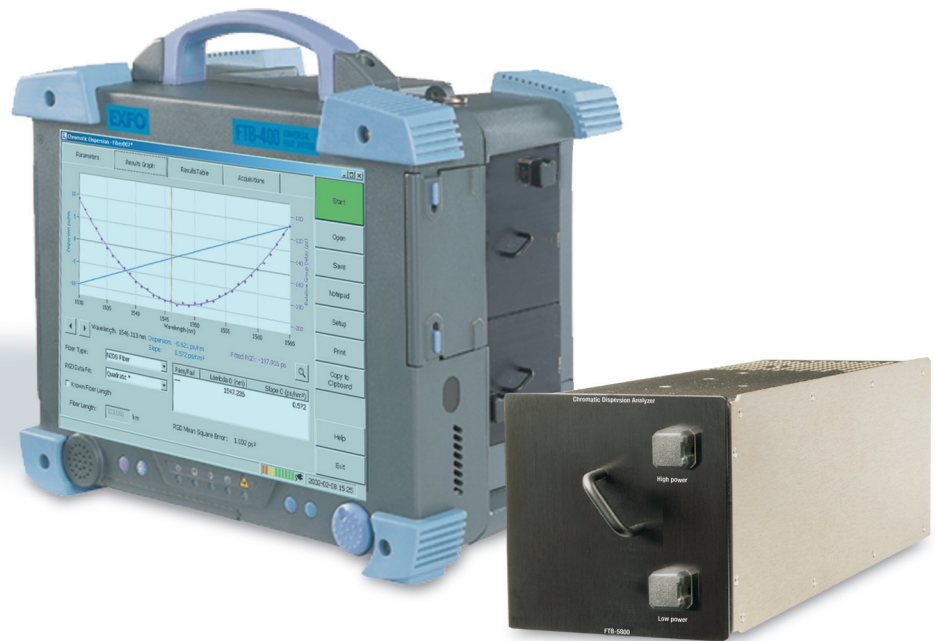


# CHROMATIC DISPERSION ANALYZER

## FTB-5800

NETWORK TESTING—OPTICAL



- Complete CD characterization
- Approved phase-shift method
- No communication between source and receiver
- Patented design\*: test through EDFAs
- 40 Gbit/s ready

### Platform Compatibility

FTB-400 Universal Test System

\* Patent-pending, International PCT Publ. No. WO2004/070341.  
Measurement method approved by TIA-FOTP-124A.



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Telecom Test and Measurement

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EXPERTISE REACHING OUT

## Characterize Chromatic Dispersion in the Field

The ongoing race to develop high-speed transmission systems and to increase available bandwidth is facing certain limitations. Chromatic dispersion (CD) measurements are becoming more and more critical for carriers and service providers looking to improve their systems by upgrading to 10 or 40 Gbit/s (OC-192/STM-64 and OC-768/STM-256). EXFO's FTB-5800 CD Analyzer\* offers high performance in a field-ready unit for all chromatic dispersion testing situations.

### KEY FEATURES

- Suitable for all fiber types
- Rugged and ready for the field
- Intuitive software



FTB-5800 CD Analyzer

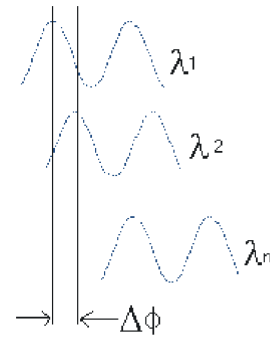
\*Protected by US patent 6,429,929 and foreign equivalents.

### CD AFFECTS SYSTEM PERFORMANCE

CD occurs because different wavelengths travel at slightly different speeds in optical fiber, resulting in elongated, and thus ineffective, light pulses. DWDM systems are particularly sensitive to CD. Too much CD results in cross-modulation and signal loss; however, a small, controlled amount of CD is needed to reduce unwanted non-linear phenomena, such as four-wave mixing.

### THE ONLY CD ANALYZER BASED ON THE PHASE-SHIFT METHOD

The FTB-5800 uses the approved phase-shift method, which works as follows: To transmit a signal, modulated light is sent through the fiber. At the end of the fiber, different wavelengths have different phase shifts. The measurement of these different phase delays in the frequency domain relates to a delay in the time domain and, therefore, to CD.



