

# FTB-1v2/FTB-1 Pro platform

EMPOWERING FRONTLINE TECHNICIANS



PART OF THE  
EXFO|FTB ecosystem

EXFO Connect  
compatible

TestFlow

Feature(s) of this product is/are protected by one or more of: US design patent D763,712 and equivalent(s) in other countries.

The FTB-1 version 2, available in a standard (FTB-1v2) or Pro (FTB-1 Pro) model, is a portable system designed for fast and powerful optical, Ethernet, time-division multiplexing (TDM) and multiservice applications.

SPEC SHEET

## KEY FEATURES

**Connects anywhere:** USB, mobile, WiFi, virtual private network (VPN) and Bluetooth\*

**Loaded with utilities:** equipped with all the tools needed to optimize field testing, plus any third-party applications

**Like a PC:** available with a dual- or quad-core processor and Windows operating system

**EXFO Connect-ready:** automated asset management; data goes through the cloud and into a dynamic database

Single- or dual-carrier configuration available to slot FTBx test modules.

See next page for the list of supported modules.

High-power dual-carrier configuration available for the FTB-1 Pro supporting simultaneous 100G quad port testing.

See next page for the list of supported modules.

## RELATED PRODUCTS



Fiber inspector probe  
FIP-400B (WiFi or USB)

\* The Bluetooth® word mark and logos are registered trademarks owned by the Bluetooth SIG, Inc.

EXFO

## ADAPTED FOR DEDICATED APPLICATIONS. DEDICATED TO HELPING YOU ADAPT.

Thanks to its small format, ultra-powerful processing and highly intuitive interface, the FTB-1v2 is optimized to allow field technicians to carry out dedicated optical, Ethernet and multiservice test applications simply and efficiently.

### APPLICATIONS

#### Access fiber network testing

The ideal construction and troubleshooting OTDRs for everyday field testing in any access network, such as PON FTTx (up to 1x32 splitter), fiber-to-the-antenna (FTTA) and distributed antenna systems (DAS).

#### LAN/WAN and data center fiber testing

OTDR for certification and troubleshooting of any enterprise and data center fiber networks.

#### FTTx/MDU fiber network testing

Seamlessly characterizes splitters in PON FTTx applications (up to 1x128 splitter), as well as troubleshoot in-service with the in-line dual-channel PON power meter and live OTDR wavelengths.

#### Metro/FTTx fiber network testing

High-resolution OTDR designed for metro network testing and splitter characterization in PON FTTx applications (up to 1x128 splitter).

#### Longhaul fiber network testing

High dynamic range combined with high resolution for highly accurate fiber characterization on any longhaul network.

#### 10G dual-port multiservice testing<sup>a</sup>

Easily turn up, validate and troubleshoot OTN, SONET/SDH, DSn/PDH, ISDN/PRI, CPRI, Fibre Channel and Ethernet services up to 10 Gbit/s in converged optical networks.

#### 100G multiservice

#### 100G dual-port multitechnology and multiservice testing<sup>a</sup>

The most comprehensive all-in-one tester, including testing for legacy networks at 64K all the way up to next-generation networks at speeds of 100G.

#### Fronthaul/Backhaul testing (mobile backhaul, FTTA/remote radio heads, DAS and small cells)<sup>a</sup>

All-in-one optical/Ethernet/CPRI solution combining the best of fiber test capabilities (inspection, iOLM/OTDR) with a wide range of Ethernet and multiservice tests (OTN, SONET/SDH, Fibre Channel, GigE/10 GigE, CPRI/OBSAI and SyncE/1588 PTP). Designed to streamline field operations when installing, activating and troubleshooting any type of fiber-fed wireless infrastructure.

TEST MODULE SUPPORT	CONFIGURATIONS		
	SINGLE-CARRIER	DUAL-CARRIER	HIGH-POWER DUAL-CARRIER <sup>a</sup>
FTBx-720C (OTDR)	•	•	•
FTBx-730C (OTDR)	•	•	•
FTBx-735C (OTDR)	•	•	•
FTBx-740C (OTDR)	•	•	•
FTBx-750C (OTDR)	•	•	•
FTBx-940/945 (OLTS)	•	•	•
FTBx-5235 (OSA)		•	•
FTBx-8880 (10G module) <sup>a</sup>	•	•	•
FTBx-8870 (10G module) <sup>a</sup>	•	•	•
FTBx-88200NGE (100G module) <sup>a</sup>		•	•
FTBx-88260 (100G module) <sup>a</sup>		•	•

a. Applicable to the FTB-1 Pro version only.

