EXFO FTB-200 FTB-8510G FTB-8510B Specs

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ETHERNET TEST MODULE III

FTB-8510 Packet Blazer

Fully integrated functionality for assessing the performance of Ethernet transport networks

NETWORK TESTING

Packet-jitter measurement for assessing the capability of Ethernet transport networks to transmit delay-sensitive traffic such as voice over IP (VoIP)

Throughput, burstability (back-to-back), latency and frame loss measurements

Remote control via the LAN connection under test, for end-to-end performance testing





Assessing the Performance of Ethernet Services

The FTB-8510 Packet Blazer[™] brings performance assurance to Ethernet-based services. Its wide range of test functionalities provides all the necessary measurement tools for verifying service-level agreements (SLAs) between service providers and their customers.

This FTB-400-housed module tests transparent connectivity in its native format: 10/100/1000Base-T, 1000Base-SX, 1000Base-LX and 1000Base-ZX for LAN-to-LAN services delivered via ATM, frame relay, Next-Generation SONET/SDH, SONET/SDH hybrid multiplexers, switched Ethernet, VLANs, dark fiber, WDM or other means.

Combined with its rack-mounted manufacturing/R&D-environment counterpart, the IQS-8510 Packet Blazer, the FTB-8510 simplifies and speeds up the deployment of Ethernet services.



The FTB-8510 Packet Blazer Test Module is housed in the FTB-400 Universal Test System, EXFO's tough, all-in-one portable platform. Also shown, the FTB-8520 Packet Blazer SAN Test Module.

KEY FEATURES

- Measures throughput, back-to-back, latency and frame loss as per RFC 2544
- Performs packet-jitter measurement (frame-delay variation as per RFC 3393), assessing the capability of Ethernet transport networks to transmit
 delay-sensitive traffic such as voice over IP (VoIP)
- Simultaneous traffic generation and reception at 100 % wire speed for 10/100/1000Base-T, 1000Base-SX, 1000Base-LX or 1000Base-ZX full-duplex networks at all packet sizes
- Transmits and analyzes up to 10 streams, perfect for installing, commissioning and maintaining layer-2 Ethernet networks
- Dual test set feature enables end-to-end performance testing (as specified by leading standards bodies) by controlling a remote Packet Blazer via the LAN connection under test
- Tests transparent LAN services (TLS), thanks to wire-speed, full-duplex 10, 100 or 1000 Mb/s traffic-generation capabilities
- Dual test ports for lab benchmarking of Ethernet devices
- Easy-to-use smart user interface (SUI) for configurable screens, customization of test routines, as well as real-time and historical performance reporting
- EtherBERT[™] for bit-error-rate testing of 10, 100 and 1000 Mb/s Ethernet circuits

Efficient Testing Leads to Reliable Performance

A Highly Efficient and Reliable Test Solution

With the FTB-8510 Packet Blazer, you can test both telecom and packet services, as well as conduct end-to-end performance testing. The FTB-8510 ensures long-term integrity and error-free data delivery across Ethernet WAN links.

First-Class Comprehensiveness

The FTB-8510 performs transparent LAN service (TLS) testing with wire-speed, full-duplex 10, 100 and 1000 Mb/s traffic-generation capabilities. It delivers simultaneous traffic generation and analysis at 100% wire speed for 10/100/1000Base-T, 1000Base-SX, 1000Base-LX and 1000Base-ZX full-duplex networks at all frame sizes. The FTB-8510 also features EtherBERT for bit-error-rate testing of 10/100/1000 Mb/s Ethernet circuits.

Test	Setup	RFC Confi	ь х	Thru/828	₹ F	LiLatency	Analysis	Graph
Port #1	-			Ether	met Analy	sis		
Alarm/Error	Analysis			Collision an	d Alignmen	it Analysis	-Frame Size Erro	r Analysis
нс	Seconds	Count		нс	Sec	onds Count	нс	Seconds Count
LOS	0			O O Colla	ion 🛛 🖸	0	 Glant 	0 0
🛛 🕘 Link	0			Colte	ion 0	0	Runt	0 0
PHY Er	ror 0	0		e e Exce	ssive 0	0	Oundersize	0 0
e	Seconds	Count	Rate	a a Align	ment In		- Courring	0
 Error 	0	0	0.0E0	Error				
🔹 🔹 Idle En	ror 0	0	0.0E0	- Test Contr	ols			
FCS Er	ror 0	0	0.0E0		Histo	ry Reset		
Port #1 - Traffic Anal Multicast Broadcast Unicast N-Unicast Pause Frame Total Frame	ysis TX Count 0 7 5562543 7 0 5562590	RX Count 0 7 5562535 7 0 5562542	Frame < 64 65 -> 128 -: 256 -: 512 -: 1024 -: > 152 -: -: -: -: -: -: -: -: -: -:	Frat Size 0 127 284 255 166 511 902 > 1023 126 > 1522 0 2 0	ne Analys * 0917 19190 637 637	0.00% 0.00% 51.07% 30.36% 16.28% 2.27% 0.00%	Total Bandwidth Total Utilization Total Frame Rate	536.06 MBp 55.70 % 130874.5 fps



