WaveTester Series Test Kits

Certification Testing

Quick Reference Guide

For part numbers:
KIT-WT-WSSDst
KIT-WT-WSSDsc

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 WaveTester 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 WaveTester:

A link is a group of fibers that have the same characteristics, and follow the same pathway from one end to the other.
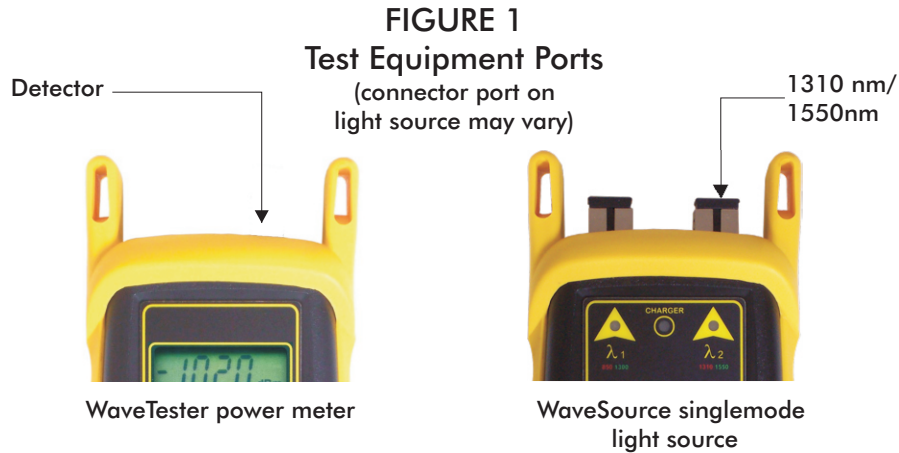
Also, ensure that your patch cable connectors match the patch panel ports on the link under test.

REQUIRED ACCESSORIES

➤ (2) singlemode patch cables

EQUIPMENT PORTS

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

FIGURE 1
Test Equipment Ports
(connector port on
light source may vary)

Detector

1310 nm/
1550nm

WaveTester power meter

WaveSource singlemode
light source

VERIFY PROPER OPERATION OF THE EQUIPMENT

STEP 1　　Connect the power meter and light source together with the first patch cable as shown in Figure 2.

FIGURE 2
Verify
Patch
Cable

LIGHT SOURCE CONNECTOR
PORT NOTES:
– CONNECTOR TYPE MAY VARY
– DO NOT INSERT ANGLED
   PHYSICAL CONTACT (APC)
   CONNECTOR

STEP 2　　Power on the light source.

STEP 3　　Press **PORT** to switch the WaveSource to the SM PORT.   The right-hand indicator LED should be the color red.

STEP 4　　Power on the WaveTester.

STEP 5　　Press λ/**AUTO** on the WaveTester several times until the wavelength is set to 1310nm.

STEP 6　　The WaveTester should show approximately -10.00 dBm.   If the reading is below -12.00 dBm, the patch cable should be replaced.

STEP 7　　Once proper operation has been verified, remove the first patch cable from both units and set it aside.

STEP 8　　Connect the power meter and light source together with the second patch cable as shown in Figure 2.

STEP 9　　The WaveTester should show approximately -10.00 dBm.   If the reading is below -12.00 dBm, the patch cable should be replaced.

STEP 10　　Once proper operation has been verified, continue on to the next step.

SET REFERENCE

STEP 11   Press and hold the **λ/AUTO** button on the WaveTester to set it into AUTO mode.

The WaveTester display should change to show readings in '**dB**'.

STEP 12   Press and hold the **λ/AUTO** button on the WaveSource until you see the indicator LED begin flashing, then immediately release the button.

The right-hand indicator LED on the WaveSource will begin alternating between the colors red and green, which indicates that the output wavelengths are automatically switching.

The WaveTester will automatically sense the wavelength switching, and will co-ordinate with the WaveSource.

STEP 13   Press and hold the **UNITS/ZERO** button on the WaveTester to set the reference for both wavelengths simultaneously.

NOTE: After the references have been set, do NOT press the **λ/AUTO** button on either the WaveTester or the WaveSource. Doing so will take the units out of AUTO mode.

TAKE READINGS

STEP 14   Remove the patch cable from the detector port on the WaveTester, and bring both units to the opposite ends of the link under test.

STEP 15   Connect the WaveTester and WaveSource to the link under test as shown in Figure 3 below.

FIGURE 3
Taking
Readings

**LIGHT SOURCE CONNECTOR
PORT NOTES:**
– CONNECTOR TYPE MAY VARY
– DO NOT INSERT ANGLED
  PHYSICAL CONTACT (APC)
  CONNECTOR

STEP 16   Press <SAVE> on the WaveTester to store readings for both 1310nm and 1550nm simultaneously for the current fiber under test.

STEP 17   Disconnect the patch cables from both ends of the patch panel and move to the next port on the patch panel.

STEP 18   Repeat steps 16 and 17 for each fiber in the cable under test until all fibers have been tested.