

## F3X Fiber Fault Finder Gun

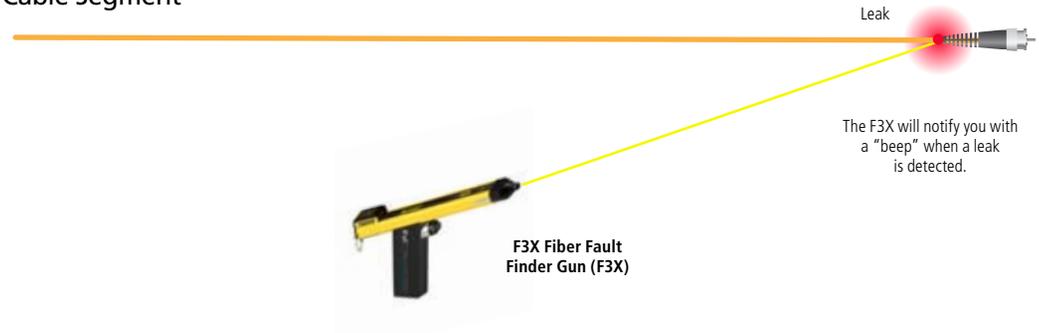
Be a fiber spy. Point and shoot to detect leaks in your network.



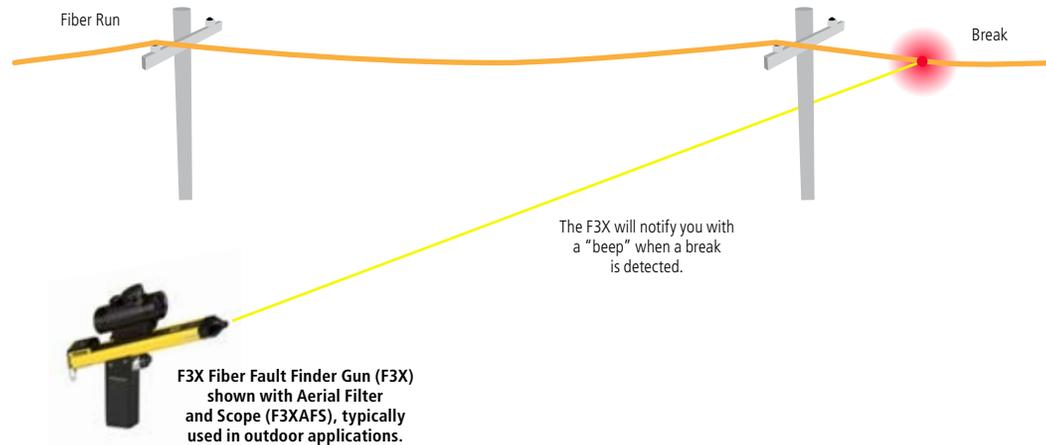
## FEATURES

- » Just point and shoot to identify fiber, detect leaks, breaks, bad splices, bends, and connector loss in fiber cable up to 300 kilometers away.
- » Pinpoint faults to within inches.
- » Use in premise and outdoor applications—even in bright daylight.
- » Identify aerial breaks and leaks from the ground.
- » Locate signals through bulkheads, patch panels, even dust caps.
- » See faults and breaks in dark blue, green, and black coated fibers.
- » Works where VFLs do not, even in OTDR dead zones.
- » Gives an audio/visual fault indication.

## Fiber Cable Segment



## Outdoor Application



## Typical Applications



*The F3X is so sensitive and versatile you can use it in bright daylight to detect faults. No need to wait until dark or to block out ambient light.*



*Outfit your F3X Fiber Fault Finder Gun with an Aerial Filter and Scope, and all you need to do to detect leaks in overhead fiber is point and shoot.*



F3X



F3XLS1



F3XLS2

## OVERVIEW

Suspect your fiber network is compromised? Do some fiber espionage with the F3X Fiber Fault Finder Gun. Use this infrared light detection probe to gather the intelligence you need to ID leaks, breaks, bends, and faults in your fiber network.

You'll save hours of time in troubleshooting and hours in network downtime, saving your organization tens of thousands of dollars in lost productivity. With this new patent-pending technology, you'll be able to pinpoint faults in your fiber network to within inches.

### Point and shoot.

To find leaks, just point your F3X Gun at your fiber cable run and squeeze the trigger. Then sweep it over the fiber. Get ready to be amazed. The F3X can actually see light emanating from any faults, breaks, and bends in the cable. It works in bright daylight, too, eliminating the need to turn off the lights or wait until nightfall to work on outdoor cable.

