IYT SiA VHF Short Range radio

What is a VHF Radio?

VHF, Very High Frequency Radio is a method of communication between vessels, and vessels and the shore for short distances. VHF is used for exchange of information for safety, distress and vessels and port working operations.

All listeners in an area can receive VHF as long as they are on the particular frequency. In many countries Coastguard aerial sites and SAR (search and rescue) helicopters have the ability to direction find on marine band VHF radio frequencies.

The benefit of VHF is that everyone in the area can listen in whereas mobile phones may be engaged, they only let you talk to one person at the time, may be out of range and the batteries often run out at the crucial moment. Mobile phone coverage is also mainly land based and patchy at sea, so unreliable.

The VHF radio is far the better option at sea. A safe vessel has a working VHF and a crew that can use it! Your radio should have instructions for use in an emergency. In a safety briefing it is essential to point out the following.

The functions on the VHF Radio Set

On Off Switches:	Power on and off.
PTT Press to transmit:	Press this button to speak and let go afterwards to listen.
Make sure that this button is	OUT AT ALL OTHER TIMES as this will block out the channel making it unusable for any other users.
High and low powers:	Gives the option of transmitting on 1 or 25 Watts. Transmit power
Volume:	Control of volume to your speaker.
Squelch:	This filters out background noise.
Channel Selector:	This Knob/Button selects the channel to use.

Distress Button (DSC option): A cover protects this, hold down for five seconds to send an undesignated distress . or select distress from the menu then hold down for five seconds.

Numeric Pad: For entering channel numbers, MMSI's and manual position information.

Channel 16 Dedicated Button: This turns the set to Ch 16 high power for Distress, Urgency or Safety Messages.

Display Screens Show:

Menu items
Incoming and logged calls
Current GPS position
Time
DSC encoder if it is in automatic re-transmit mode to retransmit the distress message every 3.5 to 4.5 minutes in the event of a distress transmission

Normal Radiotelephony VHF procedure

Make sure the set is on with the volume and squelch is tuned correctly. Select the correct channel.
Use a listed working channel for a coast station or have a pre-set calling channel for friends if possible. This leaves CH16 free for high priority calls. If not select CH 16. All calls on Channel 16 should not exceed one minute.

Call the station (Yacht)	MINX,MINX,MINX
The words	THIS IS
Identify yourself	LORD NELSON LORD NELSON LORD NELSON

Repeat the names three times if the reception is bad or you are involved in Distress Urgency or Safety.
Repeat twice if the station that you are calling is likely to be monitoring the channel but not expecting a call.
Repeat once if the receiving station is monitoring the channel and expecting a call.

Give an invitation to reply	OVER

The call goes	MINX,MINX, MINX THIS IS LORD NELSON LORD NELSON LORD NELSON OVER
The reply would be	LORD NELSON THIS IS MINX Switch to CHANNEL 06 OVER

If you have a serious problem that endangers you or one of your crew's life, you should have a simple sticker or instruction near your radio to explain what to do in a Mayday (distress) situation. (Distress is defined as a situation, where in the opinion of the Master, a vessel, vehicle, aircraft or person is in grave and imminent danger and requires immediate assistance).

IN THE EVENT OF MAYDAY

1 Ensure the VHF Radio set is turned on, Select CH 16, Select high power
2 Activate the DSC Distress button by selecting the distress and pressing the red button in for 5 seconds

On normal analogue sets repeat the following message and insert your vessels name

Distress Signal	MAYDAY, MAYDAY, MAYDAY
The Prowords	THIS IS Yacht ……., THIS IS Yacht ……., THIS IS Yacht …….,
Your Call sign	( )( )( ) Insert Yacht name
Distress Signal	MAYDAY (Yacht ……)
Your Position	MY POSITION IS ……..(Use the GPS position) Lat and Long.
Nature of the distress	(State your problem)……
Assistance required	I REQUIRE IMMEDIATE ASSISTANCE
No of people	(How many on board?) ……
Other information	(State what you are going to do ie Abandoning to life raft …..)……
	OVER

The sender should expect an immediate reply or acknowledgement from another station. If this is not forthcoming check the equipment and repeat the call at regular intervals. If no answer is received then the message can be transmitted on any frequency on which attention may be attracted.

What is a DSC Radio?

A DSC Radio is basically a marine telephone! A pulse of data is sent on Ch 70 to the selected MMSI(Marine Mobile Serial Identity) –your chosen call up radios unque number, which makes the receiving set(s) 'ring', the receiving party them either 'accepts' the call or if not. The details are logged in the received calls log. That's it!!

