FLUKE®

DSP-FOM/DSP-FTK
Fiber Optic Accessory

Instruction Sheet

The DSP Fiber Optic Meter (DSP-FOM) is an optical power loss meter that provides fiber testing capabilities for the following Fluke products:

DSP-100	CableMeter®
DSP-2000	Cable Analyzer
OneTouch™	Network Assistant

This instruction sheet shows how to set up and measure with the DSP-FOM or DSP-FTK using a DSP-100 or DSP-2000. Setup and testing with the OneTouch Network Assistant is similar, and information on this use can be found in the OneTouch Manual appendix on testing fiber optic cable.

Precautions and Safety Information

- Always clean the fiber optic connections before connecting.
- Before testing, let the source stabilize for 2 minutes after you turn it on.

⚠Warning

To avoid possible exposure to hazardous invisible LED radiation and to prevent eye damage:

- **Never look directly into the source connector.**
- **Do not open the case; no user-serviceable parts are inside.**
- **Do not adjust or modify the source. LED sources may exceed Class 1.**
- **Do not use magnification at the source output.**
- **Use of controls or adjustments, or procedures not stated herein may result in hazardous radiation exposure.**

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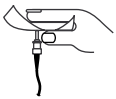
Symbols

Press a button on the DSP-100 or DSP-2000.



Clean the fiber optic connections.

Select a wavelength on the source or FOM.
(Note: The 1300 setting is also used for 1310nm.)

Let the source stabilize for 2 minutes after you turn it on.

A fiber optic adapter.

Software Requirements

To use the DSP-FOM, your DSP-100 must be loaded with software version 3.0 or higher. All DSP-2000 Cable Analyzers can be used with the DSP-FOM.

Selecting Multimode or Singlemode Testing

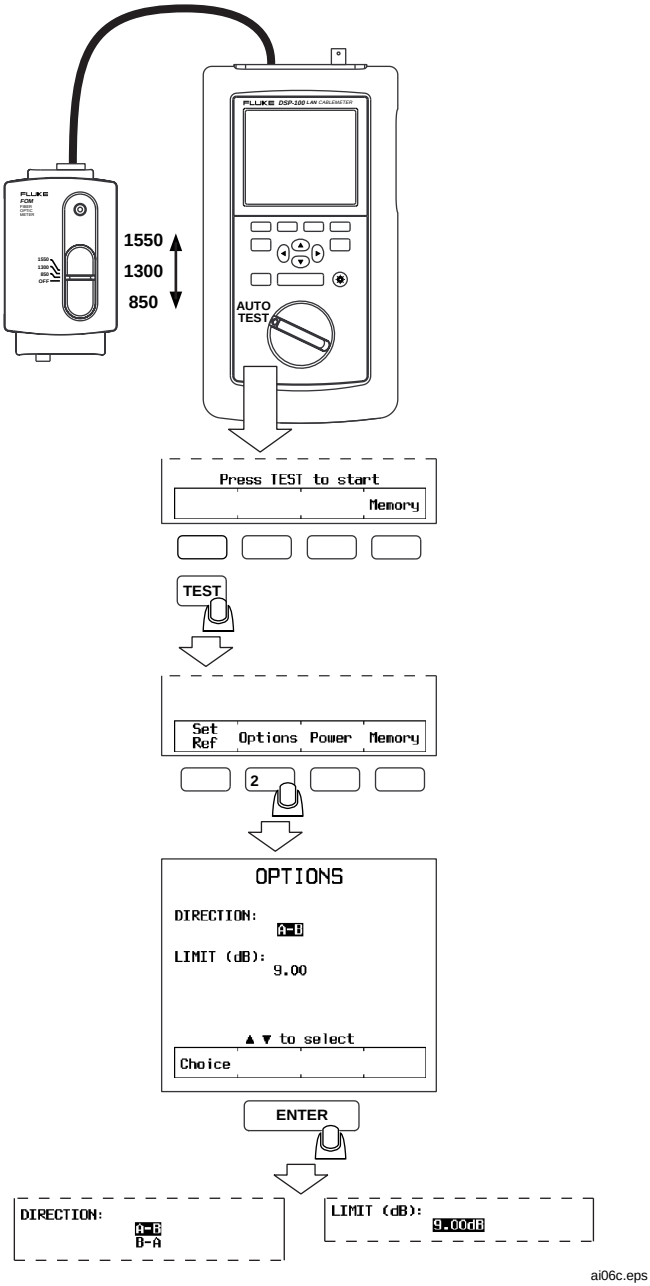
1. Turn the DSP-100 or DSP-2000 rotary switch to SETUP.
2. Press ENTER; then use ▼ to highlight Fiber Optic.
3. Press ENTER; then use ▼ ▲ to highlight Multimode or Singlemode.
4. Press ENTER.

