

VHF SHORT RANGE CERTIFICATE PRE-COURSE READING

This document provides you with important pre-course learning in readiness for the classroom course where you will go through the whole syllabus. Prior to the course please read through and learn the material contained within this document. Full information can be found in the **RYA book G31 VHF Handbook**, which will be supplied to you prior to the course.



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SAILING

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1. THE VHF COURSE

The course consists of this three-hour pre-course learning followed by seven hours of learning in the classroom. There is a short written paper and practical examination at the end of the course conducted by an independent examiner.

The full course is detailed in Appendix 1 of your **VHF Handbook**.

2. PHONETIC ALPHABET

Covered on page 42 of your VHF Handbook

When spelling words over the radio the phonetic alphabet should be used:

A	Alpha	J	Juliet	S	Sierra	1	Wun
B	Bravo	K	Kilo	T	Tango	2	Too
C	Charlie	L	Lima	U	Uniform	3	Tree
D	Delta	M	Mike	V	Victor	4	Fower
E	Echo	N	November	W	Whiskey	5	Fife
F	Foxtrot	O	Oscar	X	X-ray	6	Six
G	Golf	P	Papa	Y	Yankee	7	Seven
H	Hotel	Q	Quebec	Z	Zulu	8	Ait
I	India	R	Romeo	0	Zero	9	Niner

3. PROCEDURE WORDS

Covered in more detail on pp40-41 of your VHF Handbook and in appendix 2 (p78)

These are internationally recognised words which allow for better understanding of what is being spoken. There are many procedure words or 'pro-words' and listed below are some of the most important ones

Pro-word	Meaning
All After	Used after the pro-words "Say Again" to request the repetition of a portion of a list or message
All Before	Used after the pro-words "Say Again" to request the repetition of a portion of a list or message
Correct	Reply to a message that has been read back for check
Correction	Spoken when a mistake has been made. The correct words or group follows
I Say Again	I am repeating what I have just said (or a portion of it)
I Spell	I shall spell the next word or group (using the phonetic alphabet)
Out	This is said by each station at the end of working
Over	The invitation to reply. "Over and Out" is NEVER used
Received	Please read back the message that I have just sent you
Read Back	Your message has been received and understood. In case of language difficulties the word ROMEO may be used (NOT Roger)
Repeat	Used if any part of a message is considered important to need emphasising
Request Radio Check	Please tell me the strength and clarity of my transmission
Station Calling	Used when a station receives a call that is intended for them but is uncertain of the identification of the calling station
This Is	From a station whose name or call sign immediately follows
Wait	If a station is unable to accept traffic immediately, it will reply with the words "Wait minutes"
Wrong	Reply to a message that has been "read back" in error

4. CHANNEL NUMBERS

Covered in more detail in Chapter 5 of your VHF Handbook

The channel allocated to certain types of radio traffic:

Channel Number	Designation
16	Distress, Safety and Calling
70	Digital Selective Calling (DSC)
13	Bridge to Bridge Communications (Navigational Safety)
06, 08, 72, 77	Inter-ship Channels
11, 12, 14	Port Operations (these are the most common but check a local almanac)
17, 69	Ship Movements
67	UK Small Craft Safety
M, P1, 37	UK Yacht Clubs (for race control and safety boats)
M2	UK Yacht race management
80	UK Marinas

5. RADIO REGULATIONS

Covered in more detail in Chapter 3 of your VHF Handbook

The International Telecommunications Union gives the following list of “Strictly Forbidden Transmissions” so that interference is not caused to others. We call them the “10 commandments”.

1. Do not transmit without the authority of the master of the vessel
2. Do not transmit false or deceptive distress or safety signals
3. Do not transmit without identification (i.e. always use your call sign or vessel name)
4. Do not shut down a radio telephone before finishing all operations resulting from a distress, urgency or safety call
5. Do not broadcast (i.e. transmit without specifying a calling station) other than when transmitting a distress
6. Do not transmit music
7. Do not make unnecessary transmissions
8. Do not use profane, indecent or obscene language
9. Do not transmit messages intended to be received ashore, other than by a licensed coast radio station
10. Do not use unauthorised frequencies

6. CALLING: ROUTINE

Covered in more detail in Chapter 6 of your VHF Handbook

When making a routine call to another ship “Station” (without DSC) the following procedure applies:

1. Say their name twice if they are likely to be near the radio but if the weather is bad and wind is blowing it may be prudent to say it three times.
2. Say your name twice or three times as above.

