

*Your excellent helper in cable test!*

# INSTRUCTION MANUAL



*Your excellent helper in cable test!*



NF-816



NF-816L



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## 1. Safety

### WARNING - READ INSTRUCTION MANUALS BEFORE USE

Read & understand this material before operating or servicing this equipment. Failure to understand how to safely operate this tool could result in an accident causing serious injury or death.

The underground wire locator is suitable for use on Un-energized or Low voltage installations only.

At no time should this device be used on utility mains powered devices or cabling connected to the utility mains! If in doubt do not use this device and call in a suitably qualified electrical contractor.

Parts included: 1 x Wire Locator Transmitter, 1 x Wire Locator Receiver, 1 x Premium Durable Case, 1 x Earphones, 1 x Instruction Manuals.

## 2.Function comparision

Description	NF-816	NF-816L
Trace underground cable pipe	√	√
Depth range	50cm	60cm
Max cable length	500m	800m
Working environment	NO/Low voltage	NO/Low voltage
Power supply for transmitter	9V battery	3.7V Lithium battery
Power supply for Receiver	9V battery	3.7V Lithium battery

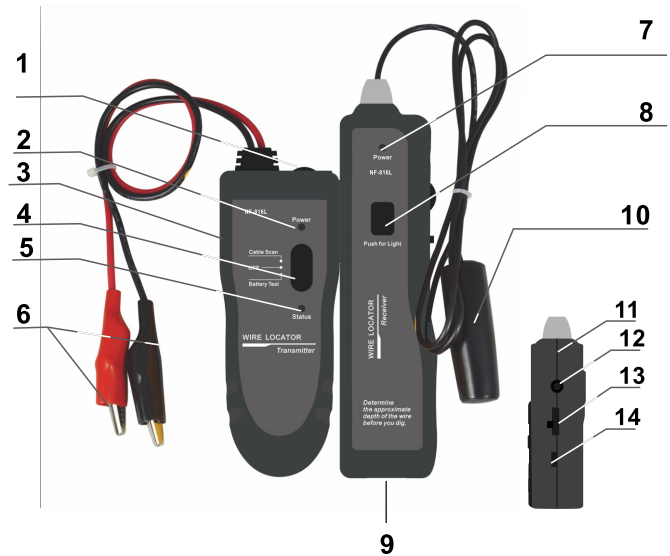
### 3. Glossary

Item No: NF-816



1	Thumb Wheel Switch	7	Push For Lamp
2	Transmitter power indicator	8	Antenna
3	Transmitter Switch	9	LED Flash Light
4	Status LED	10	Earphone Jack
5	Alligator Clips & Leads	11	Thumb Wheel Switch
6	Receiver power indicator	12	ON/OFF Switch

Item No: NF-816L



1	Thumb Wheel Switch	8	Push For Lamp
2	Transmitter power indicator	9	Charging Port
3	Charging Port	10	Antenna
4	Transmitter Switch	11	LED Flash Light
5	Status LED	12	Earphone Jack
6	Alligator Clips & Leads	13	Thumb Wheel Switch
7	Receiver power indicator	14	ON/OFF Switch

#### 4. Specifications

NF-816 Transmitter specification	
Tone frequency	200kHz
The Max length distance	500m (1640 feet)
The Max depth distance	50cm (20 inch)
The Max. working current	Less than 70mA
Max. signal voltage	15Vp-p
Signal display	Tone
Battery type	DC9.0V ( NEDA 1604/6F22) x 1pc
Dimensions (LxWxD)	49 x 135 x 33mm
NF-816 Receiver specification	
Frequency	200kHz
The Max. working current	Less than 70mA
Earphone jack	1
Battery type	DC9.0V ( NEDA 1604/6F22) x 1pc
Dimensions (LxWxD)	43 x 168 x 27mm

