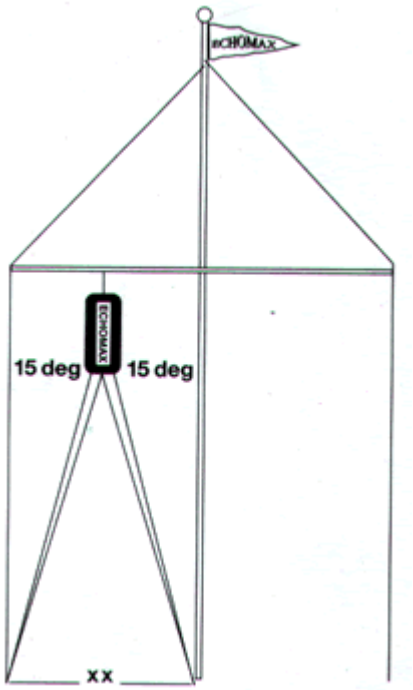
ECHOMAX Mounting – What you need to know



ISO 8729/RORC/ORC recommend a mounting height of not less than 4m above sea level.

Sailing Yachts - Halyard Mount

Echomax reflectors use a symmetrical arrangement of interacting corners. Whilst its centreband response pattern is maintained at 15° tilt RCS is -5dB. To counter this, and avoid 'mast shadow'.

Pass a bight over the yardarm via a dead eye. Return bight through reflectors eye and secure taking lines through bight. Take tails through reflectors bottom eye and then to separate cleats via loops at --xx--.

IMPORTANT

Yachtsmen will be aware of the need to trim the reflector when on the reverse tack, failure to do so will result in compounding the angle of heel rendering the reflector inefficient.

Note: Reflector trimmed to leeward 15°. Mast heeling to 30°.

Echomax 230mm response = 6m².

Sailing Yachts - Mast Mount

Echomax may be fitted in any position around the mast (i.e fore or aft).

Hypothetical figures on mast shadow may be viewed here.

Utilising Echomax stainless steel mast brackets fit reflector as high as possible on the mast, using Monel or stainless steel rivets (3/16 x 1/2" 4.8 x12.7mm). To avoid electrolytic action use zinc chromate paste between bracket and mast or closed cell foam tape. Firstly fix top bracket to mast in the required position, measure distance vertically between centres, mark position of lower bracket then drill and fix. Use two stainless steel hexagonal bolts 8mm dia x 30mm long to fix Echomax to the mounting brackets.

Motor Vessels - Mast or Deck Mount

If the vessel has a mast fit as above, or use Echomax deck mounting bracket. Custom made stainless steel stern mounting brackets/poles are available to special order.

Midi Basemount

Midi Basemount is designed for A frames, pole mounting or base mount with suitable base for fixing on wheelhouse roofs. Use four 10mm stainless steel bolts of the appropriate length at 80mm PCD. It is essential that 17mm stainless steel washers are used to spread the load between the bolt head and the Echomax flange mount base. As Polyethelene is subject to very slight expansion or contraction due to temperature changes periodical checking of the fixing is advised.

Radar Reflector fitting when a radar is installed

The best position to mount your radar will be on a frame loop over the radar, which can utilise other antenna, spot lights etc. This would allow 360-degree response.

Second best position is on the same frame as the radar providing it is below the rotating array horizontal beam width of 22/25 degrees. TheMidibase mount is 432mm high. Perhaps you would draw a scale metric drawing to see if and how far away the reflector could be mounted so as not to interfere with the radar transmissions. If you were able to mount the reflector on the same frame as the radar then you would have considerable shadow from the reflector when transmitting.

With the above in mind you will not have any loss of performance by mounting the units close together as the Echomax Midi is a passive device. Typical installations by Sunseeker and Hardy are shown below with Echomax mounted above the radar on a custom made structure

Will the reflector affect VHF performance?

Being a passive device, Echomax will not affect your VHF response, however since VHF is line of sight loss of signal may occur if situated between aerial and transmitter.

Mounting position when a radar is installed - interface

Echomax should not be mounted on the same plane as a radar horizontal beam width transmission of 22/25 degrees. Install ideally above the radar on a purpose made loop, see Hardy – Sunseeker installations .

Being a passive device mounting in close proximity to other antenna will not affect their performance electrically but may restrict/shadow their reception/transmission of the signal particularly VHF which is in line of sight. If concerned check with the manufacturer of the equipment in question.

CAUTION SHOULD BE USED WHEN DRILLING ALUMINIUM MASTS IN CASE INTERNAL WIRING EXISTS

WARNING

Echomax REFLECTORS ARE NOT SUITABLE FOR HORIZONTAL MOUNTING. THESE UNITS MUST NOT BE PUT UNDER WINCH PRESSURE. DAMAGE RESULTING FROM SUCH USE IS NOT COVERED BY WARRANTY