Example

MANJARO: *Kusuru, Kusuru* this is *Manjaro, Manjaro*. Suggest channel zero six. Over

KUSURU: *Manjaro* this is *Kusuru*. Switching to zero six>over

Both boats allow time for switching channels then Manjaro makes the first call on Ch06

MANJARO: *Kusuru* this is *Manjaro* on channel 6. Over

KUSURU: *Manjaro, Kusuru*. Pass your message. Over.

If you are calling a station that is monitoring the VHF i.e. Coastguard or Marina, you only need say their name once. If you receive no answer you should wait 2 minutes before calling again. You may call up to three times then wait 3 minutes and call again.

7. CALLING: DISTRESS (MAYDAY)

Covered in sections 7 and 11 of your VHF Handbook

You will need to know:

- When to make a distress signal
- How to do an alert and send a Mayday message

Definition of “Distress”

“Grave and Imminent danger to life, vessel, aircraft or other vehicle where immediate assistance is required.”

The Distress Call & Message

Press and hold the red DISTRESS button before reading the distress call and message listed below:

Mayday, Mayday, Mayday

This is Sailing Yacht Nogo, Nogo, Nogo

Call Sign MYCS9 MMSI 232123456

Mayday

Sailing Yacht Nogo

Call Sign MYCS9 MMSI 232123456

Position is 50°32'.6N 001°23'.3W 2 miles south of Needles Lighthouse

POSITION

Have a fire on-board

PROBLEM

Require Immediate Assistance

REQUIRE?

4 persons on board, abandoning to Liferaft

OTHER INFO

Over

OVER

Procedure Words Relating To Distress

In addition to the pro-words listed in a previous section there are some that relate solely to distress situations.

Seelonce Mayday

Announced by coastguard to impose radio silence during a distress situation on a working channel which is being used to conduct the rescue

Seelonce Feenee

Announced by coastguard to say that the radio silence is now over

Distress Feenee

Announcement made to indicate the distress situation is resolved.

8. CALLING: URGENCY (PANPAN)

Covered in section 8 of your VHF Handbook

An 'Urgency' situation occurs when you have a serious problem but *immediate* assistance is not required. Send an Urgency Alert using the DSC function before reading the Urgency call and message listed below:

PanPan, PanPan, Pan-an

All Stations, All Stations, All Stations

This is Motor Vessel Nogo, Nogo, Nogo

Call Sign MVCS7 MMSI 232124567

Position is 50°32'.6N 001°23'.3W 2 miles south of Needles Lighthouse

Have engine failure

I require a tow

3 Persons on board

Over

9. CALLING: URGENCY (MAYDAY RELAY)

Covered in section 7 of your VHF Handbook

A 'Mayday Relay' is required when you see that another yacht or person is in a life-threatening situation and they require immediate assistance. Send an Urgency Alert using the DSC function before reading the Mayday Relay call and message listed below:

Mayday Relay, Mayday Relay, Mayday Relay

This is Sailing Yacht Spy, Sailing Yacht Spy, Sailing Yacht Spy Call Sign SYCS8 MMSI 232156759

Mayday

Sailing Yacht Nogo

Call Sign MYCS9 MMSI 232123456

Position is 50°32'.6N 001°23'.3W 2 miles south of Needles Lighthouse

Have a fire on-board

Require Immediate Assistance

4 persons on board, abandoning to Liferaft

Over

10.COMPLET SRC COURSE SYLLABUS

Examination Syllabus for the CEPT Short Range Certificate

A. GENERAL KNOWLEDGE OF VHF RADIOTELEPHONE COMMUNICATIONS IN THE MARITIME MOBILE SERVICE

A.1. The general principles and basic features of the maritime mobile service relevant to vessels NOT subject to a compulsory fit under SOLAS convention

