

# MaxTester 715B Last-Mile OTDR

POINT-TO-POINT (P2P) LINKS, LAST-MILE INSTALLATION AND TROUBLESHOOTING



iOLM  
READY

EXFO Connect  
Compatible



Fully featured, entry-level, dedicated OTDR with tablet-inspired design perfect for frontline singlemode fiber installers.

## KEY FEATURES

- Handy, lightweight, powerful, tablet-inspired design
- 7-inch, outdoor-enhanced touchscreen—the biggest in the handheld industry
- 12-hour autonomy
- Dead zones: EDZ 1 m, ADZ 4 m
- Dynamic range of 30/28/28 dB
- Rugged design built for outside plant
- iOLM-ready: intelligent and dynamic application that turns complex OTDR trace analysis into a one-touch task

## APPLICATIONS

- FTTx last-mile installation and troubleshooting
- Short access-network testing
- FTTA fiber-DAS installations
- CATV/HFC network testing

## COMPLEMENTARY PRODUCTS AND OPTIONS



Fiber Inspection Probe  
FIP-400B (Wi-Fi or USB)



Data Post-Processing Software  
FastReporter 2



Soft Pulse Suppressor Bag  
SPSB

EXFO

## THE HANDHELD OTDR... REINVENTED.

The MAX-700B/C Series is the first tablet-inspired OTDR line that is handy, lightweight and rugged enough for any outside plant environment. With a 7-inch, outdoor-enhanced touchscreen—the most efficient handheld display in the industry—it delivers an unprecedented user experience. Its intuitive Windows-like GUI ensures a fast learning curve. Plus, its new and improved OTDR 2 environment offers icon-based functions, instant boot-up, automatic macrobend finders as well as improved auto and real-time modes.

The Max-700B/C 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 Max-700B/C Series is finally bringing the iOLM, an intelligent OTDR-based application, to the handheld market. This advanced software turns even the most complex trace analysis into a simple, one-touch task.

Ultimately, the Max-700B/C Series is small enough to fit in your hand and big enough to fit all your needs!

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

The MAX-715B OTDR/iOLM is optimized for the point-to-point testing and troubleshooting of FTTx architectures, and is ideal for testing short fibers (e.g., inside a CO environment or at FTTH/DAS network installations).

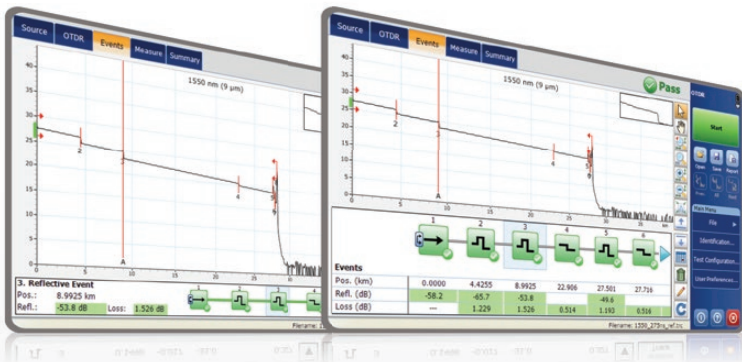
Other models available:

- › MAX-720C LAN/WAN Access OTDR—optimized for multimode and singlemode access network installation and maintenance (36 dB)
- › MAX-730C PON/Metro OTDR—optimized for FTTx/MDU and short metro fiber deployments and troubleshooting (39 dB)

## LOOKING FOR ICON-BASED MAPPING?

### Linear View (Included on All EXFO OTDRs)

Available on our OTDRs since 2006, linear view simplifies interpretation 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 or non-reflective icons. With applied pass/fail thresholds, it becomes easier to pinpoint faults on your link.



This improved linear view offers you the flexibility to display both the OTDR graph and its linear view without having to perform a toggle to analyze your fiber link.

Although this linear view simplifies OTDR interpretation of a single pulse-width trace, the user must still 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 about how the iOLM can perform this automatically and with more accurate results.

