

On the 3.75 inch pieces drill a 1/8 inch hole 7/8 inch in from one end and then another 3/4 inch from the one you just drilled. These holes should be all the way thru the pvc pipe.

On the 4.5 inch pieces drill a 1/8 inch hole 7/8 inch in from one end then another 2 inches from the one you just drilled. These holes should be all the way thru the pvc pipe.

On the 3 inch pieces drill a 1/8 hole 7/8 inch in from one end. (not all the way thru both walls of the pvc)

On the 14 inch piece cut a 1/4 inch deep slot of one end of the piece.

From the spool of 20 gauge speaker wire cut the following: (do not pull the wire apart until you cut it, that way you know that the mirror pieces are cut the same.)

Lengths:

28 inches (for the arms)

26 inches (for the 15 meter coil)

70 inches (for the 20 meter coil)

6 inches (for the whip holder)

Assembly:

The arms: Feed the wire thru one of the holes into the pvc pipe, push it down the pipe, pull it thru the other hole. You should have a tail of about 3 inches on either end. Attach a female connector to one end and a male connector on the other end. Set aside.

Coils:

15 Meter coil: Using the 3.75 inch piece of pvc, feed one end of the 26 inch piece of wire thru both holes that are 7/8 inch from end until you have 3 inches thru. Take the long end and wrap it 5 times around the coil then push the end thru the other holes. You should have about 3 inches sticking out. Put a female connector on one end and a male connector on the other end. Wrap the coil in electrical tape.

20 Meter coil: Using the 4.5 inch piece of pvc, feed one end of the 70 inch piece of wire thru both holes that are 7/8 inch from end until you have 3 inches thru. Take the long end and wrap it 20 times around the coil then push the end thru the other holes. You should have about 3 inches sticking out. Put a female connector on one end and a male connector on the other end. Wrap the coil in electrical tape.

The whip holder: Insert a coupling nut into the end of the 3 inch pvc that you did not drill the hole in. Gently tap it in until it is flush with the pvc end. Insert one end of the 6 inch wire into the hole. Strip that end and put a ring lug on it, put the 3/8 x 24 bolt thru ring and insert it into the coupling nut. Screw a whip on. Set aside.

Feedline: Slip the ferrite beads on the end of the coax without the pl259, then slip the heat shrink over the beads. Make sure about 6 inches of coax is sticking out. Heat the heat shrink. Strip 3 inches of the black outer covering off the coax. Separate the braid from the center core. Slip a short piece of heat shrink over the braid. Attach the correct connectors to the center and braid. If you do not want to buy the kit from Palomar Engineering you can also just coil up about 4 loops of coax about 6 inches in diameter and tape them.

Assembling the antenna: First, put the 4 way connector on your mast of choice. Push an arm on either side. Put on a slip coupler and push on the coil of choice. Then add another slip coupler and push on the whip holder. Attach your feed line.

Tuning: Move the telescoping sections of the whip in and out (both whips) until the SWR is good. Remember that a dipole needs to be elevated at least a quarter wavelength above ground. For 10 meters this would be about 8 feet, 15 meters is about 11 feet, and 20 meters is about 17 feet. My tuning was as follows:

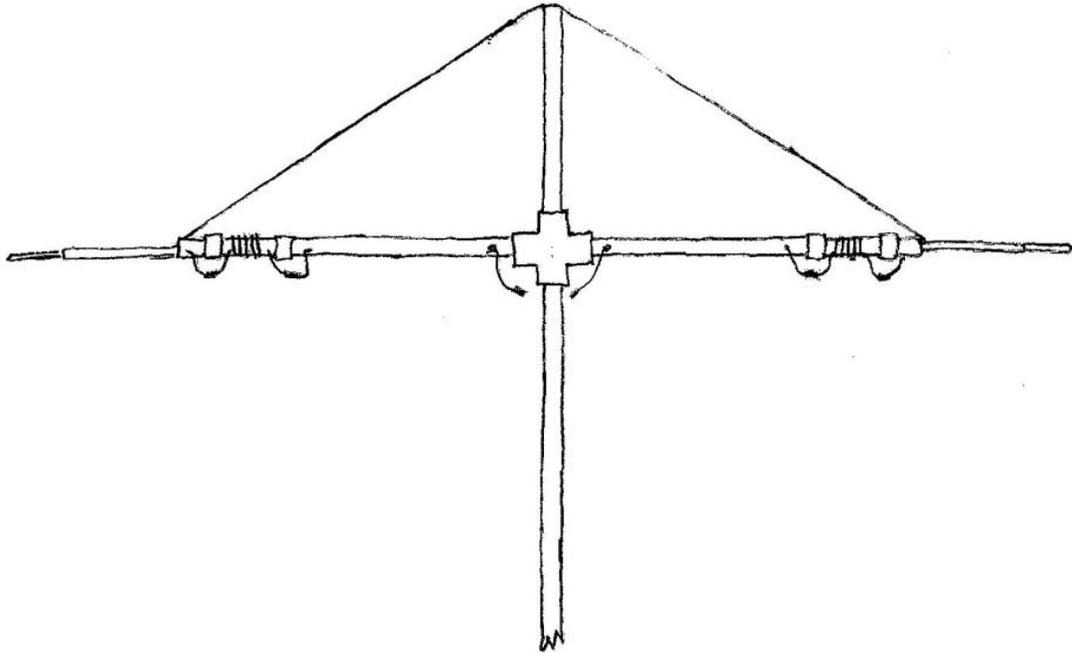
10 meters – no coil – first 5 whip sections

15 meters – small coil – 5 and $\frac{2}{3}$ whip sections

20 meters – large coil – 5 and $\frac{1}{4}$ whip sections

Optional vertical antenna setup: Insert one of the coils in the top hole on the tee connector. Attach one of the whip holders to that. Attach center conductor of feedline to the whip holder. Get a $\frac{1}{2}$ inch pvc plug (\$.26 at Lowe's), drill a $\frac{1}{8}$ hole all the way thru it. Cut a piece of wire about 18 feet long (this will give an adequate counterpoise for up to 20 meters). Feed one end of the wire thru the hole you drilled in the plug put a connector on it. Tie a line on the other end of the wire. To use, push plug into one of the side holes on the 4 way. Unroll the right amount of wire needed for whichever band you are working on.

A drawing of the homebrew Buddipole is below.



Counting the turns on the coil