NF-816L Transmitter specification	
Tone frequency	200kHz
The Max length distance	800m (2400feet)
The Max depth distance	60cm(24inch)
The Max. working current	Less than 70mA
Max. signal voltage	15Vp-p
Signal display	Tone
Battery type	Lithium battery 3.7V 1100mAh
Dimensions (LxWxD)	49 x 135 x 33mm
NF-816L Receiver specification	
Frequency	200kHz
The Max. working current	Less than 70mA
Earphone jack	1
Battery type	Lithium battery 3.7V 1100mAh
Dimensions (LxWxD)	43 x 168 x 27mm

## 5. Operation & Maintenance

### Introduction

The underground wire locator is designed to allow the user to track low voltage cables used for garden and landscape automatic watering systems, and also low voltage garden lighting systems.

It can also be used to trace other metal cables.

The system uses a “transmitter” to send a signal down the cable being traced or to a solenoid valve that is being located.

A “receiver” is then used to pick up the signal and follow the cable or locate the coil.

### A. Transmitter Connection

To locate a cable follow the following procedure:

- 1) Connect the transmitter to the cable you are looking for. If the cable is connected to an irrigation controller, Disconnect the cable from its normal power source and clip the RED alligator clips from the transmitter onto the cable.
- 2) There are several options for connections of the black alligator.
  - 2.1) to a blade of a screw driver pushed into the ground (preferably wet ground),  
you might require to connect via a short length of cable.
  - 2.2) to the ground wire.
  - 2.3) to Nothing, just let the black alligator clip dangle in the air.
- 3) Move the transmitter switch to the “Cable scan” position.

### B. Tracking Buried Irrigation or Garden Lighting Cables

Once the transmitter is attached to the cable and the ground or common as in “B” above, ensure the transmitter switch is in the “Cable Scan” position and turn the “Thumb Wheel” switch to high tone.

Locate approximately the route of the cables and swing the receiver antenna (8) in a pendulum type action at right angles to the cable path starting at least 3 meters away from the transmitter.

As the receiver antenna swings past the underground cable, a tone will be heard on either side of the cable path, when you are right over the buried wire, you'll get a gradual increase in the tone and hear the loudest sound.

You can adjust the transmitter and receiver controls to move further distances according to your wire depth.

You can also use the ear phones to assist with the detection.

### C. Detecting Cable Break

A cable break will be detected by the loss of signal in the receiver antenna.

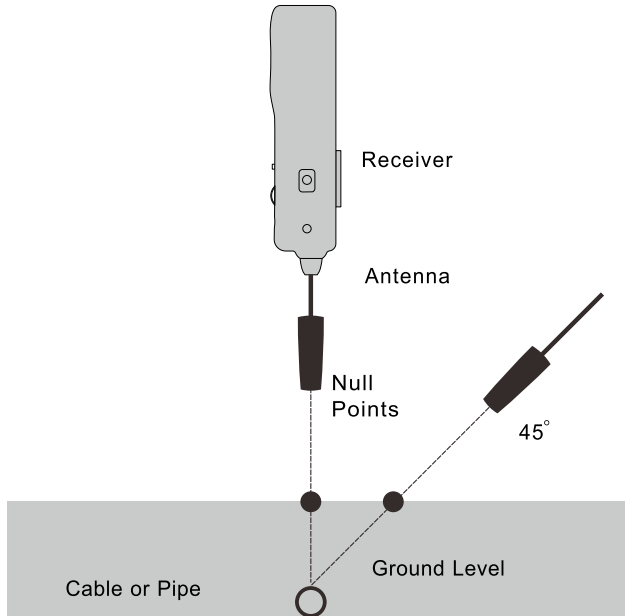
### D. Locating Alarm, Sound & Computer Wires

To locate other wires, it is best to disconnect the wire in question and directly attach only one transmitter lead to the subject wire, letting the other lead hang. Trace the path as outlined in point 'C' (Locating & Tracking Buried Irrigation Wires).

