

# FTB-720 LAN/WAN Access OTDR

OPTIMIZED FOR MULTIMODE AND  
SINGLEMODE ACCESS NETWORK TESTING



iOLM  
READY

EF  
READY

EXFO Connect  
Compatible



The ideal construction OTDRs for everyday field testing in any access network. With an iOLM application for both singlemode and multimode testing, it's the most automated and intelligent troubleshooting tool for FTTA, LAN and data centers.

## KEY FEATURES

- Dynamic range of up to 36 dB
- Event dead zone as low as 0.8 meter
- Combined singlemode/multimode wavelengths
- EF ready: use with external launch mode conditioner for EF-compliant multimode results
- Live fiber testing at 1625 nm
- iOLM ready: one-touch multiple acquisitions, with clear go/no-go results presented in a straightforward visual format

## APPLICATIONS

- Access network testing
- LAN/WAN characterization
- Private networks
- Data centers
- Fronthaul/backhaul (FTTA, FTTT, remote radio heads, DAS and small cells)

## COMPLEMENTARY PRODUCTS



Platform  
FTB-1



Fiber Inspection Probe  
FIP-400B



Encircled Flux (EF) Conditioner  
SPSB-EF-C30



Assessing  
Next-Gen Networks

## REMOVING THE COMPLEXITY FROM THE OTDR

**iOLM** | intelligent Optical Link Mapper

Launch multiple OTDR acquisitions



Analyze the traces



Compound the results



Display a schematic link view and prompt diagnosis



US patent 6,612,750

Using a unique and patented automated multipulse and multi-wavelength acquisition approach, the field-proven iOLM surpasses the traditional OTDR and linear view for expert-level link characterization of any fiber network.

This dynamic OTDR-based application uses EXFO's most advanced algorithms to deliver detailed information and maximum resolution on every element of the link. Thanks to its unmatched intelligence and simplicity, the iOLM converts complex OTDR tests into clear and accurate go/no-go results, through a single button operation.

- › Hardware optimized and intelligent software for maximum performance
- › Multiple acquisitions, multiple wavelengths with one button—all automated
- › Expert-level characterization results in a single, comprehensive report
- › The fastest and hassle-free way to perform full fiber characterization
- › No training required: self-setting device with clear go/no-go results
- › Minimized truck rolls, thanks to the smartest analysis, powered by Link-Aware™ technology

Powered by  
**LINK-AWARE™**  
TECHNOLOGY

**Three ways to benefit from the iOLM:****OTDR combo (Oi code)**

Run iOLM and  
OTDR applications on one unit

**Upgrade**

Add iOLM software option,  
even while in the field

**iOLM only**

Order a unit with the iOLM  
application only

## TROUBLESHOOTING OF HIGH-SPEED MULTIMODE NETWORKS WITH ENCIRCLED FLUX (PRELIMINARY)



SPSB-EF-C30

Whether it's for an expanding enterprise-class business or a large-volume data center, new high-speed data networks built with multimode fibers are running under tighter tolerances than ever before. In case 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 different unit 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 encircled flux 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.

The use of an external EF-compliant device\* such as the SPSB-EF-C30 will ensure a fast and easy way to fix faulty networks.

\*For more detailed information about encircled flux compliance, please read the encircled flux test solution specification sheet.

## 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 operation from build-out to maintenance.

## ADDITIONAL SOFTWARE TEST CAPABILITIES ON THE FTB-1 PLATFORM

EXpert VoIP  
TEST TOOLS

EXpert VoIP generates a voice-over-IP call directly from the test platform to validate performance during service turn-up and troubleshooting.

- › Supports a wide range of signaling protocols, including SIP, SCCP, H.248/Megaco and H.323
- › Supports MOS and R-factor quality metrics
- › Simplifies testing with configurable pass/fail thresholds and RTP metrics

EXpert IP  
TEST TOOLS

EXpert IP integrates six commonly used datacom test tools into one platform-based application to ensure that field technicians are prepared for a wide range of testing needs.

- › Rapidly performs debugging sequences with VLAN scan and LAN discovery
- › Validates end-to-end ping and traceroute
- › Verifies FTP performance and HTTP availability

EXpert IPTV  
TEST TOOLS

This powerful IPTV quality assessment solution enables set-top-box emulation and passive monitoring of IPTV streams, allowing quick and easy pass/fail verification of IPTV installations.

