

## MTS-8000 Tester

All your optical network testing needs covered in a single platform



The power of one, performing the work of many

*A powerful unit*

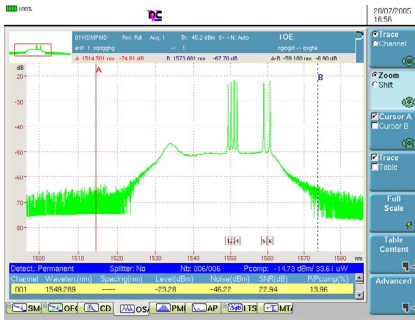
- Flexible scalable platform
- Industry-leading size and weight
- Interchangeable modules
- Generates test results in seconds
- Fully automatic testing
- Combination of several tests
- Remotely controlled (via Ethernet, Fiber)

*A single platform for*

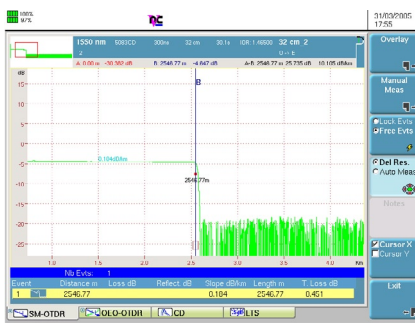
- Attenuation testing
- Dispersion testing
- DWDM systems testing
- New fiber testing (attenuation profile)
- PDH/T-Carrier & SDH/SONET testing up to 10G
- Ethernet testing up to 10GigE

*Variety of modules to meet all applications*

- More than 20 OTDR modules
- Multifunction loss test module
- PMD modules
- CD module
- DWDM analyzers
- High-performance OSAs
- Transport module



Amplified DWDM system analysis



FTTx OTDR testing

*Conventional fiber testing*

- Ideal for field measurements
- Large variety of OTDR modules
- Length measurement
- Fiber link attenuation
- Reflection
- Splices/connector loss
- Insertion loss
- Optical return loss
- Fast and efficient testing

*Fiber characterization testing*

- Complete solution
- OTDR
- Chromatic dispersion (CD)
- Polarization mode dispersion (PMD)
- Attenuation profile

*CWDM/DWDM testing*

- Advanced testing
- Greater functionality
- Higher performance
- 1250 to 1650 nm DWDM measurements
- EDFA & DFB testing
- Channel isolation for BER analysis
- One button testing
- One single port analyzer with channel isolator
- Dual port analyzer with channel isolation
- Transport module

*FTTx testing*

- During plant installation and maintenance
- Insertion loss
- Event loss
- Event reflectance
- Distance to events
- Power level
- Total ORL or by section

*Main Specifications*

**MTS-8000 BASE**

(typical at 25 °C)

*Display*

- TFT color, 10'4 inches, LCD 800 × 600
- TFT color, 10'4 inches, LCD 800 × 600, High visibility
- Touchscreen TFT color, 10'4 inches, LCD 800 × 600, High visibility

*Storage*

- Internal memory 16 MB
- Hard disk (optional) min 20 GB
- Floppy disk drive (optional) 3.5 inches, MSDOS compatible
- CD read/write (optional)

*Input/output interfaces*

- RS232C, 2 × USB, VGA, RJ45 Ethernet, RJ11 modem (optional)

*Power supply, battery*

Battery type	standard removable Li-Ion batteries
Operation time	up to 16 OTDR hours with two batteries and standard display, Telcordia GR-196-CORE
Internal charger	yes
Charging time	<3 hours per battery
Trickle charge	yes
DC input	19 to 25 V
Power supply, AC/DC adapter	Input 100 to 240 V, 50 to 60 Hz, 1.8 A, output 19 V DC/3.1 A

*Size (w×h×d)*

Mainframe only	320 × 265 × 55 mm/ 12.6 × 10.4 × 2.1 inches
Mainframe + receptacle + Battery pack	320 × 265 × 116 mm/ 12.6 × 10.4 × 4.5 inches

*Weight*

Mainframe only (with back plate)	2.9 kg/6.39 lbs
Mainframe + receptacle + Battery pack (with one battery)	5.4 kg/11.9 lbs

**Environmental specifications**

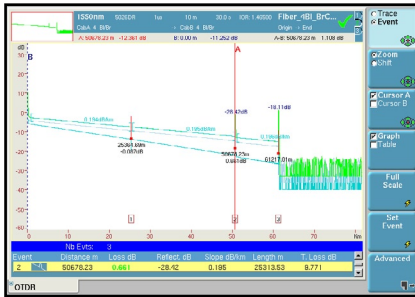
*Temperature range*

Operating on mains (no options)	-20 °C to +50 °C (-4 °F to 122 °F)
Operating, all options	0 °C to +40 °C (32 °F to 104 °F)
Storage	-20 °C to +60 °C (-4 °F to 140 °F)

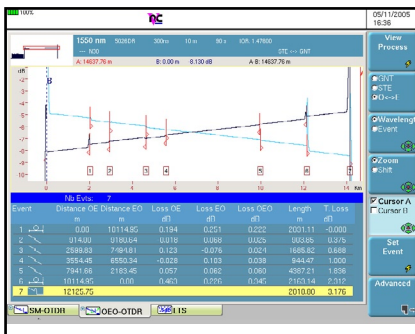
<b>Humidity</b>	95% without condensing
<b>EMI/ESD</b>	CE compliant

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# High performance OTDR modules



Pass/Fail analysis



Bi-directional OTDR analysis

### Wide range of modules

- Short haul to ultra long haul
- First to market 50 dB dynamic module (at 1550 nm)
- 1, 2, 3, 4 wavelengths per module (1310/1383/1490/1550/1625 nm)
- Multimode, singlemode modules
- Very short dead zones (up to 0.8 m event dead zone)
- Modules compatible with the MTS-6000 platform

### Physical Fiber Testing

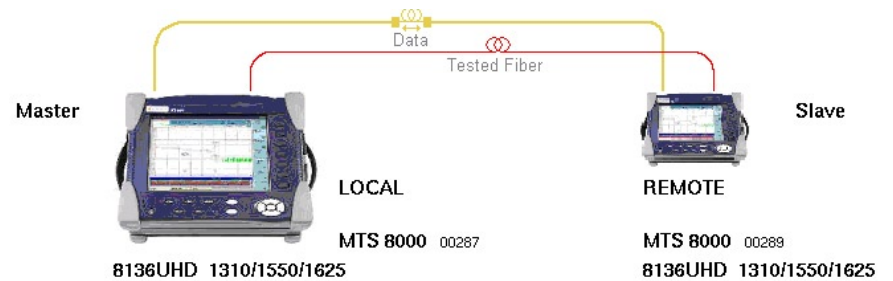
- OTDR measurements
- Optical return loss (ORL) measurement
- Insertion loss (IL) measurement
- Visual fault locator
- Alarm management with PASS/FAIL analysis

### Large number of options

- Connection check with visual fault locator and videoscope
- Built in talk set with data transfer over fiber capability
- PC software solution for report generation
- Includes cable manager function

### Automatic bi-directional measurement function

- Automate the acquisition process
- Check fiber continuity
- File transfer through the fiber
- True splice loss with both end analysis



### Main specifications

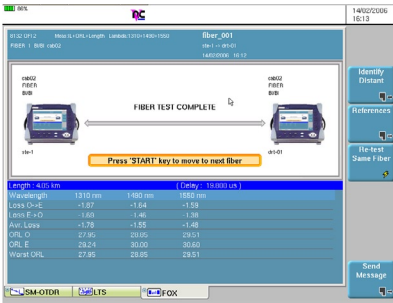
	High performance multimode MM	Short range singlemode SR	Medium range singlemode DR	Long range singlemode HD	Very long range singlemode VLR	Ultra long haul singlemode UHD
Central wavelength <sup>(1)</sup>	850/1300 nm ± 20 nm	1310/1550 nm ± 20 nm	1310/1550 nm ± 20 nm	1310/1550/1625 nm ± 20 nm ± 10 nm for 1625 nm	1310/1550/1625 nm ± 20 nm	1310/1550/1625 nm ± 20 nm ± 10 nm for 1625 nm
Laser safety class (21 CFR)	Class 1	Class 1	Class 1	Class 1	Class 1	Class 1
Pulse width	3 ns to 200 ns	10 ns to 10 µs	5 ns to 10 µs	10 ns to 20 µs	3 ns to 20 µs	10 ns to 20 µs
Distance range	Up to 80 km	Up to 260 km	Up to 260 km	Up to 380 km	Up to 380 km	Up to 380 km
RMS dynamic range <sup>(2)</sup>	25 dB/23 dB	35 dB/33 dB	37 dB/35 dB	42 dB/40 dB/40 dB	45 dB/43 dB/43 dB	46 dB/50 dB/46 dB
Event dead zone <sup>(3)</sup>	1.5 m	3 m	1 m	4 m	0.8 m	4 m
Attenuation dead zone <sup>(4)</sup>	5 m	25 m	8 m	15 m	4 m	15 m

