

Fault-locate • Troubleshoot • Test • Document

Noyes M650 Fiber Test Kit with handheld indoor/outdoor QUAD OTDR, QUAD OLS, OPM, VFL, and OFS
Simplify documentation saving OTDR and OPM results in M650



Fault-locate, troubleshoot, document fibers - Tier 2 test

The M650 QUAD OTDR performs Tier 2 tests at both multimode and single-mode wavelengths with analysis of the fiber link and reflective and non-reflective events. The M650 automatically generates Event Tables with or without Pass/Fail for Loss and Reflectance of events and Loss and ORL of links.

Clean and inspect fiber ends

Use One-Click cleaners and Cletop SB to clean connector ends of jumpers, test cables and connectors in bulkheads. Inspect fiber ends using the OFS-300.

Measure insertion loss - Tier 1 test

Use the OLS 4, a QUAD optical light source (OLS), with the optical power meter (OPM) built into the M650 to measure and store insertion loss values for both multimode and single-mode fibers.

Software for job documentation

Use the included software to analyze results and prepare detailed reports for final job acceptance. Rich job file naming on units allow users to easily create and document mixed test results (OTDR and OPM) for small jobs and campus installations.



A Division of **AFL Telecommunications**

M650 OTDR, Loss, and Inspection Kit



Perform Tier 1 and Tier 2 Tests

Key Features

- OTDR/OLS tests wavelengths:
 - MM 850/1300nm
 - SM 1310/1550nm
- OPM calibrated wavelengths:
 - 850, 1300 1310, 1490, 1550, 1625nm (displays up to 3 simultaneously)
- M650 serves as OTDR and OPM allowing for easy job setup, testing, review of results, and documentation of fibers. Use OTDR functions to
 - Fault Locate
 - Document network
 - Analyze events including Pass/Fail analysis
- OLS 4 is a QUAD source with WAVE ID allowing users to test two wavelengths simultaneously
- OFS-300 is an optical microscope for inspecting fiber ends

Ordering Information

The M650 is a QUAD OTDR with an integrated OPM and VFL.

Combining the M650 with an OLS4 optical light source allows users to test and generate detailed reports with both OTDR and Loss results shown for each fiber by cable.

The kit also includes an OFS-300 inspection scope, USB flash drive, PC software for OTDR trace analysis and test result reporting, AC adapter, switchable test port adapters, and accessories (see table below).

MODEL	CARRY CASE AND ACCESSORIES	FIBER RINGS ¹	CLEANING PRODUCTS	ADAPTERS		
				OTDR/OLS	OPM	VFI/OFS
M650-100-LP1-H9	Soft and hard cases, OLS4, OFS300-200C	SC/ST	One-Click Cleaner SC/ST/FC, 2.5mm Cletop - SB white tape	SC, ST, LC	SC, 2.5mm, 1.25mm	2.5mm 1.25mm

¹ (2) each - 150m (62.5µm, 50µm, SM)

Results Manager Unique Features

Results organized by Jobs simplify use saving time and money from testing through documentation

Job Settings

Job...	MANCHESTER UNIV
Cable...	MM 62.5 12F
End 1...	TELCOM
End 2...	LYONS HALL

Documenting bi-directional tests is as easy as changing test equipment location in one spot, in the Job Settings of the OPM or OTDR test mode.

On the Job Settings page of either OPM or OTDR test mode, toggle between END 1 and END 2 to indicate the end where your OPM or OTDR is located.

Results automatically populate the same Route/Cable starting with fiber 001.

Results Manager



Rich file naming allows users to perform multiple tests and organize them into Jobs, Routes, and Cables. Create a Job, Route (End 1 and End 2), and a Cable to clearly identify the location of the tested fibers.

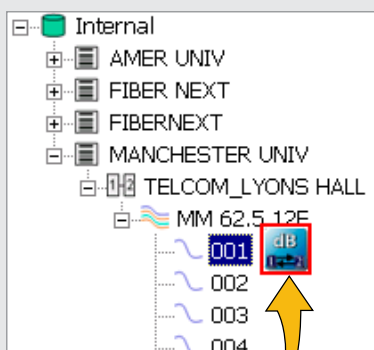
Drive...	Internal
Folder...	--
Job...	MANCHESTER UNIV
Cable...	MM 62.5 12F
End 1...	TELCOM
End 2...	LYONS HALL
OPM Located At...	End 1
Fiber...	001
OPM Operator...	SUZY
OLS Operator...	PATRICK

Drive...	Internal
Folder...	--
Job...	MANCHESTER UNIV
Cable...	MM 62.5 12F
End 1...	TELCOM
End 2...	LYONS HALL
OPM Located At...	End 2
Fiber...	001
OPM Operator...	SUZY
OLS Operator...	PATRICK

Results Manager indicates type(s) of test that have been performed and stored for each fiber

dB Results

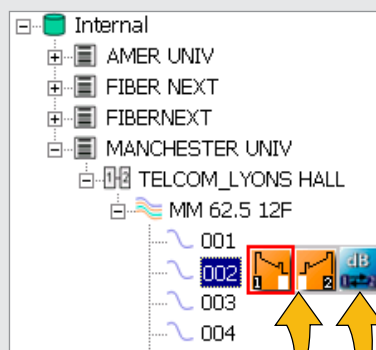
dB icon indicates OPM results.



OPM test results

Bi-directional OTDR and dB Results

Trace icon indicates MM fiber and test direction, dB icon indicates OPM results.

