

# 500

NETWORK TESTING

## FiberBasix 500 TESTERS

EOT-500 Optical Loss Test Set  
ELS-500 Light Source  
EPM-500 Power Meter



### The Choice Solution for Network-Link Certification

- Pass/fail thresholds and LED indicator
- Memory capacity of 1000 data items; data transfer to a PC via USB connection
- Error-free testing: automatic wavelength switching, and no offset nulling required **NEW**
- Visual fault locator (VFL) option for quick and easy troubleshooting
- One-touch storage of results for all wavelengths at once (on both the EPM-500 and EOT-500)
- Complete reporting software **NEW**

**FTTx**  
TEST SOLUTIONS

[www.EXFO.com](http://www.EXFO.com)

Telecom Test and Measurement

**E** EXPERTISE REACHING OUT

The FiberBasix 500 series includes three highly convenient instruments:

- The **EOT-500 Optical Loss Test Set**, a versatile instrument that combines a power meter and a light source
- The **ELS-500 Light Source**, combining up to four wavelengths and available in four specific configurations
- The **EPM-500 Power Meter**, which offers high accuracy and referencing capabilities

### Rugged, Reliable, Convenient

Like all EXFO portable instruments, FiberBasix 500 handhelds are built for top ruggedness and convenience, perfect for the harshest test conditions. They feature a keypad/LCD backlight, for easy operation in darker environments, rechargeable batteries and interchangeable connectors.

### FTTx Ready

EXFO's FiberBasix testers allow for the testing of passive optical networks (PONs) at 1310, 1490 and 1550 nm, the three wavelengths recommended by the ITU-T (G.983.3) for PONs.

## ELS-500 Light Source: Multiwavelength Testing Capability

The EXFO's ELS-500 Light Source provides excellent stability and high measurement accuracy with your choice of up to three wavelengths (1310, 1550, and 1490 or 1625 nm) on a single port, or four wavelengths (850/1300 nm and 1310/1550 nm) on two ports. With its automatic wavelength switching mode, it is the perfect complement to the EPM-500 Power Meter when it comes to quickly and easily measuring attenuation on fiber-optic links.

- Tone generation for use with the EPM-500 Power Meter
- Automatic wavelength switching
- Highest singlemode output power in the industry
- Optional VFL



The ELS-500 Light Source

## EOT-500 OLTS: Integrating a Power Meter and a Multiwavelength Light Source

The EOT-500 Optical Loss Test Set delivers power meter functionalities and your choice of up to three wavelengths from the following: 850, 1300, 1310, 1490 or 1550 nm. Thanks to its highly flexible design, you can simultaneously measure the attenuation on two fiber links using two units.

- Ideal for bidirectional testing
- Automatic wavelength switching
- Optional VFL



The EOT-500 OLTS

## EPM-500 Power Meter: High Accuracy and Easy Referencing

The EPM-500 Power Meter provides highly accurate power measurements, as well as reference value setting capabilities. What's more, this convenient unit requires no offset nulling, for reliable, long-lasting performance in the field. When paired with an ELS-500 Light Source used in Auto-Switching mode, the power meter allows for semi-automated loss measurement, providing easy, error-free testing.

- Tone detection and automatic wavelength switching
- Memory capacity of 1000 data items; data transfer to a PC via USB connection
- Passfail/fail thresholds and LED indicators
- No offset nulling required



The EPM-500 Power Meter

## Reporting Software (EPM-500 Power Meter and EOT-500 OLTS) **NEW**

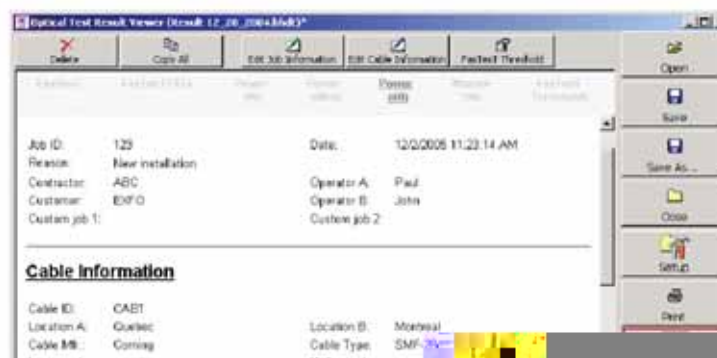
This new software tool enables you to produce professional-looking reports with comprehensive documentation. It also offers these functionalities:

