

Calculate & realize a Bazooka Antenna bands for deca ...

If you need to make rapidly antenna, low cost, compact, for travel, you doing a "bazooka"

Operation

The "bazooka" is made of $1/2$ Lamda coaxial cable cut in its center (or two $1/4$ of LAMDA).

The supply line is connected at its center.

Found to extrémités lengths of lines open

The sheath of the coaxial dipole acts as a half (half) wavelength situation with open line sections.

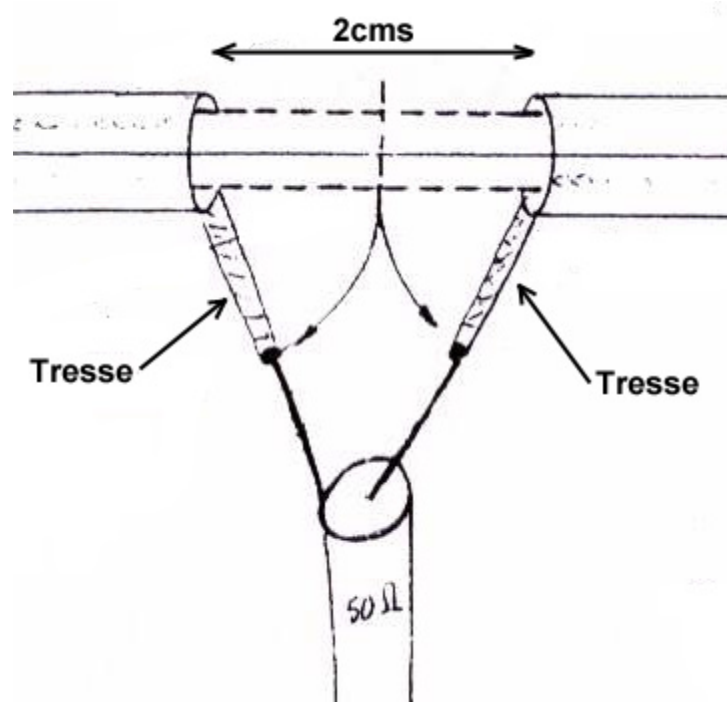
The center of the coaxial acts as fourth (quarter) of Lamda raccouci and presents a high impedance at the resonant frequency.

The equipment needed

- The 50 ohm coaxial type or RG8 RG213 etc ... to the radiating portion
- The flexible wire 1.5 mm² electrician.
- An electrical connection box.
- A descent into the 50ohm Tx.
- Of nylon (or other) for the turnbuckles.

Ready in about 30 minutes

Details of the attack of the antenna



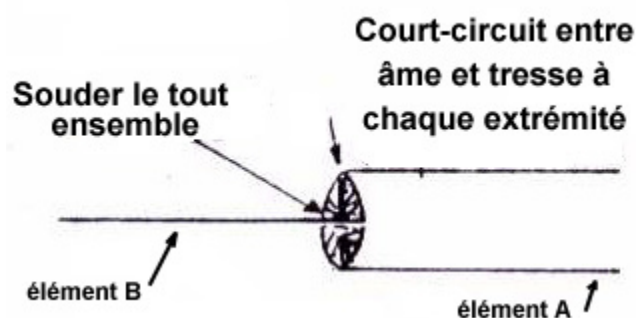
Although identifying the center of the coax, and remove the insulation on 2cms length
Cut the braid in the center and fold the two pieces to the edge of the sheath.

So you get the connection points of your cable 50ohms.

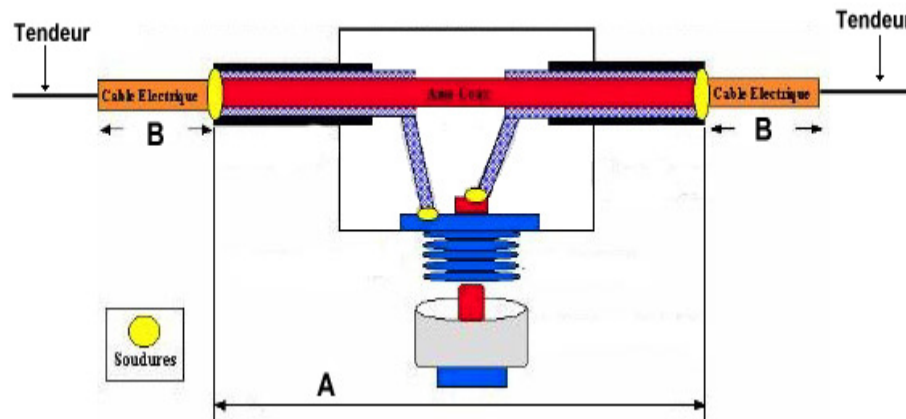
One of the braid is connected to the soul of 50ohm coax, and the other to the braid of the latter.

Not to be damaging the envelope and soul of the coax at the time of stripping of the braid.

View of one end



Antenna over



For proper operation of air should be about 3 feet above the ground is so stretched horizontally.

It is possible to operate the antenna in **"inverted V"** with an angle of between 90 and 120 °.

The only adjustment is to reduce the son end in steps of 1 cm or 5mms.

The coefficient of cables

Reference of coax	Velocity coefficient
Aircom +	0.85
AirCell7	0.83
H-1	0.66
H-3	0.66
H-100	0.84
H-2000	0.83
RG8	0.66
RG55	0.55
RG58-U	0.66
RG-122	0.66
RG-141	0.69
RG-142	0.70
RG-174	0.66
RG-178	0.70
RG-213U	0.66
RG-217	0.66

RG-218	0.66
RG-219	0.66
KX4	0.66

After some requests, you will find below the formulas used to calculate the antenna. <B

The basic formulas are calculated for a length in feet.

Total length = $460 / F$

Length of coax = $492 / F * V$ (where V is the velocity factor)

We will therefore pass conversion namely:

$460 / 3.2808 = 140.20$

and

$492 / 3.2808 = 149.96$

In the case of manufacturing a 3.780Mhz antenna with a coax with the velocity we have 0.66 for results.

The total length will be: $140.20 / 3780 = 37.089 \text{ m}$

The length of coaxial: $149.96 / 3,780 * 0.66 = 26.183 \text{ m}$

Length of wire at each end: $37.089 \text{ to } 26.183 / 2 = 5.453 \text{ m}$

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