



## Type HF RXA

Active broadband receiving antenna for LF/MF/HF communications  
with single feed or cascading multicoupler

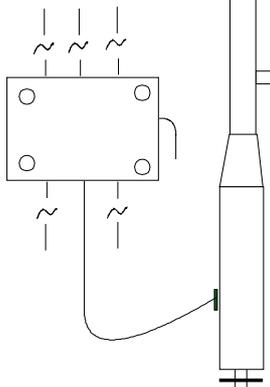
The Moonraker HF RXA antenna system is a compact receiving whip antenna and integral broadband amplifier with either a multicoupler power supply distribution unit or a single channel power supply unit, where only one feed is required. The system is suitable for use in buildings such as hotels, motels, schools and broadcast stations for off air monitors. Being fully marinised, it is also eminently suitable for shipboard and offshore oil rig installations for distribution to receivers, fax machines, crew quarters and the like.

The multicoupler power supply has five separate isolated outputs. For installations requiring a greater number, additional units may be cascaded in multiples of four outlets (i.e. 5, 9, 13, 17...). In its single channel configuration it is also suitable for amateur DX enthusiasts or anywhere that enhanced reception is required.

A stud on the side of the antenna permits connection of another wire antenna to utilise the HF RXA amplification system improving reception in weak signal areas. With horizontally erected wire antennas, this also gives the added advantage of providing horizontally polarised reception if required. The stud is provided as a connection point only and is not intended to be used as a strain relief.

### Specifications

<b>Antenna</b>	2m (6.6ft) whip (painted white) with integral amplifier
<b>Pattern</b>	Omnidirectional
<b>Polarisation</b>	Vertical
<b>Wind Loading</b>	0.75 kg at 100 km/h (1.7 lbs at 60 mph)
<b>Mountings</b>	Base mounted, 44mm (1.25 in) with 3/8 in mounting stud
<b>Connection</b>	6m (19.7ft) coaxial cable (supplied). BNC connector. System will operate with up to 45m (147ft) cable length but with some cable losses, particularly at the higher frequencies
<b>Amplifier</b>	Low noise unit, totally enclosed in base of antenna
<b>Frequency Range</b>	0.070-30 MHz
<b>Gain</b>	5 dB at 12v (nominal)
<b>Power Supply</b>	12-28v, 30mA (max) fed from multicoupler
<b>Protection</b>	DC grounded for static protection. Amplifier input transient protected
<b>Multicoupler</b>	Enclosed in small 150 x 50 x 80 mm (6 x 2 x 3.2 in) box with grommated holes for cable entry/exit. Cables are hardwired. Mounting by way of screws through back. Isolation 50 dB at 0.3-2.0 MHz, 70 dB between any output to input
<b>Insertion Loss</b>	0.5 dB (max)
<b>Impedance</b>	50 - 75Ω system
<b>Power Supply</b>	12-28v 60mA (max) per unit. Requires fused (100mA) feed. For 240/110v AC use plug pack. Reverse polarity protected
<b>Single Channel Coupler</b>	Enclosed in PVC box 28 x 54 x 83 mm (1.2 x 2.2 x 2.7 in)
<b>Impedance</b>	50-75Ω system
<b>Connection</b>	F type connectors (BNC to F adaptor to Antenna)
<b>Power Supply</b>	12v, reverse polarity protected
<b>Packed Weight</b>	3 kg (6.6 lbs)



Specifications subject to change – Issued 01/09/13

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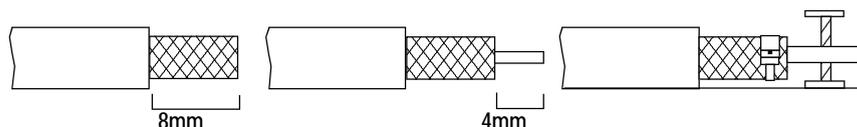
# TYPE HF RXA INSTALLATION INSTRUCTIONS

## ANTENNA

1. Select a position on the building or vessel that is in clear space and as far away as possible from any transmitting antennas, particularly MF and HF antennas.
2. Base mount the antenna using the single stud protruding from the base. This stud is at earth potential.
3. While the antenna will work satisfactorily without a ground connection (see 4 below), it will utilise the coaxial cable ground. Lightning protection will be improved by connecting the antenna base to ground.
4. Antenna performance, particularly at the lower frequencies below 3 MHz, will be considerably enhanced if the antenna base stud is connected to the roof or some other metal structure. This structure is then coupled into the antenna system itself.
5. The antenna is supplied with six metres of low loss coaxial cable. If a longer length is required, use coaxial connectors and good quality coaxial cable when extending. Ensure joint is fully waterproofed and avoid sharp bends or kinks when running cable.

## MULTICOUPLER/POWER SUPPLY

1. After removing the cover, mount the unit with screws via the mounting holes provided on the back panel. The case is not electrically connected to the circuit or the coaxial cable shield.
2. Connect the antenna cable to the multicoupler INPUT terminal. See diagram for cable termination.



3. The multicouplers are designed to be cascaded in order to provide a large number of outlets still utilising the DC power feed to the first unit.

IN A SINGLE MULTICOUPLER SYSTEM IT IS NECESSARY TO CUT THE SOLDERED LINK WIRE ON THE CIRCUIT BOARD NEAR O/P1.

This link, when intact, provides the DC feed to further cascaded multicouplers when used.

4. Connect the coaxial feeds to the receivers to OUTPUT 1, 2, 3, 4 and 5. It is not necessary to terminate any unused outputs.
5. Connect a clean, fused (100mA) 12-28 volt DC supply to the unit via the cable provided.
6. The wire with the red tracer is positive. The fuse and DC power supply rating needs to be increased by 60mA per multicoupler. In a cascaded multicoupler system, connect the receiver cables to OUTPUT 2, 3, 4 and 5 on the first multicoupler. OUTPUT 1 (link intact) should be cabled to the Input of the second multicoupler.

While Moonraker multicouplers are designed to be cascaded, it is likely that some degradation of signal to noise ratio will occur if too many stages are cascaded. Should more than 17 outlets be required, it is possible to drive another 5 multicouplers in parallel.

## SINGLE CHANNEL/POWER SUPPLY

Remove the cover and mount the unit with screws via the mounting holes provided on the back panel. Connect the antenna cable to the terminal marked ANT and the receiver to terminal RX. Connect a clean and fused (50mA) 12 volt DC supply via the cable supplied. The wire with red tracer is positive.