

QUICK CARD

OTDR modules with a Multi-fiber switch and Cable-SLM SW option

The following procedure describes how to create an automatic OTDR test sequence with a Multi-fiber E41MPOxxxSM switch.

This option will reduce the time to test multiple fiber links from high fiber count cables.

TEST SCENARIOS

► Two test scenarios are described in this document.

1-OTDR automated test sequence with simplex connectors, using fanout test cables.





OTDR modules with a Multi-fiber switch module / Cable-SLM SW option

TEST SCENARIOS

- ► Two test scenarios are described in this document.
- 2- OTDR automated test sequence with native MPO connectors.





Full process steps

Estimation time for the 1st getting started: 20 min.(if 100% manual)

1-INSPECT AND CLEAN CONNECTORS

2-CONNECT ALL HARDWARE

3-ACTIVATE THE FUNCTIONS

4-CONFIGURE THE OTDR MEASUREMENT*/**

5-CONFIGURE DATA STORAGE */**

6-CONFIGURE A PROJECT FOR AN AUTOMATIC SWITCH SEQUENCE**

7-CUSTOMIZE THE TEST SEQUENCE

8-RUN TESTS

9-VIEW RESULTS

10-REDO TEST

11-GENERATE THE SUMMARY PROJECT REPORT*

Note

The steps marked with "One star" can be performed immediately by just loading a configuration file.

The steps marked with "Two stars" can be performed through Stratasync /TPA to streamline all the configuration process.



INSPECT AND CLEAN CONNECTORS

Before connecting a fiber to the test set, inspect and clean the tester bulkhead and the test cables (TC) connectors.

Use a video inspection scope / probe to inspect connector end faces for dirt and/or damage. Inspect ALL connectors including bulkheads and test ports.

CONNECT ALL HARDWARE - with on board E41MPO12SM switch

- Connect the SC/APC Switch module port to the OTDR 1. port with the 30 cm dedicated bend insensitive jumper. (This jumper is always provided with the switch module.)
- Connect a fanout cable MPO to simplex connectors or 2. a MPO launch cable to the MPO pinned switch module port.
- Press the ON/OFF hard key to turn on both units. 3.



One Advisor 800



ACTIVATE THE FUNCTIONS - with on board E41MPO12SM switch



🟫 Home 🏾 😽 Fiber			
Favoris	ONA800-VFL	>	Fiber 2 (41MPO12SM)
Gestionnaire	Fiber 1 (ONA-800)	>	Switch SM
Système	Fiber 2 (41MPO12SM)	>	JANICH JA
	Fiber 3 (4136 B-FCOMP)	>	

T-BERD/MTS...:

On the HOME page, tap on the icon « Expert OTDR» and the icon « Switch SM » (the icon turns yellow when app is active).

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On the HOME page, press "Tests". Press the icon « OTDR Expert» and the icon « Switch SM » to turn on the functions. (the icon turns blue when app is active).



INSPECT AND CLEAN CONNECTORS

Before connecting a fiber to the test set, inspect and clean the tester bulkhead and the test cables (TC) connectors.

 Use a video inspection scope / probe to inspect connector end faces for dirt and/or damage. Inspect ALL connectors including bulkheads and test ports.

CONNECT ALL HARDWARE - with high capacity E41MPOxxSM switch

- Connect the LC/APC Switch module port to the OTDR port with the 3m dedicated bend insensitive jumper. (This jumper is always provided with the switch module.)
- 2. Connect the USB connector port cable to the USB mainframe unit port
- Connect a fanout cable MPO to simplex connectors or a MPO launch cable to the MPO pinned switch module port.
- 4. Press the ON/OFF hard key to turn on both units.





ACTIVATE THE FUNCTIONS - with high capacity E41MPOxxSM switch



T-BERD/MTS...:

On the HOME page, tap on the icon « Expert OTDR» and the icon « USB Switch » (the icon turns yellow when app is active).

One Adivsor 800:

On the HOME page, press "Tests". Press the icon « ONA800/ USB Switch » to turn on the switch. Select the appropriate icon for the OTDR selection (the icon turns blue when app is active).

