

# Micro OWL 2 Series Test Kits

## Certification Testing

### Quick Reference Guide

For part numbers:

KIT-M2-WSSDst

KIT-M2-WSSDsc

KIT-M2-WSSDfc



## Optical Wavelength Laboratories

## **NOTICE TO NEW USERS:**

All personnel testing optical fibers should be adequately trained in the field of fiber optics before using any fiber optic test equipment.

If the user is not completely familiar with testing fiber optics, they should seek professional training. Such training can be acquired from a variety of sources, such as local hands-on training classes.

Valuable information about fiber optic testing can also be gathered from reading printed literature carefully or by thoroughly reading supplied operations manuals.

Fiber optic testers vary from other types of test equipment due to issues such as:

- 1) standards-based testing
- 2) proper fiber optic test procedures (FOTPs)
- 3) "zeroing" or referencing of power levels
- 4) determining the correct link budget to pass or fail by

Complete understanding of each of these issues is critical for performing proper fiber optic tests.

## **GETTING STARTED**

Thank you for your purchase of this OWL certification test kit. Included in this kit is a Micro OWL 2 optical power meter and a WaveSource multimode fiber optic light source. This quick reference guide will assist you in setting up your test kit for a standards-based certification test.

## **BEFORE YOU TEST**

Prior to performing a certification test, there are a few things you need to know about your link:

- ▶ *Fiber Type*
- ▶ *Fiber Length*
- ▶ *Number of Connections (i.e. patch panels)*
- ▶ *Number of Splices*
- ▶ *Fiber Cabling Standard*
- ▶ *Connector Type*

It is also important to understand the definition of a fiber optic link as it pertains to the Micro OWL 2:

**A link is a group of fibers that have the same characteristics, and follow the same pathway from one end to the other.**

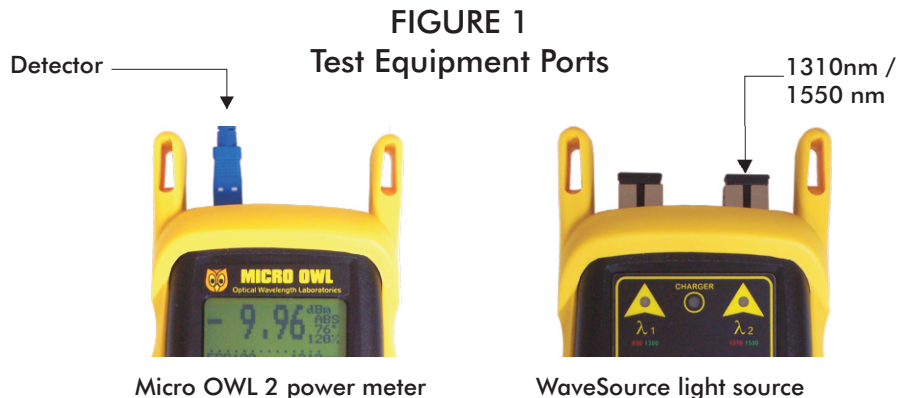
Also, ensure that your patch cable connectors match the patch panel ports on the link under test.

## REQUIRED ACCESSORIES

- ▶ (2) singlemode patch cables

## EQUIPMENT PORTS

Figure 1 shows the ports of the equipment used during this procedure. These ports may vary depending upon the model of equipment.



## VERIFY PROPER OPERATION OF THE EQUIPMENT

**STEP 1**      Connect the power meter and light source together with one of the patch cables as shown in Figure 2.



- STEP 2**      Power on the light source.
- STEP 3**      Press <PORT> to set the WaveSource to the SM PORT.
- STEP 4**      Power on the Micro OWL 2.
- STEP 5**      From the OPERATING MODE menu, select SIMPLE METER.
- STEP 6**      Press <F3> on the Micro OWL 2 until the wavelength reads 1310nm.
- STEP 7**      The Micro OWL 2 should read approximately -10.00 dBm. If the reading is below -12.00 dBm, the patch cable should be replaced.
- STEP 8**      Once proper operation has been verified, remove the first patch cable from both units and set it aside.
- STEP 9**      Connect the second singlemode patch cable between the Micro OWL 2 and the WaveSource as shown in Figure 2.
- STEP 10**    The Micro OWL 2 should read approximately -10.00 dBm. If the reading is below -12.00 dBm, the patch cable should be replaced.
- STEP 11**    Once proper operation has been verified, press <DONE> to return to the OPERATING MODE menu.

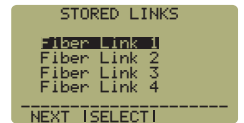
## RUN LINK WIZARD

**STEP 12** From the OPERATING MODE menu, select CERTIFY LINK.

**STEP 13** From the START MENU, press <1> **LINK WIZARD**.

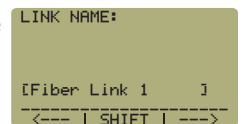


**STEP 14** From the STORED LINKS menu, highlight the stored link name you wish to use and press <F2> to select.



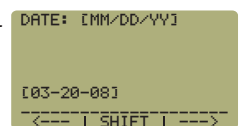
**STEP 15** **OPTIONAL:** you may change the link name to something that better describes the group of fibers you are testing.

Press <DONE> to continue.



**STEP 16** Change the LINK DATE to the date the fiber will be tested using the format MM-DD-YY.

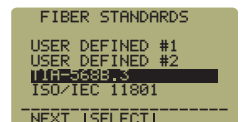
Press <DONE> when you are finished entering the current date.



 **It is important to set the current date in order to ensure that the correct date appears on the certification reports.**

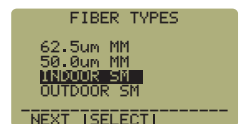
**STEP 17** Highlight the cabling standard to use for the set of fibers you are testing.

