



The Cruising Club of America

EMERGENCY CARD

USING THE

ICOM IC - M700 PRO

MARINE SSB RADIO IN AN EMERGENCY

Version 6.1

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Note: Any reference to a commercial product or service does not imply any endorsement by the Cruising Club of America as to function or suitability for any purpose or environment.

SIGNIFICANT CHANGES AND CORRECTIONS

Changes, revisions and corrections in this version other than editorial corrections are highlighted in the titles of the paper in **YELLOW**. **Printing should be done on a color printer to avoid the yellow from appearing as black.**

Changes and corrections – 14 March 2004:

1. Corrected frequency typos (4125 and 6215 kHz).
2. Other minor editing.

Changes and corrections – Ver. 5.1

1. Revised USCG Watchkeeping frequencies.
2. Added "Significant Changes And Corrections" page.
3. Miscellaneous minor editing.

Changes and corrections – Ver 5.2

1. Editorial corrections and rearrangement for continuity.

NOTICE:

Old Emergency Cards for these radios should be destroyed and replaced with the one below to update the Watchkeeping Frequencies. Updated Cards are dated and have the Version on the bottom of every page.

Changes and corrections – Ver. 5.3

1. Notation of separate power switches for some antenna tuners.

Changes and corrections – Ver. 6.1

1. More editorial corrections and minor revisions.
1. Corrected omitting 8291 kHz for some USCG stations in the watchkeeping frequency table

INTRODUCTION

The captain is usually busy trying to contain the problem when a crisis develops aboard a yacht. Worse yet, it could be that it is the captain who needs assistance for a medical reason or injury. Yet, with many short handed crews, only the captain is really familiar with the radio and the call for help is left to someone who doesn't know or is unsure of what to do.

In preparing the boat for offshore, simplified radio instructions should be available for a novice to summon help. They should be written in step-by-step fashion so a panic-stricken crewmember can operate the radio without additional instruction. These instructions, called an "Emergency Card", should be posted close to the radio and available at a moment's notice.

This paper briefly discusses the Marine Single Side Band radio (SSB) and its advantages in an emergency, some related FCC regulations, an outline of the system design of the Icom IC-M700PRO MF/HF Marine Transceiver from a user perspective, factory loaded frequencies with recommended revisions to this list and a suggested Emergency Card on the last two pages so they can be photocopied and laminated back to back.

ADVANTAGES OF THE MARINE SSB RADIO

Within a range of 20 to 30 miles or close to shore, VHF is well suited for summoning aid. Other vessels as well as the USCG maintain a watch on Channel 16 and soon (hopefully), DSC on Channel 70. Once outside of that range however and certainly when off soundings, the Marine SSB radio is the best way to call for help.

The SSB has some distinct advantages over other equipment including satellite phones:

1. It is common equipment on most offshore cruising yachts.
2. The USCG maintains Watchkeeping on 2182 kHz simplex for short range and several simplex channels for longer range. These are discussed below and noted on the Emergency Card as well.
3. Authorities in other countries maintain a watch on SSB. For example, Bermuda watches 2182 and 4125 kHz in addition to 2187.5 kHz for GMDSS.
4. Other vessels on the high seas out of VHF range but close enough to help are hopefully maintaining a watch.
5. All vessels within range receive the call for help similar to a "party Line" telephone.
6. A SSB can communicate to airplanes.

Not all of these points are unique to SSB, but SSB has them all.

There are some drawbacks to SSB. One of them is "Skip Zone" where a vessel within range can't hear you because the signal is going "over head" while a vessel farther away can hear perfectly well. This exists on all frequency bands including 2182 kHz but becomes more extended with higher frequencies. Using the lowest possible frequency helps to minimize this.

Some yachts install a Ham radio in place of a SSB. While Ham radios can substitute for many of the SSB functions, some Ham radios do not have duplex capability. That is, to transmit on one frequency and receive on another. This means they cannot readily communicate long range with the USCG although this becomes less significant when calling authorities in other countries.

