

Multifunctional Cable Tester

Users Manual

Read this manual thoroughly before use

INTRODUCTION

This instrument consists of a Net Toner and a Net Probe. It can be used to test the cable connection to an active network and determine the port speed while flashing the corresponding port light on Hub/Switch/NIC so that the port or another end of the tested cable can be located. In addition, it can also be used to verify telephone line polarity or power an inactive telephone line pair for telephone communication. The Net Toner can provide two selectable tones; and by using the Net Toner in conjunction with the Net Probe, you can trace a cable. This instrument can be used in maintenance and troubleshooting of telecom and network system.

Features of the Net Toner:

1. Tests the cable connection to an active network and determine this network's transmission speed:
10Base-T, 100Mbps, 10/100Mbps or 10/100/1000Mbps.
2. Flashes port light on Hub/Switch/NIC for immediate port location.
3. Provides two selectable tones which allow you to trace cable and locate faults.

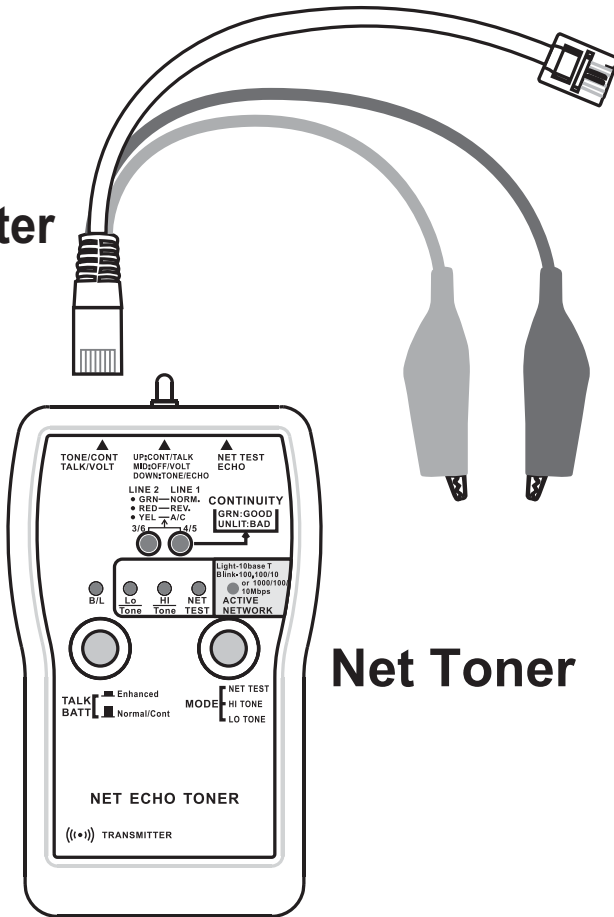
4. Enhanced talk battery power supply to allow communication over inactive line pair, using telephone test sets.
5. A RJ45 adapter is supplied, it has two alligator clips and a RJ11 plug.
6. Tests cable continuity and determines telephone line polarity.
7. Low Battery Indication.

Features of the Net Probe

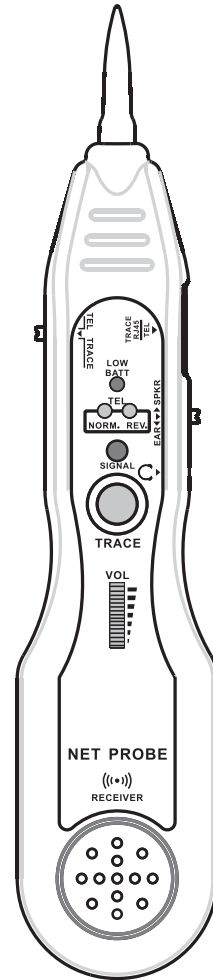
1. Includes an adjustable volume control, a signal LED and an earphone jack for use in different environments.
2. Includes a RJ45 socket and a signal pick-up probe.
3. Determines telephone line polarity
4. Low battery Indication.