### E. Measuring Depth

Once the path has been determined, mark the ground at a null point along the path.

Hold the Receiver antenna at a 45-degree angle to the ground and move at a right angle away from the path of the wire until another null is found. Mark this point. The distance between the two marks is the approximate depth of the wire. (fig.01)



(Fig.01) Measuring Depth Cable or Pipe

### F. Pinpointing Drill Sites

Setup the Transmitter as described in (Fig.01)

Locate and mark the path of any signal near your drill site. If you have reason to believe that other installations are present near your drill site, use the procedures outlined in section 'C' (Locating & Tracking Buried Irrigation Wires).

The signal generated by the Transmitter can be detected through walls and ceilings, to pin point the transmitter's location (specific point), wrap the alligator clip leads around the Transmitter, short the leads together, turn the transmitter on and secure it to the opposite side of the wall or ceiling with tape. Scan the wall with the antenna flat against the wall. The PEAK signal will be heard when the antenna passes directly over the transmitter location. (Fig.02)

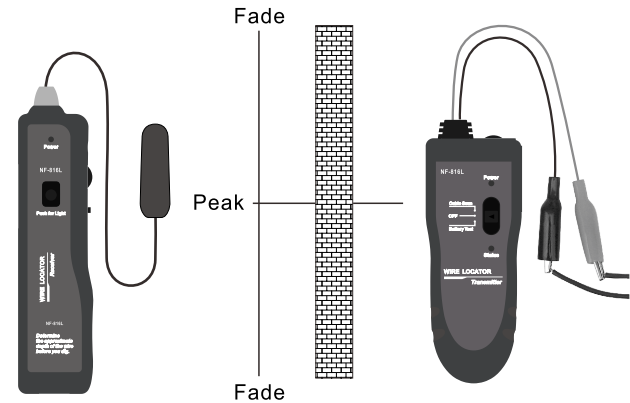


Fig - 02-Pinpointing Drill Sites

### G. External Earphones

The 3.5mm earphones can be connected to the Receiver earphone jack to improve efficiency in a noisy environment. (Fig.03)



Fig • 03

### H. White LED Flash-Light

The user can activate the LED flash-light by pressing the 'Push For Light' button. (Fig.04)



Fig • 04

The only field service required for maintaining proper operation is the periodic replacement of the batteries in the Transmitter and Receiver.

### I. Battery Replacement(only for NF-816)

- 1.Slide off battery compartment cover.
- 2.Replace the 9V battery. Observe polarity.
- 3.Replace cover.

#### 1. Battery Replacement



Before opening the case, remove the test leads from the circuit and shut off the unit. Failure to observe these warnings can result in severe injury or death.

### J. Power Charging for lithium battery (only for NF-816L)

The power supply for transmitter and receiver are both 3.7V Rechargeable battery. When finishing charging, the transmitter can work continuously for over 4hs, receiver can work for 7hs. The rechargeable battery avoids the trouble of replacing 9V battery again and again.

#### NF-816L Transmitter

When charging for the battery, the CHG indicator turns red. If fully charged, the indicator will turn green. When low battery(<3.5V), the light will flash.

#### NF-816L Receiver

When charging for the battery, the CHG indicator turns on. If fully charged, the indicator will be off. When operating the receiver, low battery(<3.5V), the indicator will turn on.

## 2. Cleaning

Periodically wipe with a damp cloth and mild detergent; do not use abrasives or solvents.

## 3. Service

Should you need for any reason to return the tester for repair or replacement take prior agreements with the local distributor from whom you purchased the item. Use only original packaging for any transit of shipment. The manufacturer will not be responsible for any damage to persons or things.

End of life



Caution:

This symbol indicates the equipment and its accessories shall be subject to a separate collection and correct disposal.

## Diagram of Series Products



NF-868



NF-268



NF-8601



NF-806B



NF-811



NF-820



NF-488



NF-300



NF-2100



NF-708



NF-826



NF-911C