

# Wildlife Materials International, Inc.

## TRX-64S Receiver

### Specifications:

**Frequency Coverage** -- Any 640 KHz band from 216.000-223.000 MHz arranged in 4 16-channel bands

**Sensitivity** -- 150 dB minimum discernible signal

**Selectivity** --  $\pm 2$  KHz @ 6 dB down

**Stability** --  $\pm 2$  KHz from -20 to +120 degrees F

**Features** -- Sensitive signal meter with built-in backlight for night use, built-in attenuator, rechargeable batteries, external power cord for vehicle cigarette-lighter socket, deluxe heavy-duty padded nylon case included free (optional leather case available)

**Weight:** -- 2 pounds

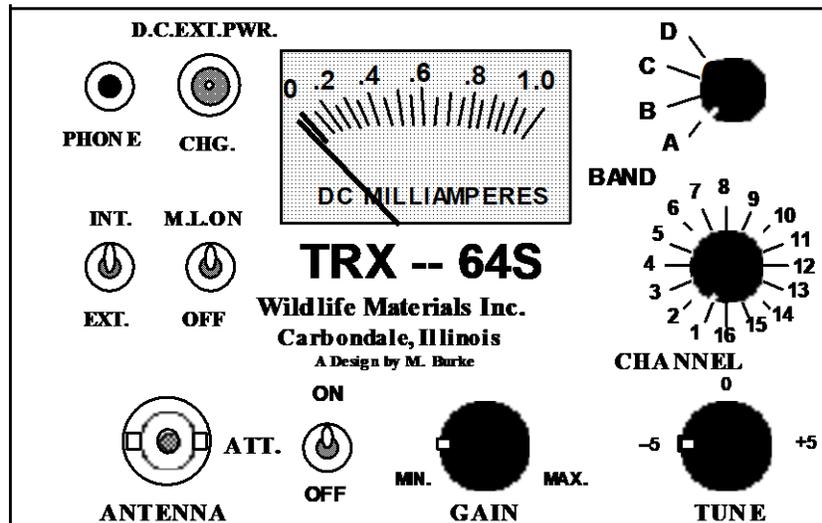
**Length:** -- 6.25 inches

**Width:** -- 4.15 inches

**Height:** -- 2.75 inches

**NOTE:** This radio equipment is designed to help you locate animals that may have wandered. As you know, any kind of electrical equipment, especially a battery-powered device, may stop working. Theft, accidents, and Acts of God also occur. Wildlife Materials, Inc. cannot assume responsibility for animals that are lost or injured while being monitored.

### INFORMATION on Front Panel CONTROLS (from upper left to upper right):



PHONE Jack -- allows connection of low impedance earphone or headphone with 3.5 mm plug. Sound from speaker is disconnected when phone jack is used.

Dual purpose D. C. EXTERNAL POWER Jack and CHARGER Jack -- allows receiver to be powered by external 12 volt D.C. power source. (Cigarette lighter power cord included). Also used for insertion of CHARGER plug.

INT.-EXT. Power Switch -- a three-position switch. **In center position, receiver is turned off.** When switch is **up**, power is drawn from **internal rechargeable battery.**

When switch is **down**, power is supplied through the D.C. External Power Jack plugged into **vehicle's cigarette lighter holder**.

M. L. ON-OFF Switch -- turns on and off the small lamps that allow the signal meter to be seen at night.

ANTENNA Jack -- Accepts BNC Connector with 50-ohm coax cable for connection to antenna.

ATTenuator ON-OFF -- switches a 30 dB Attenuator in series with antenna for close-in tracking to prevent swamping

GAIN Control -- Sets receiver volume; clockwise adjustment for more volume; counterclockwise adjustment for less.

TUNE Control -- Fine-tunes the signal on each 10 KHz channel. 0 (zero) position is channel **center**, shown on frequency chart on bottom of receiver. -5 and +5 are marks to show plus and minus 5 KHz from center frequency.

CHANNEL Selector-- 16-position channel switch allows selection of the desired channel.

BAND Selector -- 4-position switch allows selection of any one of four 160 KHz frequency bands.

Signal Meter -- movement of meter needle matches beeping signal from animal's transmitter. Helps verify signal strength and location.

### **OPERATING INSTRUCTIONS:**

1. Turn on receiver. Push toggle switch of INT.-EXT. Power Switch **up** to the INT. (for internal) Position if you wish to power the receiver with its inside rechargeable batteries. If you want to power the receiver from a vehicle, insert the cigarette lighter plug-in's BNC connector into receiver's D.C. EXT. PWR. Jack, then insert other end (cigarette-lighter plug-in) into vehicle's cigarette lighter holder, and then push receiver's toggle switch **down** to **EXT.** (for external) Power.

