Test-Um Inc.

The Intelligent Test Solutions Company

Part No. TT300

Resi-Tracer™

Tone Detector /Telephone Line Tester

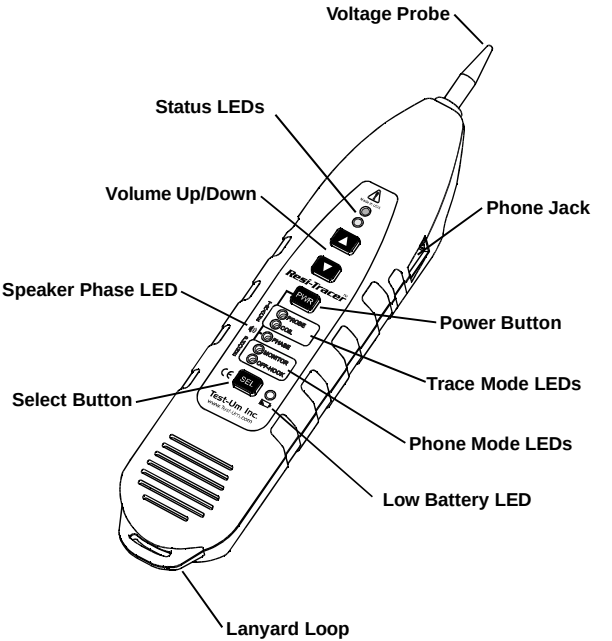
Operating Instructions

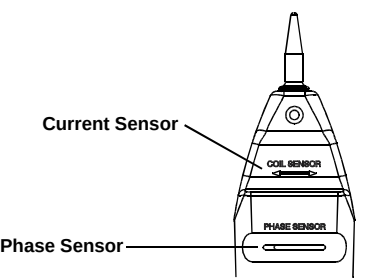
We Make It BEST in the USA

Features

Resi-Tracer is a multi-function signal detector that locates standard generated tone signals as well as dial tone and speaker popping signals. Resi-Tracer also features unique tone tracing capabilities for coax cable systems, both live and dark, and can be used for a number of special field applications.

- Traces CAT 5/6, telephone, coax, and audio cable types
- Audio and visual tone location indicators
- Senses speaker phasing when used with Resi-Toner™ (TG400)
- Traces coax cable on active or unpowered systems
- Telephone line testing with monitor mode
  Built in RJ11 jack supports off-hook listening mode
- Digital volume control
- Low battery indicator
- Auto-off conserves battery life
- Interchangeable round and paddle tip probes
- Lanyard attachment point


Voltage Probe
Status LEDs
Volume Up/Down
Phone Jack
Speaker Phase LED
Power Button
Trace Mode LEDs
Select Button
Phone Mode LEDs
Low Battery LED
Lanyard Loop
Test-Um Inc.
PWR
SEL

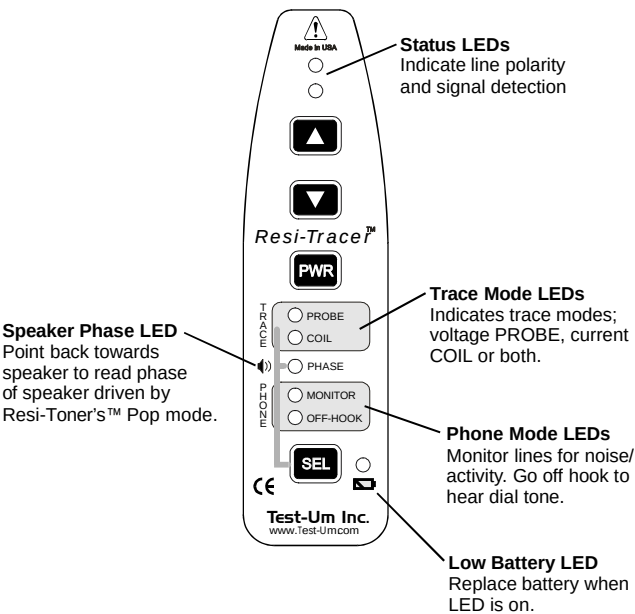

Current Sensor
Phase Sensor
COIL SENSOR
PHASE SENSOR

Bottom View

Mode Specific LEDs

The Status LEDs are mode specific and indicate line polarity and signal detection based on the test mode selected.