Preparing to Measure Optical Loss

Before measuring optical loss, do the following:

- Select a direction and limit for the test.
- Set a reference level for the test.

Setting the Test Direction and Limit



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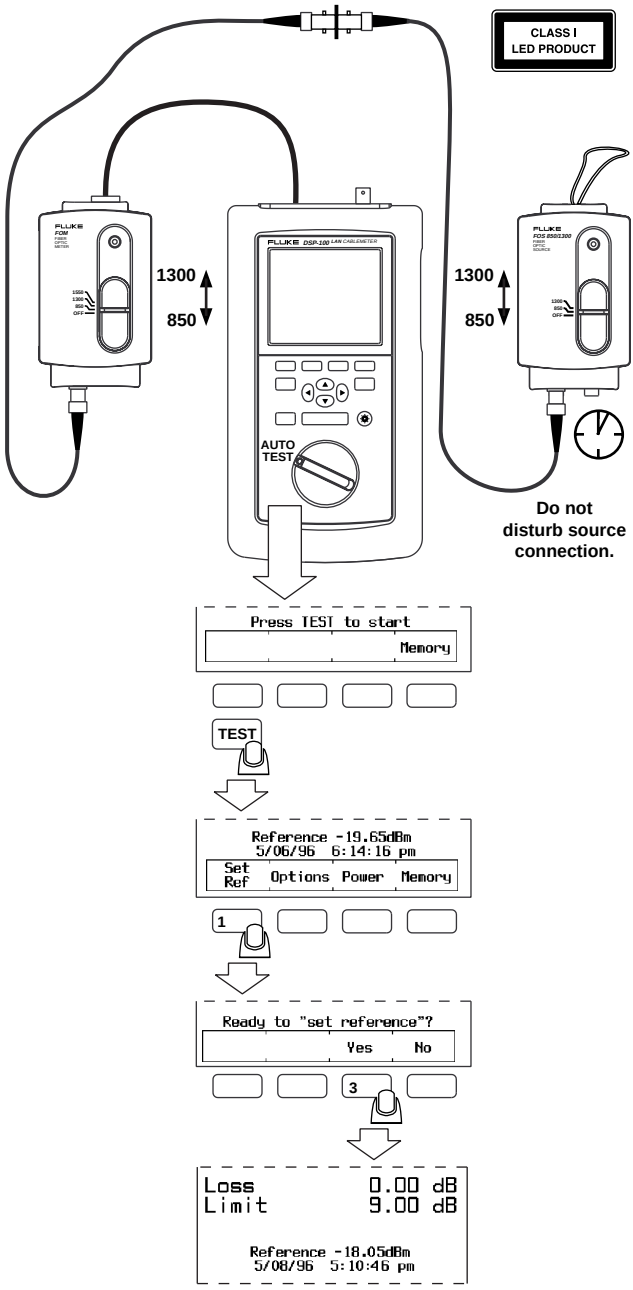
A-B: Location A to Location B

B-A: Location B to Location A

Limit: Optical Link Loss Budget

Setting the Reference Level

Use the same type of fiber cable as the cable to be tested.