## 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

**iOLM** | intelligent Optical Link Mapper

**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?

Dynamic multipulse acquisition



Intelligent trace analysis



All results combined into a single link view



Comprehensive diagnosis



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

Patent protection applies to the intelligent Optical Link Mapper, including its proprietary measurement software. EXFO's Universal Interface is protected by US patent 6,612,750.

### 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

In addition to the standard iOLM feature set, you can select added-value features as part of the **Advanced** or **Pro** packages. Please refer to the intelligent Optical Link Mapper (iOLM) specification sheet for the complete and most recent description of these value packs.

## GET THE BEST OUT OF YOUR DATA POST-PROCESSING



### ONE SOFTWARE DOES IT ALL

This powerful reporting software is the perfect complement to your OTDR. It allows creating and customizing reports to fully address your needs.



## 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

A high-level power meter (GeX) that 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.

- › Extensive range of connectors
- › Auto-lambda and auto-switching
- › Offers measurement storage and reporting
- › Seven standard calibrated wavelengths

### 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 probe 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 of your OTDR best practices will maximize the performances of your OTDR and your efficiency.



## FIVE MODELS TO FIT YOUR BUDGET

FEATURES	USB WIRED			WIRELESS	
	Basic FIP-410B	Semi-Automated FIP-420B	Fully-Automated FIP-430B	Semi-Automated FIP-425B	Fully-Automated FIP-435B
Three magnification levels	✓	✓	✓	✓	✓
Image capture	✓	✓	✓	✓	✓
Five-megapixel CMOS capturing device	✓	✓	✓	✓	✓
Automatic fiber image-centering function	X	✓	✓	✓	✓
Automatic focus adjustment	X	X	✓	X	✓
Onboard pass/fail analysis	X	✓	✓	✓	✓
Pass/fail LED indicator	X	✓	✓	✓	✓
Wi-Fi Connectivity	X	X	X	✓	✓

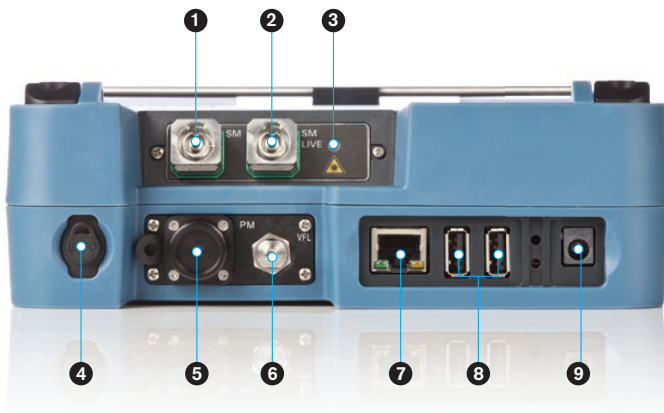
For additional information, please refer to the FIP-400B USB or FIP-400B wireless specification sheets.

## SOFTWARE UTILITIES

<b>Software update</b>	Ensure that your MaxTester is up-to-date with the latest software.
<b>VNC configuration</b>	The Virtual Network Computing utility allows technicians to easily remote control the unit via a computer or laptop.
<b>Microsoft Internet Explorer</b>	Access the Web directly from your device interface.
<b>Data mover</b>	Transfer all your daily test results quickly and easily.
<b>Centralized documentation</b>	Instant access to user guides and other relevant documents.
<b>Wallpapers</b>	Enhance your work environment with colorful and scenic backgrounds.
<b>PDF Reader</b>	View your reports in PDF format.
<b>Bluetooth file sharing</b>	Share files between your MaxTester and any Bluetooth-enabled device.
<b>Wi-Fi connection</b>	FiP Wi-Fi probe interface, upload test results and browse the Internet.
<b>Inspection probe</b>	USB probe to inspect and analyze connectors.