- Two test files can be merged into one test report (see note no. 3)
- Pass/fail thresholds that are active during download are automatically activated and displayed in the Report Viewer
- One-touch storage of results for all wavelengths at once (see note no. 1)
- Unit B configuration information can be input and documented (see note no. 2)
- Data transfer can be launched from the Report Viewer window (see note no. 3)
- A pass/fail threshold can be set for an individual fiber or wavelength (see note no. 4)

1 Store test results for all wavelengths at once



Optical Report Viewer: main window

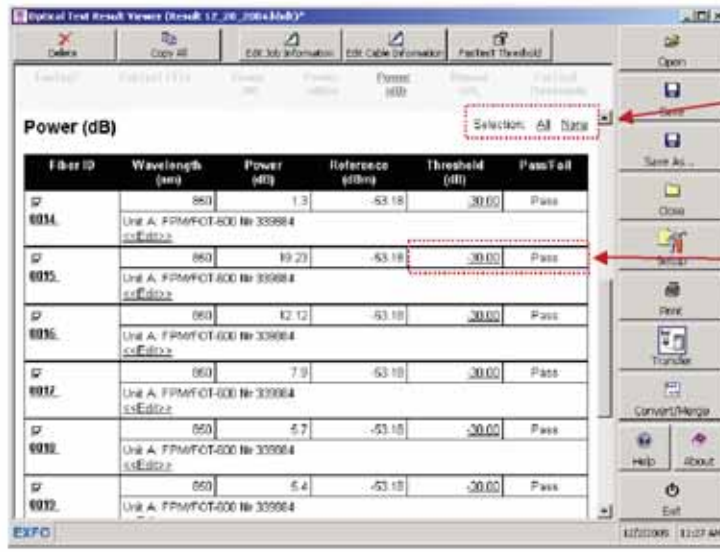


Launch data

3

2

Optical Report Viewer: main window



Optical Report Viewer: main window

ELS-500 SPECIFICATIONS <sup>a</sup>

Model <sup>b</sup>	12D	23BL	235BL	01-VCL
Central wavelength (nm)	850 ± 25 1300 +50/-10	1310 ± 20 1550 ± 20	1310 ± 20 1490 ± 10 1550 ± 20	850 ± 20
Spectral width <sup>c</sup> (nm)	50/135	≤ 5	≤ 5	≤ 1
Output power (dBm)	≥ -20/≥ -20 (62.5/125 μm)	≥ 1/≥ 1	≥ 1/≥ -4.5/≥ -3	≥ -3 (50/125 μm)
Automatic wavelength switching	Yes	Yes	Yes	Yes
Tone generation	270 Hz, 1 kHz, 2 kHz	270 Hz, 1 kHz, 2 kHz	270 Hz, 1 kHz, 2 kHz	270 Hz, 1 kHz, 2 kHz
Battery life (hours) (typical in Auto mode)	50	50	50	60
Warranty and recommended calibration interval (year)	1	1	1	1

