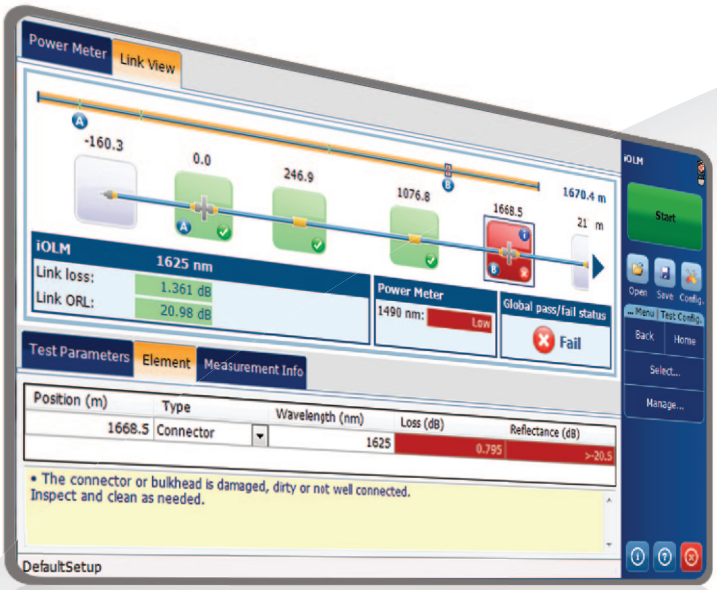
Intelligent Optical Link Mapper (iOLM)

AUTOMATED, EXPERT-LEVEL SINGLEMODE FIBER TESTING



Available on:

- FTB-700 OTDR Series
- FTB-7000 OTDR Series

EXFO Connect Compatible

Powered by LINK AWARE™ TECHNOLOGY

4 BTR BROADBAND TECHNOLOGY REPORT 2012 Diamond TECHNOLOGY REVIEWS

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.

TECHNICAL SHEET

Using automated multipulse acquisitions and advanced algorithms, the iOLM is an OTDR-based application that delivers detailed information on every element on the link, in a single-button operation—providing maximum intelligence and simplicity for expert-level link characterization.

KEY FEATURES

- Self-setting unit
- Link-Aware technology
- Optical Link View
- Prompt diagnosis
- Consolidated bidirectional link view (patent-pending)
- OTDR trace file generation (.sor)

KEY NETWORK APPLICATIONS

- Point-to-point access
- LAN/WAN, enterprise and data centers
- FTTx/PON MDU
- Mobile backhaul (FTTA/DAS)
- Metro core and long-haul
- CWDM
- Cable testing (IL/ORL measurement)

PLATFORM COMPATIBILITY

Platform
FTB-1

Compact Platform
FTB-200

Platform
FTB-500
(Compatibility available soon)

EXFO | Assessing Next-Gen Networks

GO BEYOND OTDR TESTING.

Innovation is front and center at EXFO, and the Intelligent Optical Link Mapper (iOLM) is a prime example of a game-changing solution. The iOLM lets you take advantage of the full power of your OTDR, bringing automation to a new level—and enabling even the untrained technician to become a test expert in no time.

The iOLM integrates all our expertise into a simple, easy-to-use software that will take your OTDR testing capabilities further than they've ever been. And since EXFO designs and optimizes each OTDR model so that it offers the best possible performance for its specific application, your solution will fit to your reality.

iOLM—WHAT IS IT AND HOW DOES IT WORK?

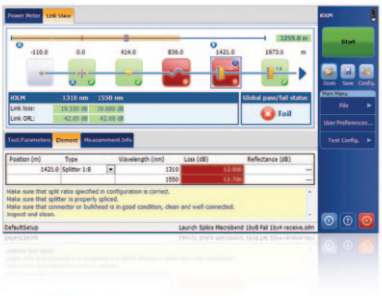
The iOLM is an innovative OTDR-based application that uses multipulse acquisitions and advanced algorithms to deliver detailed information on every element on the link.

Powered by LINK AWARE™ TECHNOLOGY

- Offers one-touch, automatic analysis and clear link view display
- Minimizes training and avoids misconfiguration with self-settings and clear Go/No-Go results
- Turns complex OTDR information into simple and accurate analysis with Link-Aware technology, minimizing truck rolls
- Identifies each event on the network and obtain a straightforward fiber link status with the Optical Link View
- Provides prompt diagnosis to fix network issues quickly and efficiently
- Generates OTDR trace files (.sor)

TYPICAL WORKFLOW

Launch multiple OTDR acquisitions → Analyze the traces → Compound the results → Display a schematic link view and prompt diagnosis →



THREE EASY STEPS TO A PERFECT FIT

STEP 1: Choose your network application

True OTDR performance goes far beyond simple product specifications.
It's about optimizing your network services, based on application-specific parameters.