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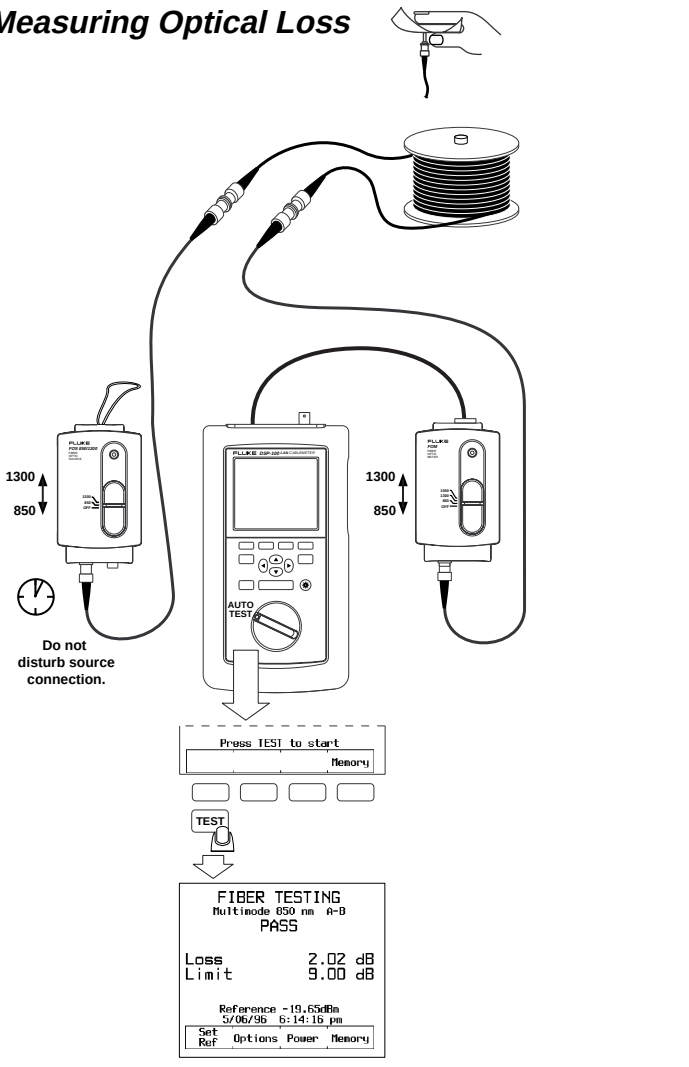
Measuring Optical Loss



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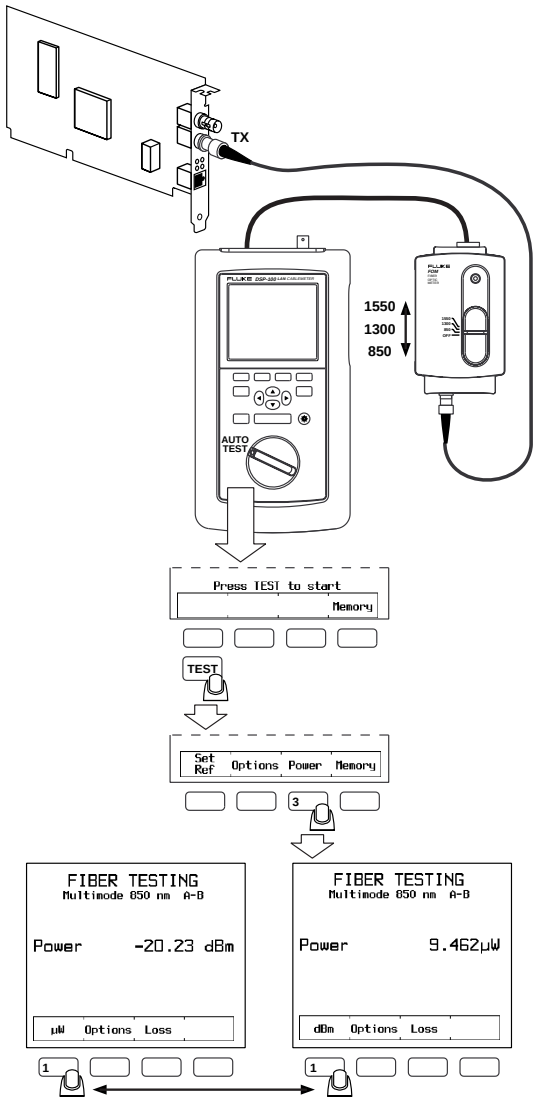
SAVE stores the loss data as a test report.