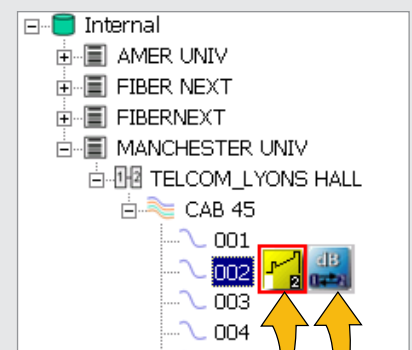


MM bi-directional OTDR results

OPM test results

One direction OTDR End 2 -> End 1 and dB results

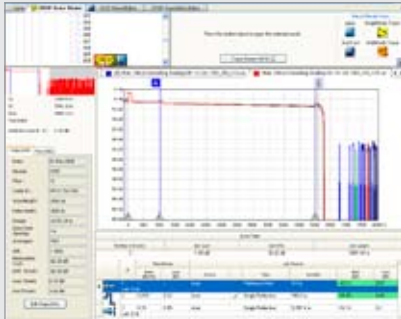
Trace icon indicates SM fiber and test direction, dB icon indicates OPM results.



SM End 2 -> End 1 results

OPM test results

PC Analysis and Post Processing of Test Results using TRM



OTDR Trace Viewer

- Perform or review OTDR event analysis
- Open a single or multiple trace file and a single or multiple trace file as a baseline
- Set or adjust Pass/Fail thresholds for events and links
- Edit trace info and add or delete events
- Change loss measurement method
- Print individual trace

Batch Processing

- Set or adjust Pass/Fail thresholds to groups of results
- Adjust cursors on OTDR traces for groups of fibers (cables)
- Batch Edit Auto Events (coming soon)
- Edit trace info

Reporting Flexibility with Test Results Manager

- Create custom cover pages with logos for end user, installer or consultant
- Create summary pages of OTDR summary table and thumbnail OTDR traces
- Combine OTDR trace(s), event table, loss measurements and event map in a single report
- Export jobs to Zip files or save reports as PDF files

OTDR Cable Summary Page

OTDR cable summary page shows job information and test setup, Loss and ORL test results with or without thumbnails of OTDR traces (shown with Loss/ORL table and OTDR thumbnails).

Cable Summary

Cable ID: MM 62.5 12F

Cable ID: MM 62.5 12F	Tested By: SUZY	OTDR Setup: Expert
End 1: TELCOM	Launch Cable: Noyes (150m)	End Thresh: 0.1 dB
End 2: LYONS HALL	Tail Cable: Noyes (150m)	Loss Thresh: -85 dB
Date of Test: 01/07/2009 16:56:16	ORL: 1.498	Ref Thresh: -85 dB
	Backscatter Coef: -68 dB	

OTDR Summary
Length 589.1 Meters

Item #	Losses@ End 1 - End 2	Losses@ End 2 - End 3	ORL@ End 1 - End 2	ORL@ End 2 - End 3	ORL@ End 2 - End 3	ORL@ End 2 - End 3
	850M nm	1300M nm	850M nm	1300M nm	850M nm	1300M nm
1	0.99	0.97	1.99	0.94	-28.12	-32.01
2	0.99	0.97	1.92	0.94	-28.04	-31.91
3	0.99	0.97	1.99	0.94	-28.09	-32.01
4	0.99	0.98	1.99	0.94	-28.12	-32.01
5	0.99	0.97	1.92	0.94	-28.16	-32.01
6	0.99	0.98	1.91	0.93	-28.09	-32.05

Fiber Detail Results Page

Fiber Detail Results page documents equipment used for testing, job information, test setup, cursor info and OTDR trace with Event map. OPM or Certification results may be included if available (as shown) with an overall Pass or Fail.

MANCHESTER UNIV

Client ID: MM 62.5 12F	End 1: TELCOM	End 2: LYONS HALL
Fiber Name: 3	OTDR Launch Cable: TELCOM	Model: C880
Fiber Type: Multimode	OTDR Setup: Expert	Serial #: 190470004
Launch Cable: Noyes (150m)	Backscatter Coef: -68 dB	Start #: 1.2.4
Tail Cable: Noyes (150m)	Gain Threshold: 2.0 dB	Link Date: 4.1.2009
Cursor A: -0.02 Meters	Loss Threshold: 0.1 dB	Operator 1: SUZY
Cursor B: 589.02 Meters	Ref Threshold: -85 dB	Operator 2: PATRICK
OSA Distance: 200.00 Meters	Range: 1.000.0 Meters	Test Date: 07/07/2009 16:16:16
OSA Loss: 1.99 dB	Polarization: 38.00	
OSA Loss@Ref: 0.10 dB@0m	Average: 5889	

OTDR Results
TELCOM-LYONS HALL MM 62.5 12F_001_002.M

#	Location	Type	Ref. (dB)	Loss (dB)
1	0.00	Launch	-82.00	0.00
2	589.02	Link End	-85.00	0.00

#	Location	Type	Ref. (dB)	Loss (dB)
1	0.00	Launch	-82.00	0.00
2	589.02	Link End	-85.00	0.00

# Events	Link Loss	Link ORL	Link Length
0	1.99 dB	28.08 dB	589.0 Meters

# Events	Link Loss	Link ORL	Link Length
0	1.97 dB	32.01 dB	589.0 Meters

Event Map
End 1: TELCOM (0.00) Link Length: 589.0 Meters End 2: LYONS HALL (589.02)

OLTS Results
TELCOM-LYONS HALL MM 62.5 12F.M Cabling Standards: ISO 11801 (International Standard) all cables, 50 or 62.5 µm fiber

Date of Test	Time	Pass #	Link Loss	Link ORL	Link Length	Pass	Measurement (dB)
Apr 27 2009	16:36	0	1.99	28.08	589.02	Pass	0.00