IMAGE OF THE INSTRUMENT

RJ45 Adapter



Net Toner



Net Probe

OPERATION INSTRUCTION

Notice Prior to Use

Provided that the Net Toner is placed horizontally with its front panel facing up, its toggle switch can be set in any of the three positions:

Upper Position – " **CONT/TALK** " position

Middle Position – " **OFF/VOLT** " position

Lower Position – " **TONE/ECHO** " position

To turn off the Net Toner, set this switch in the middle position. The above explanation applies throughout this manual.

Verifying Active Network Port/Cable

1. Set the toggle switch of the Net Toner to the " **TONE/ECHO** " position.
2. Connect one end of the cable to be tested to the " **NET TEST ECHO** " socket of the Net Toner.
3. Press the " **MODE** " button of the Net Toner until the yellow " **NET TEST** " LED lights up or flashes.
4. Observe the " **ACTIVE NETWORK** " LED:
 - a. If this LED is dead, the Net Toner has not been (really) connected to the network or the other end of the cable under test is not connected to the network.
 - b. If this LED lights constantly, the port speed is 10Base-T.
 - c. If this LED flashes, the port speed is 10/100Mbps or 10/100/1000Mbps.
5. If the network is an active network, the Net Toner will send out signal to Hub/Switch/NIC automatically causing the corresponding port on the Hub/Switch/NIC

to flash, so the port connected to the cable under test is located.

Note:

If you want to test a NIC, the cable between the Net Toner and the NIC must be a crossover cable.

Sending/Tracing a Tone

1. Set the toggle switch of the Net Toner to the "**TONE/ECHO**" position.
2. If the cable to be tested has RJ45 plug, plug the RJ45 plug directly into the "**TONE/CONT TALK/VOLT**" socket of Net Toner; otherwise connect the supplied RJ45 Adapter to the "**TONE/CONT TALK/VOLT**" socket of the Net Toner, then connect the RJ45 Adapter to the cable to be tested according to the following description:
 - a. For cables terminated at one end, connect the red alligator clip to a wire and the black alligator clip to equipment ground.
 - b. For unterminated cables, connect the red alligator clip to one wire and the black alligator clip to another wire.
 - c. For cables with modular connectors, plug the RJ11 connector directly into the mating cable connector.

3. To select high tone signal, press the "**MODE**" button until the " $\frac{HI}{Tone}$ " LED lights up; or you can press the "**MODE**" button until the " $\frac{Lo}{Tone}$ " LED lights up to select low tone signal.
4. Move the switch at the left side of the Net Probe backwards to the "**TRACE**" position.
5. If you don't use earphone, move the switch at the right side of the Net Probe forwards to the "**SPKR**" position; otherwise, move it backwards to the "**EAR**" position and connect the earphone to the jack beside the switch and then wear the earphone.
6. Press and hold down the Net Probe's "**TRACE**" button, and touch the Net Probe's tip to suspected cable. When the Net Probe tip touches the right cable which is connected to the Net Toner, the tone will be at its loudest. (You can decrease the volume by turning the "**VOL**" knob backwards when the tip gets nearer to the right cable to make it easier to distinguish between cables.)

