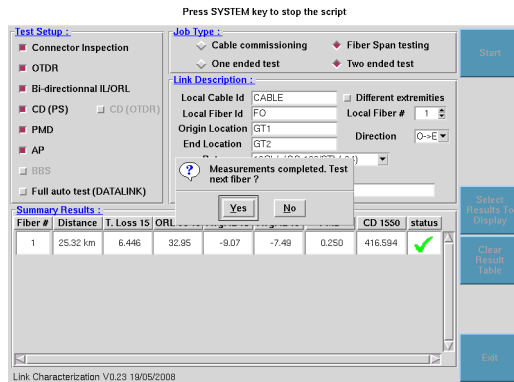


Start the test sequence

When the script configuration is done, you can start the test sequence.

- 1 Press the **Start** soft key when ready.
- 2 Follow the step by step guidances to conduct the link characterization sequence.
 - Press **Yes** to Start a SM-OTDR test. (This will start a 1310/1550/1625 nm OTDR test).
 - When asked to "CHECK PMD SOURCE", contact far end of fiber under test and connect OBS-550/500 light source. Turn light source on, ensure **BB** mode of operation, **PMD** mode and press **Activate**. Red light will come on indicating light source is active.
 - Press **Yes** to continue PMD test.
 - Upon completion of PMD test, instruct tech at far end to press AP mode of operation on light source.
 - Press **Yes** to continue AP test.
 - Upon completion of AP test, instruct tech at far end to press CD mode of operation on light source.
 - Press **Yes** to continue CD test.

After completion of CD test, Result screen appears.



If more fibers are to be tested press **Yes** and fiber number automatically increments.

If no more fiber is to be tested press **No** and a summary of the results is visible.

- 3 Press soft key **Exit** to exit the link characterization script.

To see details of the tests, press Results hard key and application soft key at the bottom of the on-screen.

OBS-550/550 LightSource Operation for Fiber Characterization Testing

- 1 Press the Power button to turn on.
- 2 Using the MODE button to select BB⁽¹⁾.
- 3 When instructed by the technician performing the tests, using the **APPLICATION** button ensure PMD light is green.
- 4 Under **OUTPUT**, press the button to activate the source.
- 5 When directed by the testing technician, using the **APPLICATION** button ensure AP light is green, then CD.



OBS-550 has HD mode which is High dynamic mode. By selecting HD mode, the EDFA amplifier built into the light source is engaged and the output power increases substantially. In addition, the spectral range of the light source goes from 1460-1640 to 1530-1565 nm.

8000 PLATFORM QUICK CARD

FIBER CHARACTERIZATION SCRIPT

GETTING STARTED

The following procedure describes how to configure a T-BERD/MTS 8000 platform with a MTAU 4-port module and how to start the Automated Fiber Characterization Script. Please read the entire procedure BEFORE starting.

Inspect and clean connectors

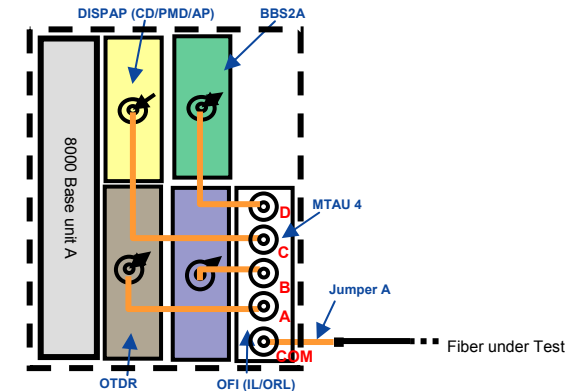


Before connecting a fiber into a test module, inspect and clean the module bulkhead and the fiber jumper connectors.

- Use video inspection scope to verify the connector quality.
- Use appropriate cleaning material (e.g. IBC™ cleaner, cotton swab, dust air sprays, etc...).

Connecting the test modules to the MTAU

- 1 Connect the OTDR module to the MTAU port A with a jumper.
- 2 Connect the OFI module (FOX port) to the MTAU port B with a jumper.
- 3 Connect the DISPAP module to the MTAU port C with a jumper.
- 4 Connect the BBS module to the MTAU port D with a jumper.



The test modules (OTDR, DISPAP and OFI) have to be located in the slots closest to the mainframe. Keep the MTAU and BBS modules at the back slots.

- 5 Repeat step 1 and 4 for the second unit.

Referencing the Test Functions

- 1 The Insertion Loss (IL), the Optical return Loss (ORL), the Chromatic Dispersion (CD) and the Attenuation Profile (AP) measurements have to be referenced before starting testing.

Please refer to dedicated quick cards for the associated procedures

Check List

- 1 Check that OEO OTDR settings on each unit (for bidirectional solutions) are identical; or that SM OTDR settings on each unit are identical. Note: You can press the Test Auto and Factory Defaults soft keys to get a set of default settings to work from. Check that units are correctly set, typically Km.
- 2 Set the IL/ORL (FOX) wavelengths to be consistent with OTDR in case the OFI module is used.
- 3 Ensure that the Acquisition Band for CD and AP is appropriate to your Broadband Source. For handheld OBS 500/550 use SCL; for BBS2A module use OESCL. When you switch acquisition band, you must check that a valid reference exists for that band, the reference S/N should match the S/N of your source.
- 4 Check that Length is set to "Known Length" = Yes, for PMD, CD and AP testing. This will allow the Script to auto populate the length field using the OTDR results.
- 5 Check that PMD, CD and AP Length units are consistent with OTDR settings.

