T-BERD®/MTS-4000 Platform

FiberComplete™

Key Benefits

- Reduce the number of tools carried
- Improve productivity and cut operating expenses
- Increase efficiency and minimize time testing, troubleshooting, and reporting
- Control workflows and optimize daily jobs
- Reduce training expenses

Key Features

- Combines OTDR and bidirectional insertion and return loss measurements
- One connection, one-touch automated measurements
- Real-time continuity check and automatic product pairing
- Immediate troubleshooting with FaultFinder mode
- Fiber or cable results management
- Step-by-step wizard for initial IL/ORL test referencing
- Compatible with Metro-Access (MA) and Metro-PON (MP) OTDRs

Applications

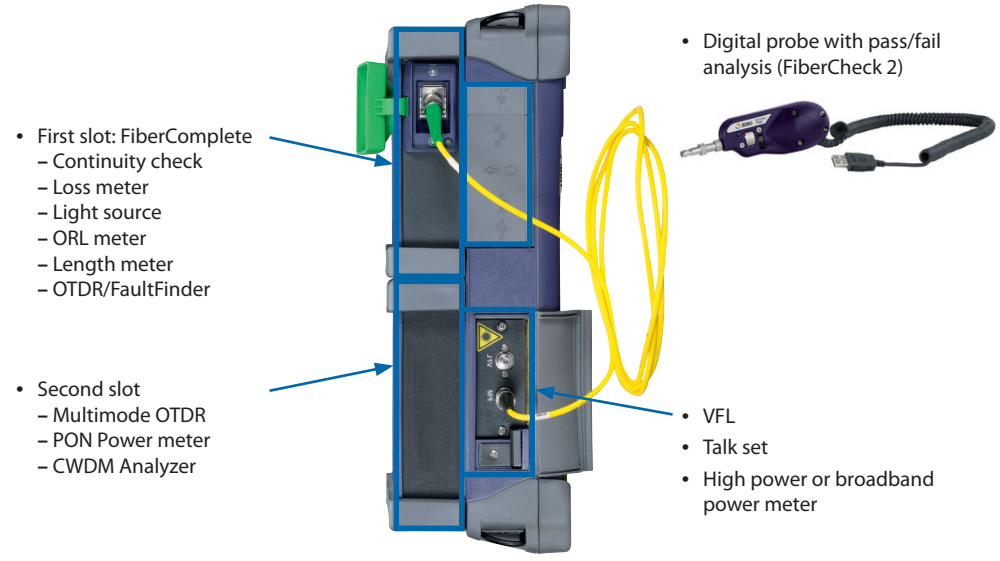
- Installing and commissioning of Access, Middle Mile, and Metro networks
- Maintaining and troubleshooting fiber optic links
- Constructing FTTx networks and performing acceptance tests
- Qualifying PON networks

FiberComplete offers the first solution of its kind that performs all the fundamental fiber qualification tests, such as bidirectional insertion loss (IL) and optical return loss (ORL), distance, and optical time domain reflectometry (OTDR), with one module and from one optical port.

Now equip each technician with a single piece of equipment that can fulfill all of the traditional testing requirements. This platform offers the most complete fiber testing solution for installers to quickly and easily characterize point-to-point or point-to-multipoint passive optical networks (PON).

Reduce the Number of Tools Carried

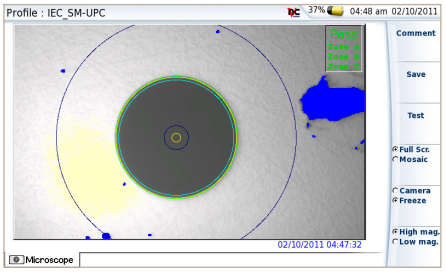
FiberComplete integrates up to six instruments into one test module and combined with all the T-BERD/MTS-4000 features, such as visual fault location (VFL), talk set, broadband power meter, and digital connector inspection scope, provides the most integrated and versatile solution for any fiber optic network testing. A second slot is available for adding additional application modules.