## OPTICAL PLUG-AND-PLAY OPTIONS

The platform features optical plug-and-play 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, and can be performed by the user without the need for any software update.

### Optical power meter

A high-level power meter (GeX) that can measure up to 27 dBm, the highest in the industry. This is essential for hybrid fiber-coaxial (HFC) networks or high-power signals. If used with an auto-lambda/auto-switching compatible light source, the power meter automatically syncs on the same wavelength, thus avoiding any risk of mismatched measurement.

- › Extensive range of connectors
- › Auto-lambda and auto-switching
- › Offers measurement storage and reporting
- › Choice of seven standard or coarse wavelength-division multiplexing (CWDM)-calibrated wavelengths

### 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. The VFL visually locates and detects faults over distances of up to 5 km by creating a bright-red glow at the exact location of the fault on singlemode or multimode fibers (available with the optical power meter only).



## DO MORE!

The Windows 10 operating system allows for a wide choice of third-party applications and supports an extensive range of USB devices.

- › Start faster and multitask
- › Use the Office suite
- › Connect to printers, cameras, keyboards, mice, and more

## Bring your own apps



Share your desktop  
(e.g., using  
TeamViewer)



Antivirus  
software



Communicate  
via email and  
over-the-top  
(OTT) apps



Record and  
automate  
actions



Share files via  
cloud-based  
storage

## FIBER CONNECTOR INSPECTION AND CERTIFICATION— THE ESSENTIAL FIRST STEP BEFORE ANY OTDR TESTING

Taking the time to properly inspect a fiber-optic connector using an EXFO fiber inspection probe can prevent a host of issues from arising further down the line, thus saving you time, money and trouble.

**100%**  
automated<sup>a</sup>

**1-step**  
process<sup>a</sup>

**57%**  
shorter test time<sup>b</sup>

### The first fully automated fiber inspection probe for the field

Housing a unique automatic focus adjustment system, the FIP-430B USB and FIP-435B WiFi probes automate each operation in the connector endface inspection sequence, transforming this critical process into one quick and easy step, which can be performed by technicians of all skill levels.



### Five models to fit your budget

FEATURES	USB WIRED			WIRELESS	
	Basic FIP-410B	Semi-automated FIP-420B	Fully automated FIP-430B	Semi-automated FIP-425B	Fully automated FIP-435B
Three magnification levels	✓	✓	✓	✓	✓
Image capture	✓	✓	✓	✓	✓
Five-megapixel CMOS capturing device	✓	✓	✓	✓	✓
Automatic fiber image-centering function	X	✓	✓	✓	✓
Automatic focus adjustment	X	X	✓	X	✓
Onboard pass/fail analysis	X	✓	✓	✓	✓
Pass/fail LED indicator	X	✓	✓	✓	✓
WiFi connectivity	X	X	X	✓	✓

For more information, visit [www.EXFO.com/fiberinspection](http://www.EXFO.com/fiberinspection).

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

b. Data sourced from EXFO's case study, with calculation based on typical analysis time.

