



Chapter 11: Communication

Introduction

Communication between mariners has long been recognized as a necessity. Using the radio proficiently and knowing proper radio protocol reflects well upon the boat crews and the radio operator's professionalism. It is essential that each boat crewmember is completely aware of the common distress signals and how they are used in emergencies. This chapter will provide basic knowledge of voice communication conventions, procedures, and the various distress signals.

Much marine communications are done by using voice radio transmissions. These are very much like two people talking on the telephone, but with significant differences that boat crewmembers must understand.

Typically, voice radio communications are "simplex," or one way at a time – when one person is speaking, the second person must wait. This differs from face-to-face and telephone conversations where voice may overlap. Simplex communications is the reason for many of the procedural regulations for voice radio communications.

NOTE: For more information consult the *Radiotelephone Handbook, Great Salt Lake Search & Rescue Team*.

NOTE: All operators should check all of their radio equipment for proper operation before getting underway and immediately report any malfunctions.

In This Chapter

This chapter contains the following sections:

Section	Title	See Page
A	Radio Signal Characteristics	2
B	Prowords and Common Abbreviations	5
C	Verbal Communications	6
D	Radio Operating Procedures	9
E	Communication between Facilities and SRU's	10
F	Emergency Voice communication and Distress Signals	10
G	Radio Checks	17

Section A. Radio Signal Characteristics

Introduction

Types of modulation and frequencies are the two basic characteristics shared by radio signals. To understand radio communications, it is necessary for all crewmembers who use the radio to know about types of modulations, use of the different radios, and frequencies.

In This Section

This section contains the following information:

Title	See Page
Modulation and Frequency	2
Radio Systems	2
Radio Frequencies	3

Modulation and Frequency

A.1. Types of Modulation

Modulation is a variation in radio wave amplitude or frequency. The Division uses the common types of modulation:

- Amplitude Modulation (AM) – Single Side Band (SSB), Medium Frequency/High Frequency (MF/HF), some Very High Frequency (VHF) systems and Ultra High Frequency (UHF)
- Frequency Modulation (FM) – Very High Frequency (VHF) systems

A.2. Frequencies, Types, and Ranges

In coastal areas there are several types of modulation, among them SSB and FM. For maritime use the most commonly used radio frequencies are in the following ranges:

Band	Frequency Range
MF	0.3 to 3 MHz
HF	3 to 30 MHz
VHF	30 to 300MHz
UHF	300 to 3000 MHz

Radio Systems

A.3. Description

There are several basic types of voice radios. On most recreational and commercial boats on Utah's waters they will be VHF-FM, and usually, are identified by the radio's mode of transmission.

Understanding the basic differences of the types of radios and their use will assist crewmembers in using them most effectively and professionally.

A.4. Use and Performance

Most Division vessels carries a VHF-FM radio; many will also carry a UHF 800 MHz radio as well. The VHF-FM Radio is commonly known as a VHF Marine Band Radio. Division vessels equipped with a UHF 800MHz radio will have these radios programmed with channel groups for their area of responsibility (AOR). There are several differences in usage and performance of these radios.

A.4.a. VHF Line of Sight Radio

VHF-FM (156-162 MHz) is used for local, short-range marine communications. Frequencies in this band operate on the line-of-sight (LOS) principle. Effective communications range depends mainly on the height of antennas of both the receiving and transmitting stations, and somewhat on the power output of the transmitting station. VHF equipment is called “line-of-sight radio” because its radio waves travel in nearly a straight line, meaning, if one antenna can “see” another antenna, communications between the two is possible. Occasionally, atmospheric conditions allow VHF signals to bounce or bend in their line of travel, increasing the transmission’s range farther than normal. (See **Figure 11-1**)



Figure 11-1
Line-of-Sight

A.4.b. 800MHz Radios

An 800MHz radio system is a blend of traditional two-way radio technology and computer controlled transmitters. The system’s main advantage is that radio transmitters can be shared among various SAR agencies with the aid of computer programming.

Radio Frequencies

A.5. Description

The following are the most common frequencies for VHF-FM Marine Band radio and the purpose assigned to each. **Table 11-1** is a list of the most common VHF-FM channels used for marine operations. It is organized by channel and frequency in MHz, followed by their use.

