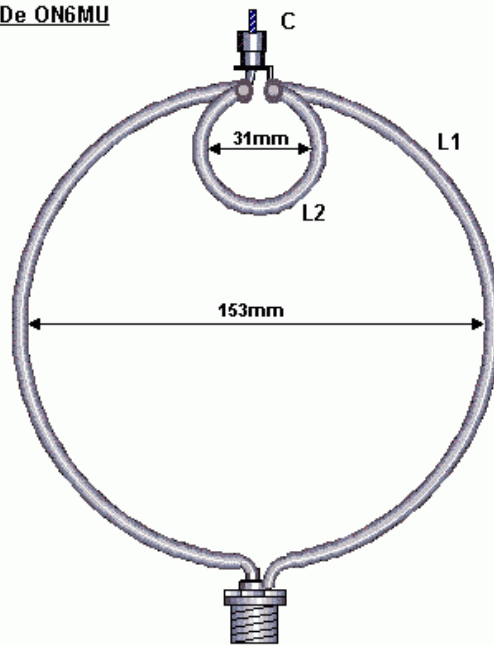


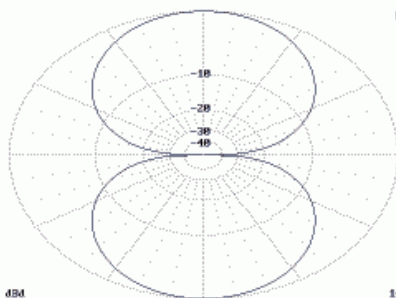
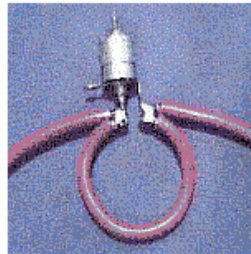
VHF Magnetic Loop RE-A144L14P

De ON6MU



C = air- or vacume capacitor of 0...20pF
 L1 = 1/4 wave: for 145MHz use a copper or brass wire with a length of 49cm and at least 3mm in diameter.
 L2 = is 1/5 of the length of L1: for 145MHz use the same material as L1 and has a length of 9.5cm

A magnetic loop has a very small bandwidth but unsensitive to man made noise. It is much smaller then a conventional antenna for the same frequency and has a gain that can be compared to a quarter wave antenna even if the loop is mounted a meter from the ground. All in theory ofcourse. It has a bi-directional radiation pattern like a dipole and is very selective. This means that you need to tune the antenna using 'C' about every 0.5Mc on VHF for maximum reception and 1:1 SWR. Ideal for portable use or as a repeater antenna. 'C' has to be an air- or vacume capacitor because of the high voltages that can occur on the capacitor when transmitting! I tested the antenna using my VHF portable in my garden and the loop had about the same results as my quarter wave mounted 6 meters higher. The 'Q' of the loop depends on the quality of the material, size and 'C'.



Free Space

Note: maximum power depends on the capacitor used. In this example the maximum power is around 10watt
 Tune 'C' very carefully until SWR is 1:1. A few pF over or under and you'll get a high SWR. Don't tune the capacitor while transmitting!
 Can be tuned in any part of the entire VHF band.

<http://www.qsl.net/on6mu>