12.4B VHF Emergency Calls

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INTRODUCTION

1. There are three categories of signal that may be transmitted to indicate that a particular situation has arisen and the response needed:

Proword	Maritime meaning	French Origin	Translation
Mayday	DISTRESS	Venez m'aidez	Come help me
PanPan	URGENCY	(Mon bateau est) en panne	(My craft has) broken down
Sécurité	SAFETY	Sécurité	safety or security

2. Any person, including NCI Watchkeepers, can transmit on any VHF channel, when to do so would immediately contribute to saving a life. Such action would happen on rare occasions and should not replace the normal alerting procedures.

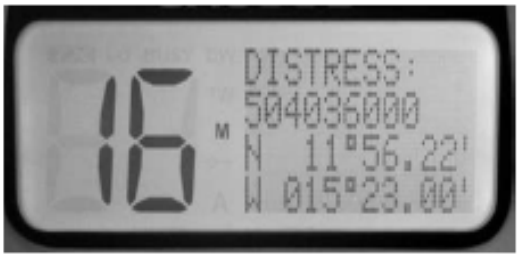
SUPPLEMENTARY READING

3. Effective communications using VHF radio comprises various elements; within NCI, the basics are:
   - ✓ Incident Reporting – Sections 12.3A and 12.3B
   - ✓ Radio Skills – Sections 12.4A and 12.4C
   - ✓ Signs and Signals – Section 12.9

MAYDAY – the most serious emergency

4. This is the international signal that indicates a vessel, vehicle, aircraft or person is in grave and imminent danger and requires immediate assistance.

5. Stations fitted with a Digital Selective Calling (DSC) equipped radio may be first alerted by an automatic digital distress signal sent on VHF Channel 70. When a distress alert is received an alarm sounds and the following details can appear on the LCD screens of all vessels within radio range of the originating vessel:
   - name of the vessel
   - its MMSI number
   - its position (latitude/longitude)
   - time
   - nature of the distress



DSC radio Distress display showing casualty's MMSI and position

6. All receiving radios then automatically tune to Ch16 to receive the voice distress call and message. The voice messages are prefixed by the word "*Mayday*" spoken three times indicating an emergency requiring immediate assistance – this message has absolute priority over all other call transmissions.

7. The call should be heard on VHF Channel 16, but any frequency may be used.

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8. There is a format for distress calls (though in practice you should not expect it to be followed exactly), and the mnemonic MIPDANIO is a useful *aide memoir*:

MAYDAY CALL		
Mayday! Mayday! Mayday! *This is Boaty Boat, Boaty Boat, Boaty Boat* *Mike Victor Yankee Quebec Seven MMSI 234001234*		
MAYDAY MESSAGE		
M	Mayday	*MAYDAY*
I	Identity	*this is . . .*
		vessel name, MMSI and callsign
P	Position	*position is 50^0 11' N 003^0 46' W*
		latitude and longitude or bearing and distance from a charted position
D	Distress	*I am swamped in rough seas and sinking*
		the type of emergency – fire, person overboard
A	Assistance	*I require immediate assistance*
		what is needed
N	Number	*I have five persons on board*
		how many people are on board
I	Information	*abandoning to life raft*
		any other information which might help rescuers
O	Over	*OVER*

MONITORING AND RECORDING EMERGENCY (Mayday and PanPan) CALLS

9. As soon as you hear any emergency transmission, you must:

- press the record button on the voice recorder (if available)
- instruct all in the Watch room to be quiet
- cancel any DSC alarm (by pressing the 'Clear' button on the radio)
- write down the time of the call
- listen to what is being said and note it down
- mark the position given by the target on electronic and/or paper chart

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10. ***If you are able to see the incident***:
    - **SPOT** – confirm to yourself and your colleague(s) on watch, the target in view
    - **PLOT** – check coordinates given in Mayday message
    - **REPORT** – immediately to HMCG via 999
    - consider the use, if fitted, of CCTV cameras to gain extra detail but do not let this delay your initial response
    - record in your Logbook in red ink or underline in red, when convenient to do so

11. ***If you cannot see the incident***:
    - continue to monitor the radio and standby for contact from HMCG as to whether they wish your Station to be involved or not

12. If there is no response to the DSC alert and no voice message follows, wait for five minutes for the DSC alert to be automatically repeated and if there is still no response either digitally or by voice, inform HMCG via 999.

13. If HMCG does not respond to the voice mayday call within 10 seconds, report it and/or any critically incorrect information heard, to HMCG via 999 – any additional or updated information is to be given to HMCG by normal telephone communication.

MAYDAY RELAY

14. This is a message sent by a vessel not in distress when:
    - the vessel in distress cannot transmit a distress message itself
    - it is able to assist but considers that further help may be needed
    - not in a position to assist and has heard a distress message that has not been acknowledged

15. The procedure in this case is exactly the same as a standard MAYDAY incident, including how it is recorded, reported using the 999 system and monitored.