Channel	Frequency	Use
01A	156.050	Marine Operator / Port operations and Commercial, VTS. Available only in New Orleans / Lower Mississippi area

05A	156.250	Port Operations or VTS in the Houston, New Orleans and Seattle areas
06	156.300	Intership safety and SAR communications for ships and aircraft
07A	156.350	Commercial
08	156.400	Commercial (Intership only) Brine Shrimp Harvest operations on Great Salt Lake
09	156.450	Alternate calling channel for commercial and non-commercial vessels. Brine Shrimp Harvest operations on Great Salt Lake
10	156.500	Commercial. Brine Shrimp Harvest operations on Great Salt Lake
11	156.550	Commercial VTS in selected areas. Brine Shrimp Harvest operations on Great Salt Lake.
12	156.600	Port Operations Great Salt Lake Marina Port Operations
13	156.650	Intership Navigation Safety (bridge-to-bridge). Brine Shrimp Harvest operations on Great Salt Lake.
14	156.700	Port Operations. Brine Shrimp Harvest operations on Great Salt Lake.
15		Environmental (Receive only). Used by Class C EPIRBs.
16	156.800	International Distress, Safety and Calling. Ships required to carry radio, USCG, and Great Salt Lake Marina maintain a listening watch on this channel.
17	156.850	State & local government maritime control
18A	156.900	Commercial. Brine Shrimp Harvest operations on Great Salt Lake
19A	156.950	Commercial
20	157.000	Port Operations
21A	157.050	U.S. Coast Guard only. Brine Shrimp Harvest operations on Great Salt Lake.
22A	157.100	Coast Guard Liaison and Maritime Safety Information Broadcasts. Broadcasts announced on Channel 16. Great Salt Lake Marina Search & Rescue Operations. Brine Shrimp Harvest operations on Great Salt Lake.
23A	157.100	U.S. Coast Guard only. Brine Shrimp Harvest operations on Great Salt Lake
24	157.200	Public Correspondence (Marine Operator)
25	157.250	Public Correspondence (Marine Operator)
26	157.300	Public Correspondence (Marine Operator)
27	157.350	Public Correspondence (Marine Operator)
28	157.400	Public Correspondence (Marine Operator)
63A	156.175	Port Operations and commercial, VTS.
65A	156.275	Port Operations
66A	156.325	Port Operations
67	156.375	Commercial. Used for bridge-to-bridge communications. Intership only. Brine Shrimp Harvest operations on Great Salt Lake.
68	156.425	Non-Commercial. Brine Shrimp Harvest operations on Great Salt Lake
69	156.475	Non-Commercial. Brine Shrimp Harvest operations on Great Salt Lake
70	156.525	Digital Selective Calling (voice communication not allowed)
71	156.575	Non-Commercial. Brine Shrimp Harvest operations on Great Salt Lake
73	156.675	Port Operations
74	156.725	Port Operations
77	156.875	Port Operations

78A	156.925	Non-Commercial
79A	156.975	Commercial, Non-Commercial
80A	157.025	Commercial, Non-Commercial
81A	157.075	U.S. Government Only – Environmental protection operations. Brine Shrimp Harvest operations on Great Salt Lake
82A	157.125	U.S. Government Only. Brine Shrimp Harvest operations on Great Salt Lake.
83A	157.175	U.S. Government Only. Brine Shrimp Harvest operations on Great Salt Lake
84	157.225	Public Correspondence (Marine Operator)
85	157.275	Public Correspondence (Marine Operator)
86	157.325	Public Correspondence (Marine Operator)
87	157.375	Public Correspondence (Marine Operator)
88A	157.425	Commercial, Intership only. Brine Shrimp Harvest operations on Great Salt Lake.

NOTE: All vessels equipped with a VHF-FM Marine Band radio are required to monitor Channel 16.

Section B. Prowords and Common Abbreviations

Introduction

Prowords speed the handling of radio messages by abbreviating a single word or phrase to replace common words, phrases, sentences, and even paragraphs. Among other things, knowing and using prowords help to reduce radio traffic by performing radio transmissions efficiently. **Table 11-3** contains the most common prowords used.