STEP 2: Choose your form factor

› FTB-1: Compact, dedicated handheld test set to perform single-minded tasks under tight budget constraints

› FTB-200: Modular handheld platform providing more flexibility for repetitive daily tasks

› FTB-500: Full-sized modular platform for advanced multi-application testing

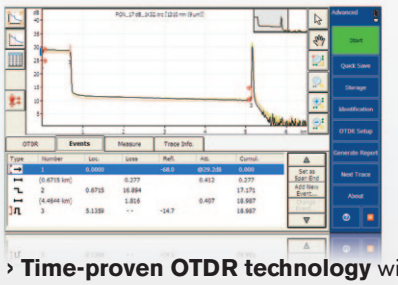
PUT IT TOGETHER, FIND THE SOLUTION

STEP 1: APPLICATIONS	STEP 2: FORM FACTOR / CORRESPONDING SOLUTION		
	FTB-1	FTB-200	FTB-500*
LAN/WAN DATA CENTERS PRIVATE/ENTERPRISE POINT-TO-POINT ACCESS CELLULAR BACKHAUL (FTTT/FTTA)	› FTB-720 LAN/WAN Access test module + iOLM software		
FTTx PASSIVE OPTICAL NETWORKS (PONs) MULTIDWELLING UNITS SHORT METRO	› FTB-730 FTTx/PON MDU test module + iOLM software	› FTB-7300E FTTx/PON MDU test module + iOLM software	› FTB-7300E* FTTx/PON MDU test module + iOLM software
LONG-HAUL METRO/CORE CWDM CATV		› FTB-7400E Metro/CWDM test module + iOLM software	› FTB-7400E* Metro/CWDM test module + iOLM software

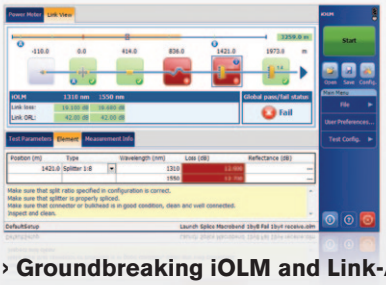
* Note: iOLM compatibility for these modules on the FTB-500 platform will be available soon.

STEP 3: Choose your technology

Go traditional, go bleeding-edge, or combine the best of both worlds in a single unit:



› **Time-proven OTDR technology** with advanced modes, trace analysis and editing



› **Groundbreaking iOLM and Link-Aware™ technology**, with its multipulse approach, visual link depiction and per-event diagnosis

UNIQUE FEATURES

REVOLUTIONIZING SINGLE-ENDED FIBER DEPLOYMENTS

LINK-AWARE™ TECHNOLOGY

Let it optimize the test run | With one click, the unit automatically performs link recognition, sets the optimal parameters and launches multiple acquisitions and multiple analyses—at multiple wavelengths—consolidating the results obtained for every link section and every network element. Get accurate information right away on each link element and export it to a single report.

SELF-SETTING UNIT

Let it be the expert | Powered by Link-Aware technology, the iOLM self-manages the setting of all test parameters—ready-to-use intelligence that dramatically shortens the learning curve. Minimize training, avoid test misconfiguration, and facilitate your technicians' transition from copper to fiber.

OPTICAL LINK VIEW

Let it crunch the data | Leaving behind complex OTDR traces, the simplified link mapper provides a straightforward view of the fiber under test, with clear icons and pass/fail verdicts. Get actual results: end-to-end visual assessment of your link, complete with event characterization and fiber status.

PROMPT DIAGNOSIS

Let it show you the way | Loaded with countless algorithms and a database of potential network failures, the iOLM guides you through your network's problem-solving process. Say goodbye to trace misinterpretation, and ensure that all your technicians—not just your most experienced ones—can efficiently fix network issues right on the spot.

OTDR TRACE FILE GENERATION

Let it fit your existing test filing requirements | The iOLM can generate a universal and enhanced Bellcore format (.sor) OTDR trace to comply with your existing reporting and post-processing requirements. This OTDR trace integrates all the additional information gathered by the iOLM, providing more complete results.

CONSOLIDATED BIDIRECTIONAL LINK VIEW (PATENT-PENDING)

Let it combine the results | To ensure true splice characterization bidirectional testing is recommended. The iOLM bidirectional link view just makes this task easier as it combines the results from multiple wavelengths in multiple directions and presents it in a single, easy-to-read, iOLM-style format. Plus, you can easily generate batch reports through FastReporter2 Data Post-Processing Software.

AUTOMATE ASSET MANAGEMENT. PUSH TEST DATA IN THE CLOUD. GET CONNECTED.

EXFO | Connect

EXFO Connect pushes and stores test equipment and test data content automatically in the cloud, allowing you to streamline test operations from build-out to maintenance.

