

Universal Test System

FTB-400



Advanced Test Technology for Deploying,
Maintaining and Managing Optical Networks



Fiber-optic test, measurement
and monitoring instruments

EXFO

Pioneering Technology to Transform Your Testing Paradigm

Technologically speaking, today's networks are more complex than ever. Thousands of components have to work in harmony, and deployment specialists are responsible for tuning entire systems for optimal network performance and ensuring that records are up-to-date. At the same time, fiber counts are skyrocketing, plus DWDM is entrenched in long-haul applications and moving into metro.

New architectures. New deliverables. New documentation needs. A brand-new paradigm. Now, how do you rise to the challenge?

With the tough all-new FTB-400 Universal Test System from EXFO. This revolutionary test platform streamlines field-based test and measurement operations onto a single powerful platform. Welcome to multitasking in the field.



One Platform, Two Configurations, Dozens of Options

The FTB-400 Universal Test System comes in two configurations to expand your testing possibilities.

Two-slot configuration

- dedicated OTDR and loss testing with OTDR and MultiTest modules
- over 500 OTDR and loss testing combinations

Seven-slot configuration

- extensible basic and advanced fiber-optic test applications, including DWDM and PMD analysis
- over 1000 testing combinations—PMD, DWDM modules, ribbon test kits, switches for high-fiber-count testing, OTDR and loss testing



Precision Testing from EXFO

For markets and customers in over 70 countries, EXFO provides exactly what the entire chain of fiber-optic telecommunications needs to keep the Internet and high bandwidth growing. We provide industry-leading test, measurement and monitoring instruments that enable our customers to ramp up for speed, bandwidth and automation. With EXFO, you get solutions that are easy to deploy and easy to manage, delivering reliability and repeatability every step of the way.

The All-in-One Solution

If you're looking for efficiency, the FTB-400 Universal Test System is the answer. Benefit from advanced test operations in outside plant installation, maintenance and troubleshooting.

Core Functionality

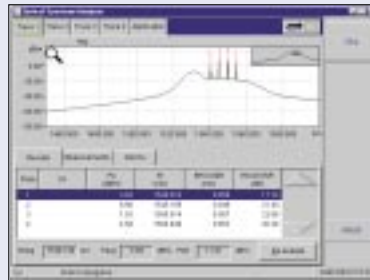
Multitasking

Evolve with the latest technologies. From power readings and OTDR testing to optical switching, PMD analysis, DWDM testing, and data post-processing, the FTB-400 Universal Test System does it all. More importantly, the FTB line of swappable test modules continues to expand with new test applications and accelerated test routines.

The powerful FTB-400 can perform simultaneous acquisitions and data post-processing.



ToolBox 6.0 Shell Interface.



Data acquisition by OSA 6.0 software.



Post-processing OTDR files by ToolBox Office Pro.

Rugged

Drop-tested in the field and at the office. Plus, the tough shell and rubber bumpers mean that the FTB-400 and its precision modules survive splashes, knocks and temperature extremes.

Screen

- 12.1 in. TFT large color screen option, or standard color STN LCD
- Easy to view, even in full sunlight
- Largest on the market
- 800 x 600 pixel resolution



The FTB-400's rugged components include a tough, efficient touchscreen interface.

Powerful

Power management is a snap, thanks to the brand-new ToolBox 6.0. The new EXFO FTB-400 is based on the Windows 2000 operating system, run by a Pentium II processor with up to 512 MB of SDRAM.

- Fast, intuitive sleep mode for power conservation
- Far-ranging operating time
- Automated power management



Accurate and useful battery information window.

Rapid

Get moving faster; get results faster. New-generation processing power means acquisitions and data analysis are quicker than ever. And enjoy the advantage of EXFO's exclusive online data post-processing.

- Quick, easy data transfer
- Extremely fast acquisitions
- Efficient data post-processing
- 2 USB ports
- InfraRed (IrDA) port
- PCMCIA type III
- CD-ROM Writable



Quick, easy and effective data transfer.

Extensible

Choose between basic and advanced testing. The two-slot configuration enables compact, dedicated loss, ORL and OTDR testing. The fully equipped seven-slot configuration provides space for optical switching for high-fiber-count applications, PMD analysis and DWDM testing. Configurations are interchangeable.



Two-slot FTB-400

Seven-slot FTB-400

Modular

Choose your range of test applications. The FTB-400 Universal Test System combines a series of high-performance test modules in a powerful platform. The test set simultaneously runs up to seven single-slot field-interchangeable modules.



