

# TD-15

## TRANSMITTER DETECTOR

### INSTRUCTION MANUAL

#### ABOUT THE TD-15

Case Size: 5.3”h x 3.3”w x 1.5”d

Weight: 7 oz.

Battery: 9 volt transistor type – Eveready 216 or equal

Current: 17 milliamps

Frequency response: Covers 1 MHz to 2,500 MHz. Most sensitive over the 30 to 70 MHz range. (Most bugs are within this range.)

Sensitivity:

<u>Xmtr Output*</u>	<u>Xmtr Power Supply</u>	<u>Min. Detection Range</u>
Very Low	1.4V watch battery	0.5 – 2 ft.
Low	2 AA size batteries	2 – 8 ft.
Medium	Nine volt transistor	6 -25 ft.
High	2 nine volt or 6 to 8AA	12 -50 ft.

\*Generally speaking, the main factor in transmitter output power is the size (voltage and current capacity) of the power supply. As a rule of thumb, the smaller the battery, the lower the output power.

Antenna: Telescoping whip – extends to 33”

Indicators:

Power On LED – Lights when unit is turned on.

Meter – Sensitive signal strength meter. Overload protected.

Controls:

SENSITIVITY – In addition to acting as the On/Off switch, this control can be used to electronically vary the sensitivity.

#### GETTING STARTED

If the battery has not already been installed, go ahead and install one now. Use an Eveready 216 for normal use or an Eveready 522 (alkaline) for heavy use. The battery compartment is accessed by sliding open the compartment cover located on back of the unit. Connect the battery to the battery snap and reinstall the cover.

## USING THE TD-15

With the antenna telescoped into the case, turn on the *SENSITIVITY* control and rotate it to *MAX*. The meter should read just above “0” at the bottom of the scale. If it reads much higher than this, the ambient (background) RF is high and you should reduce the *SENSITIVITY* until the meter reads just above “0”.

Now pull the antenna out to its full length and stand in the middle of the room you want to check with the antenna in a horizontal position. Turn through a 360 degree circle while watching the meter. If the meter reads above “3”, you are probably picking up a local FM broadcaster or TV station. To reduce this unwanted pickup, shorten the antenna a few inches and turn 360 degrees again. Repeat until the meter does not rise above one third of full scale.

By shortening the antenna, you are lowering the sensitivity to the level necessary to minimize the effect of local FM and TV stations. While this will also lower the sensitivity for detecting hidden RF bugs, it simply means that the antenna will have to be a little closer to them for their detection.

FM and TV signals are identified by the gradual rise and fall of the meter reading as you move around the room. Bug transmitters will give a sharp rise in the meter readings as you pass near them with the TD-15 antenna. The rise of the meter is very sharp when the antenna comes within a few inches of the hidden transmitter.

If the bug is medium power or higher, you may have to reduce the *SENSITIVITY* control to help you home in on it. If the meter pegs (reads “10”), simply reduce the sensitivity until the meter reads about mid scale and continue your sweep.

ROOM SWEEPS – Check all wood and plastic furnishings, picture frames and drapes. These are the usual hiding places for bugs. Metal furnishings are rarely used as they will attenuate the RF signal. Sheet rock or plaster walls and ceilings are rarely used to hide a bug. It is very difficult to open and close a wall without leaving evidence of tampering. Also, you may get false readings from the electrical wiring within a wall. For furnishings, pass the antenna under and on all sides. Also, always probe near any drapes or curtains.

Drop or tile ceilings are sometimes used to conceal a bug. You can check this type of ceiling by passing the tip of the TD-15 antenna within a few inches of the ceiling in a zigzag manner, until you have covered the entire area.

NOTE: Bringing the antenna very close to electrical wiring or conduit will usually cause some meter reading. The same applies to any large metal object such as file cabinets or desks. This is normal since large metal objects tend to act as antennas for local radio and TV signals. In areas with very high levels of ambient

RF, you may have to do your sweep in the early morning hours (2 AM to 5 AM) when most stations are off the air.

Occasionally a nearby two-way radio (CB, taxi, etc.) will show up on the meter. This type of transmitter is not on continuously, but is usually only on for a few seconds. This makes them easy to identify. They will cause the meter to jump up for a few seconds and then fall back. Just stop your sweep when the meter jumps high and continue when it falls.

TELEPHONE CHECKS – To check your telephone and its associated wiring for RF bugs or wiretaps, set up the TD-15 as though you were going to make a room sweep. With the unit near the telephone, place a call to the time of day or weather number while watching the meter indication. If the meter jumps up and stays, that is an indication of an RF bug in the phone or its wiring. (A slight “blip” of the meter is normal when you take the phone off-hook to place a call.)

DETECTING 2.4 GHz VIDEO & AUDIO RF LINKS – To check for RF in the 2.4 GHz range, leave the antenna completely collapsed. Due to the short wavelength of the 2.4 GHz signal (about 4 cm), the antenna picks up best over the section that is within the case. For this reason, when holding the TD-15 keep your hands away from the antenna area (right side) as it will block the signal.

TESTING THE TD-15 – To check the TD-15, buy an inexpensive walkie-talkie (\$10 to \$20). Tape down the talk button so that it is transmitting. Move it toward the TD-15 and see how the detector reacts. This is what you will see when you locate a bug.

## **TD-15 SUPPLEMENTAL INSTRUCTIONS**

### **ZEROING THE METER IN HIGH AMBIENT RF CONDITIONS**

The TD-15 transmitter detector is calibrated at the factory for best results. It is very sensitive by design, and therefore may not be suitable for use in conditions of very high ambient RF (i.e. close proximity to radio or TV stations, or any area where a strong concentration of background radio frequency energy would likely be present). The following procedure describes a method to recalibrate the TD-15 to compensate for high levels of ambient radio frequency energy.

Procedure:

Before starting, select a location you know to be secure, i.e. not “bugged”, but close to the general area where you will be using the unit.

1. Using a Phillips type screwdriver, remove the four screws holding the case together. Don't attempt to completely open the case, or reassembly will be difficult. Hold the case with one hand, with the antenna pointed away from you (battery end closest to you). With the other hand slightly separate the case halves on the left side (the side away from the antenna). Keep the right side from separating. Look into the gap between the case halves on the left side. You will see a trimmer resistor near the upper end of the case, nearly under the meter movement. The trimmer is metal and flat, with a rounded top, and is standing up from the circuit board. It has a small slotted hole in its center.
2. Turn the unit on, to maximum sensitivity (knob all the way clockwise). Leave the antenna collapsed. Insert a small plastic or nylon screwdriver into the trimmer slot. Gently and very slowly rotate the trimmer clockwise, until the meter pointer is right over the zero mark on the meter scale. One-fourth of a turn or less should do it. Leaving the unit on, carefully extend the antenna fully and note the meter reading. If it is fairly stable, but above six on the scale, then carefully collapse the antenna to the point where it is about halfway extended. Redo the trimmer adjustment to again set the meter pointer over the zero mark on the meter face.
3. Reassemble the unit being careful not to pinch any wires. Don't over tighten the case screws. Make sure the case end pieces are properly fitted into their respective slots on the upper and lower case shells.
4. Test the unit using a small transmitter to familiarize yourself with the new detections characteristics, before putting the unit into service.