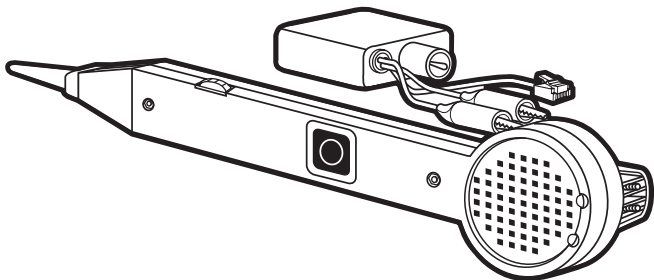




Tone Generator and Probe



CUSTOMER SUPPORT INFORMATION

Order **toll-free** in the U.S. 24 hours, 7 A.M. Monday to midnight Friday: **877-877-BBOX**
FREE technical support, 24 hours a day, 7 days a week: Call **724-746-5500** or fax **724-746-0746**
Mail order: **Black Box Corporation**, 1000 Park Drive, Lawrence, PA 15055-1018
Web site: www.blackbox.com • E-mail: info@blackbox.com

TRADEMARKS USED IN THIS MANUAL

Any trademarks mentioned in this manual are acknowledged to be the property of the trademark owners.

EUROPEAN UNION DECLARATION OF CONFORMITY

The Tone Generator and Probe are CE certified.



Specifications

Tone Generator

Indicators — (1) 3-colored LED, indicates line polarity, continuity, voltage testing

User Controls — (1) 3-position toggle switch

Power — From 9-VDC battery

Size — 1.3"H x 2"W x 2.3"D (3.3 x 5.1 x 5.8 cm)

Weight — 4 oz. (113.4 g)

Amplifier Probe

User Controls — (1) ON/OFF button, (1) rotary volume control

Power — From 9-VDC battery; battery life of approx. 100 hours

Size — 1"H x 2"W x 8"L (2.5 x 5.1 x 20.3 cm)

Weight — 5 oz. (142 g)

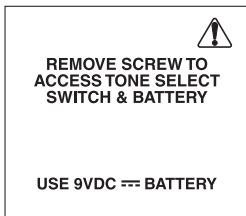
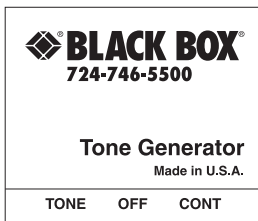
Tone Generator

The Tone Generator locates and identifies open cable pairs, individual conductors, and telephone wires to distances up to 5,000 feet (1524 m). A toggle switch changes the mode of operation between continuous and alternating tones. This eliminates confusion when more than one person is testing wires in the same area.

The front and back labels on the Tone Generator are shown in the diagrams below.

WARNING

To avoid electrical shock, disconnect the Tone Generator from any circuit before opening the battery compartment.



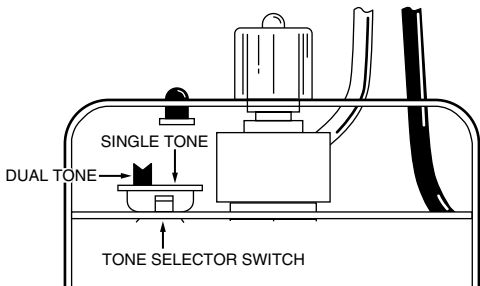
TONE GENERATOR AND PROBE

Features include:

- Red and black test leads are provided, and it has a standard 4-conductor modular cord and plug.
- A 3-colored LED indicates line polarity, continuity, and voltage testing.
- Functions through low-resistance circuits and operates on a 9-VDC battery.
- Housed in a heavy-duty nylon pouch that can be attached to a belt.
- A tone-selector switch, located inside the test set, selects either a single solid tone or dual alternating tone. (See the illustration on the next page.)

WARNING

Do not connect to an active AC circuit exceeding 24-VAC in this mode.

**IDENTIFYING TIP AND RING (USE THE OFF POSITION)****NOTE**

A central-office battery must be present to perform this test.

1. Connect the black lead to the ground.
2. Probe both sides of the line with the red test lead.
3. The LED will light green when the red test lead contacts the ring side of the line.
4. A red LED indicates reversed polarity.
5. A yellow LED indicates the presence of AC.

tone generator and probe

NOTE

If a ground is not available for reference, connect the test leads across the pair. The indicator will light green when the red test lead is connected to the ring side of the line and the black lead to the tip.

INDICATING LINE CONDITION (USE THE OFF POSITION)

NOTE

A central-office battery must be present.

1. Connect the red test lead to the ring side of the line and the black to the tip.
2. Watch the indicator. A bright green light indicates a clear line. A dim green light indicates a busy line. A brightly flickering red and green light indicates a ringing line.

NOTE

Connecting in reverse polarity, a dimly flashing green light will result with the ringing line test. If the test is connected prior to ringing, the call will be intercepted.

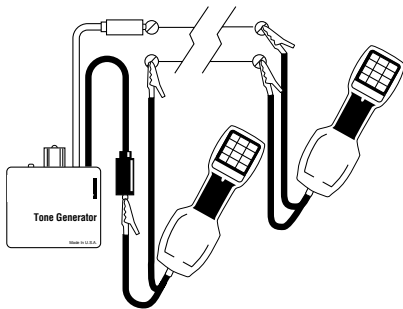
VERIFYING LINES (USE THE OFF, THEN CONT POSITIONS)

1. Dial the line to be verified.
2. While the line is ringing, connect the red lead to the ring side of the line and the black lead to the tip.