Setup File Parameters

This paragraph provides a set of instructions for selecting typical File Storage options for Fiber Characterization test results.

- 1 Press the **FILE** Hard Key of the mainframe
- 2 Press softkey until the Setup radio button is selected. It is recommended you accomplish this on one of the OTDR tabs (SM OTDR or OEO OTDR).
- 3 Select the following parameters starting from the top of the menu to the bottom.
 - a. Press the softkey
 - b. Select **Auto store** **Yes** **No** **Yes**
 - c. For File type user preference, typically one OEO file or Single SOR files
- 4 After all the File parameters are selected, press softkey

Select storage directory

- 1 Press the softkey once to select the "Explorer" page.
- 2 Using the navigation keys on the left side of the screen, select the main or sub directory where you wish to store files, typically the "Hard Disk". After highlighting this Directory, press softkey to create a new subdirectory where you wish your files to store.

It is not mandatory to create a subdirectory as the script automatically creates one at the start of the test sequence.

- 3 Use the pop-up keyboard to enter the directory name.

Move the pointer on the left to highlight the new directory so that files will store there.

Getting started with the "Link Characterization" Script

- 1 Press the **SCRIPT** hard key.
- 2 Drop down using the navigation keys or touch to select the "Link characterization" script.
- 3 Press the soft key to launch the script process.

Define the Test Setup

The available test functions are listed in black in window.

- 1 Check marked the square button for each test function to be added in the test sequence. (Button becoming red).
- **Connector Inspection**: Available if video inspection scope is connected to the mainframe. The script will open up the connector image viewer.
 - **OTDR**: The script will use the wavelengths defined in the OTDR test Setup and measurements will be performed using Automatic configuration.

- **Bi-dir. OTDR**: Automated bi-directional OTDR measurement using the . It will require the use of the optical talk set and will select automatically.
- **Bi-directional IL/ORL**: Automated bi-directional Loss test set, using the OFI module (Fox port).
- **CD (PS)**: Chromatic Dispersion measurement. It requires the use of the OBS handheld or the selection of the on the other T-BERD 8000 script configuration menu.
- **PMD PMD measurement**. It requires the use of the OBS handheld or the selection of the on the other T-BERD 8000 script configuration menu.
- **AP Attenuation Profile measurement**. It requires the use of the OBS handheld or the selection of the on the other T-BERD 8000 script configuration menu.
- **Full auto test (DATALINK)** It enables communication between 2 T-BERD 8000 running the script in order to perform bi-directional OTDR measurement and automate the BBS mode selection.

Define the Job Type

The : enables to define how the product is going to organize the results and what type of characterization test sequence is performed.

- 1 Check marked the square button for each type (button becoming red).
- **Cable commissioning** is used for testing an entire cable. The script will save all the test results and the summary report into one directory, and for all the fibers. The directory will be created using the Cable ID as the name. This directory will be located under the current selected directory. Make sure the selected directory is the root hard disk or a well known one. Press the System hard key and the File hard key to get access to the Explorer in order to change the directory selection.
 - **Fiber Span testing** is used for few fiber testing. The script will save the test results of one fiber and the report summary into one directory. Each fiber will have its own directory. The directory will be created using the FiberID and the Fiber #, as the name. This directory will be located under the current selected directory.
 - **Two ended test** defines the script sequence and synchronization between the 2x T-BERD 8000. It is required when **Bi-dir. OTDR** and/or **Bi-directional IL/ORL** test parameters are selected.
 - **One ended test** defines the script sequence when only one T-BERD 8000 is used in conjunction with a handheld OBS 5x0 at the far end.

Define the Link Description

The : enables to document the information, related to the link being tested.

- 1 Fill-in all the information using the USB key board: Local Cable Id / Local Fiber Id / Origin & End Location / Job Ticket
- **Rate**: select the expected bit rate in the drop down menu. This will pre-define the alarm thresholds for CD and PMD testing.
 - Add a **Comment** which will be loaded into each test application and save with each test results.
 - Define the **Local Fiber #** of your fiber under test.
 - a. Set the **Direction** of the measurement between O->E and E->O (Origin and End).
 - b. If the Origin fiber number or cable Id is different from the far end, check mark **Different extremities** in order to have access to the local and distant information using the soft key.

Configuring the "Results" Summary table

This summary table enables to review selected values at the end of the test sequence. A pass/Fail status is associated to the table.

- 1 Press to access the selection list.
- 2 Highlight one parameter in the column **Available results**.
- 3 Press the soft key in order to select the parameter and see it in the column **Results to display**.
- 4 Repeat steps 1 to 3 until you have selected all the parameters. Maximum 7.
- 5 Press the soft key in order to acknowledge the selection.