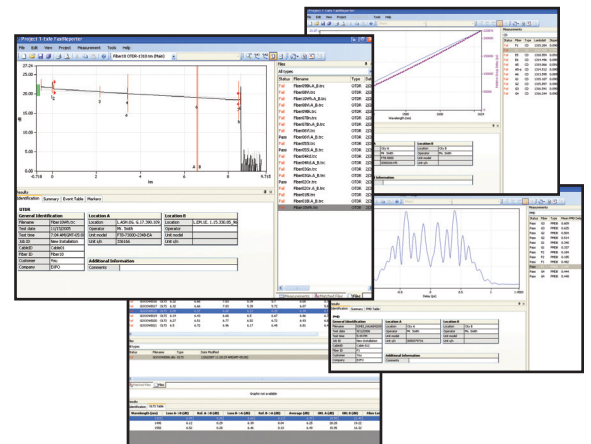
Different wavelengths have different phase shifts. The measurement of these different phase delays relates to CD.

## Fast-Track Data Post-Processing with FastReporter Software

The optional FastReporter software package provides you with the post-processing tools and functionalities you need to optimize your test cycles, whatever the application. Designed for **off-line analysis of field-acquired data**, FastReporter offers a truly intuitive graphical user interface, which contributes to boosting productivity.

### FLEXIBLE REPORTING

Choose from various report templates, including PMD, CD and fiber characterization. Generate comprehensive cable reports in PDF, Excel or HTML format.



## Field-Proof Advanced Technology

### HOUSED IN THE FTB-400 UNIVERSAL TEST SYSTEM

To survive knocks, bumps and drops, the four-slot FTB-5800 CD Analyzer is housed in the tough magnesium shell of the portable, splashproof FTB-400 Universal Test System, whose module receptacle comprises up to eight slots, providing simultaneous support for multiple testing applications (PMD, OTDR and OLTS, SONET/SDH, Ethernet, etc.).

Since the FTB-5800 operates in the FTB-400's PC environment, you no longer need to bring a laptop in the field or be in-house to perform accurate CD measurements. Simply bring the rugged, battery-operated FTB-400 and perform advanced CD and PMD analysis, all in a single instrument.

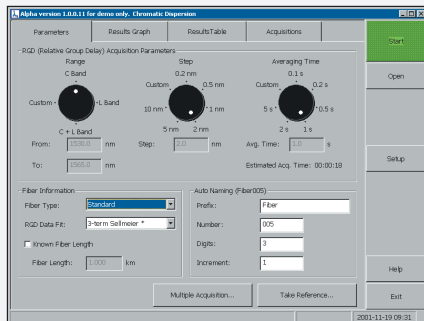
### THE NO-COMMUNICATION ADVANTAGE

Now you can test whole links instead of only sections, reducing manipulation, error and testing time. EXFO's patent-pending technology offers a truly unique advantage—no communication between the source and the receiver. Because filtering is done at the receiver end and not at the source, transmission through one-way devices such as isolators and EDFAs is possible. Tests have been performed through as many as 30 amplifiers.

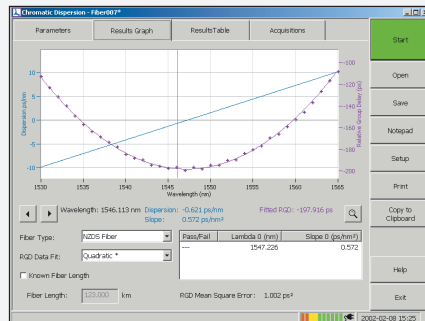
### UNIVERSAL RECEIVER

Equipped with a broadband detector, EXFO uses the same receiver for both C- and L-band testing. Although one band may be adequate for today's testing, EXFO makes it easy to handle possible future expansions. Should your testing needs change, you can simply purchase additional sources without having to purchase another receiver.

## POWERFUL SOFTWARE FEATURES AT THE TOUCH OF A BUTTON



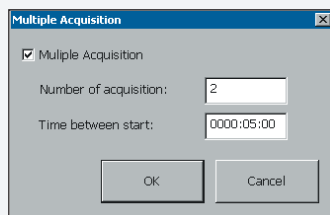
Simple test setup parameters for error-free testing.



