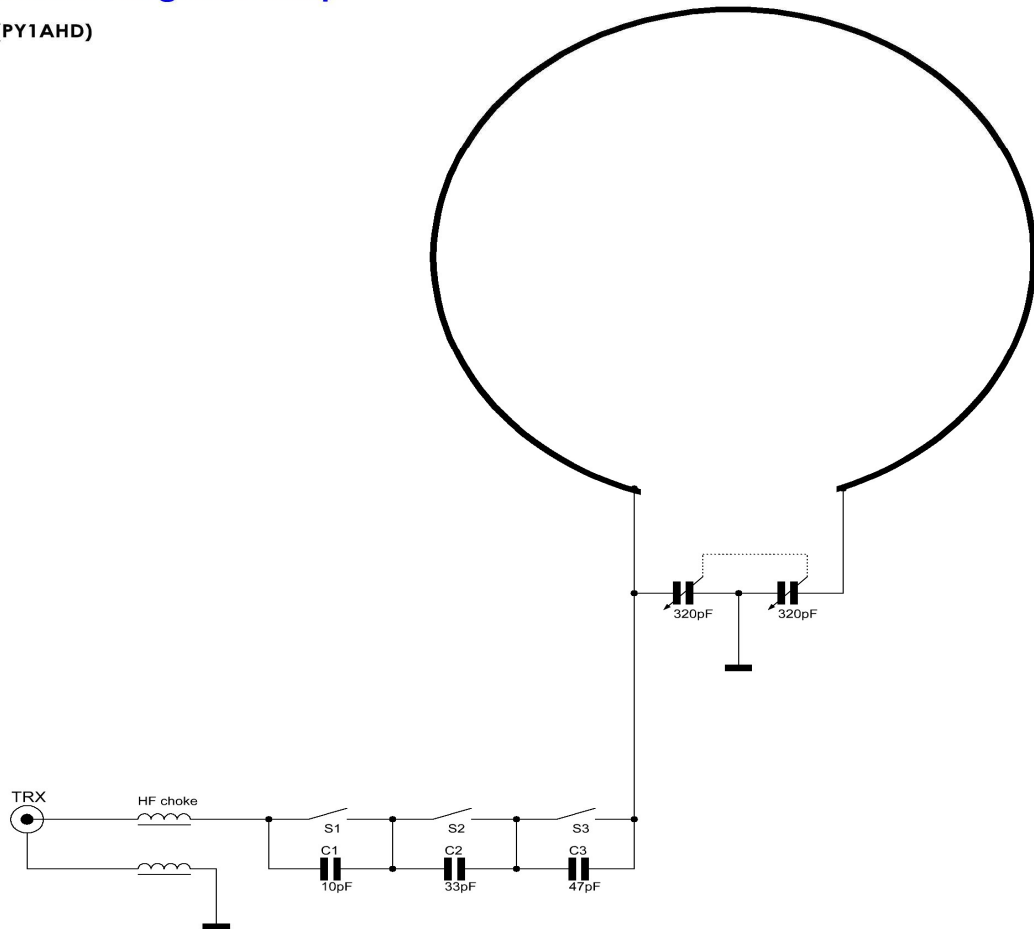


DG2IAQ Portable Magnetic Loop

aka "Alexloop" (PY1AHD)



The basic idea was to improve the great design of the portable "Alexloop" of PY1AHD by removing the coupling ring and replacing it by a low-loss capacitance matching unit. This design is also known as the "Army Loop", but I use it in an asymmetrical matching design instead.

The removal of the coupling ring also improves the mechanical mounting and makes its amount of stress much lower. And it prevents the disadvantage of the coupling ring SWR curve which is never flat over the commonly used 5 octaves frequency range.

My experiences on my MFJ-935B 100W portable magnetic loop tuner were that it's not mandatorily needed to have a variable matching capacitor. Over some ham-radio bands it's not needed to re-align it. So the idea was born to replace it with a series of switchable fixed capacitors. By a proper choice the switching combinations should give a more or less linear capacitance curve which could replace a variable capacitor. The non-available steps in between would raise the SWR a little, but not as far as the coupling ring method.

Luckily it works ! And it works great !

I have chosen a series of common available **10 + 33 + 47 pF** fixed capacitors which gives a more or less linear curve in between 8pF up to 47pF. That's enough to drive the **2,45m (8 ft.) ring of RG 213** over a range of **10 - 30 MHz** with flat SWR on each ham-radio band.