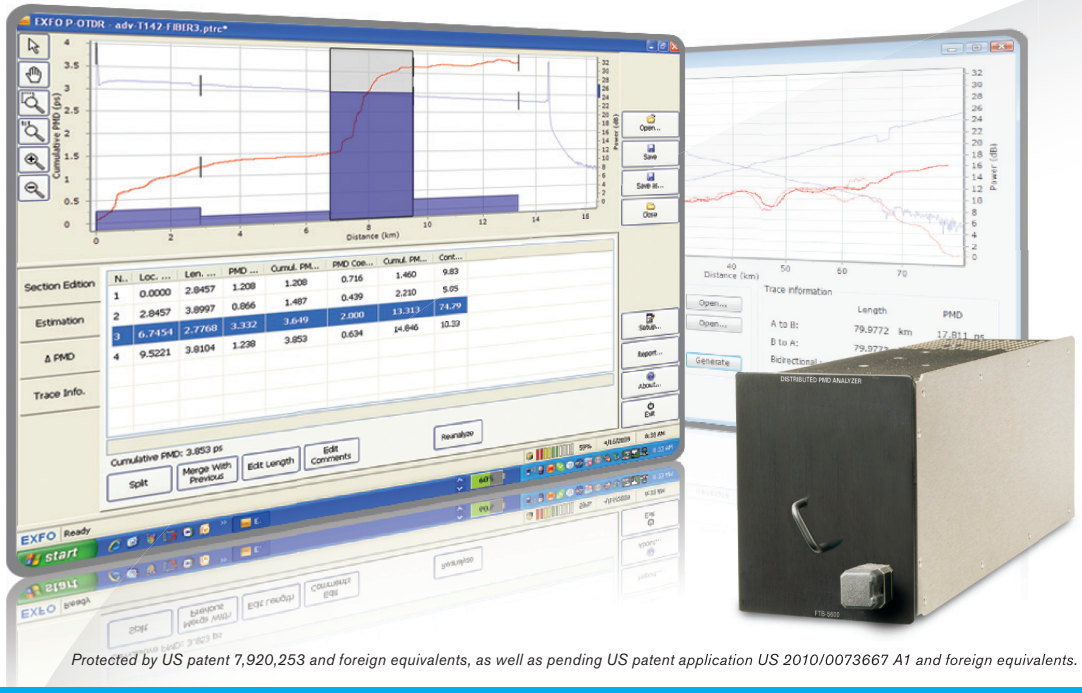
FTB-5600

DISTRIBUTED PMD ANALYZER



40G

FROST & SULLIVAN
2011 BEST PRACTICES AWARD
GLOBAL PORTABLE FIBER OPTIC TEST EQUIPMENT MARKET SHARE LEADERSHIP AWARD

Protected by US patent 7,920,253 and foreign equivalents, as well as pending US patent application US 2010/0073667 A1 and foreign equivalents.

The only distributed PMD analyzer on the market, offering simplified PMD assessment for identification of faulty sections on links.

SPEC SHEET

KEY FEATURES

- Locates fiber sections that are large contributors to the total PMD of a link
- Makes it possible to isolate and repair only the worst PMD sections of the fiber cable
- Allows the cost-effective upgrade of a fiber network otherwise limited in speed by PMD
- Helps identify small changes that can boost the entire network's performance

INCLUDES

On-site training

One-day, on-site training

PLATFORM COMPATIBILITY

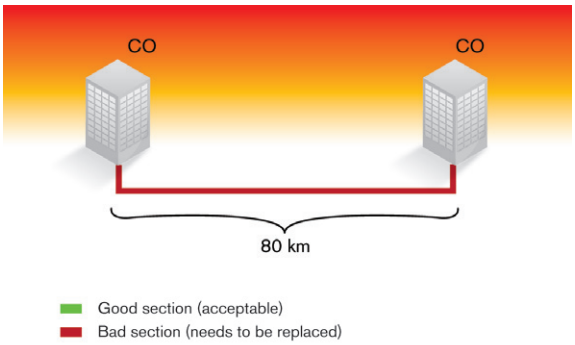
Platform
FTB-500

EXFO

OPTIMIZING INSTALLED FIBER INFRASTRUCTURES

With the prohibitive cost of installing new fiber, service providers often prefer to use installed fiber rather than build new infrastructures. Sometimes, older fibers might have been deemed unusable because of poor performance, in particular due to PMD. In other cases, a lower data rate might have been chosen (e.g. 2.5G) because a fiber with high PMD was considered unsuitable for fast data rates (e.g. 10G). That was before distributed PMD analysis. This innovative PMD measurement method enables service providers to leverage the installed fiber infrastructure to its full potential.