2. Adjust GAIN Control until a low hissing noise comes from the speaker.

3. Determine the frequency range, band and channel where the transmitter wearer's signal is to be tracked. Note the frequency number (for example, 217.015) on the transmitter collar's silver tag; this indicates that your receiver, transmitter collars and antenna will work together on the 217 range. Now, on **chart taped above or below the receiver face**, look up the band and channel where this transmitter will broadcast. If the transmitter collar's frequency reads 217.015, turn the selector knobs so that you tune the collar to **band A and channel 2**, or **A-2** for short. This transmitter collar may be thought of as your A-2 collar from now on.

4. Rotate the TUNE Control from left to right, from 0 to 0, to **refine the signal strength and get the clearest tone**. Collar frequency numbers ending in 5 will come in best at center channel or 0; collar numbers ending in 3 will come in best near -5; collars ending in 8 will come in best near +5. To fine tune for best range, play with the TUNE Control until you locate the place on the dial where **each** collar performs best.

5. Adjust GAIN Control or volume. Turn up the volume at first to bring in the transmitter signal. **After you hear the signal, turn GAIN as LOW as possible** (the beeping signal may sound best when it is a high chirp, or a faucet drip or a dull thump, depending on your hearing ability). When your directional antenna is pointed toward the transmitter wearer, your GAIN is LOW but you can still hear the signal, and the meter needle stays below 6 on the meter, you will get the best signal direction.

6. If signal is too strong and swamping occurs, push ATTenuator switch to ON position. This attenuator allows accurate direction finding when the operator with receiver is close to the transmitter wearer. The attenuator prevents receiver overload. **TURN OFF when tracking your animal at a distance of a half-mile or farther**. Receiver usage without attenuator will give maximum signal range.

7. As you move **closer** to the transmitted animal, adjust the GAIN **lower** again to get the best direction and avoid swamping.

8. We ship receivers with a **full charge**, which lasts about 6 hours of tracking. Before charging, place **power** switch on **OFF**. A **fully discharged** TRX-64S should be charged at least 16 hours but **no more than 24 hours**. **After receiver is fully charged, charge 4 hours for each hour of operation (up to 24 hours)**.

9. **Vary your recharge times** to avoid a "memory" buildup. If you recharge 4 hours **each** time, the battery will gradually become good for **only** 4 hours of life. Avoid a recharging pattern to get the most out of a battery. For instance, if you charge for 4 hours one time, use your equipment until a charge of 8-10 hours or 12-14 hours or 16-20 hours is required the next time.

10. During storage periods, turn receiver on every 3-4 months, run for 2-3 hours, then recharge for 12-16 hours.

- **RECEIVER BIRDIES** -- Internally generated signals are located on a few channels. These birdies make these channels undesirable to use. Our sales consultants can tell you which frequencies to avoid. Since the birdies affect only 3 to 5 channels on any receiver, ability to track large numbers of collars with the TRX-64S Receiver is affected very little.
- **WARRANTY** -- Parts and labor on the receiver's **ELECTRONICS** are guaranteed for **five years** from our shipping date. Failures caused by customer's abuse or neglect are not covered. Any attempt to repair or modify receiver by customer or local shop person can void warranty.
- The receiver is **NOT WATERPROOF**, and not guaranteed to be so. During rain, snow & fog, **place** the receiver **inside a plastic bag or operate from inside a vehicle** with the aid of the included cigarette lighter plug-in cord.

## **TROUBLESHOOTING the TRX-64S RECEIVER**

Please check the following list **before you return** the TRX-64S Receiver to WMI for repairs.

### I. If you turn the TRX on and it doesn't work:

- A. Turn INT./EXT switch to INTERNAL power.
- B. Turn GAIN knob fully clockwise.
- C. With ear to speaker, listen for hiss.
- D. If there is no sound or if sound is weak,
  - 1. Charge battery for 1 hour and recheck. The receiver may now be OK.
  - 2. If the battery does not charge, check the voltage output of the recharge unit on a DC voltmeter. If the recharger fails to register in the normal 12-18 v range, a new recharger is needed. **Return receiver with recharger** to WMI; include note on tests run. During warranty period, old recharger must be returned before new recharger is shipped.
- E. If the battery won't charge and the recharger tests OK, send the receiver back to WMI. Include note on behavior and tests run.
- F. If the battery tests OK, charge receiver 18-20 hours before use. Then try to tune in the channel no. of a collar.
  - 1. Turn GAIN Control fully clockwise. Do you get a sound? You may need to place your ear by the speaker. If you get no sound, send **receiver and recharger** to WMI with note on behavior and tests run.