However, it also means that GMDSS (Global Maritime Distress and Safety System) which is starting to be used by most maritime countries and merchant vessels at sea may not work in its entirety either (see "Offshore Communications Memorandum Ver. 5.1). Further, Ham radios are typically not type approved by the US Federal Communication Commission (FCC) making them illegal to transmit on the maritime bands although anything goes in a true emergency.

Having said this, any self-respecting Amateur Radio operator can overcome these obstacles with ease. However, this paper is not written for the skilled, but rather the frightened novice in a crises situation and needs to summon help.

With satellite technology improving and costs declining, it can be expected this will be the way of the future. But it isn't here yet in spite of the advertising copy. For example, in today's environment, it is unlikely that a skipper in need of help will have the phone number of a vessel over the horizon that could come to assist.

The bottom line is; SSB has many advantages not well addressed by other equipment at this time. Most significant is that it is available on most cruising yachts and ships at sea.

FCC REGULATIONS

The FCC (Federal Communications Commission) establishes the rules for use of the airways in the US and for US Flagged vessels under the terms of a treaty with the International Telegraphic Union (ITU), an agency of the UN. The regulations for maritime usage stipulate the type vessels required to have an operating SSB radio and for the most part, this means commercial vessels on the high seas. The rules stipulate that these US vessels are also required to maintain a watch on 2182 kHz (¶80.305 (1a)). Therefore, at sea, US commercial vessels within the range of about 100 to 250 miles will hear your call for help on this frequency.

This rule can be expected to be modified for GMDSS frequencies once the US declares GMDSS operational, originally planned for sometime in 2006 but delayed due to budget constraints.

The rules are different for yachts which are referred to as voluntary or recreational vessels. If they are voluntarily equipped with VHF radios, they must maintain a watch on VHF Channel 16 whenever underway. Unfortunately, yachts voluntarily equipped with SSB are not required to maintain a watch on 2182 kHz.

Notwithstanding this logic, the prudent skipper will maintain a watch on 2182 kHz with the

expectation that should there ever be a need, other yachts on the high seas will be maintaining a watch on their radio as well and can respond to a call for help. And, visa versa.

GMDSS (GLOBAL MARINE DISTRESS AND SAFETY SYSTEM)

New on the scene during the past several years is GMDSS, a system intended to alert, locate and coordinate Search And Rescue (SAR) efforts. It has or is being implemented by many maritime nations, particularly those in Europe. Merchant vessels on the high seas visiting those waters are now required to be in compliance. Unfortunately, implementation in the US didn't really start until 2004 and then some unexpected complications were discovered. At present, the system is running in some areas although not declared operational. As mentioned, completion is still scheduled for year end 2006 although that is doubtful.

From the USCG's write-up on GMDSS:

"GMDSS provides for automatic distress alerting and locating in cases where a radio operator doesn't have time to send an SOS or MAYDAY call, and, for the first time, requires ships to receive broadcasts of maritime safety information which could prevent a distress from happening in the first place."

GMDSS is an obvious answer to the vessel in distress and a crew unfamiliar with the SSB radio. However, with the required land station equipment not operational yet during this transitional period, few US Yachts are equipped for GMDSS. Accordingly, this paper will not address GMDSS operations at this time.

Note: The GMDSS system requires reverting to normal SSB channels once the alarm has been acknowledged. The USCG will use for their duplex working channels formerly used for their watchkeeping for this if the vessel sending to alarm can access them.

THE EMERGENCY CARD

If there are drawbacks to any marine SSB, it is that they are complex devices, the manuals are difficult to read and are written in a way requiring concentrated study. Anyone planning to read the manual and learn how to use the SSB after casting off will find this isn't easy with the many distractions while underway.

With typically only one person on board competent with the SSB, there is need for others on board to know enough about the radio to summon help. This can be a daunting task and a novice running on adrenalin with a crisis unfolding can be expected to have great difficulty.

An Emergency Card can provide assistance in these situations and a sample card is included at the end of this paper. It is intended to enable a person completely unfamiliar with the radio to call for help in a crisis.

This set of step-by-step instructions is for the uninitiated as well as those with some knowledge of radio but not familiar with the M700PRO. It is purposely arranged for the pages to be placed back-to-back and laminated to protect it from getting wet or fraged. Obviously, the card should be placed in a readily accessible location near the radio and the crew should know where.