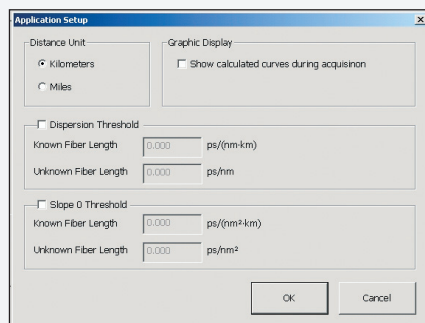
Large graphic display of both the dispersion and the relative group delay.

Wavelength (nm)	Dispersion (ps/nm)	Relative Group Delay (ps/nm)
1520.0	-192.74	-194.027
1522.0	-192.20	-191.588
1524.0	-187.51	-188.572
1526.0	-188.12	-184.990
1528.0	-181.70	-180.940
1530.0	-176.35	-176.323
1532.0	-171.63	-170.840
1534.0	-165.55	-164.989
1536.0	-158.65	-159.571
1538.0	-151.88	-151.286
1540.0	-144.73	-144.024
1542.0	-134.44	-135.155
1544.0	-125.67	-127.229
1546.0	-118.48	-117.976
1548.0	-108.39	-108.150

Personalized data management for clear, customized report creation.



Multiple measurement capabilities for testing over long time periods.



Threshold detection for dispersion and slope at  $\lambda_0$ .

## SPECIFICATIONS<sup>a</sup>

Model		FTB-5800		
Wavelength range (nm)		1530 to 1625 1200 to 1700 <sup>b</sup>		
Wavelength step (nm)	Minimum	0.1		
Measurement points	Maximum	950, user-definable		
Dynamic range <sup>c</sup> (dB)		42		
Wavelength uncertainty <sup>d</sup> (accuracy) (nm)		0.1		
Dispersion uncertainty <sup>d</sup> (accuracy) (ps/nm)	20 km of G.652	1.6		
	120 km of G.652	3.1		
	20 km of G.655	1.9 (guaranteed)		
Dispersion repeatability <sup>d</sup> (ps/nm)		20 km	80 km	120 km
Zero-dispersion wavelength $\lambda_0$ repeatability <sup>d</sup> (nm)		0.1	0.14	0.8
Dispersion slope repeatability $\lambda_0$ <sup>d</sup> (%)		0.03	0.05	0.25
Minimum fiber length (km)		< 1		
Maximum fiber length (km) <sup>e</sup>		> 5400		
Measurement time per point <sup>e</sup> (s)	Minimum	< 1		

### NOTES

- a. All specifications are typical with 4 seconds averaging time per point (where applicable), at a temperature of 23 °C ± 1 °C, with FC connectors and after warmup time.  
b. Displayed range. Values may be extrapolated.  
c. Dynamic range is defined as the difference between the strongest signal and the

weakest signal the receiver can detect. Extra averaging may be required. Uncertainty (accuracy) is not guaranteed at limits of range.

d. C+L band.

e. Including EDFAs.

f. Additional gain setting time may be required prior to the first point of each band.

## GENERAL SPECIFICATIONS

Size (H x W x D) (module)	9.6 cm x 10 cm x 26 cm	(3 3/4 in x 3 15/16 in x 10 1/4 in)
Weight (module)	2 kg	(4.5 lb)

## ORDERING INFORMATION

### CD ANALYZER

#### FTB-5800-XX

##### Connector

- EI-EUI-28 = UPC/DIN 47256  
 EI-EUI-76 = UPC/HMS-10/AG  
 EI-EUI-89 = UPC/FC narrow key  
 EI-EUI-90 = UPC/ST  
 EI-EUI-91 = UPC/SC  
 EI-EUI-95 = UPC/E-2000  
 EA-EUI-28 = APC/DIN 47256  
 EA-EUI-89 = APC/FC narrow key  
 EA-EUI-91 = APC/SC  
 EA-EUI-95 = APC/E-2000