Mode	Green	Red
Tone Trace	Tone Detected	Overload
Speaker Phase	Normal Polarity	Reversed Polarity
Phone	Normal Polarity	Reversed Polarity



Function Buttons

Features		Description
PWR	**Power**	Press to power on. Press and Hold to power off. Auto-off in approximately 9 min to prolong battery life. (Phone in 18 min)
▲ ▼	**Volume Up/Down**	Press and hold the up or down arrow button to adjust the volume.
SEL	**Select**	Press and hold the SEL function key to select a mode of operation, Tone Trace, Speaker Phase, or Phone. A short press of the SEL button will toggle to the alternate function within the Tone Tracing or Phone Mode.

Instructions For Use

Tone Tracing Mode

The Resi-Tracer can trace both **Voltage** and **Current** modes of signal generation by using the **Voltage** and/or **Coil** detector modes. Current tone generation is an alternative tone generation method to standard Voltage tone generation, and is used for tracing grounded, shorted, or terminated cables connected to CATV equipment like splitters and taps. It produces a signal that can be picked up using the Coil mode in the Resi-Tracer and can be detected on active coax runs carrying video signals. Standard tone generators produce a voltage tone signal that is picked up on the Voltage probe at the front end of the Resi-Tracer.

In addition to the audible indication of a tone, Resi-Tracer has an LED visual indicator that will light when a tone is detected. To set the visual indication (Detect LED), hold the probe at the distance you want to initially detect the tone up to .5 meters away. Adjust the volume UP until the LED lights up. This will set the sensitivity of the LED indicator.

Unterminated single wires, cables, and coax

Connect a single lead to the conductor to be traced. If tracing coax connect the lead to the shield. Hold the Resi-Tracer probe near the cable to detect the tone. The signal will be louder on the conductor that is attached to the generator. Separating the individual wires within a cable may help in identifying the correct one in a bundle.

Coaxial Cable with earth ground terminations

Coaxial cables that are connected to earth ground along the cable path can be traced using a Turbo-Tone™ Generator (TG200 or TG201) in turbo mode connected between the shield and earth ground. Select the Coil mode to detect current flowing through the shield.

Application Hints:

1. In a bundled cable, to trace individual wires terminated on closely spaced terminal blocks such as 66 or 110 blocks, connect both leads of your tone generator to a wire pair in the cable to localize the signal. This will limit the amount of bleed-over that will occur within the cable. While this will improve the discrimination capability of the probe, you must place the probe closer to the pair ends that the signal is being transmitted through to detect the tone clearly.

2. Because there is very little distance between each wire pair, it is difficult to trace voltage tone. However, connecting one lead of the tone generator to earth ground (electrical box, pc housing, metal pipe, or ground rod) creates distance between the two wires making it easier to trace the signal from the tone generator. If no earth ground connection is available, let the unused lead dangle as near to the earth as possible.

3. **Coil Mode:** A special tone generator that generates a high frequency AM signal is required to trace coax cables through splitters. (See Product Note below.) Resi-Tracer can pick up this signal using the coil sensor on the back of the Resi-Tracer body. If no special tone generator is available, you can maximize the sensitivity of the Resi-Tracer to compensate for a splitter by selecting **both** the Probe and Coil mode on the Resi-Tracer. The amplitude of the audible signal will be less than in the Probe mode only.

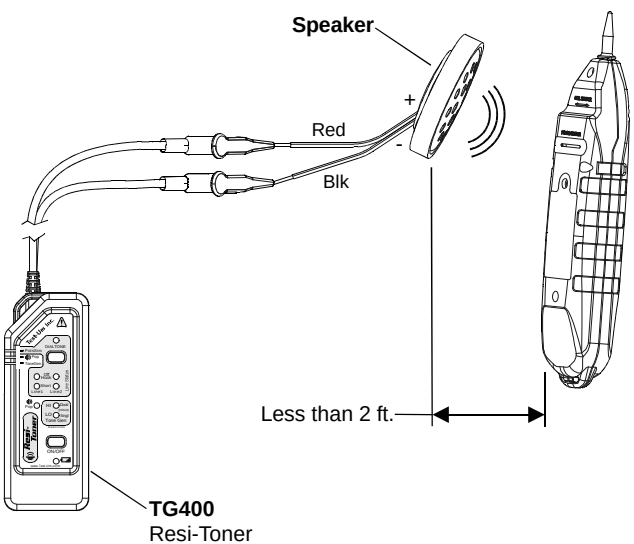
4. To accurately trace a signal on a single cable among many of the same type in a bundle, select the Coil mode which has higher discrimination capabilities. Its noise canceling properties will make it easier to find the pair with the tone signal.