QUICK CARD

CONFIGURE THE OTDR MEASUREMENT

Tap the **Setup** soft key.

• Press Load config. file. and select the pre-defined config.

"OTDR AutoTest Singlemode.SM" (recommended)

Or

• Edit your manual configuration by following the next following steps.

Acquisition:

Switch Port:

- For an Automatic sequence: Do not fill this field as port selection/switching is managed directly by the project creation/ opening (next step) in cable tab.
- For a Manual sequence: select the port number/channel corresponding to the fiber to be tested.

Laser: "1310/1550 nm" or "All" to enable bend detection with the OTDR.

Acquisition mode:

- Manual: select Range, Pulse, Resolution & Acq. time
- Auto : Recommended
- SmartAcq: select Acq. time

Connector test = "Yes & continue" (recommended)

Test Cables: Adjust only the Launch Cable / Receive cable and select Yes to Include Link start connector and Link End Connector

Alarms:

- Alarm level: Fail (Recommended)
- Threshold : Default (Recommended)

Display: adjust accordingly

Section Attenuation / Section Length / Index of Refraction/ Scatter Coefficient/
 Distance Unit/ Results On Trace / Show Cursors

Advanced:

Front connector Measurement: no (recommended) / Detection/ Event after End: no (recommended)





CONFIGURE DATA STORAGE

Tap Link Description and customize the information

- Technician Id
- Job ID
- Cable Id
- Fiber ID
- Change Fiber Number : no need to set up (see **Create project** section)
- Direction
- Location A and Location B :here you can name each location
- Extremities are different = No

(Yes is currently not managed with a project)

- Comment

In the Report area:

Do NOT fill the following fields, as they are automatically managed by the project. (next step). :

- "File save in", "Filenaming", "Autostore"

Only fill the following:

- File Content: All traces

("one and all traces" is currently not managed with a project)

- **Report As**: select the report format: .pdf recommended

Technician Id

Job ID

Cable Id

Fiber Id

Fiber Number 1

Change Fiber Nbr Increment

Direction

Location A

Location B

Extremities are differ.. No

Comment <

File(s) save in: disk/[Function] Dir disk/OTDR Filenaming [Cable_Id]_[Fiber_N...

30_11_2023_14_16_4800...

k

File Content

Auto store **Yes**

Report As File Only





CONFIGURE A PROJECT FOR AN AUTOMATIC SWITCH SEQUENCE

1. Tap the **MANAGE Project** soft key in order to create a project.

	Label List No	
	Project Name test	\$
Manage	Number Of Fibers	20
Project	Start Fiber	1
	test.FCOMP-PRO.prj	QPEN CREATE PROJECT EXIT

Managing the test with an opened project automates the switching sequence.

When a project is created, a project sub folder is automatically created in the main directory « EXPERT_OTDR > OTDR_SM ». All measurement files and reports are automatically saved in this dedicated directory as well as the summary cable report. (see Generate summary project report section)

-	If the fibers do not have labels (default),	Label List	No No)		
	just fill the project name, number of fibers	Project Name	test		2	
	to be tested and the start fiber number.	Number Of Fibers		20	2	
Or		Start Fiber		1		
-	If a Label list should be used, set "Label					
	list" to Yes and browse by clicking on the	Label List	Yes			
	"selected label list" section. A .csv label list	Selected Label List	•)		
	example is stored in the Project directory.	Project Name	test		1	
-	Fill the other requested information.	Panel structure	Simplex Fiber	Label List	Yes	
	accordingly.			Selected Label List		
				Project Name	test	<u> </u>
				Panel structure	Multifiber Connectors	•
S	Proce "Croate Project"			Fiber Count	MPO (12/12)	•
۷.	riess cieale riuject.					
If e	a project with a similar name already exists	a non-lin	Ancesam	"mod	ifvina file	

If a project with a similar name already exists, a pop-up message "modifying file not allowed" will be displayed.

A new "Cable" tab pops up displaying the Project: with fiber number or labels.

NOTE

SmartLink Trace Table **Cable**

Once a project is created, the parameters cannot be modified except those from "Acquisition".

