

WARNING: LIGHT SOURCE LASER DOES NOT OPERATE AT VISIBLE WAVELENGTH. LIGHT IS NOT VISIBLE WHEN LASER IS ACTIVE. TO AVOID THE RISK OF EYE DAMAGE, DO NOT LOOK AT LASER WHEN LIGHT SOURCE IS OPERATIONAL.

Your power meter and light source units will be used to measure loss in dB of the power coupled into the cable by the light source versus power measured on the receiver end by the power meter. Loss testing is done at wavelengths for the fiber in use, typically 850nm for multimode and optionally at 1300nm, while singlemode is tested at 1310nm and optionally 1550nm. The measured loss can be compared to the estimated loss for the link or “loss budget.”

This testing kit combined with the included reference cables allows for both for single-ended loss testing and double-ended loss testing of fiber optic cables.

For set-up, allowable loss, link budget calculations, etc., the Fiber Optic Association (FOA) is a great resource for testing guidelines. FOA power testing instructions are included with your kit and should be reviewed prior to using this equipment. Information on the two noted tests above can be found via the FOA at www.thefoa.org, including fiber optic testing methods and standards.



1. Turn on both light source (OLS) and power meter (OPM).

Set both the OPM & OLS to the desired wavelength by pressing the wavelength button on each unit.



A. Wavelength on the OLS is displayed in the upper left corner of the screen. Set to desired value (press wavelength key.) Hz (upper right) will have a numeric reading when the laser is on. *Dashed lines (---) indicate laser is off.

Pressing wavelength button also activates laser.



B. The OPM should be set to same wavelength as the OLS unit. Press the wavelength button until desired value appears.

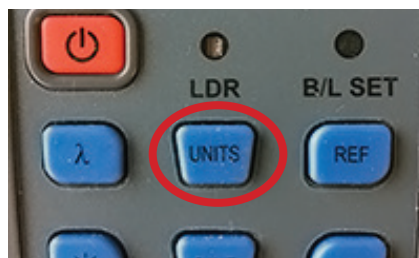
Note: Typically 850nm for multimode testing and 1310nm for single mode.

*Use appropriate cables. Aqua = multimode. Yellow = single mode.



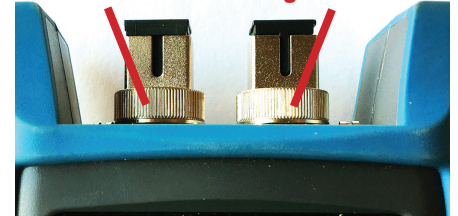
2. On the OLS press CW button until 0Hz displays in upper right of the screen (see step 1A image).

*Typical testing configuration for most cables



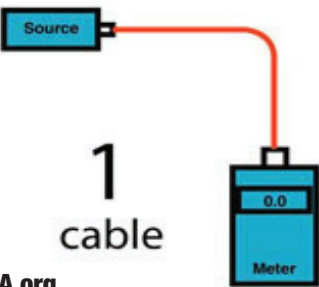
3. On the OPM, press the “UNITS” button until upper right portion of screen is blank and dBm is listed to the right of the main screen read-out (see step 1B image).

850nm/1300nm Multimode **1310nm/1550nm Single Mode**



4. Plug REFERENCE cable into the appropriately labeled port on the OLS. SC testing: single-ended testing/ 1 cable. LC testing: double-ended testing/ 2 cables.

Aqua = multimode. Yellow = singlemode

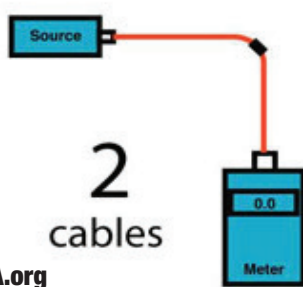


1
cable

theFOA.org

5. For SC type single-ended testing, plug in appropriate SC to SC cable (single mode or multimode according to the cable being tested) between OLS and OPM.

Aqua = multimode. Yellow= single mode




2
cables

theFOA.org

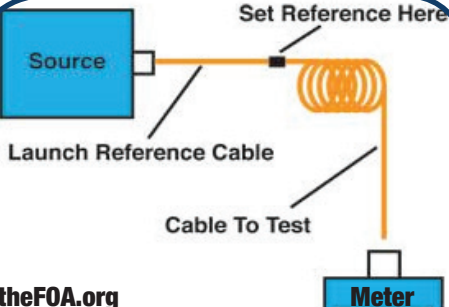
6. For LC type double-ended testing, plug in two appropriate SC to LC cables, one into OLS and one into OPM, with SC connectors into OPM and OLS ports.

Link LC ends together with LC adapter.



7. Reference OPM.

Once cable(s) are connected between OLS and OPM units, quick press “REF” button. OPM should now read 0dB.



Set Reference Here

Source

Launch Reference Cable

Cable To Test

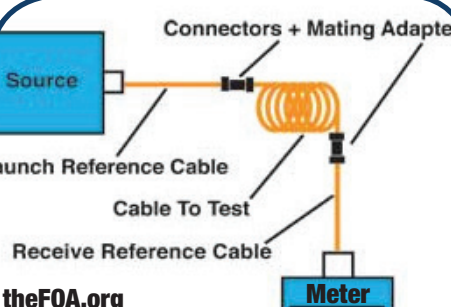
Receive Reference Cable

theFOA.org

Meter

A. Single-ended Testing:
Unplug connector from power meter side ONLY. Place feedthrough SC adapter on connector.

Proceed to test installed cable.



Connectors + Mating Adapter

Source

Launch Reference Cable

Cable To Test

Receive Reference Cable

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Meter

B. Double-ended Testing:
Unplug connector from LC feedthrough adapter. Place additional LC feedthrough adapter on connector.

Proceed to test installed cables.

***Performing Step 7 removes the power loss of the “reference” cables so that the dB loss reading of the installed cables will not include the loss of the reference cable(s) utilized.**

Refer to the included FOA instructions “Guide to Fiber Optics & Premises Cabling” to perform A>B and B<A testing to properly diagnose high loss connector terminations.

For accurate testing, frequent cleaning of all connector faces being placed under test, maintaining minimal bends and movement of reference cables, and resetting of power meter reference throughout the course of testing are recommended.