The Emergency Card will appear complicated to a crewmember not familiar with it. Fatigue and panic will make the situation worse. The card should be reviewed with the entire crew and everyone on board should have a practice session with it before casting off. Further, the prudent captain should appoint someone else to be the radio operator so that the skill is shared.

[Old Emergency Cards for these radios should be destroyed and replaced to ensure it has the new USCG Watchkeeping Frequencies. Updated Cards are dated and have the Version on the bottom of every page.](#)

ABOUT THE RADIO

Readers are referred to another paper in these series titled "Using the Icom IC M – M700PRO Marine SSB Radio" for detailed information on operating these radios.

Conceptually from a user perspective, the memory of this radio has three banks of files in which radio frequencies (in pairs) can be stored. These frequency pairs can be Simplex (transmit and receive frequencies are the same) or Duplex (transmit and receive frequencies are different).

The three banks of files are called Groups and identified by the letters A, B or C. Each file or Group has 50 storage locations sequentially numbered called channels. They are A-1 to A-50, B-1 to B-50 and C-1 to C-50.

	GROUP	GROUP	GROUP
	A	B	C
CHANNEL	1	1	1
CHANNEL	2	2	2
CHANNEL	3	3	3
CHANNEL	4	4	4
CHANNEL	5	5	5
CHANNEL	.	.	.
CHANNEL	.	.	.
CHANNEL	.	.	.
CHANNEL	.	.	.
CHANNEL	46	46	46
CHANNEL	47	47	47
CHANNEL	48	48	48
CHANNEL	49	49	49
CHANNEL	50	50	50

Each channel can store on pair of frequencies. These stored frequencies can be either Simplex or Duplex. Turning the large left knob selects the Group (A, B OR C) and the large right knob selects the Channel (1 to 50).

The CH/FREQ key on the keypad is the only key that functions on this radio. Scrolling, that is, making minor changes in frequency is a feature with this radio. This is accomplished by pressing the CH/FREQ button on the lower right of the keyboard to get FREQ on the lower line of the display. The frequency is then adjusted by turning the Channel knob on the right.

Several versions of the M700PRO were produced. Some have a key button to access the International Emergency and Hailing frequency of 2182 kHz. This is located above the Volume Control labeled "2182KHz RESET" and is **NOT** programmable by the user.

Note: The Icom AT-130 Antenna Tuner normally installed with this radio receives power through the control cable and does not have a separate On/Off switch. However, other manufacturer's tuners, if installed, may require a separate power switch. If this is the case, it should be clearly labeled and close to the SSB so that the novice in a panic will realize that it should be switched on.

SSB RADO ASSISTANCE AND EMERGENCIES

Most of the authorized bands for SSB have a designated frequency for hailing and safety purposes. Many countries and most ships at sea will monitor these frequencies in addition to the International Distress frequency of 2182 kHz.

With all other conditions normal, the range of a transmission is a function of the frequency and the time of day; the higher the frequency, the greater the range.

THE INTERNATIONAL DISTRESS, SAFETY AND HAILING FREQUENCIES

Each of the SSB frequency bands of 2, 4, 6, 8, 12, and 16 MHz have a designated frequency for Safety and Hailing. These frequencies are all simplex (transmit and receive on the same frequency) and are all Upper Sideband (USB) including 2182 kHz. 2182 kHz in addition to being a Hailing Frequency for its band along with the others for their respective bands, serves as the International Emergency Frequency.

ITU	Freq - kHz	Mode
	2182	Simplex - USB
450	4125	Simplex - USB
650	6215	Simplex - USB
850	8291	Simplex - USB
1250	12290	Simplex - USB
1650	16420	Simplex - USB

The USCG has now designated these frequencies as the frequencies they will watch and should be used to call them with the exception of 16420 kHz which is only available on request. Once contact is made however, the USCG will ask you to switch to one of their working duplex channels to clear the Hailing Channel.