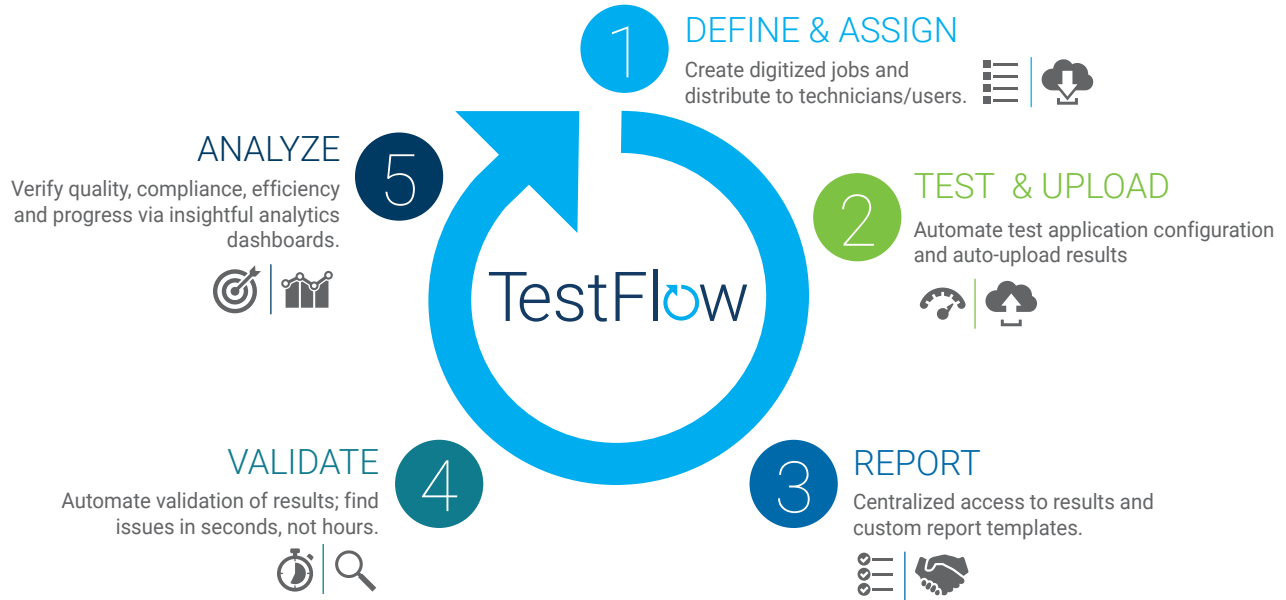
TestFlow

**CLOUD-BASED FIELD TEST MANAGEMENT SOLUTION—  
GET MORE FROM FastReporter WITH TestFlow**

90-DAY  
FREE TRIAL

**The TestFlow process**

Whether you are a field technician, a site lead or a project manager, you can benefit from TestFlow.



<b>ENSURE 100% COMPLIANCE</b>	<b>RIGHT THE FIRST TIME</b>	<b>AUTOMATE REPORTING AND BATCH AUDITING</b>	<b>FASTER INVOICING AND DEPLOYMENTS</b>	<b>INFORMED BUSINESS DECISIONS</b>
-------------------------------	-----------------------------	--	---	------------------------------------

Get your free trial today or for more info: [EXFO.com/TestFlow](https://EXFO.com/TestFlow)

## SOFTWARE TEST TOOLS

This series of platform-based software testing tools enhance the value of the FTB-1v2/FTB-1 Pro platform, providing additional testing capabilities without the need for additional modules or units.

### Wireshark—Third-party test tools

This live-network packet-capture utility makes it possible to look *inside* the packets and obtain data, including transmission time, source, destination and protocol type. Users can then diagnose a problem or root out suspicious behavior.

#### Expert Test Tools

##### 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 mean-opinion-score (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 file-transfer-protocol (FTP) performance and hypertext-transfer-protocol (HTTP) availability

##### Expert IPTV TEST TOOLS

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

- › Real-time video preview
- › Analyzes up to 10 video streams
- › Comprehensive quality-of-service (QoS) and quality-of-experience (QoE) metrics, including the MOS score

#### Software applications

##### ConnectorMax

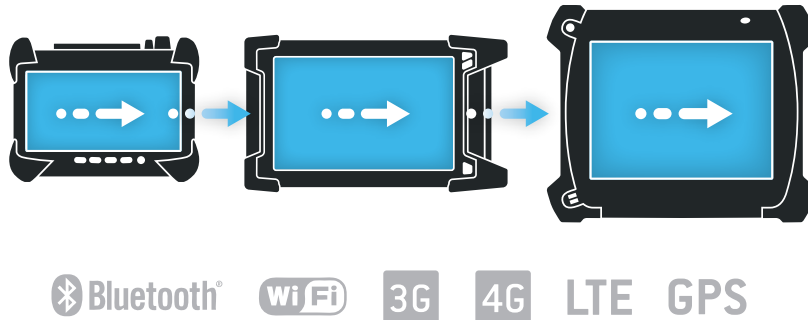
Providing lightning-fast results during the first step of fiber-link testing, ConnectorMax2 is a powerful, platform-based automated inspection application that delivers quick pass/fail assessment of connector endfaces, and which is specifically designed to save both time and money in the field.

##### FastReporter

Consolidated data management and post-processing tool designed to increase reporting productivity for connector endface inspection and all types of optical-layer testing: intelligent Optical Link Mapper (iOLM), OTDR, ORL and loss.