START



CUSTOMIZE THE TEST SEQUENCE

Project without fiber labels

- 1. The Cable tab displays a « bingo » card. The Blue circles on top left of each square indicates the switch port number.
- 2. The test sequence starts from the fiber / label case underlined in purple.
- 3. A customizing menu is displayed by making a long press on any case.
 - Disable a selected fiber (= Disable fiber) / Disable all the project (= Switch seq. OFF)



0 P	assed
	2
<mark>9</mark>	10
	k

Disabled cases turn dark grey

Re-activate a switch sequence (= switch seq. ON) or re-activate the full project (= Cable seq. ON).

Project with fiber labels - Simplex connectors connectors

Same process as above.

0 Passed	0 Failed	Tested Labels 0/80	Q	•
A01-PP01_01	×			Real Time Š
2 A01-PP01 02	^			Setup
3 A01-PP0	Disable Fiber			Q
	Switch seq. OFF			Explorer
AUI-FFUI_U				

SmartLink	Trace	Table	Cable		START
0 Pas			ed	Tested Labels 0/80 🛛 🔍	•
A01-P	P01_01				Real Time Č
A01-P	P01_02			<u> </u>	Setup
A01-P	P01_0	Disabl	e Fiber		٠
AU1-F	F01_0	Switch	seq. ON		File Explorer
A01-P	P01_0				-
<u> </u>		Cable s	ieq. ON		

Project with fiber labels - Multifiber connectors (MPO)

With Multifiber connectors, you can unselect fibers one by one with a long press.

0 Passed 0 Failed Tested L	abels 0/80 🛛 🔍	▼ A01-PP01 01					▼ A01-PP01_01				
A01-PP01_01			-								
► A01-PP01_02		1 2	3 4	5 6		1	2	3 4	5	6	
► A01-PP01_03		-		×		- 1	F ===				
▶ A01-PP01_04		·	isable Fiber				Ena	ble Fiber	,	T. Loss	



QUICK CARD

RUN TESTS

1. Press **START** – preferably from Cable tab to make sure of the fiber selection.



2. Once the test sequence is complete, a message pops up asking either to test "the next fiber" or "the next 12 fibers sequence" depending on your customization

SmartLink	Trace Ta	ble Cable			START	SmartLink Trace Table	e Cable			START
10 Pa		! Failed 📃 Tes		s: 12/99 🛛 🔾	•	20 Passed 4	Failed Te	sted Fibers	s: 24/99 🛛 🔾	₽ Ię
3 2 1		4 5	6 6	7 8	Real Time Š		4 5	0	8	Real Time Č
	FO	-147			Setup	9 10 FO-16	53		-	Setup
9 10	Do	you want to test	the next fiber	?	٠	Do y	ou want to test	the next sequ	ence ?	۰
9				Ĵ	File Explorer				4	File Explorer
17	1		Yes	No 4				Yes	No	
12	Laser (nm)	T. Loss (dB)	ORL (dB)	Length (m)		24 Laser (nm)	T. Loss (dB)	ORL (dB)	Length (m)	
✓	1310	0.312	54.54	24.9		✓ 1310	0.317	54.55	24.9	
1	1550	0.215	56.04	24.9		✓ 1550	0.191	56.13	24.9	
1	1650	0.188	55.41	25.0	Close Project	✓ 1650	0.179	55.44	25.0	Close Project
SU EXPERT-SM					•	EXPERT-SM				

3. Prior pressing YES, disconnect the launch/receive cables from the already tested batch and connect them to the next batch to be tested.

QUICK CARD VIEW RESULTS

In Cable tab:

A **summary** is available on the top of the list indicating the numbers of Passed / Failed / Tested fibers.

A **test status** is provided for each fiber with a color coding.