EOT-500 SPECIFICATIONS <sup>a</sup>

Model	EOT-502	EOT-502X	GENERAL SPECIFICATIONS	
<b>Detector <sup>d</sup></b>	<b>Ge</b>	<b>GeX</b>	Size (H x W x D)	190 mm x 100 mm x 62 mm (7 1/2 in x 4 in x 2 1/2 in)
Power range <sup>e</sup> (dBm)	10 to -70	26 to -55	Weight	0.48 kg (1.1 lb)
Wavelength range (nm)	800 to 1650	800 to 1650	Temperature operating	-10 °C to 50 °C (14 °F to 122 °F)
Number of calibrated wavelengths	6	6	storage	-40 °C to 70 °C (-40 °F to 158 °F)
Power uncertainty <sup>f</sup>	±5 % ± 0.1 nW	±5 % ± 3 nW	Relative humidity	0 % to 95 % non-condensing
Automatic offset nulling <sup>g</sup>	Yes	Yes		
Display units	dB, dBm, W	dB, dBm, W		
Tone detection	270 Hz, 1 kHz and 2 kHz	270 Hz, 1 kHz and 2 kHz		
Automatic wavelength switching <sup>h</sup>	Yes	Yes		
Warm-up period <sup>i</sup> (min)	0	0		
Data storage (items)	More than 1000	More than 1000		
Battery life (hours) (typical)	70	70		
Warranty and recommended calibration period (year)	1	1		

## STANDARD ACCESSORIES

User guide, Certificate of Calibration, instrument stickers in six languages, AC adapter/charger, lithium ion battery, shoulder strap, alcohol cleaning pads, soft carrying case.

Model <sup>b</sup>	12D	23BL	235BL	01-VCL
Central wavelength (nm)	850 ± 25 1300 +50/-10	1310 ± 20 1550 ± 20	1310 ± 20 1490 ± 10 1550 ± 20	850 ± 20
Spectral width <sup>c</sup> (nm)	50/135	≤ 5	≤ 5	≤ 1
Output power (dBm)	≥ -20 (62.5/125 μm) ≥ -20 (62.5/125 μm)	≥ 1	≥ 1 ≥ -4.5 ≥ -3	≥ -3 (50/125 μm)
Tone generation	270 Hz, 1 kHz, 2 kHz	270 Hz, 1 kHz, 2 kHz	270 Hz, 1 kHz, 2 kHz	270 Hz, 1 kHz, 2 kHz
Automatic wavelength switching	Yes	Yes	Yes	Yes
Battery life (hours) (typical in Auto mode)	50	50	50	60
Warranty and recommended calibration period (years)	1	1	1	1

EPM-500 SPECIFICATIONS <sup>a</sup>

Model	EPM-502	EPM-502X
<b>Detector <sup>d</sup></b>	<b>Ge</b>	<b>GeX</b>
Power range <sup>e</sup> (dBm)	10 to -70	26 to -55
Wavelength range (nm)	800 to 1650	800 to 1650
Number of calibrated wavelengths	6	6
Power uncertainty <sup>f</sup>	±5 % ± 0.1 nW	±5 % ± 3 nW
Automatic offset nulling <sup>g</sup>	Yes	Yes
Display units	dB, dBm, W	dB, dBm, W
Tone detection	270 Hz, 1 kHz and 2 kHz	270 Hz, 1 kHz and 2 kHz
Automatic wavelength recognition <sup>h</sup>	Yes	Yes
Warm-up period <sup>i</sup> (min)	0	0
Data storage (items)	Up to 1000	Up to 1000
Battery life (hours) (typical)	70	70
Warranty and recommended recalibration interval (years)	1	1

VFL Option Specifications <sup>j</sup>

Emitter type	Laser
Wavelength (nm)	650
Output power (dBm)	3

## Notes

- Guaranteed unless otherwise specified.
- All specifications valid at 23 °C ± 1 °C, with an FC connector.
- rms for FP lasers and VCSEL: -3 dB width for LEDs (typical values for LEDs and VCSEL).
- All specifications valid at 1550 nm and 23 °C ± 1 °C, with an FC connector.
- In CW mode; sensitivity defined as 6 x rms noise level.
- For calibration wavelengths. Valid up to 20 dBm for EOT/EPM-502X.
- For power > -40 dBm for EOT/EPM-502, and > -25 dBm for EOT/EPM-502X.
- At 850 nm, 1300 nm, 1310 nm, 1490 nm, 1550 nm and 1625 nm; for power > -50 dBm for EOT-502/EPM-502, and > -40 dBm (typical) for EOT/EPM-502X.
- For a variation of ≤ 0.06 dB at power levels ≥ -40 dBm for EOT/EPM-502 and ≥ -25 dBm for EOT/EPM-502X.
- Typical values for 62.5/125 μm fiber.