Frame Size Distribution	J RHC C	contiguration	- Test Procedure	
Distribution RFC2544 (suggested size	s) 💌 Qiy 7 💌	Remote Port	Throughput	Test Config.
Frame Size		Destination MAC Address 00:03:01:08:16:EE	Backsto-Back	Test Config.
68 128 256 512	1024 1280 1518	Destination IP Address		Test Config
Test Setup		10.10.22.254	W Hrame Loss	Test Conng.
Type Dual Test Sets		Subnet Mask	🕜 Latency	Test Config.
Speed: A: 1000 MBps		233,233,010		
Duplex: A: Full		Select Remote	30	et (Stop 👻
Direction: Bi-directional	 Coupled 	Enable Remote		
	Inte	face Cables		
Local Remo	te ji inte	ace setup	Local	Remot
	MAL Address	10.00.01.00.10.10	_	
Nuto-Negotiation 🕢	School Mark	255 255 0 0	_	
Inable Default Gateway 🧥	Default Gateway	0.0.0	_	
anade o'er oar o'norer Nay	VI AN TO		DATY 2	Binary
Enable VLAN 🕢 🕢	VI AN Drivebu	D (000, Law Drively)		(Drivebu)
Fnable ID Multinicator	10 Multinicator Danna	(doo - Low Phoney)		-
		11.0120	11 10 120	
	Select Remote	Test Frame Config. PI	NG Test Fram	e Config.

The FTB-8510 Packet Blazer's RFC 2544 configuration.

Frame Analysis

This FTB-8510 Packet Blazer feature enables traffic generation and analysis, allowing you to troubleshoot an Ethernet circuit and analyze customer traffic for errors. Thanks to its packet jitter measurement capabilities (as per RFC 3393), service providers can benchmark transport networks for delay-sensitive traffic such as voice over IP (VoIP).

Performance Analysis (RFC 2544)

RFC 2544 measurements (throughput, back-to-back, frame loss and latency) provide a basis for service providers and their customers to define service-level agreements (SLAs). They enable service providers to validate the quality of service (QoS) delivered, and can provide them with a tool to create value-added services that can be measured and demonstrated to customers. By offering different classes of services, a service provider can create new revenue sources based on better, measurable performance.

EtherBERT Analysis

The EtherBERT functionality allows for testing transparent Gigabit Ethernet circuits running over an xWDM network as if they were SONET/SDH circuits on the same xWDM network.

User-Friendly Interface

The FTB-8510 Packet Blazer's easy-to-use smart user interface (SUI) lets you tailor screen configurations, customize test routines and format reports on real-time and historical performance.



EXFO's FTB-8510 comes with highly flexible smart user interface.

SPECIFICATIONS¹

	FTB-8510 ²	FTB-8510-1 ²	FTB-8510-2
Ports	Two 10/100Base-T	Two 10/100Base-T and one Gigabit Ethernet	Two 10/100Base-T and two Gigabit Ethernet
Connector types	RJ-45 (ISO 8877)	RJ-45 (ISO 8877) and LC	RJ-45 (ISO 8877) and LC
Connect speed (Mb/s)	10/100	10/100/1000	10/100/1000
Duplex mode	Full/half-duplex	Full/half-duplex	Full/half-duplex
	auto-negotiation	auto-negotiation	auto-negotiation
Vaximum port capacity (Mb/s)	200 (bidirectional)	2000 (bidirectional)	2000 (bidirectional)
Ethernet testing	RFC 2544	RFC 2544	RFC 2544
	RFC 1242	RFC 1242	RFC 1242

GENERAL SPECIFICATIONS

Size (H x W x D)		2.5 cm x 9.6 cm x 26 cm	(1 in x 3 in x 10 in)	
Weight (without transceivers)		0.5 kg	(1.1 lb)	
Temperature				
	operating	0 °C to 40 °C	(32 °F to 104 °F)	
	storing	–40 °C to 60 °C	(-40 °F to 140 °F)	

SAFETY

21 CFR 1040.10 and IEC 60825-1	CLASS 1 LASER PRODUCT

NOTES

- 1. Similar specifications apply to the IQS-8510 Packet Blazer module, designed for the IQS-500 platform.
- Upgrade kit also available for FTB-8510 Packet Blazer, providing one or two Gigabit Ethernet ports.

ORDERING INFORMATION

MODULE		TEST KIT				
FTB-8	85 <mark>XX-XX</mark>	TK-400-8500-XX-XXX-XX-FTB-85XX-XX-XX-XX-XX				
Model FTB-8510 FTB-8510-1 FTB-8510-2	Software A-1.6.1 = Packet Blazer software release 1.6.1 A-1.7.0 = Packet Blazer software release 1.7.0	Screen code D3 = STN passive screen D4 = TFT active screen	Software A-1.6.1 = Packet Blazer software release 1.6.1 A-1.7.0 = Packet Blazer software release 1.7.0			
Example: FTB-8510-2 For Gigabit Ethernet optical interfaces, FTB-859x Transceivers have to be ordered separately.		Memory N10 = 256 MB N12 = 512 MB	Transceiver 1550 nm options (1000Base-ZX 8592-1 = 1 transceiver module 8599-2 = 2 transceiver modules			
TRANSCEIVER FTB-859x: FTB-8590: 1000Base-SX (850 nm) LC connectors; optical SFP transceiver module for IQS-8510 Packet Blazer FTB-8591: 1000Base-LX (1310 nm) LC connectors; optical SFP transceiver module for IQS-8510 Packet Blazer FTB-8592: 1000Base-ZX (1550 nm) LC connectors; optical SFP transceiver module for IQS-8510 Packet Blazer FTB-8592: 1000Base-ZX (1550 nm) LC connectors; optical SFP transceiver module for IQS-8510 Packet Blazer			Transceiver 1310 nm options (1000Base-LX) 8591-1 = 1 transceiver module 8591-2 = 2 transceiver modules Transceiver 850 nm options (1000Base-SX) 8590-1 = 1 transceiver module 8590-2 = 2 transceiver module			

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