

FTB-1v2/FTB-1 Pro Platform

EMPOWERING FRONTLINE TECHNICIANS



PART OF THE
EXFO | FTB Ecosystem



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.

KEY FEATURES

Connects anywhere: USB, mobile, Wi-Fi, 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

Dual-carrier configuration available for support of FTBx test modules.

RELATED PRODUCT



Fiber Inspection Probe FIP-400B
(Wi-Fi or USB)



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 Datacenter Fiber Testing

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

FTTx/MDU Fiber Network Testing

The perfect tool for field technicians who need to seamlessly characterize splitters in passive-optical-network (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).

Long-Haul Fiber Network Testing

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

10G Dual-Port Multiservice Testing*

Enabling field technicians to 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*

Offering 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)*

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

* Applicable to the FTB-1 Pro version only.

TEST MODULE BACKS		FTB-1v2	FTB-1 PRO
OTDR	FTB-720C	•	•
	FTB-730C	•	•
	FTB-735C	•	•
	FTB-740C-CWDM	•	•
	FTB-740C-DWC	•	•
	FTB-750C	•	•
10G dual port	FTB-880 V2		•
	FTB-870 V2		•
10G quad port	FTB-880Q		•
	FTB-870Q		•
OTDR/Ethernet/CPRI	FTB-720G V2		•
	FTB-730G V2		•
100G testing	FTB-890		•
	FTB-890NGE		•
OLTS	FTB-940	•	
	FTB-945	•	

TEST MODULE SUPPORT WITH DUAL-CARRIER CONFIGURATION

FTBx-720C (OTDR)
FTBx-730C (OTDR)
FTBx-735C (OTDR)
FTBx-740C (OTDR)
FTBx-750C (OTDR)
FTBx-8880* (10G module)
FTBx-8870* (10G module)
FTBx-88200NGE* (100G module)

* Applicable to the FTB-1 Pro version only.

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.

The first fully automated fiber inspection probe for the field

Housing a unique automatic focus adjustment system, the FIP-430B USB and FIP-435B Wi-Fi 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.

100%
Automated^a

1-step
process^a

57%
shorter test time^b



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	✓	✓	✓	✓
Wi-Fi connectivity	X	X	X	✓	✓

For more information, visit www.EXFO.com/fiberinspection.

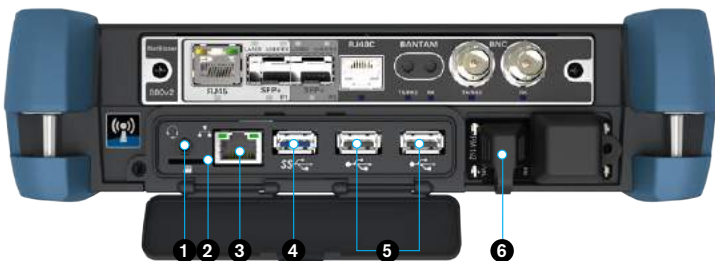
Notes

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

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

DESIGNED FOR EFFICIENCY

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




Dual-carrier configuration
(available for support of FTBx test modules)

SPECIFICATIONS ^a	FTB-1v2	FTB-1 PRO
Mainframe	Dual-core processor/4 GB RAM/Windows 10	Quad-core processor/4 GB RAM/Windows 10
Display	Multitouch, wide-screen, color, 1280 x 800 TFT 203 mm (8 in)	Multitouch wide-screen, color, 1280 x 800 TFT 203 mm (8 in)
Interfaces	RJ45 LAN 10/100/1000 Mbit/s Two USB 2.0 ports One USB 3.0 port Micro SD card slot 3.5 mm headset/microphone port	RJ45 LAN 10/100/1000 Mbit/s Two USB 2.0 ports One USB 3.0 port Micro SD card slot 3.5 mm headset/microphone port
Storage	64 GB internal memory (flash)	128 GB internal memory (flash)
Battery	Rechargeable Li-ion smart battery	Rechargeable Li-ion smart battery
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

GENERAL SPECIFICATIONS			
Size (H x W x D)	With single-depth module back With double-depth module back With dual carrier	210 mm x 254 mm x 66 mm (8 ¼ in x 10 in x 2 ⅝ in) 210 mm x 254 mm x 96 mm (8 ¼ in x 10 in x 3 ⅜ in) 210 mm x 254 mm x 96 mm (8 ¼ in x 10 in x 3 ⅜ in)	
Weight (with battery) ^c		1.5 kg (3.3 lb)	
Temperature	Operation Storage	0 °C to 50 °C (32 °F to 122 °F) –40 °C to 70 °C (–40 °F to 158 °F) ^b	
Relative humidity		0 % to 95 % non-condensing	

BUILT-IN POWER METER SPECIFICATIONS (GEX) (OPTIONAL) ^d	
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 (%) ^{e,f}	±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 _{out} in 62.5/125 µm: –1.5 dBm (0.7 mW)
Laser safety: Class 2

LASER SAFETY	
	<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>

- Notes**
- 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.