<sup>(1)</sup> Central wavelength: Laser at 25 °C and measured at 10 µs for singlemode and 50 ns for multimode

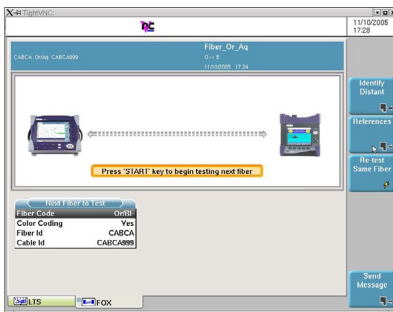
<sup>(2)</sup> RMS dynamic range: The one way difference between the extrapolated back scattering level at the start of the fiber and the RMS noise level, after 3 minutes averaging.

<sup>(3)</sup> Event dead zone: Measured at ± 1.5 dB down from the peak of an unsaturated reflective event.

# Multi-function Loss Test module



View results in one table with Pass/Fail indicator



Compatibility with the standalone OFI-2000

### All in one module

- Single slot plug-in module for loss, back reflection, and fiber length measurements
- Testing at telecom wavelengths: 1310, 1550, and 1625 nm
- One button automated testing
  - 1- Continuity check
  - 2- Automated bi-directional insertion loss (IL)
  - 3- Automated bi-directional optical return loss (ORL)
  - 4- Length testing
  - 5- Pass/Fail analysis
  - 6- Complete test results storage in both test units
- Additional standalone power meter
- Laser source to measure manually IL (TwinTest compatible)
- Manual ORL measurement possible with only one instrument

### Best in class for FTTx Testing

- ITU-T G.983.3 compliant
- Three-wavelength version: 1310, 1490, 1550 nm
- Supports FTTx/PON testing

### Multi-platform compatible module

- High performance for all types of networks: transport, metro, access, and FTTx/PON.
- Module compatible with the MTS-6000 Platform
- Can make measurement and communicate with another OFI module or a standalone OFI-2000 Multi-function Loss Test Set.

### Specifications

#### Multi-function Loss Test Module

(typical at 25° C)

Weight	0.6 kg (1.1 lbs)
Dimensions (w x h x d)	213 x 124 x 32 mm (8.38 x 4.88 x 1.26 in)

#### Optical interfaces

Applicable fiber	SMF 9/125 μm
Interchangeable optical connectors	FC, SC, DIN, etc...

#### Bi-directional test set specifications

(typical at 25° C)

#### Source function

(also valid for source mode)

Laser type	Class 1 laser
Wavelength at 25° C	1310 ± 30 nm, 1490 ± 10 nm, 1550 ± 30 nm, 1625 ± 10 nm
Spectral bandwidth	5 nm maximum
Output level into 9/125 μm fiber (CW mode)	-3.5 dBm
Modulated output average level	3 dB less

#### Level stability

Short term 15 min (T = ± 0.3 K)	± 0.02 dB
Long term 8 hours (T = ± 0.3 K)	± 0.2 dB
Modulation frequencies	Continuous wave, 270 Hz, 330 Hz, 1 kHz, 2 kHz
TWINtest and auto-λ	All wavelengths activated one after the other

#### Loss test set function

Dynamic range	60 dB
Accuracy Loop back	± 0.25 dB /side-by-side ± 0.15 dB
Result resolution	0.01 dB

#### Optical return Loss

(also valid for manual ORL)

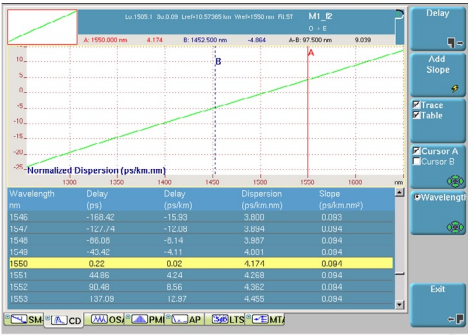
ORL measurement display range	Up to 65 dB
(Limited to front end connector, APC recommended)	
Accuracy	± 0.5dB

#### Length function

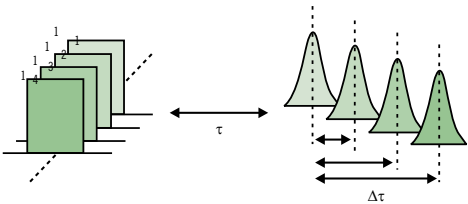
Distance accuracy	L<3 km: ± 50 m, 3 km<L<200 km : ± 1.5%
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#### Standalone power meter

Wavelength range (adjustable per 1 nm)	800-1650 nm
Selectable wavelength	850/1300/1310/ 1490/1510/1550/1625 nm and one user-defined
Auto-λ detection (incl.TWINtest)	850/1310/ 1490/1550/1625 nm
Modulation detection	270 Hz, 330 Hz, 1 kHz, 2 kHz
Display resolution	0.01 dB
<b>Power level</b>	<b>Standard High Power</b>
Dynamic range	+10 to -60 dBm    +26 to -55 dBm
Accuracy (1310 nm, -20 dBm)	± 0.2 dB    ± 0.25 dB
Detector type	Ge    filtered InGaAs, 2 mm



Single menu for chromatic dispersion trace and table display



Pulse delay method complies with TIA/EIA FOTP-168

*Approved and standardized method*

- ITU-T G.650.1
- EIA/TIA FOTP-175-B
- IEC 60793-1-42
- Fast and reliable method
- Single end measurement
- Sectional analysis capability providing CD per fiber section
- 3 functions in 1 : sources, CD, OTDR
- Suitable for all single-mode fibers
- Cost effective method
- Not sensitive to shocks and vibrations (no moving parts)
- Module compatible with the MTS-6000 platform

*High performance suitable for any metropolitan network*

- Full fiber test performed in only 45 seconds
- Large band coverage (1250 nm to 1650 nm)
- Wide measurement range
- Dynamic range (up to 120 km) dedicated for any metropolitan network configuration

*Specifications*

<b>Chromatic dispersion module</b>	
<b>(typical at 25 °C)</b>	
<i>OTDR mode</i>	
Central wavelength	1310/1480/ 1550/1625 nm
Wavelength accuracy <sup>(1)</sup>	± 5 nm
RMS dynamic range <sup>(2)</sup>	39/38/37/37 dB
Event dead zone <sup>(3)</sup>	6 m max.
Attenuation dead zone <sup>(4)</sup>	30 m

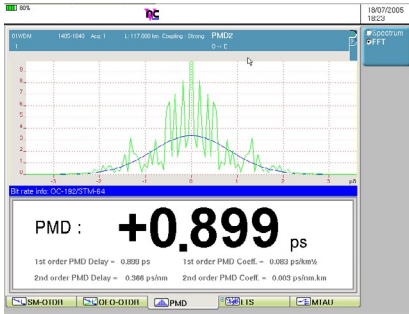
<i>Chromatic dispersion mode</i>	
Wavelength range	1255 to 1650 nm
Dynamic range	Up to 120 km
Wavelength absolute accuracy	± 0.1 nm
Dispersion range	0.1 ps/nm*km to 100 ps/nm*km
Zero dispersion wavelength repeatability	± 0.5 nm*
Dispersion coefficient repeatability**	± 0.2 ps/nm*km
Dispersion slope repeatability	± 1%
Measurement time	From 40 s

<i>Optical source mode</i>	
Wavelength range	typical 1310/1480/1550/ 1625 nm ± 5 nm
Spectral width	<10 pm
Power stability in 24 hours	1.5/3/3/3 dBm
Variable output power	-10 dB to calibrated power

(1) DFB lasers  
 (2) RMS dynamic range: The one way difference between the extrapolated back scattering level at the start of the fiber and the RMS noise level, after 3 minutes averaging.  
 (3) Event dead zone: Measured at ± 1.5 dB down from the peak of an unsaturated reflective event.  
 (4) Attenuation dead zone: Measured at ± 0.5 dB from the linear regression using a FC/PC type reflectance.  
 \* For 25 km G.655 link  
 \*\* For a 75 km G.652 link, at 1550 nm.

