

Wildlife Materials International, Inc.

CHANGEABLE-BATTERY #3190 TRANSMITTER with replaceable lithium battery and antenna

The #HLP-3190 transmitter was designed for convenience. One AA 3.6 volt **lithium** battery, changeable in the field, is included. Each battery will last **70+ days** of continuous tracking. Replacement batteries can be purchased from Radio Shack or from us.

This transmitter has been upgraded to **three-stage** power, using our **next generation** Magnum circuit board. This translates into longer signal range and a more trackable signal.

NOTE: As you know, any electrical equipment, especially if battery-powered, may stop working. Theft, accidents, and Acts of God also occur. Wildlife Materials International cannot assume responsibility for injuries or loss resulting from equipment failure.

Directions for Usage:

1. To change batteries, open the end cap with a coin--just twist a coin in the cap slot counterclockwise. **AVOID DAMAGING CIRCUITRY!** Place **the battery's negative (-) end nearest the end cap**. As a reminder, the outside of the cap has been engraved with a "-". Tighten the cap in a clockwise direction. As a waterproof seal, a black O-ring has been fitted inside the cap. This O-ring will last for years. Contact us for an O-ring replacement when it frays, loosens, etc.
2. To start the transmitter signal (with the battery already placed inside), **remove the magnet**.
3. Before using, inspect the radio unit to insure good working order. Tighten transmitter **antenna** and **battery cap**. Check **cable connections** between receiver and antenna.
4. Turn on your receiver. Tune in the transmitter's frequency number to get a beeping signal. Attach your handheld antenna's cable to the receiver plug **after** you are positioned some distance away (at least 20 yards) from your transmitter.
5. Practice finding the transmitter **before** putting it into the field. Begin by placing the activated transmitter in a tree at about 200 yards so you can pick up the signal. Then ask a friend to hide the transmitter in a **nearby** field so you can get more experience with radio tracking.

The best way to track a signal is called the NULL-to-NULL method. With the transmitter hidden and antenna plugged to receiver, hold your antenna above your head, its **main boom parallel to the ground**. Rotate your antenna in a full circle--360 degrees. A peak signal will be received over 15 to 20 degrees of a circle. Swing the antenna back and forth to see where the signal stops or a NULL (no sound) occurs. You will quickly find a null at 30-40 degrees on either side of the peak signal. **Divide the space between the nulls in half--this is the direction of your transmitter**. As you move toward the signal, take another reading to verify the correctness of your tracking. For best signal reception, **your antenna elements should parallel the transmitter's antenna**. You may need to "play" with the antenna, rotating it by wrist action so that its elements move from vertical to horizontal position.

6. If you receive a strong signal (with the receiver's gain control turned down) **all** around you (called **swamping**), you are very close to the transmitter. Switch the receiver's attenuator on. Or detach the antenna cable from your receiver jack and then turn the receiver's gain control up. Go toward the loudest signal.

7. If signal bounce occurs in rugged terrain, go to a **high altitude** such as a ridge. Turn the receiver gain **down** and take several readings from **different** positions. The point where 2 or more signals **cross** is where the transmitter is located. This method is called TRIANGULATION.
8. To stop the transmitter, **put the magnet in the magnet slot. Or remove the battery.** Use receiver to check that transmitter power is off.
9. During storage, **keep each battery separate.** If 2 batteries touch, power will drain. **Batteries can be kept in a refrigerator for longer freshness.** Also, store transmitter in cool place (not cold).
10. Keep another magnet on hand for battery conservation. Magnets are easily lost in the field and can be difficult to purchase elsewhere.
11. Before using, be sure to **tighten down the transmitter's changeable antenna.** At the base of the antenna, turn the brass holder RIGHT. Some individuals apply Lock Tight sealant for insurance.
12. To change a broken antenna, just unscrew the old one, insert the new one and tighten down. Replaceable antennas can be purchased from Wildlife Materials International.

The power will go flat in lithium battery-powered transmitters that are not used for long periods. To avoid "lithium barrier" and to keep this battery active during storage, EXERCISE the battery by turning it on for **8-10 hours once a month.**

FIVE YEAR Warranty on Parts and Labor in ELECTRONICS as of 1/1/97

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35 YEARS MANUFACTURING EXPERIENCE