A.1.1. *Types of communication of the maritime mobile service*

- Distress, urgency and safety communications
- Public correspondence
- Port operations service
- Ship movement service
- Intership communications
- On board communications

A.1.2. *Types of station in the maritime mobile service*

- Ship stations
- Coast stations
- Pilot stations, port stations etc
- Aircraft stations
- Rescue Co-ordination Centre (RCC)

A.1.3. *Elementary knowledge of radio frequencies and channels appropriate to the VHF maritime mobile band*

- The concept of frequency
- Propagation on VHF frequencies
 - Range for voice communications
 - Range for DSC transmissions
- The usage of VHF frequencies in the maritime mobile service
- The concept of radio channel: simplex, semi-duplex and duplex
- Channel plan for VHF, including allocations for the GMDSS
 - Distress and safety channels
 - National channels for small craft safety
 - Intership communications
 - Port Operations
 - Ship movement
 - Calling channels
 - Public correspondence channels

A.1.4. *Functionality of ship station equipment*

- Sources of energy of ship stations
- Batteries
 - Different types and their characteristics
 - Charging
 - Maintenance of batteries

B. DETAILED WORKING KNOWLEDGE OF RADIO EQUIPMENT

B.1. The VHF radio installation

B.1.1. *Radiotelephone channels*

- Channel Selection and controls
- Dual watch facilities and controls

B.1.2. *Basic controls and usage, e.g.*

- Connecting the power
- Press to transmit switch
- High/low output power switch
- Volume control
- Squelch control
- Dimmer

B.1.3. *Portable two-way VHF radiotelephone apparatus*

B.1.4. *Maritime VHF antennas*

B.2. Purpose and use of Digital Selective Calling (DSC) facilities

B.2.1. *The general principles and basic features of DSC*

- DSC messages
- DSC attempt
- Call acknowledgement
- Call relay

B.2.2. *Types of call*

- Distress call
- All ships call

- Call to individual station
- Geographical area call
- Group call
- B.2.3. *The Maritime Mobile Service Identity (MMSI) number system*
 - Nationality identification: Maritime Identification Digits (MID)
 - Ship station numbers
 - Coast station numbers
- B.2.4. *Call categorisation and priority*
 - Distress
 - Urgency
 - Safety
 - Ship business
 - Routine
- B.2.5. *Call telecommand and traffic information*
 - Distress alerts
 - Other calls
 - Working channel information
- B.2.6. *VHF DSC facilities and usage*
 - Channel 70 instant alert selector
 - DSC data entry and display
 - Updating vessel position
 - Entering traffic information
 - Reviewing received messages
 - DSC watchkeeping functions and controls
- C. OPERATIONAL PROCEDURES OF THE GMDSS AND DETAILED PRACTICAL OPERATION OF GMDSS SUBSYSTEMS AND EQUIPMENT**
- C.1. Search and Rescue (SAR) Procedures in the GMDSS**
 - C.1.1. *Sea Areas and access to GMDSS facilities*
 - C.1.2. *The role of RCCs*
 - C.1.3. *Organisation of Search and Rescue*
- C.2. Distress, urgency and safety communication procedures in the GMDSS**
 - C.2.1. *Distress communications via VHF DSC equipment*
 - DSC distress alert
 - The definition of a distress alert
 - Transmission of a distress alert
 - Transmission of a shore-to-ship distress alert relay
 - Transmission of a distress alert by a station not in itself in distress
 - Receipt and acknowledgement of a VHF DSC distress alert
 - Acknowledgement procedure
 - Receipt and acknowledgment by a coast station
 - Receipt and acknowledgment by a ship station
 - Handling of distress alerts
 - Preparations for handling distress traffic
 - Distress traffic terminology
 - On-scene communications
 - SAR operation
 - C.2.2. *Urgency and Safety communications via DSC equipment*
 - The meaning of urgency and safety communications
 - Procedures for DSC urgency and safety calls
 - Urgency communications
 - Safety communication
- C.3. Protection of distress frequencies**
 - C.3.1. *Avoiding harmful interference*
 - Avoiding the transmission of false alerts
 - Status of Channel 70
 - C.3.2. *Transmission during distress traffic*
 - C.3.3. *Prevention of unauthorised transmissions*
 - C.3.4. *Test protocols and procedures*
 - Testing DSC equipment
 - Radiotelephone test procedures
 - C.3.5. *Avoidance of transmissions in VHF guard bands*
 - C.3.6. *Procedures to follow when a false distress alert is transmitted*
- C.4. Maritime Safety Information (MSI)**
 - C.4.1. *The NAVTEX system*
 - Purpose and capabilities, including distress and safety functions
- C.5. Alerting and Locating Signals**
 - C.5.1. *Purpose and definition*

