

## Tone and Probe

### Model TPG-70

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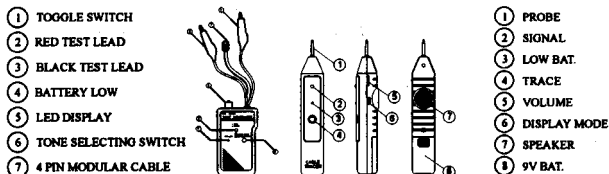


## Introduction

The model TG-50 Tone Generator is a highly practical network installation and troubleshooting tool which features a single or multi-tone signal, two test leads and a 4-conductor modular cable. The signal emitted by the Tone Generator can be easily traced by the Probe, even when cables are bundled or hidden in a punch down block or wall plate. The Tone Generator & Probe can be used to verify cable continuity, identify wiring faults, determine line polarity and voltage in network (CAT 5 and Coax) and modular telephone lines. The TP-20 Probe is equipped with a tone amplifier and an LED indicator that detects audible frequency tones for accurate tracing and identification of wires.

## Product Profile

The TPG-70 includes the TG-50 Tone Generator and TP-20 Probe in the kit.



## Tone Generator

### Features:

- 2-Position switch for single tone or multi-tone signal
- Toggle switch to control 3 modes of operation
- 3-color LED indicator display for telephone line.

## Operation (CON'T)

### E. Testing Continuity



#### CAUTION



**Do not connect to an active AC or DC circuit in this mode. Failure to follow this caution could cause damage to the unit.**

1. Slide the toggle switch to the "CONT" position
2. Connect the test leads to the subject pair
3. A BRIGHT GREEN light indicates continuity

### F. Testing Continuity Using Tone

1. Slide the toggle switch to the "TONE" position
2. Connect the test leads to the subject pair
3. Using a handset or headset at the remote end, touch the wire end(s) with the clip lead(s)
4. Reception of tone is an indication of continuity

## Modular Testing

- All above tests are applicable to modular plugs for line 1 only (red & green wires)

## Coax Testing

- To send a tone on un-terminated coaxial cables, connect the RED test lead to the outer shield and the BLACK test lead to the center conductor, or connect the RED test lead to the outer shield and the BLACK test lead to ground
- To send a tone on terminated coaxial cables, connect the RED test lead to the connector housing and the BLACK test lead to the center pin, or connect the RED test lead to the connector housing and the BLACK test lead to ground

## Operation (CON'T)

### D. Sending a Tone



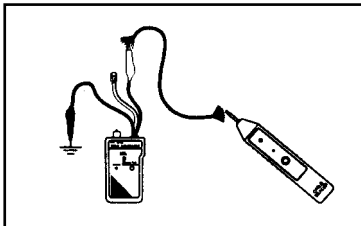
#### CAUTION



Do not connect to an active AC circuit exceeding 24 volts in this mode. Failure to follow this caution could cause damage to the unit.

1. Slide the toggle switch to the "TONE" position
2. Connect the test leads to a pair of wires or attach one lead to the ground and the other lead to either side of the line. (See Fig. 3)

3.



4. Select either a dual alternating tone or a single solid tone by positioning the button on the face of the Tone Generator unit to "DUAL TONE" or "SINGLE TONE"
5. Select one of the display functions (LED only/speaker only/LED & speaker together) by positioning the switch on the side of the Probe to "L", "S", or "L & S" respectively
6. Use the Probe to trace the subject wire
7. Reception of tone will be loudest (amplifier) or brightest (LED) on the subject wire

## Tone Generator (CON'T)

- polarity, continuity and voltage testing
- Black and red testing leads and standard 4-pin modular cable for individual wire tests or modular jack tests
- Convenient compact size and simple application

#### Specifications:

- 1 ft. each of red and black test lead
- 1 ft. 4-pin modular cord and plug
- One 3-position toggle switch for operation mode control
- One 3-color LED display for line polarity, continuity and voltage test
- One 2-position slide switch for tone volume level selection
- Power: 9V DC battery

## Probe

#### Features:

- Special inductive plastic tip which prevents accidental shorts (possible with copper-tip tracers) when using near high voltage devices
- Traces and identifies wires or cables in a bundle or group without damaging cable insulation
- Adjustable volume level for various work environments
- Both amplifier and LED for loud or dark work environments
- Can work with any existing tone generator in the market
- Power switch to prevent battery drain

#### Specifications:

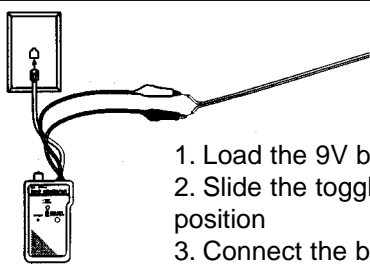
- Pen-style casing
- Special inductive plastic tip
- One push-button TRACE switch
- One battery low LED indicator

## Probe (CON'T)

- One amplifier and one LED for signal detection
- One rotary volume level control

## Operation

### A. Identifying the polarity of a telephone line



1. Load the 9V battery
2. Slide the toggle switch to the "Off" position
3. Connect the black test lead to ground
4. Connect the red test lead to the line you wish to test
5. LED indicator results:
  - a. **GREEN** light: indicates normal polarity
  - b. **RED** light: indicates reversed polarity
  - c. **YELLOW** light: indicates presence of AC power on the telephone line

Note: If a ground is not available, you may try to switch the test leads around to different wires within the pair. The LED indicator will light GREEN when the red test lead is connected to the ringside of the line and the black lead is connected to the ground.

## Operation (CON'T)

### B. Indicating telephone Line Condition

1. Load the 9V battery
2. Slide the toggle switch to the "Off" position
3. Plug the standard 4-pin modular cable into modular wall jack
4. LED indicator results:
  - a. **BRIGHT GREEN** light: indicates a clear line
  - b. **DIM GREEN** light: indicates a busy line
  - c. **BRIGHT FLASHING RED** and **GREEN** light: indicates a ringing line

Note: A **DIMLY FLASHING GREEN** light will result under ringing line conditions if the line's polarity is reversed. If the test is begun prior to an incoming call, the call will be blocked.

### C. Verifying telephone Lines

1. Slide the toggle switch to the "CONT" position
2. Dial the number of the line you wish to verify
3. While the line is ringing, connect the red lead to the ring side of the line, and connect the black lead to ground.
4. Slide the toggle switch to the "Off" position. The LED indicator will flicker RED and GREEN when the test leads are connected to the subject pair
5. To verify identification, monitor the line and switch the test set to "CONT". This will terminate the call on the subject line