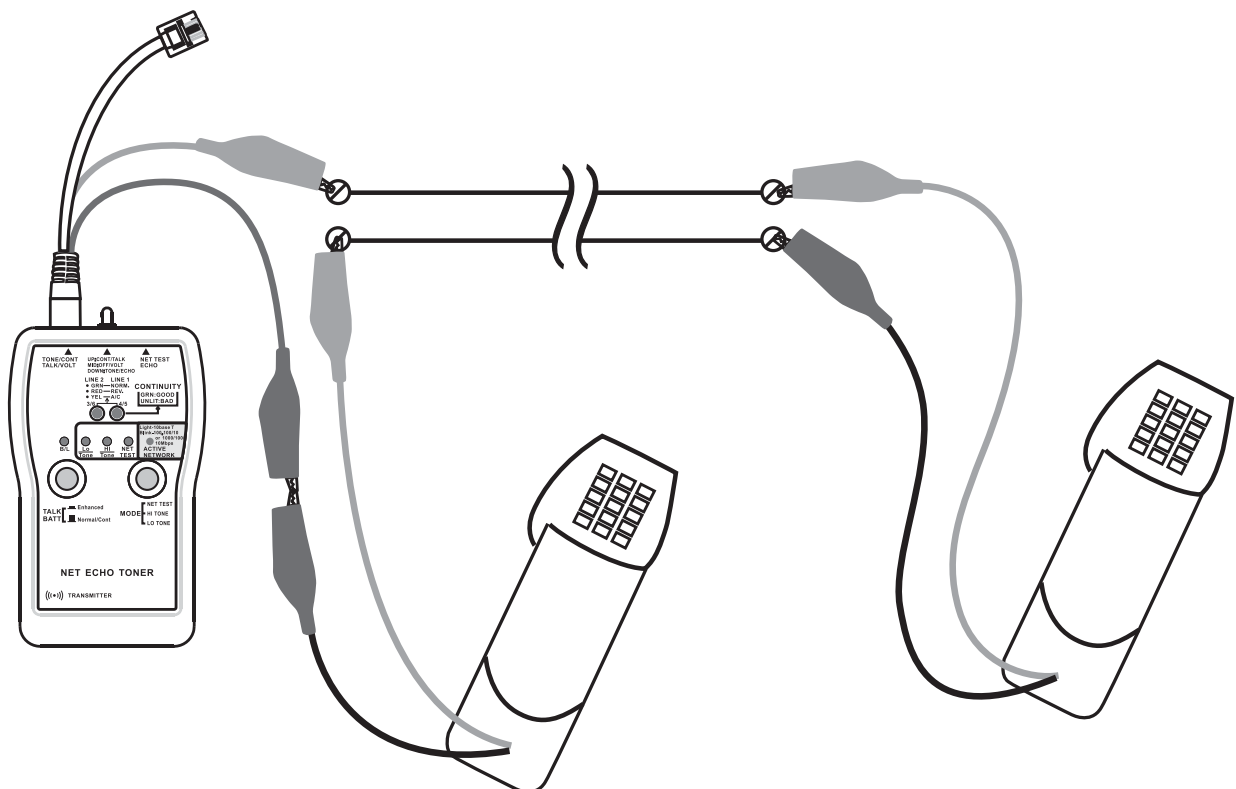
Note:

1. After the switch at the right side of the Net Probe is set to the "**EAR**" position, the Net Probe's built-in speaker will be disabled only after the earphone has been plugged to the earphone jack.
2. Do not connect the Net Toner to any wire or cable with an active circuit of more than 24V ac.

Supplying Talk Power

The Net Toner has a feature that allows users to communicate using telephone test sets, even when a circuit is dead.

1. Connect the RJ45 Adapter to the Net Toner, then connect the Net Toner and telephone test sets in series with the inactive circuit, as illustrated.
2. Set the toggle switch of the Net Toner to the " **CONT/TALK** " position.
3. Set the " **TALK BATT** " button to the " **Enhanced** " (down) position. This provides additional battery power to enable voice communication over the inactive circuit. Now you can communicate using the telephone test sets.



Testing Cable Continuity

Caution: Do not perform continuity test on any live cable or circuit.

1. Set the toggle switch of the Net Toner to the "**CONT/TALK**" position.
2. Make sure that the "**TALK BATT**" button is in "**Normal/Cont**" position.
3. Connect the RJ45 Adapter to the "**TONE/CONT TALK/VOLT**" socket of the Net Toner, then connect the red alligator clip and black alligator clip to the two ends of the cable to be tested.
4. If the "**CONTINUITY**" LED lights up, the path of the cable is complete. High LED brightness indicate a low resistance path, and dim LED indicates a high resistance path.
If the LED does not light up, the cable is in open circuit state.

Polarity Test - Identifying the Tip and Ring

1. Using Net Toner to test polarity

1. Set the toggle switch to the "**OFF/VOLT**" position.
2. Select one of the two following connection methods

according to practical situation:

Method 1: Connect a telephone cable with RJ11 or RJ45 plug into the "**TONE/CONT TALK/VOLT**" socket of the Net Toner.

Method 2: Connect the RJ45 Adapter to the "**TONE/CONT TALK/VOLT**" socket, then connect the black alligator clip to the Tip(+) connection and the red alligator clip to the Ring(-) connection.

