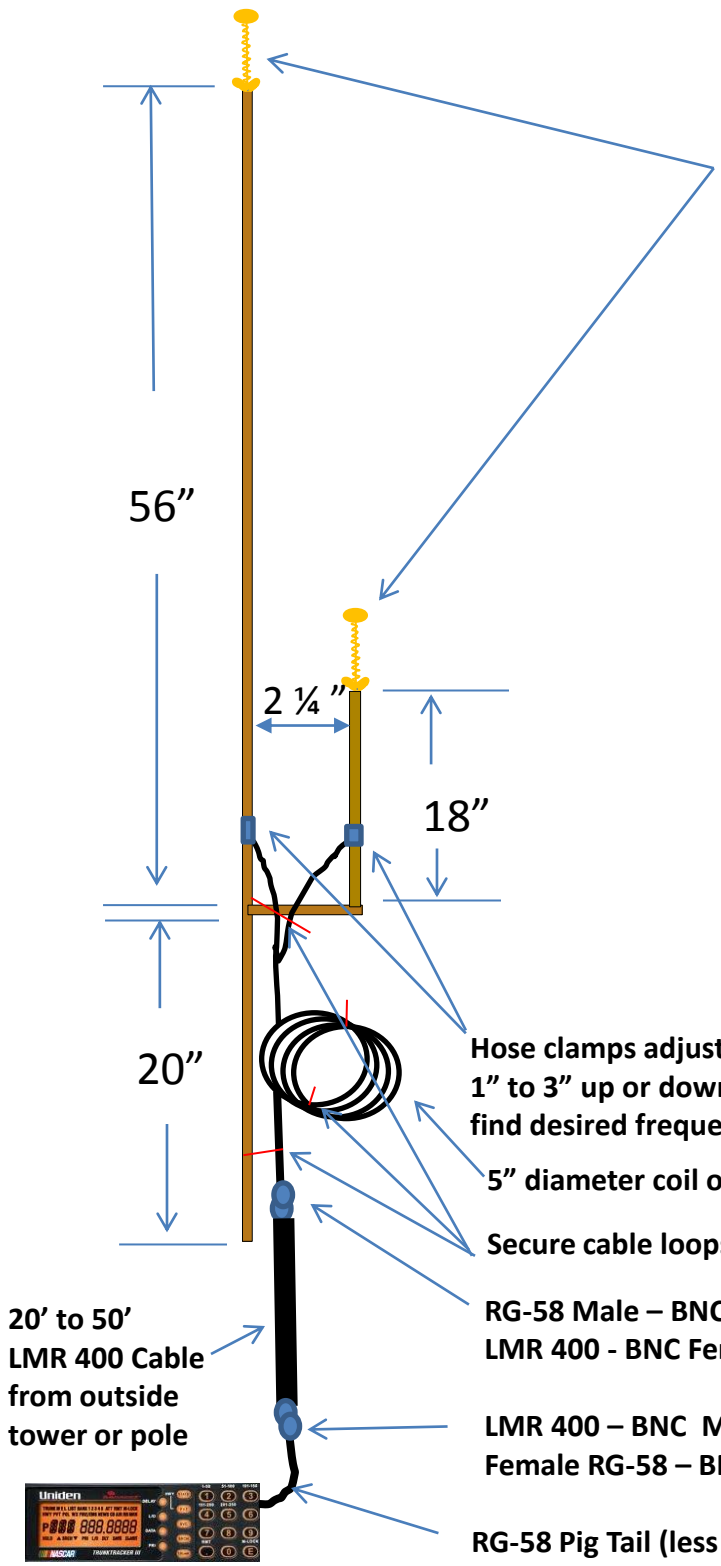
Adjustable length ½ inch copper tubing J-pole 2 Meter 144 to 148 Mhz Antenna

By Cordell Vail - KE7ZBQ

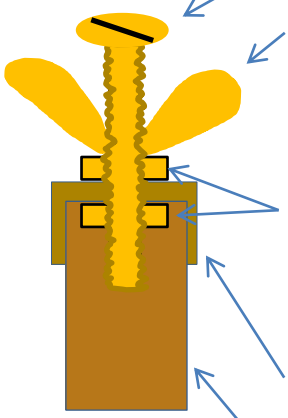
What you need to buy:

1 - 10 foot 2” coper tub
1 – ½” copper tube T-Joint
1 – ½” copper tube elbow
2 – ¼ x 4” brass bolts with nuts
2 – ¼ “ brass wing nuts
6 – plastic tie bands (at least 4” long)
6’ RG-58 coaxial cable (for antenna)
2 – Hose connectors (buy the size to fit your tower or pole)
Electrical solder
Plumbing solder
Heat Seal Srink tubing or spray to water proof connections
1 male RG58 BNC connector for antenna connection
LMR-400 BNC coaxial cable (What ever length you need to go from your antenna on pole or tower to radio)
1 Female LMR-400 BNC connector (to connect LMR-400 cable to antenna)
1 male LMR-400 BNC connector (to connect LMR-400 cable to pig tail going to radio)
6’ RG-58 coxial cable pig tale (go from LMR-400 cable to your radio)
1 female RG-58 BNC connector (to connect pig tail to the LMR-400 cable)
1 male connector on the pig tail (what ever type will connect to your radio – normally a BNC or SMA)

