MaxTester 940 Fiber Certifier OLTS

KEY FEATURES

- 7-inch high resolution touchscreen – the widest screen on the market
- Leading FasTes™ performances: certifies two fibers at two wavelengths under 3 seconds
- On-board assistant and diagnosis to eliminate reference errors and negative loss
- Built-in Encircled-Flux compliancy as per ANSI/TIA and ISO/IEC
- 100% automated fiber inspection: one-step process with pass/fail analysis at both ends of the fiber
- Certifies against multiple industry standards at once
- On-board professional PDF reporting
- Results batch-processing with FastReporter 2 software
- Best-in-class singlemode distance range of 160 km
- EXFO Connect-ready for cloud-based test assets management

APPLICATIONS

- Data centers
- Enterprise structured cabling

COMPLEMENTARY PRODUCTS

- Fiber Inspection Probe FIP-400B (Wi-Fi or USB)
- Data Post-Processing Software FastReporter 2
- Platform FTB-720 QUAD OTDR/OLM
THE FIBER CERTIFIER OLTS...
WITH THE EXPERT BLUE TOUCH.

The MAX-940 Fiber Certifier OLTS is the first tablet-inspired solution that has been specifically designed to certify fiber cabling in data centers and enterprise networks. Its intuitive Windows-like GUI ensures a minimal learning curve. The MAX-940 Fiber Certifier offers icon-based functions, instant boot-up, as well as on-board assistance and on-board professional reporting.

TABLET-INSPIRED DESIGN

With the most user-friendly display in the industry (7-inch, high-resolution touchscreen), the MAX-940 Fiber Certifier delivers unprecedented user experience. Its integrated Wi-Fi/Bluetooth allows for high connectivity. The MAX-940 Fiber Certifier guarantees a full day of fieldwork with 12 hours of battery autonomy and internal memory capacity for over 200,000 test files.

FULL-FLEDDGED UNITS AT BOTH ENDS

Both the main and remote units are full-fledged to maximize the efficiency of each technician:
- FasTesT™ results with diagnostics are displayed on both units at the end of each test.
- Both technicians can certify the fiber connectors with an fiber inspection probe via the large touchscreens available on the both units.

With the MAX-940 Fiber Certifier, the remote technician is no longer blind and much more efficient.

ON-BOARD MULTISTANDARD CERTIFICATION

The MAX-940 Fiber Certifier lets you certify against both cabling and application standards at the same time. You can therefore certify the cabling—the physical quality of the fiber and its components like the splices and connectors—as well as the application that the fiber can carry, such as IEEE or Fibre Channel.

ON-BOARD PDF REPORTING

The MAX-940 Fiber Certifier comes with unique on-board PDF reporting to convert hundreds of measurements into a single professional report in a format recognized by the industry standards. The reporting includes clear pass/fail certification status against the multiple standards tested, a summary of the measurements, with margins, anomalies, test cords reference and verification.

This feature serves as a natural complement to our FastReporter 2 PC software designed for the batch processing of high counts fibers and multiple measurements combination (connectors certification, loss, OTDR, and so forth).
ON-BOARD ASSISTANCE AND DIAGNOSIS

The MAX-940 Fiber Certifier provides a foolproof method against test cord reference mistakes and negative loss thanks to its step-by-step wizard that guides technicians along the referencing and the verification process, as per industry standards. The MAX-940 Fiber Certifier goes even further by diagnosing the possible causes of fail results and gives guidance to fix issues.

BUILT-IN ENCIRCLED-FLUX COMPLIANCE

Each MaxTester 940 Fiber Certifier comes with a built-in Encircled-Flux (EF) compliant multimode light source. Furthermore, in order to maximize measurement accuracy and avoid invalid results, EXFO designed reference-grade test cords in compliance with the ISO/IEC 14763-3 standard requirements.

EXFO’s test cords are made from reference-grade connectors, and the fiber used is strictly controlled to ensure proper core size and geometry. For multimode testing, this allows to maintain EF-compliancy at the output of the test cord as required by the industry, without the need for an external EF-mode conditioner. These high-quality reference-grade test cords are less fragile and less expensive than EF-conditioned test cords, helping to reduce your overall equipment cost of ownership.

EXFO’s test cords are also color-coded to avoid manipulation errors when they are connected to the test ports and device under test. The user interface displays animated instructions with the same color codes to facilitate the test process.

3 YEARS OF PEACE OF MIND FOR REPAIRS AND CALIBRATION

The MAX-940 Fiber Certifier has been rigorously tested to guarantee the highest standards of reliability and durability. That is what makes us confident in offering a warranty and a recommended calibration interval of 3 years.

You can safely use this highly reliable instrument to get accurate test results, while significantly reducing your certifier’s cost of ownership (your cost of calibration and the related downtime will be divided by a factor of three).

