

## G4TPH Remotely Tuned ML40HP mk11 Magloop

### The Antenna consists of the following items:

- 10 aluminium Rails ( using 7 rails it will cover 12 & 10 metres)
- Load unit
- Remote motor unit with top capacitor box
- Remote tuning control unit
- Hardware pack of bolts, washers and nuts.

### Construction of the antenna

Locate the 2 rails with the blue spots. These 2 rails with the blue spot have 4mm drilled holes at one end and 6mm holes drilled at the other end. All other rails have only 6mm holes.

Attach 4 rails using the 6mm bolts, nuts and washers to the other end of the rails with the blue spots. Place the washer between the rails not on the bolt or nut side (see picture). The washer helps keep the antenna from losing its shape once fully assembled.

Slide the load unit onto the 5th rail on either side and connect these 2 rails. You should now have a completed loop. Attach the Remote motor at the top to the rails with the blue spots & the load unit at the bottom.

Adjust the loop to be as uniformly round as possible and tighten all bolts as tight as possible.

### Connecting the remote motor unit to the remote tuning control unit.

Attach a coax cable (using a BNC plug) to the BNC jack on the side of the remote motor unit. Attach the other end of the coax cable (again with a BNC plug) to the BNC jack on the remote tuning control unit.

The remote tuning control unit has a jack for a 2.1 power connector. The power should be between 9 to 12 VDC. A small switch mode power supply will work but for best results a rectified transformer power supply is recommended. A battery can also be used.

Attach another coax (with a BNC plug) to the bottom of the load unit and the other end to your rig.

The length of the coax cables doesn't affect the performance of the antenna and various lengths have been used in the development of the Magloop antennas.

### Tuning the antenna with the remote tuning control

The remote tune control has a toggle switch that controls the direction of the tuning capacitor. Holding the toggle lever to the right increases the frequency the antenna is resonant on. The centre of the toggle switch cuts all voltage to the tuning motor. Pushing the toggle to the left reduces the frequency the antenna is tuned to. (Note that the capacitor revolves around 360° thus at some point the frequency will drop to the highest or lowest frequency).

Using the toggle tune for maximum noise on receive in the centre or part of the band you wish to work. Key the transmitter and note the SWR. Small adjustments using the toggle either left or right should help reduce the SWR.

Very small adjustments can alter the SWR considerably but once the right spot is found the SWR should be below 1.5:1 or better across the whole of the band.

### Power handling of the ML40HP mk11

The ML40HP mk11 will hand 100 Watts SSB, 50 Watts CW and 35 Watts data modes. Should you find the load unit getting hot reduce power, let the unit cool and recheck the SWR. There are various things that can affect the SWR such as steel girders and electrical wiring. This may mean that the powers listed are too high for your installation

### Frequency covered of the ML40HP mk11

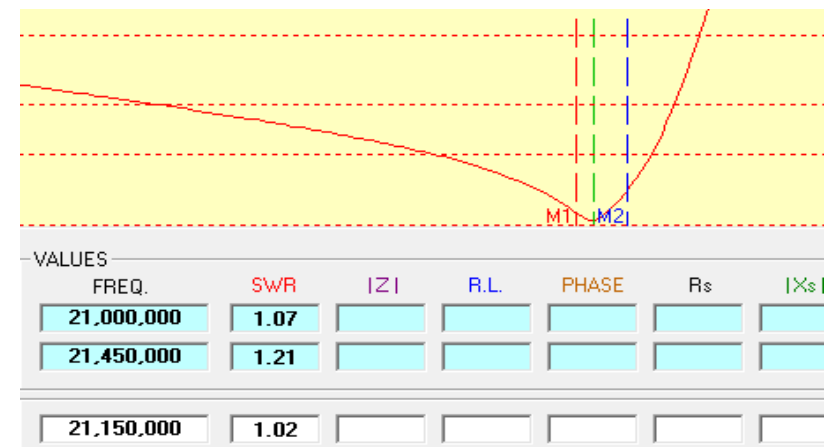
- The Antenna will cover all bands from 40metres through 15 metres ( using 7 rails it will cover 12 & 10 metres)



Cable to Load unit



Washer between rails



15m SWR plot on MiniVNA

## G4TPH Remotely Tuned ML40HP mk11 Magloop Instructions



Kit as supplied



Motor Tuning Unit



Remote control unit



Load unit with coax to rig



Assembled Antenna

The Remotely tuned G4TPH Magloop is the ideal solution if you are not allowed outside antennas. Previously G4TPH Magloops were only manually tuned. That meant you needed access to the tuning control on the top of the antenna. This made it very difficult if you wanted to mount the antenna in the roof space or some distance from the operating position. The remotely tuned model solves this problem and provides a very efficient antenna that is still portable.

Another feature that most Magloop antennas do not have is the ability to cover the whole of the band of choice without having to re-tune every 10-20Khz. This is one of the major improvements in the G4TPH Magloops through the development of the inductive loading units.

### To summarize:

- Portable and light weight
- No ATU, counterpoise or ground needed
- Remotely tuned
- Excellent SWR figures
- QRP and up to 100 Watts
- Battery or mains PSU for remote tuning
- Half the price of other Magloop antennas

[www.g4tph.com](http://www.g4tph.com)

[tom@g4tph.com](mailto:tom@g4tph.com)

### Optional items available

- 3m Fly lead for connection to rig (BNC –PL259)
- 6m Fly lead for connection to tune unit and the motor control (BNC-BNC)
- 12VDC universal PSU (plug tops for EU, USA & UK)