ADDITIONAL FEATURES

Real-Time OTDR Mode

The iOLM supports real-time OTDR mode (RT option) functionality via the iOLM software application. Either run the OTDR application (Oi option) or the RT mode (RT option) to measure field-splicing or to check the link before launching an iOLM acquisition.

2xN Splitter Characterization

The iOLM is the only solution on the market to characterize 2xN splitter with a clear pass/fail verdict for multi-input or redundancy networks. It identifies 2xN splitters as well as both their input branches allowing users to accurately document the network with one test (compared to three tests when using traditional methods).

iOLM Expert Mode (iEX)

iEX is a software option specifically designed for the fiber test expert or the manager who requires more flexibility in documenting the trace files for reporting purposes. Because flexibility also means that you can create your own elements to better match your network plans, this option allows you to add extra events, delete events or re-analyze the trace.

RECOMMENDATIONS

Angled-Polished (APC) Connectors

Like any OTDR, the iOLM will be offerred by strong reflections at the unit's port. To ensure low reflections and maintain measurement accuracy, the iOLM singlemode port must be used with APC connectors. Another advantage of using APC connectors is their ability to handle harsher conditions without becoming highly reflective while maintaining the unit's performance.

In the case of UPC connectors, they are prone to be highly reflective if contaminated, worn or damaged. This will affect the measurement and will lead to premature connector replacement. Although testing a UPC network does not require a UPC unit, using an APC/UPC test jumper (included with the iOLM) or a launch fiber (SPSB) ensures compatibility.

Test Method

EXFO recommends using a 150-meter launch cable (SPSB) to exclude the loss of the iOLM's connector or to allow UPC network testing. It will also extend the instrument's connector life by reducing the number of matings–ultimately improving the cost of ownership.

GENERAL SPECIFICATIONS

Module		FTB-720 and FTB-730	FTB-7300E and FTB-7400E
Size (H x W x D)		130 mm x 36 mm x 252 mm (5 1/8 in x 1 7/16 in x 9 15/16 in)	97 mm x 25 mm x 260 mm (3 13/16 in x 1 in x 10 1/4 in)
Weight		0.65 kg (1.4 lb)	0.55 kg (1.2 lb)
Temperature	operating storage	0 °C to 50 °C (32 °F to 122 °F) –40 °C to 70 °C (–40 °F to 158 °F)	0 °C to 50 °C (32 °F to 122 °F) –40 °C to 70 °C (–40 °F to 158 °F)
Relative humidity		0 % to 95 % non-condensing	0 % to 95 % non-condensing

LASER SAFETY

21 CFR 1040.10 AND IEC 60825-1:2007
CLASS 1M

ORDERING INFORMATION

Multimode and Singlemode Access and LAN/WAN OTDR

FTB-720-XX-XX-XX-XX-XX-XX

Model
FTB-720-000-04B = OTDR with filtered 1625 nm port
FTB-720-023B-04B = OTDR 1310/1550 nm with filtered 1625 nm port
FTB-720-23B = OTDR 1310/1550 nm
FTB-720-12CD = OTDR 850/1300 nm
FTB-720-12CD-23B = OTDR 850/1300 nm, 1310/1550 nm

Base Software
OTDR = Enables the OTDR application only
iOLM [a] = Enables the iOLM application only
Oi [a] = Enables iOLM and OTDR applications

Singlemode 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 on next page

Multimode Connector
EI-EUI-28 = UPC/DIN 47256
EI-EUI-76 = UPC/HMS-10/AG
EI-EUI-89 = UPC/FC narrow key
EI-EUI-90 = UPC/ST
EI-EUI-91 = UPC/SC
EI-EUI-95 = UPC/E-2000
EI-EUI-98 = UPC/LC

iOLM Software Option
00 = Without iOLM option
iEX = iOLM Expert mode
RT = Real-time OTDR mode (via iOLM application) [b]

OTDR Software Option [c]
00 = Without software option
AD = Auto diagnostic (macrobend detection, pass/fail and fault finder)
EC = Event characterization (bidirectional analysis and Template mode)

Example: FTB-720-023B-04B-OTDR-EI-EUI-89-EA-EUI-89

Singlemode (PON FTTx/MDU) OTDR for FTB-1 Platform

FTB-730-XX-XX-XX-XX-XX-XX

Model
Dual-Wavelength
FTB-730-23B = SM OTDR module, 1310/1550 nm (9/125 µm)
FTB-730-34B = SM OTDR module, 1550/1625 nm (9/125 µm)

Triple-Wavelength
FTB-730-236B = SM OTDR module, 1310/1490/1550 nm (9/125 µm)

