

Accessory Parts - All Lil' Buttie™ series test set cords will work with the Resi-Toner™:

- LB10 Lil' Buttie™ cable set with alligator clips.
- LB25 Lil' Buttie™ cable set with piercing clips.
- LB35 Lil' Buttie™ cable set with bed-of-nails clips.
- LB75 Telco Clip (requires drilling two holes in case)

Specifications:

- Power Requirements: one 9 Volt alkaline battery
- Battery Life (Alkaline, 540mA-hr) Times for exclusive use in:
 - Standby - 2 years
 - POTS Simulator, on-hook - 40 hours
 - POTS Simulator, off-hook - 8 hours
 - Speaker Popping - 40 hours
 - Tone Mode - 100 hours

Mechanical: Dimensions 4.5 x 1.75 x 1.3 inches, Weight 5.0 oz. with battery

POTS SIMULATOR

- On hook Voltage: 20VDC nominal
- Off-hook Current (standard 430 ohm load): 21mA nominal
- Dial Tone (into 600 ohms): -21dBm

SPEAKER POP

- Pop Energy: 0.044 Joules (Watt-Sec)
- Peak Voltage: 20 Volts nominal

TONE GENERATOR

- Tone frequencies (+/-1%): Dual 977Hz and 814Hz, Single 977Hz
- Tone harmonics: Minimum of 40dB down from fundamental
- Tone voltage, Typical (open circuit, new battery to 5.0V): LO = 4.6Vp-p, HI = 9.2Vp-p
- Tone power, Typical (into 600 ohms, new battery to 5.0V): LO = -3dBm, HI = 3dBm

WARRANTY

Test-Um Inc. guarantees to the end-user purchaser that its products will be free of all defects in material and/or workmanship. This warranty extends for a period of 12 months for the test instrument and 3 months for the cables from the date of manufacture or proof-of-purchase. The obligations of Test-Um Inc. under this warranty is limited to the repair or replacement (at our option) during the warranty period, of any part that proves to be defective in material or workmanship under normal use, installation and service, provided the product is returned to Test-Um Inc. freight prepaid. A copy of the purchase receipt must accompany products returned to us. In the absence of such a receipt, the warranty period will cease 12 months from the date of manufacture. This warranty does not extend to products that have been subjected to neglect, accidental or improper use, or to units which have been altered, repaired, or inspected by other than Test-Um authorized personnel. In no event will Test-Um Inc. be liable for any incidental or consequential damages. The Resi-Toner™ is designed and manufactured to provide trouble free service. However, if for some reason your tester should require repair, please follow these instructions.

WARRANTY SERVICE

All units returned for warranty repair will be repaired or replaced free of charge at the discretion of Test-Um Inc., and will be shipped freight prepaid. In the event that a sales receipt or other dated proof-of-purchase documentation is not available, a period of not more than 12 months from date of manufacture shall apply.

NON-WARRANTY SERVICE

Damaged units returned for non-warranty repairs will be inspected and an estimated repair cost forwarded by phone or email. Once an approval of these costs is received, the unit will be repaired. Charges for service and return freight will be invoiced on a C.O.D. basis or by other prior arrangement.

Shipping

- Before returning any product to Test-Um Inc., you must first request a Return Merchandise Authorization Number (RMA) by contacting our Customer Services Dept. at 805-383-1500. No shipments will be accepted without this number, which must be clearly marked on the shipping label.
- Ship the equipment with a copy of the sales receipt, if available.
- Attach a description of the operational problem.
- Include a contact name, phone number, and e-mail address (if possible).
- Pack securely to prevent damage during shipping.
- Ship prepaid to: Test-Um Inc, 808 Calle Plano, Camarillo, CA 93012

Test-Um Inc.

The Intelligent Test Solutions Company

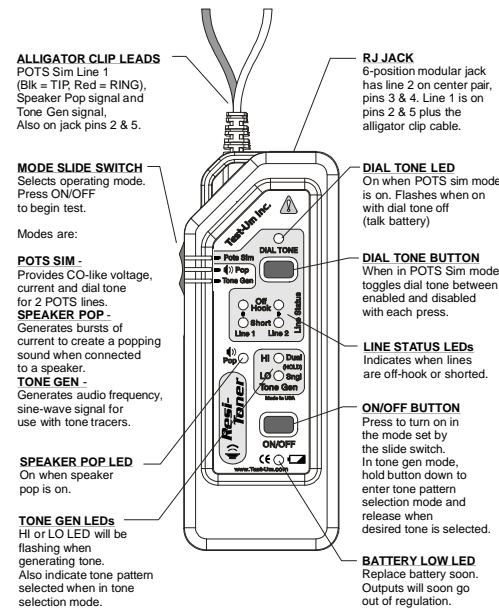
805-383-1500 / FAX 805-383-1595 / www.test-um.com
808 Calle Plano / Camarillo, CA. 93012

Test-Um Inc.

Resi-Toner™

HOME CABLING TONER
OPERATING INSTRUCTIONS

TG400



Resi-Toner™
HOME CABLING TONER



We Make It
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In the
USA

Resi-Toner™ Operating Instructions Part Number TG400

WARNING!