Plug in your choice of test modules.

Multitask with Speed and Efficiency

Choice on the Move

Choose from a wide variety of high-performance test modules. Modules are swapped easily, which means you get to customize your test set and configure your field equipment to meet evolving needs. Perform the right tests. Get the right data. And end up with integrated test reports for a global overview of your network's performance.

Module Choices

- Over 20 OTDR modules: four singlemode and two multimode wavelengths
- Over 10 loss testing modules, including
 - Optical return loss (ORL) testing
 - Polarization mode dispersion (PMD) analyzer
 - Optical spectrum analyzer (OSA)
 - Multiwavelength meter
 - Switch module: faster automated acquisitions by switching between one common port and multiple input/output ports
 - External printer for field use



The FTB-400 with print function and external printer.

Configuration Choices

Long-Haul and Metro Network Testing

If you're looking for powerful equipment dedicated to OTDR, ORL and loss testing, the two-slot configuration is your solution. It hosts two OTDR modules or a mix of an OTDR and a MultiTest module.

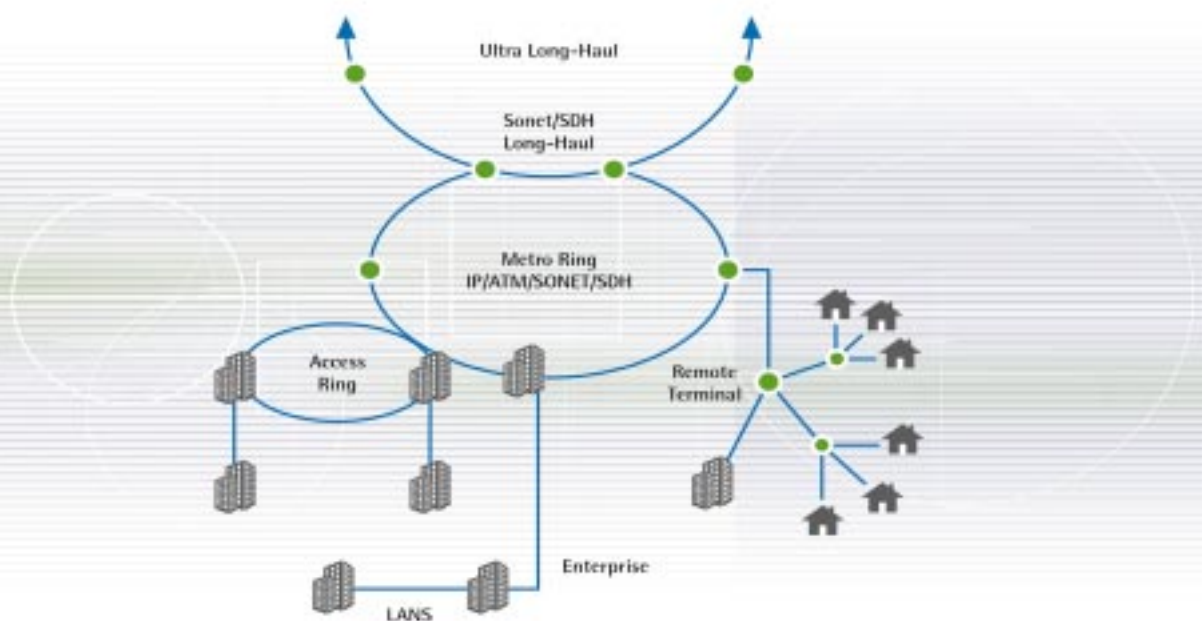
DWDM and High-Fiber Count-Testing

The seven-slot configuration is for customers looking for simultaneous support of multiple testing applications.

Configurations are interchangeable.



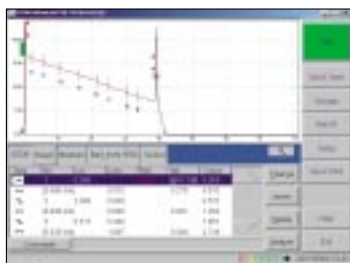
The FTB-400 configured as a ribbon test kit for OTDR testing in high-fiber-count environment.



