

**W6LVP Amplified Receive-Only Magnetic Loop Antenna**  
**Setup and Operation Guide**  
**Power Inserter Version**

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## Operation and Instructions

The first step to setup the loop antenna is selection of the location and type of mounting. If the antenna is going to be used in a fixed location, it should be mounted as far from your house and other noise generating sources as possible. In addition, a light-weight rotator is highly recommended to orient the antenna for minimum noise pickup.

For portable operation, I use and recommend a Blackmore Model BJST-60KG DJ speaker support tripod that will raise the base of the antenna to a bit over 6 feet. The speaker tripod is sturdy, collapsible for portability, and accepts the antenna 1" PVC lower tube section. The tripod can be purchased from a variety of sources including Amazon for \$25. The internal diameter of the tripod tube may be too small to accept the lower antenna PVC tube. In that case, use a hacksaw to make two cuts in the lower antenna PVC tube running parallel the tube and running approximately 3 inches from the end of the tube. Two cuts will make four total cuts in the PVC allowing the diameter to shrink slightly and fit inside the tripod upper tube.



**Blackmore Speaker Tripod**  
(Not fully extended)



**Channel Master TV Rotator**

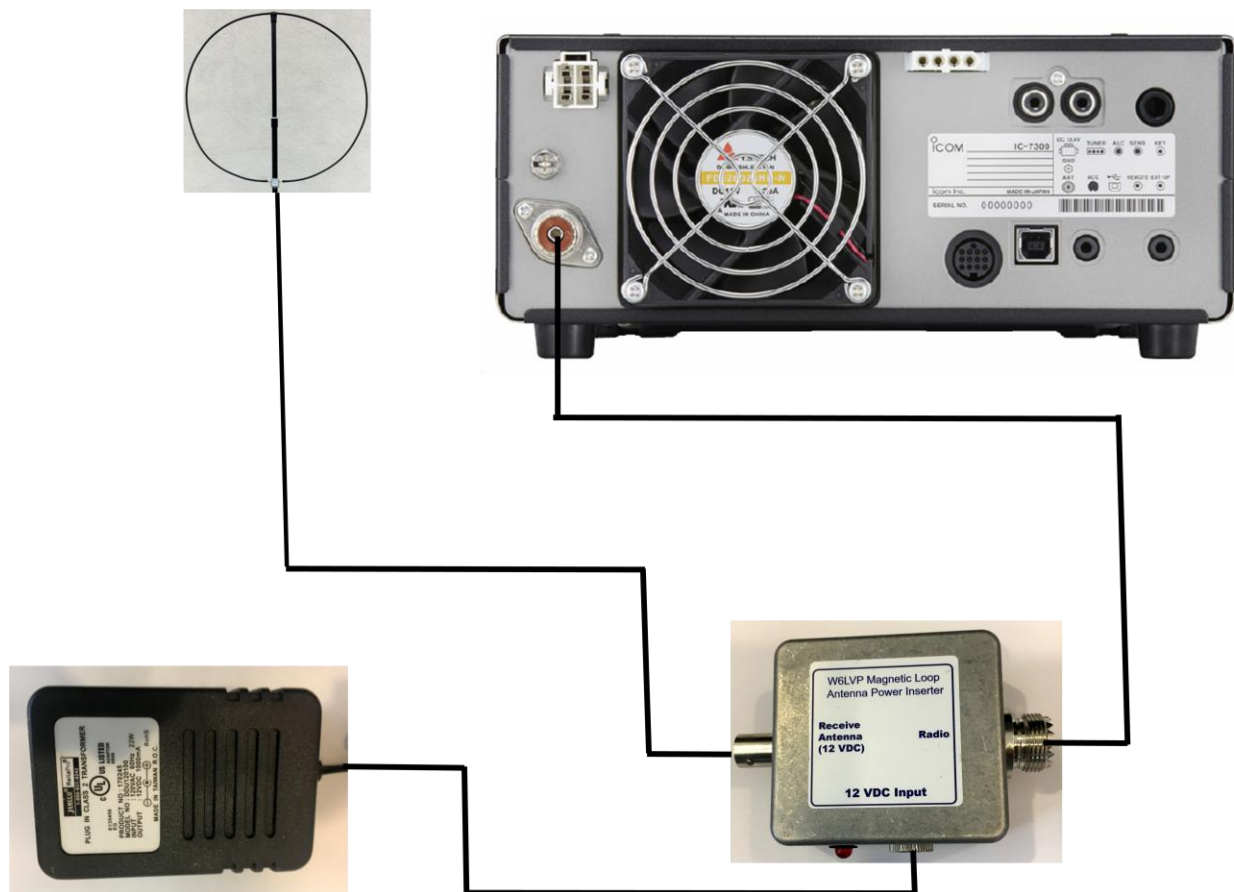
*\*\*\* For both portable and fixed operation, the receive loop should be located as far as possible from noise generating sources as far as practical from your transmitting antenna.*

Assembly of the antenna is extremely straightforward. Insert the upper 3/4" PVC tube with coaxial cable loop attached into the top of the 1" PVC lower tube section. Connect the two BNC connectors on the ends of the coaxial cable loop to the BNC connectors on each side of the loop amplifier. Insert the lower 1" PVC tube into the top of a rotator, portable tripod, or other similar mounting arrangement. The coaxial cable loop can be adjusted to a round shape which has only cosmetic benefit. Slight deformation of the coaxial cable loop will not affect loop performance.

