

Instructions for building an L Tee Network Dipole

The basic dimensions for an EH Dipole for any Amateur Band are:

- Outer diameter of insulative tubing (non-RF conductive, if it gets hot in a microwave, don't use it) should be approximately the ham band divided by 10 with the answer in inches.
Example: 20 meter band $20/10 = 2$ -inches.
The above sizing will provide nearly all if not all the band to 2:1 VSWR or less.
The bandwidth coverage is directly proportional to the diameter to the antenna.
- The length of the elements for a standard dipole is equal to the circumference of the antenna.
For DX, make the elements longer. (Narrower beam-width).
For closer in coverage, make the elements shorter, (Wider beam-width).
- The spacing between the elements must be the same as the diameter.
- To start with:
Assume the antenna capacitance to be 10 pF.
Assume the radiation resistance to be 32 ohms.
- Use the **EH Phasing Network Design** in the Links section to calculate the network values.
The only change will be to split the LL coil and place at least last 4 turns of the coil between the elements.
This action causes the lead going to the top element to not have the correct phase shift so as to radiate inside the lower element.
- For the capacitors used in the network we have had success using mica compression type. For sources of this type, just do a search for capacitors on the Internet. If you plan on using more than 100 Watts you might need a higher current rating.
- Now that you have the antenna built, it's time to tune it.
First adjust the CL Cap. For minimum VSWR.
Next tune the transmitter to the frequency with the lowest VSWR.
Then with CS and transmitter, tune to the desired frequency.
Now adjust CL for minimum VSWR. If the minimum VSWR can not be reached within the limits of CL, then the assumption of 32 ohms is not correct and you will have to go up/down on the CL capacitance.
- Antenna height should be at least 1/8 of a wavelength.