MAYDAY RELAY CALL		
Mayday Relay! Mayday Relay! Mayday Relay! *This is Observant Boat, Observant Boat, Observant Boat* *Alfa Bravo Charlie One MMSI 234003456*		
MAYDAY RELAY MESSAGE		
M	Mayday	*MAYDAY RELAY*
I	Identity	*Mayday Boaty Boat . . .*
		name of vessel in distress, MMSI and callsign of vessel in distress
P	Position	*position is 50^0 11' N 003^0 46' W*
		latitude and longitude of distressed vessel or bearing and distance from a charted position
D	Distress	*she is swamped in rough seas and sinking*
		the type of emergency – fire, person overboard
A	Assistance	*she requires immediate assistance*
		what is needed
N	Number	*five persons on board*
		how many people are on board
I	Information	*reported as abandoning to life raft* *Mayday heard at 1245 UTC but no response heard*
		any other information which might help rescuers
O	Over	*OVER*

AFTER THE EMERGENCY

16. Inform HMCG that the emergency was monitored and recorded and obtain an Incident Number from them if NCI were actively involved.

17. Complete an Incident Report and inform your Station Manager or Station Secretary so that the Incident Report can be added to our national database.

PANPAN

18. This is the international standard urgency signal which is used to declare a situation that is urgent but for the time being does not pose an immediate danger to anyone's life or to the vessel itself.

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19. Urgency messages are transmitted in a similar format to Mayday calls, indicating that a vessel or station has an urgent message concerning the safety of a ship or person. Stations fitted with a DSC radio may receive a digital 'urgency announcement' before the Channel 16 message.

PANPAN CALL

PanPan! PanPan! PanPan!

All stations All stations All stations

OR

Paragon Coastguard Paragon Coastguard Paragon Coastguard

This is MV Unhappy Yacht, Unhappy Yacht, Unhappy Yacht

X-Ray Yankee Zulu Six MMSI 234006789

PANPAN MESSAGE

P	PanPan	*PANPAN*
I	Identity	*this is MV Unhappy Yacht. . .*
		vessel name, MMSI and callsign
P	Position	*position is 50^0 10' N 003^0 45' W*
		latitude and longitude or bearing and distance from a charted position
D	Distress	*total engine failure and drifting / sick crew member*
		the type of emergency – fire, person overboard
A	Assistance	*I require a tow*
		what is needed
N	Number	*I have three persons on board*
		how many people are on board
I	Information	*I am a 20 metre motor yacht with a flying bridge and a white hull*
		any other information which might help rescuers
O	Over	*OVER*

SÉCURITÉ – the least urgent of the distress and urgency calls available

20. These are safety messages given out over the radio to provide important navigational or meteorological warnings. Pronounced "SAY-CURE-IT-TAY", safety messages may be broadcast by a vessel at sea, either to warn that the activities or position of the sender pose a risk to other vessels in the vicinity, or to warn of a local navigational hazard.

21. They may be preceded by an 'All Ships Safety' DSC announcement, indicating that there is an important transmission about to be made on a working channel after an announcement on VHF Channel 16.

SÉCURITÉ MESSAGE on Channel 16
Sécurité Sécurité Sécurité
All stations All stations All stations
This is Paragon Coastguard Paragon Coastguard Paragon Coastguard
For an urgent navigational warning, listen Channel 67
OUT

Message following on the working channel
SÉCURITÉ SÉCURITÉ SÉCURITÉ
All stations All stations All stations
This is Paragon Coastguard Paragon Coastguard Paragon Coastguard
Large drifting container reported in position 50^0 10' N 003^0 45' W
Considered danger to surface navigation
Time of origin 1230 UTC
OUT

22. Watchkeepers should note the message content and take appropriate action if the event is within their Watch sector and log any relevant information if your Station is involved.

DIGITAL SELECTIVE CALLING (DSC)

23. DSC is a standard for transmitting pre-defined digital messages via the maritime radio systems. It is a core part of the Global Maritime Distress Safety System (GMDSS).

24. It provides the operator with a digital system capable of setting off an alarm at a distant radio station when a call is addressed to that station. All VHF radios purchased since 2000 have to be DSC capable, so even small vessels are likely to use DSC.

25. Each licensed DSC equipped ship, shore station and group is assigned a unique 9-digit Maritime Mobile Service Identity (MMSI) number to enable point-to-point contact. The DSC system is the standard and the use of DSC is replacing Channel 16 as the initial calling frequency for many types of messages.

26. DSC senders are programmed with the ship's Maritime Mobile Service Identity (MMSI) and may be connected to the ship's Global Positioning System (GPS), which allows the apparatus to know who it is, what time it is and where it is. This allows a distress signal to be sent very quickly.

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27. The distress message will be automatically repeated every four minutes, until it is acknowledged either by a Coastguard Operations Centre (CGOC) or ship within radio range. If circumstances allow, the distressed vessel is required to follow-up the alert with a Mayday voice message on Channel 16 to give further details and alert any non-DSC equipped vessels in the vicinity.

28. DSC distress alerts consist of a pre-formatted distress message which is activated by a vessel in distress, simply by pressing the red emergency button on the DSC set.