Table 11-3
Prowords

Proword	Explanation
ACKNOWLEDGE	Instructs the addressee to acknowledge the message
AFFIRMATIVE	Yes
BREAK	Indicates the desire to break into a conversation for pertinent radio traffic
CALL SIGN	The group that follows is a call sign
COPY	Understood
CORRECT	You are correct
CORRECTON	An error was made in the transmission and you are now transmitting the correct information
DISREGARD	Disregard previous transmission
ETA	Estimated time of arrival

ETR	Estimated time of departure
FROM	The message originator
MESSAGE	The following message requires recording.
NEGATIVE	No
OUT	Use to end transmission when no reply is required or expected
OVER	Use to end a transmission when a response is required
PRIORITY	Priority message
READ BACK	Repeat the entire transmission exactly as received
RELAY (TO)	Transmit this message to all addressees immediately after this proword
RELAY THROUGH	Relay your message through call sign (. . .)
ROGER	I have satisfactorily received your last transmission
SAY AGAIN	Repeat all of your transmission
SILENCE (repeated three times)	Immediately cease transmissions on this channel. Maintain silence until lifted.
SILENCE LIFTED	Silence is lifted on this channel
SPEAK SLOWER	Your transmission is too fast. Reduce the speed at which you are speaking
THIS IS (. . .)	This transmission is from the station whose designator immediately follows.
TIME	The following is the time, or this message's date time group (DTG) expressed in 24hour format
VERIFY	Verify entire message with originator.
WAIT	I must pause for a few seconds.
WRONG	Your last transmission was incorrect. The correct version is (. . .)

Section C. Verbal Communication

Introduction

Letters and numbers spoken over a radio are often difficult for others to understand. Spelling out words and numbers that may be easily confused over a radio helps clarify their meaning. Knowing how to pronounce the phonetic alphabet and numbers over a radio increases the chance that all voice communications between the vessel and other vessels are successful.

In This Section

This section contains the following information:

Title	See Page
The Phonetic Alphabet	7
Numbers and Decimal Points	8

C.1. Speaking the Phonetic Alphabet

The phonetic alphabet is based on the assumption that it is easier to understand a word than a letter. The phonetic alphabet is a series of words, each standing for a letter in the alphabet. Boat crewmembers should memorize each word of the phonetic alphabet listed in **Table 11-4** and always be ready to pair them to the correct letter in the alphabet.

Table 11-4
Phonetic Alphabet

Alphabet	Phonetic Alphabet	Pronounced
A	ALPHA	AL-FA
B	BRAVO	BRAH-VOH
C	CHARLIE	CHAR-LEE
D	DELTA	DEL-TAH
E	ECHO	ECK-O
F	FOXTROT	FOKS-TROT
G	GOLF	GOLF
H	HOTEL	HOH-TEL
I	INDIA	IN-0DEE-AH
J	JULIET	JEW-LEE-ETT
K	KILO	KEY-LOH
L	LIMA	LEE-MAH
M	MIKE	MIKE
N	NOVEMBER	NO-VEM-BER
O	OSCAR	OSS-CAR
P	PAPA	PAH-PAH
Q	QUEBEC	KEY-BECK
R	ROMEO	ROW-ME-OH
S	SIERRA	SEE-AIR-RAH
T	TANGO	TANG-GO
U	UNIFORM	YOU-NEE-FORM
V	VICTOR	VIK-TAH
W	WHISKEY	WISS-KEY
X	XRAY	ECKS-RAY
Y	YANKEE	YANG-KEE
Z	ZULU	ZOO-LOO

C.2. Using the Phonetic Alphabet

To use the phonetic alphabet to spell out difficult words within a message, the actual spelling should always be preceded with the procedural words (prowords) "I spell."

Example: "Search from Sangatuck, I spell, Sangatuck – SIERRA, ALPHA, UNIFORM, GOLF, ALPHA, TANGO, UNIFORM, CHARLIE, KILO – Sangatuck to King's Point."

Numbers and Decimal Points

C.3. Using Numbers and Decimal Points

Numbers and the term “decimal point” can be misunderstood when spoken over a radio. To reduce confusion, crewmembers should pronounce numbers differently over the radio than when speaking in normal conversations. **Table 11-5** contains the radio pronunciation.

