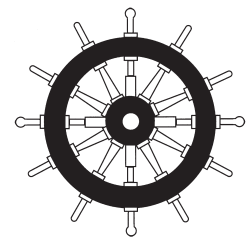


ECHOMAX

a significant advance in marine safety



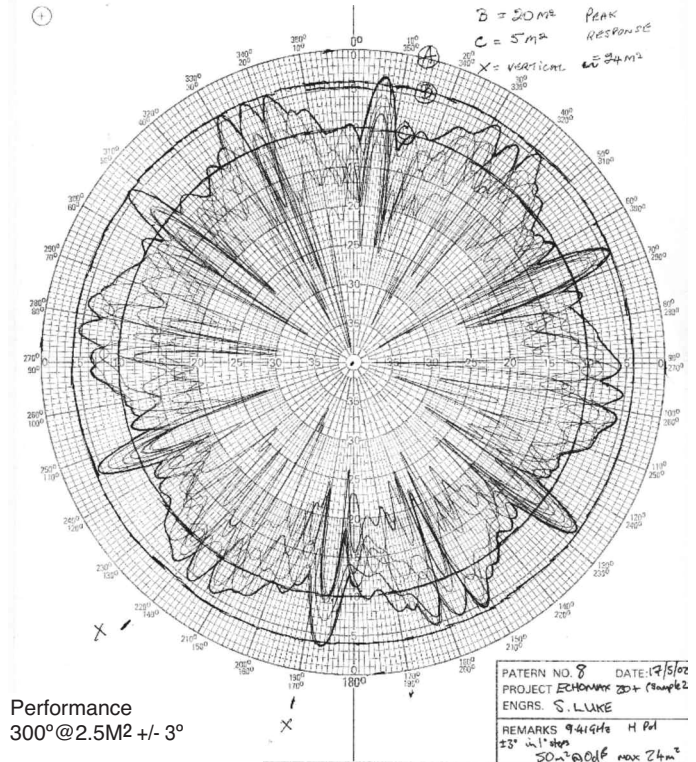
EM 230(BR) EM 230BM3 Radar Reflector

Ships Wheel Mark for lifeboats and rescue craft

Echomax models EM230 - 230BR - EM230BM3 - Ships Wheel Mark radar reflectors for life boats and rescue craft by virtue of TUV - BABT MED Module B Type certificate dated 3rd January 2013 in compliance with Directive 96/98/EC, as amended by Commission Directive 2011/75/EU - meeting ISO 8729 2nd Edition published November 1997 and in Europe as EN ISO 8729-1998 and UK as BS EN ISO 8729-1999.

Echomax EM230 has NATO Stock No.5840-99-742-6193 following the adoption and use of the Echomax EM230 by the UK Military Forces and others throughout the World.

We hereby certify that the polar diagram opposite was issued on the 17th May 2002 by QinetiQ radar testing laboratory and that the array tested is identical in all respects to that fitted in the EM230 - EM230BR or EM230BM3. This recorded a maximum response of 24M² and a stated performance level (SPL) of 4.7M² at +/- 3 degrees of heel.



Performance
300°@2.5M² +/- 3°

Signed

Managing Director

Radar Reflector Mounting Instructions

RECOMMENDED MOUNTING HEIGHT

Mount vertically 3.5M for Sailing or Masted Vessels > 2M for Lifeboats and Rescue Craft above sea level. The RORC recommend a mounting height where possible of 4m above sea level. Due to the curvature of the earth Echomax advice is 'The higher the better'.

EM230 - 230BR - HALYARD SUSPENSION

To counter mast shadow of about 22 degrees and help compensate for heel mount as illustrated opposite - the reflector can be trimmed as required to give the best possible response.

Important the reflector must be trimmed when on the reverse tack - failure to take this action will compound the angle of heel rendering the reflector inefficient.

