

BUILD A FULL SIZE DUAL BAND -J-POLE **YOURSELF !**

Note:

I don't know the originator of this clever adaptation so I cannot provide any acknowledgement. However, I have built more than six of these antennas and can attest to the great performance.

Go to Home Depot or Lowes or other Building materials/hardware stores, and buy the following:

- One 10 ft long, 3/4 " dia. EMT galvanized steel conduit or equivalent(larger is ok too)
- One 5" x 1" zinc corner brace bracket (made by many suppliers - the one I use is a Stanley N220-152)
- 2 or 3 stainless- steel adjustable hose clamps, 1 1/4" or 1 1/2" size. (3 is better!)
- One 3 ft. piece of 3/8" x 24 tpi zinc plated threaded rod,
- 2 - 3/8" x 24tpi stainless steel nuts and one 3/8" stainless steel lockwasher.

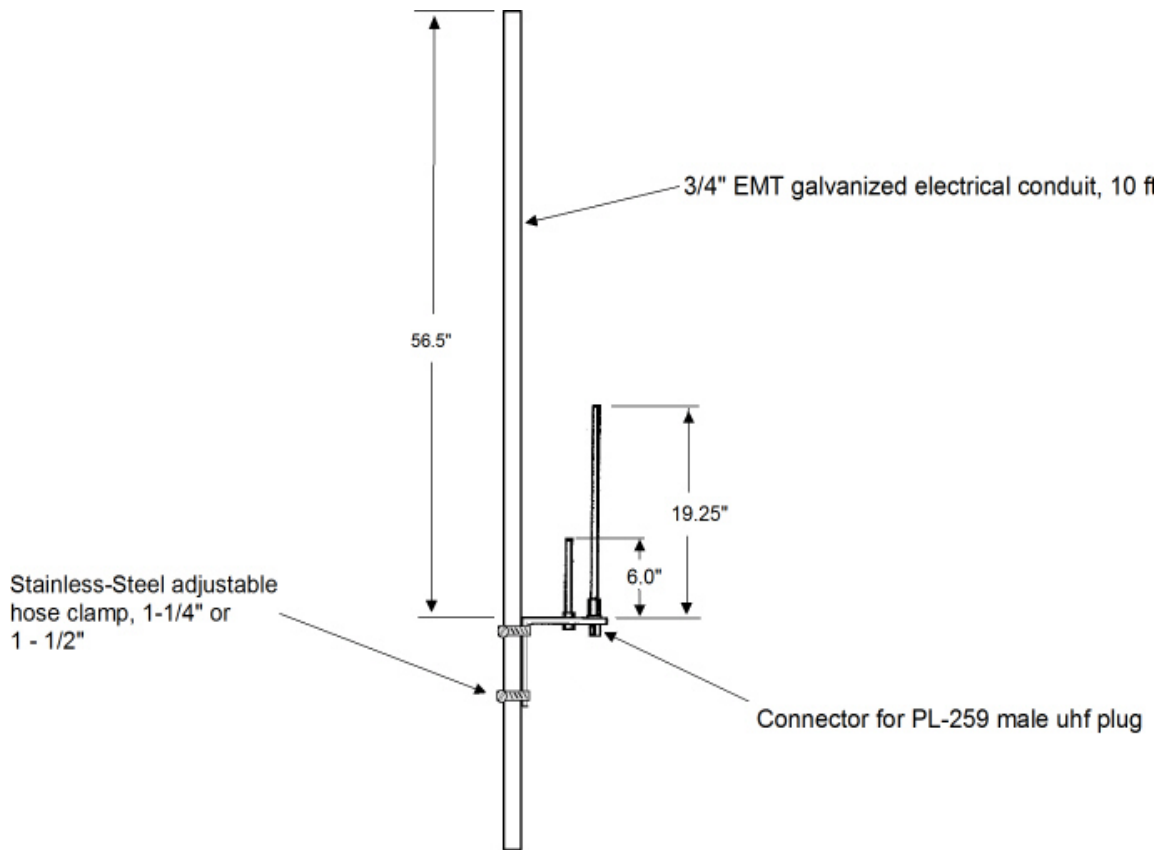
From a Ham Radio or CB dealer buy:

- One SO-239 to 3/8" -24 tpi stud mount

Bracket assembly

The bracket has 3 - 5/16' dia. holes in each leg.

- On one leg, drill out the center hole to 3/8" dia.
- On the same leg, drill out the end hole to 1/2" dia., for the stud mount
- Cut 2 pieces of the threaded rod, one 6 1/2" long, and the other 18 3/4" long.
- Mount the 6 1/2" piece using the nuts and lockwasher, and adjust the length to 6.0" above the bracket as shown in the figure below.
- Mount the SO-239 stud mount in the 1/2" hole, tighten securely.
- Thread the 18 3/4' rod into the SO-239 stud mount and tighten with pliers. The length above the bracket should be close to 19.25", as shown in the figure below.



Assembly

1. On one end of the $\frac{3}{4}$ " EMT pole, measure down 56.5" and mark a line with an ink marker.
2. Using the 2 (or 3) stainless-steel hose clamps, line up the top surface of the bracket assembly with the ink line you previously marked, and tighten the clamps.
3. Mount the antenna in the location of your choice using the lower 5 ft. of the pole. This antenna does not need a ground to operate correctly. However, if mounted outside, then an earth ground to the conduit is recommended.

Test and adjustment

If installed per the dimensions above, the antenna should have an SWR of less than 1.5:1 at both 146 and 444 Mhz.

If necessary, adjust the position of the bracket for best SWR at 146 Mhz, or the length of the short element at 444 Mhz.

Other Notes:

1. If mounted outside, run a bead of caulking or silicone rubber on the top and sides of the metal conduit and the bracket. Also protect the PL-259 connection with a few wraps of coax tape or poly rubber sealing tape.
2. The lowest swr will be obtained if you add a choke decoupling balun to the coax feed-line close to the PL-259 connector. Wind 6 or more turns of the coax around a 2 1/2" or greater diameter form and secure with nylon ties.
3. The ones I have built used 3/8" aluminum material, and threaded on the one end. If you use the threaded rod instead, as described as above, the performance will be the same, but over time the zinc plated threaded rod may begin to rust.

Photo of bracket assembly with aluminum elements.

