MaxTester 720B Access OTDR

OPTIMIZED FOR ACCESS POINT-TO-POINT (P2P) CONSTRUCTION

i OLM READY

FROST & SULLIVAN

2014 BEST PRACTICES AWARD

GLOBAL
PORTABLE FIBER OPTIC TEST EQUIPMENT
MARKET LEADERSHIP AWARD

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

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 0.8 m, ADZ 3.5 m

Dynamic range: 36/34 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

Access network construction

Private networks

Central office (CO) link certification

COMPLEMENTARY PRODUCTS AND OPTIONS

FastReporter 2
EFFICIENT POST-PROCESSING SOFTWARE

Fiber Inspection Probe
FIP-400B

Data Post-Processing Software
FastReporter 2

Soft Pulse Suppressor Bag
SPSB

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THE HANDHELD OTDR... REINVENTED.

The MAX-700B 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 OTDR2.0 environment offers icon-based functions, instant boot-up, automatic macrobend finders as well as improved auto and real-time modes.

The Max-700B 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 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 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-720B OTDR/iOLM features a dynamic range of 36 dB and 0.8-3.5 m dead zones. This ensures the efficient testing of closely spaced events, such as patchords and patch panels in COs. It is also optimized for the point-to-point testing of any access network.

Other models available: › MAX-715B Short Access and FTTx Last-Mile installation and troubleshooting (30 dB)
› MAX-730B FTTH/PON installation and maintenance for testing through optical splitters and P2P metro (39 dB)

REMOVING COMPLEXITY FROM THE OTDR

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 → Combines all results 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:	**OTDR Combo (Oi Code)** Run iOLM and OTDR applications on one unit	**Upgrade** Add the iOLM software option, even while in the field	**iOLM Only** Order a unit with the iOLM application only
Three iOLM feature value packs:	**iOLM Standard** › Dynamic multipulse acquisition › Intelligent trace analysis › Map view › Diagnosis › SOR trace generation	**iOLM Advanced** All the features of iOLM, plus additional Advanced features	**iOLM Pro** All the features of iOLM Advanced, plus additional high-value professional features

Note: Refer to the intelligent Optical Link Mapper (iOLM) specification sheet for the most recent description of the added-value features available in the iOLM Advanced and iOLM Pro packs.

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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 you can do it by your own, without any software update required.

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 HFC networks or high-power signals. If used with an auto-lambda/auto-switching compatible light source, the power meter automatically syncs on the same wavelength 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. Visually locating faults by creating a bright-red glow at the exact location of the fault on singlemode or multimode fibers, it can detect faults over distances of up to 5 km. (Available with the Optical Power Meter only)

FIBER CONNECTOR INSPECTION AND CERTIFICATION - THE ESSENTIAL FIRST STEP

Taking the time to properly inspect a fiber-optic cable can prevent a slew of problems down the line–saving you time, money and headaches.

FIP-430B | The First Fully Automated Fiber Inspection Probe for the Field

Housing a unique automatic focus adjustment system, the FIP-430B automates each operation in the connector endface inspection sequence, transforming this critical process into one quick and easy step, which can be performed by technicians of all skill levels.

100% Automated [a] | **1-step** process [a] | **57%** shorter test time [b]

3 Models to fit your budget:

FEATURES	Basic FIP-410B	Semi-Automated FIP-420B	Fully-Automated FIP-430B
Three magnification levels	√	√	√
Image capture	√	√	√
Five-megapixel CMOS capturing device	√	√	√
Automatic fiber image-centering function	X	√	√
Automatic focus function	X	X	√
On-board pass/fail analysis	X	√	√
Pass/fail LED indicator	X	√	√

ConnectorMax2

Read the FIP-400B specification sheet or visit www.EXFO.com/keepthefocus for more information.

Notes

a. Model FIP-430B only

b. Data sourced from EXFO`s case study, with calculation based on typical analysis time.