NetBlazer V2 Series

High-speed portable field testers

SMARTER TESTING FOR ALL THINGS 64K TO 100G



NetBlazer 100G

EXFO TFv
Test Function Virtualization

EXFO Connect
Compatible

iSAM

iOptics

OpticalRF™

Feature(s) of this product is/are protected by one or more of patent appl. US 2012/0307666 A1 and equivalents in other countries.

The NetBlazer V2 Series is the industry's most complete and portable 64K to 100G test solution. Optimize your field technicians' tasks with simultaneous coverage of legacy and high-speed network interfaces.

KEY FEATURES AND BENEFITS

Platform highlights

- Windows 10 IoT (bring your own device, install what you want)
- Custom-designed platform with 128 GB of onboard memory, including a micro SD card interface (massively expand the memory)
- Built-in connectivity—choose between Gigabit interface, WiFi, Bluetooth, and 3G or 4G LTE via USB dongle
- Lightweight and portable solution with an ultra-bright, 8-in multitouch screen

High speed interfaces

- Pluggable CFP4 and QSFP28 optics to facilitate the testing of next-generation 100G networks
- Pluggable QSFP+ interface for 40GE and OTU3
- iOptics—an intelligent pluggable optics test application that quickly validates the sanity of an optical device using minimal configuration

Transport testing

- OTU1, OTU1e/1f, OTU2, OTU2e/2f, OTU3, OTU3e1/e2, OTU4
- SONET and SDH testing STS-1e/3e and STM-0e/1e
- DSn testing DS1, DS3 and dual DS1/DS3 RX
- Plesiochronous digital hierarchy (PDH) testing: E1, E3 and E4
- ISDN PRI for DS1 or E1
- Round-trip delay on all interfaces and payload mappings
- Service disruption measurements on all interfaces and mappings
- Overhead monitoring and modification for all time slots
- Pointer adjustment

Ethernet/Fibre Channel testing

- Dual-port or quad-port testing up to 10G
- Port testing available at 100G
- iSAM: ultra-simple ITU-T Y.1564 and RFC 6349 service activation methodology
- 10M to 100G multisession transmission control protocol (TCP) testing with bidirectional RFC 6349
- Power-over-Ethernet validation within cable test
- EtherSAM (Y.1564), RFC 2544, traffic generation and monitoring, EtherBERT, Through Mode, Smart Loopback and second-port loopback tool
- Packet synchronization, including IEEE 1588v2 PTP and SyncE
- Carrier Ethernet OAM, including ITU-T Y.1731, IEEE 802.1ag, IEEE 802.3ah link OAM
- Packet capture and advanced filtering up to 100G
- Fibre Channel 1x, 2x, 4x, 8x, 10x and 16x support

Fronthaul/FTTA/C-RAN testing

- Dual port and Quad Port CPRI testing up to 9.8G
- CPRI layer-2 link validation for BBU or RRH from 1.2G to 9.8G
- OBSAI layer-2 link validation for BBU or RRH from 1.5G to 6.1G
- CPRI/OBSAI framed and unframed BER with pseudo-random bit sequence (PRBS) patterns and latency measurements
- BBU emulation allowing RF level validation of RRHs, RET status and control and remote SFP identification
- Wander time error testing