Table 11-5
Number Pronunciation

Numeral	Spoken As
0	ZE-RO
1	WUN
2	TOO
3	THUH-REE
4	FO-WER
5	FI-YIV
6	SIX
7	SEVEN
8	ATE
9	NIN-ER
Decimal	DAY-SEE-MAL

C.3.a. Prowords

Numbers should always be preceded with the proword “FIGURES,” except in the heading of a message.

Example: “The VO indicates he has figures WUN, ZERO persons onboard, including self.”

C.3.b. Multiple numbers

When a number consists of more than one numeral or digit, one numeral at a time should be pronounced with a short pause between numerals.

Example: 52 – Say, “Figures FI-YIV, TOO”, do not say, “FIFTY-TWO.”

C.3.c. Decimals

Decimals should be included in a spoken number by saying the word decimal (“DAY-SEE-MAL”) in the proper location.

Example: 156.8 is pronounced: “Figures WUN, FI-YIV, SIX, DAY-SEE-MAL, ATE,” not ONE FIFTY-SIX DECIMAL EIGHT.”

Section D. Radio Operating Procedures

Introduction

As a boat crewmember, operating a voice radio will be a frequent task, so it is important to be familiar and comfortable with using a radio. It is also important to learn basic procedures and ways for properly using the radio so that messages are sent and received in the most effective and professional manner.

D.1. Basic Radio Discipline

Learning and understanding the following will help to use voice radios effectively:

Item	Procedure
Check setting.	Be certain the radio is set on the proper frequency
Squelch control.	Squelch control blocks out weak signals. Adjust the squelch control until the noise (static) can be heard, then adjust it slightly in the opposite direction until the noise stops. Setting the squelch control adjusts the receiver so only signals strong enough to pass the level selected will be heard and reduces the amount of static noise on the speaker. CAUTION! This is a critical setting. Ensure that the setting is properly made. Setting the squelch too high will prevent the reception of desired signals.
Do not interrupt others.	Before beginning a transmission, listen for a few seconds to avoid interrupting other communications that are already in progress.
Microphone placement.	Keep the microphone about 1 to 2 inches from lips. When transmitting, shield the microphone by keeping head and body between noise generating sources (such as engine noise, wind, helicopter, etc.) and the microphone
Know what to say.	Before keying the transmitter, know how to say what is going to be said. Keep all transmissions short and to the point. Never "chit-chat" or make unnecessary transmissions on any frequency.
Speaking.	Speak clearly, concisely, and in a normal tone of voice, maintaining a natural speaking rhythm.
Phonetic alphabet.	Use the phonetic alphabet to spell out a word or a group of letters.
Speak slowly so others can write.	Send transmitting messages only as fast as the receiving operator can write.
Proper prowords.	Use proper prowords, ending each transmission with "over" and the last with "out." Never say "over and out."
Proword for pauses.	In cases where a pause for a few seconds between transmissions is necessary, use the proword "wait." If the pause is to be longer than a few seconds, use prowords "wait, out." Do not use "wait one" or "stand by."
Messages are not private.	Remember, transmissions may be heard by anyone with a radio or scanner.

NOTE: When transmitting, the microphone may pick up the conversations of people talking nearby.

D.2. Use of Appropriate Radio Language

The following is a list of things not to do while using the radio. Items on this list either are not protocol, they are illegal, or they cause misunderstandings of messages.

Do not:

- Break radio silence! Break it only for emergencies or ensuring safe navigation under the Bridge-to-Bridge Radiotelephone Act.
- Use profane or obscene language.
- Use unauthorized prowords, abbreviations, and procedures.
- Speak using extreme voice pitch. This will cause distortion.
- Slur syllables or clip speech. They are hard to understand.
- Use phrases such as “would you believe,” “be informed,” or “be advised.” They are unprofessional and not correct procedure.
- Key the microphone unless ready to transmit. Keying the microphone also transmits a signal, causing interference on that frequency.

Section E. Communication between Facilities and SRU’s

Introduction

Communication with other units is a common task required. Knowing proper call signs and reporting procedures will become “second-nature”, even so, crewmembers should be careful to always use proper message formats. Radio communications are official record. They reflect upon the ability of the entire boat crew. The information reported to other units is important, especially in emergencies.