OPTICAL PLUG AND PLAY OPTIONS

The MaxTester 940 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.

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.

QUAD OPTION FOR MULTIMODE UNITS

The MAX-940 Fiber Certifier multimode units offer maximum flexibility by featuring a unique quad-ready ability. Upgrading to the quad option is easy and instantaneous; thanks to a software key that activates the singlemode wavelengths. Singlemode wavelengths are pre-calibrated at the factory, so you are ready to test singlemode fibers right after the upgrade with no other constraints. This will save you both time and money.
FULLY AUTOMATED FIBER INSPECTION PROBE

Neglecting to clean, inspect and certify connectors can lead to serious, time-consuming problems accounting for up to 80% of network failures.

With its two full-fledge units, the MAX-940 Fiber Certifier lets you certify connectors at both ends of the fiber, in the same workflow as the tier-1 certification. It is now easy to include connector certification in your regular method of procedures without compromising the efficiency of your technicians. You’ll no longer leave a stone unturned nor a connector uninspected!

Years of experience in the field have given EXFO the insight and the expertise to re-engineer a truly unique and innovative fiber inspection probe to greatly simplify and speed up this critical step.

Housing a unique automatic focus adjustment system, the FIP-400B automates each operation in the sequence of inspecting a connector endface. The result: fiber inspection is now a quick, one-step process that can be performed by technicians of all skill levels.

FIVE MODELS TO FIT YOUR BUDGET

The FIP-430B: complete and fully automated feature set, includes the powerful fiber image-centering system, focus adjustment and optimization, and on-board pass/fail analysis.

The FIP-435B: go one step further with the wireless probe. Includes all FIP-430B features.

The semi-automated FIP-420B: same features as the FIP-430B, without the automated focus adjustment.

The semi-automated FIP-425B: wireless version of the semi-automated FIP-420B.

The FIP-410B: all basic inspection features needed for manual inspection only.

<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>✗</td>
<td>✔</td>
</tr>
<tr>
<td>Automatic focus adjustment</td>
<td>✗</td>
<td>✗</td>
</tr>
<tr>
<td>On-board pass/fail analysis</td>
<td>✗</td>
<td>✔</td>
</tr>
<tr>
<td>Pass/fail LED indicator</td>
<td>✗</td>
<td>✔</td>
</tr>
<tr>
<td>Wi-Fi Connectivity</td>
<td>✗</td>
<td>✗</td>
</tr>
</tbody>
</table>

**Notes**

a. Models FIP-430B and FIP-435B.

b. Data sourced from EXFO’s case study, with calculation based on typical analysis time.
Analyzing optical test data presents various challenges whether for loss, OTDR and iOLM testing, or connector inspection. Designed for offline analysis, EXFO’s FastReporter 2 offers reliable data and report management in a user-friendly environment. It packs everything to boost efficiency and productivity for all your optical tests.

**CHALLENGE NO. 1**
**EDITING MULTIPLE MEASUREMENT FILES**
Close your jobs faster
Measurements often require extra processing in order to perform proper analysis and ultimately document and report jobs appropriately. FastReporter 2 includes a series of powerful tools that automate repetitive operations on an unlimited number of files via batch operations.

**CHALLENGE NO. 2**
**ANALYZING MULTIPLE MEASUREMENT FILES**
Wrong limits? Simply re-certify.
Setting up wrong limits by selecting the wrong standard or the wrong project is no longer an issue. FastReporter 2 allows you to reset the limits up and reanalyze the results to provide you with the certification you need. You can move on other projects instead of redoing the tests.

**CHALLENGE NO. 3**
**DOCUMENTING YOUR WORK**
Create your report, fast and pro
FastReporter 2 generates professional customized reports with all the test measurements under multiple formats (PDF, html, xls). Your customer can now easily see and validate the quality of your work.
SMALL ENOUGH TO BE HANDHELD. LARGE ENOUGH FOR FULL-SCREEN VIEWING.

PACKAGED FOR EFFICIENCY

1. Stylus
2. Singlemode source port
3. Multimode source port
4. Visual fault locator
5. 10/100 Mbit/s Ethernet port
6. Two USB 2.0 ports
7. InGaAs power meter
8. AC adapter
9. Home/switch application and screen capture (hold)
10. Power on/off/standby
11. Battery LED status
12. Built-in Wi-Fi/Bluetooth
13. Stand support

EXFO
### SOFTWARE UTILITIES

<table>
<thead>
<tr>
<th>Feature</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Software update</td>
<td>Ensure that your MaxTester 940 is up-to-date with the latest software.</td>
</tr>
<tr>
<td>VNC configuration</td>
<td>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 940 and any Bluetooth-enabled device.</td>
</tr>
<tr>
<td>Wi-Fi connection</td>
<td>Upload test results and browse the internet.</td>
</tr>
<tr>
<td>Inspection probe</td>
<td>USB probe to inspect and analyze connectors.</td>
</tr>
</tbody>
</table>