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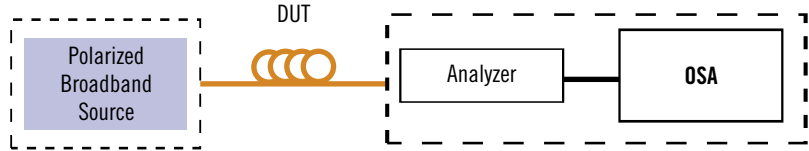
# Polarization mode dispersion module



PMD test results with Pass/Fail analysis



OBS-15: Broadband polarized light source for PMD measurement



*A proven field-dedicated test method*

- ITU-T G.650.2
- EIA/TIA FOTP 113
- IEC 60793-1-48
- Fast and reliable method
- Very accurate with the Fourier Transform
- Two ended test method (broadband source and receiver), no additional tools required
- Not sensitive to shocks and vibration (no moving parts)
- Best price/performance ratio on the market
- Module compatible with the MTS-6000 platform

*High performance suitable for any fiber optic network*

- High dynamic range with field handheld source : 45 dB
- Wide measurement range with minimum measurable DGD value of 0.08 ps
- Fast measurement time from 6 seconds to improve field efficiency
- Measurement through multiple EDFA's
- Field convenient instrument : light, small, long battery life...
- Statistics and long term monitoring

*Maximum PMD values allowed for digital signal transmission:*

Bit rate per channel	SDH	SONET	Equivalent timeslot	Max. PMD delay	Max. PMD coefficient for a 100 km fiber length
1.2 Gb/s	---	OC-24	803 ps	80 ps	8 ps/√km
2.5 Gp/s	STM-16	OC-48	401 ps	40 ps	4 ps/√km
10 Gb/s	STM-64	OC-192	100 ps	10 ps	1 ps/√km
40 Gb/s	STM-256	OC-768	25.12 ps	2.5 ps	0.25 ps/√km

*Specifications*

**General specifications (typical at 25°C)**

Weight	0.6 kg/1.3 lb
Dimensions (w × h × d)	213 × 124 × 32 mm (8.38 × 4.88 × 1.26 in)

**Optical interfaces**

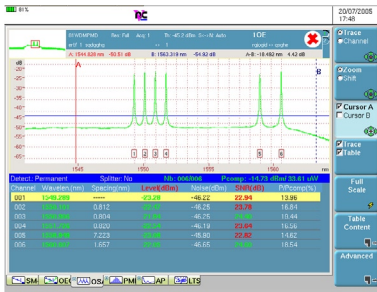
Applicable fiber	SMF 9/125 μm
Interchangeable optical connectors	FC, SC, DIN, etc.

**Polarization mode dispersion module**  
(typical at 25 °C)

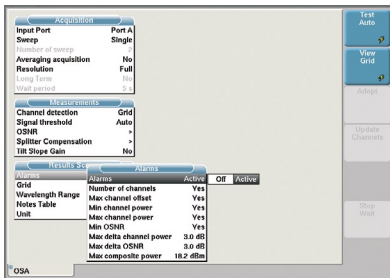
Dynamic range	45 dB
DGD measurement range <sup>(1)</sup>	0.08 to 60 ps
DGD absolute uncertainty <sup>(2), (3)</sup>	± 0.02 ps ± 2% PMD
DGD repeatability <sup>(2), (3)</sup>	± 0.025 ps
Measurement time <sup>(4)</sup>	6 seconds, independent of the PMD value

(1) Up to 150 ps in weak mode coupling  
 (2) Weak mode coupling, between the DGD range of 0.1 ps and 60 ps  
 (3) NPL standard traceable  
 (4) Without averaging

# CWDM/DWDM testing modules



DWDM spectrum display with table of results



Test set-up display with Pass/Fail settings

## Specifications

### Full-band DWDM analyzers

#### Spectral measurement ranges

Wavelength range	1250 to 1650 nm
No. of optical channels	512
Wavelength calibration <sup>(1)</sup>	internal, on-line
Wavelength accuracy <sup>(2)</sup>	± 20 pm
Readout resolution	0.001 nm
Resolution bandwidth (FWHM) <sup>(3)</sup>	typ. 75 pm
Wavelength linearity (over 10 nm)	± 10 pm

#### Power measurement ranges

Dynamic range <sup>(4)</sup>	-75 to +23 dBm
Noise floor RMS (with averaging) <sup>(3)</sup>	-75 dBm
Absolute accuracy <sup>(3, 5)</sup>	± 0.4 dB
Linearity <sup>(6)</sup>	± 0.05 dB
Readout resolution	0.01 dB
Scanning time (1250 to 1650 nm) <sup>(7)</sup>	<1.5 s
Optical rejection ratio <sup>(3)</sup>	
at ±25 GHz (±0.2 nm)	typ 35 dBc
at ±50 GHz (±0.4 nm)	typ 45 dBc
PDL <sup>(3)</sup>	± 0.1 dB
Flatness <sup>(3)</sup>	± 0.2 dB
Level reproducibility <sup>(8)</sup>	± 0.05 dB

#### Channel isolation option (OSA-161/201)

Using the channel isolation function, you can drop channels for further signal analysis with a BERT or a Q-factor meter.

Wavelength range	1250 to 1650 nm
Data rates	up to 10.7 Gb/s

### High-performance DWDM analysis

- Rugged reliable field solution
- High wavelength accuracy without external calibration
- Fastest testing time ; 1.5 seconds full band scanning
- Built-in constant wavelength reference for online calibration
- Channel isolation for BER analysis
- Easy to use one button operation with auto-mode
- Patented dual port version
- Alarm management with pass/fail information
- Statistics and long term monitoring

Spectral filter bandwidth	typ. 220 pm
Insertion loss	typ. <10 dB
Tracking mode	auto wavelength control

#### Dual port option (OSA-201)

Simultaneous measurement of two fibers for monitoring or component test applications.

#### Optical ports (physical contact interfaces)

Input ports	
OSA-160/161	1 × SM
OSA-201	2 × SM
Output port (drop port) (OSA-161/201)	1 × SM
Interface	Universal
Optical return loss	>35 dB
Total safe power	+23 dBm

### High-performance DWDM analyzers

#### Spectral measurement ranges

Wavelength range	1250 to 1650 nm
No. of optical channels	512
Wavelength calibration <sup>(1)</sup>	internal, online.
Wavelength accuracy <sup>(2)</sup>	typ. ± 10 pm
Readout resolution	0.001 nm
Resolution bandwidth (FWHM) <sup>(3)</sup>	typ. 60 pm
Wavelength linearity (over 10 nm)	± 10 pm

#### Power measurement ranges

Dynamic range <sup>(4)</sup>	-75 to +23 dBm
noise floor RMS (with averaging) <sup>(3)</sup>	-75 dBm
Absolute accuracy <sup>(3, 5)</sup>	± 0.4 dB
Linearity <sup>(6)</sup>	± 0.05 dB
Readout resolution	0.01 dB
Scanning time (1250 to 1650 nm) <sup>(7)</sup>	<1.5 s
Optical rejection ratio <sup>(3)</sup>	
at ±25 GHz (±0.2 nm)	typ. 45 dBc
at ±50 GHz (±0.4 nm)	typ. 48 dBc
PDL <sup>(3)</sup>	± 0.1 dB
Flatness <sup>(3)</sup>	± 0.2 dB
Level reproducibility <sup>(8)</sup>	± 0.05 dB

#### Channel drop option (OSA-301/303)

Using the channel isolation function, you can drop channels for further signal analysis with a BERT or a Q-factor meter.

