

Get the best from DSC

Ben Meakins assesses whether DSC radio can be useful on board for more than just transmitting a Mayday call

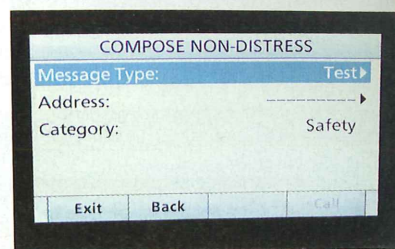


The arrival of Digital Selective Calling (DSC) for VHF radios was much heralded when the technology first became widespread in the late 1990s/early 2000s. There's no doubt that for Mayday situations it has major advantages, sending your MMSI number and position to the rescue services far more quickly and accurately than a distorted voice call. There is a lot more to the technology than that, but most sailors' experience of it seems to be limited to running down the companionway to silence yet another infuriating alarm that accompanies a French CROSS Joburg navigational warning.

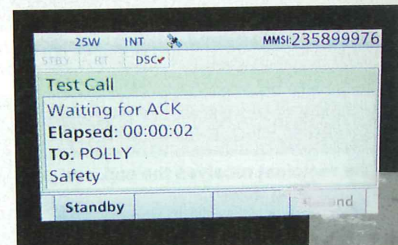
So, how useful is DSC on board? We decided to take a closer look to see if it's a beneficial, underused medium, or only of any help in an emergency. We borrowed an IC-M605EURO radio from Icom, one of the latest generation of fixed VHF sets, as well as trying out a more basic Standard Horizon GX1500E so we could send messages between them. After a day of frenzied button-pushing and beeping alarms, we came away with some idea of how to use the extra features that come as part of the DSC system on modern VHF radios. Here's how to use the calling, distress and position polling features, and others that exist on most sets...

Radio checks

You can test the operation of the set by sending a test message to another DSC unit.



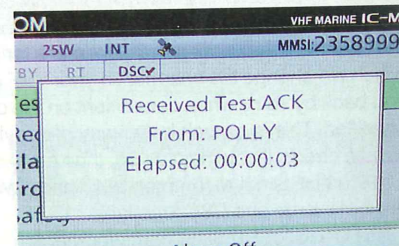
1 Set the message type to 'Test' and input the MMSI, either numerically or by selecting the vessel from your directory.



2 Once this has been done, send the message.



3 The receiving vessel will then acknowledge it...



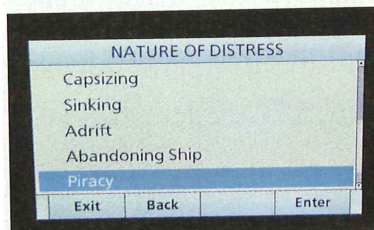
4 ...and you will receive a notification that it is working.

Making an emergency call

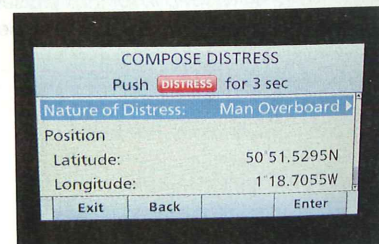
Few would argue that the emergency features on a DSC radio are important – and they are an essential time-saving feature in a Mayday situation, sending your vessel's MMSI and position, as well as the nature of the distress, to the coastguard.



1 Lift the red cover and press the 'Distress' button. Holding it down will send a basic distress message...



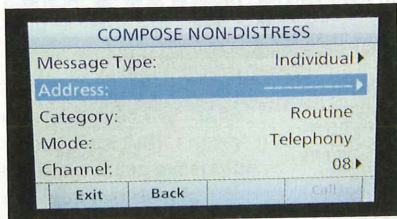
2 ...or a short press allows you to give more information. From the list, select the nature of your distress...



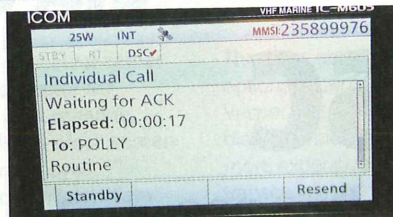
3 ...then push the 'Distress' button for a further 3 seconds to send the alert.

Calling another vessel

INDIVIDUAL CALL



1 Select 'Call', then set message type to 'Individual'. Pick the channel and enter the vessel's MMSI, or choose from directory.