RF spectrum analysis

- Real-time high-resolution RF spectrum analysis over CPRI

COMPATIBLE PLATFORM



Platform
FTB-1 Pro

EXFO

CHOOSE THE RIGHT NETBLAZER FOR YOU

NETBLAZER V2 MODULES	NetBlazer 100G					
	FTB-870V2	FTB-880V2	FTB-870Q	FTB-880Q	FTB-890	FTB-890NGE
DSn/PDH (DS1/E1)	•	•	•	•		•
ISDN PRI	•	•	•	•		•
DSn/PDH (DS3, E3 and E4)		•		•		•
OTN (OTU1/OTU2)	•	•	•	•	•	•
OTN (OTU3/OTU4)					•	•
SONET/SDH (up to 10G)	•	•	•	•	•	•
SONET/SDH (electrical)		•		•		•
Fibre Channel (1x, 2x, 4x, 8x and 10x)	•	•	•	•	•	•
Fibre Channel (16x)					•	•
1588 PTP/SyncE	•	•	•	•	•	•
Carrier Ethernet OAM	•	•	•	•	•	•
RFC 6349 (up to 10G TCP)	•	•	•	•	•	•
RFC 6349 (up to 100G TCP)					•	•
CPRI (1.2G up to 9.8G)	•	•	•	•	•	•
Dual-port Ethernet and CPRI testing	•	•	•	•		•
Quad-port Ethernet and CPRI testing			•	•		
OBSAI (1.5G, 3.1G and 6.1G)	•	•	•	•	•	•
OpticalRF™ and BBU Emulation	•	•	•	•		•
Simultaneous transport/Ethernet testing			•	•		
iOptics	•	•	•	•	•	•

TEST SPEEDS UP TO 100G



FTB-890 NetBlazer

The FTB-890 NetBlazer is the entry-level 10M-to-100G tester that covers a wide range of technologies including Ethernet, OTN, SONET/SDH, CPRI and Fibre Channel.



FTB-890NGE NetBlazer

The FTB-890NGE NetBlazer is 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.

TEST SPEEDS UP TO 10G



FTB-880v2 NetBlazer

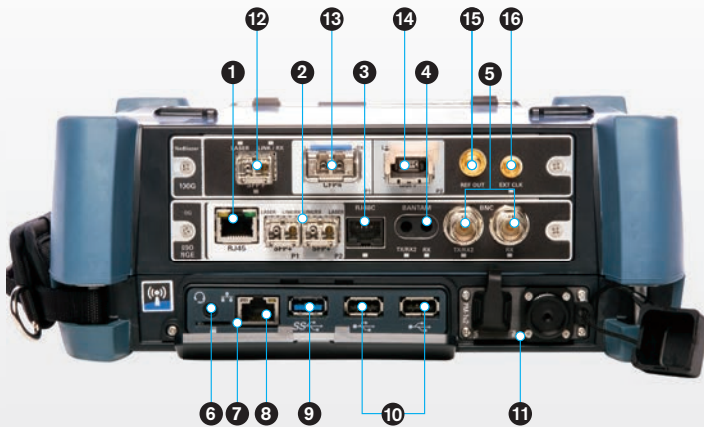
The FTB-880v2 NetBlazer is the field technician's go-to solution covering all things 10G. Fully loaded Ethernet testing includes iSAM and RFC 6349 with GigE and 10 GigE dual ports, OTN, SONET/SDH, DSn/PDH, ISDN PRI, fiber-to-the-antenna (FTTA), Fibre Channel and packet synchronization.



FTB-880Q NetBlazer

Double up everything the FTB-880v2 NetBlazer has to offer, and you get the FTB-880Q NetBlazer. The FTB-880Q is designed for maximum field-technician efficiency through accelerated processes running up to four simultaneous tests, as well as completely independent tests with zero restrictions. The FTB-880Q (and the FTB-870Q) are the only handheld testers offering quad-port GigE and 10 GigE.

STREAMLINED FOR EASE OF USE



- 1** **ETHERNET**
10/100/1000 BASE-T
- 2** **OPTICAL 10G**
CPRI 1.2 to 9.8G
OBSAI 1.5G to 6.1G
OC-192/STM-64,
OC-48/STM-16,
OC-12/STM-4,
OC-3/STM-1,
OC-1/STM-0, OTU1, OTU2,
OTU1e, OTU2e, OTU1f,
OTU2f, 10GE LAN/WAN,
Ethernet 10/100/1000
BASE-T, 100M/1G optical,
FC 1x, 2x, 4x, 8x, 10x,
RF spectrum over CPRI
- 3** DSn/PDH
EXT CLK
Wander
- 4** DSn/PDH
RX2: DS1
EXT CLK
- 5** Electrical
SONET/SDH
DSn/PDH
RX2: DS1/DS3
EXT CLK
Wander
- 6** Mic/headset jack
- 7** Micro SD card slot
- 8** 1 GigE port
- 9** One USB 3.0 port
- 10** Two USB 2.0 ports
- 11** Power meter and VFL
- 12** **OPTICAL 10G**
Ethernet up to 10 Gbit/s
CPRI 1.2 to 9.8G
OBSAI 1.5G to 6.1G
OC-192/STM-64,
OC-48/STM-16,
OC-12/STM-4,
OC-3/STM-1,
OC-1/STM-0, OTU1, OTU2,
OTU1e, OTU2e, OTU1f,
OTU2f, 10GE LAN/WAN,
Ethernet 10/100/1000
BASE-T, 100M/1G optical,
FC 1x, 2x, 4x, 8x, 10x, 16x
- 13** **HIGH SPEED**
CFP4 interface
supporting OTU4, 100GE
- 14** **HIGH SPEED**
QSFP28/QSFP+ interface
supporting OTU4, OTU3,
OTU3e1/e2, 100GE, 40GE
- 15** REF CLOCK OUT
SMA interface
- 16** EXT CLK
SMB interface