## PACKAGED FOR EFFICIENCY

- |  |  |  |
|--|--|--|
| <ul style="list-style-type: none"> <li>1 Singlemode OTDR port</li> <li>2 In-service testing OTDR port</li> <li>3 Testing LED indicator</li> <li>4 Stylus</li> <li>5 Power meter</li> </ul> | <ul style="list-style-type: none"> <li>6 Visual fault locator</li> <li>7 10/100 Mbit/s Ethernet port</li> <li>8 Two USB 2.0 ports</li> <li>9 AC adapter</li> <li>10 Home/switch application and screen capture (hold)</li> </ul> | <ul style="list-style-type: none"> <li>11 Power on/off/stand by</li> <li>12 Battery LED status</li> <li>13 Built-in Wi-Fi/Bluetooth</li> <li>14 Stand support</li> </ul> |
|--|--|--|



SPECIFICATIONS<sup>a</sup>

TECHNICAL SPECIFICATIONS	MAXTESTER 715B
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, 9-16 V DCIN 15 Watts minimum
Wavelength (nm) <sup>b</sup>	1310 ± 30/1550 ± 30/1625 ± 20
Dynamic range (dB) <sup>c</sup>	30/28/28
Event dead zone (m) <sup>d</sup>	1
Attenuation dead zone (m) <sup>e</sup>	4
Distance range (km)	0.1 to 160
Pulse width (ns)	5 to 20 000
Linearity (dB/dB)	±0.05
Loss threshold (dB)	0.01
Loss resolution (dB)	0.001
Sampling resolution (m)	0.04 to 5
Sampling points	Up to 256 000
Distance uncertainty (m) <sup>f</sup>	±(0.75 + 0.005 % x distance + sampling resolution)
Measurement time	User-defined (maximum: 60 minutes)
Reflectance accuracy (dB)	±2
Typical real-time refresh (Hz)	3
Laser safety	1M

**Notes**

- 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 3-minute averaging at SNR = 1.
- d. Typical, for reflectance below -55 dB, using a 5-ns pulse.
- e. Typical, for reflectance below -55 dB, using a 5-ns pulse. Attenuation dead zone at 1310 nm is 5 m typical with reflectance below -45 dB.
- f. Does not include uncertainty due to fiber index.

**GENERAL SPECIFICATIONS**

Size (H x W x D)	155 mm x 200 mm x 68 mm (6 1/8 in x 7 7/8 in x 2 3/4 in)
Weight (with battery)	1.29 kg (2.8 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>a</sup>
Relative humidity	0 % to 95 % noncondensing

**SOURCE**

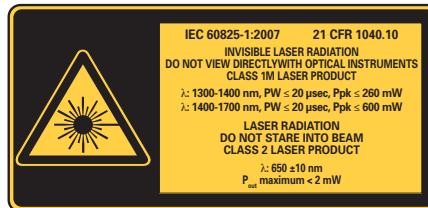
Output power (dBm) <sup>b</sup>	-11.5
Modulation	CW, 1 kHz, 2 kHz

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

Calibrated wavelengths (nm)	850, 1300, 1310, 1490, 1550, 1625, 1650
Power range (dBm) <sup>d</sup>	27 to -50
Uncertainty (%) <sup>e</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>d,f</sup>	Max power to -34 dBm
Tone detection (Hz)	270/330/1000/2000

**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**

**CAUTION:** VIEWING THE LASER OUTPUT WITH CERTAIN OPTICAL INSTRUMENTS (FOR EXAMPLE: EYE LOUPES, MAGNIFIERS AND MICROSCOPES) WITHIN A DISTANCE OF 100 MM MAY POSE AN EYE HAZARD.

**ACCESSORIES**

GP-10-061	Soft carrying case	GP-2144	USB 16G micro-drive
GP-10-072	Semi-rigid carrying case	GP-2155	Carry-on size backpack
GP-10-086	Rigid carrying case	GP-2205	DC vehicle battery-charging adaptor (12 V)
GP-1008	VFL adapter (2.5 mm to 1.25 mm)	SPSB-EF-C30	Encircled flux launch fiber
GP-2016	10-foot RJ45 LAN cable		

**Notes**

- 20 °C to 60 °C (-4 °F to 140 °F) with the battery pack.
- Typical output power is given at 1550 nm.
- At 23 °C ± 1 °C, 1550 nm and FC connector. With modules in idle mode. Battery operated after 20-minute warm-up.
- Typical.
- At calibration conditions.
- For ±0.05 dB, from 10 °C to 30 °C.