- › Real-time video preview
- › Analyzes up to 10 video streams
- › Comprehensive QoS and QoE metrics including MOS score

SPECIFICATIONS <sup>a</sup>

## TECHNICAL SPECIFICATIONS

|   |   |
|---|---|
| Wavelength (nm) <sup>b</sup>                  | 850 ± 20, 1300 ± 20, 1310 ± 20, 1550 ± 20, 1625 ± 15 (filtered)   |
| Dynamic range (dB) <sup>c, d</sup>            | 27, 26, 36, 34, 34  |
| Event dead zone (m) <sup>e</sup>              | 0.8   |
| Attenuation dead zone (m) <sup>e</sup>        | 4, 4.5, 5, 5, 5   |
| Distance range (km)                           | Multimode: 0.1, 0.3, 0.5, 1.3, 2.5, 5, 10, 20, 40<br>Singlemode: 1.25, 2.5, 5, 10, 20, 40, 80, 160, 260               |
| Pulse width (ns)                              | Multimode: 5, 10, 30, 50, 100, 275, 500, 1000<br>Singlemode: 5, 10, 30, 50, 100, 275, 500, 1000, 2500, 10 000, 20 000 |
| Launch conditions <sup>f</sup>                | Encircled Flux (EF) compliant <sup>i</sup>  |
| Linearity (dB/dB) <sup>b</sup>                | ±0.03   |
| Loss threshold (dB)                           | 0.01  |
| Loss resolution (dB)                          | 0.001   |
| Sampling resolution (m)                       | Multimode: 0.04 to 2.5<br>Singlemode: 0.04 to 5   |
| Sampling points                               | Up to 256 000   |
| Distance uncertainty (m) <sup>g</sup>         | ±(0.75 + 0.0025 % x distance + sampling resolution)   |
| Measurement time                              | User-defined (60 min. maximum)  |
| Typical real-time refresh (Hz)                | 3   |
| Stable source output power (dBm) <sup>h</sup> | −3 (1300 nm), −7 (1550 nm)  |

## NOTES

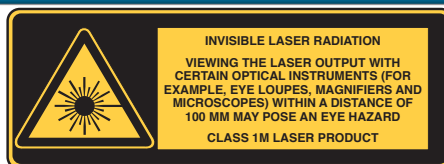
- a. All specifications valid at 23 °C ± 2 °C with an FC/PC connector, unless otherwise specified; APC connector for FTB-720 singlemode model.
- b. Typical.
- c. Typical dynamic range with longest pulse and three-minute averaging at SNR = 1.
- d. Multimode dynamic range is specified for 62.5 µm fiber; a 3 dB reduction is seen when testing 50 µm fiber.
- e. Typical dead zone for multimode reflectance below −35 dB and singlemode reflectance below −45 dB, using a 5 ns pulse.

- f. For multimode port, controlled launch conditions allow 50 µm and 62.5 µm multimode fiber testing.
- g. Does not include uncertainty due to fiber index.
- h. Typical output power is given at 1300 nm for multimode output and 1550 nm for singlemode output.
- i. Compliant with Encircle Flux TIA-526-14-B and IEC 61280-4-1 Ed. 2.0 using an external EF conditioner (SPSB-EF-C-30) and Class CPR 1 or 2 if used without.

## GENERAL SPECIFICATIONS

|                   |   |                    |
|-------------------|---|--------------------|
| 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) |                    |
| Weight            | 0.65 kg (1.4 lb)  |                    |
| Temperature       |   |                    |
| Operating         | 0 °C to 50 °C   | (32 °F to 122 °F)  |
| Storage           | -40 °C to 70 °C   | (-40 °F to 158 °F) |
| Relative humidity | 0% to 95% non-condensing                                    |                    |

## LASER SAFETY



## 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 = Enables the iOLM application only  
 Oi = Enables iOLM and OTDR applications

## 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

Example: FTB-720-023B-OTDR-EA-EUI-89-AD-EC

## iOLM Software Option

00 = Without iOLM option  
 iEX = iOLM Expert mode  
 RT = Real-time OTDR mode (via iOLM application) <sup>a</sup>

OTDR Software Option <sup>b</sup>

00 = Without software option  
 AD = Auto diagnostic (macro bend detection, pass/fail and fault finder)  
 EC = Event characterization (bidirectional analysis and Template mode)

## 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 below

## Notes

- a. Available with iOLM base software only. This feature is part of the Oi base software.  
 b. Available with OTDR and Oi base softwares only.

## 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 on singlemode ports using 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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