Technical Bulletin

019: MOB1 DSC Operation

Introduction

The rescueME MOB1 Man Over Board alerting device is a powerful means of attracting attention in the unfortunate event of a person falling off the vessel they are on.

It is well known that the best chance of rescue comes from you own vessel in such an incident. The MOB1 uses two distinct means of transmitting your alert using recognised maritime signalling systems, AIS and DSC.

The AIS signal will transmit your position every minute which will display on an AIS connected plotter on your vessel and those in the vicinity. AIS is designated as a navigation system rather that an alerting system, so it is not mandatory to sound an alarm when an MOB signal is received.

The DSC system is designed to sound an alarm on the DSC VHF radio whenever a DSC call is received. The MOB1 can transmit a DSC Individual Distress Relay call every five minutes when activated. The MOB1 can also transmit a single DSC Distress Alert attempt, either manually activated or automatically on activation.

The rescueME MOB1 transmissions comply with the International recommendation for DSC calls and the formatting of MOB distress calls. The MOB1 is approved for use in the USA, Europe and many other countries. This document provides advice on selecting reception equipment that is compatible with the MOB1

DSC System Compatibility

The DSC system has been in existence for a long time. However, the use of DSC in MOB type devices is relatively recent. For this reason, the acceptance of DSC for MOB use by National authorities varies. Likewise the ability of the VHF DSC radio to correctly receive the DSC calls from the MOB1 also varies from model to model.

DSC radios are categorised by class. Class A(or B) radios are mostly used on large commercial vessels. These radios are required to receive all the possible DSC calls including those transmitted by the MOB1. Class D are designed with a limited set of DSC call capability intended for recreational and smaller commercial vessels. Initially these radios may not have been capable of receiving the MOB Individual Distress Relay Call, depending on the standards in place at the time.

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It is not possible to be definitive about what radios are compatible from the model and age.

In the USA all class D DSC radios approved after March 2009 should meet international recommendation ITU-R M.493-13, which includes the MOB distress relay call. In Europe radios introduced after May 2011 should also comply with the same ITU standard. However the situation can be complicated by manufacturer's interpretation of the ITU recommendation in implementing the handling of DSC calls on their products.

A list of radios that the manufacturers that have confirmed are compatible with the MOB1 can be found in the MOB1 FAQ page at oceansignal.com/products/mob1/#faqs titled "Which DSC radios are compatible with the MOB1?".

Please note that the DSC capability of your MOB1 may be limited by the regulatory authority in your country. A list of DSC limitations imposed by these countries can also be found at the MOB1 FAQs "What DSC functions are allowed in my country?"

The MOB1 is fully compliant with the International requirements for the transmission of DSC MOB messages. It is important that your DSC radio can also receive the relevant DSC MOB1 messages. If in doubt, please contact the radio manufacturer's customer support department for advice.

AIS system

Please note that even if your DSC radio does not work with the MOB1, AIS can still be used to display your position and sound an alarm.

The AIS messages used by the MOB1 are the same ones used for ship position reporting so there are no known problems with the reception of the MOB1 AIS. How the reception reports are displayed varies across the plotter makes and software editions, through lack of standardisation. An MOB position should be displayed with the symbol ⊗, but many plotters still show just a ship. The MMSI identifying the MOB1 will always start 97260----. There should also be a text message displayed on screen of either "MOB ACTIVE" or "MOB TEST".

Because AIS is officially recognised for navigation but not for alerting, some plotters will not sound an alarm on reception of MOB messages.

An important addition to your MOB capability would be the Ocean Signal AIS ALARM box. When this is connected to the AIS NMEA0183 output, it can be programmed to respond to one or more of your MOB1s or to other AIS devices. Please see oceansignal.com/products/ais-alarm/ for more details.