MPI-800-NS331

NETWORK TESTING–OPTICAL

DISCONTINUED PRODUCT

Features/Benefits

- Helps ensure good transmission in ultra-long-haul networks
- Measurement range of –55 dB to –20 dB
- All-in-one: an MPI meter, a power meter and a light source in a single unit
- Flexible: available with various ITU-specified sources in the C and L bands

EXPERTISE REACHING OUT

Measuring Multipath Interference in Raman-Amplified Networks

Quality of service and uptime are keystones of the deployment and maintenance of any fiber-optic network. Operators constantly focus on optimizing the former and maximizing the latter–which, in the case of next-generation networks that use distributed Raman amplification, can be threatened by the presence of multipath interference (MPI).

MPI is created by the transmitted signal and its amplified reflections reaching the receiver with an important delay, causing the bit error rate to increase. Measuring it at each critical point (Raman amplifiers, receivers, etc.) along the network is therefore an essential step toward ensuring first-class network services.

Enter EXFO's MPI-800-NS331 Multipath Interference Meter, the only portable MPI measurement instrument on the market today. It combines a detector and a DFB light source, providing accurate MPI results in the –55 to –20 dB range. The MPI-800-NS331 offers three operating modes and packs an MPI meter, a power meter and a light source in a single unit, making it the ideal tool for characterizing fiber and system components in the field.

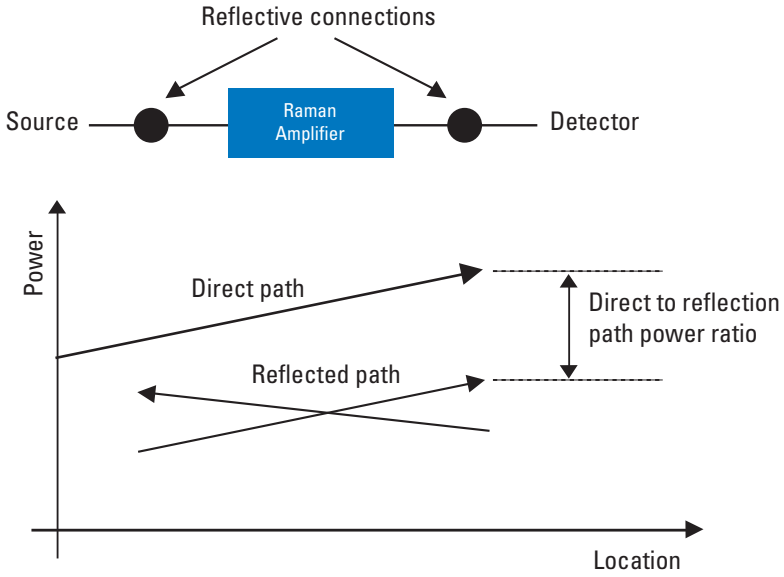
MPI-800-NS331

KEY FEATURES

- Fast, compact and easy-to-use
- Measurement range of –55 to –20 dB, with an accuracy of ± 0.7 dB
- Available with various ITU-specified sources in the C and L bands
- DFB laser source delivering adjustable output power over the –11.5 to 1 dBm range
- Convenient: transmitter and receiver combined in one lightweight instrument
- All-in-one: an MPI meter, a power meter and a light source for complete fiber and system components characterization
- Detection of ASE noise to prevent incorrect interpretation of results

Multipath Interference (MPI) Affects Transmission Quality

In fiber-optic links that include reflective connections, a small portion of the transmitted light can bounce between connectors and reach the receiver significantly later than light following the direct path. If the link uses distributed Raman amplification, these reflections are even amplified along the way.



The ratio of the direct path to the reflected path is called multipath interference (MPI). With high MPI–as is often the case with Raman amplification–comes substantial interference, causing increased bit error rate.

The Concept Behind EXFO's MPI-800-NS331

The MPI-800-NS331 provides accurate assessment of the MPI level by using its low-noise DFB light source to simulate the transmitted signal and its photodiode detector to measure intensity noise over a given frequency. What's more, it combines the light source and the detector in the same unit, making it the obvious choice for complete fiber and system components characterization in the field.