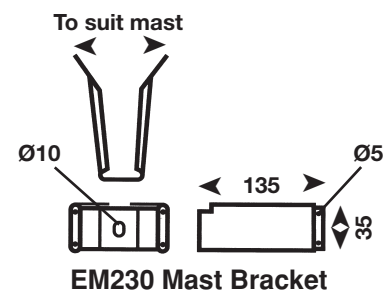
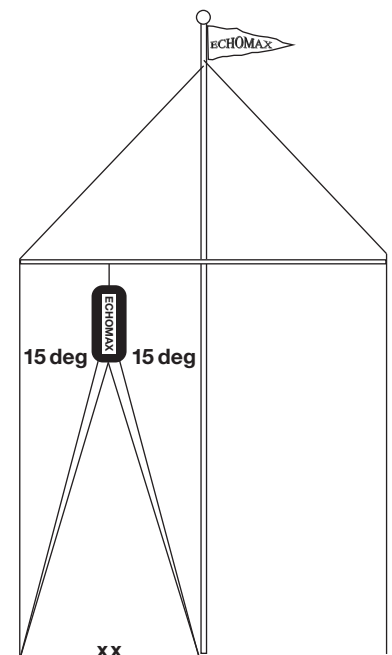
SAILING VESSELS - MAST MOUNT

Echomax may be fitted in any position around the mast i.e. fore or aft. Hypothetical figures on mast shadow may be viewed on our Website.

Echomax stainless steel mast brackets have right angle sections which are provided to reduce halyard, rope wear or chaffing and must be fitted with these facing outwards on both top and bottom brackets.

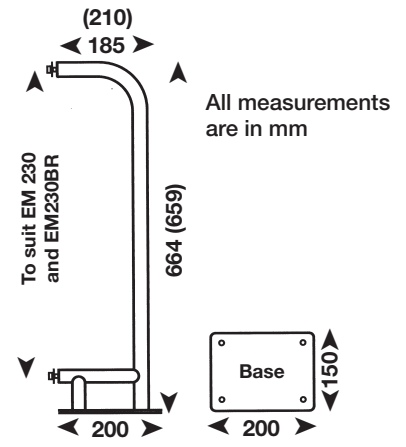
Utilising Echomax stainless steel mast brackets fit reflector as high as possible on the mast, using Monel or stainless steel rivets (3/16 x 1/2 inch 4.8 x 12.7mm). To avoid electrolytic action use closed cell foam between bracket and mast.

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 MOUNTING

If the vessel has a mast fit as shown. If the mast is slanting or not vertical ensure that the Echomax is mounted in a vertical position.
Stainless Steel Deck Mount Brackets are available as illustrated opposite.

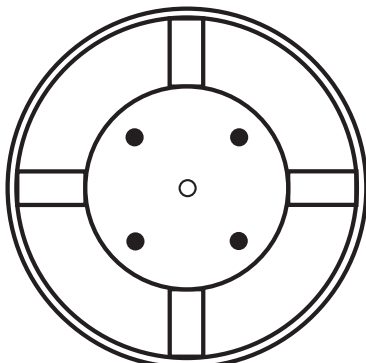
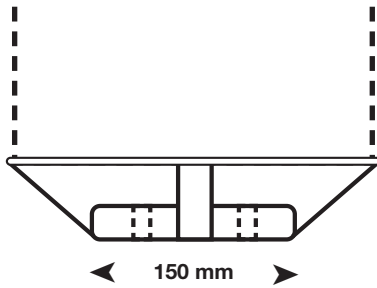


EM230 (BR) Deck Bracket

MOTOR VESSELS - BASEMOUNT - EM230BM3 QD ADAPTOR PLATES

Designed to enable the basemounts to be quickly detachable from the cabin roof or A frame to avoid damage by trees, low objects or restrictive barn or garage entrances.

Fit and remove your Echomax in seconds. Made from robust 3mm stainless plate with welded 12mm stainless fittings. 150mm diameter with 4 x 6mm fixings at 80mm centres. Weight 0.9kg.

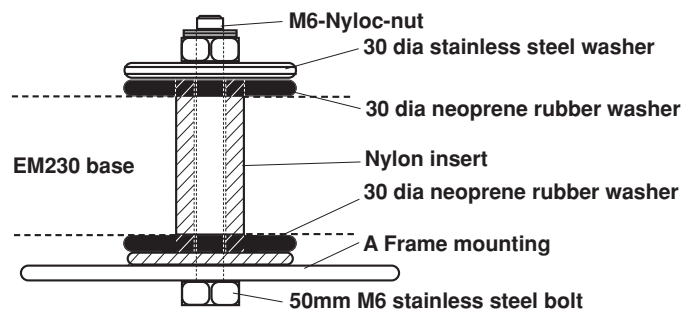


BASE

Fixing Holes 14 mm at 80 mm centres to suit fixings illustrated opposite



BASEMOUNT - EM230BM3 QD Adaptor Plates



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