Do not attach to AC power. The Resi-Toner™ may be damaged and cause a safety hazard for the user.

CAUTION!

Improperly crimped, damaged or un-crimped plugs can damage the jacks on the Resi-Toner™. Inspect plugs for proper termination and crimping before inserting into the tester. Contacts should always be recessed into the plastic grooves of the plug. Do not use 6-position plugs with the 8-position (network) jack.

FEATURES

- ◆ **POTS Simulator** for two line phone system - line voltage, line current and dial tone.
- ◆ **Talk Battery** mode of POTS Simulator provides more current than common tone generators.
- ◆ **Multiple dial tone** sound for each line plus status indicators for off-hook and shorted.
- ◆ **Speaker Pop** function to ID speaker connections.
- ◆ **Sine-Wave Tone Generator** with two amplitude levels normal and half power
Reduces stray coupling to adjacent wires for better discrimination.
- ◆ **Unbalanced Tone** for stronger signal on twisted pairs - CAT 5 cables
- ◆ **Three Tone Outputs** selected from the front panel.
- ◆ **Constant Output** in all modes over the life of battery for 100% output all the time.
- ◆ **Auto-off** in any mode - no dead battery if left on.

Note: The RJ jumper "no-fault" cable, that has been provided with the Resi-Toner™, uses a unique colored modular connector that can be plugged into a RJ11 jack or a RJ45 jack without damaging either jack. This allows CAT 5 output points or phone lines using RJ45 jacks to be accessed without using an adapter.

Instructions for Use:

TO POWER UP TELEPHONE SYSTEM (POTS SIMULATOR):

- 1) Connect black alligator clip lead to TIP terminal and red lead to RING terminal at service entrance. This is line 1. If line 2 is also to be tested, plug another cable into the built-in modular jack alongside the permanent alligator clip set. This accesses line 2 on pins 3 and 4 of the Resi-Toner's™ jack.

Application Hints: TIP and RING polarity is not critical on modern phones although installers generally use the defined standards. Modular phone cords are also defined as reverse-pinned (pin 1 goes to 6, etc.) by the standards. The Resi-Toner's™ jack is pinned like premise equipment (CPE), which is the opposite of the wall plate, so a standard (reverse-pinned) phone cable will connect TIP to TIP. See pin assignments table, Table 1. The cables listed in the Accessory Parts section can be used to connect line 2 along with the one provided.

- 2) Move slide switch on left side of Resi-Toner™ to the POTS SIM (upper most) position. Press ON/OFF to turn on POTS simulator mode. DIAL TONE LED will turn on. The status of the lines is indicated by the Off-Hook and Short LEDs, one set for each line. Both LEDs for a line being off indicates the line is on-hook.
- 3) Connect test device, such as telephone test set, to jack to be tested. On a Test-Um Inc. Lil'Buttie™ PRO or Ranger test set in monitor mode, the on-hook voltage should read about 20 Volts.
- 4) Take the test set off-hook and you should hear a clear, steady dial tone if connected to line 1, a stutter dial tone if connected to line 2 or a busy signal if both lines are off-hook at once. On a Test-Um Inc. Lil'Buttie™ PRO or Ranger test set, the off-hook current should read approximately 24 mA. The Test-Um Inc. LanScaper's™ jack ID mode can automatically measure voltage, current, and detect dial tone.
- 5) Move slide switch to another position or press the ON/OFF button to turn off the Resi-Toner™. The Resi-Toner™ will power off automatically in about 1 hour.

TO CHECK CONTINUITY OF A CIRCUIT: Use only on non-energized circuits that can tolerate up to 20 Volts and 30mA of current flow. Any significant energy present on the line to be tested may damage the Resi-Toner™ or cause erroneous results.

- 1) Move slide switch on left side of Resi-Toner™ to the POTS SIM position and press ON/OFF button.
- 2) Connect one lead of Resi-Toner™ to each side of the circuit to be tested. If the DC resistance of the path is less than 690 ohms, but greater than 90 ohms, the L1 Off-hook LED will light. If the resistance is less than about 90 ohms, the L1 Short LED will light.
- 3) Move slide switch to another position or press the ON/OFF button to turn off the Resi-Toner™. The Resi-Toner™ will power off automatically in about 1 hour.



TO SUPPLY TALK BATTERY POWER:

- 1) Move slide switch on left side of Resi-Toner™ to the POTS SIM position. Press ON/OFF to turn on function. Press DIAL TONE button to turn off dial tone. DIAL TONE LED will flash to show dial tone is off.
- 2) Connect Resi-Toner™ in series with a phone set at one end of a dead pair. To connect the Resi-Toner™ in series with a phone set, connect one lead from the Resi-Toner™ to one lead of the phone set and connect the two remaining leads to a dead wire pair.
Alternate connection (may provide more current to each phone): Connect one phone to line 1 of Resi-Toner™ (clip leads or pins 2 and 5 of jack) and the other phone to line 2 (pins 3 and 4 of jack). Connecting the Resi-Toner™ alligator clips to a dead wire pair and connecting a phone with a modular cable to the Resi-Toner™ jack will do this.
- 3) Connect second phone set to other end of dead wire pair.
- 4) Take both phone sets off hook and communications will be established.
- 5) Move slide switch to another position or press the ON/OFF button to turn off the Resi-Toner™. The Resi-Toner™ will power off automatically in about 1 hour.