### POWER METER SPECIFICATIONS

<table>
<thead>
<tr>
<th>Specification</th>
<th>Specification</th>
</tr>
</thead>
<tbody>
<tr>
<td>Input connector</td>
<td>Interchangeable adapter (LC or SC)</td>
</tr>
<tr>
<td>Detector type</td>
<td>InGaAs</td>
</tr>
<tr>
<td>Measurement range (dBm)</td>
<td>5 to –75</td>
</tr>
<tr>
<td>Uncertainty c</td>
<td>± (5 % + 32 pW)</td>
</tr>
<tr>
<td>Wavelengths range (nm)</td>
<td>800 to 1650</td>
</tr>
</tbody>
</table>

### FastTesT™ LOSS/LENGTH SPECIFICATIONS

<table>
<thead>
<tr>
<th>Specification</th>
<th>Specification</th>
</tr>
</thead>
<tbody>
<tr>
<td>Testing speed</td>
<td>FastTesT™ Duplex: &lt; 2.9 seconds (two wavelengths, one direction, automated)</td>
</tr>
<tr>
<td></td>
<td>FastTesT™ Simplex: ≥ 3 seconds (two wavelengths, bidirectional, automated)</td>
</tr>
<tr>
<td>Input/Output connectors</td>
<td>Interchangeable adapter (LC or SC)</td>
</tr>
<tr>
<td>Wavelengths (nm) (typical)</td>
<td>Quad 850 ±20 1300 ±20 1310 ±20 1550 ±20</td>
</tr>
<tr>
<td></td>
<td>MM 850 ±20 1300 ±20</td>
</tr>
<tr>
<td></td>
<td>SM 1310 ±20 1550 ±20</td>
</tr>
<tr>
<td>Source type</td>
<td>LED (multimode) Laser (singlemode)</td>
</tr>
<tr>
<td>Launch condition</td>
<td>EF compliance guaranteed at multimode source port</td>
</tr>
<tr>
<td></td>
<td>Within TIA-526-14-B, ISO/IEC 14763-3 and IEC 61280-4-1 Encircled Flux template limits at the end of an EXFO reference-grade 50/125 µm test cord or equivalent</td>
</tr>
<tr>
<td>Length measurement range</td>
<td>Multimode: 20 km Singlemode: 160 km</td>
</tr>
<tr>
<td>Length measurement uncertainty</td>
<td>± (1.5 m + 1 % x length)</td>
</tr>
</tbody>
</table>

### Source

<table>
<thead>
<tr>
<th>Specification</th>
<th>Specification</th>
</tr>
</thead>
<tbody>
<tr>
<td>Output power (typical)</td>
<td>Multimode: –25 dBm Singlemode: –1 dBm</td>
</tr>
<tr>
<td>Output power stability (typical)</td>
<td>Multimode: ±0.05 dB over 8 hours Singlemode: ±0.1 dB over 8 hours</td>
</tr>
</tbody>
</table>

### Notes

a. At 23 °C ± 1 °C and 1550 nm, on batteries and after 15 minutes of warm up, unless specified otherwise.
b. Specifications are provided with FC type connectors.
c. Uncertainty is valid at calibration conditions.
d. Available in singlemode only.
### ENVIRONMENTAL SPECIFICATIONS

<table>
<thead>
<tr>
<th>Specification</th>
<th>Operating Temperature</th>
<th>Storage Temperature</th>
<th>Relative Humidity</th>
</tr>
</thead>
<tbody>
<tr>
<td>Temperature</td>
<td>−10 °C to 50 °C (14 °F to 122 °F)</td>
<td>−30 °C to 70 °C (−22 °F to 158 °F)</td>
<td>0 % to 95 % noncondensing</td>
</tr>
</tbody>
</table>

### GENERAL SPECIFICATIONS

<table>
<thead>
<tr>
<th>Specification</th>
<th>Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>Display</td>
<td>7-in (178-mm) outdoor-enhanced touchscreen, 800 x 480 TFT</td>
</tr>
<tr>
<td>Size (H x W x D)</td>
<td>166 mm x 200 mm x 68 mm (6 5/16 in x 7 7/8 in x 2 ¾ in)</td>
</tr>
<tr>
<td>Weight (with battery)</td>
<td>1.5 kg (3.3 lb)</td>
</tr>
<tr>
<td>Interfaces</td>
<td>Two USB 2.0 ports</td>
</tr>
<tr>
<td></td>
<td>RJ-45 LAN 10/100 Mbit/s</td>
</tr>
<tr>
<td>Storage</td>
<td>2 GB internal memory (&gt;200 000 test results, typical)</td>
</tr>
<tr>
<td>Battery</td>
<td>Rechargeable lithium-polymer battery</td>
</tr>
<tr>
<td></td>
<td>12 hours of operation</td>
</tr>
<tr>
<td>Power supply</td>
<td>Power supply AC/DC adapter, input 100-240 VAC, 50-60 Hz, 9-16 V DCIN 20 W minimum</td>
</tr>
<tr>
<td>Warranty</td>
<td>3 years</td>
</tr>
<tr>
<td>Recommended recalibration period</td>
<td>3 years</td>
</tr>
</tbody>
</table>