3. In the OFF position, the indicator will flicker red and green when the test leads are connected to the subject pair.
4. To verify identification, monitor the line and switch the test set to CONT. This will terminate the call on the subject line.

SUPPLYING TALK POWER (USE THE CONT POSITION)

1. Connect the test leads in series with a butt set, or lineman's test set, and the inactive pair. (See the illustration below.)



2. With the test set in the CONT position, a “dead line” is supplied with talk power.

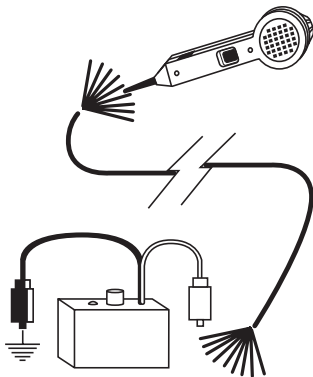
STONE GENERATOR AND PROBE

SENDING TONE (USE THE TONE POSITION)

CAUTION

Do not connect to an active AC circuit exceeding 24V in this mode.

1. Connect the test leads to the pair, or attach one lead to ground and one lead to either side of the line.
(See the illustration below.)



2. A dual alternating tone or a single solid tone can be selected from the switch inside the unit.

3. Probe the suspected wires with the Amplifier Probe. Tone reception will be strongest on the subject wire. In cases of ready access to bare conductors, a handset or headset may be used to receive the tone.

TESTING CONTINUITY (USE THE CONT POSITION)**CAUTION**

Do not connect to any active AC or DC circuit in this mode.

1. Connect the test leads to the subject pair.
2. Place the toggle switch in the CONT position.
3. A bright green light indicates continuity. The LED will not glow if the line resistance exceeds 10,000 ohms.

TESTING CONTINUITY USING TONE (USE THE TONE POSITION)**CAUTION**

Do not connect to any active AC or DC circuit in this mode.

1. Connect the test leads to the subject pair.
2. Using a handset or headset at the remote end, touch the wire end(s) with the clip lead(s).

3. Reception of tone is an indication of continuity.

MODULAR TESTING

All of the previously mentioned tests are available through the modular plug for Line 1 only—red and green wires.

COAX TESTING

To test unterminated coax, connect red to outer shield and black to center conductor *or* red to outer shield and black to ground.

To test terminated coax, connect red to connector housing and black to center pin *or* red to connector housing and black to ground.

MAINTENANCE

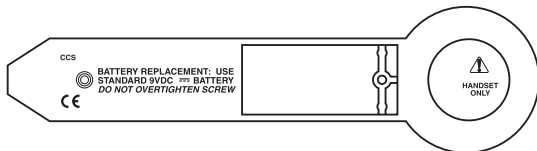
To replace the battery, separate the case, install a fresh 9V battery, and re-assemble. *Do not overtighten the screws.*

Amplifier Probe

The Probe is designed to identify and trace wires or cables within a group without damaging the insulation. The adjustable sensitivity level lets you zero in on cable groups, pairs, and individual wires. The Probe works with the Tone Generator (described earlier). The front and back labels on the Amplifier Probe are shown in the diagrams below.

WARNING

The triangle symbol shown on the back of the Probe warns that the terminals are only for the connection of a lineman's handset or a headphone.



TONE GENERATOR AND PROBE

Features include:

- Recessed terminal port for handset connection.
- Recessed ON/OFF button prevents battery drain.
- Non-conductive carbon-fiber tip prevents accidental shorts when probing wires.
- Accessory metal tip available (ordered separately).
- Power supplied from a 9-VDC battery.
- Housing is made of durable ABS plastic.

OPERATING THE PROBE

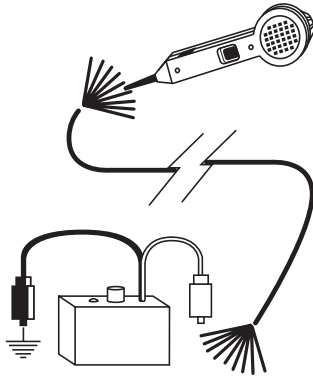
1. First, you need to connect to the Tone Generator.

In working cables that are terminated:

Connect one of the Tone Generator's test leads to a terminated wire and the other test lead to earth or equipment ground. (See the figure below.)

In non-working or unterminated cables:

Connect one of the Tone Generator's test leads to an unterminated wire and the other test lead to another unterminated wire.



2. To activate the Probe, press the spring-loaded ON/OFF button (it's the square button halfway down the handle).
3. Once the Probe is on, adjust the volume-control switch to suit the environment. Volume can be increased to overcome noise (from vehicular traffic, airplanes, or an engine room, for example), or decreased to reduce interference (computer/data hum or AC buzz).
4. The Probe has recessed ports for connecting a lineman's handset. Attaching the handset

TONE GENERATOR AND PROBE

automatically activates the amplifier. The handset must be in the TALK position.

5. To activate the Probe without using the ON/OFF button, connect a jumper wire to each terminal in the recessed ports.
6. Touch the Probe's tip to the insulation of each suspect conductor.
7. Tone reception will be loudest on the subject wire. (Tone reception may be improved by separating the wires from the group.)

MAINTENANCE

The Probe is maintenance-free except for battery replacement. To replace the battery, remove the screw from the battery compartment, replace the 9V battery, and reassemble.



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