C.5.2. Emergency Position Indication Radio Beacons (EPIRBs)

- Registration and coding
- Operation, including automatic and manual activation
 - COSPAS/SARSAT 406MHz EPIRB
 - Inmarsat-E 1.6 GHz EPIRB
 - VHF-DSC EPIRB
 - 121.5MHz homing function
- Mounting considerations
- Routine Maintenance
 - Testing
 - Checking battery expiry date
 - Checking the float-free mechanism

C.5.3. Search and Rescue Transponder (SART)

- Operation
 - Operating height
 - Effect of radar reflector
- Range of an SART transmitter

D. OPERATIONAL PROCEDURES AND REGULATIONS FOR VHF RADIOTELEPHONE COMMUNICATIONS

D.1. Ability to exchange communications relevant to the safety of life at sea

D.1.1. Distress communications

- Distress signal
 - The correct use and meaning of the signal MAYDAY
- Distress call
- Distress message
- Acknowledgement of a distress message
 - Obligation to acknowledge a distress message
 - Correct form of acknowledgement
 - Action to be taken following acknowledgement
- The control of distress traffic
- The correct use and meanings of the signals
 - SEELONCE MAYDAY
 - SEELONCE DISTRESS
 - PRUDONCE
 - SEELONCE FEENEE
- Transmission of a distress message by a station not itself in distress
 - The correct use and meaning of the signal MAYDAY RELAY

D.1.2. Urgency communications

- Urgency signal
 - The correct use and meaning of the signal PAN-PAN
- Urgency message
- Obtaining urgent medical advice through a coast station

D.1.3. Safety communications

- Safety signal
 - The correct use and meaning of the signal SECURITÉ
- Safety message
- Special procedures for communication with appropriate national organisations on matters affecting safety.

D.1.4. Reception of MSI by VHF radiotelephone

D.1.5. Awareness of the existence and use of the IMO Standard Marine Navigational Vocabulary

- Knowledge of the following basic signals:
- ALL AFTER; ALL BEFORE
- CORRECT; CORRECTION
- I SAY AGAIN
- I SPELL; IN FIGURES; IN LETTERS
- OUT; OVER; RADIO CHECK
- READ BACK; RECEIVED
- SAY AGAIN
- STATION CALLING
- TEXT
- THIS IS
- TRAFFIC
- WAIT
- WORD AFTER, WORD BEFORE
- WRONG

D.1.6. Use of the International Phonetic Alphabet

D.2. Regulations, obligatory procedures and practices

D.2.1. Awareness of international documentation and availability of national publications

D.2.2. Knowledge of the international regulations and agreements governing the maritime mobile service

- Requirement for Ship Station Licence
- Regulations concerning control of the operation of radio equipment by the holder of an appropriate certificate of competence
- National regulations concerning radio record keeping
- Preservation of the secrecy of correspondence
- Types of call and types of message which are prohibited

D.3. Practical and theoretical knowledge of radiotelephone call procedures

D.3.1. Public correspondence and radiotelegraph call procedures

- Method of calling a Coast Station by radiotelephony
 - Ordering a manually switched link-call
 - Ending the call
- Calls to ships from Coast Station
- Special facilities of calls
- Method of calling a Coast Station DSC for general communications
- Selecting an automatic radiotelephone call

D.3.2. Traffic charges

- International charging system
- Accounting Authority Identification Code (AAIC)

D.3.3. Practical traffic routines

- Correct use of call signs
- Procedure for establishing communication on intership, public correspondence, small craft safety, port operations and ship movement channels.
- Procedure for unanswered calls and garbled calls
- Control of communications

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