

# MaxTester 720D access OTDR

OPTIMIZED FOR MULTIMODE AND SINGLEMODE ACCESS NETWORK CONSTRUCTION AND TROUBLESHOOTING



Fully featured, entry-level, dedicated OTDR with tablet-inspired design; perfect for construction, troubleshooting and everyday field testing in any access network.

COMPATIBLE WITH  
**EXchange**



**iOLM  
READY**



3-year  
warranty



Swap-Out  
connectors



ISE  
NETWORK  
INNOVATORS'  
AWARDS  
**3.5**

## KEY FEATURES

- Rugged, handy, lightweight, tablet-inspired design built for outside plant
- 7-inch, outdoor-enhanced touchscreen—the biggest in the handheld industry
- 12-hour autonomy
- Dynamic range of up to 36 dB in singlemode (SM) and 29 dB in multimode (MM)
- Event dead zone (EDZ) / Attenuation dead zone (ADZ): 0.7/2.5 m in SM; 0.5/2 m in MM, PON dead zone 35 m in SM
- Live and dark fiber characterization, troubleshooting and activation through the same OTDR port
- FTTx in-service OTDR testing at 1650 nm with optional in-line GPON/XGS-PON power meter
- OTDR, light source and power checker through single port to optimize the fiber handling process
- Swap-Out connector, replaceable whenever necessary for optimal performance over time without undue service cost and downtime
- iOLM-ready: one-touch multiple acquisitions, with clear go/no-go results presented in a straightforward visual format
- 3-year warranty
- SM and quad SM/MM versions available

## APPLICATIONS

- Access network construction and troubleshooting
- FTTx/PON testing through splitters (up to 1x32)
- FTTx service activation: GPON, EPON, XGS-PON, 10GE EPON
- Central office link certification
- Data center and private networks (Tier-2 certification)
- LAN/WAN characterization
- Fronthaul/backhaul (FTTA, FTTT, RRH, DAS and small cells)

## RELATED PRODUCTS AND ACCESSORIES



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

**FastReporter**

Advanced data  
post-processing software



Soft pulse suppressor bag  
SPSB



SM Swap-Out  
connector



MM Swap-Out  
connector

## THE HANDHELD OTDR... WITH PROVEN PERFORMANCE

The MaxTester 700D Series builds on the proven tablet-inspired, lightweight and rugged OTDR MaxTester platform. The familiar 7-inch, outdoor-enhanced touchscreen continues to deliver an unprecedented user experience with its intuitive Windows-like GUI ensures a fast learning curve. The OTDR environment offers icon-based functions, instant boot-up, automatic macrobend finders as well as improved auto and real-time modes.

The MaxTester 700D Series is a line of genuine high-performance OTDRs from the world's leading manufacturer. It delivers EXFO's tried and true OTDR quality and accuracy along with the best optical performance for right-first-time results, every time.

The amazing 12-hour battery life will never let a technician down, and the plug-and-play hardware options, like the VFL, power meter and USB tools, make every technician's job easier.

Most importantly, the MaxTester 700D Series comes with the intelligent Optical Link Mapper (iOLM), an intelligent OTDR-based application. This advanced software turns even the most complex trace analysis into a simple, one-touch task.

Ultimately, the MaxTester 700D Series is small enough to fit in your hand and big enough to fit all your needs!

## ENTRY-LEVEL SOLUTION DESIGNED FOR ALL YOUR TESTING NEEDS

The MaxTester 720D OTDR/iOLM features a dynamic range of 36 dB in singlemode and 29 dB in multimode, as well as industry-leading dead zones. This ensures efficient testing of closely spaced events such as patchcords in data centers, or patch panels in central offices (COs). The MaxTester 720D is optimized for point-to-point (P2P) testing of any access network, and is suitable for testing through 1x32 splitters.

The 1650-nm, out-of-band, live testing capabilities enable efficient troubleshooting of active networks without impacting the signal of other clients.

## SWAP-OUT CONNECTOR

The MaxTester 700D OTDR Series comes with a Swap-Out connector which can easily be changed, as and when needed, without having to send the test unit to a service center. This ensures optimal performance over time without undue maintenance costs and downtime. The OTDR's optical connector health can be checked with an onboard diagnostic tool to replace the connector only when necessary.