The Coast Guard maintains a 24 hour watch on 2182 kHz at all small shore stations. Due to range limitations on this low frequency however, a yacht more than about 150 miles offshore may be able to hear the Coast Guard on 2182 or 2670 kHz (another working channel) but not reach them when transmitting. Accordingly, the next higher frequency, 4125 kHz should be used.

USCG COMMUNICATION STATIONS

The Coast Guard stations at Chesapeake, VA and Pt. Reyes, CA are called Master Stations. They are the primary communication sites for continental US. The other stations in the following table link into them for their respective remote areas. Exceptions for this are Guam (partially remote to Hawaii) and Kodiak, AK which is independent.

Station	Location		Station	Location	
NMN	Chesapeake, VA (Norfolk)	Master	NMA	Miami, FL	Remote
			NMF	Boston, MA (Marshfield)	Remote
			NMG	New Orleans, LA (Belle Chase)	Remote
NMC	Pt. Reyes, CA (San Francisco)	Master	NMO	Honolulu, HI	Remote
			NRV	Guam	Partial Remote
NOJ	Kodiak, AK	Independent			

USCG DISTRESS AND SAFETY WATCHKEEPING SCHEDULE

Effective January 1, 2005, the USCG stopped using their duplex frequencies (listed below) for watchkeeping and now use the international safety and hailing frequencies used by most countries. These frequencies are all simplex so that others can hear the hail or safety concern.

The frequencies and times for all stations are determined by the expected propagation which varies during the day and night. Depending upon where the Coast Guard's station is located and their respective area of coverage determines the time and frequencies watched.

REVISED USCG WATCHKEEPING FREQUENCIES EFFECTIVE 1 JAN 05

The Coast Guard revised their watchkeeping frequencies effective 1 Jan 05. The new frequencies and watchkeeping schedule follows:

ITU	Yacht	Yacht	NMN	NMF	NMG	NMA	NMC	NMO	NOJ	NRV
	TX	RX	Chesapeake	Boston	New Orleans	Miami	Pt. Reyes	Honolulu	Kodiak	Guam
	2182	2182								
	2670	2670								
450	4125	4125	2300 -1100	2300 -1100	2300 -1100	2300 -1100	24 Hrs	0600 -1800	24 Hrs	---
650	6215	6215	24 Hrs	24 Hrs	24 Hrs	24 Hrs	24 Hrs	24 Hrs	24 Hrs	0900 -2100
850	8291	8291	24 Hrs	24 Hrs	24 Hrs	24 Hrs	24 Hrs	24 Hrs	UR	---
1250	12290	12290	1100 - 2300	1100 - 2300	1100 - 2300	1100 - 2300	24 Hrs	1800 -0600	UR	2100 -0900
1650	16420	16420	UR	UR	UR	UR	UR	UR	UR	UR

Notes:

1. UR = Upon Request
2. All times are GMT (UTC or Z). All frequencies are kHz.
3. With the short range inherent with 2 MHz frequencies, the USCG monitors 2182 kHz at local stations rather than remotely at Master Stations Chesapeake and Pt. Reyes.
4. Although 2182 will work in AM mode, USB is recommended, preferred and also stipulated by the US FCC. It also works better – much better. If you want to be heard in an emergency, make sure the mode is USB.
5. Some SSB radios were programmed at the factory to automatically default to AM mode when using the automatic alarm. This is not user programmable and requires a technician to correct. As a temporary measure, program 2182 kHz USB into Channel 1 on your radio and go manual.

USCG WORKING CHANNELS

Once contact is made with the Coast Guard, they will ask you to switch to one of their working channels which are all duplex. They have designated their old watchkeeping frequencies for use as "Working Channels". This includes search, navigational and weather warnings and, weather broadcasts. It is not clear if they will continue to use 2670 kHz, a simplex channel as well since this is ideal for short range while ITU 424, a higher frequency duplex channel, has a definite skip zone making short range traffic difficult.

The newly designated USCG Working Channels (old watchkeeping channels) are:

ITU	Yacht Transmit Frequency	Yacht Receive Frequency	Approximate Effective Range	
			Day	Night
424	4134	4426	300	800
601	6200	6501	400	1000
816	8240	8764	500	1200
1205	12242	13089	2000	800
1625	16432	17314	4000	Unreliable

Since these channels are in the same frequency bands, the effective ranges are the same as the hailing and safety frequencies above.

