The industry’s first portable 100 Gbit/s Ethernet tester

- Purpose-built for applications where thorough testing, portability, true ruggedness and ease of use are required
- Fully integrated functionality for fully assessing layer 1/2/3 performance of 100 Gbit/s and 40 Gbit/s Ethernet equipment and network services
- EtherBERT™ test functionality for verifying the integrity of 100 Gbit/s and 40 Gbit/s Ethernet running on WDM networks
- Fast performance/functionality validation of CFP, CXP and QSFP transceivers, in the lab or in the field
- 100 Gbit/s switch and router engine stress tests against demanding corner cases with full-line-rate Ethernet and IP packet generation at over 148 million packets per second
- OTU4-ready hardware for easy testing of advanced technologies
- A single instrument for lab testing, field trials and early deployments, maximizing the return on investment and reducing the risk throughout the product lifecycle

Platform Compatibility

- FTB-500 Portable platform
100 Gbit/s Ethernet—A Rapidly Emerging Market

The ongoing growth of enterprise, residential and mobile multimedia services (such as peer-to-peer, IPTV and video-over-the-Internet) is producing unprecedented levels of traffic, stressing the bandwidth capabilities of metro and core transport networks. Consequently, carriers worldwide are actively seeking strategies to efficiently and cost-effectively scale the transmission of IP packets. Specifically intended to facilitate this transition, 100 Gbit/s and 40 Gbit/s Ethernet technologies offer carriers the flexibility to phase in the implementation of these higher-speed rates to better align capacity increases with their specific growth and budget strategies.

These new data rates are based on the IEEE 802.3ba task force initiative. Although not yet fully ratified, the current draft proposes Ethernet interface implementations at 100 Gbit/s and 40 Gbit/s (initial work began in November 2007 and the draft 2.0 version was released in March 2009).

The most significant concept introduced in this working standard is the use of parallel optics (including CWDM, LAN WDM and parallel ribbon fiber), which strongly influence the physical coding sublayer (PCS) implementation—one of the new building blocks for 40 Gbit/s and 100 Gbit/s Ethernet. The key difference between the IEEE 802.3ba standard and its most popular lower-rate predecessor is the introduction of PCS lanes (formerly known as virtual lanes). PCS lanes provide an effective method of handling various parallel optical configurations and therefore demand a comprehensive solution that can easily test from 10 x 10 Gbit/s to 4 x 25 Gbit/s and, in the future, 2 x 50 Gbit/s and 1 x 100 Gbit/s configurations. Thorough PCS testing is among the critical layer 1/2/3 tests needed to ensure that 100 Gbit/s and 40 Gbit/s Ethernet equipment and network services can be deployed rapidly and with confidence.

Many products are expected to be available when the standard is ratified in June 2010 and some pre-production units will be available sooner for trial. However, with the standard being in flux and the market being at an early stage, manufacturers and carriers are challenged to find comprehensive testing solutions that enable diverse teams to carry out tests and trials as well as deploy these technologies confidently while making the best use of their investment.

100 Gbit/s Ethernet Networks: What and Where to Test

Compliance testing is critical to ensure that 100 Gbit/s and 40 Gbit/s Ethernet equipment and network services can be deployed rapidly and with confidence.
The Industry’s First Rugged and Portable 100 Gbit/s Ethernet Compliance Tester

The first rugged and portable 100 Gbit/s Ethernet analyzer on the market, the FTB-85100G Packet Blazer enables teams to efficiently share the equipment in the lab, perform field trials and carry out early deployments, all with a single tester. Purpose-built for applications where thorough testing, portability, true ruggedness and ease of use are required, it offers powerful layer 1/2/3 traffic generation and analysis features to stress and validate network elements and services against demanding corner cases.

The FTB-85100G supports multiple transceiver interfaces (CFP, CXP and QSFP) and offers unprecedented full-line-rate testing of the physical coding sublayer (PCS). Users can also generate and analyze 100 Gbit/s and 40 Gbit/s line rate Ethernet and IP packets, as well as perform comprehensive EtherBERT™ tests, all via an intuitive graphical user interface (GUI).

With its complete range of test features and automation capabilities, the FTB-85100G can execute multilayer testing to rapidly validate physical-layer characteristics and accurately benchmark Ethernet/IP performance of equipment and services. Its flexible and scalable FPGA-based architecture ensures rapid and seamless incorporation of updates as the standard is ratified and refined moving forward, protecting your testing investment without sacrificing timely support of features and functions.
COMPLEMENTARY PRODUCTS

**FTB-8510G Packet Blazer**

Housed in the FTB-400, FTB-500 and FTB-200 platforms, the FTB-8510G module tests connectivity in its native format: 10GBASE-xR or 10GBASE-xW used for transport of Ethernet-based LAN-to-LAN services. It can also be used to test Next-Generation SONET/SDH, hybrid multiplexers, dark fiber or xWDM networks running 10 Gigabit Ethernet interfaces. For more information on the FTB-8510G, please refer to its detailed spec sheet at http://documents.EXFO.com/specsheets/FTB-8510G-ang.pdf.

**FTB-8140 Transport Blazer**

The FTB-8140 Transport Blazer test module includes an intuitive, feature-rich user interface to streamline testing of OC-768, STM-256 and OTN links with ITU-T G.709 forward error correction (FEC), without compromising on functionality. It can automate next-generation SONET/SDH/OTN and ROADM testing with a broad range of SCPIs to address growing requirements of network equipment vendors in system verification, manufacturing and troubleshooting of network elements.

For more information on the FTB-8140, please refer to its detailed spec sheet on the product page at http://documents.exfo.com/specsheets/FTB-8140-angHR.pdf.

**ORDERING INFORMATION**

<table>
<thead>
<tr>
<th>Display</th>
<th>Options</th>
<th>Rates</th>
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<tbody>
<tr>
<td>S1 = TFT active screen</td>
<td>Ethernet = Ethernet packet generation and analysis</td>
<td>40G = 40 Gbit/s Ethernet</td>
</tr>
<tr>
<td>S2 = Outdoor-enhanced screen</td>
<td>IP = IP packet generation and analysis</td>
<td>100G = 100 Gbit/s Ethernet</td>
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<td>OCT = Eight-slot module capacity</td>
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<tr>
<td>Battery</td>
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<tr>
<td>BYT = With batteries</td>
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**Example:** TK-85100G-S1-OCT-BTY-40G-100G-Ethernet-IP

Note:
- a. Included as standard on TK-85100G.

**Transceivers and accessories**

- FTB-85951 = 100 Gbit/s Ethernet CFP transceiver (10 x 10G WDM)
- FTB-85941 = CFP to QSFP adapter module
- FTB-85940 = CFP to CXP adapter module