



JW FISHERS MFG INC

1953 COUNTY ST.
E. TAUNTON, MA 02718 USA

(508) 822-7330; (800) 822-4744; FAX (508) 880-8949
Email: jwfishers@aol.com WEB: www.jwfishers.com

TECHNICAL DATA SHEET



- LOCATES AND TRACKS CABLES
- DEPTH OF BURIAL CAN BE CALCULATED
- LOCATES FAULTS (BREAKS) IN CABLES
- WORKS ON LAND OR UNDERWATER
- AUDIO AND VISUAL OUTPUT
- SIGNAL INJECTOR FREQUENCIES 25, 50, 60, and 1,024Hz
- RECEIVER PROBE FREQUENCIES 25, 50, 60, and 1,024Hz
- 2 YEAR WARRANTY
- ROV MOUNTED VERSION IS AVAILABLE

CT-1 Cable Tracker

JW Fishers Cable Tracker 1 (CT-1) system was specifically designed to locate and track buried power and communications cables. The system will locate cables buried on land or underwater. The CT-1 will not only locate and track cables, but also identify faults or breaks in a cable. An ROV mounted version of the CT-1 is also available (CT-1R).

The Cable Tracker 1 system consists of the Signal Injector control box and the Cable Tracker Probe. The Signal Injector is attached to an exposed part of the cable on land. A 25 Hz or 1,024 Hz signal is induced into the cable. The operator carries or swims with the Cable Tracker Probe along the length of cable receiving the transmitted signal. Typically the lower frequency 25 Hz signal is initially used to locate the cable as it can be detected from greater distances. Once the approximate location of the cable is determined the 1,024 frequency is used to precisely pinpoint the exact location of the cable. When searching for power cables it is not generally necessary to use the Signal Injector as the Probe can detect the 60 Hz (USA) or 50 Hz (Europe) frequency of an AC voltage line. A switch on the Probe allows the operator to select the frequency.

So effective is the Cable Tracker 1 system at tracking and pinpointing cables that in many cases the cable can be located and tracked in shallow water from a small boat on the surface. The operator places the nose of the probe in the water and sweeps it back and forth until the signal is received. Once the cable is located it can easily be tracked from the surface. If necessary, a diver can be deployed to precisely pinpoint the cable position.

Six internal AA rechargeable batteries power the Probe allowing it to operate for 12 continuous hours. A 120 vac and 12 vdc battery chargers are included with the system. The Signal Injector is powered by 120 vac. A 220/120 voltage converter and 220 volt charger are available for operating from a 220 vac power supply.



FOR UNDERWATER, SHALLOW WATER, OR LAND DETECTION OF CABLES

The CT-1 is constructed of corrosion proof urethane and PVC to give many years of troublefree performance. The modular construction allows for easy field repair should it ever be necessary. The complete system is covered by Fishers TWO YEAR WARRANTY.

SPECIFICATIONS

PERFORMANCE/DESCRIPTIONS:

- Detection (air or water) 15 - 80 feet depending on conditions.
- Input power Probe - six AA rechargeable batteries.
..... Signal Injector - 120 vac.
- Power consumption Probe: 1watt.
..... Signal Injector: 10 to 75 watt.
- Probe depth rating 200 ft.

DIMENSIONS/WEIGHTS:

- Probe 22"L x 4"Dia 9 lbs. (air)
..... 6 oz. (water)
- Signal Injector 13"L x 12"W x 8"D 20 lbs.
- Total Shipping 49"L x 21"D x 11"H 85 lbs.

MATERIALS/COLOR:

- Probe PVC, urethane/Yellow
- Signal Injector urethane/Black

OPTIONS

- Custom frequencies available.
- 220 vac charger for Probe (Europe).
- 220/120 vac voltage converter for Signal Injector.
- 500 and 1,000 foot depth rated versions available.

GENERAL

Cable trackers are devices that track buried cables on land or underwater. There are two parts to the system: a signal injector (signal generator) and a diver held probe (receiver). The signal injector sends out a signal and the diver held probe receives the signal. When the output of the signal injector is connected to a wire (conductor) on the surface, the probe can track the wire along its length even though it is buried. Whether the cable is buried in dirt, sand, under rocks, or coral makes little difference. The distance the probe can pick up a signal from the wire depends on soil conditions, frequency of the signal, and the quality of the instrument. Cable trackers can detect cables at much greater distances than metal detectors. The system will not track pipelines. The conductor (wire) that the signal injector is connected to must be insulated from ground for the system to work.

