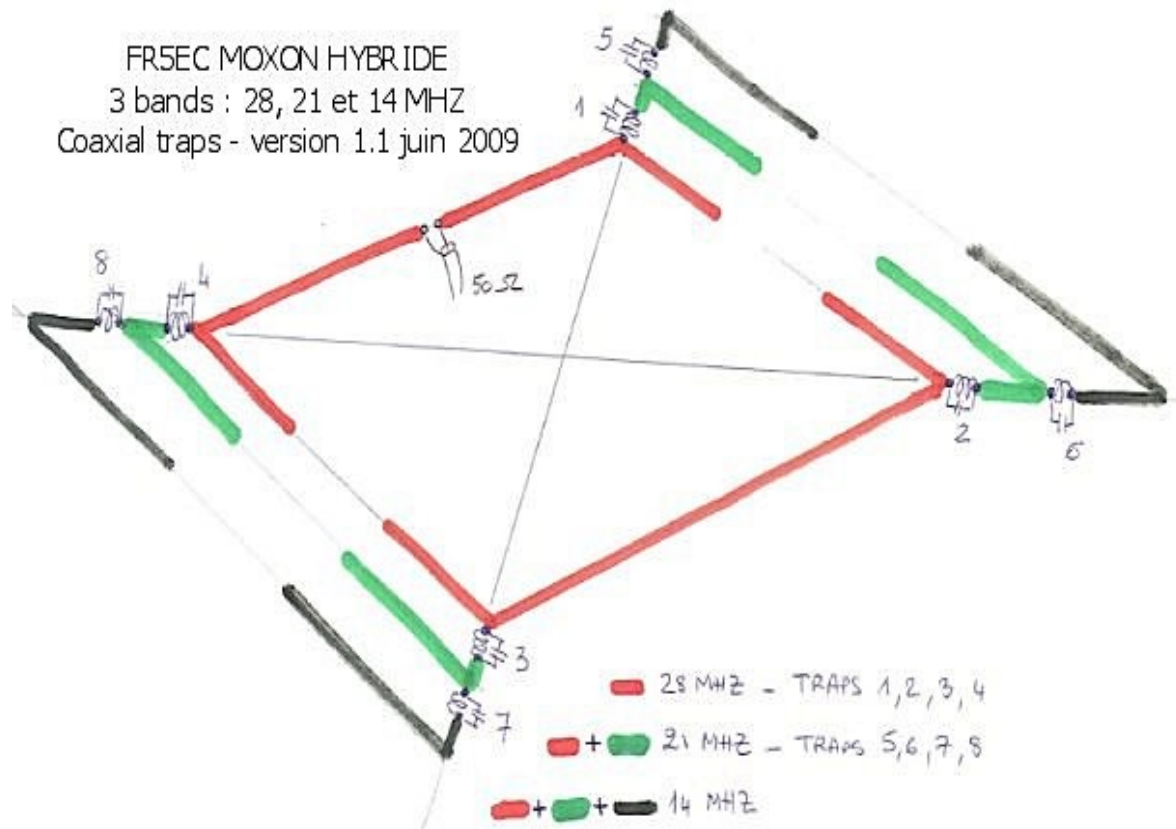


FR5EC MOXON HYBRIDE 3 bands 28, 21 et 14 MHZ coaxial traps



Historically, I always wanted to use an antenna light, inexpensive, feasible, reproducible for friends, solid, usable in any portable, smaller, (and even very small size ... with the same gain! !) using multi-band coaxial traps, wire type, impervious to ultra violet and moisture ...

The machine does not exist it was necessary to invent it!

There are about ten years, I turned to the W8JK ... built with my hands tubular aluminum and "all the mass, the results were excellent, the two directly concerned, but the antenna was too large for my taste and aluminum aging too fast under the combined action of moisture from the trade winds and tropical sun! In short, not good ...

Thanks to the development of Internet and search engines, the source is immense documentary on the subject!

Naturally, in 2005, my research lead to the Moxon!

<http://moxonantennaproject.com/>

I like the features of the Moxon cut for 14 MHz! His only problem for me, it is mono band! This sentence still resounds in my head: "Moxon harm that is not really all bands!"

So why not build a power Moxon as ... a W8JK? The idea seemed too great? Quick ... paper, pencil and I scribbled by hand a first draft of what could be the new dish? But ultimately, I'm not going to build this antenna! Too cumbersome too importante for my YL ... hi!

