



OWNER'S GUIDE

TRD-800 R.F./RECORDER DETECTOR

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UNIT OPERATING INSTRUCTIONS

MODEL TRD-800

TRD-800

You have just purchased the finest in personal electronic countermeasures-the TRD-800 by Research Electronics, Intl. Using advanced technology, REI has developed this highly sophisticated instrument as the prototype of the industry, and we assure you of unsurpassed excellence in quality and performance. Your TRD-800 provides unique R.F. transmitter and tape recorder detection. It will locate recording devices that have been, until now, undetectable by conventional methods. Exclusive features of your TRD-800 include its cigarette pack miniaturization; multi-mode dual alert functions; silent, covert vibrator alert; automatic gain control circuitry; and dual antenna packaging. It is fully rechargeable to eliminate costly replacement of batteries, and is constructed of rugged, yet light-weight aluminum for the ultimate in durability. In addition, REI fully backs the TRD-800 with a three (3) year warranty. (See warranty card.)

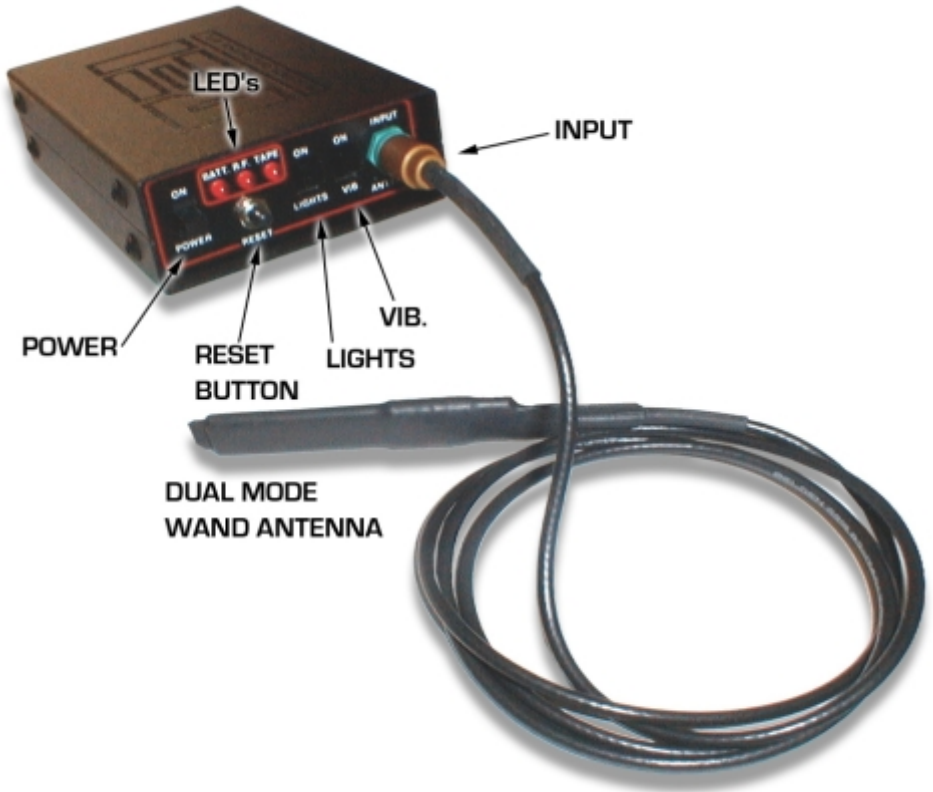
Your TRD-800 has been designed to offer dual detection capabilities. It will alert you to the presence of an active R.F. body-type transmitter or tape recorder, or both simultaneously. The response modes of the TRD- 800 are also dual; they are the silent vibrator alert and the visual alert which consists of three light indicators (L.E.D.'s). The TRD will signal you to R.F. transmissions or to the presence of a tape recorder by vibrating silently and covertly. The separate indicator lights ("R.F." or "Tape") will also activate, thus visually verifying the particular mode of surveillance that has been detected. (The remaining light indicator alerts you to a weak battery.)

Unlike other detection equipment, your TRD does not require constant and obvious monitoring of the instrument itself. The vibrator mode will silently and secretly alert you to the presence of R.F. transmissions or recording devices. But no one other than you, yourself, will be aware that such devices have been detected. The TRD-800 is thus the perfect instrument for those secluded, intimate conversations of a sensitive nature. It is a highly versatile instrument that will provide you with consistent, high-quality security for years to come.