Wavelength range	1250 to 1650 nm
Data rates	up to 10.7 Gb/s
Spectral filter bandwidth	typ. 175 pm
Insertion loss	typ. <10 dB
Tracking mode	auto wavelength control

#### Dual-port option (OSA-303)

Simultaneous measurement of two fibers for monitoring or component test applications.

#### Optical ports (physical contact interfaces)

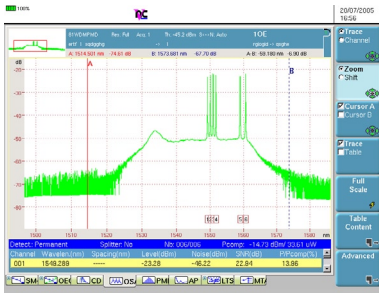
Input ports	
OSA-300/301	1 × SM
OSA-303	2 × SM
Output port (drop port) (OSA-301/303)	1 × SM
Interface	universal
Optical return loss	>35 dB
Total safe power	+23 dBm

#### General specifications

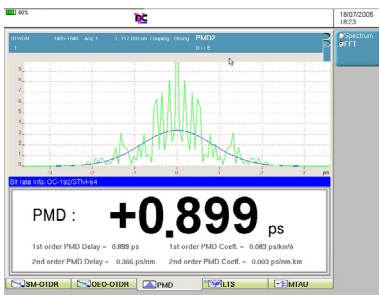
Temperature	
Operating	+5 to +50 °C/41 to 122 °F
Storage	-20 to +60 °C/-4 to 140 °F
Dimensions (w × h × d)	350 × 280 × 150 mm 13.8 × 11.0 × 5.9 in
Weight (module only)	2.5 kg/5.6 lbs

(1) Built-in, physical constant wavelength calibrator, needs no re-calibration  
 (2) At 1520 to 1565 nm at 23 °C  
 (3) 1520 to 1565 nm at 18 to 28 °C  
 (4) Max. power per channel +15 dBm, total power +23 dBm  
 (5) At -10 dBm  
 (6) -45 dBm to +10 dBm, at 23 °C  
 (7) Full span 400 nm, 4000 measurement samples, incl. WDM table analysis  
 (8) 1 min, stable signal, const. temperature

# Combined WDM, PMD, AP testing module



Amplified DWDM system analysis using the E81WDMPMD module



PMD test results showing the first order and second order PMD values



An attenuation profile showing a loss vs. wavelength measurement

*A unique solution combining WDM, PMD, and AP (Attenuation Profile) test functions in one plug-in module*

- Full-band most compact solution for WDM testing (from 1260 to 1640 nm)
- High-performance PMD module with differential group delay (DGD) measurement in the range of 0.08 ps to 60 ps and high dynamic range of 45 dB
- Attenuation profile provides total loss and dB/km values over a 1260 nm to 1640 nm wavelength range, with a dynamic range of 45 dB
- Shock-proof and vibration-proof instrument with no moving parts (drop tested at 70 cm)
- High-performance module with maximum portability (0.6 kg)
- Module compatible with the MTS-6000 platform

### Specifications 81WDMPMD module (typical at 25°C)

#### General specifications

Weight	0.6 kg (1.1 lb)
Dimensions (w × h × d)	213 × 124 × 32 mm (8.38 × 4.88 × 1.26 in)

#### Optical interfaces

Applicable fiber	SMF 9/125 μm
Interchangeable optical connectors	FC, SC, DIN, etc.

#### WDM technical specifications (typical at 25°C)

Wavelength range	1260 nm to 1640 nm
Sweep time (real time)	3 s
Accuracy <sup>(1)</sup>	±10 pm
Display resolution	1 pm
Minimum spacing between channels	10 GHz
Optical bandwidth (FWHM) <sup>(2)</sup>	30 pm

#### Power level

Display range	-90 dBm at +30 dBm
Display resolution	0.01 dB
Measurement range on a channel	-79 dBm at +10 dBm
Noise floor <sup>(3)</sup>	-86 dBm
Maximum admissible power (before signal cut off)	
- Total	+20 dBm
- For one channel	+10 dBm
Accuracy <sup>(4)</sup>	±0.5 dB max
Linearity <sup>(5)</sup>	±0.2 dB
Flatness <sup>(6)</sup>	±0.2 dB
Polarization Dependence Loss (PDL)	±0.15 dB
Optical return loss (ORL)	35 dB
Optical rejection ratio (ORR) <sup>(7)</sup>	
40 dB at 100 GHz from the carrier	
35 dB at 50 GHz from the carrier	

- (1) Between 1525 nm and 1620 nm from -40 dBm to +5 dBm
- (2) Between 1525 nm and 1570 nm
- (3) With averaging at 1550 nm
- (4) At -30 dBm and 1550 nm (excluding the uncertainty due to the input connector)
- (5) At 1590 nm from 0 to -40 dBm
- (6) Between 1525 nm and 1620 nm (reference = 1550 nm)
- (7) From the top of a carrier; between 1530 nm and 1605 nm at 0 dBm

#### PMD technical specifications (typical at 25°C)

Dynamic range	45 dB
DGD measurement range <sup>(1)</sup>	0.08 ps to 60 ps
DGD absolute uncertainty <sup>(2), (3)</sup>	± 0.02 ps ± 2% PMD
DGD repeatability <sup>(2), (3)</sup>	± 0.025 ps
Measurement time <sup>(4)</sup>	6 seconds, independent of the PMD value

- (1) Up to 150 ps in weak mode coupling
- (2) Weak mode coupling, between the DGD range of 0.1 ps and 60 ps
- (3) NPL standard traceable
- (4) Without averaging

#### AP technical specifications (typical at 25°C)

Dynamic range	45 dB
Measurement time <sup>(1)</sup>	6 seconds

- (1) Without averaging

#### Handheld broadband source (OBS-15)

##### Optical interfaces

Applicable fiber	SMF 9/125 μm
Interchangeable optical connectors	FC, SC, DIN, etc.

##### Power supply

Battery operation	NiMH, type AA (rechargeable, exchangeable, 2 pieces)
Operating time	approx. 2.5 h
AC operation by means of SNT-92 AC/DC adapter/charger	
Nominal range of use	100 to 240 V, 50/60 Hz
Operating temperature range	0 °C to +45 °C
Weight (including batteries)	0.55 kg (1.2 lb)
Dimensions (w × h × d)	95 × 49 × 185 mm (0.37 × 0.19 × 0.73 in)

#### Broadband source module

##### Wavelength range

BBS1	1485 nm to 1640 nm
BBS2	1260 nm to 1640 nm

##### Optical interfaces

Applicable fiber	SMF 9/125 μm
Interchangeable optical connectors	FC, SC, DIN, etc.
Weight	0.5 kg (1.1 lb)
Dimensions (w × h × d)	213 × 124 × 32 mm (8.38 × 4.88 × 1.26 in)





*Transport module*

- Contained in one 5 cm module
  - PDH / T-carrier Interfaces include DS1, E1, E3, DS3, E4, STS-1 and STM-1e
  - SDH/SONET Interfaces include 155M/622M/2.5G/10G (1310 nm, 1550 nm)
  - Ethernet Interfaces include 10/100/1000 Mb/s electrical and 1 GigE Optical (850 nm, 1310 nm and 1550 nm)
  - 10GigE LAN + WAN (850 nm, 1310 nm and 1550 nm)
- Only 2.5 kg fully populated
- Fully scalable to meet your current and future needs
- Optical and electrical signal level measurements
- Up to 2.5 hours at 10 Gb/s rates with one Battery (2 batteries possible)
- SDH/SONET testing
  - Muxed payload generation and analysis
  - Concatenated Signals
  - Automatic Protection Switching (APS)
  - Overhead Byte Manipulation and Analysis
  - Round Trip delay (RTD)
- Ethernet testing
  - Single and Dual Port Ethernet configuration
  - Testing on Layer 1, 2 and 3 (IP)
  - Automated RFC2544 testing
  - Loop-up /loop-down of far-end device

*Specifications*

**Transport module**

*Optical interfaces*

Optical connector types	FC, SC, ST or LC
Wavelength	850, 1310 or 1550 nm
Fiber mode compatibility	1310 and 1550 nm, – singlemode fiber, 850 nm – multimode fiber

