

RUSSIAN EH- ANTENNAS



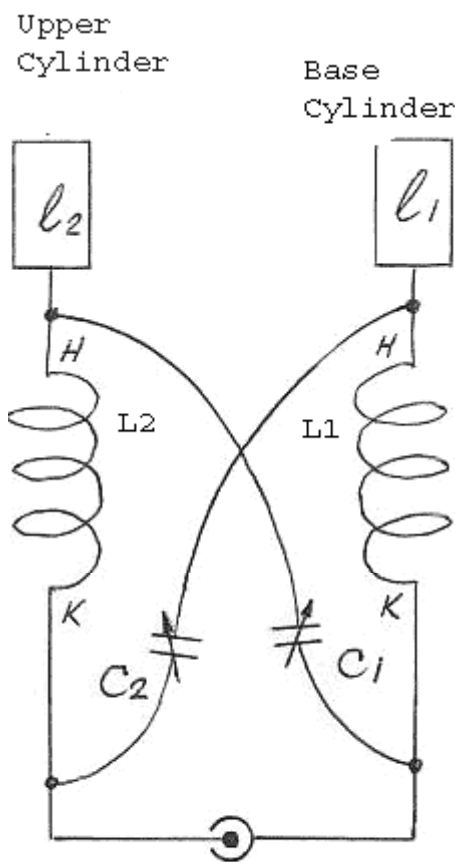
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It is not an article, so it is early still to write scientific treatises on this subject. It is while a test, supervision, analysis, searching of answers to many questions. My experience can encourage ones, and others I will disappoint. I think, a EH- antenna can compete to any dipole, IV or GP, EH-antenna can work both at a field, and at restricted urban conditions.

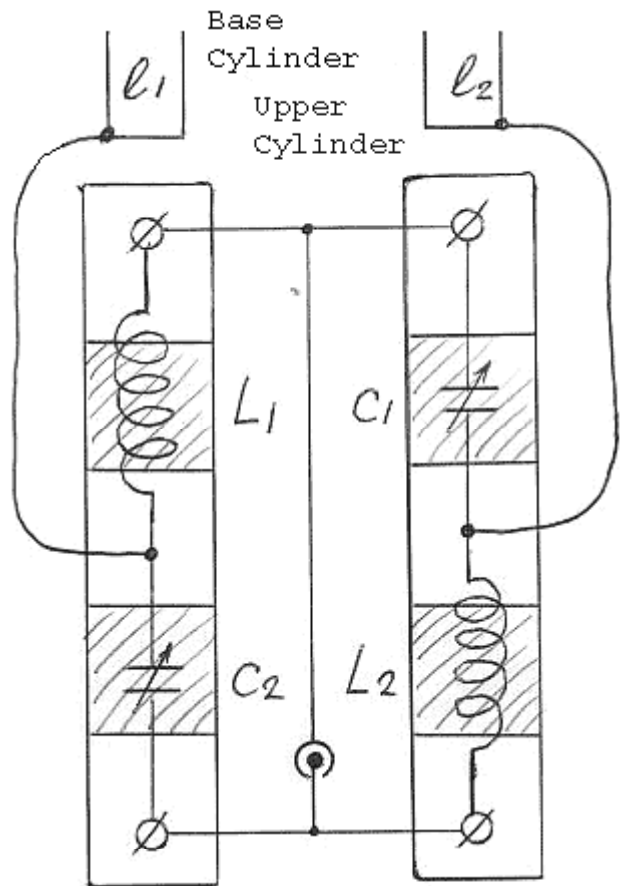
More info one can find in the internet:

- www.qsl.net/w0kph
- <http://www.eh-antenna.com/>
- <http://www.eeuroantenna.com/>

Schematic of the antenna is below.



EH- Antenna.
Electric circuit



EH-Antenna.
Design

But I have done my own design that you can see on the pictures.

Picture 1 shows two antennas, conical one for 10 meters is made by UA3AO, cylindrical antenna, retuning from 30 up to 10 meters is made by myself. I have used two variometers from old military Russian surplus radio P-140 for my antenna. The variometer gives 0,65 - 6,9- μ H or 2,8-29- μ H, it depends from the

connection. Variable capacitors have max capacity of 55-pF. The cylinders have diameter of 80-mm, height of 200-mm, and made of a bronze sheet of 0,5-mm thickness. Using such antenna details, it was possible to cover a frequency range from 10 up to 30 MHz.

