Introduction

This document is a compilation of resources that are available at various public government websites, produced and indexed here as a convenience to mariners, compliments of Starpath School of Navigation in Seattle (www.starpath.com). Most of this information is not time sensitive, but if questions arise, the original sources cited below should be checked.

Specifically, this includes the frequencies and channels that are used for marine radio communication between vessels and between vessels and shore stations.

The primary reference is 47 CFR, Part 80 (https://www.law.cornell.edu/cfr/text/47/part-80), much of which has been reproduced at the USCG Navigation Center, where most of these documents originate. Check for updated versions at https://www.navcen.uscg.gov.

The FCC website section on Maritime Mobile (Coast Radio Stations and Ship Radio Stations) is the source for compiled regulations on equipment, procedures, and licensing (https://www.fcc.gov/ship-radio-stations).

Refer to the bookmarks panel displayed on the left side of the screen as an index to the documents.

RADIO INFORMATION FOR BOATERS

Radios That You Need

Before you purchase anything else, make sure you have a VHF marine radio. A VHF marine radio is the single most important radio system you should buy. It is probably also the most inexpensive. If you plan to travel more than a few miles offshore, plan to purchase an MF/HF radiotelephone or mobile satellite telephone, an emergency position indicating radio beacon, or EPIRB, and a second VHF radio or cellular telephone as well. Mobile satellite telephones are becoming more common and more inexpensive. The mobile satellite will provide easier and clearer communications than the MF/HF radiotelephone, but the HF radiotelephone will receive high seas marine weather warnings.

Radio Watchkeeping Regulations

If you have a VHF-FM radio, there are certain regulations in place for monitoring/listening to your radio. Please read our radio watchkeeping section for more information.

Mayday! Mayday! Mayday!...Sending a distress call

You may only have seconds to send a distress call. Here's what you should do:

Procedure for Digital Selective Calling (DSC) Radio: DSC MAYDAY

Procedure for VHF Channel 16 MAYDAY:

- If you have a VHF marine radio, tune it to channel 16. Unless you know you are outside VHF range of shore and ships, call on channel 16 first.
- Distress signal "MAYDAY", spoken three times.
- The words "THIS IS", spoken once.
- Name of vessel in distress (spoken three times) and call sign or boat registration number, spoken once.
- Repeat "MAYDAY" and name of vessel, spoken once.
- Give position of vessel by latitude or longitude or by bearing (true or magnetic, state which) and distance to a well-known landmark such as a navigational aid or small island, or in any terms which will assist a responding station in locating the vessel in distress. Include any information on vessel movement such as course, speed and destination.
- Nature of distress (sinking, fire etc.).
- Kind of assistance desired.
- Number of persons onboard.
- Any other information which might facilitate rescue, such as length or tonnage of vessel, number of persons needing medical attention, color hull, cabin, masks, etc.
- The word "OVER"

Stay by the radio if possible. Even after the message has been received, the Coast Guard can find you more quickly if you can transmit a signal on which a rescue boat or aircraft can home.

For example:

MAYDAY-MAYDAY-MAYDAY
THIS IS BLUE DUCK-BLUE DUCK-BLUE DUCK WA1234 MAYDAY THIS IS BLUE DUCK
CAPE HENRY LIGHT BEARS 185 DEGREES MAGNETIC-DISTANCE 2 MILES
STRUCK SUBMERGED OBJECT
NEED PUMPS-MEDICAL ASSISTANCE AND TOW
THREE ADULTS, TWO CHILDREN ONBOARD
ONE PERSON COMPOUND FRACTURE OF ARM
ESTIMATE CAN REMAIN AFLOAT TWO HOURS
BLUE DUCK IS THIRTY TWO FOOT CABIN CRUISER-WHITE HULL-BLUE DECK HOUSE
OVER

Repeat at intervals until an answer is received.

If you hear a distress call...

If you hear a distress message from a vessel and it is not answered, then **you** must answer. If you are reasonably sure that the distressed vessel is not in your vicinity, you should wait a short time for others to acknowledge.

MF/HF Radiotelephone

Your VHF radio is intended mainly for short range communications, generally 5-10 miles, and at least 20 miles to a USCG station. To communicate at longer ranges, you will normally need a satellite telephone or an MF/HF marine radiotelephone. Marine radiotelephone equipment normally operates between 2 - 26 MHz using single sideband emissions. MF/HF marine radiotelephones can also be used to receive high seas weather broadcasts, and by using a computer and a special interface provided by some coast stations, can provide Internet email.

What to do if no one responds to your distress call

Tune your HF radiotelephone to an HF channel guarded by the Coast Guard, and repeat your mayday call. Activate your EPIRB.

Frequencies You May Use

See the High Frequency Radiotelephone Channels webpage. HF radiotelephone channels are normally limited to operational, business, safety or public correspondence purposes.

Boater Calling Channel (VHF Channel 9)

The Federal Communications Commission established VHF-FM channel 9 as a supplementary calling channel for noncommercial vessels (recreational boaters) at the request of the Coast Guard. A ship or shore unit wishing to call a boater would do so on channel 9, and anyone (boaters included) wishing to call a commercial ship or shore activity would continue to do so on channel 16. Recreational boaters would continue to call the Coast Guard and any commercial facility on channel 16.