### II. If you hear a signal, is it a) a musical beep or b) a dull thump?

- A. If you hear a) a musical beep; attach your antenna cable to receiver. Check range of at least 2 transmitter collars **known to be good**. During test, place good transmitters on stump, box, or block about 6-12 inches above ground. Do you get a normal signal range for the collar type used? If not, send receiver and antenna back to WMI with a note on tests run.
- B. If you hear b) only a dull thump,
  - 1. Tune the frequency number up and down several numbers or KHz to see if the frequency has shifted. For example, if your collar frequency number is on channel A-1, adjust the Tune Control all the way from -5 to +5 to see if a signal comes in. If the collar normally comes in near the top or bottom of the channel, try one channel up or down from the correct channel. It is not unusual for the collar's frequency number to come in on the receiver at a different number, or to slip by 1 to 3 KHz up or down. However, larger frequency shifts of 5 to 10 KHz are uncommon and unacceptable.
  - 2. Borrow a buddy's **working** receiver to see if your transmitter collar's signal will come in at the correct frequency number on another receiver. This will insure that the collar is not the problem.

### III. If the receiver is not getting the range you expect:

- A. Is the problem the same with all your collars? If you have only one collar, try a buddy's that is on the same frequency.

B. If all your collars are giving poor signal range, borrow an antenna and cable that work. Try picking up each collar signal with the borrowed antenna and cable.

1. If the collar signals come in well, you probably need a new antenna cable. Or, less likely, the antenna needs repairs.

2. If all collar signals do not come in well with a borrowed antenna and cable, send the **receiver, recharger and collars** back for repair. Include note on equipment behavior and tests run.

#### **IV. If the transmitter collar signal does not come in on the frequency assigned to it:**

A. Check your other transmitter collars on your receiver. Are they off frequency also?

1. Tune the frequency number **up** and **down** several numbers or KHz to see if the frequency has shifted. For example, if your collar frequency number is 217.**212**, look up the channel on the chart attached to the bottom of the receiver case. Collar number 217.212 should come in on band B and channel 6; dial **B-6**. Now turn the Tune Control to the left of zero (0) a little more than half way to -5. Your collar frequency's **last** digit (in this case, **2**) **should match a specific place** on the **Tune** dial. For instance, collar .21**5** would come in at the **center or zero**, and collar .21**8** would come in at the right, **half way to +5**. Play with the tune dial to see where your collar signal will come in. It is not unusual for the collar's frequency number to come in on the receiver at a different number, or to slip by 1 to 3 KHz up or down. However, larger frequency shifts of 5 to 10 KHz are uncommon and unacceptable.

2. Borrow a buddy's **working** receiver to see if your collar frequency numbers come in. Insure that collars are OK.

B. If all collars are off frequency, the receiver needs to be calibrated. Return **receiver and recharger** to WMI.

#### **V. If you get noise from the receiver, but no signal:**

A. Does receiver fail to work when exposed to either very hot or cold or humid conditions?

B. Allow the receiver to return to room temperature, then check.

C. If the receiver still doesn't work, return **receiver and recharger** to WMI with note about temperature effects, if any.

#### **VI. If the Tune knob has slid or loosened on its shaft:**

A. You will not be able to locate your dog's signal at its assigned frequency. To center the Tune knob,

1. Turn the Tune **and** the Gain Control knobs down to low, with both their white lines in matching positions.

2. Then tighten the screw at the side of the Tune knob.

3. Return Gain knob to desired level.

4. Place Tune knob's line at O or center.

**VII. If the Signal Meter Needle stays or "hangs" at the low end of the meter:**

A. When the needle does not go down to **0**, your readings will be off kilter. To "zero the meter,"

1. TURN OFF POWER.

2. With a small screwdriver, turn screw beneath signal meter until needle centers on zero line.

**VIII. If your receiver has been wet:**

A. You may or may not realize this has happened. A sign is that the signal meter needle sticks at the right side of the meter. The needle stays up or "hangs" rather than coming down.

B. DO NOT OPERATE during this time. Turn Receiver OFF.

C. Turn receiver face down, place **near warm** air source (not **on** it).

D. Water inside a receiver will void its warranty.

E. DO NOT REMOVE RECEIVER from case. This harms circuitry.

F. Return **receiver and recharger** to WMI as soon as possible.

**When returning equipment to WMI for repair, please INCLUDE A NOTE that explains any unusual behavior. This information will help the technician to go quickly to the problem, saving repair time and expense. For estimates, please give daytime phone #.**

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**34 YEARS MANUFACTURING EXPERIENCE**