Testing Tools: A Complete Range*

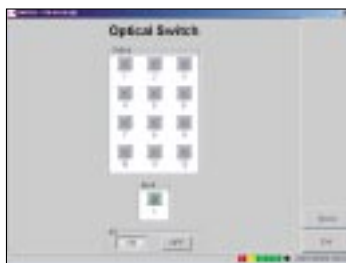
FTB-7000B Singlemode and Multimode OTDRs

These OTDR modules detect, locate and analyze splices, connectors and breaks. Use them for cable acceptance testing, troubleshooting and more. Also, estimate loss budgets on singlemode or multimode fibers. Dynamic range reaches 45 dB for singlemode modules. Up to 52 000 sampling points deliver high-resolution measurements. Singlemode modules offer the choice of four different wavelengths: 1310 nm, 1550 nm, 1625 nm and 1410 nm. Multimode modules at 850 nm and 1300 nm.



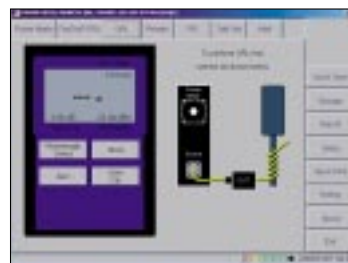
FTB-9000 Optical Switch

Multiply your measurement power with the Optical Switch series. Obtain fast, repeatable measurements between one common port and multiple input/output ports. Automate data acquisition sessions with specialized programmable functions. Use with OTDR FTB-7000B series. Choose between singlemode and multimode 1x12 switches; several connector types are available.



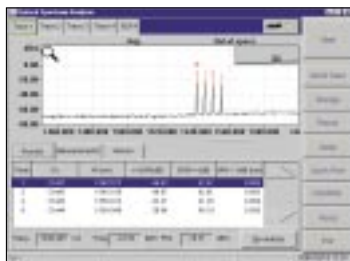
FTB-1400 and FTB-3920 MultiTest

MultiTest modules are customizable loss testers—perfect for estimating loss budgets. Integrate your choice of power meter and light source, exclusive FasTeST automated loss test set, optical return loss (ORL) tester, visual fault locator (VFL), and digital talk set.



FTB-5240 Optical Spectrum Analyzer (OSA)

The essential DWDM tool, the FTB-5240 Optical Spectrum Analyzer delivers lab-quality specs for field testing advanced networks. Accurately monitor optical wavelength channels within a fiber. High optical rejection ratio, top-of-the-line wavelength accuracy and wide spectral range.



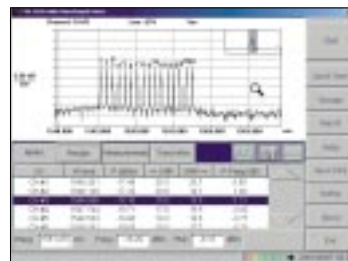
FTB-5500 Polarization Mode Dispersion (PMD) Analyzer

For testing PMD in crucial high-speed fiber links, the FTB-5500 PMD Analyzer is the solution. Dynamic range reaches 50 dB. Plus, get second-order PMD calculations and benefit from the wide analysis range (0.05 to 200 ps).



FTB-5320 Multi-Wavelength Meter

The FTB-5320 is the perfect test instrument to precisely measure the optical channel output power for each fiber of your network. EXFO's FTB-5320 features 0.003 nm measurement accuracy, practical monitoring over time and user-friendly software with an intuitive graphical interface.



* Note: The FTB-400 is compatible with existing modules in the EXFO product line. Please call to verify compatibility with legacy products no longer being manufactured.

Wide-Open Test Applications

Processing power, speed and flexibility—all great features. What's even better? Amazing benefits. While acquiring OTDR data on one set of fibers, you can perform DWDM testing with an optical spectrum analyzer on other fibers in the cable. Then print out concise reports on both tests. Today, this is simply the best way to streamline test and measurement operations. You'll work more effectively, speed up your test procedures in the field and save hours in the process.

You're responsible for installing non-null offset dispersion optical fibers, qualifying DWDM SONET/SDH transmission equipment, maintaining fiber networks and qualifying each and every splice in long-haul data networks. What you need is the FTB-400. Insert any combination of optical spectrum analyzer, PMD analyzer, OTDR, power meter, multiwavelength meter, ribbon fiber test kit or high-density optical switch in the two-slot or seven-slot FTB-400 UTS and perform all your tests simultaneously.

Apply the same concepts to new access networks as well as passive optical networks (PONs). Though transmission rates are considerably lower compared to long-haul systems (OC-3/12 vs. OC-192/768; STM 1/4 vs. STM 64/256), the density and architecture of the networks (point to multipoint instead of point-to-point) vary enormously. The FTB-400 offers solutions adapted to all possible applications.