E.1. Voice call Signs

Voice call signs are used to identify the craft that is calling or being called over voice radio. A Division SAR vessel boat number serves as a voice call sign for radio communications. An individual would be referred to by his 2-Alpha code. An SRU, such as *Rescue One* on Great Salt Lake would be referred to as “Rescue One.”

E.2. Cell Phone Communications

Often cell phones are the preferred method of communication. Standard communications are not limited or regulated by standard radio protocol such as pro-words. But cell phones do have serious limitations; they are dependent on cell tower coverage and only one person can hear the conversation. This may not be desirable in all SAR applications. But they can be somewhat more secure than radios.

Section F. Emergency Voice Communication and Distress Signals

Introduction

Whether the vessel is providing emergency assistance or in need of it itself, knowledge of the correct procedures and available equipment can save lives.

In This Section

This section contains the following information:

Title	See Page
Standard Voice Radio Urgency Calls	11
Emergency Position Indicating Radio Beacon (EPIRB) and GPS Trackers	13
Distress Signals	15

Standard Voice Radio Urgency Calls

F.1. Description

When an emergency occurs, the proper prowords should be used to show the degree of urgency. Hearing one of these urgency calls should trigger specific responses in a listener, such as, preparing to collect information on an emergency or refraining from transmitting on the frequency until all is clear. The meaning of each urgency call is outlined below.

F.2. MAYDAY

MAYDAY is a distress call of the highest priority. Spoken three times, it shows that a person, boat, or aircraft is threatened by grave or imminent danger and requires immediate assistance. Broadcast on VHF Marine Band channel 16.

F.2.a. Priority

A MAYDAY call has absolute priority over all other transmissions and shall not be addressed to a particular station.

F.2.b. Station Responses

All units hearing a MAYDAY call should immediately cease transmissions that may interfere with the distress traffic, and continue to listen on the distress message's frequency.

NOTE: If the unit transmitting the distress call is determined to be some distance away, pause a few moments to allow ships or stations nearer the scene to answer.

NOTE: When working a distress situation on Channel 16, do not attempt to change (shift) to a working channel until enough information is obtained to handle the distress in case communications are lost during the act of shifting. (For more information on the necessary SAR incident information required to assist a vessel in distress, see *Chapter 15, Search & Rescue*.)

F.3. PAN-PAN

Broadcast on Channel 16, this urgency signal consists of three repetitions of the group of words "PAN-PPAN" (*pahn-pahn*). It means that the calling Station has a very urgent message to transmit concerning the safety of a ship, aircraft, vehicle, or person.

F.4. SECURITÉ

“SECURITÉ” (SEE-CURE-IT-TAY) is a safety signal spoken three times and transmitted on Channel 16. It indicates a message concerning the safety of navigation, or important weather warnings will be transmitted on Channel 22.

F.5. Radio Alarm Signal

The radio alarm signal consists of two audible tones of different pitch sent alternately, producing a warbling sound. If used, the alarm continuously sends the signal for not less than 30 seconds or more than one minute, and the originator of the signal should follow the signal by the radio distress signal and message. There are two primary reasons to use a radio alarm signal:

- To attract attention of listeners on the frequency.
- To activate the automatic listening devices found on large ships and occasionally at shore stations.

F.6. Receipt of Distress Messages

When a distressed unit is in the vicinity, receipt for the message should be acknowledged immediately. However, if the unit is determined to be some distance away, crewmembers should pause a few moments to allow ships or Stations nearer the scene to answer. In the areas where communications with one or more shore Stations are practicable, such as at Great Salt Lake, vessels should wait a short period of time to allow them to acknowledge receipt.

F.6.a. Receipt Procedure

The receipt of distress messages should be in the following manner.

- The distress signal MAYDAY.
- The call sign of the unit in distress (spoken three (3) times).
- The Words THIS IS (spoken once).
- The call sign or station name of the unit (spoken three (3) times).
- The words RECEIVED MAYDAY.
 - Use the SAR Incident Check-off sheet found in Appendix A of this manual.
 - Request essential information needed to render assistance (position, number of people onboard, nature of distress, vessel’s description). Obtain less important information in a later transmission.
- The proword OVER.