Table 1: 6-Position RJ Jack Assignments

RESI-TONER™				WALL JACK				
		CLIP LEADS	RJ JACK			RJ JACK	SOLID COLORS	STRIP COLORS
LINE 1	TIP RING	BLACK RED	5 2	LINE 1	TIP RING	4 3	GREEN RED	WHITE/BLUE BLUE
LINE 2	TIP RING		3 4	LINE 2	TIP RING	2 5	BLACK YELLOW	WHITE/ORANGE ORANGE
				LINE 3	TIP RING	1 6	WHITE BLUE	WHITE/GREEN GREEN

TO POP SPEAKER:

- 1) Connect alligator clips to speaker wire pair of speaker to be located.
- 2) Move slide switch on left side of Resi-Toner™ to  POP, the middle position. Press the ON/OFF button to turn Resi-Toner™ on. The  POP LED will light.
- 3) The speaker connected to the Resi-Toner™ will pop at 1.5sec intervals if DC or transformer coupled or every 0.75sec if AC coupled. Speakers with only mid-range and/or high frequency capability are often AC coupled. Satellite speaker systems are typically configured this way.
- 4) Move slide switch to another position or press the ON/OFF button to turn off the Resi-Toner™. The Resi-Toner™ will power off automatically in about 1 hour.

TO SEND A TONE FOR TRACING:

- 1) Move slide switch on left side of Resi-Toner™ to the TONE position, all the way down.
- 2) Connect one lead to a wire of the cable to be traced and leave the other lead open. See Application Hints below for other configurations.
- 3) Press the ON/OFF button briefly to turn on the signal. If the desired signal level indicator (HI or LO) is not blinking, press the button again until the correct signal level is selected. The Resi-Toner™ cycles through a HI-LO-OFF sequence.
- 4) Select a different tone cadance if desired as described in "To Select or Verify Tone Type" section.
- 5) To turn off the signal, press the ON/OFF button briefly. If it has been more than 15 seconds since the last press, the Resi-Toner™ will go directly to OFF. If not, a second press may be necessary if the unit was set to HI. The Resi-Toner™ will power off automatically in about 2 hours.

Application Hints:

When tracing wires terminated to a terminal block such as a "66 block" or a patch panel, attaching both Resi-Toner™ leads to the cable or pair tends to contain the signal within the cable. The tracer must almost touch the end of the cable to detect the signal, which is helpful when the wires are close together as when terminated. The LO amplitude setting may generate a stronger signal when connecting both leads of the Resi-Toner™ to a cable by reducing the field canceling effect of having a signal and it's return close together, especially in twisted pair cable. A modular phone cable can be used to connect the Resi-Toner™ directly to a wall jack, but the signal will be on line 2 (pins 2 and 5) of a 6-position jack. Use the included "no-fault cable" to connect to an 8-position jack (Rj45), where the signal will be on pins 3 and 6.

To maximize radiated signal while tracing along a cable run, connect one lead of the Resi-Toner™ to a wire or cable and the other end to ground (such as the case of an electrical box, electrical conduit, metallic water pipe or ground rod). If no ground is available or the signal is excessive, do not connect the other lead to anything. Let it dangle as near to the earth as possible. To trace coaxial cable, connect the Resi-Toner™ to the ungrounded shield. The shield will do its job if tone is connected to the center lead and block the tone. The LO amplitude setting is useful if there is too much bleeding of the signal or the tracer being used has fixed volume and is overloading.

To Select or Verify Tone Type:

The Resi-Toner™ has three distinctly different tone types available - one steady and two dual (or warble) tones.

- 1) Press and hold the TONE button until all the LEDs turn on (lamp test). This indicates entry into the tone style selection function.
- 2) Continue holding the button down. One of the two LEDs will turn on steady or flash to indicate the currently selected type. The *Sngl* LED will turn on steady to indicate the single type is selected. The *Dual* LED will either flash for one of the dual tones or be on steady for the other. Releasing the button before two seconds have passed will leave the signal type unchanged.
- 3) To select another signal type, continue holding the button down until the desired type is displayed. The Resi-Toner™ will continue to cycle through the three types until the button is released or the unit times out and turns off (10 to 12 seconds).

Hint: The currently selected tone type is generated at the RJ jack once the signal selection function is entered. Holding a tone tracer near the jack will allow the user to hear each tone type as it is selected.

Battery Replacement:

- 1) Remove lower screw on the rear of the Resi-Toner™ with a #1 Phillips screwdriver and remove door.
- 2) Remove old battery and disconnect from battery leads.
- 3) Snap the battery leads onto a new battery (9V, alkaline). Place battery in case.
- 4) Close tester and replace screw. Do not over tighten.