## CONNECTED ANYWHERE, ANYTIME

The value of connectivity resides in the ability to connect your platform anywhere, at any time. This is why we've equipped our platforms with technology offering unprecedented flexibility. Whether you need to transfer data to the cloud or interface with a smart device, you'll have the capability needed.



### Secure VPN communications

Offers the ability to install and configure any VPN client solution defined by your IT department. Secure communications are now within your reach.



### 3G/4G/LTE mobility

Get connected wherever you are: choose any Windows-supported 3G/4G/LTE USB dongle and connect to your wireless service provider.



### Remote control

Use remote assistance to troubleshoot units in the field, trigger tests remotely, or help a technician with a problem. Working without it is hard to imagine.



### Instant messaging

Because our platforms are Windows-based, they function just like PCs. You can even use chat tools to quickly communicate with your team members (Skype comes pre-installed).

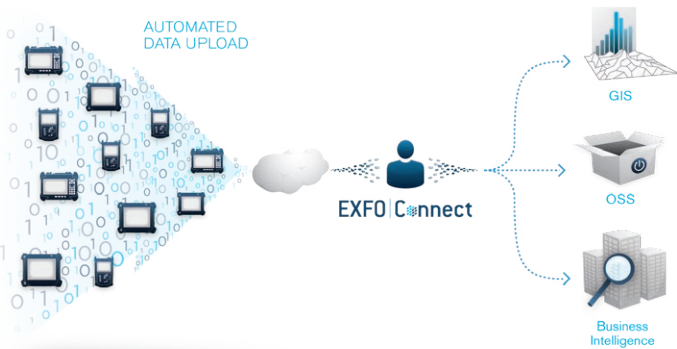
# EXFO | Connect

## EXFO CONNECT MAKES YOUR DATA MEAN BUSINESS

EXFO Connect completely redefines integrated testing with its cloud-hosted solution. Equipped with powerful database and application technologies, EXFO Connect provides an automated, secure environment that links together your EXFO test instruments and centralizes captured data across your organization. With its powerful correlation engine, EXFO Connect enables you to convert captured data into actionable information through customized test-data reporting and features that streamline test operations from build-out to maintenance.

### Test Equipment Manager

EXFO Connect's Test Equipment Manager is an automated application that centralizes the management of all EXFO test instruments. A repository for software loads, licenses and platform profiles, it helps managers handle constant demand for software updates. It also keeps track of equipment and ensures field technicians are equipped with up-to-date capabilities.

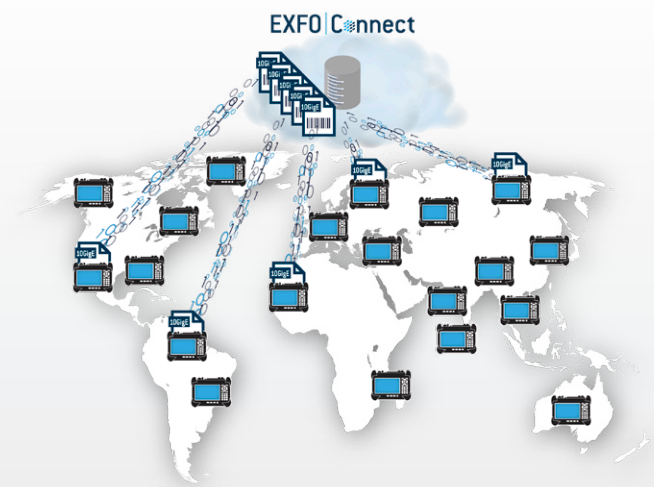


### Test Data Manager

EXFO Connect's Test Data Manager is an automated application that provides a secure and centralized environment in which test data is collected, archived and referenced for future use. With test results at their fingertips, managers can create birth certificates, generate reports and set benchmarks.

### FTB Anywhere: Floating test licenses

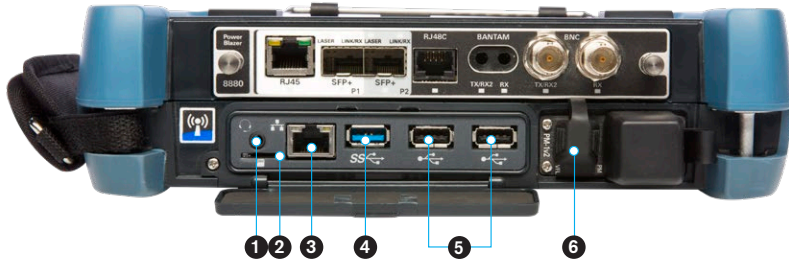
FTB Anywhere™ is a shared test-license capability for the award-winning FTB Ecosystem. This unique approach to delivering advanced test applications enables network operators to purchase a specific number of cloud-hosted licenses that can be shared instantly with their technicians, wherever they happen to be.