**ORDERING INFORMATION**

**ELS-500-XX-XX-XX**

**Model**

ELS-500-01-VCL = 850 nm, VCSEL, one port  
 ELS-500-12D = 850/1300 nm LED Fiber D, one port  
 ELS-500-12D-23BL = 850/1300 nm LED Fiber D, 1310/1550 nm laser, two ports  
 ELS-500-23BL = 1310/1550 nm laser, (9/125 μm), one port  
 ELS-500-235BL = 1310/1490/1550 nm laser, (9/125 μm), one port

Example: ELS-500-23BL-EI-EUI-89-VFL

**Connector\***

EI-EUI-89 = UPC/FC narrow key  
 EI-EUI-90 = UPC/ST  
 EI-EUI-91 = UPC/SC  
 EI-EUI-95 = UPC/E-2000

**Visual Fault Locator**

00 = Without visual fault locator  
 VFL = With visual fault locator  
 (Universal 2.5 mm connector)

**EPM-50X-XX-XX**

**Model**

EPM-502 = Ge detector  
 EPM-502X = High-power Ge detector

**Connector Adapter<sup>a</sup>**

FOA-22 = FC (PC/SPC/UPC/APC), NEC-D3  
 FOA-32 = ST (PC/SPC/UPC)  
 FOA-54 = SC  
 FOA-96B = E-2000  
 FOA-98 = LC

**Visual Fault Locator**

00 = Without visual fault locator  
 VFL = With visual fault locator  
 (Universal 2.5 mm connector)

Example: EPM-502X-FOA-22-VFL

**EOT-50X-XX-XX-XX**

**Model**

EOT-502-01-VCL = Ge detector, 850 nm VCSEL (50/125 μm)  
 EOT-502-12D = Ge detector, 850/1300 nm LED (62.5/125 μm)  
 EOT-502-23BL = Ge detector, 1310/1550 nm laser source (9/125 μm)  
 EOT-502-235BL = Ge detector, 1310/1490/1550 nm laser source (9/125 μm)  
 EOT-502X-23BL = High-power Ge detector, 1310/1550 nm laser source (9/125 μm)  
 EOT-502X-235BL = High-power Ge detector, 1310/1490/1550 nm laser source (9/125 μm)

**Connector Adapter (Power Meter)<sup>a</sup>**

FOA-22 = FC (PC/SPC/UPC/APC), NEC-D3  
 FOA-32 = ST (PC/SPC/UPC)  
 FOA-54 = SC  
 (PC/SPC/UPC/APC)  
 FOA-96B = E-2000  
 FOA-98 = LC

**Visual Fault Locator**

00 = Without visual fault locator  
 VFL = With visual fault locator  
 (Universal 2.5 mm connector)

**Connector (Source)<sup>a</sup>**

EI-EUI-89 = UPC/FC narrow key  
 EI-EUI-90 = UPC/ST  
 EI-EUI-91 = UPC/SC  
 EI-EUI-95 = UPC/E-2000

Example: EOT-502X-235BL-FOA-22-EI-EUI-89-VFL

**Test Kit Ordering Information**

**FBK-501-XX LAN Test Kit with data storage/transfer**

- EPM-502-VFL-XX Power Meter, Ge detector
- ELS-100-12D-XX Light Source, 850/1300 nm LED (1 port)
- One TJ-DXX-XX Test Jumper
- Carrying case (GP-10-061)

**FBK-502-XX Outside Plant Test Kit with data storage/transfer**

- EPM-502-VFL-XX Power Meter, Ge detector
- ELS-100-23BL-XX Light Source, 1310/1550 nm laser (1 port)
- One TJ-BXX-XX Test Jumper
- Carrying case (GP-10-061)

