Horizon loop 40. Product description, assembly and operation

The Horizon Loop 40 is an all aluminium construction “magnetic loop” style antenna. It is designed for limited space applications, receive only and tight band TX / RX. The antenna is characteristically quiet on receive and highly efficient on transmit. Please take time during the assembly and set up of this antenna to get the best performance from it.

SAFETY: Do not allow animals, children etc to touch the loop while transmitting.

Specifications
* 10m ~ 40m frequency range
* 125w PEP power rating. DO NOT exceed or “flash over” may occur within the capacitor
* Approx 136cm width, 102cm height @ 1.6kg

Parts List
* 2x loop halves
* 2 x loop stands
* 1 x gamma matching bar
* 1 x capacitive tuning slide
* 2 x stand insulators
* 1 x gamma match “python clamp”

STEP 1
Undo the two M5 bolts near the SO239 connector, slide loop half in and tighten 8mm nuts. Do not over tighten.

STEP 2
Position the gamma bar as shown in the below picture. It is only necessary to finger tighten at this point.
STEP 3
Slide capacitor onto the loop half oriented as shown.
Slide fibre glass insulator into other loop half and screw together with supplied counter sunk screw. Capacitor should slide easily across the join. If it does not check screw is not “proud” of the tube.

STEP 4
Position blue insulators and add mounting feet. Do not over tighten bolts. Note: The loop can be mounted either “Horizontal” or “Vertical” depending on your preference.

TUNING Note: To correctly tune the loop you will need an antenna analyser.

First we need to adjust the gamma bar for 50 ohms. This is done by moving the bar along the lower tube, finger tightening the brass lock nut and checking frequently the impedance.

Next we adjust capacitance. Set your antenna analyser for the desired target frequency. As you move the capacitor along the top part of the loop watch the antenna analyser for a sudden dip in VSWR. This indicates you are close to your target frequency (you will probably over shoot) Move the capacitor in very small increments and adjust for the lowest VSWR. 10m is at the beginning of the pipe end and the further you move the tube the further you go up in frequency 11m, 12m, 15m etc.

Depending on the model 10m-20m or the 10m-40m the tube capacitor will need to be almost fully engaged for the higher frequencies. Once tuned recheck impedance and adjust if necessary. If you do this VSWR may change. TIP: this can be a bit of a “pendulum” effect where you may need to go back and forth a few times to get the best possible result. When you are happy gently lock the brass lock ring.

TIP: If you have a man made noise source try rotating the loop as you may well be able to null out the problem.