In the closet, you'll be able to uncover hard-to-find light loss points in connectors mated in bulkhead adapters, patch panels, boots, fanouts, even some dust caps.

With the F3X Fiber Fault Finder Gun, you'll find problems that you previously were unable to diagnose with traditional methods. It offers far more functionality than a visible laser light source. Plus you can use it in OTDR dead zones and in splice enclosures where it's critical to pinpoint the exact location of faults. Once the gun detects a light loss point, it gives you an audio/visual fault indication.

The F3X is great for troubleshooting all fiber networks. But it's particularly beneficial for mission-critical and secure fiber networks, such as in government, military, education, healthcare, finance, etc.

### Highly sensitive to signals.

The F3X is so sensitive, it will pick up light signals other fault finders can't—saving you a bundle of time. Use it to pinpoint faults through most jacket types and colors. It will even uncover leaks in fibers with dark blue, green, and black buffer coatings.

The F3X can also identify damaged splices through the splice jacket. And it can pick up signals from bends several times more gentle than those induced by many fiber identifiers.

The F3X can also help you locate inefficient and poorly mated connectors, bad splices, and much, much more.

### Upper-level leaks.

Think you have a leak or fault in an overhead fiber line? Before you pull out the ladder, pull out the F3X.

Add the optional **F3X Aerial Filter and Scope (F3XAFS)** for aerial operations inside and out, and you have everything you need to quickly find leaks in overhead lines. What was once impossible is now possible. All you need to do is point and shoot.

The filter, scope, and gun can detect cable damage from excessive bends, rodents, and even shotgun pellets from more than 100 feet away. Best of all, they work in sunshine and bright indoor light, including industrial bays with high ceilings. There's no need to wait until dark or to turn the lights out. The F3X will find the leak.

### Surveillance operations.

The F3X is so versatile, you can use it to do the following:

#### Raw fiber identification

(End and side access. Long and short distances.) Find fiber in a bundle when you have access to the fiber ends.

#### Connector panel port identification

(Short and long distances.) Find a port in a patch panel by scanning the face of the box. You don't need internal access, clamping devices, or bare fiber adapters.

#### Bent and broken fiber leak detection

Locate bends and fractures in bright indoor and outdoor light without the need to block ambient light. Because of its infrared operation, the gun works with many blue, green, and black buffer coatings that can block visible red laser light.

#### Connector end-face splatter detection

Probe connectors from the side and ID damaged end-faces by the light that is splattered—without using a microscope.

#### Ceramic ferrule fractures or misalignments

Probe connectors from the side to detect sub-surface fractures inside the ferrule. This is particularly useful with anaerobic adhesive connectors.

#### Three MOs.

Use the F3X in three modes of operation:

**1. Raw infrared light detection.** Detect infrared light including traffic, tracer signals, and CW light. This enables you to locate severe bends and breaks in lightly colored fibers.

**2. 2-kHz remote tracer source light detection.** Examine ports, fibers, splices, or connectors for the presence of a 2-kHz modulated signal. Any light between 1000–1700 nm will be detected. This method also enables you to ID light at uncovered ports up to 300 kilometers away or to locate severe bends and breaks in most 250- or 900- $\mu$ m buffered fibers.

**3. Local tracer source detection.** In this mode, the F3X Gun senses light from its own internal source at the rear of the unit. This is the most sensitive mode of operation. Use it to detect breaks in nearly all 250- and 900- $\mu$ m fibers, usually at the ends of a cable at the ports, splices, and connectors.



The F3X Fiber Fault Finder Gun is all you need to find leaks in fiber cable up to 300 kilometers away. F3X shown with High-Power Light Source (F3XSL2) and Aerial Filter and Scope (F3XAFS).

### Customize your F3X Gun.

The F3X system consists of the Fiber Fault Finder Gun and multiple light sources and filters that are sold separately. This way, you can build the kit you want based on your fiber network. Choose from the following:

#### Light sources

Use the medium-powered **Light Source 1 (F3XLS1)** for local operations. Choose the high-powered **Light Source 2 (F3XLS2)** for long-distance applications up to 300 kilometers (186.4 mi.).

Both light sources feature 1550-nm operation and a standard 2-kHz modulation used by the gun and most fiber identifiers. (The sources do not operate in continuous wave [CW] mode.) They're powered by either four AA alkaline batteries or an AC wall pack with four AA NiMH cells. The wall pack and four NiMH cells are included.

#### Filters

The filters come in specific wavelengths, so you can choose the one that's right for your application. The **Standard Filter (F3X-STD)** works with all fiber wavelengths from **1280-nm–1680-nm**. Or you can choose filters specifically for **1310-nm**, **1490-nm**, or **1550-nm** wavelengths (**F3XF-1310-nm**, **F3XF-1490-nm**, **F3XF-1500-nm**).