FACTORY PROGRAMMING

Unfortunately, the mode for 2182 kHz on some of these radios may have been set at the factory to AM, (also called H3E or DSB (Double Side Band)). These are all names for the same kind of emission and a carry over from the days when radios at sea used this emission mode. Although still acceptable in older radios, FCC regulations require USB or J3E (the same) for new equipment.

If the display on your radio indicates a mode other than USB or J3E when depressing "2182KHz Reset", an Icom dealer should be contacted to have it changed.

Be aware that to someone monitoring 2182 kHz on USB, an AM signal will be only about half strength and not what you want when you need help.

Many of the 150 channels were pre-programmed when shipped from the factory. The frequencies programmed were intended for use at both the US East and West Coasts since Icom had no idea ahead of time where the radios were to be used. In some earlier radios, Alaskan frequencies were included along with a few Ham frequencies using Lower Side Band (LSB), broadcast stations (AM or H3E), the AT&T High Seas Radio Frequencies (no longer in business) and so on. Some dealers will reload frequencies for the area of intended usage and since these channels are user programmable, skippers often revise them for personal preference and current interest.

REVISING THE PROGRAMMING

To minimize confusion by inexperienced operators in a crisis, the programming in the first channels beginning with Channel A-1 should be revised. The purpose in doing this is to enable the

unfamiliar crewmember in a state of panic to access these critical channels immediately and directly without having to hunt for them.

The frequencies programmed in the first several channels should be revised to:

- a. The USCG's Watchkeeping and International Safety and Hailing frequencies.
- b. The USCG's Working Channels.
- c. Cruiser and Ham nets in the area of intended usage.
- d. Ship – To – Air frequencies.
- e. Search and Rescue frequencies

A suggested channel sequence follows:

Radio Channel	ITU	Yacht TX	Yacht RX	Purpose & Function
0*		2182	2182	USCG Watchkeeping & Safety & Hailing
A - 1 **		2182	2182	USCG Watchkeeping & Safety & Hailing
A - 2	450	4125	4125	USCG Watchkeeping & Safety & Hailing
A - 3	650	6215	6215	USCG Watchkeeping & Safety & Hailing
A - 4	850	8291	8291	USCG Watchkeeping & Safety & Hailing
A - 5	1250	12290	12290	USCG Watchkeeping & Safety & Hailing
A - 6	1650	16420	16420	USCG Watchkeeping & Safety & Hailing
A - 7		2670	2670	USCG Liaison & Safety
A - 8	424	4134	4426	USCG Working Channels
A - 9	601	6200	6501	USCG Working Channels
A - 10	816	8240	8764	USCG Working Channels
A - 11	1205	12242	13089	USCG Working Channels
A - 12	1625	16432	17314	USCG Working Channels
A - 13				Cruiser Net
A - 14				Cruiser Net
A - 15				Cruiser Net
A - 16				Cruiser Net
A - 17		2738	2738	Ship To Air
A - 18		2830	2830	Ship To Air
A - 19		3023	3023	Search & Rescue (SAR) & Ship To Air
A - 20		5680	5680	Search & Rescue (SAR) & Ship To Air

* Available on most radio versions but not always USB

** Recommended only when Channel 0 is not present or is not USB

Notes:

1. Channel A - 8 through A - 12 are the duplex channels the USCG will ask you to switch to after you have established contact on one of the Safety and Hailing Channels.

2. All marine SSB operations are USB (Upper Side Band) mode. Keep in mind that anything to help the novice summon help is good. The prudent skipper should confirm that these frequencies are loaded into their respective channels on the radio before casting off.

CRUISER AND HAM NETS

Cruiser nets exist all over the world and can be a ready source of assistance. The Ham Mobile Maritime Net at 14300 kHz is up 24 hours per day and is pretty much worldwide for radios enabled for Ham.

Note that while these marine SSB radios normally can receive Ham signals, they must be enabled to transmit on those bands which are not the same as that authorized for SSB. The dealer will require the presentation of a valid Ham "General" license or better to do this.

