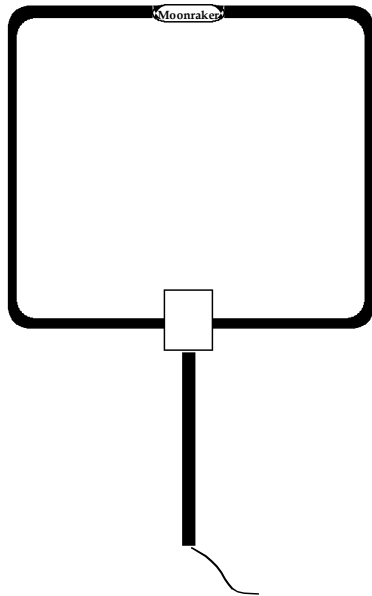




Type BC Loop

For directional MF broadcast reception

Designed as a high efficiency receiving antenna for the MF Broadcast Band (530-1650 KHz), where directional reception and electrostatic screening can be used to advantage.



Compact and unobtrusive, the BC Loop does not detract from the environment and is well suited to school, hospital, motel, betting shop and oil rig applications. It is constructed from marine grade aluminium alloy tubing, coated with PVC, and has a ABS plastic tuning box and galvanised iron mounting tube. No maintenance is required.

The BC Loop has a broad maximum signal pickup pattern in the plane of the loop and two sharp deep nulls broadside to the loop. The loop pickup pattern may be used to improve weak signals in the presence of strong local signals or to null out noise interference. The electrostatic screening of the loop ensures minimum interference from nearby objects and a symmetrical pattern.

The antenna may be easily tuned on site to the station required. It is not suitable for multi-frequency or broadband reception.

Specifications

Colour	Black
MF Broadcast Band	530-1660 KHz
Loop	12.5mm (0.5 in) dia. tubing formed into 600mm (24 in) square loop
Pattern	Figure 8 with maxima in plane of loop and minima at 90° to plane of loop. Pattern applies to vertically polarised waves only and may be modified by signals having horizontally polarised or skywave component.
Polarisation	Vertical
Frequency Range	May be easily tuned on site to any specified single frequency within the range 530-1650
Impedance	50 - 75Ω
Wind Loading	1.95 kg at 100 km/h (4.3 lbs at 60 mph) 3.5 kg at 130 km/h (7.6 lbs at 81 mph)
Mountings	20mm (0.8 in) dia x 760mm (30 in) long tube with rubber blocks and galvanised saddles
Connection	Terminals for small diameter 75Ω RF type coaxial cable
Packed Weight	2.5 kg (5.5 lbs)

Specifications subject to change – Issued 01/09/13

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BC LOOP INSTALLATION INSTRUCTIONS

Assembly

1. Screw the mounting tube into the tuning box and securely tighten the lock nut.
2. Remove the ABS plastic box cover.
3. Feed the coaxial cable up through the mounting tube and solder the cable outer braid to the earth tag (bottom right hand corner), and the cable inner conductor to the other tag.
4. If it is difficult to gain access to the coaxial cable connection lugs mounted on the circuit board, carefully remove them by removing the 2 nuts and washers.
5. The tuning capacitor plate has 2 band pre-set adjustments via movable plug links and 1 fine tuning adjustment, being the variable tuning capacitor screw adjustment, (see tuning below).
6. Fit the mounting tube to the loop base and, if using the rubber mounts and saddles, fit them to the tube and screw the saddles down to a fascia board or similar part of the building.
7. Mount the loop in the desired location well clear of nearby metal objects which may distort the loop pickup pattern, and as far away from electrical noise sources such as lift motors, contactors, air conditioner systems, neon lights, etc.

Tuning

1. Note the 8 contact pins on the top of the tuning capacitor plate and the 2 shorting plug links.
2. Position the plugs for the frequency band required ie for 635 kHz move shorting plugs to bridge pins 2-3 and 5-6, 964 kHz bridge pins 1-2 and 5-6, etc..
3. Tune the receiver to the desired frequency and adjust the loop tuning capacitor for maximum signal by adjusting the variable tuning capacitor (screw in centre of plate).

Note: The positions for the shorting lugs and frequency bands are printed on the plate.

4. Loosen the mounting tube lock nut. Rotate the loop for maximum signal and/or minimum interference, as desired. Re-tighten the lock nut.
5. It is recommended that the top of the mounting tube be filled with silicone to stop access of insects to the box.
6. Replace the ABS plastic box cover plate. Screw down fully.

Important Factors

The depth of the nulls and the pick-up pattern of the loop may be modified by re-radiation from power lines, metal pipes, poles or other nearby metal objects. It is, therefore, important that the loop be mounted well clear of such objects if the full potential of the loop pick-up pattern is to be exploited.