*Electrical interfaces*

Electrical connector types	Bantam, BNC, RJ-45
----------------------------	--------------------

*Ethernet testing*

Layer 2 (Ethernet) Traffic Generation	Constant, Bursty, Ramp, Flood Configurable Source and Destination Address, Frame Format, Type Field (for DIX), Frame Length (including Jumbo and Undersized), VLAN Tag, Pause Frames, payload, Utilization %
Layer 3 (IP) Traffic Generation	Configurable Source and Destination IP Address, DNS Type, DNS Server, Tx Payload, TOS/DSCP, TTL, Packet Size Length (34 – 1500 bytes), Ping, Trace route

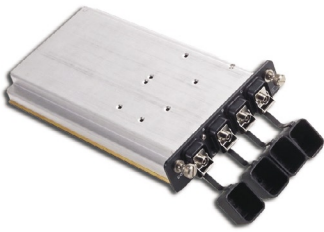
*SDH/SONET*

Anomaly/Errors generation and analysis	B1, B2, B3, HP-REI, MS-REI, LP-BIP, LP-REI
Defects/Alarms generation and analysis	LOS, LOF, RS-TIM, MS-AIS, MS-RDI, AU-LOP, AU-AIS, HP-UNEQ, HP-RDI, HP-TIM, HP-PLM, TU-LOP, TU-AIS, TU-LOM, LP-UNEQ, LP-RDI, LP-TIM, LP-PLM, LP-RFI

*Performance standards*

G.821, G.826, G.828, G.829, T1.231, T1.510, M.2100, M.2101

# Multiple test access module



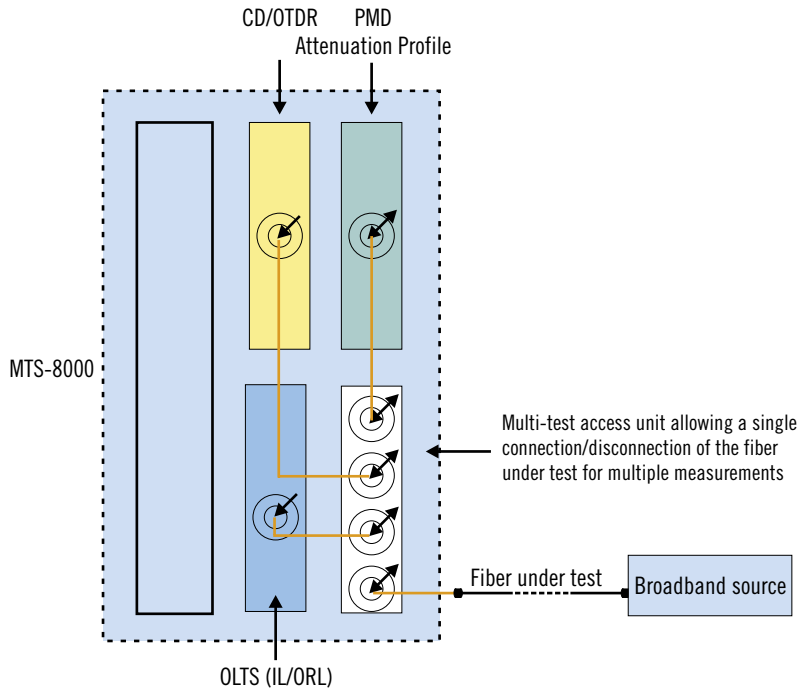
Innovative module with up to six interconnected test functions

### Multi-Test Access Unit Module

- Fiber Characterization made easier, fiber commissioning (OTDR & IL)
- 25% time saving for fiber characterization
- Up to 6 interconnected test functions (OTDR, CD, PMD, IL, SA, ORL)
- Reduces fiber connect/disconnect
- Up to 3 modules connected
- Automatically switches from one module to another



MTAU interconnections



How the MTAU functions

### Specifications

#### Multi-test access unit

	<b>E81MTAU2 (2 ports)</b>	<b>E81MTAU3 (3 ports)</b>
Wavelength range	1260 to 1640 nm	1260 to 1640 nm
Insertion loss (max)	1 dB	1.5 dB
Return loss (max)	50 dB	50 dB
PDL <sup>(1)</sup> (max)	0.1 dB	0.1 dB
Repeatability <sup>(2)</sup> (max)	0.01 dB	0.01 dB

(1) Polarization dependent loss

(2) At constant temperature and polarization

## Utility modules



Internal printer with launch cable



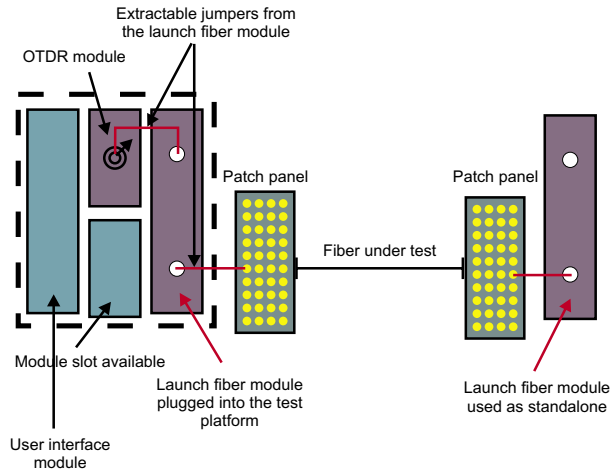
Launch fiber module

### Internal Thermal Printer

- On-site documentation
- Shock proof
- High quality printing
- Optimized for trace and table of events printing
- Improves user productivity by instant delivery of trace record

### Launch Fiber Module for OTDR Applications - allows full characterization of first and last connectors

- Improves testing at 1310 nm/1550 nm and 1625 nm
- Single mode fibers
- 2 or 4 km long
- Includes 2 patchcords (3 m)
- Rugged design for field application
- Can be used either inserted in the MTS-8000 platform (permanent availability) or as a stand-alone launch fiber
- Can be used in 2 positions; opened or closed
- Compatible with launch fiber management within OTDR firmware

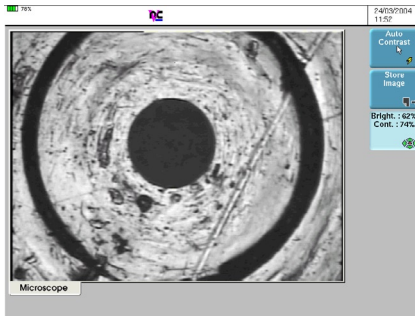


How the launch fiber module functions

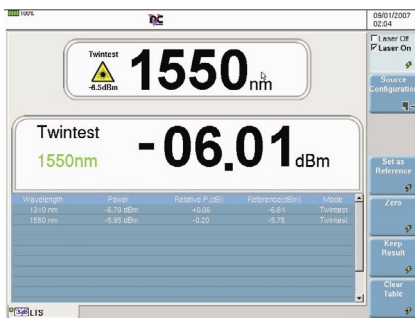
### Specifications

Thermal printer module	
Printer type	Thermal printer
Quality	832 dots/line
Paper width	112 mm paper width

Launch fiber module	
Fiber type	Standard singlemode fiber (G.652)
Fiber length	2 km or 4 km ± 5%
Linear attenuation at 1550 nm	0.20 dB/km
Insertion loss	<0.5 dB
Return loss	>35 dB
Weight	2.3 kg/5.1 lbs
Size (l × w × d)	310 × 255 × 60 mm 12.2 × 10 × 2.4 in



Connector surface inspection



Loss test set results display

**Connector Inspection Scope**

- Video inspection probe for fiber optic terminations
- For inspection of patchcords and patch panels
- 250 or 400 magnification
- Uses MTS-8000 large screen (10.4")
- Possibility to freeze the image
- Image storage and reload
- Comparison with 3 other images on the same screen
- Compatible with standard connectors including SC, ST, FC and LC

**Built-in Optical Talkset**

- Suitable for any application
- Cost-effective solution
- Suitable for use in central offices (unlike cell phones)
- Data transfer capability: file exchange or remote control
- Used also for full automatic bi-directional measurements

**Insertion Loss Measurements**

- Power meter integrated in MTS-8000 mainframe
- Multi-wavelength laser source with CW or modulated signals
- Easy loss measurements of a jumper or patchcord