Your calibration date remains valid, even after swapping the connector. No need to calibrate your unit sooner than planned.

## SECURE YOUR INVESTMENT AGAINST THEFT

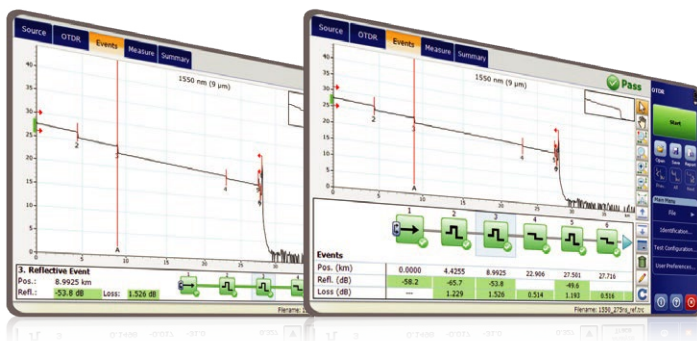
Protected instruments have no value on the black market making them completely unappealing to thieves. With our security management option, administrators can define and load a tamper-proof security profile on the MaxTester, displaying a property message on the home screen and securing it with a user password (permanent or renewable).



## LOOKING FOR ICON-BASED MAPPING?

### Linear view (included with all EXFO OTDRs)

Available on our OTDRs since 2006, the linear view simplifies the reading of an OTDR trace by displaying icons in a linear way for each wavelength. This view converts the graph data points obtained from a traditional single pulse trace into reflective, non-reflective or splitter icons. With applied pass/fail thresholds, it becomes easier to pinpoint faults on your link.



This improved version of linear view provides the flexibility to display both the OTDR graph and its linear view without having to toggle to analyze your fiber link.

Although this linear view simplifies the OTDR reading of a single pulse width's trace, the user will still need to set the OTDR parameters. In addition, multiple traces must often be performed in order to fully characterize the fiber links. See the section below to learn how the iOLM can perform this automatically and with more accurate results.

**iOLM** | intelligent Optical Link Mapper

**iOLM—REMOVING THE COMPLEXITY FROM OTDR TESTING**

OTDR testing comes with its load of challenges...



**WRONG OTDR TRACES**



**COUNTLESS TRACES TO ANALYZE**



**REPEATING THE SAME JOB TWICE**



**COMPLEX INSTRUMENT TRAINING/SUPPORT**

**In response to these challenges, EXFO developed a better way to test fiber optics:** The iOLM is an OTDR-based application designed to simplify OTDR testing by eliminating the need to configure parameters, and/or analyze and interpret multiple complex OTDR traces. Its advanced algorithms dynamically define the testing parameters, as well as the number of acquisitions that best fit the network under test. By correlating multipulse widths on multiple wavelengths, the iOLM locates and identifies faults with maximum resolution—all at the push of a single button.

**How does it work?**



Turning traditional OTDR testing into clear, automated, first-time-right results for technicians of any skill level.

**Three ways to benefit from the iOLM**

**COMBO**



Run both iOLM and OTDR applications (Oi code)

**UPGRADE**



Add the iOLM software option to your iOLM-ready unit, even while in the field

**iOLM ONLY**



Order a unit with the iOLM application only

**iOLM features value pack and options**

In addition to the standard iOLM feature set, you can select added-value features as part of the **Advanced** packages or standalone options. Please refer to the [iOLM specification sheet](#) for the complete and most recent description of these features.

**iOLM Standard**

- Dynamic multipulse multiwavelength acquisition
- Intelligent traces analysis and diagnostics
- Single link view and event table
- SOR trace generation
- Single iOLM file per link for easy reporting
- **Optimode:** Short-link close events, fast short link, fast medium range

**iOLM Advanced (iADV)<sup>a</sup>**

- Real-time OTDR
- SOR pulse and wavelength editor
- SOR trace view
- Custom elements
- Advanced link edition and re-analysis
- 2:N splitter characterization
- **Optimode:** SFP-safe troubleshooting<sup>b</sup>

**iLOOP<sup>a</sup>**

- iOLM loopback (uni- or bidirectional)<sup>b</sup>
- iOLM automated bidirectional analysis over TestFlow<sup>b, c</sup>

**iCERT<sup>a</sup>**

- Cabling certification option

a. Require enabling iOLM standard.  
 b. SM only, configuration without splitter.  
 c. Requires TestFlow subscription.

