex and duplex connectors: <b>FTB-LITE-HP-975-SM1-DF</b> <b>FTB-LITE-HP-975-SM3-DF</b>	For simplex, duplex and multi-fiber connectors: <b>FTB-LITE-HP-975-SM1-DMF</b>
Testing speed	Unidirectional <sup>b</sup>	Typical Simplex/Duplex fiber: ≤ 3 s Multi-fiber (12/24): 4/5 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,g</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

TECHNICAL SPECIFICATIONS – OTDR (HARDWARE-READY, FUTURE SOFTWARE OPTION)		
Models	For simplex and duplex connectors: <b>FTB-LITE-HP-975-SM1-DF</b> <b>FTB-LITE-HP-975-SM3-DF</b>	For simplex, duplex and multi-fiber connectors: <b>FTB-LITE-HP-975-SM1-DMF24</b>
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. All specifications valid at 23 °C ± 2 °C with an SC/APC connector, at 1550 nm.

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.

## 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>a, b</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>c</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
Warranty (year)	1

BUILT-IN POWER METER SPECIFICATIONS (GeX) (OPTIONAL) <sup>d</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>e</sup>	27 to -50
Uncertainty (%) <sup>f</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

VFL SPECIFICATIONS	VFL (OPTIONAL)	HIGH-POWER VFL (OPTIONAL)
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>g</sup>	7	12
Laser safety class	2	3R

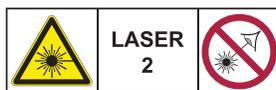
LASER SAFETY <sup>g</sup> (COMPLIES WITH FDA 1040.10 AND IEC 60825-1:2014-05)

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. Free 36-month basic data plan provided.

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

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

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

e. Typical.

f. At calibration conditions.

g. Depends on fiber attenuation and ambient light conditions.

## PURPOSE-BUILT TEST CORDS

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 offered to accommodate testing links with various connectors and configurations.

- 25-m long prepackaged test cords.
- Compatible with SmartRef™ for highly accurate results.
- Used in replacement of the port adapter.



## Port adapter

The port adapter is designed to support various types of connectors, allowing the use of standard 25-m tests cords instead of proprietary test cords.

### SINGLE-FIBER 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-FIBER 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).

### 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		

## ORDERING INFORMATION

## FTB-Lite-HP-975-XX-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-DMF24 = SM simplex/duplex/multifiber 24, 1310/1550 nm

## Base software

- OLTS = 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

## Multi-Fiber substitution cords

- MC-MPO12-TrkPB = SM MPO-12/APC pinned (male) to MPO-12/APC pinned (male), polarity type B, 25 m
- MC-MPO16-TrkPB = SM MPO-16/APC pinned (male) to MPO-16/APC pinned (male), polarity type B, 25 m
- MC-MPO24-TrkPB = SM MPO-24/APC pinned (male) to MPO-24/APC pinned (male), polarity type B, 25 m
- MC-MMC16-TrkPB = SM MMC-16/APC pinned (male) to MMC-16/APC pinned (male), polarity type B, 25 m
- MC-MMC24-TrkPB = SM MMC-24/APC pinned (male) to MMC-24/APC pinned (male), polarity type B, 25 m
- MC-MPO12-JMPPB = SM MPO-12/APC unpinned (female) to MPO-12/APC unpinned (female), polarity type B, 25 m
- MC-MPO16-JMPPB = SM MPO-16/APC unpinned (female) to MPO-16/APC unpinned (female), polarity type B, 25 m
- MC-MPO24-JMPPB = SM MPO-24/APC unpinned (female) to MPO-24/APC unpinned (female), polarity type B, 25 m
- MC-MMC16-JMPPB = SM MMC-16/APC unpinned (female) to MMC-16/APC unpinned (female), polarity type B, 25 m
- MC-MMC24-JMPPB = SM MMC-24/APC unpinned (female) to MMC-24/APC unpinned (female), polarity type B, 25 m

Example: FTB-LITE-HP-975-DMF24-SM1-OLTS-VPM2X

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