SM Live Port
FTB-730-23B-04B = SM and SM live OTDR module, 1310/1550 and 1625 nm live port including in-line broadband power meter
FTB-730-000-04B = SM live OTDR with 1625 nm live port (9/125 µm) including in-line broadband power meter
FTB-730-000-08B = SM live OTDR with 1650 nm live filtered port (9/125 µm)

OPM Option [d]
OPM = One broadband channel included
OPM2 = Dual channel 1490/1550 nm

iOLM Software Option
00 = Without iOLM option
iEX = iOLM Expert mode
RT = Real-time OTDR mode (via iOLM application) [b]

OTDR Software Option [c]
00 = Without software option, OTDR application
AD = Automatic diagnosis (macrobend detection, pass/fail and fault finder) and linear view
EC = Event characterization (bidirectional analysis and Template mode)

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 on next page

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

Example: FTB-730-23B-04B-OPM-iOLM-EA-EUI-89

SINGLEMODE (PON FTTx/MDU) FOR FTB-200 COMPACT PLATFORM OR FTB-500 PLATFORM

FTB-7300E-XX-XX-XX-XX

Model
Dual Wavelength
FTB-7300E-023B = SM OTDR module, 1310/1550 nm (9/125 µm)
FTB-7300E-034B = SM OTDR module, 1550/1625 nm (9/125 µm)

Triple Wavelength
FTB-7300E-234B = SM OTDR module, 1310/1550/1625 nm (9/125 µm)
FTB-7300E-236B = SM OTDR module, 1310/1490/1550 nm (9/125 µm)

SM Live Port
FTB-7300E-023B-04B = SM and SM live OTDR module, 1310/1550 and 1625 nm live port
FTB-7300E-023B-08B = SM and SM live OTDR module, 1310/1550 and 1650 nm live port
FTB-7300E-000-04B = SM live OTDR with 1625 nm live port (9/125 µm)

Base Software
OTDR = Enables the OTDR application only
iOLM = Enables the iOLM application only [e]
Oi = Enables iOLM and OTDR applications [e]

iOLM Software Option [e]
00 = Without iOLM option
iEX = iOLM Expert mode
RT = Real-time OTDR mode (via iOLM application) [b]

OTDR Software Option [c, e]
00 = Without software option
AD = Macrobend finder and linear view

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 on next page

Example: FTB-7300E-023B-04B-Oi-EA-EUI-89

Notes

a. The iOLM software is available on singlemode port only. FTB-720-12CD-23B must be ordered with Oi option to enable iOLM on the singlemode port.
b. Available with iOLM base software only. This feature is part of the Oi base software.
c. Available with OTDR and Oi base softwares only.
d. Available with FTB-730-000-04B and FTB-730-23B-04B only.
e. Available on the FTB-200v2 platform only.

ORDERING INFORMATION (CONT'D)

Singlemode (METRO/CWDM)

FTB-7400E-XX-XX-XX-XX

Model
Dual Wavelength
FTB-7400E-0023B = SM OTDR module, 1310/1550 nm (9/125 µm)

Triple Wavelength
FTB-7400E-0234B = SM OTDR module, 1310/1550/1625 nm (9/125 µm)

Quadruple Wavelength
FTB-7400E-2347B = SM OTDR module, 1310/1383/1550/1625 nm (9/125 µm)
FTB-7400E-CWS = CWDM SM OTDR module, 1470/1490/1510/1530 nm (9/125 µm)
FTB-7400E-CWCL = CWDM SM OTDR module, 1550/1570/1590/1610 nm (9/125 µm)

Base Software
OTDR = Enables the OTDR application only
iOLM = Enables the iOLM application only [a]
Oi = Enables iOLM and OTDR applications [a]

iOLM Software Option [a]
00 = Without iOLM option
iEX = iOLM Expert mode
RT = Real-time OTDR mode (via iOLM application) [b]

OTDR Software Option [a, c]
00 = Without software option
AD = Macrobend finder and linear view

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

Example: FTB-7400E-2347B-Oi-EI-EUI-89-AD

SPSB-XX-XX

Model
Dual-Wavelength
SPSB-B-150 = Soft pulse suppressor bag, singlemode fiber 9/125 µm, 150 m

Connector
58 = FC/APC narrow key
88 = SC/APC narrow key
89 = FC/UPC
90 = ST/UPC
91 = SC/UPC
95 = E2000/UPC
96 = E2000/APC
101 = LC/UPC [d]
104 = LC/APC [d]

Example: SPSB-B-150-58-101

Notes

a. Available on the FTB-200v2 platform only.
b. Available with iOLM base software only. This feature is part of the Oi base software.
c. Available with OTDR and Oi base softwares only.
d. LC connectors are not available for first connector.

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 dead zones. APC connectors provide better performances than UPC connectors, thereby improving testing efficiency.

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).

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**

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Assessing Next-Gen Networks