

# PROGRESSIVE ELECTRONICS INC.

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## Model 77HP Tone Test Set Operating Instructions

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### Description

The Model 77HP (see Figure 1) is housed in a high-impact plastic case which measures 1¼" x 2" x 2¼", weighs five ounces and is powered by one 9 Volt battery. Red and black test leads and a four conductor modular plug are attached to the Model 77HP with a strain relief. In addition to the strain relief, a lanyard for carrying or hanging the Model 77HP helps reduce the strain on the test leads. The three-position toggle switch controls the modes of operation, and the three-colored Light Emitting Diode (LED) with protective lens cover displays line polarity, continuity and voltage test results. A tone selector switch (see Figure 2), located inside the Model 77HP, changes between a single solid tone and a dual alternating tone. The Model 77HP is compatible with ESS, Step & Crossbar, and the output tone is isolated from DC voltages.

### Operation

All of the following tests can be performed by either using the test leads as described below, or the modular plug to test Line 1 only (red and green wires).

#### Identifying Tip and Ring (Polarity Test)

CENTRAL OFFICE BATTERY MUST BE PRESENT TO PERFORM THIS TEST.

The Model 77HP should be in the OFF position. Connect the black test lead to ground, and the red test lead to each side of the line to be tested.

- A green LED indicates correct polarity. (The red test lead is correctly connected to the ring side of the line.)
- A red LED indicates reversed polarity.
- A flickering green and red (appearing yellow) LED indicates the presence of AC.

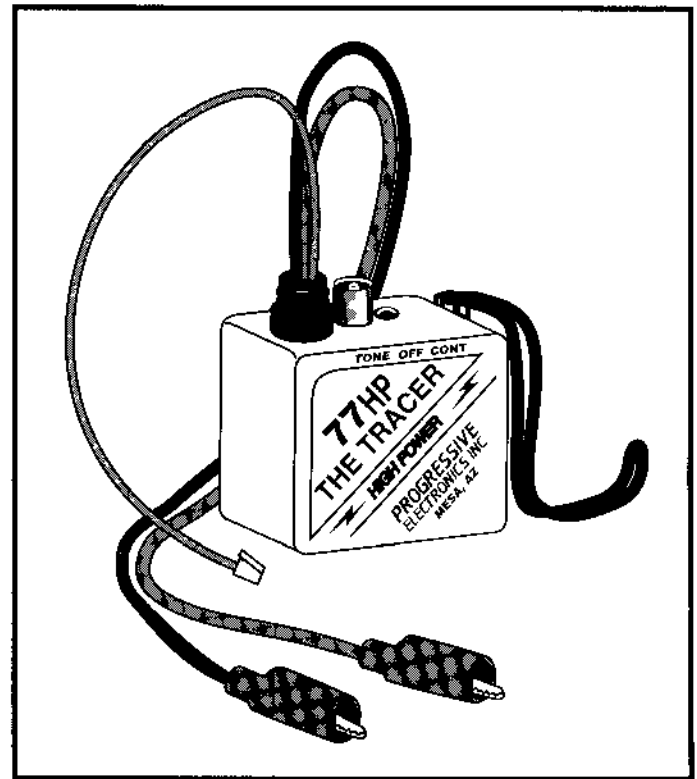


Figure 1 — The High-Power "Tracer" Model 77HP

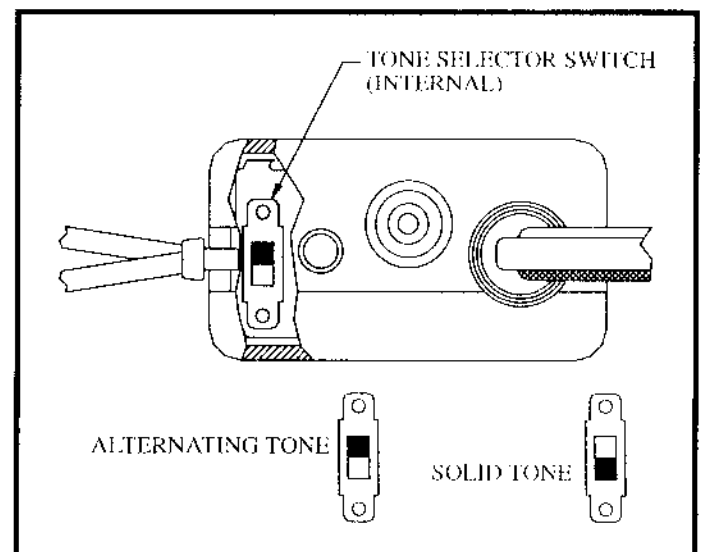


Figure 2 — Tone Selector Switch

NOTE: If a ground is not available, connect the test leads across the pair. The LED will be green when the red test lead is connected to the ring side of the line, and the black lead is connected to the tip.

### Indicating Line Condition

CENTRAL OFFICE BATTERY MUST BE PRESENT TO PERFORM THIS TEST.

The Model 77HP should be in the OFF position. Connect the red test lead to the ring side of the line and the black lead to the tip.

