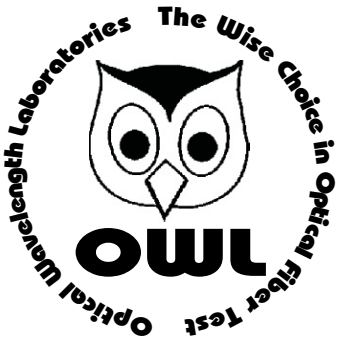
PCVFL
Operations Guide
Precision Coupled Visual Fault Locator



Optical Wavelength Laboratories

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FIGURES

1.0 GENERAL

Thank you for your purchase of an Optical Wavelength Labs (OWL) Precision Coupled Visual Fault Locator.

This manual describes the operation of OWL's Precison Coupled Visual Fault Locator (PCVFL). This product is designed to precision-couple high-intensity red laser light into optical fibers for two purposes: visual fault location and visual fiber identification. The PCVFL offers two output modes: continuous wave (CW) and flash mode.

Each PCVFL comes with a protective rubber boot, CD-ROM based operations manual, and a 9-volt battery.

Typical uses include telecommunications networks, data networks, cable television, and industrial equipment control.

2.0 FUNCTIONAL DESCRIPTIONS

Figure 1 - Precision Coupled Visual Fault Locator (PCVFL)

1. Visible Laser Transmitter - This port houses a laser diode that emits visible light into optical fibers, either continuously or intermittently (flashing), depending upon the mode selected.

2. Mode Selector Switch - This 3-way switch selects between OFF (center), visual fault location mode (left), and visual fiber identification mode (right).

3. Output Mode LED - This LED indicates that the tester is emitting red laser light, either intermittently or continuously. Caution should be taken when this LED is lit.

NOTE: During normal operation, if the Output LED (3) is not lit, this indicates that the battery has insufficient power, and must be replaced.

3.0 APPLICATIONS

3.1 PRECAUTIONS

3.1.1 Safety - Exercise caution when working with optical equipment. The PCVFL contains a bright-red laser source, which outputs high energy light that is potentially dangerous, and can cause serious, irreparable damage to the eye. Thus, it is recommended to **NEVER** look into the connector port of a light source or the end of a fiber.

3.1.2 Operational - It is important to clean ferrules containing optical fibers and optical connector ports. If dirt, dust, and oil is allowed to build up inside connector ports, this may scratch the surface of the laser diode. Replace dust caps after each use.

3.1.3 Connector - do NOT insert APC (Angled Physical Contact) connectors into the optical ports on the PCVFL as this may damage the light source inside the ports.

3.2 REQUIRED ACCESSORIES

3.2.1 Cleaning Supplies - It is recommended to clean fiber ferrules before each insertion with 99% or better isopropyl alcohol and a lint free cloth. A can of compressed air should be available to dry off the connector after wiping, and to blow out dust from bulkheads.

3.2.2 Patch Cords - Patch cords may be needed to connect the PCVFL to the system under test. The connector styles on the patch cord must match the type on the PCVFL and the type of the system under test.

3.2.3 Optical Fiber Adapters - Optical fiber adapters are used to connect two connectorized fibers together, and may be necessary to adapt your patch cords to the system under test.

3.3 APPLICATIONS

3.3.1 Visual Fiber Identification - The PCVFL provides a FLASH mode for easy visual fiber identification. Fibers are identified by locating the fiber end with the flashing red light on the opposite end of the fiber cable. This is useful for locating fibers that are marked incorrectly or not marked at all.

3.3.2 Visual Fault Location - In Continuous Wave Mode, a steady beam of ultra-bright red laser light is injected into the fiber. If this light encounters breaks, microbends, or manufacturing anomalies in the fiber, the light will be redirected into the buffer. This light will be visible through the fiber jacket, informing the user of a break or microbend in the fiber.

4.0 MAINTENANCE / CALIBRATION

4.0.1 Repair of this unit by unauthorized personnel is prohibited, and will void any warranty associated with the unit.

4.0.2 The battery compartment is covered by a sliding plate on the back of the unit. Remove the rubber boot to expose the back of the unit. One 9v battery is required for operation.

4.0.3 For accurate readings, the optical connectors on the PCVFL and the connectors on the patch cords should be cleaned prior to attaching them to each other. Minimize dust and dirt buildup by replacing the dust caps after each use.

5.0 WARRANTY

5.0.1 Optical Wavelength Labs products have a **two-year** factory warranty, which covers manufacturer defect and workmanship only, valid from the date of shipment to the original customer.

5.0.2 Products found to be defective within the warranty will be either repaired or replaced, at the option of Optical Wavelength Labs.

5.0.3 This warranty does not apply to units that have been repaired or altered by anyone other than Optical Wavelength Labs, or have been subjected to misuse, negligence, or accident.

5.0.4 In no way will Optical Wavelength Labs liabilities exceed the original purchase price of the unit.

5.0.5 To return equipment under warranty, please contact Optical Wavelength Labs for a RMA number. To ensure quick turnaround, please include a short description of the problem and a phone number where you can be reached during normal business hours.

6.0 SPECIFICATIONS

Launch Method:	Red Laser
Output Power:	0 dBm
Visual Range:	up to 5 kilometers
Battery Life:	15 hours
Operating Temperature:	0 to 55° C
Storage Temperature:	0 to 75° C
Low Battery Indicator:	Yes
Connector Style:	2.5mm universal port
Dimensions	4.94 x 2.75 x 1.28 in
Weight (with battery)	10 ounces