Locate failures with OTDR or FaultFinder

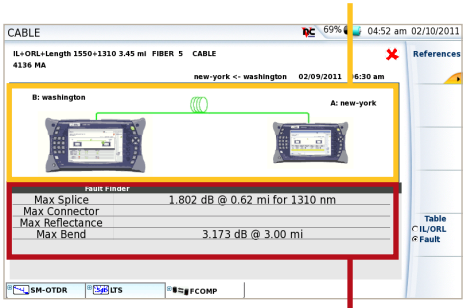
Improve Productivity and Cut Operating Expenses

- FiberChek™ 2 pass/fail fiber inspection software
  - Instantly captures and analyzes fiber end faces
  - Provides pass/fail criteria based on IEC 61300-3035 standards
- A single connection port for all your tests
  - Avoids multiple connection/disconnection of the patch cords
  - Reduces manipulation errors and testing time
- Automatic measurement process
  - Enables one-button operation for OTDR, bidirectional IL and ORL, and distance measurements
  - Enables auto-configuration of acquisition parameters
  - Enables auto-storing results with auto-increment of the fiber number



Video inspection with pass/fail analysis

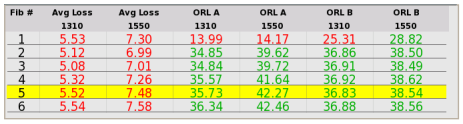
Continuity check



FaultFinder result table

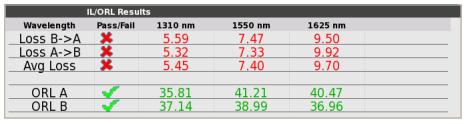
Increase Efficiency and Minimize Time Testing, Troubleshooting, and Reporting

- Real-time continuity check and product pairing
  - Optical continuity confirmation for immediate testing
  - Troubleshoot fiber mismatches or broken links before testing
- The only loss test set (LTS) with FaultFinder that enables locating faults
  - Eliminates the need for an additional OTDR
  - Saves time locating the root cause of loss/ORL issues
  - Displays easy-to-interpret results tables to quickly identify issues
- On-site report generation:
  - Creates instantaneous text report during the test process
  - Generate a final report in pdf format from the T-BERD/MTS-4000



Fib #	Avg Loss 1310	Avg Loss 1550	ORL A 1310	ORL A 1550	ORL B 1310	ORL B 1550
1	5.53	7.30	13.99	14.17	25.31	28.82
2	5.12	6.99	34.85	39.62	36.86	38.50
3	5.08	7.01	34.84	39.72	36.91	38.49
4	5.32	7.26	35.57	41.64	36.92	38.62
5	5.52	7.48	35.73	42.27	36.83	38.54
6	5.54	7.58	36.34	42.46	36.88	38.56

Cable View



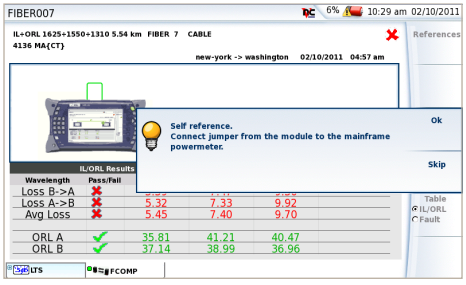
IL/ORL Results

Wavelength	Pass/Fail	1310 nm	1550 nm	1625 nm
Loss B->A	✗	5.59	7.47	9.50
Loss A->B	✗	5.32	7.33	9.92
Avg Loss	✗	5.45	7.40	9.70
ORL A	✓	35.81	41.21	40.47
ORL B	✓	37.14	38.99	36.96

Fiber View

Control Workflows and Optimize Daily Jobs

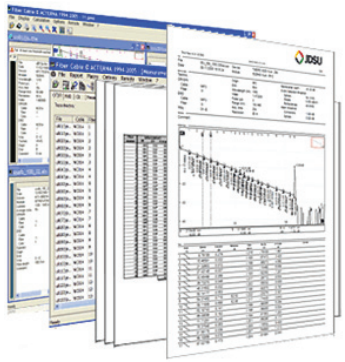
- Simplifies the testing process
  - Sequences measurements: bidirectional IL/ORL, distance, and OTDR
  - Tunes the test sequence according to the required job
- Cable or fiber results view?
  - Optimizes the results display by job type
  - Indicates pass/fail
  - Cable View permanently tracks all the fiber and easily generates reports