One of the most popular SSB nets in the North Atlantic is the Southbound II weather net with Herb Hilgenberg that comes up for Check-In at 1930 Z daily on 12359 kHz. The next cruiser won't be the first that has more than the weather to thank Herb for.

Southbound II Schedule	Time	ITU	Channel	Freq
Check-In:	1930 Z	1253		12359
Net Start:	2000 Z	1253		12359

Similarly, Russell Radio in New Zealand watches the following schedule for the southwest Pacific:

Russell Radio Schedule	NZ Time	ITU		Freq	Ham - SSB
	730			4445	Ham – LSB
	800			13137	Ham – USB
	830	1251		12353	SSB
	915	1253		12359	SSB
	1600	1253		12359	SSB
	1630	1251		12353	SSB

Depending upon where you are, these frequencies and/or others should be added to your list so the person you are trying to ask for assistance will be in your communication area.

For additional information on the times and frequencies for nets, see the paper "Frequencies, Nets, WX Schedules and Tables" previously called "Appendix" to the Offshore Communications Memorandum. The name has been change to better reflect on the contents.

CHANNEL DIRECTORY

One final thought about programming; With 150 user programmable channels, it is easy to get lost. Placing a list of channels / frequencies in a loose-leaf binder or under a clear plastic sheet on the chart table helps. It facilitates key entry dialing and in normal use, quickly becomes indispensable.

For additional information about SSB radio and these radios in particular, please see two other papers in this series. They are: "Using The Icom IC-M700PRO SSB Radio" and the "Offshore Communications Memorandum". These papers are occasionally updated so be sure to have the latest with corrections and additions before casting off.

Please remember: **PRACTICE WITH THE CREW AHEAD OF TIME MAKES SENSE**

My thanks to CCA Fleet Surgeon E. G. Fischer, MD for his review of this draft and others who have written with suggestions and comments on items I've overlooked or needed correction. They are always more than welcomed and I try to respond to each as they are received.

I sincerely hope you don't have an occasion to need the card that follows.

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Chair
Offshore Communications and Electronics
Cruising Club of America

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EMERGENCY CARD - ICOM IC-M700PRO

READ THOROUGHLY FIRST, THEN EACH SECTION AGAIN – DO NOT SKIP AHEAD

1. Turn the radio on by pressing the power button at the lower left corner. Adjust volume for slight “hiss”. Turn on the power switch for the antenna tuner if there is one.

2. The display will indicate a frequency on the top line and a channel on the bottom or, the word “FREQ”. For example, this could look like:

12.290.0 USB or 12.290.0 USB
A -- 10 FREQ

Note: The presentation on the radio’s display is similar to one of the above depending upon how the radio was last used:

3. Some radios have THREE DEPRESSABLE BUTTONS above the **VOLUME** Control, one above the other. If yours does, go to Step 4. If yours doesn’t, skip Steps 4 & 5 and go to Step 6.

4. If your radio has THREE DEPRESSABLE BUTTONS above the **VOLUME** Control, press the center button labeled **2182KHZ RESET**. The display will indicate:

2.182.0 USB
EMER

Listen to frequency 2182 kHz to see if it is being used. When it is clear, press the top and bottom buttons together (**TX FREQ** and **ALARM**) to start broadcasting an Alarm. You will hear the Alarm. After 30 seconds, press just **ALARM** to stop the alarm broadcast. Go to Step 5.

Note: Many vessels at sea monitor 2182 kHz, the International Distress and Hailing frequency.

5. If your radio has two depressible buttons and a blank above the volume control or, if the display in Step 4 above reads 2.182.0 **AM**, find 2182kHz **USB** using the two large knobs. Turn the left knob labeled **GROUP** to get the letter A on the bottom line of the display. Turn the right knob labeled **CHANNEL** to find 2182. It should be at Channel A – 1 and should look like:

2.182.0 USB
A -- 1

If the frequencies and channels were changed, 2.182.0 may be at some other channel location. Keep turning the right (Channel) knob through all 50 channels in Group A until you find it. You may even have to go to Groups B or C as well by turning the large knob on the left one click clockwise per Group and repeat the process.