Since traditional PMD measurement techniques only provide a total end-to-end value compared against pass/fail thresholds, it used to be impossible to determine what caused a link to "fail" its PMD test, i.e., the whole link, or only localized sections. The distributed PMD analysis approach was developed to avoid such grey areas, and to help network operators tackle the PMD assessment challenge.

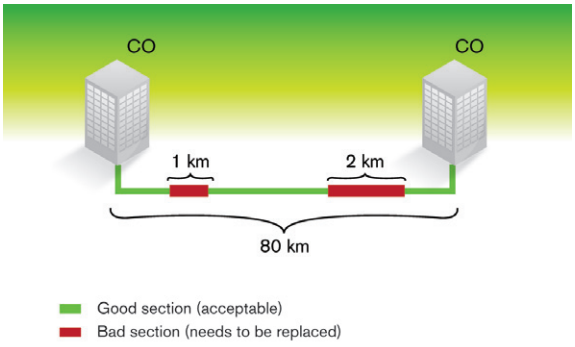


Traditional PMD measurement techniques provide a total link PMD value, but do not provide insight into which spans are causing the link to fail the test.

Measuring PMD as a function of the distance

EXFO's FTB-5600 is the very first quantitative distributed PMD analyzer on the market. The technological breakthrough on which it is based provides operators with a cost-effective, time-efficient alternative to costly network upgrades. By breaking down the PMD measurement results, distributed PMD analysis pinpoints high-PMD sections and accurately qualifies them.

The example to the right details a real-world network upgrade scenario, and shows the type of results generated by the FTB-5600 in such situations.



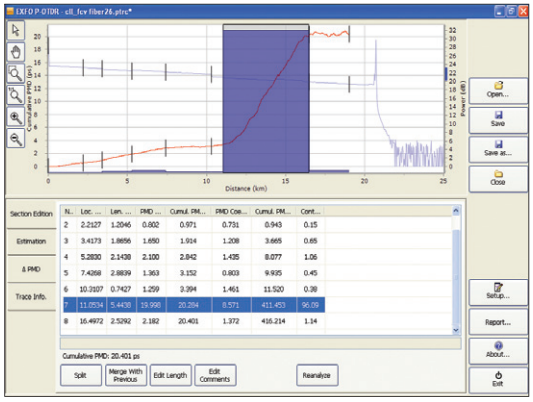
Contrary to the traditional approach, distributed PMD analysis breaks down the measurement results, effectively pinpointing the high-contributing sections of the link.

One-day, on-site training

To ensure that this powerful tool is used to its maximum capacity, EXFO offers a one-day, on-site training provided by one of our certified trainers.

Better insight, better decisions

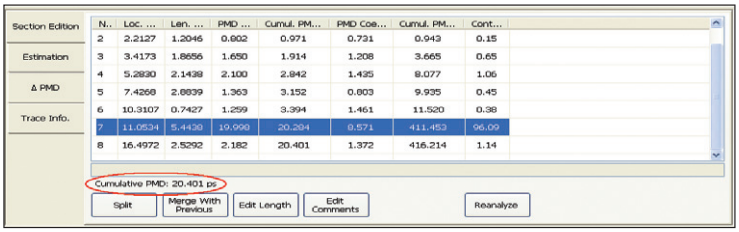
When confronted by the high costs involved in deploying high-PMD-tolerant systems or new fiber, network operators often hesitate before making the move toward high-speed transmission. But now, thanks to distributed PMD analysis, they can choose another path: identifying the high-PMD spans and performing local face-lifts on the link to effectively extend the life of their legacy networks.



PMD contribution histogram

PMD contribution histogram

The FTB-5600's PMD contribution histogram immediately reveals whether one or several sections account for the bulk of the PMD. In the example to the right, the faulty 5 km section accounts for more than 96 % of the total PMD.