THE ULTRA-PORTABLE CHOICE FOR MULTISERVICE TESTING

The ongoing transition towards a converged network infrastructure for legacy DSn/PDH, ISDN, SONET/SDH, OTN, Fibre Channel, CPRI, OBSAI and packet-based, high-speed Ethernet services requires a test tool that is capable of covering a wide range of interfaces and rates without sacrificing portability, speed or cost. Leveraging the powerful, intelligent FTB-1 Pro handheld platform, the NetBlazer V2 Series streamlines processes and empowers field technicians to test and validate DSn/PDH, ISDN, SONET/SDH, OTN, Fibre Channel, CPRI and Ethernet circuits efficiently.

Powerful and fast

The NetBlazer V2 Series is a fully integrated DSn/PDH, ISDN, SONET/SDH, OTN, Fibre Channel, CPRI, OBSAI and high-speed Ethernet handheld tester. It features an 8-inch multitouch screen and unprecedented configuration simplicity. Multiple platform connectivity options including WiFi, Bluetooth, Gigabit Ethernet and USB ports, make it accessible in any environment.

DSN/PDH, ISDN, SONET/SDH, OTN, FIBRE CHANNEL, CPRI, OBSAI AND CARRIER ETHERNET UP TO 100G

Key Testing Benefits

- › Up to 10G SONET/SDH
- › OTN bit-error-rate (BER) testing with configurable threshold settings
- › GCC 0/1/2 BERT test capability on OTN BERT
- › Coupled, Decoupled and Through mode testing
- › Error and alarm insertion and monitoring
- › Overhead monitoring and manipulation
- › High-order and low-order mappings
- › Tandem connection monitoring (TCM)
- › Pointer manipulation, including pointer sequence testing as per Telcordia GR-253, ANSI T1.105-03 and ITU-T G.783
- › Performance monitoring as per ITU-T G.821, G.826, G.828, G.829, M.2100 and M.2101
- › Frequency analysis and offset generation
- › Automatic protection switching
- › Service-disruption-time measurements
- › Round-trip delay measurements
- › DS1/DS3 and E1/E3/E4 testing
- › Dual DS1/DS3 receiver (Rx) support
- › DS1/DS3 autodetection of line code, framing and pattern
- › DS1 loop codes and NI/CSU emulation
- › DS1 automated multipattern BER
- › DS1/DS0 monitoring, including ABCD signaling bits
- › DS1 FDL and DS3 FEAC
- › Fractional T1/E1 testing
- › ISDN PRI for DS1 or E1 interfaces
- › External clock support
- › 10BASE-T to 100 GigE testing
- › Quad-port testing (8XXQ module only)
- › Dual-port testing
- › 10M-to-100G TCP throughput testing as per RFC 6349
- › SAM: ultra-simple ITU-T Y.1564 combined with RFC 6349
- › EtherSAM, RFC 2544, traffic generation and monitoring, and EtherBERT
- › 1588 PTP supporting G.8265.1 and G.8275.1 profiles and SyncE
- › Through mode and Smart Loopback
- › Cable testing, including power over Ethernet
- › Full line-rate packet capture and advanced filtering from 10M to 100G
- › IPv6 testing
- › VLANs, including E-VLAN, S-VLAN and C-VLAN
- › VLAN scan
- › Multiprotocol label switching (MPLS)
- › Asymmetrical testing with Dual Test Set (EtherSAM, RFC 2544, iSAM and RFC 6349)
- › Carrier Ethernet OAM (MEF, IEEE 802.1ag, ITU-T Y.1731 and ITU-T G.8113.1 MPLS-TP) and link OAM (IEEE 802.3ah)
- › Fibre Channel 1x, 2x, 4x, 8x, 10x, 16x
- › Framed CPRI BBU and RRH layer-2 link validation from 1.2 Gbit/s to 9.8 Gbit/s
- › Unframed and framed CPRI BER from 1.2 Gbit/s to 9.8 Gbit/s with SDT and RTD
- › Framed OBSAI BBU and RRH layer-2 link validation from 1.5 Gbit/s to 6.1 Gbit/s
- › iOptics intelligent pluggable optics test that quickly validates the sanity of an optical device
- › OpticalRF™ real-time high-resolution RF spectrum over CPRI
- › BBU emulation enabling RF level validation of RRHs, RET status and control and remote SFP identification
- › Wander timer error testing