Press <F2> to select the chosen standard.



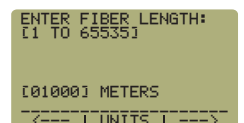
**STEP 18** Highlight the fiber type of the network under test.

Press <F2> to select the fiber type.



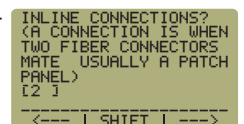
**STEP 19** Enter the end-to-end length of the fiber link under test in meters.

Press <DONE> to continue.




**STEP 20** Enter the number of connections (i.e. patch panels) in the link under test. Typical fiber networks will have 2 connections – one for a patch panel located at each end of the link.

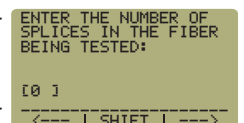
Press <DONE> to continue.



**STEP 21** Enter the number of splices in the link under test. Splices can be either fusion or mechanical. Typical singlemode networks will have zero splices.

 **NOTE:** some connectors use mechanical splice technology for termination. If the link under test is terminated with these “no-polish, no-epoxy” type connectors, they should be considered as mechanical splices.

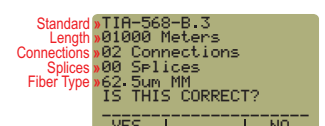
Press <DONE> to continue.



**STEP 22** Review your Link Wizard setup.

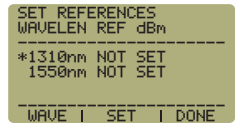
If correct, press <F1> and continue on to the next step.

If changes need to be made, press <F3> and go back to STEP 15.



**STEP 23** Press <F1> until the asterisk (\*) is in front of 1310nm (as shown at right).

Press <F2> to begin the SET REFERENCE procedure for 1310nm.



**STEP 24** Connect the detector meter and 1310nm light source (left-hand port) together with the singlemode cable as shown in Figure 2 (on the reverse side of this page).

Press <F1> to continue.



**STEP 25** Make sure that the 1310nm light source port is powered ON and selected (the indicator LED on the left-hand side will be the color red).

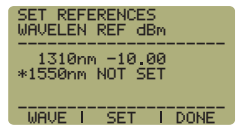
**STEP 26** Confirm setting the 1310nm reference.

Pressing <F1> to continue. You will be returned to the SET SOURCE REFERENCES screen.



**NOTE:** if you are also testing at 1550nm, you will need to connect a separate singlemode patch cable to the 1550nm port.

**STEP 27** For setting a 1550nm reference, repeat steps 23 through 26, except you will select 1550nm (as shown at right). Also, remember to set the WaveSource to 1550nm (the right-hand indicator LED will be the color green).



After the 1550nm reference is set, the REF dBm field will be filled in with a reference value.

**STEP 28** Press <F3> to complete the Link Wizard.

**STEP 29** Press <F1> to begin taking readings.

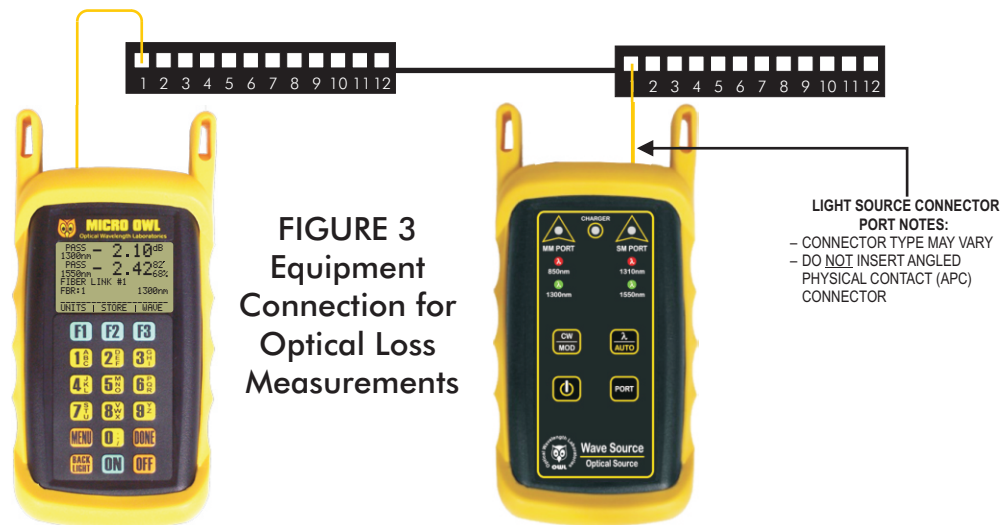
## TAKE READINGS

**STEP 30** If testing two wavelengths, press the <1> button to set the Micro OWL 2 into AUTO mode, then press and hold the  $\lambda$ /AUTO button on the WaveSource. You will begin to see the WaveSource indicator LED alternate between green and red.

**STEP 31** Disconnect the mandrel-wrapped patch cable from the Micro OWL 2 and take the units to opposite ends of the link.

**!** Do NOT disconnect the patch cable(s) from the light source at any time until all fibers have been tested.

**STEP 32** Connect the units to the first fiber to test as shown in Figure 3. Your readings will vary from the example below.



**STEP 33** Once the STORE button becomes active, press <F2> to store the data point. If this is the first fiber in the link, you may be prompted to enter a new label.

**STEP 34** Press <F3> to save the data point.

**STEP 35** Disconnect the patch cables from the patch panels and move them to the next port in the patch panel, then repeat steps 33 through 35 until all fibers in the link have been tested.