

## 10 Meter Dipole Project Using The Velocity Factor of Coaxial Cable To Reduce the Size Of Antennas

I invite you to try on the air my new coaxial antenna for 10 meters.  
(a simple dipole)

It is made using the .66 velocity factor of RG58, based on the project page

<http://www.hamuniverse.com/K4mmg2and6meter.html>

Using this idea, the antenna is shortened 30 to 40 percent **less** than the standard dipole!

**See detail picture at bottom of article.**

The math and construction is very simple!

This antenna can be designed for the lower hf bands to greatly reduce the overall size versus the standard dipole type for those who have limited space for low band antennas.

Each side of the dipole is  $.66 * [(300 / 28.450) / 4] =$  meters for one half of the antenna..

I use a RG58 foam (celular type).

The same math above in a more simple form:

$.66 \times 75 / 28.450\text{mhz} =$  meters in length per side (We eliminate the extra division step by 4)

Result is 1.73 meters per side = 5.67 feet when converted and 11.34 feet total span.

The standard dipole formula  $468 / \text{freqmhz}$  would give us an antenna 16.44 feet long total!

**Use the handy calculators and coversion tables [here](#) to convert from metric.**

This is about 31 percent longer!

Or said in another way...using the velocity factor gives us an antenna **31 percent shorter!!!!**

The antenna is 4 meters above ground, horizontal polarization.

About the supports:

I always use Nylon 0.8mm for my dipole supports.

It's cheap, light, and easy to elevate my experimental antennas, that I put up and down ten times a day!

I had a perfect match with my RG58 cable to the rig.

It was a 1: 1.1 SWR in the first test mounted up about 13 feet.

Today I had QSOs with Bulgaria, Italia, Morrocos and the USA.

I'm in Southern Brazil.

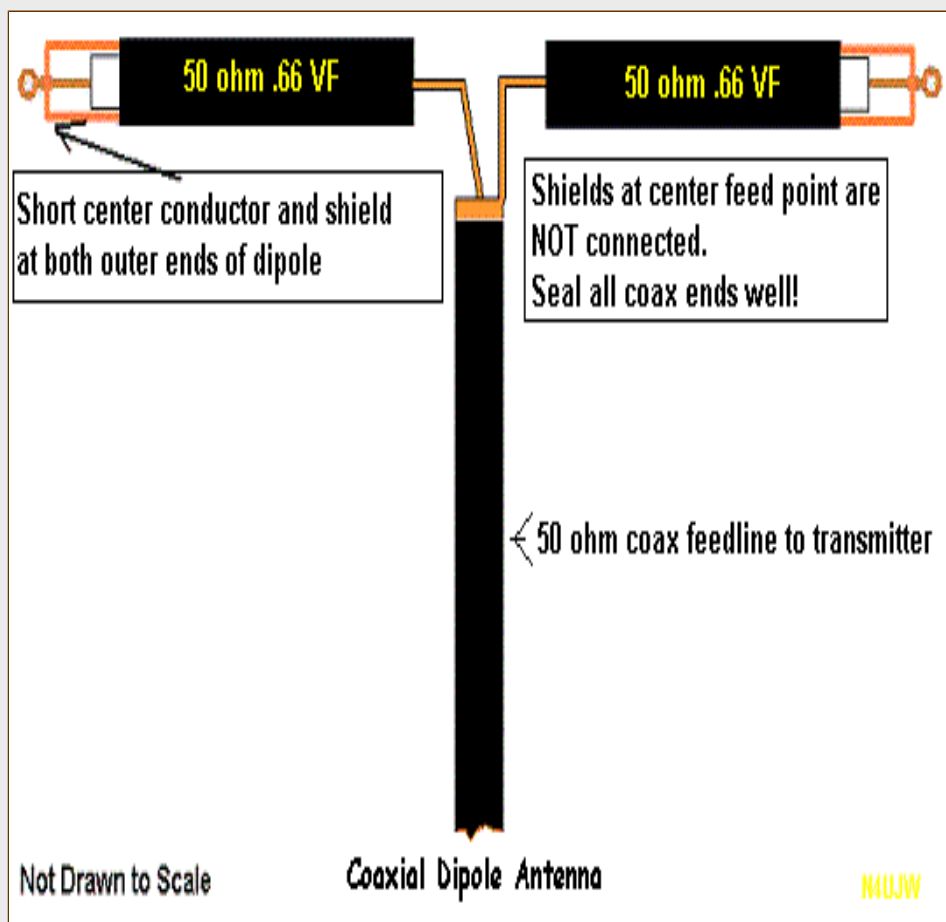
Really nice idea!

I'm still experimenting with it.

***Hope to make a QSO with you soon!***

Thanks for the page ! 73

Rubens  
PY2RML **DIAGRAM BELOW**



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