Signal Injector:

Top quality units have at least two different operator selectable frequencies; a low frequency for long range detecting, and a higher frequency for easy pinpointing of the cable. The output current (power) is also adjustable. This enables the operator to "crank up the power" for deeply buried cables or when it is desirable to track a cable from a boat. Top quality units have crystal controlled oscillators, precise output current regulation (not voltage regulation) of the signal, and are designed to eliminate "electrolysis" of the cable while the system is in use. Fishers Cable Tracker has all of these features.

Diver held Probe:

The probe receives the signal sent out by the signal injector and indicates the strength of the signal on the probe's readout. The probe has a frequency switch which makes it operator selectable to receive the different frequencies sent out by the signal injector. In addition to receiving the frequencies the probe also has indicators showing the strength of the received signal. The closer the probe is to the cable the stronger the received signal. The sensor in the nose of the probe is designed so that it is very sensitive except when the probe is pointing directly at the cable. This is called the null spot. It is this null spot that enables the probe to easily pinpoint the exact location of the cable.

FISHERS CT-1 CABLETRACKER

JW Fishers Cable Tracker 1 (CT-1) is a precision electronics system with a commercial grade Signal Injector and Signal Tracker Probe. Specially designed to locate and track buried cables including power and communications cables, the system locates cables buried on land or underwater. The CT-1 will also identify fault or break points that are exposed to water.

Fishers Signal Injector:

The Signal Injector control box is used to create a constant current electromagnetic field around the cable at 25, 50, 60, or 1,024Hz. The Signal Injector is connected to the shore end of the cable and the Cable Tracker Probe tracks the electromagnetic signal along the length of the cable.



CT-1 SIGNAL INJECTOR

In most cases the 1,024Hz signal is injected because the higher frequency makes precise pinpointing of the cable easier. When maximum detection distance is required the 25Hz signal has greater range. The Signal Injector has a switch to select 25, 50, 60, or 1,024Hz, and a control knob to adjust output power. A low power setting (100 ma) is used for most cables and a higher power (up to 500 ma) is used for hard to find cables. Once the output power level is set, the output current is automatically regulated to give steady Probe readings. The Signal Injector is powered by 120/220 vac.

Fishers Probe:

The Cable Tracker Probe operates on its own internal 9 volt battery pack. The Probe frequency switch can be set at 25, 50, 60, or 1,024Hz to match the signal source. If the cable to be located is a 50/60Hz power cable, it can be tracked underwater without the use of the shore based Signal Injector. However, when tracking power cables on land the 1,024Hz frequency must be used to 50/60 Hz noise in the air. If the cable to be located is a communications cable (no AC power lines), the 1,024Hz frequency is used if the approximate location of the cable is known, or 25Hz if long range sensitivity is needed.



CT-1 CABLETRACKER PROBE

As the probe approaches the buried cable, the signal gets stronger in the earphone and more segments are lighting up on the LED bar graph indicating a stronger signal. When the diver is directly over the cable the signal will suddenly drop to near zero (called the null-spot). If the diver goes past the cable, the signal will jump to full scale again. The cable is easily pinpointed by pointing the Probe directly at the bottom and slowly moving the probe back and forth. The probe will be pointing directly at the cable when the readout goes null.

Depth of burial can be calculated by taking a second reading with the probe held at a 45 degree angle and a second null point obtained. The depth of burial will be the same as the distance between the two null points on the surface.

So effective is the Cable Tracker 1 system for tracking and pinpointing cables, that in many cases the cable can be located and tracked from a small boat on the surface. The operator holds the nose of the Probe in the water and operates it as stated above for the diver. Once the cable is located and tracked from the surface, the diver enters the water and descends to the bottom where the cable is pinpointed.

Features:

- Locates and tracks power and communications cables
- Locates faults (breaks) in cables
- Works on land or underwater
- Audio and LED visual output
- 200 foot depth capability for Probe
- Rechargeable Ni-Cad batteries included (or use six AA batteries)
- 120 vac and 12 vdc chargers included
- Signal Injector included with frequencies 25, 50, 60, and 1,024Hz
- Switchable Receiver Probe frequencies 25, 50, 60, and 1,024Hz
- Leak detection circuitry
- Backed by Fishers 2 year warranty