If you have not such variometer, you can try to tune the antenna to separately ranges. For example, for 20 meters: L1=10 coils (3- μ H), copper wire of diameter of 1.81-mm (#13 AWG), Φ 30 mm, L2=16 coils (6- μ H)

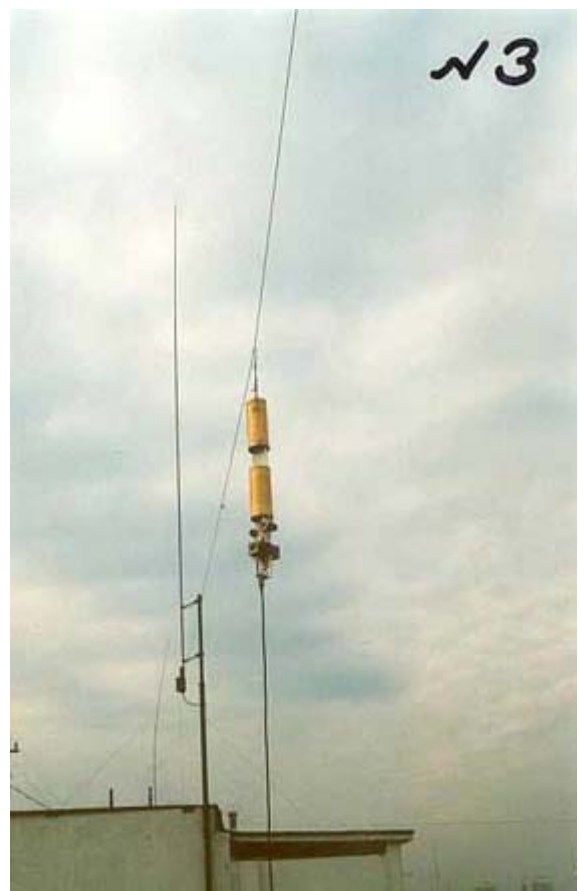
copper wire of diameter of 1.81-mm (#13 AWG), $\Phi 30$ mm, $C1=37$ -pF, $C2=26$ -pF, variable capacitors 6- 33-pF are soldered to bridge to each of them. After tuning I have soldered still one 18-pF capacitor to each of the variable ones.