Product Note: Test-Um will introduce a high frequency AM signal generator in late 2005 that will work specifically with the Coil Mode in the Resi-Tracer.

Speaker Phase Testing Mode

To detect speaker phase, set the Resi-Toner™ (TG400) to Speaker Pop mode and connect the red (+) and black (-) leads to the speaker wire pair you want to trace. Use the Resi-Tracer probe to detect the speaker pop. The Phase Sensor on the back of the Resi-Tracer should be held facing the front of the speaker being tested. The back of the Resi-Tracer should be no more than a foot or two (0.5 meters) from the speaker.

Note: If you are using the Resi-Toner to pop AC coupled speakers (such as satellite speakers that have a separate bass enclosure) and the polarity is inconsistent you may need a newer version of the Resi-Toner firmware that supports AC coupled phase detection. Please contact Test-Um's Customer Service department by calling (805) 383-1500 or emailing support@test-um.com.



Phone Line Monitor and Off-Hook Mode

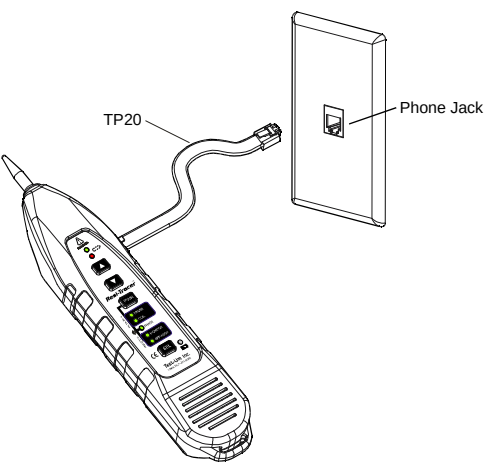
The Resi-Tracer can be used as an analog test set to monitor a telephone connection or go off-hook to check dial tone.

To Monitor a Phone Line

1. Connect the RJ “no fault” jumper cable (TP20) to the phone jack.

2. Press and hold the select (SEL) button until the Monitor LED illuminates. The Resi-Tracer is now in a high impedance listening mode.

3. On a powered line, the line polarity indicator on the front of the unit illuminates green if the polarity is normal and red if the polarity is reversed. When the line is in use, the audio signal can be heard on the speaker.



Note: Leave the TP20 jumper cable connected to the RJ11 Resi-Tracer jack as a sacrificial cable to prolong the life of the phone jack.

To Go Off-Hook

The Resi-Tracer can be used to go off-hook to check dial tone.

1. A short press of the SEL button while in the Phone Mode will toggle the Resi-Tracer to the Off-Hook mode. If the line is active, you should hear dial tone.

2. If the line voltage exceeds 60 volts, the Off-Hook LED will flash rapidly and disable the Off-Hook function until the voltage drops below 60 volts.

3. Once off-hook, if the loop current exceeds 80mA (milliamps), the Resi-Tracer will go on-hook and sample the current level at a low duty cycle until the current drops below 80mA. The Off-Hook LED will flash slowly as long as there is an over-current condition.

Application Hints:

1. The RJ “no fault” jumper cable (TP20) provided with the Resi-Tracer uses a unique colored modular connector that can be plugged into a RJ11 jack or RJ45 jack without damaging either jack. This allows CAT5 output points or phone lines using RJ45 jacks to be accessed without using an adapter.

2. TIP and RING polarity is not critical on modern phones although installers generally use the defined standards. Modular phone cords are defined as reverse-pinned (pin 1 goes to pin 6, etc.). The Resi-Tracer jack is pinned like premise equipment (CPE), which is the opposite of the wall plate, so a standard phone cable will connect TIP to TIP.

