

Ferrite Magnetic Antenna for the 160, 80 and 40- meter Bands

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The experimental antenna made on so called home made "Ferrite Linear Heterogeneous Rod." It is an anisotropic ferrite rod. This one has advantages before isotropic ferrite rod. Heterogeneous Rod does not require special high efficiency ferrite stuff. The "thick" areas are magnetic concentrator.

Combination of the thin and thick areas in the Ferrite Linear Heterogeneous Rod allows significantly improved the efficiency of the ferrite antenna. Using of the Heterogeneous Rod allows create a ferrite antenna for 160- 40- meter. **Figure 1** shows design of the antenna.

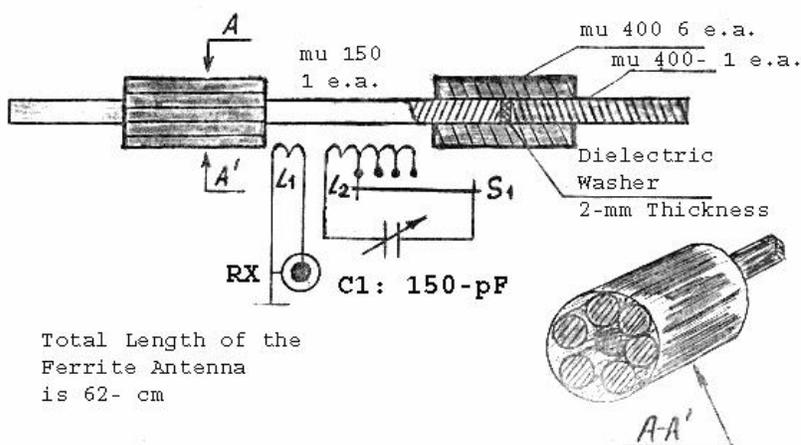


Figure 1 Design of the Ferrite Magnetic Antenna for the 160, 80 and 40- meter Bands

For the construction of the antenna there is required 1- e.a. ferrite rod with $\mu=150$ and 14- e.a. ferrite rods with $\mu=400$. All rods have length 200- mm and the diameter 10- mm. Ferrite rod $\mu=150$ is glued with the ferrite rods $\mu=400$ through dielectric washers (2- mm thickness, plexiglass). Then the 3 ferrite rods ($\mu=400 + \mu=150 + \mu=400$) covered by a Scotch in a several lays. Summary thick of the cover should be 0.5... 1.0- mm.

Ferrite rods of the magnetic concentrator are fastened to the 3- rod ferrite by the Scotch. Inductors L1 and L2 are coiled in one direction by enamel wire in diameter of 0.3- mm (28- AWG). Inductor L1 contains 9- turns. Inductor L2 contains 65- turns. Taps are made of 15, 25, 40 and 50- turns. Data for the L1 and L2 may be differed when different of the described ferrites are used.



Figure 2 Ferrite Magnetic Antenna on the Revolving Stand

Antenna is mounted on a revolving stand from an old theodolite. **Figure 2** shows the assembled antenna on the stand.