It took me continue my research work for 2 ½ years:

to reduce its dimensions should insert traps! After a good hundred simulations MMANA

I take this opportunity to commend and thank Mr. Makoto Mori (JE3HHT) [I invite you to download its free software on its website](#)

Finally, my work resulted this simulation!

finished modeling of this version 1.1 in June 2009! I opted for the construction of a tri-band Moxon 28, 21 and 14 MHz with coaxial trap, very compact and strong

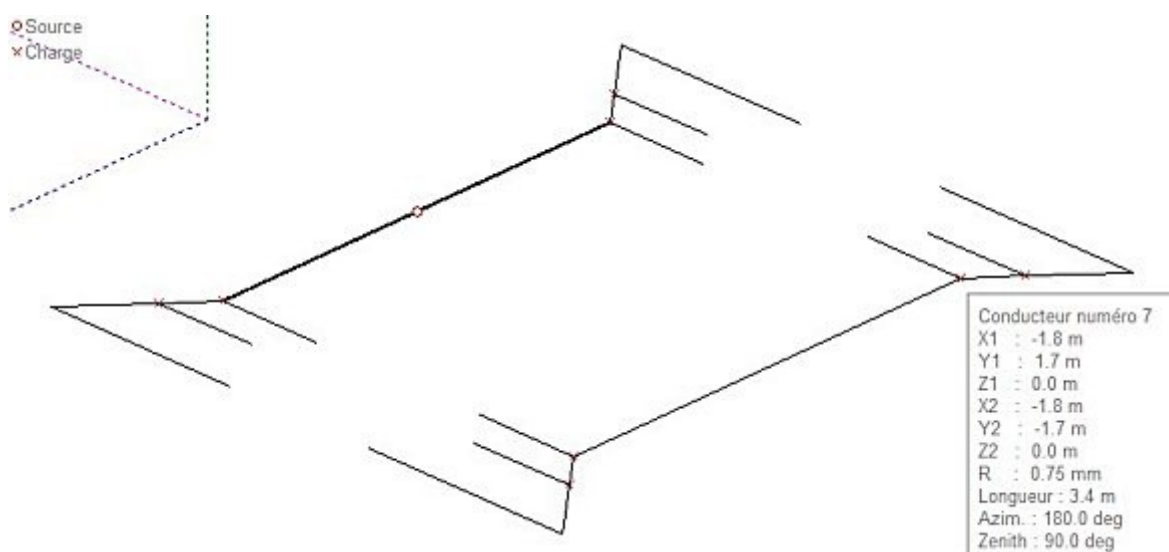
My "invention" is not protected by a patent, but before copying the whole or the part site, i would be pleased to be informed by email

Contact : fr5ec@orange.fr

If you start in the construction of this antenna, I would be very interested about sharing your experience with the community of OM. I will publish your achievement on my site

Best regards 73's.

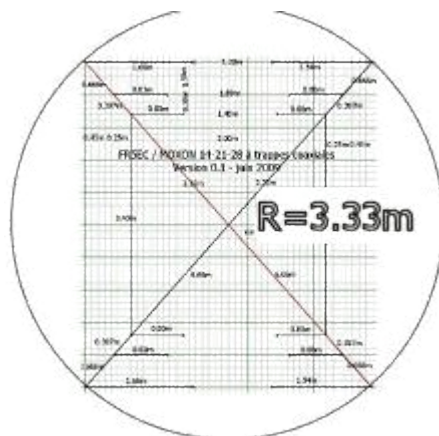
A world first, the wiring diagram! ...HI !



[The file of the simulation is available here](#)

[The simulated gains for the 3 bands are all above 10 Dbi!](#)

Small in size !



On 15 June 2009, the beginning of my personal construction:

1. The hub:

[download this file](#) then print it in full page 21x29.7 cm, it will serve as a template to drill the aluminum plate 5 mm thick and approximately 20x20cm. NB: the dimensions of the antenna are also included in this drawing. To scale the side of the square = 10 cm.

The fixing to the mast:

I hijacked the lower jaw of my rotor,

http://www.wimo.de/mats-aluminium-telescopique_f.html

The setting of fishing rods on the hub:

the canes measure 5m they are resized to 3.40m (more rigid), the clamps come from "Gamme vert".

... and here is the result (in pictures ... it's better than a long speech!)

2. Wiring:

I use electrical wire (single strand) of 1.6 mm ², fixing the wire on the canes will be plastic collars with black UV resistant. (from Mr Bricolage)

3. Traps:

they are made with 6 mm coaxial cable RG58U (it should "take" the 250 W!)

The model calculations will be made with the freeware COAXIAL TRAP DESIGN <mailto:tony.field@logicnet.com>,

<http://www.qsl.net/ve6yp/CoaxTrap.html>

NB: Please note it would appear that there is a way to mount the traps (I have not had confirmation?), The central part of the coax goes to the center of the dipole and the braid to the exit end of the dipole?

Simulation traps and construction, following the guidelines VE6YP: For the 28 mega diameter = 3.5 cm, by 21 mega diameter = 4 cm

It remained to set traps on the antenna but the wire must not be distorted downwards!

Without affecting the operation on each of 3 bands while still on the operating principle of a Moxon "single"?

For the 28 MHz spacing 2 elements should be smaller!

All this with a good mechanical strength of the whole? **Set traps on the cane was the best idea because mechanically uncritically!**

4. Photos:







Conclusion:

Today Monday June 22:

Unfortunately - for lack of time - I still have not finished my version 1.1.
I preferred to inform you of my discovery before!

I send you photos of the equipment before the end of this week!

Thank you send me your comments to my email,

Best regards 73's

FR5EC - Jean-Claude Mascarell - Reunion Island – indian océan

http://pagesperso-orange.fr/jc.mascarelli/homemade/FR5EC_MOXON_MULTIBANDE/

2009 June 22

[Translate by Google](#)