**FBK-503-XX Contractor Test Kit with data storage/transfer**

- EPM-502-VFL-XX Power Meter, Ge detector
- ELS-100-12D-23BL-XX Light Source, 850/1300 nm LED and 1310/1550 nm laser (2 ports)
- One TJ-BXX-XX Test Jumper
- One TJ-DXX-XX Test Jumper
- Carrying case (GP-10-061)

**FBK-504-XX Premium LAN Test Kit with data storage/transfer**

- EPM-502-VFL-XX Power Meter, Ge detector
- ELS-500-12D-XX Light Source
- One TJ-CXX-XX Test Jumper
- Carrying case (GP-10-061)

**FBK-505-XX Premium Outside Plant Test Kit with data storage/transfer**

- EPM-502X-VFL-XX Power Meter, high-power Ge detector
- ELS-500-23BL-XX Light Source, 1310/1550 nm laser (1 port)
- One TJ-BXX-XX Test Jumper
- Carrying case (GP-10-061)

**FBK-506-XX Premium Contractor Test Kit with data storage/transfer**

- EPM-502-VFL-XX Power Meter, Ge detector
- ELS-500-12D-23BL-XX Light Source, 850/1300 nm LED and 1310/1550 nm laser (2 ports)
- One TJ-BXX-XX Test Jumper
- One TJ-DXX-XX Test Jumper
- Carrying case (GP-10-061)

**FBK-507-XX Bidirectional LAN Test Kit with data storage/transfer**

- Two EOT-502-12D-VFL-XX OLTS, Ge detector, VFL, 850/1300 nm LED
- Two TJ-DXX-XX Test Jumper
- Carrying case (GP-10-061)

**FBK-508-XX Bidirectional Singlemode Test Kit with data storage/transfer**

- Two EOT-502-23BL-VFL-XX OLTS, Ge detector, VFL, 1310/1550 nm laser
- Two TJ-BXX-XX Test Jumper
- Carrying case (GP-10-061)

**Safety**

21 CFR 1040.10 and IEC 60825-1:1993+A1:1997+A2:2001:  
 EOT-500 and ELS-500: CLASS 1M LASER PRODUCT  
 CLASS 3R LASER PRODUCT FOR VFL OPTION  
 EPM-500: CLASS 3R LASER PRODUCT FOR VFL OPTION

† If VFL option is available



**Note**

a. Other connectors and connector adapters available. Consult our website at [www.exfo.com/accessories](http://www.exfo.com/accessories) for details. EXFO Universal Interface is protected by US patent 6,612,750.



Find out more about EXFO's extensive line of high-performance portable instruments by visiting our website at [www.EXFO.com](http://www.EXFO.com).

Rugged Handheld Solutions		Platform-Based Solutions		
OPTICAL	COPPER ACCESS	OPTICAL FIBER	DWDM Test Systems	Transport/Datacom
<ul style="list-style-type: none"> <li>• OLTSs</li> <li>• Power meters</li> <li>• Light sources</li> <li>• Talk sets</li> </ul>	<ul style="list-style-type: none"> <li>• ADSL/ADSL2+, SHDSL, VDSL test sets</li> <li>• VoIP and IPTV test sets</li> <li>• Ethernet test sets</li> <li>• POTS test sets</li> </ul>	<ul style="list-style-type: none"> <li>• OTDRs</li> <li>• OLTSs</li> <li>• ORL meters</li> <li>• Variable attenuators</li> </ul>	<ul style="list-style-type: none"> <li>• OSAs</li> <li>• PMD analyzers</li> <li>• Chromatic dispersion analyzer</li> </ul>	<ul style="list-style-type: none"> <li>• SONET/DSn (DS0 to OC-192) testers</li> <li>• SDH/PDH (64 kb/s to STM-64) testers</li> <li>• T1/T3 testers</li> <li>• E1 testers</li> <li>• 10/100 and Gigabit Ethernet testers</li> <li>• Fibre Channel testers</li> <li>• 10 Gigabit Ethernet testers</li> </ul>

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