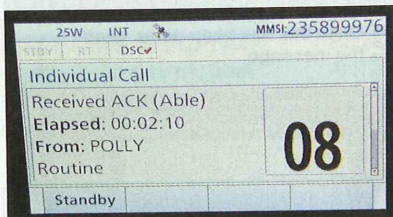
2 Now send the message, and it will wait for an acknowledgement. You can resend if nothing is heard.



3 The recipient receives the call, and by scrolling down...



4 ...can review the data and respond with either 'Able' or 'Unable'. We press 'Enter' to say that we are able to talk.



5 The sending vessel receives an acknowledgement...



6 ...and both sets are tuned to Channel 08 ready for the voice communications.

CALLING HM COASTGUARD

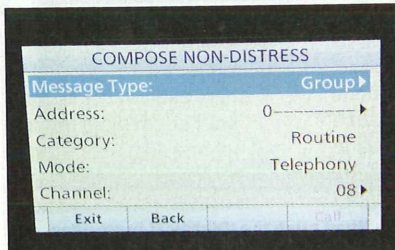
If you wish to call the coastguard for routine traffic purposes, you can do so by DSC and MMSI. However, in this instance you don't need to select the channel – the coastguard will do this for you, which will change the channel on your VHF and call you back by voice when convenient on the channel specified. This is a much better way of carrying out a radio check, if you must do so, than a call on Ch16, which is not recommended – and it will test both voice and DSC functions.

This is a list of MMSI numbers for the coastguard around the UK mainland:

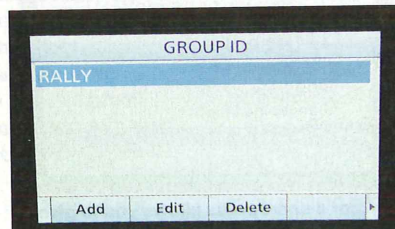
Location	MMSI
NMOC Fareham	002320011
Dover Coastguard	002320010
London Coastguard	002320063
Humber Coastguard	002320007
Aberdeen Coastguard	002320004
Shetland Coastguard	002320001
Stornoway Coastguard	002320024
Belfast Coastguard	002320021
Holyhead Coastguard	002320018
Milford Haven Coastguard	002320017
Falmouth Coastguard	002320014

GROUP CALL

If you are taking part in a rally or cruise in company with a number of yachts, you can set up a 'Group Call', whereby you can send out a message to a pre-determined group of MMSI numbers, so that they all receive an 'invitation', so to speak, to listen in to your broadcast. The group ID must be assigned by Ofcom. For instance, the Little Ship Club has been assigned a group ID for their cruises. Each member can input the ID into their set, and their sets can then respond to the alert.



You can set up a call to a group...



...but receiving stations must have input the Group ID to receive the alert.

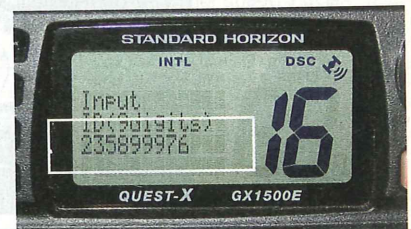
OTHER FEATURES

Position request

One feature that could be useful for boats without AIS is the 'position request' feature on most DSC sets. This 'pings' another vessel's radio for its position, which can then transmit it to the first station for information – useful if you're cruising in company and want to locate a friend. With a compatible, linked plotter you can then display this on the screen.



Select 'POS request' from the menu.



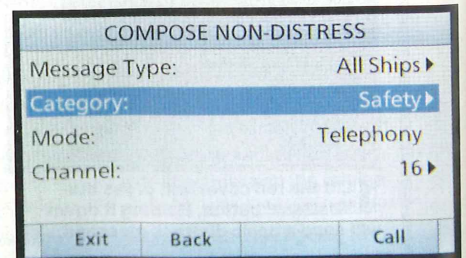
Input the MMSI, or select it from your directory.



Transmit the POS request.

ALL SHIPS CALL

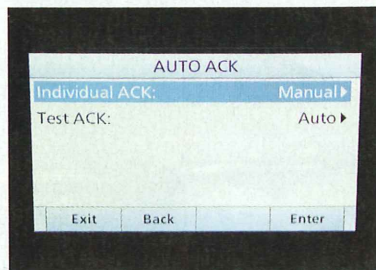
You can transmit an 'All Ships' call, setting it either as a 'Safety' or 'Urgency' call – equivalent to Sécurité and Pan-Pan voice calls. You can select the channel to which you want the recipients' radios to be tuned. All Ships calls can be useful for making vessels aware of your presence, in particular if you've run out of fuel in the shipping lanes, for instance – and any that receive the alert and acknowledge it will have their radios tuned to the selected channel (16 in this case) and are thus more likely to hear your voice broadcast.