F.6.b. SAR Assistance

Inform the distressed unit of any SAR assistance being dispatched and to stand by.

F.6.c. Vessel and Shore Stations

Vessels and shore Stations receiving distress traffic should do so by the most rapid means:

- Activate the Action Plan for your AOR. Example: if the incident were at the Great Salt Lake, then the Great Salt Lake Action Plan would be activated.
- Set a continuous radio watch on frequencies of the distressed unit.
- Maintain communication with the distressed unit.
- Maintain distress radio log.

- Assign boat crewmembers to prepare the SAR vessel; gather and load any equipment that may be needed.

CAUTION! Needless shifting of frequencies by the boat crew or the distressed unit may end in a loss of communications.

F.6.d. Keeping Distressed Unit Informed

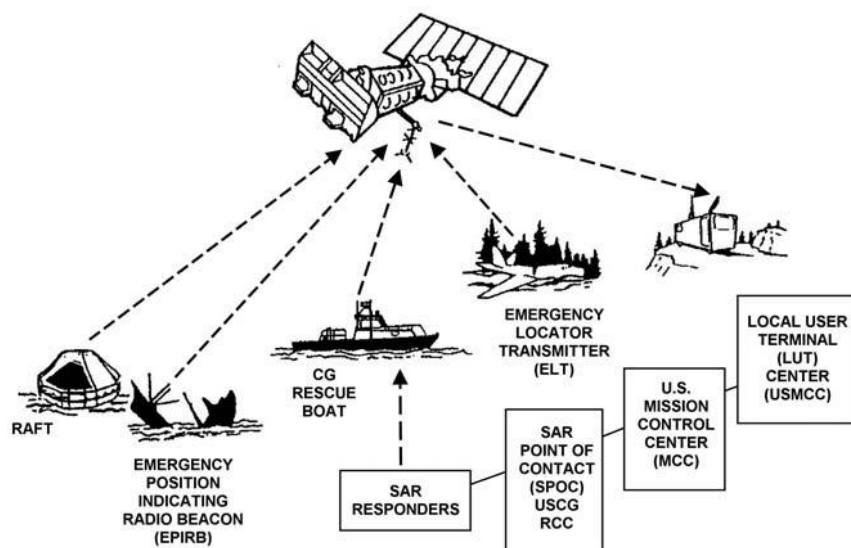
The distressed unit should be kept informed of any circumstances that may affect assistance, such as speed, sea conditions, etc. Division units should speak in a tone of voice that expresses confidence. After receiving a distress call or information pertaining to one, Division units shall, within equipment capabilities, set a continuous radio guard on the frequency of the distressed unit and set up a radio schedule if the distressed unit is unable to stand a continuous watch.

Emergency Position Indicating Radio Beacon (EPIRB) and GPS Trackers

F.7. Description

The emergency position indicating radio beacon (EPIRB) is carried on vessels to give a distress alert. Aircraft have a similar device called an emergency locator transmitter (ELT). The original EPIRB and ELT transmitted on frequency 121.5 MHz. However, the 406.025 MHz EPIRB and ELT were developed for satellites to detect these distress alerts. A global satellite detection network, COSPAS-SARSAT, has been established for detecting both 121.5 and 406 MHz distress beacons. (See **Figure 11-2**). The 121.5 MHz can be detected by facilities that can tune into that frequency, typically aircraft and their support facilities.

Another emergency notification system that has become popular due to their cost is the GPS Tracker. This system goes by several names with one of the most popular being SPOT. This system has some weaknesses though; when the SOS feature has been activated it sends an email to recipients chosen by the owner. Rescue efforts cannot be started until the recipient reads the email and calls emergency services. The advantage of the GPS tracker is cost and the fact that it gives a GPS position.



**Figure 11-2
EPIRB System Operation**

F.8. Types of EPIRBs

There are two main types of EPIRBs.