**635 nm Visual Fault Locator**

- Universal push/pull for all 2.5 mm connector types

**Specifications**

<b>Optical video inspection probes</b>	
<i>Physical characteristics</i>	
Operating temperature	0 °C to 50 °C
Storage temperature	-20 °C to 50 °C
Humidity	95% non condensing
Interface	USB
Weight	115.6 g (4.08 oz.)
Dimensions (w × h × l)	45.7 × 43.2 × 140 mm (1.8 × 1.7 × 5.5 in)
<i>Optical characteristics</i>	
Magnification	200× or 400×
Light source	blue LED, internal to probe
Lighting technique	coaxial
Focus control	adjustable, in probe
Max. input power	+30 dBm
<i>Adapter tips</i>	
Termination-specific probe tips available: FC, SC, ST, LC and other types for 1.25 mm & 2.5 mm ferrules.	
<i>Storage</i>	
File format	JPEG, BMP

<b>Optical interfaces (optional)</b>	
<i>Power meter</i>	
Power level	+10 to -55 dBm,
Calibrated wavelengths	850, 1310, 1550 nm
Connector type	universal push/pull
<i>Talkset</i>	
Wavelength	1550 nm ± 30 nm
Dynamic range	>45 dB
Function	With data/file transfer,
Laser safety	Class 1 laser,
Connector type	Field interchangeable
<i>VFL</i>	
Wavelength	635 nm ± 15 nm
Output power level	<1 mW
Laser safety	Class 2 laser,
Connector type	Universal push/pull
<i>CW light source</i>	
Wavelengths (selection)	1310/1550/1625 nm
Output power level	-3.5 dBm
Spectral width	<5 nm
Stability in 15 min	± 0.02 dB
Stability in 8 hours	± 0.2 dB
Laser Safety	Class 1 laser
Connector type	Field interchangeable



**Ordering information**

**MTS-8000**

*Base instrument options*

EM8000bt	MTS-8000 platform with battery pack
E8100	Receptacle for two plug-in modules
E80HVCol	High visibility TFT color display
E80HVTCol	High visibility touchscreen TFT color display
E80Hdisk	Hard disk drive
E80FD	Extractable floppy disk drive
E80CDRW	Extractable R/W CD-ROM drive
E80MDM	Built-in PSTN modem
E80VFL	VFL with UPP connector
E80TS	Optical talk set
E80PM	Optical power meter with UPP connector (2.5 mm provided as standard)
E8036LTSTS	Optical loss test set with talk set 1310/1550/1625 nm

*Main accessories*

E80keyB	External keyboard
E80Lilon	Additional Li-Lon rechargeable battery
E80Scase1	Wrap around soft carrying case for MTS-8000 and 2 plug-ins receptacle configuration
E80Scase2	Soft carrying case for long configuration
E80Scase3	Soft carrying case for MTS-8000 and 2-slot receptacle, or transport or OSA-160/200 module
E80Hcase	Hard transit case for long configuration
C80Hcase5	Hard carrying case for MTS-8000 and 2-slot receptacle, or transport or OSA-160/200 module

**Application software**

EOFS100	Optical FiberTrace software (for post-analysis)
EOFS200	Optical FiberCable software (for cable acceptance report generation)

**MTS-8000 modules**

*Multimode OTDR plug-in module*

E8123MM	High resolution 850/1300 nm
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*Singlemode OTDR plug-in modules*

E8126SR	Short range 1310/1550 nm
E8126DR	Medium range high res. 1310/1550 nm
E8126HD	Long range 1310/1550 nm
E8127HD	Long range 1625 nm
E8136HD	Long range 1310/1550/1625 nm
E8126VHD	Very long range 1310/1550 nm
E8127VHD	Very long range 1625 nm
E8129VHD	Very long range 1550/1625 nm
E8126UHD	Ultra long range 1310/1550 nm
E8136UHD	Ultra long range 1310/1550/1625 nm

*Chromatic dispersion plug-in module*

E5083CD	Medium range 1310/1480/1550/1625 nm OTDR/CD module
E508XLS	1310/1480/1550/1625 nm DFB source option

*Polarization mode dispersion plug-in modules*

E81PMD	PMD module (1480 to 1640 nm)
E81WDMPMD	PMD module (1260 to 1640 nm) combined with WDM and AP
EOBS15	Stand-alone broadband source
E81BBS1	1480-1640 nm broadband source module
E81BBS2	1260-1640 nm broadband source module

*OFl plug-in module*

E8126OFI1	1310/1550 nm OFI plug-in module - standard power
E8126OFI2	1310/1550 nm OFI plug-in module - high power
E8136OFI1	1310/1550/1625 nm OFI plug-in module - standard power
E8136OFI2	1310/1550/1625 nm OFI plug-in module - high power
E8132OFI1	1310/1490/1550 nm OFI plug-in module - standard power
E8132OFI2	1310/1490/1550 nm OFI plug-in module - high power

*High-performance OSA modules*

2281/91.01	OSA-160 Single port analyzer
2281/91.12	OSA-161 Single port analyzer with channel isolator option
2281/91.14	OSA-201 Dual port analyzer with channel isolator option
2281/91.31	OSA-300 High-performance analyzer
2281/91.32	OSA-301 High-performance analyzer with channel isolator option
2281/91.34	OSA-303 High-performance dual port analyzer with channel isolator option
E81WDM	1485-1640 nm WDM plug-in module

*Transport module configurations*

C83XX	SDH/SONET configuration
C84XX	Ethernet configurations
C85XX	SDH/SONET & Ethernet configurations

**Utility modules**

*Multi-test access unit plug-in module*

E81MTAU2	Up to 2 test ports
E81MTAU3	Up to 3 test ports

*Launch fiber module*

E82LFSM2	2 km singlemode G.652
E82LFSM4	4 km singlemode G.652

## 15

**Ordering information***Thermal printer module*

E82Printer	Thermal printer module
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**Accessories***Optical video inspection probes*

EFSCOPE250	Optical inspection probe, 250× through USB
EFSCOPE400	Optical inspection probe, 400× through USB

*Connectors and adapters***Optical inspection**

ETIPSCAPC	SC/APC tip, bulkhead adapter
ETIPE2000	E2000 tip, bulkhead adapter
ETIPSCPC	SC/PC tip, bulkhead adapter
ETIPU125MM	Patch cord tip for 1.25 mm ferrule
ETIPU25MM	Patch cord tip for 2.5 mm ferrule
ETIPFCAPC	FC/APC tip, bulkhead adapter
ETIPSTPC	ST/PC tip, bulkhead adapter
ETIPLC	LC tip or bulkhead adapter
ETIPFCPC	FC/PC tip, bulkhead adapter
ETIPMPOAPC	MPO/APC tip, bulkhead adapter
ETIPMPO	MPO tip, bulkhead adapter

**Optical connectors***Universal singlemode connectors*

EUNIPCFC, EUNIPCSC, EUNIPCST, EUNIPCDIN, EUNIPCLC, EUNIAPCFC, EUNIAPCSC, EUNIAPCST, EUNIAPCDIN, EUNIAPCLC

For more information on test adapters, cables, and fiber optic couplers, please refer to the separate datasheet entitled “JDSU Fiber Optic Test Adapters and Cables”.

# T-BERD®/MTS-6000, -6000A and -8000 Platforms

## OFI Multifunction Loss Test Module



### Key Features

- One-button automated testing, including continuity check, bidirectional insertion loss and return loss, length measurement, and file storage in a fraction of seconds
- Intuitive and user friendly interface for error-free referencing and measuring
- Fiber link characterization functionality determines infrastructure suitability for transport, metro, access, and FTTx/PON networks
- All-in one cable and/or fiber results with Pass/Fail indication and color coding information

### Applications

- Fiber link characterization with 3-wavelength configuration (1310/1550/1625 nm)
- FTTx/PON testing with 3-wavelength configuration (1310/1490/1550 nm)
- Master-master operation; leave one unit in standby while performing the test with the other OFI unit (OFI module or OFI-2000)

### Compliance

- ITU-T G.983.3 and G.650.3

### Versatile Optical Test Module

Test solutions must be cost-effective, increase productivity, and reduce the number and complexity of test instruments carried in the field. JDSU developed the OFI module for the T-BERD/MTS-6000, 6000A, and 8000 platforms to address these issues. Configurable at the time of order, this module uses intuitive test functions and simple Pass/Fail displays to enhance productivity and reduce the burden of training. Technicians can easily process cables with high fiber counts as well as quickly generate professional proof-of-performance reports using the JDSU report-generation software.