Referencing process

Reduce Training Expenses

- Single push-button operation
- Step-by-step wizard guides technicians through the referencing process
- Common test platform and user interface



Advanced Data Post-Processing using FiberTrace Reporting Software

For more integrated reports, FiberTrace software enables generation of detailed, professional, and customized reports:

- Post-analysis of results
- Batch processing
- Fully customizable report
- Dedicated tables for each test result
- Out-of-range value summary with pass/fail indicators
- Analysis of macro-bends

Technical Specifications (Typical at 25°C)

General

Weight	0.35 kg (0.77 lb)
Dimensions (w × h × d)	128 × 134 × 40 mm (5.04 × 5.28 × 1.58 in)
Applicable fiber	SMF 9/125 µm
Interchangeable optical connectors	FC, SC, DIN, LC (PC or APC), and ST (PC)

Bidirectional Test Set

Source Function (also valid for CW source mode)

Laser safety class (21 CFR)	Class 1
Wavelength at 25°C	1310±20 nm, 1490±20 nm, 1550±20 nm, 1625±20 nm
Spectral bandwidth	10 nm maximum
Output level into 9/125 µm fiber (CW mode)	−3.5 dBm
Modulated output average level	3 dB less
Modulation frequencies	Continuous wave, 270 Hz, 330 Hz, 1 kHz, 2 kHz
TWINtest and Auto-λ	All wavelength activated one after the other

Loss Test Set Function

Absolute uncertainty	±0.25 dB[1]
Repeatability	<0.05 dB[2]
Result resolution	0.01 dB

Optical Return Loss

ORL measurement range	Up to 55 dB
Absolute uncertainty	±0.5 dB[3]
Repeatability	<0.1 dB[4]

Length Function

Measurement range	150 km[5]
Absolute uncertainty	±30m[6]

1 Using side-by-side reference
2 Without disconnection
3 From 10 to 45 dB range
4 From 20 to 40 dB range
5 Typical at 1550 nm
6 From 50 m to 20 km range

Stand-Alone Power Meter (Mainframe)

The T-BERD/MTS-4000 mainframe must be ordered with a broadband power meter option, which is necessary for the reference stage.

	Standard	High Power
Measurement range	+5 to −50 dBm	+27 to −30 dBm
Absolute uncertainty	±0.2 dB	±0.25 dB
Wavelength range		800 to 1650 nm

OTDR

	Central Wavelength	Pulse Width	RMS Dynamic Range	Event Dead Zone	Attenuation Dead Zone
Metro-Access (MA)	1310/1550/1625 nm	3 ns to 20 µs	37/35/35 dB	0.9 m	4 m
Metro-PON (MP)	1310/1490/1550/ 1625 nm	3 ns to 20 µs	42/40/40/40 dB	0.8 m	4 m

Ordering Information

All FiberComplete reference includes SC, LC, and FC non-reflective terminations for zero ORL referencing (equivalent to a mandrel), light source option built-into the module.

FiberComplete Module with OTDR and FaultFinder Functions

1310/1550 nm FiberComplete with 37/35 dB MA OTDR	E4126FCOMP-MA
1310/1550/1625 nm FiberComplete with 37/35 /35 dB MA OTDR	E4136FCOMP-MA
1310/1550/ Filtered 1625 nm FiberComplete with 37/35/35 dB MA OTDR	E4136FCOMP-RMA
1310/1490/1550 nm FiberComplete with 42/40/40 dB MP OTDR	E4138FCOMP-MP

Accessories and Options

Digital videoscope kit, including P5000 probe, soft case, and 7 inspection tips	EDFSCOPE5K
Optical Fiber Trace software	EOFS100
Optical Fiber Cable software	EOFS200
SC/PC and SC/APC non-reflective terminator package	ENRTERMSC
FC/PC and FC/APC non-reflective terminator package	ENRTERMFC

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