- 121.5 MHz
- 406 MHz

F.8.a. 121.5 MHz

These beacons transmit anonymously and their signals (once interpreted and plotted) are accurate to within approximately 15 nautical miles. 121.5 MHz coverage is limited by the locations of sites selected for ground stations. 121.5 MHz beacons are plagued by a high false alarm rate. 121.5 MHz EPIRBs are categorized as follows:

- Class A, 121.5 MHz EPIRBs are designed to float free and may be active automatically or manually.
- Class B, 121.5 MHz EPIRBs must be manually activated

NOTE: Satellite-based monitoring of 121.5 MHz EPIRBs is expected to terminate in the near future.

F.8.b. 406 MHz

The EPIRB transmits a digital signal with a beacon-unique identifier. Owner registration allows automatic distressed vessel identification and provides case prosecution critical information. 406 MHz EPIRBs generate positions accurate to within about 3 nautical miles. 406 MHz EPIRBs have a 121.5 MHz homing signal and strobe. The false alarm rate is much lower for 406 MHz EPIRBs and registration makes it possible to identify false alarms, often before resources launch. 406 MHz EPIRBs are categorized as follows:

- Category I, 406 MHz EPIRBs are designed to float free and may be activated automatically or manually.
- Category II, 406 MHz EPIRBs must be manually activated.

F.9. EPIRB Testing

Different models exist, so the EPIRB should be tested by following manufacturer instructions printed on the beacon. Any test emitting a 121.5 MHz signal must be performed within the first five minutes after the hour and be limited to not more than ten seconds.

Distress Signals

F.10. Description

If voice communication is not possible or not effective, other means of communication will have to be used. These may include signals using pyrotechnics, flag hoist signals, hand signals, or a flashing light S-O-S-. (See **Figure 11-3**) These signals can be found in the *Navigation Rules, International – Inland*, COMDTNST M16672.2 (series).

F.11. Pyrotechnics

The following are some pyrotechnic emergency signals that may be encountered.

- Gun or explosive signal fired at one-minute intervals.
- Red flare fired one at a time in short intervals
- Red parachute flare.
- Smoke (orange or red).
- Any flame on a vessel may be used for signaling.

F.12. Flag Hoists

Flag hoists are a quick way of emergency signaling, but can only be used in the daytime. These are some of the best known examples:

- A square black flag with a black ball, or ball-shaped object below the flag.
- Hoisting an orange flag with a black square and ball.
- Signal code flags “November” over “Charlie”.

F.13. Hand Signals

Possibly the oldest form of signaling is hand signals, but like other methods of visual communications, the signals are not standardized and can be easily misunderstood. Boat crewmembers must be constantly alert for hand signals from other mariners that are not standard distress signals, but that may be attempts to indicate an emergency situation. These are three standard hand signals that are used as distress signals:

- Slowly raising and lowering an outstretched arm.
- Signaling with an oar raised in the vertical position.
- Holding a life jacket aloft.

F.14. Flashing Light/Strobe (50-70/Minute)

The Morse Code symbols “SOS” (Save our Ship) transmitted by a flashing light may be used to communicate distress.

SOS

... --- ...

A strobe light (may be attached to a personal flotation device).

NOTE: Any unusual signal or action seen could be a signal that a craft is in trouble. Investigate any peculiar or suspicious signals such as, U.S. flag flown upside down or continuous sounding of a horn or fog signaling device.



Figure 11-3
Distress Signals

Section G. Radio Checks

Introduction

Radio checks test the signal strength and readability of transmitted radio signals. Checks are a simple way to determine that the radio used to send and receive messages is working properly. This is accomplished by transmitting a request for a radio check and receiving a response from any other Station that provides a standardized description of the strength and readability of a transmitted signal. If ever in doubt about the readability of the signal being sent, a radio check should be initiated to confirm the strength and readability of the signal.

G.1. Reporting Procedures

Any station transmitting voice traffic assumes that its signal is clearly readable unless another station responds and reports that the signal strength and readability is less than loud and clear. Responses to requests for a radio check should always be concise and a combination of the following standard terms should be used:

Signal Strength	Meaning
Loud	Signal is strong
Good	Signal is readable
Weak	Signal is poor, but readable
Very Weak	Signal is unreadable

Signal Readability	Meaning
Clear	Excellent quality
Readable	Satisfactory
Distorted	Having difficulty in reading the transmission because of signal distortion
Unreadable	The quality of the transmission is so bad it cannot be understood
With Interference	Having great difficulty in reading the transmission because of interference

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