LIVE FIBER IDENTIFIER/
TONE GENERATOR

LFD-300/TG-300

FiberFinder

NETWORK TESTING–OPTICAL

A triple test tool–live fiber identifier, live fiber detector, dark fiber identifier–for truly efficient fiber management

- Pinpoints a specific live fiber using EXFO's FiberFinder™ functionality
- Induces minimal loss: ≤ 1 dB
- Locates a particular dark fiber using tone recognition (270 Hz, 1 kHz, 2 kHz)

FiberFinder™

EXFO

EXPERTISE REACHING OUT

Pinpointing Live and Dark Fibers: Guesswork Ends Here

Performing network upgrade or optical testing requires a fiber to be disconnected. This is often easier said than done, since finding the right connection can be tricky, namely because of fiber mislabeling or poor record keeping. While the dark fiber can be identified using a tone generator (270 Hz, 1 kHz, 2 kHz), the live fiber identification technique often involves one technician pulling one end of the patchcord, with another technician trying to identify which patchcord is moving at the other end–a process that translates into long delays and can result in unnecessary service disruption.

Combined with the TG-300 Tone Generator, the innovative LFD-300 FiberFinder™ Live Fiber Indentifier* enables technicians to identify a specific live fiber without having to disconnect it and, above all, without having to guess.

This brings key benefits:

- No more network outages as a result of fiber detection/identification procedures
- The minimized need to access the network helps prevent errors

EXFO's LFD-300 FiberFinder: A Uniquely Designed Live Fiber Identifier

For major singlemode fibers, insertion loss is a function of the bending angle (see figure 1). Although the angles differ, the behavior remains the same.

The LFD-300 FiberFinder brings a unique approach: the power loss is monitored as the angle is changed. Therefore, the angle is automatically optimized for each fiber type and each singlemode wavelength. This results in clear-cut advantages:

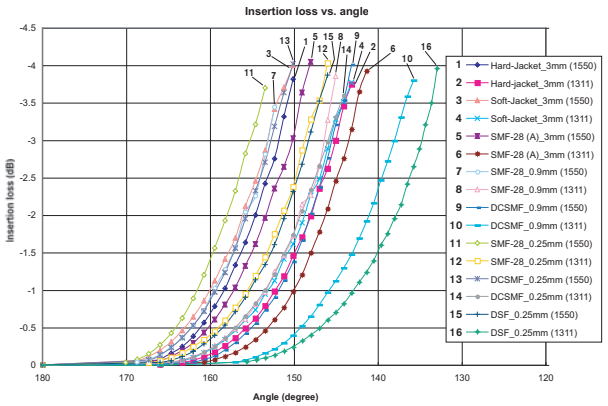


Figure 1: By monitoring the loss, the LFD-300 can stop bending the fiber when sufficient light is ejected and thus control the loss.

- Maximum loss of 1 dB guaranteed for most singlemode telecom fibers (most jacket types) and any wavelength
- No damage to the fiber: bending is always minimal, and the fiber is released when no power is detected
- Traffic detection and direction identification**
- In-line, non-disruptive power estimation**
- Safe to be used in long-haul applications and on high-payload fibers–contrary to traditional live fiber detectors
- Optimized for 900 µm, 1.6 mm and 3 mm jackets; no need to replace the headpiece

Ambient Light Offset

EXFO's LFD-300 performs an ambient light offset prior to fiber bending, which makes it less sensitive to ambient light. A push-down cap can also be placed on the head-end to block intense ambient light.

* *Technology and applications protected by PCT published patent appl. WO/2006/092051, US patent no. 7,283,688, and associated national entries in several countries.*