A Field-Proven Design

EXFO's MPI-800-NS331 Multipath Interference Meter was designed to provide technicians with a portable, rugged and convenient solution to their installation and maintenance needs.

- Portable: The compact, handheld MPI-800-NS331 is powered by a battery that offers an autonomy of 20 hours.
- Rugged: The MPI-800-NS331's tough shell and rubber bumpers enable it to easily survive splashes, knocks and temperature extremes.
- Convenient: The built-in transmitter/receiver combination eliminates the need to worry about the Tx or Rx when characterizing a long-haul link; the all-in-one MPI-800-NS331 simplifies component and fiber characterization in the field.

MPI-800-NS331
Multipath Interference Meter

SPECIFICATIONS

MPI meter specifications

Measurement range (dB)	−20 to −55
Uncertainty [a, b, c] (dB)	± 0.7
Power range for MPI measurement (dBm)	6 to −10
Display resolution (dB)	0.01

Power meter specifications

Measurement range (dBm)	6 to −50
Calibrated wavelengths (nm):	1310, 1500, 1510, 1520, 1530, 1540, 1550, 1560, 1570, 1580, 1590, 1600, 1610, 1620, 1630.
DC power uncertainty [a, d] (dB)	± 0.5
Linearity (typical)[2] (dB)	± 0.1 (4 dBm to −30 dBm)
Display resolution (dB)	0.01 (> −35 dBm) 0.1 (−35 dBm to −44 dBm) 1 (−44 dBm to −50 dBm)

Optical source specifications

Source type	DFB
Wavelength uncertainty [a] (pm)	± 10
Wavelength stability for 15 min, 1 h, 7 h [e] (pm)	± 2.2
Output power (dBm)	−11.5 to 1
Output power stability for 15 min [a, e] (dB)	± 0.02
Output power stability for 7 h [a, e] (dB)	± 0.06

Notes

a. At 23 °C ± 1 °C

b. After offset nulling

c. Using the source of the MPI meter and for back reflection less than −30 dB.

d. For a FC/APC connector that has a loss of less than 0.2 dB.

e. The stability is expressed a ± half the difference between the maximum and minimum values measured during the period.

GENERAL SPECIFICATIONS

Display refresh rate	2 Hz	
Temperature		
operating	0 °C to 40 °C	(32 °F to 104 °F)
storage	−40 °C to 70 °C	(−40 °F to 158 °F)
Weight	1.0 kg	(2.2 lb)
Size (H x W x D)	23.5 cm x 12.5 cm x 6.7 cm	
	(9 1/4 in x 4 15/16 in x 2 5/8 in)	
Autonomy [a] (h)	20	
Charge time [a] (h)	4	
Battery type	Li-ion	

STANDARD ACCESSORIES

Standard accessories include Instruction Manual, AC adapter/charger, built-in rechargeable Li-ion batteries pack, carrying case, protective holster, shoulder strap and Certificate of Calibration

LASER SAFETY

21 CFR 1040.10	CLASS 1 Laser Product
IEC 60825-1	CLASS 1 Laser Product

ORDERING INFORMATION

MPI-800-NS331-XX

Model
MPI-800-NS331 = MPI meter with ITU wavelength 1599.320 nm

Connector
EA-EUI-28 = UPC/DIN 47256
EA-EUI-89 = FC narrow key
EA-EUI-91 = SC
EA-EUI-95 = E-2000

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EXFO is certified ISO 9001 and attests to the quality of these products. This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) this device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation. EXFO has made every effort to ensure that the information contained in this specification sheet is accurate. However, we accept no responsibility for any errors or omissions, and we reserve the right to modify design, characteristics and products at any time without obligation. Units of measurement in this document conform to SI standards and practices. In addition, all of EXFO's manufactured products are compliant with the European Union's WEEE directive. For more information, please visit **www.EXFO.com/recycle**. **Contact EXFO for prices and availability or to obtain the phone number of your local EXFO distributor.**

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