### Multitest Platforms

The scalable design of the T-BERD/MTS-6000, 6000A, and 8000 platforms lets field technicians quickly and easily plug in the multifunction loss test module and perform precise measurements in the outside plant all the way to the central office. The T-BERD/MTS platforms also include a full range of optical time domain reflectometry (OTDR), polarization mode dispersion (PMD), chromatic dispersion, spectral attenuation, and dense wave division multiplexing (DWDM) test modules.



T-BERD/MTS-8000



T-BERD/MTS-6000

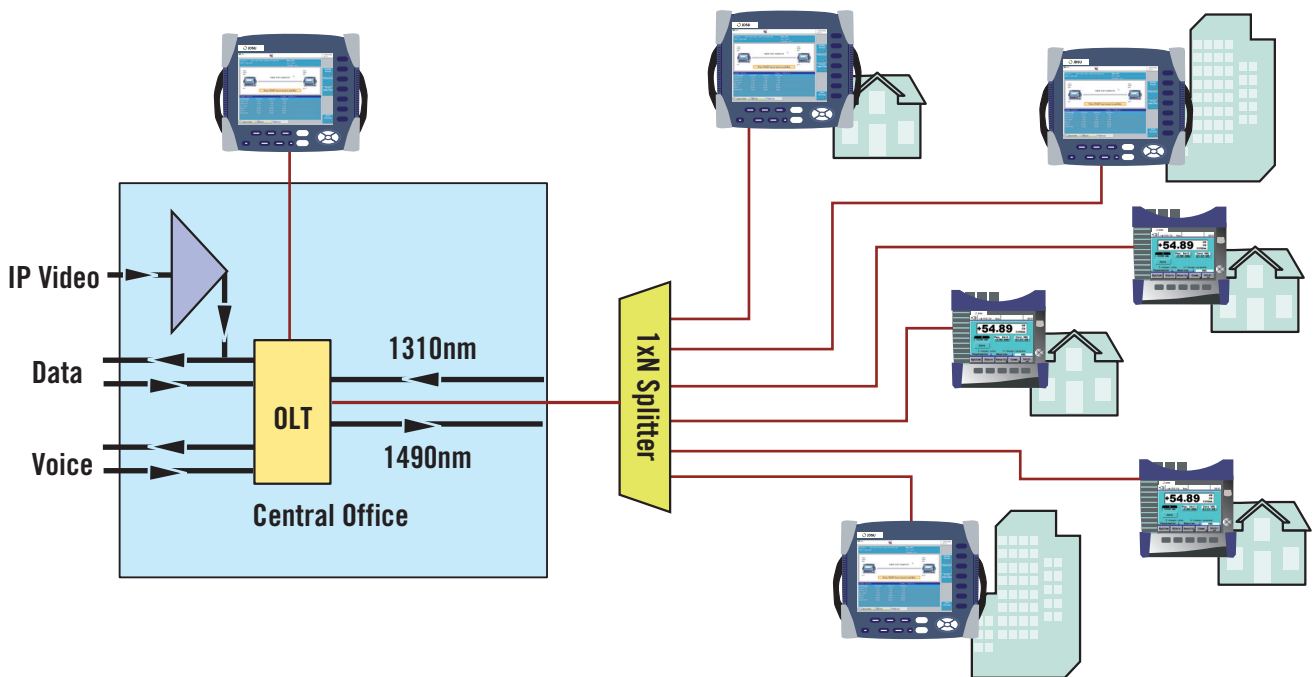


### Best in Class for FTTx Testing and High Fiber-count Cables

The automated test functions of the OFI module combined with an intuitive user interface help fiber installers and technicians save time and reduce costs while operating in the field.

- Automated bidirectional loss test set for continuity check, fiber loss, return loss and length
- Testing at Telecom wavelengths 1310, 1550, and 1625 nm
- Testing at various fiber (FTTx)/passive optical (PON) network wavelengths 1310, 1490, and 1550 nm
- Accurate optical return loss (ORL) measurements on a very short span such as FTTx

Housed in the T-BERD/MTS optical test mainframe, the OFI module is easily set up for referencing insertion loss and ORL measurements using an on-screen step-by-step guide. The OFI module has an integrated precise standalone power meter to enhance referencing and improve insertion loss measurement accuracy. In addition, the instrument can be operated in continuous light source mode for fiber identification or unidirectional loss measurement.



### Improve Productivity and Efficiency in the Field

The OFI module includes several features to improve productivity and reduce the time it takes to test cables with high fiber counts. Users are guided through the test setup and with a single key press can test, display, and record measurements on each instrument at both ends of the link.

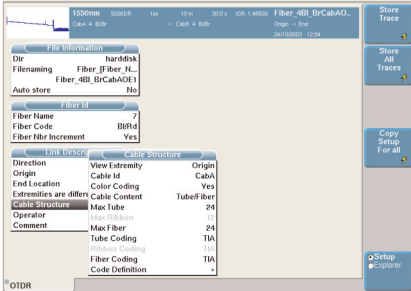
The OFI module's advanced design enables users to:

- Cut down testing time drastically: Evaluate fiber continuity, loss, ORL and length and get all results on both test ends within 15 seconds/fiber.
- Store complete test results in both test units and generate on-site reports (master-master system).
- Replicate stored test results between the near-end and remote unit to ensure integrity of data.
- Minimize handling errors with the Pass/Fail indicator. In a quick snapshot both end technicians can identify incorrect results.

The screenshots illustrate the following features:

- Referencing with graphical user interface:** Shows a setup screen with a diagram of two test units connected by a fiber link. A typical expected value of -5.5 dBm is displayed.
- Multi-acquisition using the OFI mode:** Shows a screen with a 'TESTING FIBER' label and a 'FIBER 1' label, indicating the start of a test sequence.
- View results in one table with Pass/Fail indicator:** Shows a results table with columns for Length, Wavelength (1310 nm and 1480 nm), Loss O->E, Loss E->O, Avr. Loss, ORL O, ORL E, and Worst ORL.
- Ready to test next fiber!:** Shows a screen with a 'FIBER TEST COMPLETE' message and a 'Press 'START' key to begin testing next fiber' instruction.
- Next Fiber to Test:** Shows a table for the next fiber to be tested:

Next Fiber to Test	
Cable Id	CABLE FIBER
Fiber Id	CABLE001
Fiber Number	5
Fiber Code	SI



### Extended Cable Management and Documentation

Users define and store information on the link configuration and cable structure. This information includes all the details such as identification, color coding, and fiber numbers, which can be archived and made available to each OFI at both ends of the cable. For example:

- Color coding management TIA/EIA is either standard or user definable. The unit will automatically decode the fiber number and help users identify fibers.
- Relevant cable test information is consolidated into one table.
- Fiber is identified by number and color code.
- Loss alarm thresholds (loss, return loss, lengths) are generated.

With the layout of cable results, the user can rapidly identify missing records and/or “fail” values.