Accessories

TT30
Round Tip Probe

TT35
Paddle Tip Probe

TP20
RJ “no fault” jumper cable

Optional Accessories

TG200/TG201
Turbo-Tone™
High Power
Tone Generator

TG400
Resi-Toner™
Tone Generator

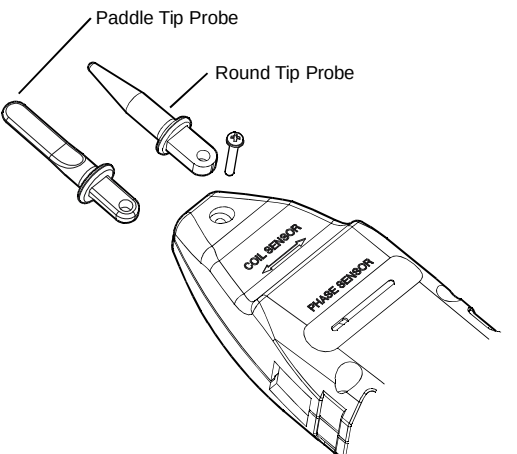
To Change the Probe Tip

1. Using a #1 Phillips screwdriver, remove the screw on the back of the Resi-Tracer nearest to the probe.

2. Pull the tip out of the top.

3. Push the new tip into the top.

4. Replace the screw and tighten, being careful not to over tighten.



Battery Installation

Battery not included. Follow the instructions below to install a 9V alkaline battery.

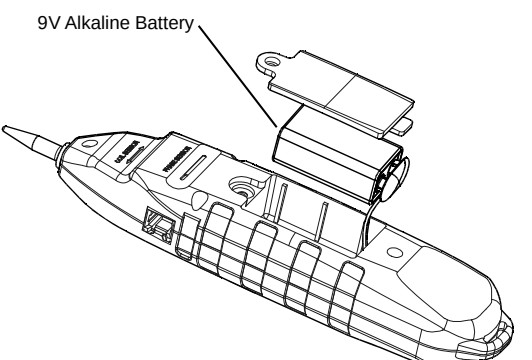
1. Using #1 Phillips screwdriver, unscrew and remove the battery cover on the back of the Resi-Tracer.

2. Connect 9 volt Alkaline battery to battery snaps.

3. Slide battery into cavity.

4. Close the battery cover and replace the screw. Do not over tighten.

When the battery is low, the round indicator above the battery icon will be on and the battery should be replaced as soon as possible.



Specifications

Physical Dimensions
Size: 9.5 x 1.8 x 1.4 inches (24.1 cm X 3.8 cm)
Weight: 6.5 oz. (with battery) (185 grams)

Environmental
Operating Temperature: 0 to 50 °C (32 to 122 °F)
Storage Temperature: -20 to 70 °C (-4 to 158 °F)
Humidity: 10% to 90%, non-condensing
Maximum Altitude: 10,000 ft operating

Battery Life (9V Alkaline battery)
Used continuously in one of the following modes:
Standby: 2 years
Tracing: 13.5 hours
Phase: 54 hours
Phone: 18 hours

Input Protection:
Phone jack and voltage probe: 300 DC or peak AC

Warranty

Test-Um Inc. guarantees that its products will be free of all defects in material and workmanship. This warranty extends for the period of 12 months for test instruments and 3 months for cables from date of manufacture or purchase (proof of purchase required).

All product deemed defective under this warranty will be repaired or replaced at Test-Um's discretion. No further warranties either implied or expressed will apply, nor will responsibility for operation of this device be assumed by Test-Um Inc.

 WEEE Compliant : Prior to disposal of this product, please contact Test-Um Inc. for proper disposal options.

Shipping

Before returning any product to Test-Um Inc., you must first request a Return Merchandise Authorization Number by contacting our Customer Service Dept. at (805) 383-1500.

1. No shipments will be accepted without this number, which must be clearly marked on the shipping label.

2. Ship the equipment with a copy of the sales receipt, if available.

3. Attach a description of the operational problem.

4. Include a contact name, phone number and E-mail Address.

5. Pack securely to prevent damage during shipping.

6. Ship prepaid to: Test-Um Inc., 808 Calle Plano, Camarillo CA 93012

Support Service

For technical information and support, please visit **www.test-um.com** or send email to: **support@test-um.com.**

Test-Um Inc.

The Intelligent Test Solutions Company

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