# 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		•

Table 1. Comparison of basic and full versions of FastReporter (version 3).

## TROUBLESHOOTING HIGH-SPEED MULTIMODE NETWORKS WITH ENCIRCLED FLUX

Whether for expanding enterprise-class businesses or large-volume data centers, new high-speed data networks built with multimode fibers are running under tighter tolerances than ever before. In the event of failure, intelligent and accurate test tools are needed to quickly find and fix the fault.

Multimode fibers are the trickiest links to test, because the test results are highly dependent on each device's output conditions. Troubleshooting with a unit other than the construction unit may mislead the technician or result in the inability to find the fault, creating longer network downtimes.

For multimode fibers, EXFO recommends using an external launch mode conditioner that is Encircled Flux (EF)-compliant. The EF standard (as recommended in TIA-568 via TIA-526-14-B and IEC 61280-4-1 Ed. 2.0) is a way of controlling the source launch conditions so that tier-2 troubleshooting can be performed with maximum accuracy and consistency.



## OPTICAL PLUG-AND-PLAY OPTIONS

The MaxTester features plug-and-play optical options that can be purchased whenever you need them: at the time of your order or later on. In either case, installation is a snap, and can be performed by the user without the need for any software update.

### Optical power meter

EXFO's high-level power meter (GeX) can measure up to 27 dBm, the highest in the industry. This is essential for hybrid fiber-coaxial (HFC) networks or high-power signals. If used with an auto-lambda/auto-switching compatible light source, the power meter automatically synchronizes on the same wavelength, thus avoiding any risk of mismatched measurement.

### Visual fault locator (VFL)

The plug-and-play VFL easily identifies breaks, bends, faulty connectors and splices, in addition to other causes of signal loss. This basic, yet essential troubleshooting tool should be part of every field technician's toolbox. The VFL visually locates and detects faults over distances of up to 5 km by creating a bright-red glow at the exact location of the fault on singlemode or multimode fibers (available with the optical power meter only).

## FIBER CONNECTOR INSPECTION AND CERTIFICATION – THE ESSENTIAL FIRST STEP BEFORE ANY OTDR TESTING

Taking the time to properly inspect a fiber-optic connector using an EXFO fiber inspection scope can prevent a host of issues from arising further down the line, thus saving you time, money and trouble. Moreover, using a fully automated solution with autofocus capabilities will turn this critical inspection phase into a fast and hassle-free one-step process.

### Did you know that the connector of your OTDR/iOLM is also critical?

The presence of a dirty connector at an OTDR port or launch cable can negatively impact your test results, and even cause permanent damage during mating. Therefore, it is critical to regularly inspect these connectors to ensure that they are free of any contamination. Making inspection the first step is a proven best practice that will maximize your OTDR performance and your efficiency.



FEATURES	USB WIRED FIP-430B	WIRELESS FIP-435B	AUTONOMOUS FIP-500
Image capture	•	•	•
Five-megapixel CMOS capturing device	•	•	•
Automatic fiber image-centering function and focus adjustment	•	•	•
Automatic fiber image-focus adjustment	•	•	•
On-board 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			•
On-board touch screen and data storage			•
SmarTips with automated thresholds and quick-connect mechanism			•

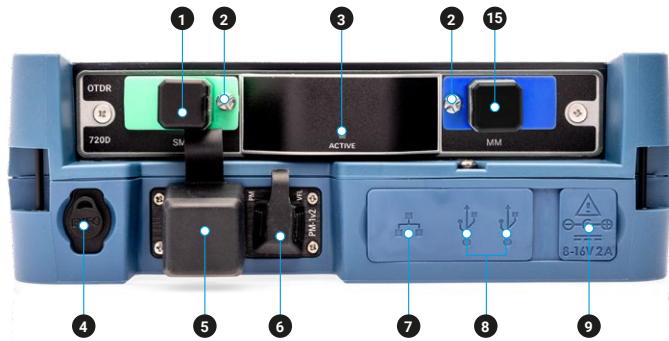
For more information, visit [www.EXFO.com/fiberinspection](http://www.EXFO.com/fiberinspection).

