hand-held optical fiber identifier   **F6222**

Operating Instructions

Introduction

The Wilcom OFI Model F6222 Probe is a rugged, hand-held, easy-to-use maintenance and installation instrument that identifies optical fibers by detecting the optical signals that are transmitted through a singlemode fiber. The F6222 utilizes non-destructive macro-bend detection, which eliminates the need to identify a fiber by opening it at the splice point. Thus, the probability of interrupting service is eliminated.

Signals that the F6222 detect include continuous wave live optical transmission, and low frequency modulated tones at 270, 1000, and 2000 Hz. When the F6222 detects traffic on a fiber being tested, one of two LEDs on the F6222 illuminates to indicate the presence and direction of transmission. The presence of tone is indicated by illumination of one of three LEDs (Figure 1). The relative level of core power within the fiber is also displayed on the two-digit seven-segment LED display. The F6222 also has an easy to use <u>thumb lock</u> feature for hands-free operation.

Figure 1

Operating the F6222

Operation of the F6222 is simple, as outlined in the following steps:

1. Choose an adapter head for the type of fiber to be tested. The F6222 is supplied with three adapters (as shown in Figure 2): (A) *foam-covered*, to accommodate 900 μm buffered fiber; (B) *smooth-surfaced with foam perimeter*, for use with ribbon fiber or a 250 μm coated fiber; and (C) *slotted*, for 3 mm and *optional* 2 mm jacketed fiber (i.e., pigtails and jumpers) or loose tube fiber.

2. Select the appropriate adapter and slide it into the mating slotted channel of the F6222 with slight downward pressure, as shown in Figure 3.

3. Insert the fiber to be tested between the adapter and the top of the clamp (refer to Figure 4). Slide he thumb switch upward and ensure that the fiber is installed properly in the alignment groove.

4. For *hands-free* operation, slide the thumb switch upward and "rock" forward to lock, and the fiber will be held in place (refer to **Figure 4**) "rock" backward to unlock.
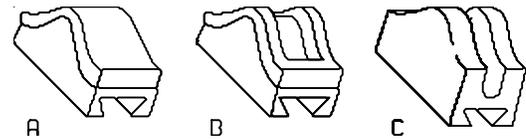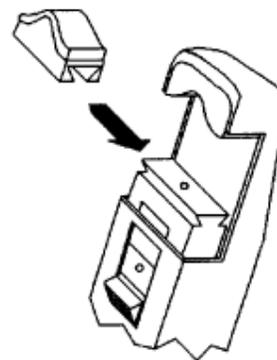

Figure 2

Figure 3

Presence of Traffic. Illumination of either Traffic LED indicates the detection and direction of traffic. This is useful in determining whether the fiber is transmitting or receiving at equipment terminal locations. The F6222 also provides an audible tone alert when traffic is detected.

Test Tone Detection. Illumination of any one of the 2 kHz, 1 kHz, or 270 Hz LEDs indicates that a test tone is being detected, which ensures accurate identification of the fiber that is under test.

The 2 kHz tone can be generated by a source such as *Wilcom Models FS1316 (includes also 1kHz and 270 Hz)*, *FS1317 (includes also 1kHz and 270 Hz), and FS8514A (includes also 1kHz and 270 Hz)*. The F6222 can be used with all three units, as shown in Figure 5. The recommended wavelength is 1550nm for tone identification.

slide the thumb switch upward and "rock" forward to lock, and "rock" backward to unlock

Figure 4

Relative Power Level. The relative core power in the fiber is displayed as a minus dB value between -6 and -40 dBm. The F6222 will operate with core powers greater than 0 dBm. Under these conditions the F6222 displays a "HI" and the Traffic LED indications remain valid. When the core powers are below -40 dB, the F6222 displays a "LO" and the Traffic LED indications are no longer valid. The signal level is below the range of the F6222.

Fiber under test

Figure 5

Self Test. Each time the thumb switch is operated, the F6222 performs a self test. When this occurs all LEDs will illuminate and then after approximately one-half second turn off.

Low Battery Indication. When the battery voltage becomes low, "Lb" is diplayed after the selftest. The unit will continue to operate for some time, but the battery should be replaced with a fresh 9-volt alkaline battery as soon as possible.

Battery Replacement. To replace battery hold probe in hand, and with thumb on *grip,* ≣ slide cover downward. Replace battery. To re-install cover reverse the steps. Gently place cover on probe and align cover keys with probe keyways. Slide cover forward.

Maintenance. It is important that the optical ports remain clean and free of dust, dirt, grease, or other foreign matter. Cleaning with lint-free swabs and isopropyl alcoh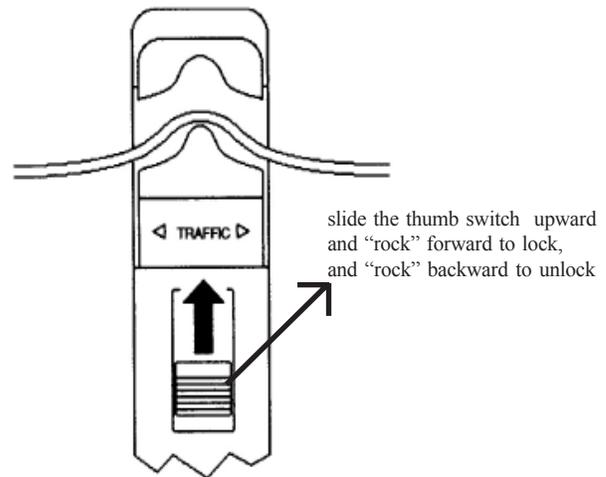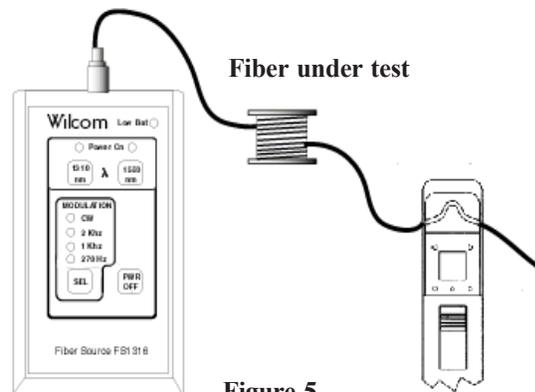ol is recommended for optimum performance.