**Insertion loss table**

**Test**

Origin location:       Dest location:

Fiber ID	Core	Loss (dB) min			Loss (dB) max		
		O-D	E-D	Average	O-D	E-D	Average
P000001	B1 B1	-2.88	-2.88	-2.88	-1.82	-1.76	-1.80
P000002	B1 D1	-2.88	-2.88	-2.88	-1.82	-1.76	-1.80
P000003	B1 D1	-2.87	-2.85	-2.86	-1.82	-1.76	-1.80
P000004	B1 D1	-2.88	-2.85	-2.86	-1.82	-1.76	-1.80
P000005	B1 D1	-2.87	-2.82	-2.84	-1.83	-1.77	-1.79
P000006	B1 D1	-2.87	-2.85	-2.86	-1.83	-1.76	-1.80
P000007	B1 B1	-2.87	-2.85	-2.86	-1.82	-1.76	-1.80
P000008	B1 B1	-2.88	-2.82	-2.85	-1.83	-1.76	-1.81
P000009	B1 D1	-2.88	-2.85	-2.86	-1.82	-1.77	-1.79
P000010	B1 B1	-2.88	-2.85	-2.86	-1.83	-1.76	-1.80
P000011	B1 B1	-2.88	-2.85	-2.86	-1.82	-1.77	-1.80
P000012	B1 Avg	-2.88	-2.83	-2.85	-1.83	-1.77	-1.80
P000013	D1 B1	-2.88	-2.85	-2.86	-1.81	-1.76	-1.79
P000014	D1 D1	-2.88	-2.83	-2.84	-1.82	-1.76	-1.80
P000015	D1 D1	-2.88	-2.85	-2.86	-1.82	-1.76	-1.80
P000016	D1 D1	-2.88	-2.85	-2.86	-1.81	-1.76	-1.79
P000017	D1 D1	-2.88	-2.84	-2.86	-1.83	-1.76	-1.81
P000018	D1 B1	-2.88	-2.84	-2.86	-1.81	-1.77	-1.79
P000019	D1 B1	-2.88	-2.82	-2.84	-1.81	-1.76	-1.79
P000020	D1 B1	-2.88	-2.85	-2.86	-1.81	-1.76	-1.80
P000021	D1 B1	-2.85	-2.85	-2.84	-1.78	-1.81	-1.80
P000022	D1 B1	-2.85	-2.84	-2.84	-1.77	-1.80	-1.79
P000023	D1 B1	-2.85	-2.82	-2.83	-1.80	-1.80	-1.80
P000024	D1 B1	-2.81	-2.83	-2.82	-1.84	-1.76	-1.81
P000025	D1 B1	-2.88	-2.82	-2.85	-1.84	-1.76	-1.80
P000026	D1 D1	-2.81	-2.81	-2.81	-1.83	-1.76	-1.80
P000027	D1 D1	-2.81	-2.81	-2.81	-1.80	-1.76	-1.81
P000028	D1 B1	-2.82	-2.81	-2.81	-1.84	-1.77	-1.80
P000029	D1 B1	-2.84	-2.82	-2.83	-1.83	-1.77	-1.80
P000030	D1 B1	-2.81	-2.82	-2.81	-1.84	-1.76	-1.80
P000031	D1 B1	-2.82	-2.85	-2.83	-1.82	-1.76	-1.79
P000032	D1 B1	-2.82	-2.81	-2.81	-1.84	-1.76	-1.79

Example of test report

**Error-free Professional Reports**

Complete PC-based software within a true Windows environment enables the generation of detailed, professional insertion loss, return loss, and length reports. In addition, the OFI module provides:

- Proof-of-performance reports with the ability to customize high-level job information.
- Dedicated tables for each test result (loss, ORL, length).
- Out-of-range values summary.
- Results comparisons between the different wavelengths to sort out bends and constraints.
- Integration of insertion loss, ORL, and length measurements into complete fiber characterization.



MTS/T-BERD 8000 Platform with OTDR and OFI Modules

### Enhanced Testing Solution

With the addition of the OFI module to the T-BERD/MTS platforms, technicians can fully characterize the fiber network with an all-in-one solution for measuring:

- Insertion loss
- Return loss
- OTDR
- Chromatic dispersion
- PMD
- Attenuation profile

### Compatible with the Standalone OFI-2000

The OFI multifunction loss test module can be used at one end and a JDSU OFI-2000 Multifunction Loss Test Set at the other end to perform continuity check, bidirectional loss, return loss and length measurements. Communication between both products can then be enabled through the optical talk set or via the Short Message System.



OFI-2000 Multifunction Loss Test Set

## Specifications

### 81xxOFIx Module General Technical (Typical at 25°C)

Weight	0.6 kg (1.1 lb)
Dimensions (W x H x D)	213 x 124 x 32 mm (8.38 x 4.88 x 1.26 in)

### Optical interfaces

Applicable fiber	SMF 9/125 $\mu$ m
Interchangeable optical connectors	FC, SC, DIN, etc...

### Bidirectional Test Set (Typical at 25°C)

Does apply to the 812xOFI modules.

To ensure optimal use (bidirectional measurement and communication), two units are required.

### Source function (also valid for source mode)

Laser type	Class 1 laser
Wavelength at 25°C	1310 $\pm$ 20 nm, 1490 $\pm$ 3 nm, 1550 $\pm$ 30 nm, 1625 $\pm$ 5 nm
Spectral bandwidth	5 nm maximum
Output level into 9/125 $\mu$ m fiber (CW mode)	-3.5 dBm
Modulated output average level	3 dB less

### Level stability

Short term 15 min (T = $\pm$ 0.3 K)	$\pm$ 0.02 dB
Long term 8 hours (T = $\pm$ 3 K)	$\pm$ 0.2 dB
Modulation frequencies	Continuous wave, 270 Hz, 330 Hz, 1 kHz, 2 kHz

TWINtest and auto- $\lambda$	All wavelength activated one after the other
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### Loss test set function

Dynamic range	60 dB
Accuracy <sup>1</sup>	Loop back $\pm$ 0.25 dB, side-by-side $\pm$ 0.15 dB
Result resolution	0.01 dB

### Optical return loss (also valid for manual ORL)

ORL measurement display range	Up to 65 dB (Limited to front-end connector, APC recommended)
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Accuracy	$\pm$ 0.5dB
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### Length function

Distance Accuracy	L < 3 km: $\pm$ 50 m, 3 km < L < 200 km : $\pm$ 1.5%
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<sup>1</sup> After 15 minutes warm-up

### Standalone power meter

Wavelength range (adjustable per 1 nm)	800-1650 nm
Selectable wavelength	850/980/1300/1310/1420/1450/1480/1490/1510/ 1550/1625 nm and one user-defined

Auto- $\lambda$ detection (incl. TWINtest)	850/1310/1490/1550/1625 nm
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Modulation detection	270 Hz, 330 Hz, 1 kHz, 2 kHz
Display resolution	0.01 dB

### Power level

	Standard	High
Dynamic range	+10 to -60 dBm	+26 to -55 dBm
Accuracy	$\pm$ 0.2 dB	$\pm$ 0.25 dB
(1310nm, -20dBm)		
Detector type	Ge	filtered InGaAs, 2 mm

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**Ordering information**


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**OFI Module**

1310/1550 nm OFI plug-in module-standard power	E81260F11
1310/1550 nm OFI plug-in module-high power	E81260F12
1310/1550/1625 nm OFI plug-in module-standard power	E81360F11
1310/1550/1625 nm OFI plug-in module-high power	E81360F12
1310/1490/1550 nm OFI plug-in module-standard power	E81320F11
1310/1490/1550 nm OFI plug-in module-high power	E81320F12

**OFI Module option**

ORL option for OFI plug-in module with mandrel	E810FIORL
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**Application software**

Optical Fiber Trace Software for post-analysis	E0FS100
Optical Fiber Cable Software Cable for Acceptance report generation	E0FS200

**Universal Optical connectors**

EUNIPCFC, EUNIPCSC, EUNIPCST, EUNIPCDIN, EUNIPCLC, EUNIAPCFC, EUNIAPCSC, EUNIAPCST, EUNIAPCDIN, EUNIAPCLC

For more information on test adapters, cables, and fiber optic couplers, please refer to the separate datasheet entitled JDSU Fiber Optic Test Adapters and Cables.

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## Useful accessories



E80PWE, E80PWUK, E80PWUS: Standard AC adapter/charger



E80HPWE, E80HPWUK, E80HPWUS: Adapter/charger for transport module



E80Lilon: Additional Li-Ion rechargeable battery



E80lighter: Cigarette lighter power adapter



E80HCase: Hard Transit Case for long configuration (multiple modules)



E80HCase5: Hard carrying case - single module configuration



E80SCase2: Soft carrying case for multiple module platform



E80SCase3: Soft carrying case for single module platform



E80SCase1: Wrap around case for 8000 platform and receptacle



EFSCOPE250, EFSCOPE400: Optical video inspection probe



E80CFAPP: Transport module application card



E80USBMEM: USB stick 128 MB



E80keyB: USB keyboard



EOFS100, EOFS200: FiberTrace and Fiber-Cable softwares



E80FD: Extractable floppy disk drive



E80CDRW: Extractable R/W CD ROM drive

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