GMDSS Global Maritime Distress and Safety System

GMDSS is primarily a vessel to shore alerting system where Rescue Co-ordinating Centres (RCC's) receive distress alerts and co-ordinate the rescue response. GMDSS is designed to provide an automatic means of transmitting and receiving distress alerts either by using Digital Selective Calling (DSC) via conventional VHF radio or via Inmarsat Satellite System. DSC is a much faster system and has a greater probability of reception than the existing manual system.

GMDSS also provides the facilities to send distress alerts and locating signals using EPIRBs and SARTs.

GMDSS DSC Who is using it?

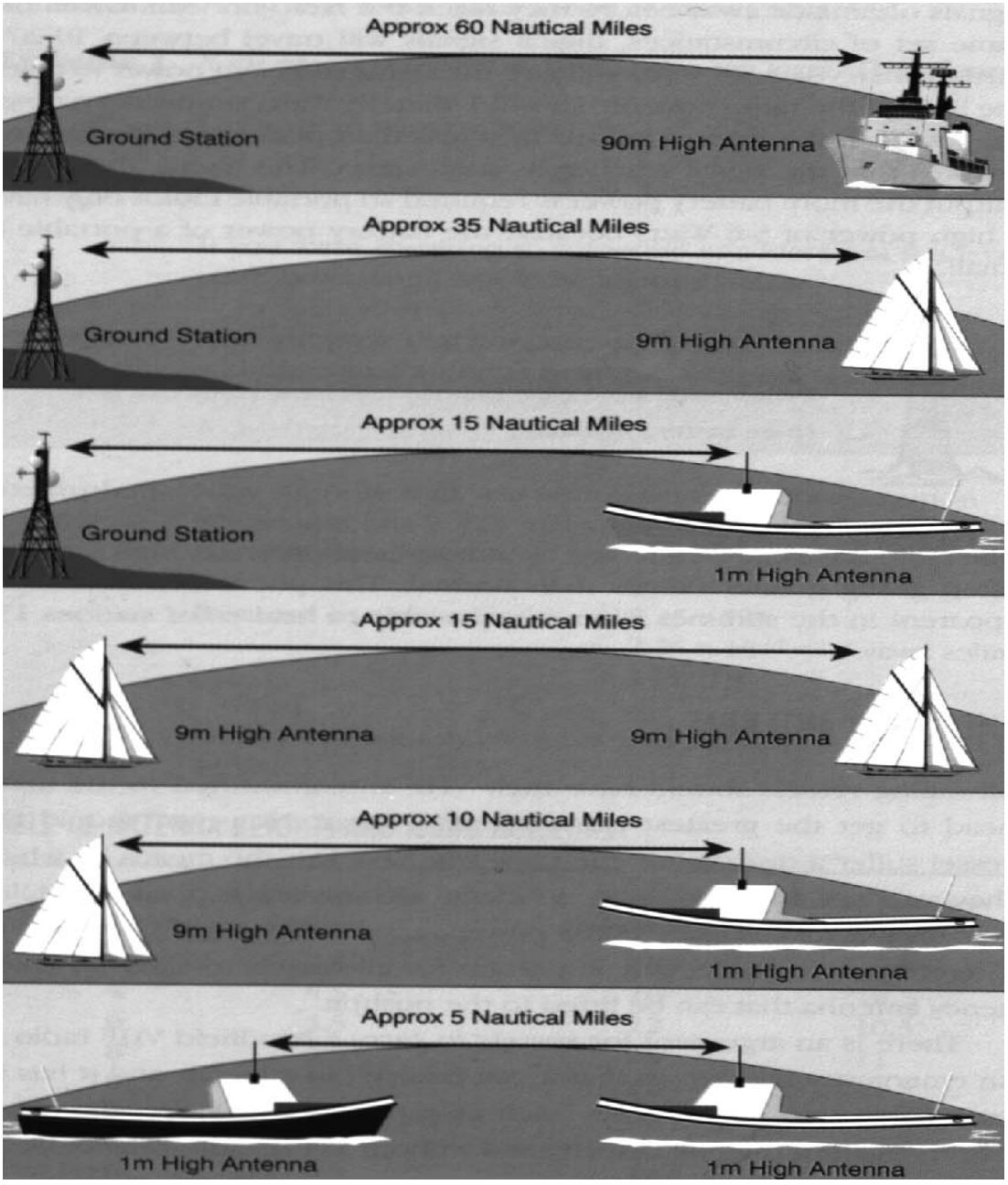
Compulsory Fit

Cargo vessels of 300 GRT and passenger vessels with 13 or more passengers MUST be completed by 1 Feb 1999.

Voluntary Fit

All other vessels including pleasure craft

Communication Ranges



Ranges of your VHF set will depend on:

The power output of your set, 1 watt /25 watt
The height of your antenna
The height of the receiving antenna
The distance can be described as the line of sight, which can be worked out using

Range equals 2.25 times the square root of the height of the antenna.