MaxTester 715B Last-Mile OTDR

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
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
› MAX-730C PON/Metro OTDR—optimized for FTTH/MDU and short metro fiber deployments and troubleshooting

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.
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, and can be used to create and customize 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).

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**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.

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**FIVE MODELS TO FIT YOUR BUDGET**

<table>
<thead>
<tr>
<th>FEATURES</th>
<th>USB WIRED</th>
<th>WIRELESS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Three magnification levels</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Image capture</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Five-megapixel CMOS capturing device</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Automatic fiber image-centering function</td>
<td>X</td>
<td>✓</td>
</tr>
<tr>
<td>Automatic focus adjustment</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>Onboard pass/fail analysis</td>
<td>X</td>
<td>✓</td>
</tr>
<tr>
<td>Pass/fail LED indicator</td>
<td>X</td>
<td>✓</td>
</tr>
<tr>
<td>Wi-Fi connectivity</td>
<td>X</td>
<td>X</td>
</tr>
</tbody>
</table>

For additional information, please refer to the FIP-409B USB or FIP-400B wireless specification sheets.
### SOFTWARE UTILITIES

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

### PACKAGED FOR EFFICIENCY

- **1** Singlemode OTDR port
- **2** In-service testing OTDR port
- **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 Wi-Fi/Bluetooth
- **14** Stand support

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EXFO

MaxTester-715B Last-Mile OTDR
**SPECIFICATIONS**

### TECHNICAL SPECIFICATIONS

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Specification</th>
</tr>
</thead>
<tbody>
<tr>
<td>Display</td>
<td>7-in (178-mm) outdoor-enhanced touchscreen, 800 x 480 TFT</td>
</tr>
<tr>
<td>Interfaces</td>
<td>Two USB 2.0 ports, RJ45 LAN 10/100 Mbit/s</td>
</tr>
<tr>
<td>Storage</td>
<td>2 GB internal memory (20 000 OTDR traces, typical)</td>
</tr>
<tr>
<td>Batteries</td>
<td>Rechargeable lithium-polymer battery, 12 hours of operation as per Telcordia (Bellcore) TR-NWT-001138</td>
</tr>
<tr>
<td>Power supply</td>
<td>Power supply AC/DC adapter, input 100-240 VAC, 50-60 Hz, 9-16 V DCIN 15 Watts minimum</td>
</tr>
<tr>
<td>Wavelength (nm) b</td>
<td>1310 ± 30/1550 ± 30/1625 ± 10</td>
</tr>
<tr>
<td>SM live port built-in filter</td>
<td>1625 nm: highpass &gt;1595 nm isolation &gt;50 dB from 1270 nm to 1585 nm</td>
</tr>
<tr>
<td>Dynamic range (dB) c</td>
<td>30/28/28</td>
</tr>
<tr>
<td>Event dead zone (m) d</td>
<td>1</td>
</tr>
<tr>
<td>Attenuation dead zone (m) e</td>
<td>4</td>
</tr>
<tr>
<td>PON dead zone (m) f</td>
<td>35</td>
</tr>
<tr>
<td>Distance range (km)</td>
<td>0.1 to 160</td>
</tr>
<tr>
<td>Pulse width (ns)</td>
<td>5 to 20 000</td>
</tr>
<tr>
<td>Linearity (dB/dB)</td>
<td>±0.05</td>
</tr>
<tr>
<td>Loss threshold (dB)</td>
<td>0.01</td>
</tr>
<tr>
<td>Loss resolution (dB)</td>
<td>0.001</td>
</tr>
<tr>
<td>Sampling resolution (m)</td>
<td>0.04 to 5</td>
</tr>
<tr>
<td>Sampling points</td>
<td>Up to 256 000</td>
</tr>
<tr>
<td>Distance uncertainty (m) h</td>
<td>±(0.75 + 0.005 % x distance + sampling resolution)</td>
</tr>
<tr>
<td>Measurement time</td>
<td>User-defined (maximum: 60 minutes)</td>
</tr>
<tr>
<td>Reflectance accuracy (dB) h</td>
<td>±2</td>
</tr>
<tr>
<td>Typical real-time refresh (Hz)</td>
<td>3</td>
</tr>
</tbody>
</table>

**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 three-minute averaging at SNR = 1.
- d. Typical, for reflectance from −35 dB to −55 dB, using a 5-ns pulse.
- e. Typical, for reflectance at −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**

<table>
<thead>
<tr>
<th>Specification</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Size (H x W x D)</td>
<td>155 mm x 200 mm x 68 mm (6 1/8 in x 7 7/8 in x 2 ¾ in)</td>
</tr>
<tr>
<td>Weight (with battery)</td>
<td>1.29 kg (2.8 lb)</td>
</tr>
<tr>
<td>Temperature Operating Storage</td>
<td>–10 °C to 50 °C (14 °F to 122 °F) –40 °C to 70 °C (–40 °F to 158 °F)</td>
</tr>
<tr>
<td>Relative humidity</td>
<td>0 % to 95 % noncondensing</td>
</tr>
</tbody>
</table>