SPECIAL FEATURES OF THE TRD-800

1. Detects intelligence tape recorders, video/audio cameras, and R.F. "bugging" devices.
2. Functions with a silent vibrator alert.
3. Requires no tuning. Detects 1-1000 Mhz.
4. Maintains automatic level control; also equipped with manual reset.
5. Pocket size: .875" (22.2 mm) x 2.250" (57.2 mm) x 3.500" (88.9 mm).
6. Light-weight: 6 OZ. (170 gms.)
7. Separate indentifying L.E.D.'s for individual detection systems (R.F. or Tape).
8. Dual mode wand antenna.
9. Lights out capability for covert night use.
10. Super-sensitive integrated circuit design.
11. Self-contained rechargeable ni-cad battery.
12. Low battery indicator light.
13. Rugged, light-weight metal construction.

DIAGRAM - FRONT PANEL



DESCRIPTION OF TRD-800

Examine the front control panel of your TRD-800. The selector switch at the far left marked "Power" is the main power switch. When you move the switch up to the "on" position, the ni-cad power source is activated. Moving the switch to the down position shuts off the power from the battery.

Located to the upper right of the "Power" switch are the three red indicator lights (L.E.D.'s). The first one, designated as "Batt.", will illuminate when the battery needs to be recharged. The second and third indicator lights provide visual confirmation of the type of surveillance that has been detected. For example, when the light marked "R.F." is illuminated, the TRD thus indicates that it has detected R.F. transmissions. Illumination of the "Tape" indicator light signals you that the instrument has detected the presence of magnetic tape recorder energy. These indicator lights will also shine momentarily when the power switch is turned on (up) from the off position as the instrument becomes stabilized to the existing room energy.

Below the three indicator lights is the "Reset" button. This button should be depressed in the event that the indicator lights (or the vibrator) do not shut off automatically after the power has been activated for about 30 seconds or so. For further information regarding the use of this button, please refer to the section on "Operating Instructions" in this manual.

Immediately to the right of the "Reset" button are two selector switches marked "Lights" and "Vib." respectively. These switches control the activation of the lights and vibrator modes. To obtain a visual signal, move the "Lights" switch up to the "on" position. When the switch is positioned in this way, the appropriate indicator light will shine when the TRD detects either R.F. or a tape recorder. When the switch is moved to the down (off) position, the indicator lights are deactivated; they will not shine in response to R.F./magnetic detection. It may be necessary to turn off the indicator lights manually for concealment purposes.

Similarly, when the "Vib." selector switch is moved up to the "on" position, the TRD will signal detection of intelligence equipment by causing the entire instrument to vibrate silently. When the switch is in the down (off) position, the vibrator mode is deactivated and there will be no signal by vibration. You may wish to deactivate the silent vibrator signal in situations where covert detection of surveillance is not necessary. By shutting off the vibrator, battery power can be conserved.

To the right of the "Vib." selector switch is a jack marked "Input" and "Antenna". This is where the dual mode antenna is plugged into the TRD-800. CAUTION: There are three prong holes in the jack; the size of these holes correspond to the sizes of the prongs on the antenna. Care must be exercised to properly insert the antenna prongs into the jack.

Now examine the antenna. Located at one end of the assembly are the three prongs that are to be inserted in the jack. Once again, please note the differing sizes of the prongs and their corresponding outlets in the jack. These prongs are quite fragile, and require careful insertion into the jack.

At the other end of the antenna is the sophisticated dual mode sensor probe. CAUTION: This highly refined instrument is easily damaged. DO NOT DROP OR BEND. If the internal element is fractured, the performance of the TRD can be reduced substantially.

The washable, elasticized wrist band that is supplied with the TRD facilitates wearing the sensor probe at the wrist. Please refer to the section on "Wearing the TRD-800".

On the back panel of the instrument at the right-hand side you will see a small socket with a red indicator light below it. This is where the battery charger is plugged into the TRD. When the battery is charging, the red light will be illuminated.

