

Quick Card

T-BERD[®]/MTS 4000v2 Modular Test Set Fiber Complete and TestPRO Loopback Referencing

This quick card describes how to perform a **Loopback Reference** on a T-BERD/MTS 4000v2 and 4100-series OTDR module, prior to running **Fiber Complete** or **TestPRO** bidirectional insertion loss (IL), optical return loss (ORL), and optical time domain reflectometry (OTDR) measurements. It is recommended to take new references when you start a new day of testing and whenever launch cables are changed. If launch cables are in pristine conditions, are clean, and have passed inspection, a new reference is not required.

Equipment Requirements:

- T-BERD/MTS-2000 or 4000 with Fiber Optics Software Release V21.04 or greater
- E4100 Series OTDR Module
- FiberComplete or TestPRO options
- Fiber optic cleaning and inspection tools
- Launch Cable with connectors matching the OTDR port and Fiber Under Test (a minimum 20-meter Fiber optic patch cable or leash is recommended)
- FiberComplete/TestPRO Termination Kit, including optical couplers and non-reflecting terminations.



Figure 1: Equipment Requirements

Fiber Inspection Guidelines:

- Use the VIAVI P5000i or FiberChek Probe microscope to inspect both sides of every connection being used (OTDR Port, Launch Cable, bulkhead connectors, patch cords, etc.)
- Focus fiber on the screen. If dirty, clean the end-face.
- If it appears clean, run inspection test.
- If it fails, clean the fiber and re-run inspection test. Repeat until it passes.

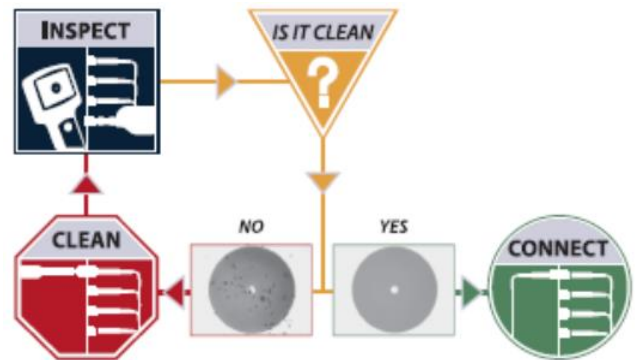


Figure 2: Inspect Before You Connect (IBYC)





Connect Launch Cable to OTDR port:

1. Inspect the OTDR port on top of the test set.
2. Inspect the fiber end face of Launch Cable.
3. Connect Launch Cable to the OTDR port.



Figure 3: OTDR Port Inspection

Launch FiberComplete or TestPRO:

1. Press the Power button  to start the T-BERD/MTS test instrument.
2. Tap the **FCOMP/Fiber Complete** icon  or **TestPRO** icon  icon until it is yellow and highlighted . The T-BERD/MTS will launch the FiberComplete/TestPRO Results screen.

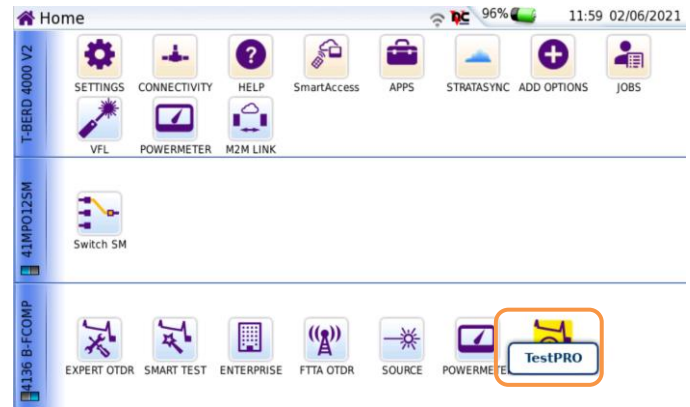


Figure 4: Fiber Optics Home screen

Perform Loopback Reference:

1. Tap the **References** soft key to display current reference values.

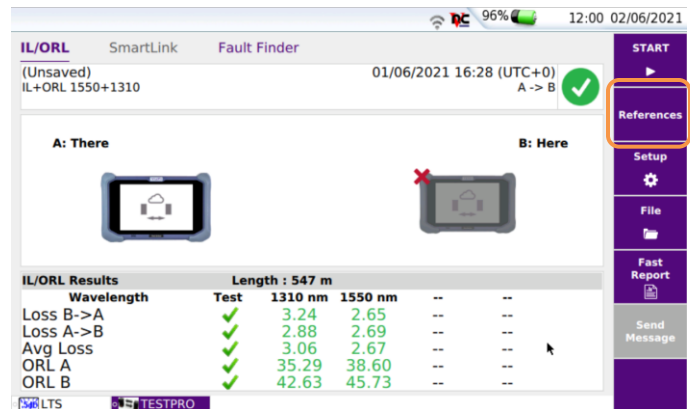

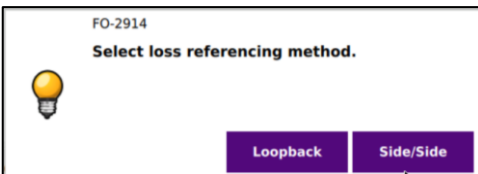


Figure 5: FiberComplete/TestPRO Results screen

2. Tap the plus-sign  to acquire new references.
3. A pop up will allow you select a referencing method:



4. Select **Loopback** to perform a loopback reference.

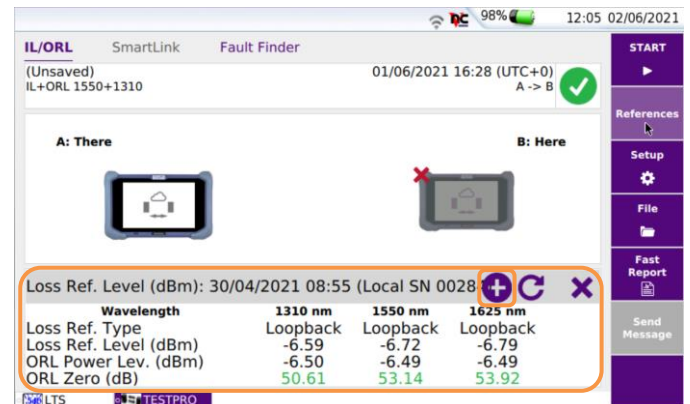
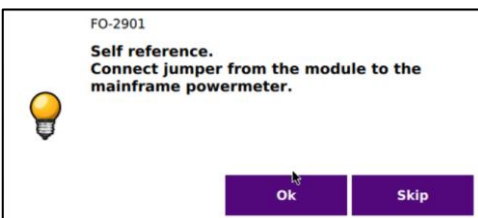


Figure 6: Reference Values

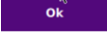
5. A pop up will prompt you to connect your launch cable from the OTDR module to the mainframe Powermeter:

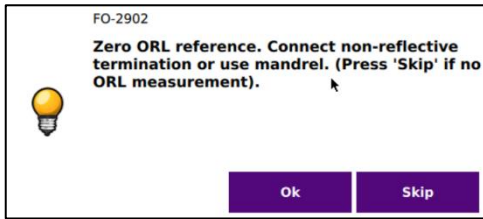


6. Connect the Launch Cable to the power meter, as pictured in *Figure 7*: OTDR module connection to mainframe powermeter



Figure 7: OTDR module connection to mainframe powermeter

7. Tap  to perform the reference.
8. A pop up will prompt you to connect a non-reflective termination:



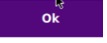
9. Disconnect the launch cable from the mainframe power meter port.
10. Get the **FiberComplete/TestPRO Termination Kit** and connect an **optical coupler** and **non-reflective terminator** to your launch cable according to your connector type. An SC/UPC coupler and termination is displayed in *Figure 8*: OTDR module connection to non-reflective termination.
11. Tap  to perform the Zero ORL reference.



Figure 8: OTDR module connection to non-reflective termination

12. New reference values are now displayed on the screen.

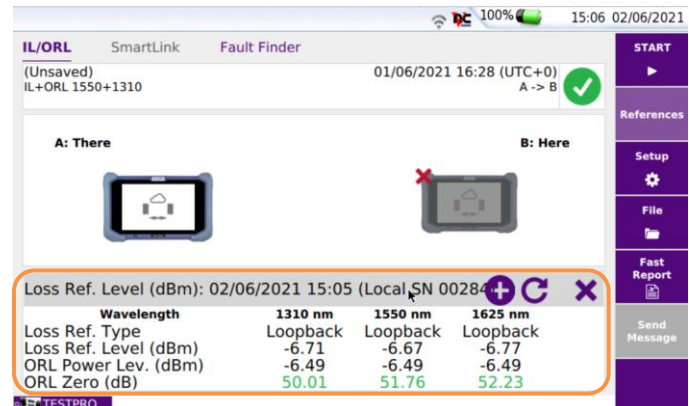


Figure 9: Loopback Reference Values