29. If the set has been connected to the ship's GPS (and most of them are) the pre-formatted message will automatically display both the ship's MMSI number and its position. The capability exists to amplify the emergency details by use of drop-down menus, and these can be accessed at receiving stations by using the menu button on the DSC radio.

Courtesy of kingmanyacht centre.com

30. Distress Alert, Urgency and Safety DSC broadcasts will be received by all DSC equipped stations in range and trigger a loud alarm (which can be cancelled by pressing the relevant button on your Station's particular model).

31. As NCI Station radios are not allocated MMSI numbers, they will receive the emergency tone and this can be cancelled in the normal way but further text information may not be received, watchkeepers should standby for further voice communication. The red DSC Distress button must never be operated on NCI radios.

MARITIME MOBILE SERVICE IDENTITY (MMSI) NUMBER

32. An MMSI is a unique nine-digit number that identifies a particular ship or shore station. Each MMSI is prefixed by a country code.

MMSI COUNTRY CODES	
UK	232, 233, 234 or 235
Belgium	205
Denmark	219, 220
France	226, 227, 228
Germany	211, 218
Ireland	250 (some Irish craft also are registered with UK codes)
Netherlands	244, 45, 246
Norway	257, 258, 259

MMSI COUNTRY CODES	
Portugal	263
Spain	224, 225
Sweden	265, 266

33. Local Coastguard operation centres are now known as Maritime Rescue Co-ordination Centres (MRCCs). They are located around the UK and have a nine-digit MMSI number which begins with two zeros (this distinguishes them from ships). In UK waters a DSC distress will usually be acknowledged by a digital response from HMCG, in which case the MMSI of the relevant MRCC will appear on the display.

UK MRCC MMSI CODES	
Joint Rescue Co-ordination Centre (JRCC)	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

GLOBAL MARITIME DISTRESS AND SAFETY SYSTEM (GMDSS)

34. GMDSS is an internationally agreed set of safety procedures, types of equipment and communication protocols which use improved terrestrial and satellite technology and ship-board radio systems. It ensures rapid alerting of shore-based rescue and communications authorities as well as shipping in the vicinity of a distressed ship, boat or aircraft.

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35. Shipboard GMDSS installations include one or more search and rescue locating devices, the main components of which are:

- VHF DSC Radios
- Emergency Position-Indicating Radio Beacons (EPIRBs)
- Personal Locator Beacons (PLBs)
- Search and Rescue Transponders (SARTs)
- Automatic Identification System (AIS)
- AIS Man Overboard devices (AIS MOB)
- Navigational Telex (NAVTEX)
- Radar

EPIRBs – are satellite-based search and rescue equipment now required on all vessels over 300 gross tonnes and passenger vessels capable of carrying more than 13 passengers. Recreational vessels and other commercial shipping are not required to be fitted under the rules, but many yachts and other small vessels have EPIRBs fitted as a matter of course.

PLBs – are for personal use and are small safety devices that transmit a signal to a satellite; they can be easily attached to lifejackets for example. In effect they are miniature EPIRBs, and when activated transmit a distress signal on VHF which SAR assets can locate. Modern EPIRBs and PLBs may be also be equipped with AIS transmitters and will display a MMSI number beginning 974 . . .

SARTs – are self-contained, waterproof transponders intended for emergency use by vessels at sea. They can be a radar-SART or a GPS based AIS-SART.

- a *radar-SART* is used to locate a distressed craft/vessel by creating a series of dots on a rescuing ship's radar display with the location of the transponder in the radar trace. The detection range is dependent on the height of a ship's mast and the SART transmitter but is usually about 8nm.

  Once detected, radar-SART produces both a visual and audible indication. Without radar, NCI Stations will not be aware of a SART transmission; however, all Watchkeepers need to be aware of the significance of the detection by a third party of a SART transmission.

- an *AIS-SART* is a self-contained radio device that sends updated position reports using a standard AIS class-A position report.

  The MMSI commences with 970****** and all vessels in the area, including NCI Stations, will receive the signal which can be transmitted continuously for 96 hours. The signal appears on an AIS receiver screen as a red circle around a red 'X' and bearing and distance to the target.

  Unlike an EPIRB, the AIS-SART unique code is not registered to a vessel and in older AIS receivers the SART symbol is not displayed, but shown as a vessel.

AIS MOB devices – these are similar to AIS-SART and transmit an AIS message via VHF with a range of up to four nautical miles. It will appear on an AIS receiver screen as a red circle with an 'X' inside and bearing and distance to the target. The MMSI commences 972****** and all AIS-fitted vessels in the area and NCI Stations will receive the signal.

Some older AIS receivers will not display MOB but show as a vessel.

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AIS – is an automatic tracking system that uses transponders on ships to follow and monitor vessels' movements. AIS equipment is required to be fitted aboard all international voyaging ships with 300 or more gross tonnage and all passenger ships regardless of size. However, AIS transponders may be turned off.

NAVTEX – is an international automated service for the delivery of navigational and meteorological warnings, as well as urgent maritime safety information (MSI) to vessels underway at sea. The information received can be printed out as hard copy or displayed on an LCD screen.