Measuring Output Power



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3 runs the Optical Loss test.

SAVE stores the power data as a test report.

Fiber Test Reports

You can save optical loss data or output power data as a DSP-100 or DSP-2000 fiber test report. Examples of test report data are shown below.

Optical Loss Test Report Data

```
Loss (dB)                    1.98
Limit (dB)                   9.00
Wavelength (nm)               850
Direction                     A-B
Result                       PASS

Reference (dBm)            -20.18
06/03/96  10:14:14am
```

Output Power Test Report Data

```
Power (dBm)                -22.17
Power (uW)                  6.067
Wavelength (nm)               850
```

For information on printing or uploading fiber test reports, refer to the *DSP-100/DSP-2000 Users Manual* or the online help included with the DSP-LINK application.

Accessories

The following fiber optic accessories are available from Fluke for use with the DSP-FOM:

FOA-ST/ST	Multimode Connector Adapter, ST to ST
FOC-ST/ST	Multimode Cable Assembly, ST to ST
FOC-ST/FC	Multimode Cable Assembly, ST to FC
FOC-ST/SC	Multimode Cable Assembly, ST to SC
FOC-ST/SMA	Multimode Cable Assembly, ST to SMA

Cable Manager Software

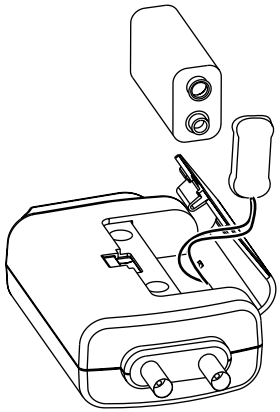
The Fluke Cable Manager Software (DSP-CMS) provides uploading and printing support for the DSP Series testers and a full set of data base functions to electronically manage all your test results. Contact your Fluke sales representative or visit the Fluke Networks Web site (www.fluke.com/nettools/) for more information.

Maintenance

Clean the case with a soft cloth and mild detergent. Do not use abrasives or solvents.

Periodically clean the fiber optic meter and source connectors with optical-grade tissue and optical-grade alcohol or with filtered, compressed air. Protect the connectors with dust caps when the units are not in use.

Battery Replacement



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Calibration and Service

To ensure optimal performance, have the fiber optic meter calibrated every 12 months.

The fiber optic meter and source should be serviced only by a qualified technician. For service or calibration information in the USA and Canada call 1-800-825-9810. From other countries, contact the nearest Fluke Service center. To locate an authorized service center, visit us on the World Wide Web: www.fluke.com or call Fluke using the phone numbers listed below:

1-800-44-FLUKE (1-800-443-5853) in U.S.A. and Canada
+31 402-678-200 in Europe
+1-425-356-5500 in other countries

Specifications

Optical Power Meter

Calibrated Wavelengths	850 nm, 1300 nm, and 1550 nm
Dynamic Range	+3 to -50 dBm
Measurement Accuracy*	±0.25 dB at -10.0 dBm and 25°C
Display Resolution	0.01 dB (0.001 µW)
Detector Type	Germanium
Conformance	IEC 1010-1
Optical Adapter	ST
Operating Temperature	0° to +40°C
Storage Temperature	-20° to +70°C
Dimensions	4.5” x 2.5” x 1.5”
Weight	5.0 oz.
Battery Type	9V Alkaline
Battery Life	90 hours typical

** For field strengths between 1V/m and 3V/m add 6dB*

850/1300 Optical Source (Included with DSP-FTK)