Example: FTB-5800-EI-EUI-89

### CD/PMD ANALYZER SOURCE

#### FLS-58XX-XX

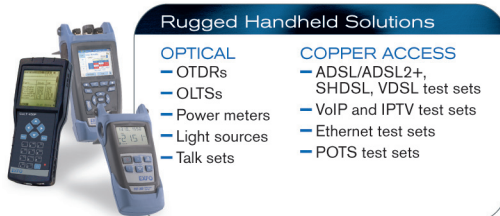
##### Model

- FLS-5803 = Modulated 1550 nm SuperLED  
 FLS-5804 = Modulated 1625 nm SuperLED  
 FLS-5834 = Modulated 1550 nm  
 and 1625 nm SuperLEDs

Example: FLS-5834-EI-EUI-89

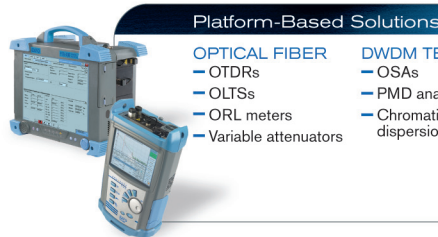
### SAFETY

THIS PRODUCT COMPLIES WITH  
IEC 60825-01: 1993 + A2: 2001  
CLASS 1M LED PRODUCT



#### Rugged Handheld Solutions

- OPTICAL**  
 - OTDRs  
 - OLTSs  
 - Power meters  
 - Light sources  
 - Talk sets  
**COPPER ACCESS**  
 - ADSL/ADSL2+, SHDSL, VDSL test sets  
 - VoIP and IPTV test sets  
 - Ethernet test sets  
 - POTS test sets



#### Platform-Based Solutions

- OPTICAL FIBER**  
 - OTDRs  
 - OLTSs  
 - ORL meters  
 - Variable attenuators  
**DWDM TEST SYSTEMS**  
 - OSAs  
 - PMD analyzers  
 - Chromatic dispersion analyzer  
**TRANSPORT AND DATACOM**  
 - Next Generation SONET/SDH and OTN testers  
 - SONET/DSn (DSO to OC-192) testers  
 - SDH/PDH (64 kbit/s to STM-64) testers  
 - T1/T3, E1 testers  
 - 10/100 M and Gigabit Ethernet testers  
 - Fibre Channel testers  
 - 10 Gigabit Ethernet testers

Find out more about EXFO's extensive line of high-performance portable instruments by visiting our website at [www.EXFO.com](http://www.EXFO.com).

EXFO Corporate Headquarters > 400 Godin Avenue, Quebec City (Quebec) G1M 2K2 CANADA | Tel.: 1 418 683-0211 | Fax: 1 418 683-2170 | [info@EXFO.com](mailto:info@EXFO.com)

Toll-free: 1 800 663-3936 (USA and Canada) | [www.EXFO.com](http://www.EXFO.com)

<b>EXFO Montreal</b>	2650 Marie-Curie	St-Laurent (Quebec) H4S 2C3 CANADA	Tel.: 1 514 856-2222	Fax: 1 514 856-2232
<b>EXFO Toronto</b>	160 Drumlin Circle	Concord (Ontario) L4K 3E5 CANADA	Tel.: 1 905 738-3741	Fax: 1 905 738-3712
<b>EXFO America</b>	3701 Plano Parkway, Suite 160	Plano, TX 75075 USA	Tel.: 1 800 663-3936	Fax: 1 972 836-0164
<b>EXFO Europe</b>	Omega Enterprise Park, Electron Way	Chandlers Ford, Hampshire SO53 4SE ENGLAND	Tel.: +44 2380 246810	Fax: +44 2380 246801
<b>EXFO Asia</b>	151 Chin Swee Road, #03-29 Manhattan House	SINGAPORE 169876	Tel.: +65 6333 8241	Fax: +65 6333 8242
<b>EXFO China</b>	No.88 Fuhua, First Road Central Tower, Room 801, Futian District Beijing New Century Hotel Office Tower, Room 1754-1755 No. 6 Southern Capital Gym Road	Shenzhen 518048, CHINA  Beijing 100044 P. R. CHINA	Tel.: +86 (755) 8203 2300  Tel.: +86 (10) 6849 2738	Fax: +86 (755) 8203 2306  Fax: +86 (10) 6849 2662

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