Multitesting

What does multitesting mean? It's the revolutionary ability to combine several applications to meet the wide range of test and measurement needs that are out there. Examples are listed below.

DWDM Testing #1 (seven slots):

Monitor wavelength channels within a fiber.

- FTB-5240 Optical Spectrum Analyzer (OSA)
- FTB-5320 Multi-Wavelength Meter
- FTB-7534 OTDR



DWDM Testing #2 (seven slots):

DWDM, PMD analysis and OTDR testing on long-haul fibers.

- FTB-5240 Optical Spectrum Analyzer (OSA)
- FTB-5500 Polarization Mode Dispersion (PMD) Analyzer
- FTB-7534 OTDR

Installation and maintenance (two slots):

OTDR and ORL testing on long-haul and metro fiber links.

- FTB-7534 OTDR
- FTB-3920 MultiTest



Installation and maintenance—high-fiber-count applications (seven slots):

OTDR and ORL testing on long-haul and metro fiber links in a high-fiber-count environment.

- FTB-7534 OTDR
- FTB-7402 OTDR
- FTB-3920 MultiTest
- FTB-9112 Optical Switch

Data Post-Processing: Field and Desktop Efficiency

The FTB-400 Software Suite for EXFO's Universal Test System

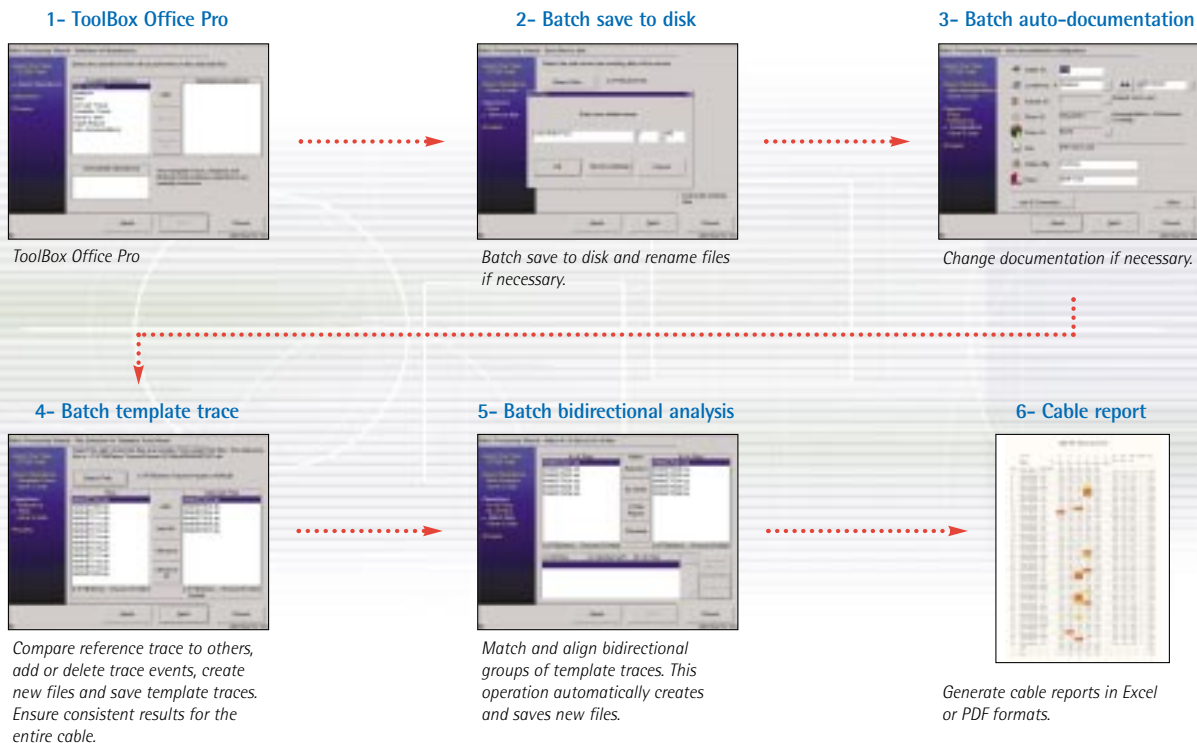
The FTB-400 Software Suite for field use comes installed with the Universal Test System and test modules. These software applications post-process data files one at a time. Software packages support EXFO's OTDR, MultiTest, Switch, OSA, PMD and MWM modules.