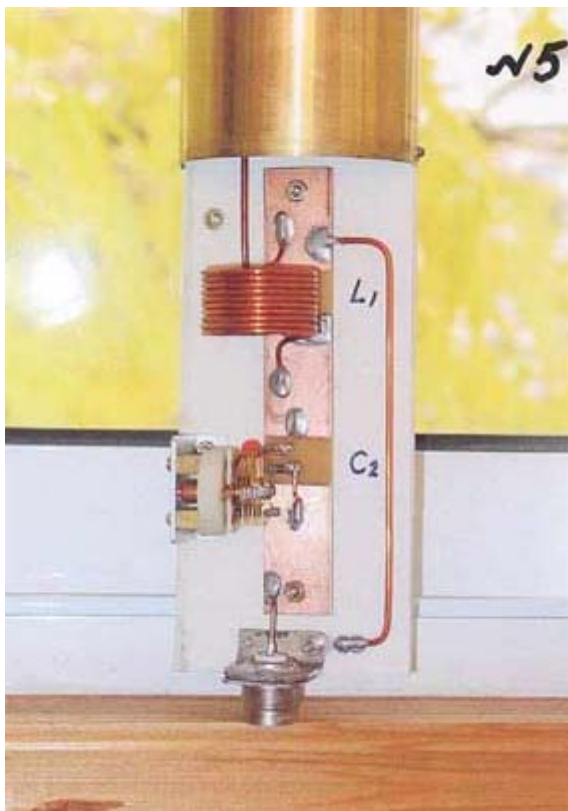
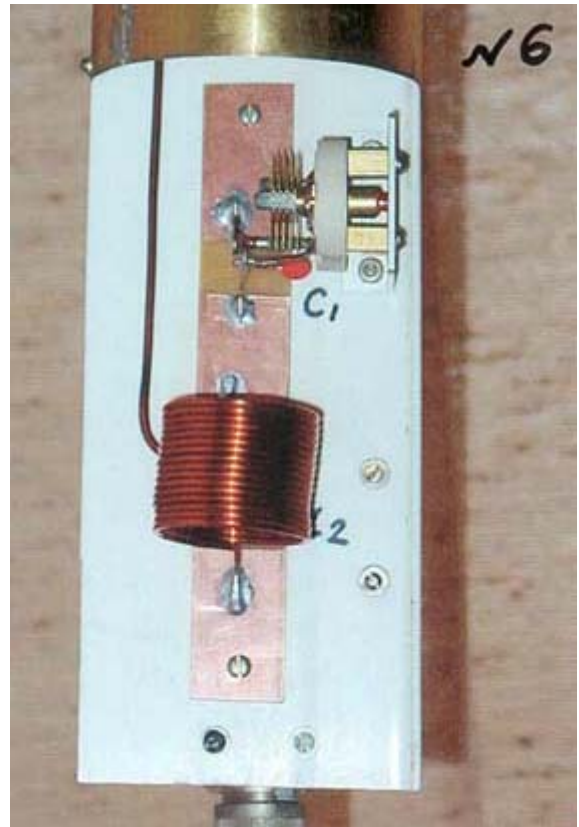
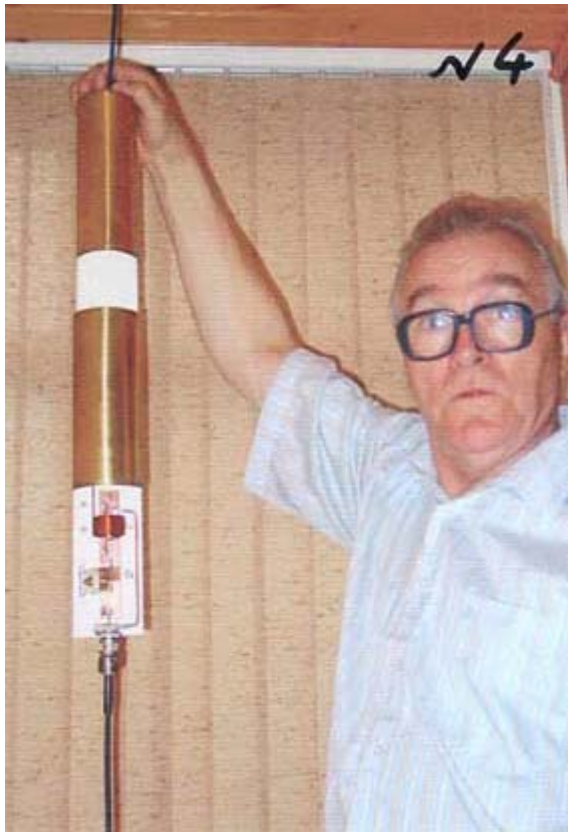


Picture 2 shows this antenna on the roof of my house, my YAGI is at the background. I did QSOs with all continents using only 100 W. But it is only at a dry weather. Only there were rains, snow, humidity under 100% and my antenna goes to detuning. When the antenna was dried up in a room, it goes to work again. My conclusion: it is an antenna for Sahara!:) It is a joke, but you can keep the antenna in a dry place. After adjustment the antenna in a room, the antenna changes its resonance frequency near 350 kHz upward. Conclusion: this antenna does not love narrow roof, it likes wide place at a roof with access for tuning.

Picture 3 shows my EH-antenna on the roof of my house, retuning GP on 40, 15 and 17 meters is at the background, to one of the GP counterpoises is attached a nylon rope, to the rope the EH- antenna is attached.

Pictures 4, 5 and 6 show design of the antenna. A plastic strip of 5-mm thickness was used as the base of the antenna. The plastic strip is used as finishing stuff at decorating a building, and short pieces of them cost nothing. The pictures are made at the apartment of RV3AKU that is located in the centre of Moscow (there are very heavy radio noise and interferences!).





Picture 7 shows a EH-antenna made by UA3AO at UA3AO's summer- house. Valery, UA3AO used cylinders of diameter of 100-mm and 300-mm of length. The antenna works at 80 and 40 meters very well.

For adjustment of EH-antennas all our group of EH-enthusiasts UA3AO, UA3FH, UA3HR, UA3ALE and UA3AIC used the same set of devices. It is a FSM (Field Strength Meter), a SWR-meter, and a neon bulb.

73! UA3AIC