Building the antenna



4” Brass screws with wing nut to lock in place. Allows long tube to be from 56” to 59” long and short tube from 18” to 22” to find correct frequency



4” Brass Screw

Brass Wing Nut

Brass nuts soldered inside and outside cap

Copper Cap

2” Copper Tubing

Hose clamps adjustable from 1” to 3” up or down tubing to find desired frequency

5” diameter coil on RG 58 feed line cable with 4 wraps

Secure cable loops with plastic ties then secure to tube

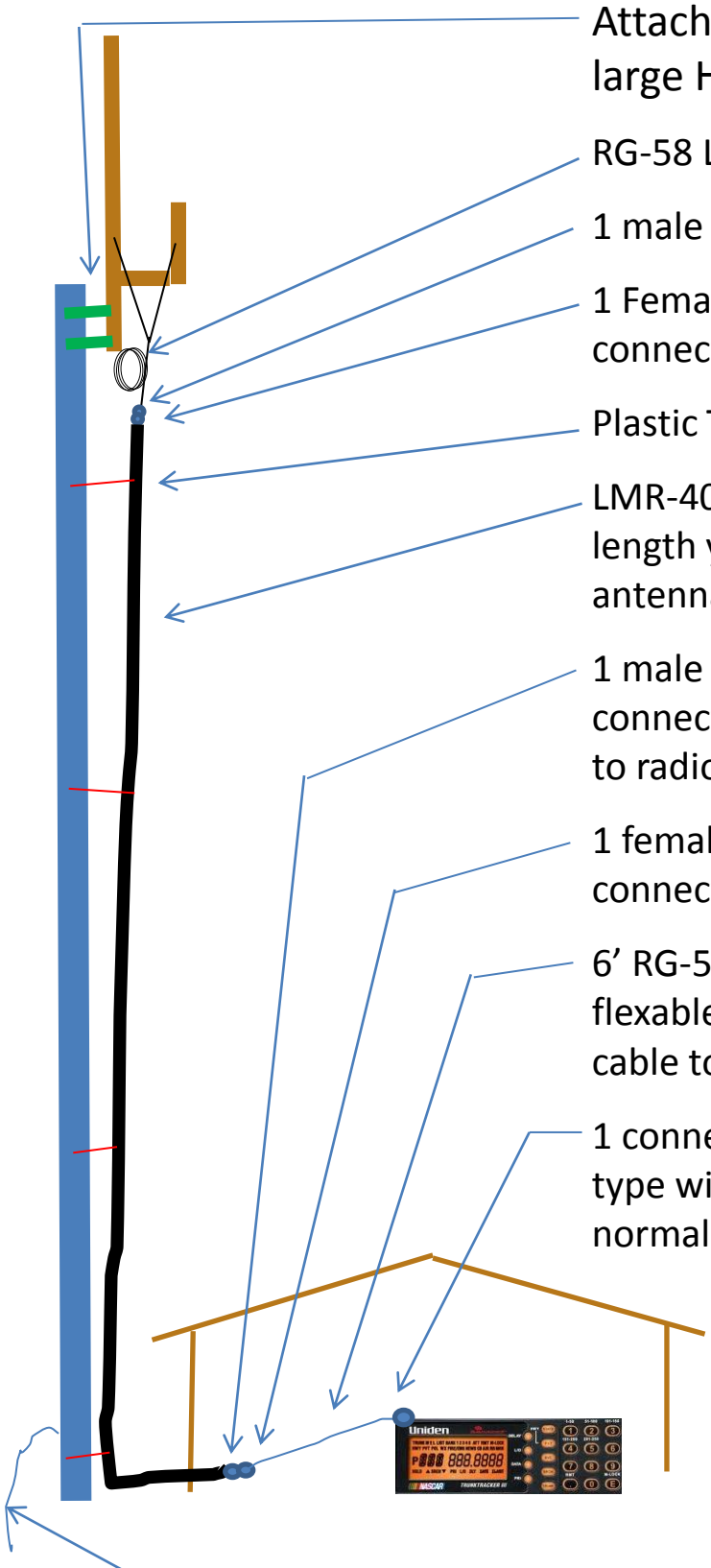
RG-58 Male – BNC connector on lead connecting to the LMR 400 - BNC Female Connector on LMR 400 cable

20’ to 50’ LMR 400 Cable from outside tower or pole

LMR 400 – BNC Male Connector connecting to the Female RG-58 – BNC Connector on the Pig Tail

RG-58 Pig Tail (less than 10’ long) from LMR 400 Cable to radio Using connector that fits your radio (normally a SMAconnector

Connecting the Cables



Attach antenna to pole with large Hose Connectors

RG-58 Lead Cable with 4 loops

1 male RG58 BNC connector

1 Female LMR-400 BNC connector (to connect LMR-400 cable to antenna)

Plastic Tie Bands to hold cable to pole

LMR-400 BNC coaxial cable (What ever length you need to go from your antenna on pole or tower to radio)

1 male LMR-400 BNC connector (to connect LMR-400 cable to pig tail going to radio)

1 female RG-58 BNC connector (to connect pig tail to the LMR-400 cable)

6’ RG-58 coaial Cable Pig Tail (It is more flexable cable to go from LMR-400 cable to your radio)

1 connector on the pig tail (what ever type will connect to your radio – normally a BNC or SMA)

Note: if you use a metal pole then use a ground wire too