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SOFTWARE UTILITIES

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

PACKAGED FOR EFFICIENCY

1 Singlemode OTDR port
2 Testing LED indicator
3 Stylus
4 Power meter
5 Visual fault locator

6 10/100 Mbit/s Ethernet port
7 Two USB 2.0 ports
8 AC adapter
9 Home/switch application and screen capture (hold)
10 Power on/off/stand by

11 Battery LED status
12 Built-in Wi-Fi/Bluetooth
13 Stand support

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SPECIFICATIONS [a]

TECHNICAL SPECIFICATIONS	MaxTester 720B
Display	7 in (178 mm) outdoor-enhanced touchscreen, 800 x 480 TFT
Interfaces	Two USB 2.0 ports RJ-45 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) [b]	1310/1550
Dynamic range (dB) [c]	36/34
Event dead zone (m) [d]	0.8
Attenuation dead zone (m) [e]	3.5
Distance range (km)	0.1 to 260
Pulse width (ns)	5 to 20 000
Linearity (dB/dB)	±0.03
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) [f]	±(0.75 + 0.0025 % x distance + sampling resolution)
Measurement time	User-defined (60 min. maximum)
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 three-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 4.5 m typical with reflectance below −45 dB

f. Does not include uncertainty due to fiber index.

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GENERAL SPECIFICATIONS

Size (H x W x D)	200 mm x 155 mm x 68 mm (7 $\frac{7}{8}$ in x 6 $\frac{1}{8}$ in x 2 $\frac{3}{4}$ in)	
Weight (with battery)	1.29 kg (2.8 lb)	
Temperature	Operating Storage	−10 °C to 50 °C (14 °F to 122 °F) −40 °C to 70 °C (−40 °F to 158 °F) [a]
Relative humidity	0 % to 95 % noncondensing	

SOURCE (optional)

Output power (dBm) [b]	−6
Modulation	CW, 1 kHz, 2 kHz

BUILT-IN POWER METER SPECIFICATIONS (GeX) (optional) [c]

Calibrated wavelengths (nm)	850, 1300, 1310, 1490, 1550, 1625, 1650
Power range (dBm) [d]	27 to −50
Uncertainty (%) [e]	±5 % ± 10 nW
Display resolution (dB)	0.01 = max to −40 dBm 0.1 = −40 dBm to −50 dBm
Automatic offset nulling range [d, f]	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$_{out}$ in 62.5/125 µm: > −1.5 dBm (0.7 mW)
Laser safety: Class 2

LASER SAFETY

IEC 60825-1:2007   21 CFR 1040.10
INVISIBLE LASER RADIATION
DO NOT VIEW DIRECTLY WITH OPTICAL INSTRUMENTS
CLASS 1M LASER PRODUCT
λ: 1300-1400 nm, PW ≤ 20 µsec, Ppk ≤ 260 mW
λ: 1400-1700 nm, PW ≤ 20 µsec, Ppk ≤ 600 mW
LASER RADIATION
DO NOT STARE INTO BEAM
CLASS 2 LASER PRODUCT
λ: 650 ±10 nm
P$_{out}$ maximum < 2 mW

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-10-072	Semi-rigid carrying case	GP-2016	10-foot RJ-45 LAN cable
GP-10-086	Rigid carrying case	GP-2144	USB 16G micro-drive
GP-302	USB mouse	GP-2155	Carry-on size backpack
GP-1008	VFL adapter (2.5 mm to 1.25 mm)	GP-2205	DC vehicle battery-charging adaptor (12 V)
GP-2001	USB keyboard	GP-2207	Stand support

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 ±0.05 dB, from 10 °C to 30 °C.

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ORDERING INFORMATION

MAX-720B-XX-XX-XX-XX-XX-XX-XX

Model
M1 = Access OTDR, 1310/1550 nm (9/125 µm)

Connectivity
RF = With RF capability (Wi-Fi and Bluetooth)

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 note below

Base software
OTDR = Enables OTDR application only
iOLM = Enables the iOLM application only
Oi = Enables OTDR and iOLM applications

iOLM Software Option
00 = iOLM Standard
iADV = iOLM Advanced [a]
iPRO = iOLM Pro [a]

Connector adapter [b]
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-54 = SC: SC/PC, SC/SPC, SC/UPC, SC/APC
FOA-78 = Radiall EC
FOA-96B = E-2000/APC
FOA-98 = LC
FOA-99 = MU

Power meter
00 = Without power meter
PM2X = Power meter; GeX detector
VPM2X = VFL and power meter; GeX detector

Example: MAX-720B-M1-EA-EUI-91-Oi-VPM2X-FOA-22-iADV

Notes

a. The features available in iOLM Advanced and Pro depend on the platform and the module. Please refer to the intelligent Optical Link Mapper (iOLM) specification sheet for package details.

b. Available if power meter is selected.

EI CONNECTORS

To maximize the performance of your OTDR, EXFO recommends using APC connectors. 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 connectors available are the EI-EUI-76 (UPC/HMS-10/AG) and EI-EUI-90 (UPC/ST).

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