ADDITIONAL FEATURES

CPRI/OBSAI layer-2 protocol testing	Supports BBU and RRH emulation modes by supporting start-up sequence states, autodetection of protocols, negotiated parameters for control and maintenance.
CPRI BER testing	Includes unframed and framed BER measurement, bit error injection, round-trip delay measurement, and pass/fail verdicts for 1.2 to 9.8 Gbit/s rates.
CPRI/OBSAI SDT	Measurements in ms for the longest, shortest, last, average, total and count of disruptions.
CPRI DUAL PORT	Provides two simultaneous ports of CPRI BBU or RRH layer-2 link validation with rates from 1.2 to 9.8G Gbit/s.
1588 PTP	Validates 1588 PTP packet network synchronization services, supports G.8265.1 and G.8275.1 profiles, emulates PTP clients, generates and analyzes messages between master/clients, clock quality level and IPDV
SyncE	Validates SyncE frequency, ESMC messages and clock quality levels.
Power measurement	Supports power measurement at all times, displayed in dBm (dBdsx for DS1 and DS3), for optical and electrical interfaces.
Power-up and restore	In the event of power failure to the unit, the active test configuration and test logger are saved and restored upon boot-up.
Save and load configuration	Store and load test configurations to/from a non-volatile USB memory stick or internal flash.
Pass/fail analysis	Provides a pass/fail outcome with user-adjustable thresholds, based on bit error rate and/or service disruption time.
Alarm hierarchy	Alarms are displayed according to a hierarchy based on root cause. Secondary effects are not displayed. This hierarchy serves to facilitate alarm analysis.
Report generation	Generate test reports with customizable selections, company logos and clear pass/fail color-coded analysis, in both HTML and PDF formats, and save them directly on the unit, on a USB stick or via EXFO Connect.
Event logger	Log test results with absolute or relative time and date, details and duration of events, color-coded events and pass/fail outcome.
Remote control	Remote control via VNC or Remote Desktop.
Remote loopback	Detects other NetBlazer/PowerBlazer units and sets them to Smart Loopback mode.
Dual test Set	Detects and connects to other NetBlazer/Power Blazer units to perform bidirectional EtherSAM, RFC 6349 and RFC 2544 testing.
Second Port Loopback Tool	Enables any Ethernet test (e.g., EtherSAM, RFC 2544, traffic generation and monitoring, or BERT) to run directly to itself using one self-contained unit with second port loopback.
IP tools	Performs ping and traceroute functions.
Smart loopback	Return Ethernet traffic to the local unit by swapping packet overhead up to layer 4.
Test timer	Select a predefined duration or enter start and stop times.

GENERAL SPECIFICATIONS

MODULE VERSIONS	FTB-880V2	FTB-870V2	FTB-880Q	FTB-870Q
Size (H x W x D)	210 mm x 254 mm x 55 mm (8 1/4 in x 10 in x 2 3/16 in)		210 mm x 254 mm x 76 mm (8 1/4 in x 10 in x 3 in)	
Weight	0.91 kg (2 lb)	0.85 kg (1.85 lb)	2.1 kg (4.65 lb)	1.84 kg (4.06 lb)
Operating temperature	0 °C to 50 °C (32 °F to 122 °F) up to 2000 m (6561 ft)			
Relative humidity	0 % to 95 %, non-condensing			
Battery duration	Over two hours		Over one hour	
Battery charging time	Two hours			
Languages	English, Spanish, Chinese, Japanese and Korean			

MODULE VERSIONS	FTB-890	FTB-890NGE
Size (H x W x D)	210 mm x 254 mm x 76 mm (8 1/4 in x 10 in x 3 in)	
Weight	1.85 kg (4.08 lb)	2.2 kg (4.85 lb)
Operating temperature	0 °C to 40 °C (32 °F to 104 °F) up to 2000 m (6561 ft)	
Relative humidity	0 % to 95 % non-condensing	
Battery duration	Over one hour	
Battery charging time	Two hours	
Languages	English, Spanish, Chinese, Japanese and Korean	