- Green = Passed / Red = Failed
- No color = no test performed
- Dark grey = unselected fiber

Project with label

 Caution: No alarm or Stop pressed during sequence -> without color

Sim	plex c	onnect	tors co	nnect	ors
SmartLink	Trace Table	Cable			START
10 Pas		ailed Te	sted Labels	12/80 (🔾)
9 A01-PPC)1_09			~	Real Time Š
10 A01-PPC)1_10			 Image: A second s	Setup
😐 A01-PP0	02_01			 Image: A second s	File
12 A01-PPC)2_02			~	Explorer
12	Laser (nm)	T. Loss (dB)	ORL (dB) 🕞	Length (m)	
×	1310	0.319	54.72	24.9	
A	1550	0.210	56.00	24.9	
EXPERT-SM	1650	0.191	55.41	25.0	Close Project

Project without label Table Cable SmartLink Trace Tested Fibe \cap Real Time Š 3 4 5 6 7 8 ٥ 9 10 11 12 13 14 15 16 File cplore 17 18 19 20 21 22 23 24 Laser (nm) T. Loss (dB) ORL (dB) Length (m) 1310 0.287 51.00 76.1 1550 0.265 52.90 76.1 • NEXPERT-SM

VIAVI Solutions

Proj	ect wit	h labe	el		
Mult	ifiber	conne	ctors		
SmartLink	Trace Table	Cable			START
0 Passe		led Te		1/80 Q	•
▼ A01-PP0				✓	Real Time Š
					Setup
1 2	3 4 5	6 7	8 9 10	11 12	٠
					File Explorer
12	Laser (nm)	T. Loss (dB)	ORL (dB)	🗟 Length (m)	
✓	1310	0.326	54.44	24.9	
1	1550	0.203	55.99	24.9	
EXPERT-SM	1650	0.193	55.38	25.0	Close Project

For **Individual fiber** results: select the fiber in the cable tab (the selected fiber will be underlined in purple)

Tip: To easily find a fiber, press the search glass icon (top right). It displays a filter to select fiber number or label number.

T-BERD/MTS 4000V2 / One Advisor 800

SW version \geq 23.6x

QUICK CARD

VIEW RESULTS

In Trace tab

All traces (up to 3) are displayed.

Browse through each trace by selecting the trace number.

Clicking on the Smartlink or Table tabs give access to the other results representation.

REDO TEST

- Identify the cause of failure and troubleshoot 1. the fiber
- In the cable tab, select the fiber to be retested. 2.
- Hit the start button to re-test. 3.
- Press Yes to overwrite automatically the 4. existing failed results which will then be replaced.



GENERATE THE SUMMARY PROJECT REPORT

- When all tests and re-do are finished: Press "Close 1. Project" key
- A summary .pdf cable report is automatically generated 2. and stored in the project directory.

ENTERFRISE_OTD	8 Files - 0 Directories	
DTDR_SM	📧 simplex label project	13/11/23 15:52
eee	simplex label project	13/11/23 15:52
multifiber proj	A01-PP01_06	13/11/23 12:23
guickcard labe	el A01-PP01_05	13/11/23 12:23
n quickcard mp	0 A01-PP01_04	13/11/23 12:22
quickcard otd	r e 🔜 A01-PP01_03	13/11/23 12:22
simplex label	PT A01-PP01 02	13/11/23 12:21

1.00-1.00-1		101.401				0.487
Table 1 (add)	the real distance					
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110.000				149.0.00		-
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	101.00		10.41			

-				1000		
	148	100				
		1.0		- 21 -		
	1.00	1.00				
		1.10				
	140	1.00	0.8	81		1.00
	1.44	1.00	4.4	18.1		
	1.04	1.16	11.16			
	188	4.00				
	1.00	+ 49	4.9	10.0		
	2.00	1.00		16.4		
	198					
	148	1.00				
	100	1 100				
	1.10					
		1.00		- 21 -		
	1.00	1.00	0.0	100		
	1.00	1.18				
	2786	4.08	4.0	38.4		
	146	1.40				
		1.00		10.0		
	100	1.0		- 8f		
	198	1.05				
	+ 448	1.00	0.0	- 23		
	198	1.00				
	1.00	1.00		84		
	1.00	1.14				
	1.00	1.00				
	1.88	1.00		8.1		
	1.64	0.04		10.5		
	1.00	4.08				







