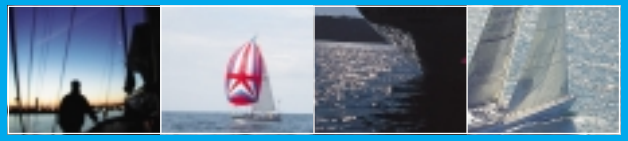

GMDSS

The Benefits of Digital Selective Calling

A typical VHF with DSC.
Picture courtesy of SIMRAD

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Maritime and Coastguard Agency

GMDSS

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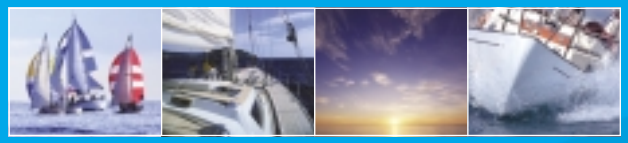


The Global Maritime Distress and Safety System (GMDSS) is a maritime communications system – not just for emergency and distress messages, but also for all types of existing vessel-to-vessel and vessel-to-shore routine communications. Commercial vessels over 300 gross tonnage and certain smaller vessels, including some fishing boats, must fit GMDSS equipment. Most of the well known offshore yacht races now insist yachts are GMDSS equipped.

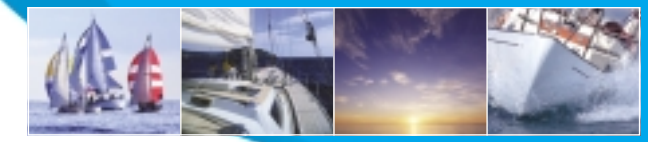
There are several elements that make up the total GMDSS system, including Digital Selective Calling (DSC) via radio, satellite communications, Navtex weather and navigation information dissemination, Search and Rescue Radar Transponders (SARTs) and Emergency Position Indicating Radio Beacons (EPIRBs). A pleasure vessel may not need all of these, or may not need them all now. This leaflet is addressing the radio elements of GMDSS and in particular, that for private leisure craft.

Whilst it is voluntary for small craft used solely for leisure purposes, the Coastguard strongly recommends that these vessels have Digital Selective Calling (DSC) radios. All UK Coastguard stations are GMDSS DSC equipped.

What is Digital Selective Calling?

DSC is simply a tone signalling system, which operates on VHF Channel 70 and is similar to the tone dialling on your phone, but with the ability to include other information such as the vessel's identification number, the purpose of the call, your position, and the channel you want to speak on. The present VHF system requires users to listen until someone speaks and determine whether the call is for them – more often than not, it won't be. All small-craft VHF now on the market must be "GMDSS compatible" – many are simply that and require the DSC element to be purchased separately. If you don't get both parts, the many benefits of GMDSS DSC will not be available.

It is no longer mandatory for shipping to maintain a "listening watch" on VHF Channel 16 – many still do, but GMDSS has meant that all emergency, safety and routine messages are received without needing a dedicated listening watch to be maintained. Also, from February 2005, the UK Coastguard will discontinue dedicated headset listening on Channel 16 – although a "loudspeaker" watch will continue.



GMDSS

The Benefits of Digital Selective Calling

Benefits of DSC

Distress alerting

At the touch of a button, you can send your boat's identity, your position* and the nature of distress. The position given will be precise and the alert will be heard immediately by all DSC equipped vessels and shore stations within range. The distress message will be automatically repeated every 4 minutes until it is acknowledged either by a Coastguard station or ship within radio range.

Safety broadcasts

Maritime Safety Information (MSI) broadcasts from coast stations and shipping automatically generate an alert (ring tone) to ensure this vital information is not missed.

Routine calls

To call another vessel or coast station, you simply input their dedicated number (mobile maritime service identity MMSI), select your chosen VHF working channel and send the call - it's like using a telephone. Both your radio and the one you are calling automatically switch to the chosen channel for subsequent conversation.

Group calls

When groups of vessels need the same information (yacht races, club rallies etc.) a special group-call identity can be used to facilitate restricted broadcast messages.

Equipment specifications

The minimum standard for small craft DSC equipped radios for fixed use in Europe is EN 301 025. Make sure that any equipment you purchase complies with this standard which encompasses the international 'Class D' DSC specification. Check that the equipment is marked in accordance with the European Union Radio and Telecommunications Terminal Equipment (R&TTE) directive similar to the symbol on the right.

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If operating outside VHF range (typically 30-50 nautical miles from a coast station antenna and dependant on own vessel aerial height), MF/HF DSC allows you to contact vessels and Coastguards around you directly and at considerable distances - HF in suitable conditions has global reach.

Conclusion

GMDSS DSC could save your life. It means that distress calls with the precise position* of your boat can be sent in seconds, even if you are the only person on board with radio training. It is very easy to train your crew to 'push the red button if anything happens to me'. The system works and has already saved lives. It makes day-to-day radio operation much simpler. Calling is automated and you no longer need to keep permanent watch on Channel 16. An alarm will sound if you are being called. All big ships and almost all European Coastguards are fully equipped for DSC and will respond instantly if called. GMDSS is a worldwide system, which can be used anywhere. Being fully automatic, it avoids possible language barriers. Using DSC will help you, others in distress, and the Coastguard.

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* To transmit precise positions, the DSC must be interfaced to GPS. Otherwise, regular manual position updating is required.

Recommended **GMDSS** Equipment

Reproduced below for advice, are the communications equipment recommendations:

Area of Operation from Coast (Nautical Miles)	Up to 3m	Up to 20m	Up to 60m	Up to 150m	Unrestricted
VHF fixed radio installation – fitted with DSC	O	R	R	R	R
Hand held waterproofed VHF radio – also for use in liferaft	R	R	R	R	R
Satellite EPIRB/PLB (406 MHz or Inmarsat E)*	O	O	O	R	R
MF SSB radio installation – fitted with DSC**	None	None	O	R	R
INMARSAT	None	None	O	O	R
NAVTEX Receiver – will receive up to 400 miles from NAVTEX transmitter	None	O	R	R	R
Search And Rescue radar Transponder (SART)	None	O	O	R	R

R=Recommended O=Optional

* Float free or readily accessible. ** Not required if Inmarsat is fitted.