

# Ferrite Magnetic Antenna for the 160 and 80- meter Bands

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The Ferrite Magnet Antenna for the 160 and 80- meter Bands is just an experimental prototype. It was done to give some thought and ways for those hams who would like to research the type of antennas.

The advantage of the ferrite magnet antenna is the small sizes. The antenna could be easy protected from the atmospheric influence while this one being installed outside of a room.

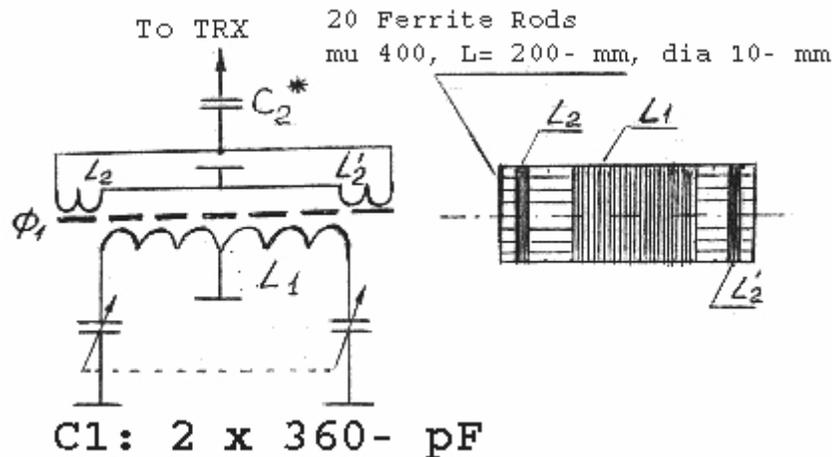


Figure 1 Schematic and Design of the Ferrite Magnet Antenna for the 160 and 80- meter Bands

Ferrite Body of the antenna made of 20 ferrite rods. It was used rods with  $\mu= 400$ , length = 200- mm and diameter = 10- mm. The rods were installed in ring similar to a stator of an electric motor. Diameter of the ring was 90- mm. The rods were installed with step in 18- degree. Copper wire in diameter 1- mm (18- AWG) was used for the antenna inductors. It was no gap between coils of the inductors.

Inductor L1 has 2 x 8 turns. Inductor L2 has 2 x 2 turns. All inductors are coiled in one direction. Left and Right parts of the inductor L2 connected symmetrically to the inductor L1. Capacitor C2 provides matching with the transceiver. (I. G.: I made the antenna some years ago. I recommend use a variable capacitor- 3 x 12x495- pF instead of the fixed one C2.) Antenna may stand RF- Power up to 10- Wtts. Capacitor C1 should have air gap for transmitting variant of the antenna.

The Ferrite Magnet Antenna (at the testing in the Air) worked good from 1750- kHz to 3660-kHz. Efficiency of the antenna was low at the frequencies higher the 3700- kHz.



Figure 2 Picture of the Ferrite Magnet Antenna for the 160 and 80- meter Bands