6. Listen to 2.182.0 to see if it is being used. When it is clear, press and hold the side button on the microphone to talk. Release the microphone button to listen. Don’t yell. Wait a few moments to give them time to respond. Repeat your message a few times. If there is no response, go to Step 7.

7. Using the knobs as in Step 5, go to Channel A – 1. Then, turn the **Channel** knob clockwise to get 4.125.0 on the upper line. This is a USCG watched channel intended for medium range (see below)

8 Listen to the channel to see if it is being used. When it is clear, press and hold the button on the microphone to talk. Release the microphone button to listen. Wait a few moments to give them time to respond. Repeat your message a few times. Don’t yell.

If there is no response, turn the **CHANNEL** knob to find the next USCG watched channel, 6.215.0 to repeat and then the next channels if necessary and in this sequence. The higher the frequency, the greater the distance. However, for help close at hand, lower frequencies are better.

The USCG watchkeeping channels should be located between Channels A-1 and A-6. **No matter where the channels are, write down the Group and Channel so you can quickly return to that channel.**

RADIO CHANNEL	RX / TX	USE	MODE	APPROX. RANGE DAY / NIGHT
	2.182.0 / 2.182.0	EMERGENCY & HAILING	USB	100 / 250
	4.125.0 / 4.125.0	USCG & SAFETY & HAILING	USB	300 / 800
	6.215.0 / 6.215.0	USCG & SAFETY & HAILING	USB	400 / 1000
	8.291.0 / 8.291.0	USCG & SAFETY & HAILING	USB	500 / 1200
	12.290.0 / 12.290.0	USCG & SAFETY & HAILING	USB	2000 / 800
	16.420.0 / 16.420.0	USCG & SAFETY & HAILING	USB	4000 / Unreliable

9. Be ready to state the type of emergency, name of vessel, location in terms of Latitude and Longitude, number of people on board, etc.

10. The type of alert and the vessel name are each spoken three times. "MAYDAY" (MAY- DAY) means a situation threatened by grave and immediate danger; request immediate assistance. "PAN PAN" (PAH-N) means an urgent message concerning the safety of a person or vessel. The least critical and used for advisory safety or navigational information is "SECURITY" (SEA - CURE - EE - TAY).

EXAMPLE: "Coast Guard, Coast Guard, Coast Guard – This is a MAYDAY, MAYDAY, MAYDAY - This is sailing vessel Nefertari, Nefertari, Nefertari, WBJ 6623 requiring immediate assistance. We have struck a submerged object and are taking on water. Our position is Latitude 34 degrees 20 minutes North and Longitude 67 degrees 44 minutes West, about 180 miles North West of Bermuda. There are four people on board. Please acknowledge."

When you reach the Coast Guard, they will ask you to switch to one of their working channels which are:

RADIO CHANNEL	RX / TX	USE	MODE	APPROX. RANGE DAY / NIGHT
	4.4260 / 4.134.0	USCG	USB	300 / 800
	6.5010 / 6.200.0	USCG	USB	400 / 1000
	8.7640 / 8.240.0	USCG	USB	500 / 1200
	13.0890 / 12.242.0	USCG	USB	2000 / 800
	17.3140 / 16.432.0	USCG	USB	4000 / Unreliable

Write down the channels where these frequencies are at so you will know where to find them later.

11. If you are unable to contact the USCG, repeat the process starting at step 7 above. Be sure to give someone who hears your call a chance to respond. If no one answers on 2.182.0, switch to 4.126.0, then 6.215.0 and so on in the same way. Remember to give them time to get to their radio to answer or get someone who speaks English.

12. If none of these channels of frequencies work, go back to channel A-1 and turning the **CHANNEL** knob through all 50 channels, find any channel with someone talking. If you can't find someone, go to Group B and repeat. Then switch to Group C if necessary. You may encounter some blank channels - just keep turning.

If it is a life-threatening situation, break in and start calling MAYDAY. Or, if it is eminent danger, wait for a break in the conversation and then start calling PAN PAN. If someone is talking, someone is listening.