Software Suite for Desktops

The FTB-400 Software Suite is also PC-installable. Use your PC to process and print out acquired data while you keep the FTB-400 ready for the field duty. Software packages work for EXFO's OTDR, MultiTest, Switch, OSA, PMD and MWM applications.

Plus, there's ToolBox Office Pro. Designed for desktop PC use, ToolBox Office Pro dramatically speeds up OTDR data post-processing through a Batch Processor and Cable Report Generator. On high-fiber-count projects, these utilities cut post-processing time by up to 90 %. Operations that used to take hours or days can now be performed in minutes.

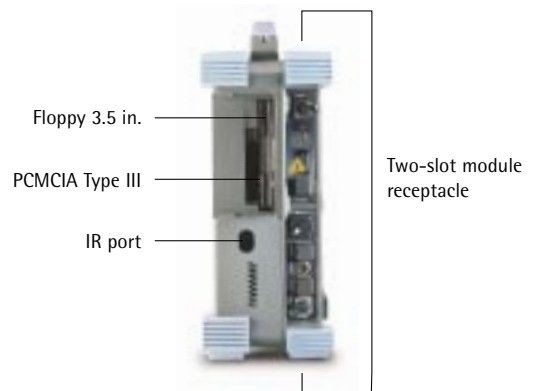
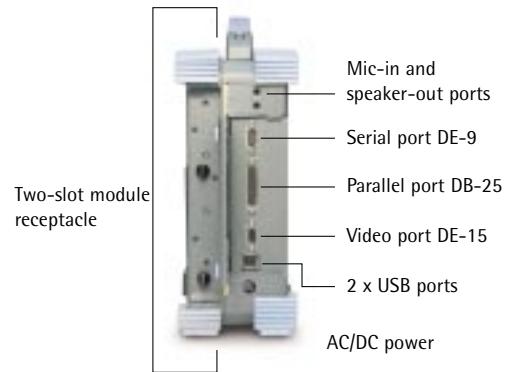
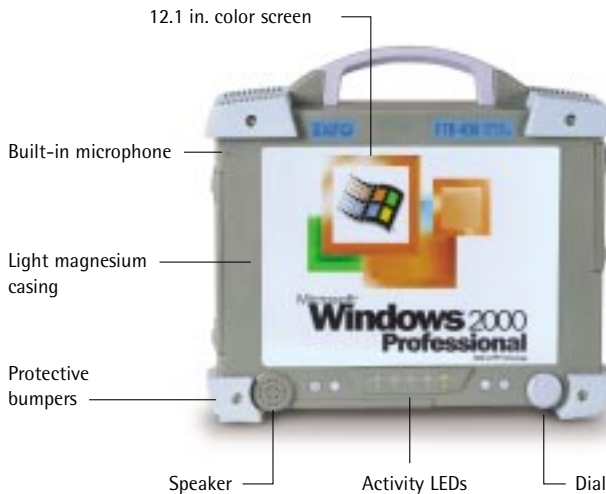
Here are a few examples:



Multimedia Advantages for Today's Optical Technology

- Pentium II processor. Essential for speed and multitasking operations.
- PCMCIA Type III device (two-slot) supports.
- Flash memory cards (16 to 160 MB) (optional).
- Ethernet/Fast Ethernet (10/100 MB) network card for remote control from a PC or another FTB-400 (optional).
- Fax modem (56.6 Kbs) (optional).
- Up to 512 MB SDRAM. Quick access to internal memory.
- IrDA port and two USB ports. Speed up data transfer.
- Internal 3.5 in. 1.44 MB floppy drive.

- Serial and parallel port. Printer and other peripherals.
- 12.1 inch color touchscreen resists spills and splashes. High-resolution, especially under bright light conditions.
- Dial. Quick-select software functions.
- External monitor port.
- Microphone port. Built-in or external.
- Sound card and speaker. Audible alarms.
- Lightweight magnesium casing. Splash-proof protection of optical and electronic components.
- EXFO Headset Interface.



