

## GLFI 110 Users Guide

### General Information and Operation

The GLFI 110 utilizes a macro bend technique to induce a small amount of loss into the fibre. This macro bend will not damage the fibre nor place an excess loss into the fibre should it be an active channel. This macro bend technology has been used very effectively for many years with no reported degradation to the fibre. When the GLFI 110 trigger is fully depressed the loss induced will be typically 0.2dB @ 1310nm and 1.2dB @ 1550nm. It should be noted that the signal measured will be approximately 30 dB less than the actual core value. The optical power coupled into the GRP 400 series power meter is displayed as an absolute (dBm) level provided the GRP 400 is set to display dBm (see GRP 400 users guide). The GLFI 110 is designed to operate on 250 micron coated fibres, 900 micron coated fibres as well as 2mm and 3mm jacketed pigtailed and jumpers. The GLFI 110 is not intended for use on multimode fibre networks.

The GLFI 110 offers the user a unique modular concept to live fibre identification. Prior to operation please ensure that the GRP 400 power meter has the connector adaptor removed. Simply snap the GLFI 110 onto any of the GRP 400 (GRP 450, 455 or 460) series optical power meters until the device bottoms out in the detector head housing (see figure 1). Carefully insert the patch cord or pigtail under test into the slot of the GLFI 110. The fibre under test must be placed such that the fibre is evenly placed along the guides on both ends of the curved detector housing. Next, carefully squeeze the trigger until fully depressed. To remove the GLFI 110 from the power meter hold the GLFI 110 firmly between the thumb and fore finger of one hand and pull the device away from the power meter with the other hand.

### Measurement Results & Determination of Signal Direction

**No signal Indication** – With the fibre placed in the groove and the trigger fully depressed, the GRP 400 power meter will provide an indication of power by displaying an absolute value (dBm). The GRP 400 displays ( -- . -- ) if there is no signal present or the signal is below the measurement range of the power meter (see GRP 400 specifications). This display condition will also be present when the GLFI 110 trigger is fully depressed without a fibre under test. Please note that the GRP 400 power meter will timeout unless the instrument is set into the continuous ON position. Please see the GRP power meter for more information on this feature.

**Active Channel Indication** – The GLFI 110 provides active channel power when the GRP 400 power meter displays a measurement in dBm. Please note that the displayed signal will be approximately 30dB below the actual core power on a typical 3mm yellow jacketed fibre. When the GLFI 110 is used in a PON (Passive Optical Network) the active signal originates from the OLT (line terminal) or ONT (subscriber). Please contact Greenlee for additional information on PON active channel identification and wavelength specific signal detection.

**2 kHz Tone Detection** – The GRP 400 power meter includes a built in 2kHz audible and visual alarm. This 2 kHz tone is generated from a light source capable of modulating the laser at 2 kHz. All single and dual laser sources supplied by Greenlee include this 2 kHz tone feature. This feature allows the user to modulate a 2 kHz signal at either end of the network and look for this signal at any intermediate splice enclosure or patch panel. When the GLFI 110 is fully engaged on a fibre with 2 kHz tone present, the GRP 400 power meter will provide audible and visual indication.

**Determination of Signal Direction** – To confirm signal direction, reverse the patch cord in the GLFI 110 and observe the next measurement on the GRP 400. Signal direction is confirmed when the higher power measurement is as shown in Figure 1. Using Figure 1 as an example, the signal direction is shown to be traveling into the GRP 400. If the fibre patchcord were reversed the measurement on the GRP 400 would read approximately 4-6dB.



Figure 1

### Customer Support, Maintenance & Warranty

The GLFI 110 contains no serviceable parts. For application support, repair or warranty questions please contact Greenlee Communications Ltd, Tel: +44(0)1633 627710, Email: [emeasales@greenlee.textron.com](mailto:emeasales@greenlee.textron.com)