OPERATING INSTRUCTIONS

1. Position antenna for use.
2. Carefully plug the three-prong end of the dual antenna into jack marked "Input" on the front panel. CAUTION: Be sure to note the position of the three prongs and insert properly.
3. Move the "Power" switch up to the "on" position.
4. Set the desired alert modes. You may select the visual alert mode (light indicators) and/or the vibrator mode. If the visual mode is desired, move the "Lights" selector switch up to the "on" position. If the vibrator is desired, move the "Vib." selector switch up to the "on" position. Both of these switches may be in the "on" position at the same time. But in order to receive a detection signal, AT LEAST ONE OF THE SELECTOR SWITCHES MUST BE UP IN THE "ON" POSITION. If both of the switches are down in the "off" position, there will be no form of alert signal.
5. Once the power circuit is activated, the alert modes will function momentarily while the TRD-800 stabilizes itself to existing room energy. That is, if you have selected the vibrator alert mode, the TRD will vibrate for a few seconds until the instrument becomes acclimatized to the background R.F./magnetic energy existing in the room. Similarly, if you have selected the visual alert mode, the indicator lights will shine momentarily. If you have selected both modes, both the lights and the vibrator will activate briefly. If, after approximately 30 seconds, either the indicator lights or the vibrator or both are still activated, depress the "Reset" button. This will readjust the automatic R.F./magnetic level control to its proper setting. The TRD will now detect energy introduced beyond this level of stabilization.

WEARING THE TRD-800

Your TRD-800 will allow you to detect clandestine recordings or transmissions of your conversation without the eavesdroppers becoming aware that they have been detected. You will thus be able to engage in secret conversations with full confidence. It is important to locate the TRD discreetly on your person. The instrument is small enough and light enough to carry in an inside jacket or shirt pocket, for example, or in a waistband, or in some other such place of concealment. Once the instrument itself is in place, extend the wand of the antenna down your right arm (in place for a handshake sweep). Secure it to your inside wrist with the elasticized wrist band by carefully inserting the wand underneath the band where it will be held firmly in place. Next, insert the antenna plug into the TRD in the proper manner, and make certain that the desired alert mode or modes are properly activated.

You now have complete freedom of movement to sweep suspected persons for surveillance equipment. Either a handshake or a strategically placed pat on the back or arm will bring the TRD sensors well within range to detect an intelligence recorder or an R.F. transmitter. You may also wish to sweep the lower back or leg area. This can be accomplished by bending over to retrieve a dropped pen or tying your shoe. (Be sure that the antenna wand and wrist band are well concealed). With a little practice and some imagination, you will soon be able to conduct a thorough and effective personal sweep in any circumstances, without being detected yourself .

Although designed mainly for conversation control, your TRD- 800 can be used to sweep a room, car, or other locations as well. While not designed primarily for location searches (as is REI's CPM-700 Sweep/Monitor Device), the TRD will effectively perform modified searches. It is important to note that the immediate environment of your TRD will affect its performance during these searches. It will not perform to standard in areas that are rich with interfering R. F. or magnetic energy such as high-rise buildings or near radio transmission towers. The user must control his environment location in order to derive the maximum utility from the TRD. For further information about possible situations to avoid in your use of the TRD, refer to the sections on "R.F Interference" and "Tape Recorders".

TAPE RECORDERS

The TRD-800 has been designed specifically to detect the use of quality intelligence recorders that are small enough to be concealed on one's person. Because of the miniaturization of these recorders, special electronic modifications are required for their effective operation. It is the magnetic field generated by these modifications that the TRD detects.

The TRD will detect most of these high-quality surveillance tape recorders within an effective range of 12"-48". However, it must be noted that some relatively inexpensive and poor quality tape recorders will be detected by the TRD only at very close ranges. For example, recorders designed for dictation or message storage (which generally do not perform well as intelligence/surveillance recorders) usually do not provide adequate signal fields for detection by the TRD.

In addition, there are certain situations in which innocuous sources of A.F. transmission may interfere with the performance of your TRD. For example, if you wear a bracelet or a wristwatch, especially one with an electronic digital display, be sure to wear it on your left arm, while wearing the TRD antenna on your right arm. Otherwise, there is a possibility of low-level interference from the watch or detuning from the bracelet or metallic object. This can substantially reduce the effective range of the TRD.