## DESIGNED FOR EFFICIENCY

- 1 Mic./headset jack
- 2 Micro SD card slot
- 3 1 GigE port
- 4 USB 3.0 port (1)
- 5 USB 2.0 ports (2)
- 6 Power meter and VFL
- 7 AC adapter
- 8 Kensington security lock slot
- 9 Speaker
- 10 Brightness control
- 11 Keyboard/screen capture
- 12 Switch application
- 13 Power on/off
- 14 Battery LED
- 15 Module back
- 16 Stand support



## CONFIGURATIONS



Single carrier

Dual carrier



High-power dual carrier

TECHNICAL SPECIFICATIONS <sup>a</sup>	FTB-1v2	FTB-1 PRO
Mainframe	Dual-core processor / 4 GB RAM / Windows 10	Quad-core processor / 4 GB RAM / Windows 10
Display	Touchscreen, color, 1280 × 800 TFT 203 mm (8 in)	Touchscreen, color, 1280 × 800 TFT 203 mm (8 in)
Interfaces	RJ45 LAN 10/100/1000 Mbit/s USB 2.0 ports (2) USB 3.0 port (1) Micro SD card slot 3.5 mm headset/microphone port	RJ45 LAN 10/100/1000 Mbit/s USB 2.0 ports (2) USB 3.0 port (1) Micro SD card slot 3.5 mm headset/microphone port
Storage (internal flash memory)	64 GB	128 GB
Battery	Rechargeable Li-ion smart battery	Rechargeable Li-ion smart battery (Two batteries with the high-power dual carrier)
Power supply	AC/DC adapter, input: ~ 100 – 240 V; 50/60 Hz; 2.5 A max, output: --- 24 V; 3.75 A	AC/DC adapter, input: ~ 100 – 240 V; 50/60 Hz; 2.5 A max, output: --- 24 V; 3.75 A  With high-power dual carrier: AC/DC adapter, input: ~ 100 – 240 V; 50/60 Hz; 4.0 A max, output: --- 24 V; 8.33 A

GENERAL SPECIFICATIONS		
Size (H x W x D)	With single-depth module back / With single carrier With double-depth module back / With dual carrier With high-power dual carrier	210 mm x 254 mm x 66 mm (8 ¼ in x 10 in x 2 ½ in) 210 mm x 254 mm x 96 mm (8 ¼ in x 10 in x 3 ¾ in) 210 mm x 254 mm x 122 mm (8 ¼ in x 10 in x 4 ¾ in)
Weight (with battery) <sup>c</sup>	With single carrier With dual carrier With high-power dual carrier	1.5 kg (3.3 lb) 2.0 kg (4.3 lb) 2.4 kg (5.2 lb) 3.2 kg (7.1 lb)
Temperature		
Operating	0 °C to 50 °C (32 °F to 122 °F)	
Storage	-40 °C to 70 °C (-40 °F to 158 °F) <sup>b</sup>	
Relative humidity	0 % to 95 % non-condensing	

BUILT-IN POWER METER SPECIFICATIONS (GeX) (optional) <sup>d</sup>	
Calibrated wavelengths (nm)	850, 1300, 1310, 1490, 1550, 1625, 1650
Optional CWDM calibrated wavelengths (nm)	1270, 1290, 1310, 1330, 1350, 1370, 1390, 1410, 1430, 1450, 1470, 1490, 1510, 1530, 1550, 1570, 1590, 1610, 1383 and 1625
Power range (dBm)	Typical 27 to -50
Uncertainty (%) <sup>e,f</sup>	±5 % ± 10 nW
Display resolution (dB)	0.01 = max to -40 dBm 0.1 = -40 dBm to -50 dBm

VISUAL FAULT LOCATOR (VFL) (optional)
Laser, 650 nm ± 10 nm
CW/Modulate 1 Hz
Typical P <sub>out</sub> in 62.5/125 μm: > -1.5 dBm (0.7 mW)
Laser safety: Class 2

LASER SAFETY			
	<p><b>LASER</b> <b>2</b></p>		<p>The test modules that you use with your unit may have different laser classes. Refer to the module's documentation for exact information.</p>

a. All specifications valid at 23 °C (73 °F).  
b. -20 °C to 60 °C (-4 °F to 140 °F) with the battery, and -20 °C to 45 °C (-4 °F to 113 °F) for long-term storage.  
c. Platform with batteries and without module.  
d. At 23 °C ± 1 °C, 1550 nm and FC connector. With modules in idle mode. Battery-operated after warm-up.  
e. Typical.  
f. At calibration conditions.