3. To check Line 2 polarity, connect RJ11 or RJ45 plug of the telephone cable to the "**TONE/CONT TALK/VOLT**" socket.
4. Depending on the type of line connector, the "**LINE 1**" or "**LINE 2**" LED will light up:
 - Green indicates normal polarity.
 - Red indicates reversed polarity.
 - Yellow (alternately red and green) indicates the presence of ac power or a ringing line.
 - A faint LED indicates a busy or faulty line.

2. Using Net Probe to test polarity

1. Move the switch at the left side of the Net Probe forwards to the "**TEL**" position.
2. Connect the telephone cable to be tested to the RJ45 socket at the right side of the Net Probe, or connect the Tip(+) line to the " – " terminal on the

back of the Net Probe and the Ring(-) line to the "+" terminal.

3. Lighting "**NORM.**" LED indicates normal polarity.
Lighting "**REV.**" LED indicates reversed polarity.

Verifying Telephone Line

1. Set the toggle switch of the Net Toner to the "**OFF/VOLT**" position.
2. Select one of the following three connection methods according to practical situation:
Method 1: Connect a telephone cable with RJ11 or RJ45 plug to the "**TONE/CONT TALK/VOLT**" socket of the Net Toner.
Method 2: Connect the RJ45 Adapter to the "**TONE/CONT TALK/VOLT**" socket, then connect the black alligator clip to the Tip(+) connection and the red alligator clip to the Ring(-) connection.
Method 3: Connect the RJ45 Adapter to the "**TONE/CONT TALK/VOLT**" socket, then connect its RJ11 plug to the wall jack.
3. Dial the line to be verified. If the tester is connected to the correct line, the "**LINE 1**" or "**LINE 2**" LED will light yellow (alternately green and red).

BATTERY REPLACEMENT

When the " **B/L** " LED of the Net Toner lights up, the battery in the Net Toner is low and should be replaced immediately.

When the " **LOW BATT** " LED of the Net Probe lights up, the battery in the Net Probe is low and should be replaced immediately.

To replace the battery of the Net Toner or Net Probe, remove the battery cover at the back of the Net Toner or Net Probe, replaced the exhausted battery with a new one of the same type. Reinstall the battery cover.

Note:

Before replacing the Net Toner's battery, set the toggle switch to the " **OFF/VOLT** " position to turn off the power.

SPECIFICATIONS

Net Toner

Talk Battery: about 9V

Voltage Protection: 50V dc, 24V ac

Battery: 9V battery, 6F22 or equivalent, one piece

Operating Environment: temperature: $-10^{\circ}\text{C} \sim 40^{\circ}\text{C}$
relative humidity: $< 80\%$

Storage Environment: temperature: $-10^{\circ}\text{C} \sim 45^{\circ}\text{C}$
relative humidity: $< 85\%$

Size: 217x45x31mm

Weight: about 125g (including battery)

Net Probe

Battery: 9V battery, 6F22 or equivalent, one piece

Operating Environment: temperature: $-10^{\circ}\text{C} \sim 40^{\circ}\text{C}$
relative humidity: $< 80\%$

Storage Environment: temperature: $-10^{\circ}\text{C} \sim 45^{\circ}\text{C}$
relative humidity: $< 85\%$

Size: 127x74x29mm

weight: about 116g (including battery)

CAUTION

1. Keep the instrument dry and clean.
2. Before opening battery compartment, disconnect the instrument from any circuit under test and ensure that both the Net Toner and Net Probe have been switched off, that is to say, the toggle switch of the Net Toner is in the " **OFF/VOLT** " position and the " **TRACE** " button of the Net Probe is not pressed down.
3. Do not connect the instrument to wires carrying voltage higher than 48V dc or 24V ac or to wire carrying current higher than 80mA; otherwise the instrument may be damaged.

ACCESSORY

RJ45 Adapter: 1 piece

DECLARATION

1. This manual is subject to change without notice.
2. Our company will not take the other responsibilities for any loss.
3. The contents of this manual can not be used as the reason to use the tester for any special application.

DISPOSAL OF THIS ARTICLE

Dear Customer,
If you at some point intend to dispose of this article, then please keep in mind that many of its components consist of valuable materials, which can be recycled.

Please do not discharge it in the garbage bin, but check with your local council for recycling facilities in your area.



