Model

HM218-M

Marine Mast or Side Mount Antenna, 6 metre

HF Radio 2 – 30 MHz

requires Antenna Tuning Unit (ATU)

2.1 dBi Gain

- Two-piece white fibreglass radome, chromed brass joining ferrules and stainless steel mount tube.
- Mount to a mast, the side of a wheelhouse or other vertical flat surface using appropriate clamps.
- 6 metres of 20 kv single core cable fitted with a terminating lug for antenna terminal.
- 500 watts PEP maximum input power.

INSTALLATION GUIDE

www.zcg.com.au

ANTENNA DESCRIPTION

HM218-M is suitable for all HF marine communications in the 2 to 30 MHz frequency range. The two-piece white fibreglass radome with chromed brass joining ferrules and stainless steel mount tube stands 6 metres tall when fully assembled.

This long antenna offers top performance and can be easily dismantled for storage. The 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 on a stainless steel stud above the mount tube, to which the 6 metre high voltage feed cable attaches. Mount tubes do not carry RF voltage.

The antenna is rated for up to 500 watts PEP maximum input power.

A detailed specification sheet is available to download from **www.zcg.com.au**

ANTENNA TUNING UNIT (ATU)

The antenna is designed to couple with your marine HF radio transmitter via an Antenna Tuning Unit. (ATU)

The ATU will match the impedance of your HF radio to the antenna and feeder cable, in this case 50 ohms.

Since tuning limits are determined by the ATU, It is wise to verify in advance the ability of your particular ATU to match shorter radiators at the lowest frequency.

The vessel's earthing system may also affect the ATU tune range.

SELECTING THE MOUNTING POSITION

To broaden your choice of mounting positions, both mast mount or side mount clamps are available.

For mounting to a mast, **2 x UAM180L** galvanised steel parallel clamps are recommended for a round mast between 40 mm and 75 mm in diameter.

For mounting to the side of a wheelhouse or other vertical flat surface, **2 x NSM218** nylon side mounts include ½"–BSW stainless steel fasteners. Drill a 12.7 mm (½") diameter hole through the wall for the stainless steel bolt and then firmly secure each side mount in position.

To achieve best performance from your antenna, these are the important principles you should consider when selecting the mounting point:

1. ***Mount the antenna in as high a place as possible.***
2. ***Mount the antenna as far away from other antennas and metallic objects as possible to avoid interference and distortion of the radiation pattern. At least 350 mm side clearance is desireable, preferably more.***
3. ***The antenna must be in a vertical position for optimum performance, not mounted at an angle.***

VESSEL EARTH SYSTEM

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 posible and joints in the earth system fully soldered. Earthing system problems may also cause the DC feed wiring to become an active radiator.

ROUTING THE CABLE

Route the cable carefully to your HF radio. Ensure that the cable is not stretched excessively and there are no sharp kinks.

If using cable ties, then we highly recommend the stainless steel type for the harsh marine environment.

Do not pull the cable ties so tight as to crush the cable.

A damaged feeder cable is a cause of high VSWR and reduced performance.

SEALING CONNECTIONS

For the marine environment, it is vital that all connections be well sealed with at least two layers of self-amalgamating tape.

PVC or electrical tape will not be adequate.

MAINTENANCE

This antenna has been designed for high reliability and low maintenance.

We recommend that you conduct a routine annual mechanical inspection of the antenna, feeder cable and connections.

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