

NOYafa[®]

Your excellent helper in cable test!

MODEL:NF-816

INSTRUCTION MANUAL

Underground Wire Locator



**ORIGINAL
AUTHENTIC**

*Patented products,
Counterfeiting not allowed.*



REV1.0

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1. DESCRIPTION

1. The Underground Wire Locator is designed to locate the path of non-energized wires behind walls and underground. NF-816 is also capable of locating a specific circuit breaker, pinpointing wires before drilling and verifying dig sites underground. The effective range is up to 3 feet deep and up to 1000 feet in length.

2. The unit consists of a transmitter, equipped with a thumb wheel switch for turning the unit on and adjusting the output level Push the switch to select to test “Cable Scan”

3. The receiver, is equipped with a thumb wheel switch for turning the unit on and adjusting the receiver gain. The tracking antenna is attached to the receiver with a 3-foot long cable. Also is equipped with a White LED light and an external earphone. The receiver has been designed to filter

4. The alligator clip leads are available to connect the transmitter to electrical wire, CATV coax, telephone drops, irrigation control wires or metallic pipes.

5. This locating system is packaged in a toolkit & box with extra batteries, earphone instruction

Description

- [1] thumb wheel switch
- [2] transmitter power LED
- [3] transmitter switch
- [4] status LED
- [5] alligator clip leads
- [6] Receiver Power LED
- [7] Push To Lamp button
- [8] antenna
- [9] LED Flash Light
- [10] Earphone Jack
- [11] thumb wheel switch
- [12] ON/OFF Switch



NF-816

2. OPERATION

A. Transmitter Connection

To locate non-energized cable, Push transmitter switch to “Cable Scan” . There are two options for connection. You can connect one lead of the transmitter to the cable and the other lead to grounded earth or you can connect one conductor with grounded earth of a non-shielded drop wire. You can also connect two conductors to non-shielded drop wire.

B. Locating & Tracking Buried Wires

To locate buried electrical wires, CATV coax, telephone drops, irrigation control wires or metallic pipes, Push transmitter switch to “Cable Scan” attach one alligator clip lead of the 816T to an independent grounded earth with a grounding stake or screwdriver. Do not connect to common ground such as a metal water pipe or the pedestal ground as they can cause cancellation of the reflected signal or produce false locating signals. The other lead is attached to the cable or metallic pipe in the following manner:

1. Non-energized Electrical Wires: Attach alligator clip lead to wires.
2. CATV Coax: Attach lead to the shield. This avoids signal disruption.
3. Telephone Drops: Attach controller lead to sheath. This avoids signal disruption.
4. Irrigation Controller Wires: Attach lead to common wire or station wire.
5. Gas Pipes with Pilot Wire: Attach lead to pilot wire.
6. Metallic Pipes: Attach lead to pipe.

Once the transmitter is attached to the cable, turn thumb wheel switch to high tone. swing the receiver antenna close to the ground and approximately ten to fifteen feet away from the transmitter location. The tone will be heard on either side of the path with a null (absence of tone) directly over the path. Proceed along the path following the “null”. direction adjust the transmitter and receiver controls to achieve further distances.

C. 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)

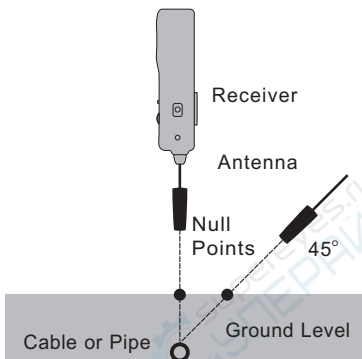


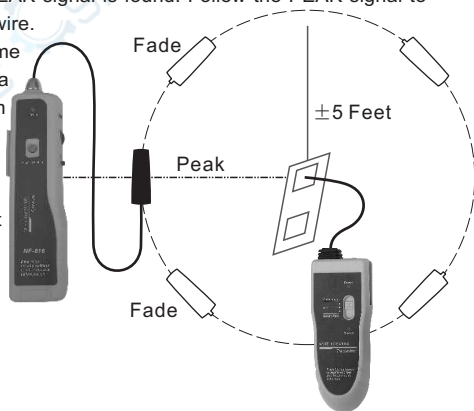
Fig • 01-Measuring Depth

D. Tracking Behind Walls

Hold the receiver in one hand and the antenna in the other. Position the antenna flat against the wall and at a right angle to the wire, approximately five feet away from the transmitter. Gently sweep around the subject area until a PEAK signal is found. Follow the PEAK signal to track the path of the wire.

Peak signal will become weaker as the antenna gets further away from the path of the wire. Adjust the receiver gain first, then if necessary, also adjust the transmitter output for best results.

(Fig.02)



E. Locating Circuit Breakers

(Light Commercial & Residential Applications)

To locate the circuit breaker for a specific outlet, the hookup procedure is the same. Proceed to the breaker box and remove the panel so the wires leading into the breakers are exposed and turn the receiver on the high tone.

NOTE: Due to varying installation techniques, the signal might be strong on more than one wire on the same phase and AC interference or computer data buzz may be present. Scan each breaker wire by pointing the antenna at the wires.