### 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

- Laser: Class 1
- Laser Product

- Laser Radiation: Do not stare into beam
- Laser Class: Class 2 Laser Product
- Laser Wavelength: 650 ± 10 nm
- $P_{out}$ maximum: <0.7 mW
MaxTester 940 Fiber Certifier OLTS

ORDERING INFORMATION

Model  MAX-9XX-XX-XX-XX-XX-XX-XX
Optical configuration  
40-ICERT-SM1 = Singlemode OLTS 1310/1550 nm  
40-ICERT-Q1 = Multimode OLTS 850/1300 nm  
40-ICERT-Q1-QUAD = Quad OLTS 850/1300; 1310/1550 nm
Single Mode Connector  
EA-EU-91 = APC/SC  
EA-EU-98 = APC/FC  
EI-EU-91 = UPC/SC  
EI-EU-98 = UPC/FC
Optical options  
00 = Without power meter  
VFL = Visual fault locator
Inspection Probe Model  
FP410B = Digital video inspection probe  
FP420B = Analysis digital video inspection probe  
FP425B = Wireless digital video inspection probe  
FP430B = Automated analysis digital video inspection probe  
FP435B = Wireless analysis digital video inspection probe
Extra FIP-400B tips b  
Bulkhead tips  
FPT400-FC-APC = FC/APC tip for bulkhead adapter  
FPT400-FC-SC = FC and SC tip for bulkhead adapter c  
FPT400-LC-APC = LC/APC tip for bulkhead adapter  
FPT400-LC-SC = LC/SC tip for bulkhead adapter  
FPT400-U25MA = Universal patchcord tip for 1.25 mm ferrules APC  
FPT400-U12M = Universal patchcord tip for 1.25 mm ferrules APC
Patchcord tips  
FPT400-U12M = Universal patchcord tip for 1.25 mm ferrules  
FPT400-U12MA = Universal patchcord tip for 1.25 mm ferrules APC  
FPT400-U20M = Universal patchcord tip for 2.0 mm ferrules (D4, Lemo)  
FPT400-U25M = Universal patchcord tip for 2.5 mm ferrules  
FPT400-U25MA = Universal patchcord tip for 2.5 mm ferrules APC
Multifiber tips  
FPT400-MTPM = MTP/MPO Multi-Row U25MA tip for bulkhead adapter  
FPT400-MTPMTR = MTP/MPO Multi-Row APC tip for bulkhead adapter
Tip kits  
FPT400-LC-K = LC tip kit including: FPT400-LC: LC tip for bulkhead adapters, FPT400-LC-APC: LC/FC/SC tip for bulkhead adapter, FPT400-U12M: Universal patchcord tip for 1.25mm ferrules APC  
FPT400-LC-KUPC = LC tip kit including: FPT400-LC-LC tip for bulkhead adapters and FPT400-U12MA: Universal patchcord tip for 1.25 mm ferrules APC  
FPT400-LC-KMTR = MTP/MPO Multi-Row APC and UPC tip for bulkhead adapter d
Base tips  
APC = Includes FPT400-U25MA and FPT400-SC-APC  
UPC = Includes FPT400-U25SM and FPT400-SC-SC
Example: MAX-940-ICERT-Q1-QUAD-EI-EU-91-VFL-FP420B-UPC

Notes  
1. Adapters are the same on SM, MM sources ports and power meter ports.  
2. Available with probe option.  
3. Includes ConnectorMax2 software.  
4. Includes RF option.

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EXFO serves over 2000 customers in more than 100 countries. To find your local Office contact details, please go to www.EXFO.com/contact.

EXFO is certified ISO 9001 and attests to the quality of these products. EXFO has made every effort to ensure that the information contained in this specification sheet is accurate. However, we accept no responsibility for any errors or omissions, and we reserve the right to modify design, characteristics and products at any time without obligation. Units of measurement in this document conform to SI standards and practices. In addition, all of EXFO’s manufactured products are compliant with the European Union’s WEEE directive. For more information, please visit www.EXFO.com/recycle. Contact EXFO for prices and availability or to obtain the phone number of your local EXFO distributor.

For the most recent version of this spec sheet, please go to the EXFO website at www.EXFO.com/specs.

In case of discrepancy, the Web version takes precedence over any printed literature.