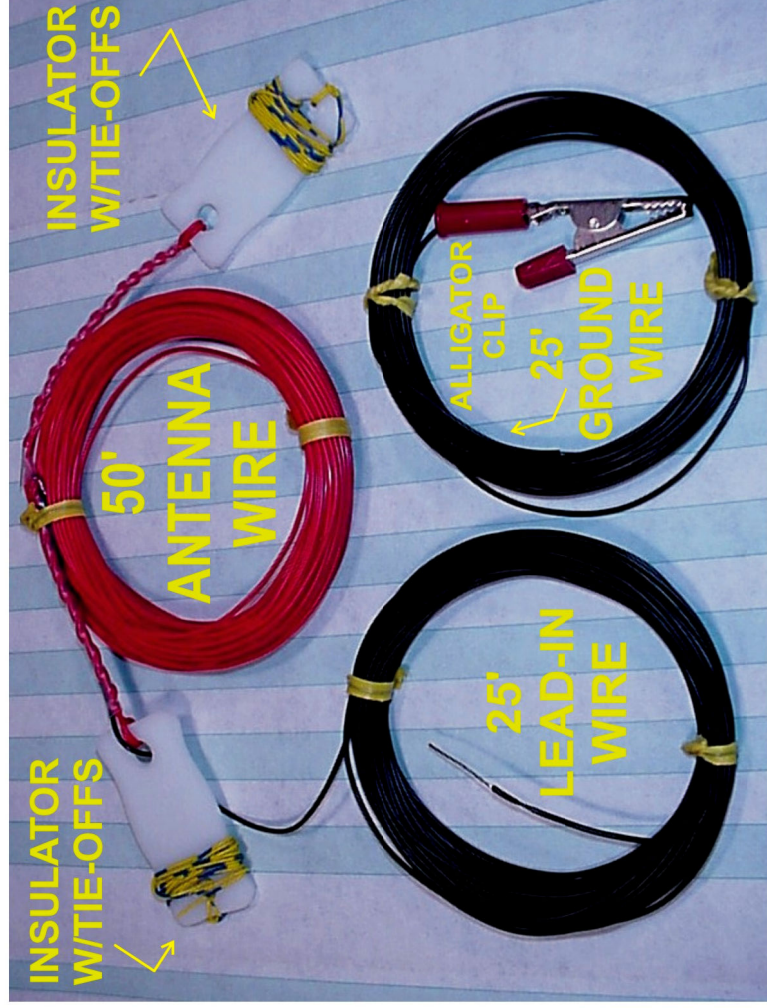


# INSTRUCTIONS



## PO-106, INDOOR-OUTDOOR ANTENNA/GROUND KIT

### INSTALLATION IDEAS

## Antenna and Ground Ideas

A substantial antenna and ground are an absolute must, for the ultimate pleasure of crystal radio experimentation. See the diagrams below, for the following explanations:

Note: The information on this page is a little more advanced, than what the kit provides.

See examples on the following page, and use your imagination, and experiment, making improvements as you advance.

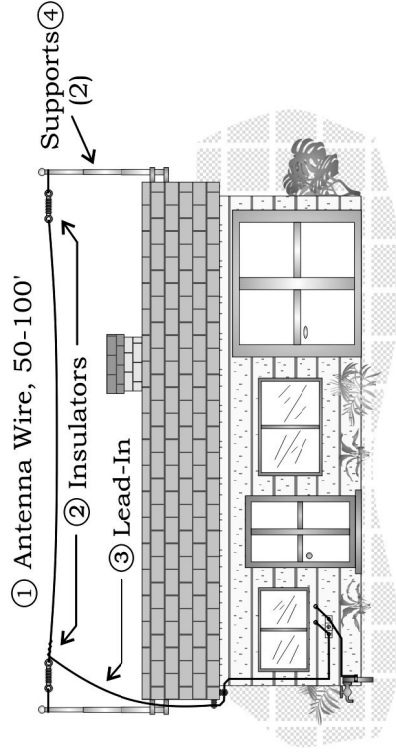
1) Antenna Wire, 50-100'; 14 gauge/stranded wire is the most practical here. The wire can be insulated or un-insulated and if 14ga. isn't handy or practical, then use what you have that would be a close substitute.

2) Insulators; Any style that is fit for an antenna application may be used here. Make certain that the antenna wire and 6"-8" pieces that tie to the Supports are mechanically sound. These connections should be tightly wrapped around each-other and securely soldered.

3) Lead-In Wire; This should be of the insulated variety, or could be 52-72ohm coaxial cable. Make certain the shielding is securely grounded. See #7 on grounding. If a single wire is used, then it should be of as heavy gauge as possible and very well insulated. See #5 on insulators.

4) Supports; I have used 15' antenna mast as shown, for my antenna. The supports could be a tree, another building or any object that is as high as possible. Your supports should be as high as absolutely possible, if you live in a "fringe area". Height is not as important in areas that have a large amount of powerful stations nearby. A very important factor here is to keep your antenna and lead-ins clear of utility lines of all types.

5) Insulators; Your lead-in wire should be insulated from all objects. Even-though the lead-in itself is insulated, then wire should still be run-through insulators. Radio frequencies have a habit of finding a path to ground easily. When working with very weak signals as we do, in radio experimentation we need all the signal we can obtain to the set.



6) Feed-Through Insulators; Should be used to run the wires through the wall, into radio room

7) Ground; This should be a solid path to "earth". This can be accomplished via water-pipes or other direct paths to "earth" ground. Do-not use Gas pipes, here. Make certain your home has metal pipes, or you could get a ground rod from an electrical supply house. They can instruct you for best installation.

8) Lightning Arrester: This is a very sensible safety precaution and should be used.

Note:

If it is not possible to run an antenna outside, then there are a few alternatives that can be tried:

A) The antenna wire could be installed in the attic of your house, in a similar manner as shown below.

B) A vertical antenna can be made, by using 1-1/2" PVC pipe, and winding wire around it in a spiral fashion for whatever length of pipe you have room for. Run a lead-in to your receiver, from the bottom-end.

C) A wire can be run around a room near the ceiling and then run the lead-in to your receiver. Use as much wire as you have room for.

D) Aluminum-framed windows and other, similar metal objects may be tried.

The fun of crystal radio experimenting is to try different things and never be afraid to experiment, safely.