Transmit Wavelengths	850 nm and 1300 nm
Power Output	-20 dBm
Source Type	LED
Source Rating	Class 1 LED Product
Beam Divergence	0.3 radians
Pulse Duration	Continuous wave
Maximum Output	200 µW (radiated into free space)
Conformance	IEC 1010-1
Optical Adapter	ST
Operating Temperature	0° to +40°C
Storage Temperature	-20° to +70°C
Dimensions	4.5” x 2.5” x 1.5”
Weight	5.0 oz.
Battery Type	9V Alkaline
Battery Life	24 hours typical
Low Battery Indicator	Blinking LED

Fluke Corporation Statement of Calibration Practices

Fluke Corporation hereby certifies that this product was verified and calibrated in accordance with applicable calibration procedures during the manufacturing process.

Fluke Corporation further certifies that the measurement standards and instruments used during the calibration of this product are traceable to the United States National Institute of Standards and Technology (NIST). At planned intervals, the measurement standards are calibrated by comparison to or measurement against the standards at NIST. This is not a certificate of calibration or traceability.

To obtain a certificate of calibration, send the product to any Fluke Service Center. A nominal fee is charged for this service.

LIMITED WARRANTY & LIMITATION OF LIABILITY

Each Fluke product is warranted to be free from defects in material and workmanship under normal use and service. The warranty period is one year and begins on the date of shipment. Parts, product repairs and services are warranted for 90 days. This warranty extends only to the original buyer or end-user customer of a Fluke authorized reseller, and does not apply to fuses, disposable batteries or to any product which, in Fluke's opinion, has been misused, altered, neglected or damaged by accident or abnormal conditions of operation or handling. Fluke warrants that software will operate substantially in accordance with its functional specifications for 90 days and that it has been properly recorded on non-defective media. Fluke does not warrant that software will be error free or operate without interruption.

Fluke authorized resellers shall extend this warranty on new and unused products to end-user customers only but have no authority to extend a greater or different warranty on behalf of Fluke. Warranty support is available if product is purchased through a Fluke authorized sales outlet or Buyer has paid the applicable international price. Fluke reserves the right to invoice Buyer for importation costs of repair/replacement parts when product purchased in one country is submitted for repair in another country.

Fluke's warranty obligation is limited, at Fluke's option, to refund of the purchase price, free of charge repair, or replacement of a defective product which is returned to a Fluke authorized service center within the warranty period.

To obtain warranty service, contact your nearest Fluke authorized service center or send the product, with a description of the difficulty, postage and insurance prepaid (FOB Destination), to the nearest Fluke authorized service center. Fluke assumes no risk for damage in transit. Following warranty repair, the product will be returned to Buyer, transportation prepaid (FOB Destination). If Fluke determines that the failure was caused by misuse, alteration, accident or abnormal condition of operation or handling, Fluke will provide an estimate of repair costs and obtain authorization before commencing the work. Following repair, the product will be returned to the Buyer transportation prepaid and the Buyer will be billed for the repair and return transportation charges (FOB Shipping Point).

THIS WARRANTY IS BUYER'S SOLE AND EXCLUSIVE REMEDY AND IS IN LIEU OF ALL OTHER WARRANTIES, EXPRESS OR IMPLIED, INCLUDING BUT NOT LIMITED TO ANY IMPLIED WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE. FLUKE SHALL NOT BE LIABLE FOR ANY SPECIAL, INDIRECT, INCIDENTAL OR CONSEQUENTIAL DAMAGES OR LOSSES, INCLUDING LOSS OF DATA, WHETHER ARISING FROM BREACH OF WARRANTY OR BASED ON CONTRACT, TORT, RELIANCE OR ANY OTHER THEORY.

Since some countries or states do not allow limitation of the term of an implied warranty, or exclusion or limitation of incidental or consequential damages, the limitations and exclusions of this warranty may not apply to every buyer. If any provision of this Warranty is held invalid or unenforceable by a court of competent jurisdiction, such holding will not affect the validity or enforceability of any other provision.

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