Coaxial 50-ohm cable with either BNC connectors or other connectors and BNC adapters can be used to connect the antenna to its power inserter located in the shack.

**Using the W6LVP mag loop antenna and power inserter with a transceiver with separate receive antenna input or with a receiver separate from the transceiver .**

When using the W6LVP magnetic loop and power inserter with a transceiver having a separate receive antenna input or with a receiver, connect it as follows:



- Connect a short 50-ohm cable with PL-259 connectors between the transceiver receive antenna connector or the receiver antenna connector and the RADIO connector on the transmit/receive switch.
- Using a 50-ohm coaxial cable with BNC connectors or other connectors and BNC adapters, connect the power inserter RECEIVE ANTENNA input to the loop amplifier output.
- Connect the 12 VDC power adapter and the LED will illuminate indicating power is applied.

## TIPS

Whether manually with a helper or using a remotely controlled rotator, the loop antenna can be oriented either for optimum desired signal reception or minimum noise. Testing has indicated that orientation for minimum noise has the greatest benefit. Noise sources change throughout the day and on different bands making a rotator very handy. There may be cases where the loop can be rotated to separate two stations operating on the same frequency – optimize one and minimize the other.

Use the electrical tape provided to wrap the loop BNC connectors where they attach to the magnetic loop amplifier. Start wrapping the tape about two inches from the end of the BNC connector and continue wrapping until touching the side of the amplifier. Wrap the tape around the cable in the direction that will cause the BNC connector to tighten.



If for better mounting, you need the length of the bottom PVC tube to be a bit longer, a 1" PVC coupler, a short section of 1" PVC tube for your extension, and some PVC cement from your local hardware store or Home Depot will solve the problem.

If you need to install the antenna so that it is somewhat fixed but also easy to relocate, I recommend constructing an H-frame support using 1 ¼" PVC tubing. Turns out that the lower 1" PVC tube of the antenna will fit perfectly inside 1 ¼" PVC tubing. I create an "H" base that is 2 to 3 feet square with a PVC tee pointing straight up the center. It needs to be pretty straight in order to make your antenna vertical. I then glue a 4 to 5 foot section of 1 ¼" PVC tube into the H-frame to support the antenna. I make a couple of cuts in the support vertical tube at the top where the antenna will enter so that the tube can be squeezed a bit to clamp

the antenna. I then put a hose clamp around the outside of the 1 1/4" tube to keep the antenna from slipping or rotating. An H-frame can also be used to support a rotator.

For super quick and easy portable setup, a short length of pipe or rebar can be driven into the ground to support the bottom of the antenna extension mentioned above.

**Use only the supplied 12 VDC linear power adapter or equivalent. Do not use a switching 12 VDC power adapter as it will inject noise into the received signals.**

**NEVER CONNECT THE POWER INSERTER RECEIVE ANTENNA CONNECTOR (BNC) TO THE TRANSCEIVER ANTENNA OR RECEIVE ANTENNA CONNECTOR. THE CABLE FROM THE POWER INSERTER TO THE LOOP IS USED FOR BOTH THE RECEIVED RF SIGNAL FROM THE LOOP AMPLIFIER AND 12 VOLTS DC POWER FOR THE LOOP AMPLIFIER. THAT 12 VOLTS DC COULD DAMAGE THE INPUT TO A TRANSCEIVER OR RECEIVER.**

**NEVER CONNECT THE OUTPUT OF A TRANSCEIVER OR POWER AMPLIFIER TO THE MAGNETIC LOOP AMPLIFIER. THIS ANTENNA IS FOR RECEIVE ONLY.**

## **Warranty**

All products manufactured by W6LVP are warranted to be free from defects in material and workmanship for a period of one (1) year from date of shipment. W6LVP's sole obligation under these warranties shall be to issue credit, repair or replace any item or part thereof which is proved to be other than as warranted; no allowance shall be made for any labor charges of Buyer for replacement of parts, adjustment or repairs, or any other work, unless such charges are authorized in advance by W6LVP. If W6LVP's products are claimed to be defective in material or workmanship, W6LVP shall, upon prompt notice thereof, issue shipping instructions for return to W6LVP (transportation-charges prepaid by Buyer). Every such claim for breach of these warranties shall be deemed to be waived by Buyer unless made in writing. The above warranties shall not extend to any products or parts thereof which have been subjected to any misuse or neglect, damaged by accident, rendered defective by reason of improper installation, damaged from severe weather including floods, or abnormal environmental conditions such as prolonged exposure to corrosives or power surges, or by the performance of repairs or alterations outside of our plant, and shall not apply to any goods or parts thereof furnished by Buyer or acquired from others at Buyer's specifications. In addition, W6LVP's warranties do not extend to other equipment and parts manufactured by others. The obligations under the foregoing warranties are limited to the precise terms thereof. These warranties provide exclusive remedies, expressly in lieu of all other remedies including claims for special or consequential damages.

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