For aerial operations, choose the **Aerial Filter and Scope (F3XAFS)**.

### TECH SPECS

#### F3X, F3XLS1–F3XLS2:

**Bandwidth** — 5 nm

**Emitter** — Laser

**Modulation** — F3X: 500 Hz;

F3XLS1–F3XLS2: 2 kHz

**Stability** — F3X: 0.20 dB/8 hrs.;

F3XLS1–F3XLS2: 0.10 dB/8 hrs.

**Spectral BW (Typical)** — 5 nM

**Temperature** — Operating: +23 to +113° F (-5 to +45° C);

Storage: +14 to +140° F (-10 to +60° C)

**Wavelength** — 1550 nm

**Power Output** — F3XLS1: -3 dBm;

F3XLS2: +5 dBm

**Power Input** — Operating: F3X: (1) 9-V alkaline battery;

F3XLS1–F3XLS2: (4) AA NiMH batteries (included) or (4) AA alkaline batteries

## Technically Speaking

### F3X Fiber Fault Finder Gun hits the target.

A large manufacturing company was experiencing network problems between two buildings on its campus. Users were complaining of slow connection speeds and intermittent network failures. Critical business functions were suffering.

The company spent considerable time troubleshooting the network equipment but found no problems. It turned out the fault was with the fiber link between the buildings.

#### No waiting

The fiber linking the two buildings was an aerial run that spanned more than 300 meters (984 feet).

Using the F3X Fiber Fault Finder Gun with the aerial filter and scope accessory, cable technicians were able to immediately begin

searching for the problem from the ground in broad daylight, eliminating the added expense and delay of renting a lift truck and driver, or waiting for nightfall.

#### Point and shoot

The technicians pointed the F3X at the fiber cable run and squeezed the trigger. Sweeping the F3X over the fiber, they quickly discovered a light leak just outside one of the buildings, where the fiber was entering. The fiber had been rubbing against the edge of a conduit. Over time, the protective jacket of the fiber wore away, exposing the core. The fiber was replaced and care was taken to make sure the same problem didn't happen in the future.



F3XAFS



F3XFSTD



F3XF-1310-NM



F3XF-1490-NM



F3XF-1550-NM

## What's included

### F3X:

- ◆ (1) F3X fiber optic leak detector pistol
- ◆ (1) hard carrying case
- ◆ (1) 9-V battery
- ◆ (1) user's manual

### F3XKIT1:

- ◆ (1) F3X fiber optic leak detector pistol
- ◆ (1) medium power light source
- ◆ (1) hard carrying case

### F3XKIT2:

- ◆ (1) F3X fiber optic leak detector pistol
- ◆ (1) high power light source
- ◆ (1) hard carrying case

### F3XKIT1SCOPE:

- ◆ (1) F3X fiber optic leak detector pistol
- ◆ (1) medium power light source
- ◆ (1) aerial filter and scope
- ◆ (1) hard carrying case

### F3XKIT1SCOPE:

- ◆ (1) F3X fiber optic leak detector pistol
- ◆ (1) high power light source
- ◆ (1) aerial filter and scope
- ◆ (1) hard carrying case

## Item

## Code

### First order the gun...

F3X Fiber Fault Finder Gun	<b>F3X</b>
◆ Includes (1) F3X fiber optic leak detector pistol probe, (1) hard carrying case, (1) 9-V battery, and (1) user's manual.	

### ...next, order a light source...

F3X Laser Light Sources	
1: Medium Power	<b>F3XLS1</b>
2: High Power	<b>F3XLS2</b>

### ...or, order a kit...

F3X Fiber Fault Finder Kits	
with Medium-Power Light Source	<b>F3XKIT1</b>
with High-Power Light Source	<b>F3XKIT2</b>
with Medium-Power Light Source and Aerial Filter and Scope	<b>F3XKIT1SCOPE</b>
with High-Power Light Source and Aerial Filter and Scope	<b>F3XKIT2SCOPE</b>
◆ Each kit also includes (1) F3X fiber optic leak detector pistol probe and (1) hard carrying case.	

### You may also need...

Filters	
1280 nm–1680 nm	<b>F3XFSTD</b>
1310 nm	<b>F3XF-1310NM</b>
1490 nm	<b>F3XF-1490NM</b>
1550 nm	<b>F3XF-1550NM</b>
Aerial Filter and Scope	<b>F3XAFS</b>
Holster	<b>F3XH</b>