Enabling Australia's Field Technicians to build, troubleshoot and maintain better communications networks.

This reference material is provided by TMG Test Equipment, VIAVI's **only** Master Distributor for Contractors in Australia

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MTS/T-BERD Platforms
OFI Multifunction Loss Test Module

Key Features

- One-button automated testing, including continuity check, bi-directional 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 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

2007

FROST & SULLIVAN

Global Communications Test & Measurement Company of the Year Award

Highlights

- ITU-T G.983.3 compliance
- Three-wavelength version (1310, 1490, and 1550nm) supports FTTx/PON testing
- Master-master operation; one unit can be left in standby while other OFI unit (OFI module or OFI-2000) performs the test.
- A single instrument at each end of the link documents performance

Versatile optical test module

Test solutions need to be cost effective, increase productivity, and reduce the number and complexity of test instruments carried in the field. JDSU's OFI module for the MTS/T-BERD platforms was developed in response to 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 JDSU's report-generation software.

Multitest platforms

The MTS/T-BERD platforms' scalable design let 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 MTS/T-BERD platforms also include a full range of OTDR, PMD, chromatic dispersion, spectral attenuation, and DWDM test modules.

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Best in class for FTTx testing and high fiber-count cables

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

– Automated bi-directional loss test set for continuity check, fiber loss, return loss and length

– Testing at telecom wavelengths 1310, 1550, and 1625 nm

– Testing at FTTx/PONs wavelengths 1310, 1490, and 1550 nm

– Accurate ORL measurements on a very short span such as FTTx

Housed in the MTS/T-BERD 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.

IP Video

Data

Voice

OLT

1310nm

1490nm

Central Office

1xN Splitter

•54.89

•54.89

•54.89

3
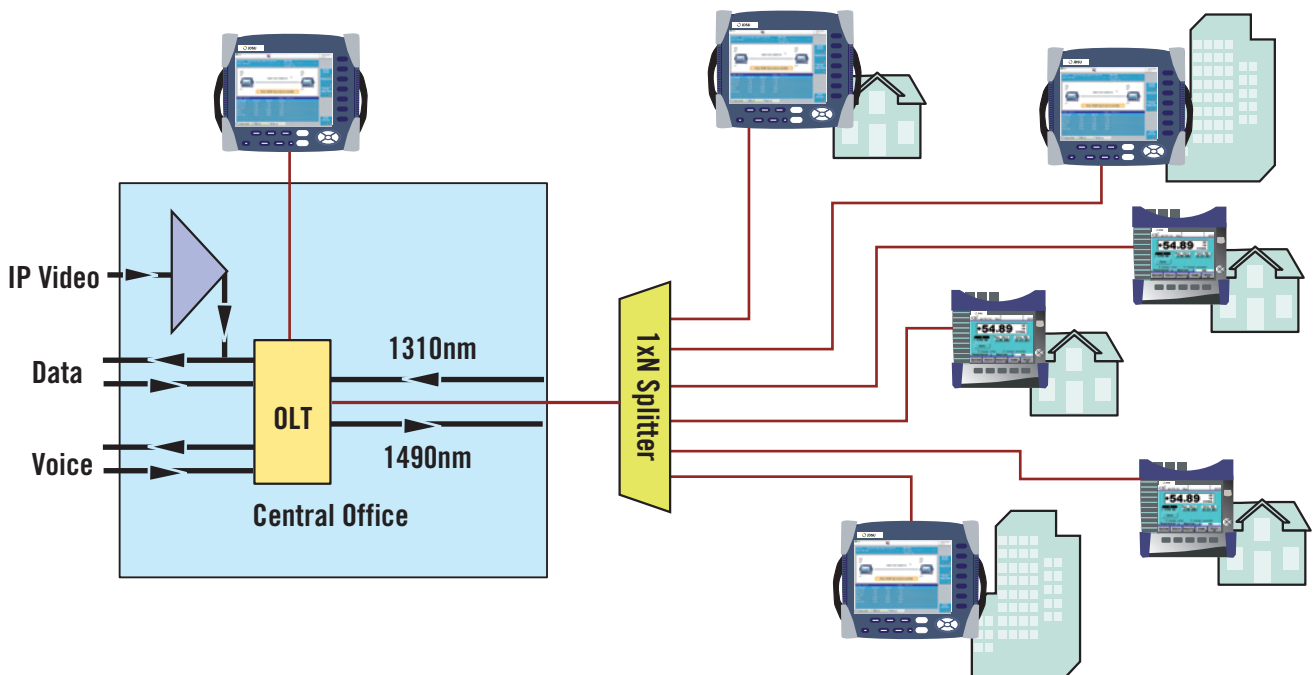
Improve productivity and efficiency in the field

The OFI module includes several features to improve productivity and reduce the time it takes to test cables with high fiber counts. The user is 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.