## ORDERING INFORMATION

FTB-1v2-XX-XX-XX-XX-XX-XX-XX-XX-XX

### Model

FTB-1v2 = Platform

### Display

S1 = Standard display  
S2 = Enhanced display for outdoor use

### WiFi/Bluetooth option

00 = Without RF components  
RF = With RF capability (WiFi and Bluetooth)

### Memory

64G = 64 GB internal memory (flash)

### Module support hardware configuration

00 = Base configuration (support of current family of module backs)  
SC = Single carrier (support of one single-slot FTBx module)  
DC = Dual carrier (support of two single-slot FTBx modules or one dual-slot FTBx module)

### Power meter/VFL

00 = Without power meter (PM)/VFL  
VPM2X = VFL platform; PM; GeX detector  
VPM2X-CWDM = VFL platform; PM; GeX detector; CWDM wavelengths calibrated

### Connector adapter<sup>a</sup>

FOA-12 = Biconic  
FOA-14 = NEC D4: PC, SPC, UPC  
FOA-16 = SMA/905, SMA-906  
FOA-22 = FC/PC, FC/SPC, FC/UPC, FC/APC  
FOA-28 = DIN 47256, DIN 47256/APC  
FOA-32 = ST: ST/PC, ST/SPC, ST/UPC  
FOA-54 = SC: SC/PC, SC/SPC, SC/UPC, SC/APC  
FOA-78 = Radiall EC  
FOA-96B = E-2000 E-2000/APC  
FOA-98 = LC  
FOA-99 = MU

### Software option

00 = Without any software option  
IPT = Ping and traceroute functionalities  
Expert-VoIP = RTP-based call testing software application, including packet loss analysis, jitter measurement and complete voice quality metrics  
Expert-IP = IP/Ethernet test suite, with tests including FTP performance, HTTP availability, VLAN scan, LAN discovery, ping, traceroute and IP/Ethernet port statistics (license for a single platform)  
EXpert-IPTV = IPTV test suite  
EXpert-TPP-Bundle = Triple-play bundle for voice, video and data testing; includes EXpert IP Test Tools, EXpert IPTV Test Tools, EXpert VoIP Test Tools and EXpert SIP  
EXpert-SIP = SIP call-signaling support<sup>b</sup>  
EXpert-SCCP = SCCP call-signaling support<sup>b</sup>  
EXpert-H.323 = H.323 call-signaling support<sup>b</sup>  
EXpert-H.248 = H.248/Megaco call-signaling support<sup>b</sup>  
Automation = Support of remote and local access to instrument using SCPI

### Inspection probe base tips<sup>c</sup>

APC = Includes FIPT-400-U25MA and FIPT-400-SC-APC  
UPC = Includes FIPT-400-U25M and FIPT-400-FC-SC

### Inspection probe models

FP410B = Digital video inspection probe<sup>d</sup>  
Triple magnification  
FP420B = Analysis digital video inspection probe<sup>d</sup>  
Automated pass/fail analysis  
Triple magnification  
Autocentering  
FP425B = Wireless digital video inspection probe<sup>d,e</sup>  
Automated pass/fail analysis  
Triple magnification  
Autocentering  
FP430B = Automated analysis digital video inspection probe<sup>d</sup>  
Automated focus  
Automated pass/fail analysis  
Triple magnification  
Autocentering  
FP435B = Wireless analysis digital video inspection probe<sup>d,e</sup>  
Automated focus  
Automated pass/fail analysis  
Triple magnification  
Autocentering

Example: FTB-1v2-S1-RF-64G-00-VPM2X-CWDM-FOA-22-FP420B-APC-EXpert-IPTV

- a. Available if power meter is selected.
- b. Available if EXpert VoIP selected.
- c. Available if inspection probe is selected.
- d. Includes ConnectorMax2 software.
- e. Requires RF capability (WiFi and Bluetooth option).