R.F. INTERFERENCE

Your TRD-800 will detect R.F. transmissions within an effective range of approximately 5'-20', depending on the R.F. output of the surveillance device. It is advisable to avoid use of the TRD near operational electronic devices (unless specifically searching for such devices) such as televisions, video tape recorders, closed circuit cameras, computers, radio communications devices, etc. For example, in a motor vehicle there are many sources of R.F. (such as electronic ignitions, system computers, digital clocks, air conditioners, heater blowers, etc.) that could diminish the effectiveness of your TRD. TURN OFF the vehicle and you will eliminate those interfering sources of energy. If at all possible, control your conversation locations for best results with your TRD. Consult your dealer or Research Electronics, Inc., if you desire further technical explanation concerning R.F. interference.

TROUBLE-SHOOTING PROCEDURE

The TRD-800 is manufactured in accordance with REI's stringent quality control program. It must meet strict electronic and calibration standards, and is designed to withstand the rigors of everyday use. As with any electronic instrument, however, occasional failures may occur. In the event of instrument failure, thoroughly test the unit in all modes by using the trouble-shooting procedure outlined below. After verifying the problem, feel free to contact your dealer concerning possible repair or calibration if you are unable to solve the problem yourself by trouble-shooting. Technical specialists at the offices of Research Electronics, Inc., are also available to answer technical questions, and to provide assistance to all of our dealers and clients.

1. Charge the TRD-800 fully (14 hours) before trouble-shooting. (Refer to section on "Power for Source and Charging.")
2. Plug in antenna (check for possible antenna and wand damage).
3. Power, Light, and Vib. switches in down "off" position.
4. Turn power "on."
5. Flip "Lights" switch up to "on" position. (Remember: the degree of illumination will vary according to the intensity of the signal.)

Is the "Batt." L.E.D. illuminated?

If YES: Charge battery to maximum. If L.E.D. continues to shine after complete charging, BATTERY CIRCUITRY IS INOPERATIVE. Call your dealer.

If NO: Proceed to next step.

.Is the "R.F." L.E.D. illuminated?

If YES: Let the TRD-800 stabilize to room energy level (30 seconds). Press reset button if light remains on, move the TRD to another location away from possible high-intensity R.F. transmitters (e.g. radio or TV towers, etc.) Attempt several different location trials prior to calling your dealer.

If NO: TRD has stabilized to existing energy levels. Introduce a known R.F. source (e.g. GB or two-way radio, etc. -100 mw output) to the TRD to verify activation of the "R.F." L.E.D. Proceed to next step.

Is the "Tape" L.E.D. illuminated?

If YES: Tape mode is reacting to energy stimulus. Move TRD away from any recorders or high-intensity magnetic sources. Press reset button. If light remains on, move the TRD to a completely new location. Attempt several different location trials prior to calling your dealer.

If NO: TRD circuitry has stabilized. Check L.E.D. with known tape recorder to verify operation. Proceed to next step.

Flip "Vib." switch to "on" keeping "Lights" switch on as well. Check R.F. and Tape circuits INDIVIDUALLY for vibration mode activation. Does vibrator activate?

If YES: Introduce known sources to TRD to verify vibrator activation.

If NO: Verify whether TRD battery is working properly. If TRD still fails to vibrate, call your dealer.

POWER SOURCE AND CHARGING

The TRD-800 contains a rechargeable ni-cad battery. This battery will operate the unit for 8-10 hours in the standby mode, and for 2-3 hours on full alert. The L.E.D. on the control panel marked "Batt." is the low voltage indicator. This L.E.D. will automatically light up when battery power level drops to a 20% reserve capacity.

To charge battery: A full charge requires approximately 14 hours connected to a 120 VAC outlet (use only the charger provided with the TRD to charge this unit). Set power switch down to the "off" position, and simply connect the charger to the TRD by inserting the plug into its jack on the rear panel. If the TRD has not been used for 30 days or more, overnight charging is recommended before use. Long-term charging beyond the recommended charge time will not significantly reduce the life expectancy of the battery as long as the unit is operated to the point of low battery indication at least once every 3 months.

MAINTENANCE

The TRD-800 is designed for years of consistent, high-quality performance with minimal maintenance. As with any precision electronic instrument, the TRD should not be subjected to extremes of heat and cold, physical abuse such as dropping the unit, etc. The instrument should also be kept clean at all times. Should the exterior become dirty, simply wipe clean with a damp cloth.

TRD-800 SENSITIVITY ADJUSTMENTS

Sensitivity controls are very small and excessive force will strip or break controls. Do not turn past stops.

Each adjustment will change the range of operation. After making an adjustment of the R.F. or TAPE gain, always test the unit to insure satisfactory range of operation.