Referencing with graphical user interface

Multi-acquisition using the OFI mode
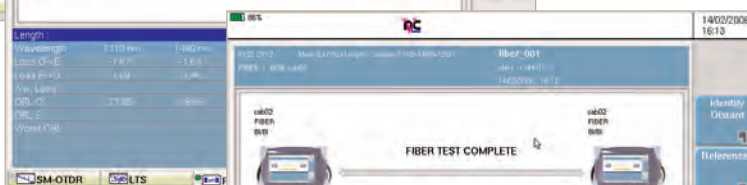
View results in one table with Pass/Fail indicator
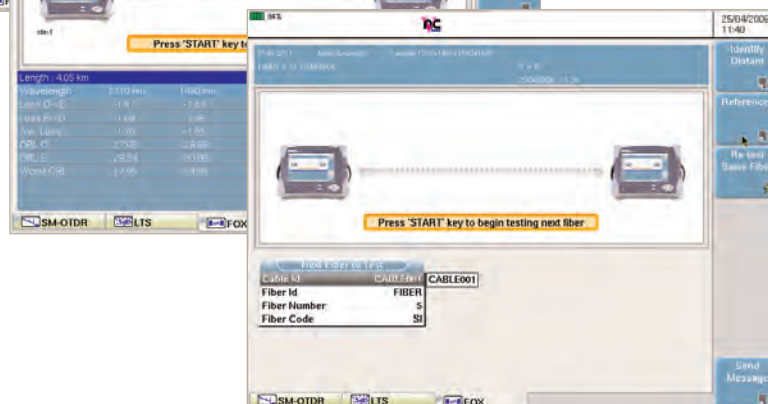
Ready to test next fiber!

4
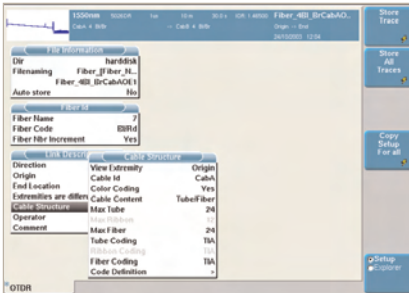
Extended cable management and documentation

The user defines and stores information on the link configuration and cable structure. This 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 the user 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.

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 results (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.

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

OFI-2000 Multifunction Loss Test Set

Enhanced testing solution

With the addition of the OFI module to the MTS/T-BERD 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, bi-directional 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.

81xxOFIx Module
General technical specifications (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)

This does apply to the 812xOFI modules

To ensure optimal use (bi-directional measurement and communication), two units are required.

Source function (also valid for source mode)

Laser type	Class 1 laser
Wavelength at 25° C	
1310+/-20 nm, 1490+/-3 nm, 1550+/-30 nm, 1625+/-5 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 = +/-3 K)	+/- 0.2 dB
Modulation frequencies	Continuous wave, 270 Hz, 330 Hz, 1 kHz, 2 kHz
TWINtest and auto-I	All wavelength 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%

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

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

Ordering information

OFI Module

1310/1550nm OFI plug-in module-standard power	E81260FI1
1310/1550nm OFI plug-in module-high power	E81260FI2
1310/1550/1625nm OFI plug-in module-standard power	E81360FI1
1310/1550/1625nm OFI plug-in module-high power	E81360FI2
1310/1490/1550nm OFI plug-in module-standard power	E81320FI1
1310/1490/1550nm OFI plug-in module high power	E81320FI2

OFI Module option

ORL option for OFI plug-in module with mandrel	E810FIORL

Application software

Optical Fiber Trace Software for post-analysis	EOFS100
Optical Fiber Cable Software Cable for Acceptance report generation	EOFS200

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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