**SOFTWARE UTILITIES**

Software update	Ensure that your MaxTester is up-to-date with the latest software.
VNC configuration	The Virtual Network Computing (VNC) utility allows technicians to easily remote control the unit via a computer or laptop.
Data mover	Transfer all your daily test results quickly and easily.
Centralized documentation	Instant access to user guides and other relevant documents.
PDF Reader	View your reports in PDF format.
Bluetooth file sharing	Share files between your MaxTester and any Bluetooth-enabled device.
WiFi connection	WiFi FIP inspection scope interface. Upload test results.
Inspection scope	USB or WiFi scope to inspect and analyze connectors.
FTP server	Exchange files over WiFi to an FTP application on a smartphone for easier file sharing from the field.
Security management	Tamper-proof security profile with user password (permanent or renewable) and custom property message.

**PACKAGED FOR EFFICIENCY**

- 1 SM/Live OTDR port
- 2 Swap out connector screw
- 3 Testing LED indicator
- 4 Stylus
- 5 Power meter
- 6 Visual fault locator
- 7 10/100 Mbit/s Ethernet port
- 8 Two USB 2.0 ports
- 9 AC adapter
- 10 Home/switch application and screen capture (hold)
- 11 Power on/off/stand by
- 12 Battery LED status
- 13 Built-in WiFi/Bluetooth
- 14 Stand support
- 15 MM OTDR port on quad model



# Exchange

**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



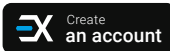
Unlock insights to see what matters

## 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.



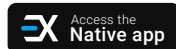
2

### 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).



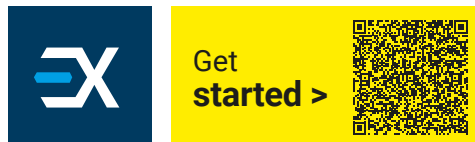
For MaxTester and FTB users, install the native app.



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.



## SPECIFICATIONS<sup>a</sup>

TECHNICAL SPECIFICATIONS	
Display	7-in (178-mm) outdoor-enhanced touchscreen, 800 x 480 TFT
Interfaces	Two USB 2.0 ports RJ45 LAN 10/100 Mbit/s
Storage	2 GB internal memory (20 000 OTDR traces, typical)
Batteries	Rechargeable lithium-polymer battery 12 hours of operation as per Telcordia (Bellcore) TR-NWT-001138
Power supply	Power supply AC/DC adapter, input 100-240 VAC, 50-60 Hz
Wavelength (nm) <sup>b</sup>	850 ± 20/1300 ± 20/1310 ± 30/1550 ± 30/1650 ± 15
Live wavelength (nm)	1650 Isolation: 50 dB from 1265 nm to 1617 nm
Dynamic range (dB) <sup>c</sup>	27/29/36/35/35
Event dead zone (m) <sup>d</sup>	SM: 0.7 MM: 0.5
Attenuation dead zone (m)	SM: 2.5 <sup>e</sup> MM: 2 <sup>f</sup>
PON dead zone (m) <sup>g</sup>	35
Distance range (km)	MM: 0.1 to 40 SM: 0.1 to 260
Pulse width (ns)	MM: 3 to 1000 SM: 3 to 20 000
MM launch conditions <sup>h</sup>	EF-compliant
Linearity (dB/dB)	±0.03
Loss threshold (dB)	0.01
Loss resolution (dB)	0.001
Sampling resolution (m)	MM: 0.04 to 5 SM: 0.04 to 10
Sampling points	Up to 256 000
Distance uncertainty (m) <sup>i</sup>	±(0.75 + 0.0025 % x distance + sampling resolution)
Measurement time	User-defined
Reflectance accuracy (dB) <sup>b</sup>	±2
Typical real-time refresh (Hz)	4

## IN-LINE POWER CHECKER<sup>b, l, m</sup>

Power range (dBm)	-60 to 23
Power uncertainty (dB) <sup>j, k</sup>	±0.5
Calibrated wavelengths (nm)	1310, 1490, 1550, 1625, 1650
Selectable wavelengths (nm)	1310, 1490, 1550, 1577, 1625, 1650
Tone detection	270 Hz/330 Hz/1 kHz/2 kHz

a. All specifications valid at 23 °C ± 2 °C with an FC/APC connector, unless otherwise specified.

b. Typical.