- A bright green LED indicates a clear line.
- A dim green LED indicates a busy line.
- A brightly flickering green and red (appearing yellow) LED indicates a ringing line.

NOTE: If the Model 77HP is connected to the line in reversed polarity, a ringing line will show a dimly flashing green LED. If the Model 77HP is connected in correct or reversed polarity before the line rings, the call will be intercepted.

### Verifying Lines

The Model 77HP should be in the OFF position. Dial the line to be verified. While the line is ringing, connect the red lead of the Model 77HP to ring, and the black lead to tip. The LED will flicker red and green. To confirm identification of the line, monitor the line and switch the Model 77HP to the CONT position. This will terminate the call.

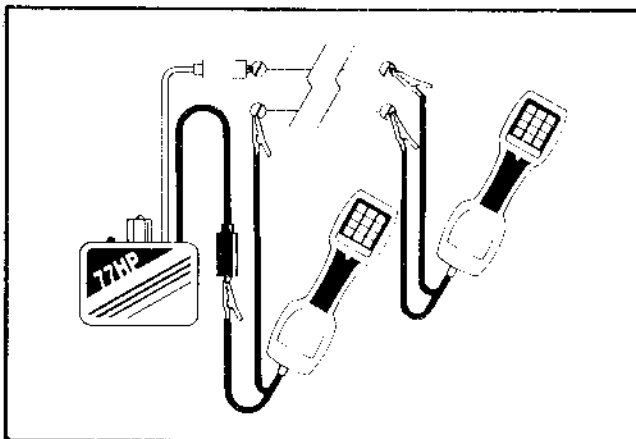


Figure 3 Supplying Talk Power

### Supplying Talk Power

Connect the test leads in series with a buttset, or telephone test set, and the inactive pair. (See Figure 3.) With the Model 77HP in the CONT position, a "dead line" is supplied with talk power.

### Sending Tone

Connect the test leads to the pair, or connect one lead to either side of the line and the other lead to ground. Select either a dual alternating tone or a single solid tone by switching the tone selector switch inside the Model 77HP. (See Figure 2.) With the Model 77HP in the TONE position, probe the suspected wires with any Progressive Electronics 200 series inductive amplifier. (See Figure 4.) Reception of tone will be strongest on the subject wire. If you have ready access to bare conductors, a handset or headset may be used to locate the tone.

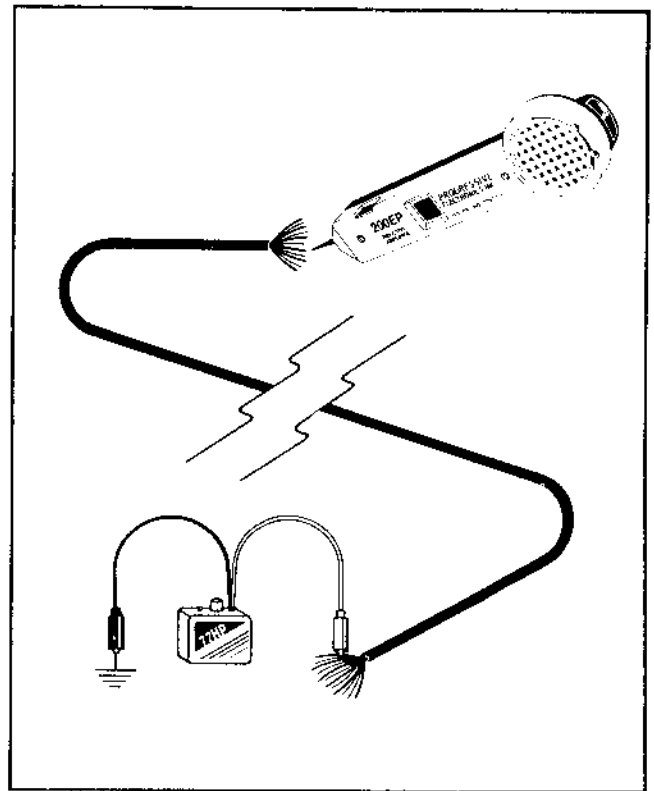


Figure 4 Sending Tone

**CAUTION: DO NOT CONNECT TO AN ACTIVE AC CIRCUIT EXCEEDING 50 VOLTS WHEN THE MODEL 77HP IS IN THE TONE POSITION.**

### Testing Continuity Using the CONT Position

Connect the test leads to the pair. With the Model 77HP in the CONT position, a bright green LED indicates continuity. The LED will not glow if the line resistance exceeds 10,000 ohms.

**CAUTION: DO NOT CONNECT TO ANY ACTIVE AC OR DC CIRCUIT WHEN THE MODEL 77HP IS IN THE CONT POSITION.**

### Testing Continuity Using the TONE Position

Connect the test leads to the pair and switch the Model 77HP to the TONE position. Using a handset or headset at the other end of the pair, touch the wire end(s) to the clip lead(s). Reception of tone is an indication of continuity.

### Maintenance

The only maintenance required is the replacement of the battery. Unscrew the case, replace the 9 Volt battery, and reassemble. **DO NOT OVERTIGHTEN SCREW.**