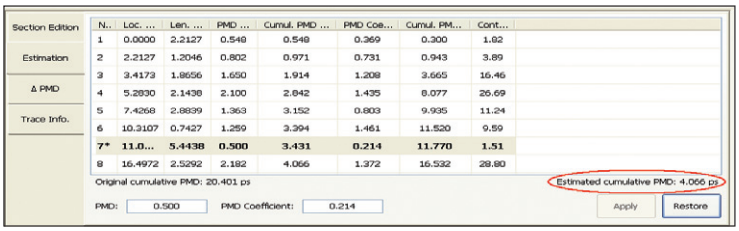


Before fixing the faulty 5 km fiber span (section 8).

PMD estimation feature

PMD estimation feature

The estimation feature enables you to simulate the effect that replacing any of the high-contributing sections would have on total PMD directly from the interface, helping you make better decisions in less time.

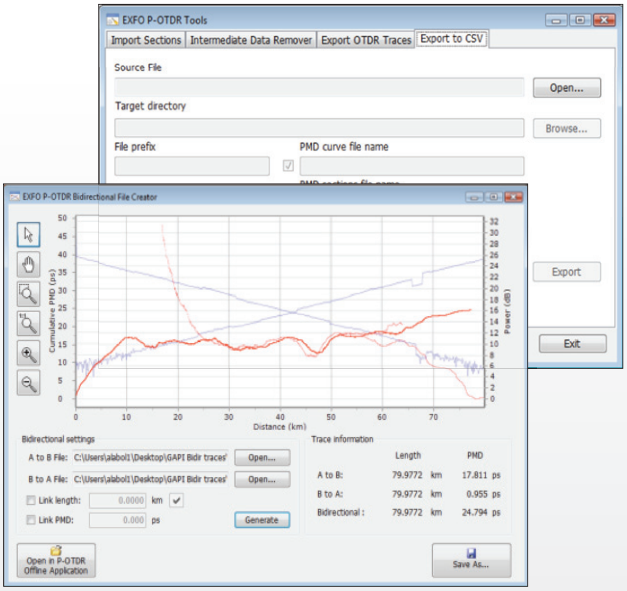


After replacing it.

Value tools

Value tools

- **Bidirectional Analysis**
  Bidirectional traces are analyzed automatically to increase the usable dynamic range or boost the accuracy of the measurement.
- **Import Sections**
  Create section templates with either another POTDR trace, a standard OTDR trace, or a text file.
- **Intermediate Data Remover**
  Test and save in full Data Keeping mode to facilitate intervention by our experts in the event of odd fiber behavior. Then, use this tool to "shrink" the data to smaller sizes.
- **Export OTDR Trace**
  For in-depth OTDR analysis in any of our off-line viewers such as FastReporter, save only the OTDR trace shot of the FTB-5600.
- **Export to .csv**
  Use comma-separated value files to create your own custom analysis in tabular software such as Excel. As an example, this will enable you to compare fibers within the same cable.



SPECIFICATIONS [a]

Wavelength range (nm)	1520 to 1580
Maximum cumulative PMD (ps)	≥20
Minimum measurable cumulative PMD (ps)	0.1 [b]
Cumulative PMD uncertainty (ps)	± (0.1 + 5 % x PMD) [c]
PMD dynamic range (dB)	15 [d]
Distance uncertainty (OTDR) (m)	±10 [e]

GENERAL SPECIFICATIONS

Temperature		
operating	0 °C to 40 °C	(32 °F to 104 °F)
storage	−40 °C to 70 °C	(−40 °F to 158 °F)
Relative humidity	0 % to 93 % noncondensing [f]	
Size (H x W x D)	96 mm x 75 mm x 281 mm	(3 3/4 in x 3 in x 11 in)
Weight	2 kg	(4.4 lb)

LASER SAFETY

Class 1 laser product in compliance with standards IEC 60825-1: 2007 and 21 CFR 1040.10.
Laser radiation may be encountered at the output port.

Notes

a. All specifications are typical and at 23 °C ± 2 °C, on buried fibers.
b. With the lowest PMD resolution.
c. For 100 SOP, 100 ns pulse and 2 km spatial smoothing filter. Based on a single strong-coupling PMD emulator.
d. For 275 ns pulse, 2000 averages, 4 km spatial smoothing filter, fiber-dependent.
e. Does not include contribution of the fiber index uncertainty.
f. Up to 40 °C.

ORDERING INFORMATION

FTB-5600-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-5600-EI-EUI-89

* Feature(s) of this product is/are protected by one or more of US patents 6,612,750 and 8,373,852.

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