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

d. Typical, for reflectance of -55 dB in SM and -45 dB in MM.

e. Typical, for reflectance at -55 dB, using a 3-ns pulse.

f. Typical, for reflectance at -45 dB, using a 3-ns pulse.

g. Non-reflective FUT, non-reflective splitter, 13-dB loss, 50-ns pulse in SM, typical value.

h. Compliant with Encircled Flux TIA-526-14-B and IEC 61280-4-1 Ed. 2.0 using an external EF conditioner (SPSB-EF-C-30).

i. Does not include uncertainty due to fiber index.

j. At calibrated wavelengths.

k. Requires a good entry connector's health.

l. Not available when OPM2 is selected.

m. Specifications valid when OTDR not in operation or in idle mode.



**TECHNICAL SPECIFICATIONS (in-line PON power meter with OPM2 in option)<sup>a, b</sup>**

Power range (dBm)	-60 to 23
PON power meter (nm)	Two channels: 1490/1550 and 1490/1577
Power uncertainty (dB) <sup>f, h</sup>	±0.5
Calibrated wavelengths (nm)	1310, 1490, 1550, 1625, 1650
Selectable wavelengths (nm)	1310, 1490, 1550, 1577, 1625, 1650, 1490/1550, 1490/1577

**SOURCE**

Output power (dBm) <sup>d</sup>	MM: -2	SM: -8
Modulation	CW, 270 Hz, 330 Hz, 1 kHz, 2 kHz	

**GENERAL SPECIFICATIONS**

Size (H x W x D)	166 mm x 200 mm x 68 mm (6 9/16 in x 7 7/8 in x 2 3/4 in)
Weight (with battery)	1.5 kg (3.3 lb)
Temperature	Operating: -10 °C to 50 °C (14 °F to 122 °F) Storage: -40 °C to 70 °C (-40 °F to 158 °F) <sup>c</sup>
Relative humidity	0 % to 95 % non-condensing

**BUILT-IN POWER METER SPECIFICATIONS (GeX) (optional)<sup>e</sup>**

Calibrated wavelengths (nm)	850, 1300, 1310, 1490, 1550, 1577, 1625, 1650
Selectable wavelengths (nm)	850, 1300, 1310, 1490, 1550, 1577, 1625, 1650
Power range (dBm) <sup>a</sup>	27 to -50
Uncertainty (%) <sup>f</sup>	±5 % ± 10 nW
Display resolution (dB)	0.01 = max to -40 dBm 0.1 = -40 dBm to -50 dBm
Automatic offset nulling range <sup>a, g</sup>	Max power to -30 dBm
Tone detection (Hz)	270/330/1000/2000

**ACCESSORIES (optional)**

GP-10-061	Soft carrying case	GP-2209	Spare battery
GP-10-072	Semi-rigid carrying case	GP-2240	Utility glove
GP-10-100	Rigid carrying case	GP-2242	Replacement hand strap
GP-1008	VFL adapter (2.50 mm to 1.25 mm)	GP-2243	Spare AC/DC adapter (specify country power cord)
GP-2155	Carry-on size backpack	GP-3115	Kickstand
GP-2205	DC vehicle battery-charging adaptor (12 V)	SPSB-EF-C30	Encircled Flux launch cables (specify connectors)
GP-2208	Spare stylus		

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

Laser, 650 nm ± 10 nm
CW/Modulate 1 Hz
Typical P <sub>out</sub> in 62.5/125 µm: > -1.5 dBm (0.7 mW)
Laser safety: Class 2

**LASER SAFETY (Complies with FDA 1040.10 and IEC 60825-1:2014-05)**

 With VFL (option):  
**IEC 60825-1:2014-05**

 Without VFL (option):  
**IEC 60825-1:2014-05**

**Applicability: Class 1M & 2M**

**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. Typical.

b. Specifications valid when OTDR not in operation or in idle mode.

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

d. Typical output power is given at 1300 nm for MM output and 1550 nm for SM output.

e. At 23 °C ± 1 °C, 1550 nm and FC connector. With modules in idle mode. Battery operated after 20-minute warm-up.

f. At calibration conditions.

g. For ±0.05 dB, from 10 °C to 30 °C.

h. Requires a good entry connector's health.