## ORDERING INFORMATION

MAX-715B-XX-XX-XX-XX-XX-XX-XX-XX-XX-XX-XX

**Model**

MAX-715B = OTDR

**Optical configuration**

M1 = Last-mile OTDR, 1310/1550 nm (9/125 μm)

M2 = Last-mile OTDR, 1310/1550 nm and  
1625 nm live port (9/125 μm)M3 = Last-mile OTDR, 1310/1550/1625 nm  
(9/125 μm)**Base Software**

OTDR = Enables OTDR application only

iOLM = Enables iOLM application only

Oi = Enables OTDR and iOLM applications

**Connector**

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

EI connectors = See section on next page

**iOLM Software Option**

00 = iOLM Standard

iADV = iOLM Advanced

iPRO = iOLM Pro

**Power Meter**

00 = Without power meter

PM2X = Power meter; GeX detector

VPM2X = VFL and power meter; GeX detector

**Power Meter Connector Adapter**

FOA-12 = Biconic

FOA-14 = NEC D4; PC, SPC, UPC

FOA-16 = SMA/905, SMA-906

FOA-22 = FC/PC, FC/SPC, FC/UPC, FC/APC

FOA-28 = DIN 47256, DIN 47256/APC

FOA-32 = ST: ST/PC, ST/SPC, ST/UPC

FOA-54B = SC: SC/PC, SC/SPC, SC/UPC, SC/APC

FOA-78 = Radiall EC

FOA-96B = E-2000/APC

FOA-98 = LC

FOA-99 = MU

**FastReporter software**

00 = Without software option

FR2 = FastReporter 2 software

**Wi-Fi and Bluetooth**

00 = Without RF components

RF = With RF capability (Wi-Fi and Bluetooth) <sup>c,i</sup>**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>g</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 and 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 and

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>i</sup>**Base Tips<sup>h</sup>**

APC = Includes FIPT-400-U25MA and FIPT-400-SC-APC

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

**Inspection probe model<sup>i</sup>**

00 = Without inspection probe

FP410B = Digital video inspection probe

Triple magnification

FP420B = Analysis digital video inspection probe

Automated pass/fail analysis

Triple magnification

Autocentering

FP425B = Wireless digital video inspection probe<sup>j</sup>

Automated pass/fail analysis

Triple magnification

Autocentering

FP430B = Automated analysis digital video inspection probe

Automated focus

Automated pass/fail analysis

Triple magnification

Autocentering

FP435B = Wireless analysis digital video inspection probe<sup>j</sup>

Automated focus

Automated pass/fail analysis

Triple magnification

Autocentering

Example: MAX-715B-M2-Oi-EA-EUI-98-iPRO-FP430B-APC-FR2

**Notes**

a. Please refer to the intelligent Optical Link Mapper (iOLM) specification sheet for the complete and most recent description of these value packs.

b. Only available if power meter option is selected.

c. Not available in China.

d. 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 adaptors and kits to cover many more connector types and different applications. Please contact your local EXFO sales representative or visit EXFO.com/FIPTips for more information.

e. Included when UPC base tips are selected.

f. Included when APC base tips are selected.

g. Includes a bulkhead adapter for patch cord inspection.

h. Available if inspection probe is selected.

i. Includes ConnectorMax2 software.

j. RF option is mandatory and automatically included if FP425B or FP435B fiber inspection probe model is selected.



## EI CONNECTORS



To maximize the performance of your OTDR, EXFO recommends using APC connectors on singlemode port. These connectors generate lower reflectance, which is a critical parameter that affects performance, particularly in dead zones. APC connectors provide better performance than UPC connectors, thereby improving testing efficiency.

For best results, APC connectors are mandatory with the iOLM application.

Note: UPC connectors are also available. Simply replace EA-XX by EI-XX in the ordering part number. Additional connector available: EI-EUI-90 (UPC/ST).

**EXFO Headquarters** > Tel.: +1 418 683-0211 | Toll-free: +1 800 663-3936 (USA and Canada) | Fax: +1 418 683-2170 | info@EXFO.com | [www.EXFO.com](http://www.EXFO.com)

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