The request is received by the other station and, when acknowledged, transmits the position back.

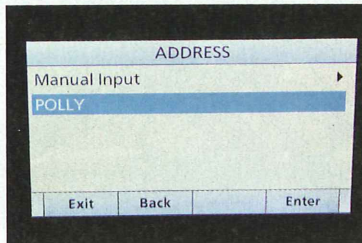
Additionally...



You can set some DSC sets to automatically respond to position requests and other DSC alerts and calls.

DSC directory – phone book

Entering MMSI numbers manually is a pain and can take a long time, especially on sets without a numeric keypad. Most sets offer a directory, or phone book, where you can program in numbers along with a boat name. This speeds things up significantly, and also means that when you receive a call, the boat's name will appear on the screen, which makes it much easier to know who you are being called by than a 9-digit MMSI number.



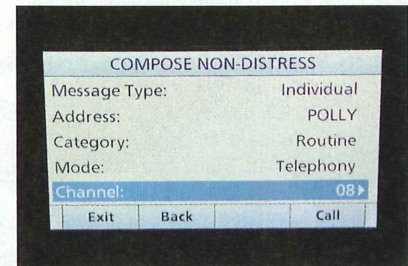
Here is an address book with one entry – putting boat names in can simplify the calling of friends and other vessels.

AIS

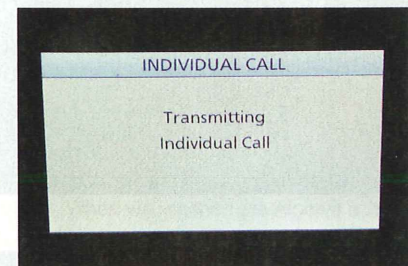
Many VHF's with DSC now also have AIS receivers built in. This, quite apart from their use in locating other vessels, also allows you to call them much more easily than by inputting the MMSI number from another unit.



On units with AIS, you can select a vessel and press 'DSC' (bottom right)...



...and initiate a call...

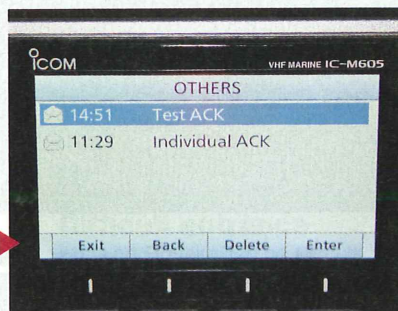


...in fewer steps than normal!

Call log

The call log is another useful feature – for instance if you missed the position of a Mayday, you can often look back into the log and see the data stored there – MMSI, position and nature of distress and call.

This call log shows that the set has received two communications recently – both acknowledgements. Distress and All Ships calls will also show up here.



Adding a compatible chart plotter

Fiddling around with buttons can make calling another vessel seem overly complicated, especially when compared with just picking up the mic and calling them by name. Adding a modern, networked plotter can make the whole process significantly easier. You will need a compatible plotter and VHF – which may mean they need to be from the same manufacturer.

Calling a vessel

If an approaching AIS vessel is of concern, you can bring up the vessel dialogue box and tap on 'call', which will initiate a DSC call to the vessel in question, avoiding the need to type in MMSI numbers.

Distress vessels show up on the screen

If an all-ships alert or a distress call is received, the plotter can automatically plot the position of the vessel on the screen using the position data received.

AIS Vessel Details	
2B3 (MMSI: 232008949)	
Callsign:	MBGN4
IMO:	
AIS Class:	B
Type:	Sailing
Length (m):	13.0
Beam (m):	8.0
<hr/>	
Bearing (°M):	011
Distance (m):	144
CPA (m):	148
TCPA (hrs):	PAST
Relative speed (kn):	0.2
Relative course (°M):	078
Call	

PBO conclusion

DSC is more than just distress calling – but few people use it for calling other vessels. The increasing prevalence of AIS sets, some integrated into the DSC unit, makes calling vessels that show up much easier.

For everyone else, using DSC is made much simpler by filling in your address book so that MMSIs are named. This makes receiving calls, making calls and sending position requests much easier, and you're thus much more likely to use it.

Another point I took away was that calling the coastguard for routine traffic (with their number pre-programmed in the radio) is much better done by DSC as they can select the channel and call you back at their leisure.