

## Section 6

### MARINE ANTENNAS

Updated 22 May 2011

## HM212 and HM215 HF Marine Deck Mount

Frequency  
**2 – 30 MHz**

Bandwidth  
**Requires ATU**



The HM212 and HM215 deck mount models are suitable for all HF marine communications in the 2 to 30 MHz frequency range.

These antennas are designed to couple with your HF radio transmitter via an Antenna Tuning Unit (ATU).

The single piece fibreglass radome is fully sealed and packed tight with closed cell foam to protect the internal braided copper radiator, prevent rattles and maximise service life in harsh marine conditions.

The copper radiator terminates via 5 metres of high voltage (20 kV) feed cable side exiting from the chromed brass mount ferrule.

Both models come complete with our highest quality fully stainless steel MM2 folding deck mount. This base folds down in two directions and also swivels in the opposite plane by loosening the stainless steel pivot bolt. This versatility allows the antenna to be mounted in a variety of positions on any flat surface and at any angle using four screws or bolts.

The antenna must be in a vertical position for optimum performance and can be folded down when not required.

SPECIFICATIONS	HM212	HM215
<b>Construction</b>	Single piece white fibreglass tapered radome, copper radiator, chromed brass ferrule, 1"–14 UNS thread	
<b>Frequency Range</b>	<b>HF 2 to 30 MHz with suitable Antenna Tuning Unit (ATU)</b>	
<b>Tuning</b>	Tuning limits are determined by the ATU Grounding systems may also affect the ATU tune range	
<b>Gain</b>	<b>2.1 dBi</b>	<b>2.1 dBi</b>
<b>Max Input Power</b>	250 Watts PEP	250 Watts PEP
<b>Impedance (Nom.)</b>	ATU is required to match the antenna to 50 Ohms	
<b>Polarisation</b>	Vertical	Vertical
<b>Termination</b>	5 metres of 20 kv single core cable side exits from the chromed brass mount ferrule	
<b>Height (inc mount)</b>	3.7 metres	4.5 metres
<b>Weight (inc mount)</b>	2.0 kg	3.5 kg
<b>Shipped Length</b>	3.9 metres	4.7 metres
<b>Shipped Weight</b>	4.0 kg	5.0 kg
<b>Deck Mount Supplied</b>	The <b>MM2</b> stainless steel folding deck mount supplied can be secured to any flat surface horizontal or vertical at any angle using 4 screws or bolts	

*Since tuning limits are determined by the ATU, clients contemplating purchase of these antennas should verify that their ATU specification will load the given length of radiator for the chosen model at the lowest frequency desired.*

#### Installation Advice :

A good earth system is the essential key to achieving the optimum transmit and receive performance. The HF antenna must be isolated from the vessel's earth system. The antenna feeder cable attaches to your ATU, and it is the Antenna Tuning Unit which must be connected to the vessel's earth system. Refer to the installation instructions which came with your ATU.

The vertical radiation pattern for this HF radio antenna is largely influenced by the size, shape and nature of the ground plane under the antenna. Symmetrical, balanced, as well as low resistance earthing is needed for a good omnidirectional radiation pattern.

The length and placement of the feedline also has a large effect on pattern formation, with modelling indicating a long feedline at right angles to the antenna causes the pattern to vary greatly from omnidirectional.

Keep all leads as short as possible and joints in the earth system fully soldered. Earthing system problems may also cause the DC feed wiring to become an active radiator.



**MM2 stainless steel folding deck mount**