** *Properties of the jacket may affect the reading (e.g., color and thickness)*

Industry First: the FiberFinder Functionality

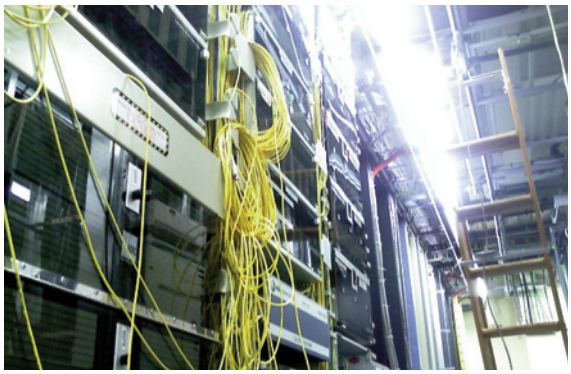
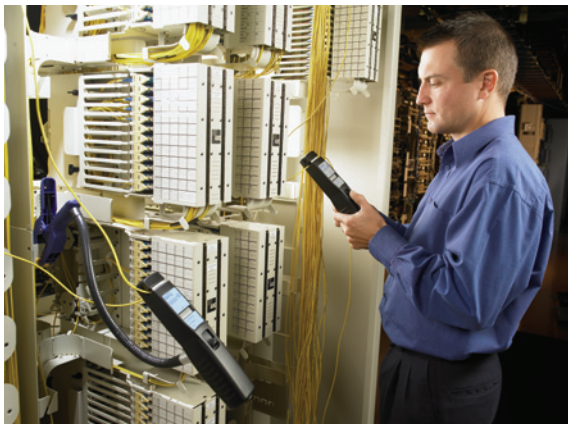


Figure 2: Pinpointing a specific live fiber can be puzzling without the right tool.



EXFO offers a flexible clip-on arm to enable single-person use of the LFD-300 and TG-300 combo.

For detecting dark/live fibers or identifying a particular dark fiber using a pulse light (270 Hz, 1 kHz, 2 kHz), traditional LFD functionnalities do the trick. However, they cannot pinpoint a specific live fiber–especially with doubtful labeling and poor record-keeping–and help you ensure you disconnect the right one.

In addition, disconnecting the wrong fiber causes downtime, a costly consequence that can easily be avoided. For instance, at US$10,000 per hour and per wavelength, downtime can cost up to US$160,000 per hour for a 16-channel 10 Gbit/s WDM system.

Combined with the TG-300, a non-intrusive, non-disruptive clip-on signature generator that is based on FiberFinder technology, EXFO's LFD-300 addresses this need with guaranteed low loss. Installed at the transmitter site, the TG-300 adds a typical 0.25 dB signature to the live signal by applying a soft low-frequency modulation pressure to the fiber. This signature is then detected at the other end by the LFD-300, in mere seconds.