**SOURCE**

<table>
<thead>
<tr>
<th>Specification</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Output power (dBm) b</td>
<td>-11.5</td>
</tr>
<tr>
<td>Modulation</td>
<td>CW, 1 kHz, 2 kHz</td>
</tr>
</tbody>
</table>

**BUILT-IN POWER METER SPECIFICATIONS (GeX) (optional)**

<table>
<thead>
<tr>
<th>Specification</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Calibrated wavelengths (nm)</td>
<td>850, 1300, 1310, 1490, 1550, 1625, 1650</td>
</tr>
<tr>
<td>Power range (dBm) c</td>
<td>27 to –50</td>
</tr>
<tr>
<td>Uncertainty (%) d</td>
<td>±5 % ± 10 nW</td>
</tr>
<tr>
<td>Display resolution (dB)</td>
<td>0.01 = max to –40 dBm</td>
</tr>
<tr>
<td>Automatic offset nulling range</td>
<td>Max power to –30 dBm</td>
</tr>
<tr>
<td>Tone detection (Hz)</td>
<td>270/330/1000/2000</td>
</tr>
</tbody>
</table>

**VISUAL FAULT LOCATOR (VFL) (OPTIONAL)**

<table>
<thead>
<tr>
<th>Specification</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Laser, 650 nm ± 10 nm</td>
<td></td>
</tr>
<tr>
<td>CW/Modulate 1 Hz</td>
<td></td>
</tr>
<tr>
<td>Typical P_0^E in 62.5/125 μm:</td>
<td>&gt; –1.5 dBm (0.7 mW)</td>
</tr>
<tr>
<td>Laser safety: Class 2</td>
<td></td>
</tr>
</tbody>
</table>

**ACCESSORIES**

<table>
<thead>
<tr>
<th>Accessory</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>GP-10-061</td>
<td>Soft carrying case</td>
</tr>
<tr>
<td>GP-10-072</td>
<td>Semi-rigid carrying case</td>
</tr>
<tr>
<td>GP-10-086</td>
<td>Rigid carrying case</td>
</tr>
<tr>
<td>GP-1008</td>
<td>VFL adapter (2.50 mm to 1.25 mm)</td>
</tr>
<tr>
<td>GP-2016</td>
<td>10-foot RJ45 LAN cable</td>
</tr>
<tr>
<td>GP-2144</td>
<td>USB 16G micro-drive</td>
</tr>
<tr>
<td>GP-2155</td>
<td>Carry-on size backpack</td>
</tr>
<tr>
<td>GP-2205</td>
<td>DC vehicle battery-charging adaptor (12 V)</td>
</tr>
<tr>
<td>SPSB-EF-C30</td>
<td>Encircled flux launch fiber</td>
</tr>
</tbody>
</table>

**Notes**

a. –20 °C to 60 °C (–4 °F to 140 °F) with the battery pack.
b. Typical output power is given at 1550 nm.
c. At 23 °C ± 1 °C, 1550 nm and FC connector. With modules in idle mode. Battery operated after 20-minute warm-up.
d. Typical.
e. At calibration conditions.
f. For 10.05 dB, from 10 °C to 30 °C.
ORDERING INFORMATION

MAX-715B-XX-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 D-4: PC, SPC, UPC
  FOA-16 = SMA/905, SMA-906
  FOA-22 = FC/PC, FC/SPC, FC/UPC, FC/APC
  FOA-26 = DIN 47256, DIN 47256/APC
  FOA-32 = ST: ST/PC, ST/SPC, ST/UPC
  FOA-54 = SC: SC/PC, SC/SPC, SC/UPC, SC/APC
  FOA-78 = Radial EC
  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) •

- **Extra FIP-400B tips**
  **Bulkhead tips**
  FIPT-400-FC-APC = FCAPC tip for bulkhead adapter
  FIPT-400-FC-SC = FC and SC tip for bulkhead adapter
  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
  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
  FIPT-400-U25MA = Universal patchcord tip for 2.5 mm ferrules APC

- **Multifiber tips**
  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 multrow UPC tip for bulkhead adapter
  FIPT-400-MTP-MTRA = MTP/MPO multrow 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-U20M2 = Universal patchcord tip for 2.0 mm ferrules (D4, Lemo)
  FIPT-400-U25M = Universal patchcord tip for 2.5 mm ferrules
  FIPT-400-U25MA = Universal patchcord tip for 2.5 mm ferrules APC

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

- **Inspection probe model**
  00 = Without inspection probe
  FP410B = Digital video inspection probe
  FP420B = Analysis digital video inspection probe
  FP425B = Wireles digital video inspection probe
  FP430B = Automated analysis digital video inspection probe
  FP435B = Wireless analysis digital video inspection probe

- **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 inspection probe is 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.

Example: MAX-715B-M2-OI-EA-EUI-98-IPRO-FP430B-APC-FR2
### 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).