The wire in question will have a distinct NULL (absence of tone) when the antenna tip is on the subject wire with tone on either side. (Fig.03)

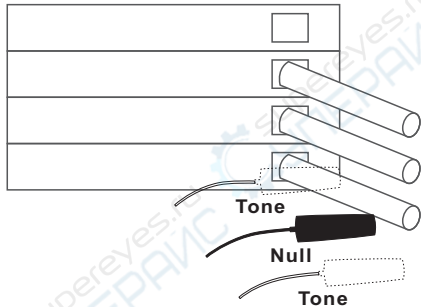
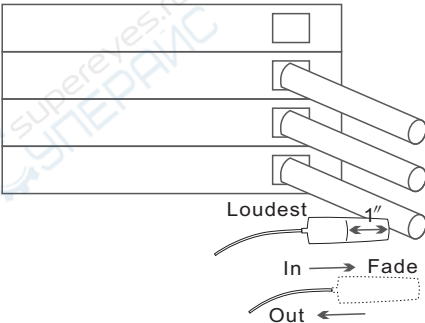


Fig • 03-Locating Circuit Breakers

Check signal strength on each subject wire by sliding the antenna in and out along each side of these wires. The loudest signal will be received



when the wire is approximately one inch from the tip of the antenna. Choose the loudest, clearest conductor and with the antenna still held against the suspect wire, turn the breaker off. The signal will cease, positively identifying that breaker.(Fig.04)

Fig • 04-Locating Circuit Breakers

CAUTION: DO NOT TURN OFF BREAKER IF CONNECTED TO EQUIPMENT THAT CANNOT BE INTERRUPTED.

To identify the phase feeding the breaker in question, scan all phases entering the breaker box.

Tone will be heard along the sides of the phase carrying the signal with a null directly over it. (Fig.05)

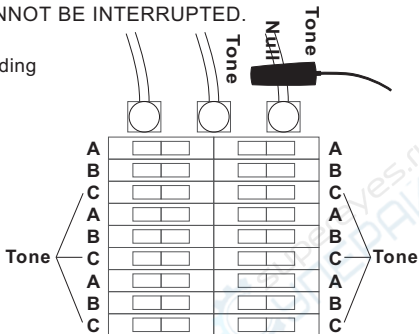


Fig • 05-Identifying The Phase

F. Pinpointing Drill Sites

Set up the 816T as described in Figure 01 and attach to the nearest receptacle. 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 procedures outlined in Section 2C, Locating and Tracking Buried Wires.

The signal generated by the transmitter can be detected through walls and ceilings.

To pinpoint the transmitter's location (specific point), wrap the alligator clip leads around the transmitter, short the leads together, turn 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.06)

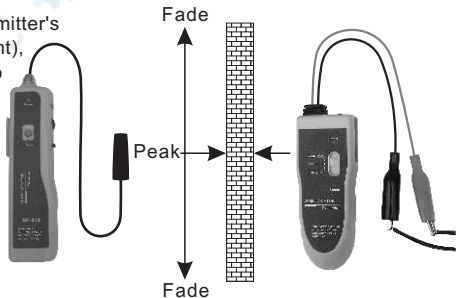


Fig • 06-Pinpointing Drill Sites

G. Determining Which Receptacles are on Specific Circuits

Set up 816T as outlined in Figure 01 and radius adjacent outlets with antenna. You will have a tone at the receptacle/outlet if it is in the circuit. If a clear signal is not received, that outlet is not part of the circuit you are detecting.

H. 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, then trace the part of wire.

I. External Earphone

User can connect a 3.5mm earphone to the Receiver Earphone Jack Under noisy environment to improve the operating efficiency.(Fig.07)



Fig • 07

J. Locating Hidden Receptacles

To locate receptacles that have been covered up by drywall, attach one transmitter lead to the wire at the breaker and let the other lead hang. Scan the walls in the room with the antenna flat against the wall following the path or peak signal. The signal will be lost or fade rapidly once the tone get closer to the end of the wire.

K. White LED Flash Light

User can activate LED flash light if user press the “Push To Lamp” button.(Fig.08)



Fig • 08

3. SPECIFICATIONS

Electrical

Output Voltage (open circuit). 9Vp-p

Output Frequency (nominal):

Carrier. 447.5KHz

Audio Modulation 900Hz

Battery 9 Vdc

Battery Life (nominal)

816T. 35 hrs

816R 20 hrs

Physical

Measurements

816T. 49x135x33 mm (1.93x5.31x1.3")

816R. 43x168x27 mm (1.69x6.61x1.06")

Kit 150x286x52 mm (5.91x11.26x2.05")

Weight

816T. 124 g (4 oz)

816R. 148 g (5 oz)

Kit 0.420 kg (15 oz)

Operating/Storage Conditions

Operating Temperature:

Celsius. -10°C to 50°C

Fahrenheit. 14°F to 122°F

Storage Temperature:

Celsius. -17°C to 75°C

Fahrenheit. 0°F to 167°F

4. MAINTENANCE

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

A. Battery Replacement



WARNING

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.

B. Cleaning

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

C. 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-306



NF-868



NF-8208



NF-268



NF-801B



NF-806R



NF-468L



NF-3468



NF8108-M



NF-388



NF-903



NF-906A



Your excellent helper in cable test!

SHENZHEN NOYafa ELECTRONIC CO.,LTD