**ORDERING INFORMATION**

**FTB-1v2-Pro-XX-XX-XX-XX-XX-XX-XX-XX-XX**

- Model** ■  
FTB-1v2-Pro = Platform
- Display** ■  
S1 = Standard display  
S2 = Enhanced display for outdoor use
- WiFi/Bluetooth option** ■  
00 = Without RF components  
RF = With RF capability (WiFi and Bluetooth)
- Memory** ■  
128G = 128 GB internal memory (flash)
- Module support hardware configuration** ■  
00 = Base configuration (support of current family of module backs)  
SC = Single carrier (support of one single-slot FTBx module)  
DC = Dual carrier (support of two single-slot FTBx modules or one dual-slot FTBx module)  
HPDC = High-power dual carrier (support of two single-slot FTBx modules or one dual slot FTBx module)
- Power meter/VFL** ■  
00 = Without power meter (PM)/VFL  
VPM2X = VFL platform, PM; GeX detector  
VPM2X-CWDM = VFL platform; PM; GeX detector; CWDM wavelengths calibrated
- Connector adapter** <sup>a</sup> ■  
FOA-12 = Biconic  
FOA-14 = NEC D4: PC, SPC, UPC  
FOA-16 = SMA/905, SMA-906  
FOA-22 = FC/PC, FC/SPC, FC/UPC, FC/APC  
FOA-28 = DIN 47256, DIN 47256/APC  
FOA-32 = ST: ST/PC, ST/SPC, ST/UPC  
FOA-54 = SC: SC/PC, SC/SPC, SC/UPC, SC/APC  
FOA-78 = Radiall EC  
FOA-96B = E-2000 E-2000/APC  
FOA-98 = LC  
FOA-99 = MU
- Software option**  
00 = Without any software option  
IPT = Ping and traceroute functionalities  
Expert-VoIP = RTP-based call testing software application, including packet loss analysis, jitter measurement and complete voice quality metrics  
Expert-IP = IP/Ethernet test suite, with tests including FTP performance, HTTP availability, VLAN scan, LAN discovery, ping, traceroute and IP/Ethernet port statistics (license for a single platform)  
Expert-IPTV = IPTV test suite  
Expert-TPP-Bundle = Triple-play bundle for voice, video and data testing; includes EXpert IP Test Tools, EXpert IPTV Test Tools, EXpert VoIP Test Tools and EXpert SIP  
Expert-SIP = SIP call-signaling support <sup>b</sup>  
Expert-SCCP = SCCP call-signaling support <sup>b</sup>  
Expert-H.323 = H.323 call-signaling support <sup>b</sup>  
Expert-H.248 = H.248/Megaco call-signaling support <sup>b</sup>
- Inspection probe base tips** <sup>c</sup>  
APC = Includes FIPT-400-U25MA and FIPT-400-SC-APC  
UPC = Includes FIPT-400-U25M and FIPT-400-FC-SC
- Inspection probe models**  
FP410B = Digital video inspection probe <sup>d</sup>  
Triple magnification  
FP420B = Analysis digital video inspection probe <sup>d</sup>  
Automated pass/fail analysis  
Triple magnification  
Autocentering  
FP425B = Wireless digital video inspection probe <sup>d,e</sup>  
Automated pass/fail analysis  
Triple magnification  
Autocentering  
FP430B = Automated analysis digital video inspection probe <sup>d</sup>  
Automated focus  
Automated pass/fail analysis  
Triple magnification  
Autocentering  
FP435B = Wireless analysis digital video inspection probe <sup>d,e</sup>  
Automated focus  
Automated pass/fail analysis  
Triple magnification  
Autocentering

Example: FTB-1v2-Pro-S1-RF-128G-DC-VPM2X-FOA-98-FP430B-APC-Expert-IPTV

- a. Available if power meter is selected.
- b. Available if Expert VoIP selected.
- c. Available if inspection probe is selected.
- d. Includes ConnectorMax2 software.
- e. Requires RF capability (WiFi and Bluetooth option).

**EXFO headquarters** T +1 418 683-0211 **Toll-free** +1 800 663-3936 (USA and Canada)

EXFO serves over 2000 customers in more than 100 countries. To find your local office contact details, please go to [www.EXFO.com/contact](http://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](http://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 [www.EXFO.com/specs](http://www.EXFO.com/specs).

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