Specifications

Display	Touch screen, color, 800 x 600 full dot LCD 12.1 in. Touch screen, color, 800 x 600 TFT 12.1 in. (optional)
Interfaces	Serial RS-232 Parallel port External monitor 2 USB ports Infrared (IrDA) port Audio microphone in 3.5 mm Audio speaker out 3.5 mm PCMCIA type III
Storage	Internal 6 GB hard drive minimum (over 200 000 OTDR test files) Internal 3.5 in. 1.44 MB floppy drive External USB read/write CD-ROM (optional) Flash memory cards (16, 32, 80, 160 MB) (optional) NTFS file system
Batteries ²	Rechargeable NiMH battery pack (2 batteries for 2-slot, 4 for 7-slot receptacle) > 8 h of continuous operation as per Bellcore TR-NWT-001138
Power supply	100–240 VAC, 50/60 Hz, and 12–20 VDC

General Specifications

Temperature ⁵	Operating	0 to 50 °C (32 to 122 °F)
	Storage	–40 to 60 °C (–40 to 140 °F)
Relative humidity	0 to 95 % (non-condensing)	
Size	mainframe + 2-slot module receptacle: 33.65 cm x 28.57 cm x 9.52 cm (13.25 in x 11.25 in x 3.75 in)	
	mainframe + 7-slot module receptacle: 33.65 cm x 28.57 cm x 17.14 cm (13.25 in x 11.25 in x 6.75 in)	
Weight ³	mainframe + 2-slot module receptacle: 6.0 kg (13.4 lb)	
	mainframe + 7-slot module receptacle: 7.09 kg (15.60 lb)	
Vibration (g)	>1.5 g at 10 Hz to 500 Hz (on 3 main axes)	
Mechanical shock ⁴	>76 cm on 6 sides and 8 main edges (according to GR-196-CORE)	
Isolation	Spill-proof and splash-proof	
CE compliance	Class A certification	

Notes

- All specifications valid at 23 °C (73 °F).
- Standard recharge time is 5 h. Recharge temperature: 0 to 35 °C (32 to 95 °F).
- Platform with batteries, no modules included.
- 2-slot receptacle.
- Not including internal batteries. Battery maximum storage temperature 40 °C (104 °F).

Accessories

GP-299	PCMCIA PSTN 56.6 Kb/s
GP-298	PCMCIA Fast Ethernet LAN (10/100 MB auto detect)
GP-234	PCMCIA Combo (PSTN + LAN)
GP-281	PCMCIA Flash Memory Card 16 MB (same as FTB-100)
GP-282	PCMCIA Flash Memory Card 32 MB (same as FTB-100)
GP-283	PCMCIA Flash Memory Card 80 MB (same as FTB-100)
GP-284	PCMCIA Flash Memory Card 160 MB (same as FTB-100)
GP-304	CD-ROM Writable
GP-273	Internal printer module
GP-302	USB mouse
GP-309	DC adapter for lighter plug
GP-308	Car lighter booster
GP-305	Spare power adapter
GP-307	EXFO headset + adapter (allows connection of EXFO headset to microphone and speaker port)
GP-402	Additional 2-slot receptacle
GP-407	Additional 7-slot receptacle
GP-297	Canon BJC-85 (external printer—standard on the FTB-300 also)
GP-2000	PC bus protector slim receptacle

Carrying Cases:

GP-10-047	Soft case for mainframe + 2-slot
GP-10-056	Soft case for mainframe + 7-slot
GP-10-048	Hard case for mainframe + 2-slot
GP-10-049	Hard case for mainframe + 7-slot (light)
GP-10-050	Hard case for mainframe + 2- and 7-slot (full), includes storage area for FOT-920 or FLS-110, 2nd headset, all accessories, etc

Ordering Information

FTB-400-Nx-Dx-H-Z

N8: 128 MB standard

N10: 128 MB memory upgrade (total of 256 MB)

N12: 384 MB memory upgrade (total of 512 MB)

D3: STN LCD standard color screen

D4: TFT color screen option instead of the standard color LCD

H: Seven-slot receptacle instead of the standard two-slot receptacle

Z: OS and ToolBox Suite language code selection¹

A: English

C: Chinese (simplified)

E: Spanish

F: French

G: German

R: Russian²

W: Czech²

K: Korean²

J: Japanese²

Notes

- Software test applications might not support all languages listed above. Refer to test module spec sheets for supported software languages.
- Call EXFO for details.

Find out more about EXFO's extensive line of high-performance portable instruments by visiting our Web site at www.exfo.com



Rugged Handheld Solutions

- OLTS
- Power Meter
- Light Source
- Talk Set



Modular Platforms

- OTDR
- OLTS
- and more



Advanced DWDM Test Systems

- OSA
- PMD
- Multiwavelength Meter

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