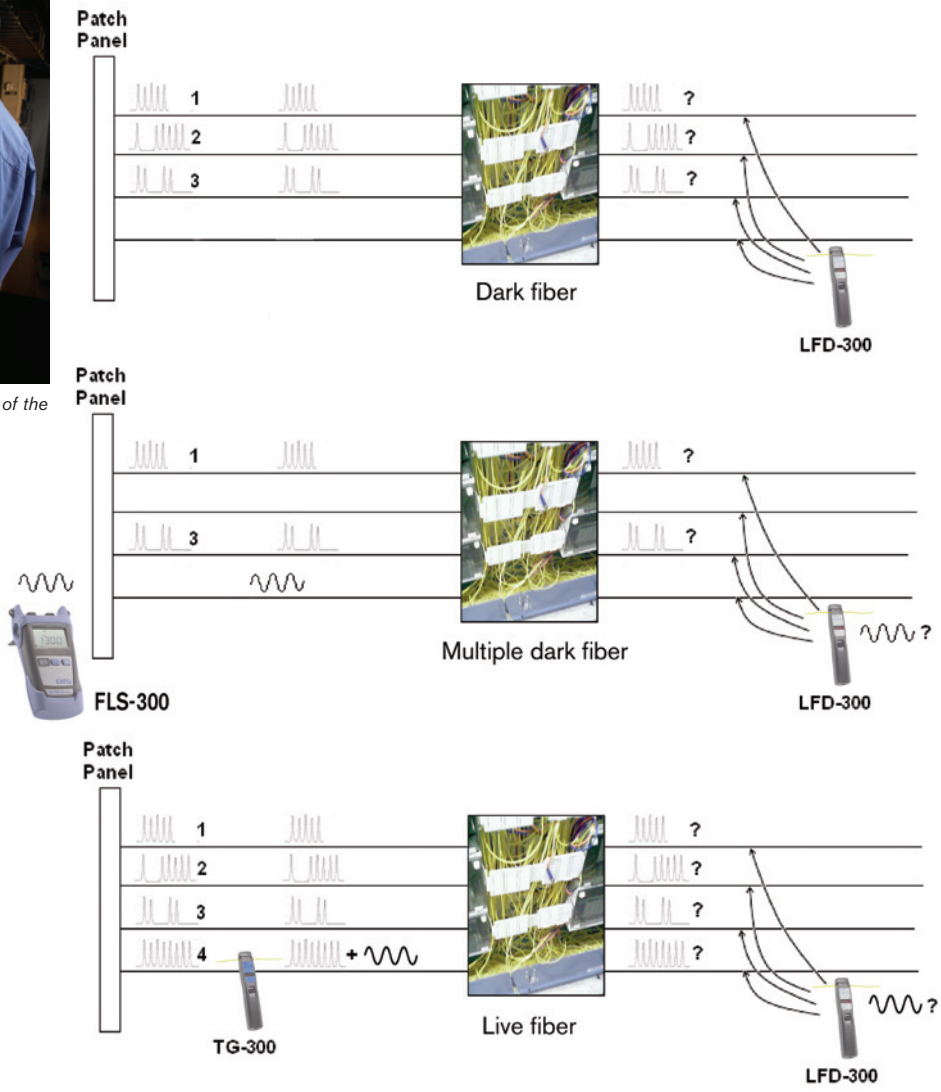


Figure 3: Impossible until now, locating a specific live fiber is now an easy task with the FiberFinder.

SPECIFICATIONS [a]

Fiber type		3 mm, 1.6 mm, 900 µm
Insertion loss (dB) [b]	Maximum guaranteed	1
	1550 nm	0.5
	1310 nm	0.3
Power range (dBm)		25 to –35
Power measurement repeatability [b] (dB)		±1
Test time (s)		<20

GENERAL SPECIFICATIONS

Size (H x W x D)		245 mm x 45 mm x 55 mm	(9 5/8 in x 1 3/4 in x 2 1/4 in)
Weight (without batteries)		0.35 kg	(0.8 lb)
Temperature [c]	operating	0 °C to 50 °C	(32 °F to 122 °F)
	storage	–40 °C to 70 °C	(–40 °F to 158 °F)
Relative humidity		0 % to 93 % non-condensing	

Notes:

a. All specifications are typical and valid from 18 °C to 28 °C and at 1550 nm unless otherwise specified. Coating/jacket color and mechanical properties may alter the specifications. For G.652 fiber type. Specifications may vary with other fiber types.

b. With power in fiber greater than –25 dBm.

c. At temperatures below 15 °C, jacket hardening may prevent adequate bending. Hand-warming the fiber may be required to soften it.

ORDERING INFORMATION

LFD-300

Model
LFD-300

Example: LFD-300

TG-300

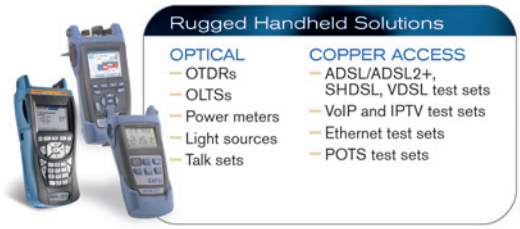
Model
TG-300

Example: TG-300

TK-FF

Model
TK-FF = FiberFinder kit, including one TG-300, one LFD-300 and a soft carrying bag.

Example: TK-FF



Rugged Handheld Solutions

OPTICAL
- OTDRs
- OLTSs
- Power meters
- Light sources
- Talk sets

COPPER ACCESS
- ADSL/ADSL2+, SHDSL, VDSL test sets
- VoIP and IPTV test sets
- Ethernet test sets
- POTS test sets

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- OLTSs
- ORL meters
- Variable attenuators

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- PMD analyzers
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- T1/T3, E1 testers
- 10/100 Mbit/s and Gigabit Ethernet testers
- Fibre Channel testers
- 10 Gigabit Ethernet testers

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