The purpose of the FCC regulation was to relieve congestion on VHF channel 16, the distress, safety and calling frequency. FCC regulations require boaters having VHF radios to maintain a watch on either VHF channel 9 or channel 16, whenever the radio is turned on and not communicating with another station.

Since the Coast Guard generally does not have the capability of announcing an urgent marine information broadcast or weather warning on channel 9, use of channel 9 is optional. We recommend boaters normally keep tuned to and use channel 16 in those waters unless otherwise notified by the Coast Guard.

Procedure for Calling A Ship by Radio

You may use channel 16 to call a ship or shore station, but if you do so, you **must, must be brief!** We recommend this same procedure be used over channel 9, if channel 9 is used as a calling channel.

For example:

Blue Duck: "Mary Jane, this is Blue Duck" *(the name of the vessel or MMSI being called may be said 2 or 3 times if conditions warrant)*

Mary Jane: "Blue Duck, this is Mary Jane. Reply 68" *(or some other proper working channel)*

Blue Duck: "68" or "Roger"

Global Maritime Distress & Safety System

VHF maritime channel 70 (156.525 MHz) is authorized exclusively for distress, safety and calling purposes using digital selective calling (DSC) techniques. No other uses are permitted.

Channel 70 is used to send distress alerts, safety announcements and for calling purposes under the Global Maritime Distress and Safety System (GMDSS). Many vessels are now equipped with DSC capability and are using channel 70 for this purpose. It is essential that this channel be protected.

Storm Warnings?

The Coast Guard announces storm warnings and other urgent marine information broadcasts on VHF channel 16 before making the broadcasts on VHF channel 22A and 2670 kHz respectively. Storm warnings and forecasts are also made by NOAA Weather Radio.

MAYDAY Radio Checks and other Hoaxes

A growing number of boaters unsuccessful in getting a radio check on VHF channel 16 are calling MAYDAY to get a response. Every hoax, including MAYDAY radio checks, is subject to prosecution as a Class D felony under Title 14, Section 85 of the U.S. Code, liable for a $5000 fine plus all costs the Coast Guard incurs as a result of the individual's action. Since hoaxes can lead to loss of life, the Coast Guard and Federal Communications Commission will work closely together, using when necessary FCC equipment capable of identifying the electronic signature of the offending radio. We ask your cooperation in helping us and the FCC remove hoaxes from the VHF radiotelephone distress, safety and calling channel 16.

Radio Checks

Radio checks with the Coast Guard Communications Stations on DSC and HF radiotelephone are allowed.

Federal Communications Commission (FCC) Radio License Information

An FCC ship station radio license is no longer required for any vessel travelling in U.S. waters which uses a VHF marine radio, radar or EPIRB, and which is not required to carry radio equipment. A license is necessary however for any vessel required to carry a marine radio, on an international voyage, or carrying an HF single sideband radiotelephone or marine satellite terminal. FCC license forms, including applications for ship and land station radio licenses, can now be downloaded from the FCC website.

Satellite Communications

Currently the Inmarsat Organization, an international organization established by treaty, is the sole provider of worldwide maritime mobile satellite communications offering emergency calling capability. Coverage is available between about 70 deg N latitude and 70 deg S latitude. Other mobile satellite systems are also becoming available, but these systems in general do not offer an emergency calling capability.

For More Information...

- Cellular Telephones
- Coast Guard high seas radio distress watchkeeping schedules
- Coast Guard Telecommunications
- Coast Guard VHF Coverage in Your Area
- Maritime Safety Broadcast Information
- National Weather Service Marine Product Information Dissemination (this link leads outside the USCG)
- Rules which require listening to your VHF marine radio
- VHF Marine Radio Channels and Frequencies

For general boating safety information questions...

CG Boating Safety

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WHAT FREQUENCY DO YOU MEAN?

The frequency listed or displayed for a radio station can differ, depending upon the radio receiver, the type of modulation used and how you are demodulating (or modulating) the signal, and the person listing the frequency. This is especially true for high frequency (HF) radios. To help avoid confusion, three terms are used to describe these radio frequencies: assigned, carrier, and window.

Assigned Frequency

The assigned frequency is defined by the International Telecommunications Union Radio Regulations as "the centre of a frequency band assigned to a station". In fact, it is the actual radio frequency of the signal being transmitted and received. This is the most commonly used frequency designation.

Carrier Frequency

The carrier frequency is the frequency of the carrier, or the suppressed carrier of a signal. For many, perhaps most radio signals, the carrier frequency and the assigned frequency are identical. They are identical for AM (dual sideband) signals. They are different for single sideband radios. For maritime HF single sideband transmissions, which are always upper sideband, the assigned frequency is always 1.4 kHz greater than the carrier frequency.

The carrier frequency designation, not the assigned frequency designation, is normally used in referring to single sideband transmissions. History partially explains the reason for this. Marine radiotelephony was originally AM (dual sideband), and the carrier and assigned frequencies were the same. Certain frequencies, such as the distress and calling frequency 2182 kHz, were internationally recognized and known by any mariner using a marine radiotelephone. When marine spectrum became scarce, the International Telecommunications Union moved all marine radiotelephony transmissions from dual sideband to the more efficient single sideband. At first, the carrier signal was left untouched, so old AM radios could still receive the new single sideband transmissions. In time however, the old carrier signal was eliminated. The old marine frequencies such as 2182 kHz, commonly known and used, were retained and still displayed by marine radios. Although no signal was actually transmitted on these carrier frequencies any longer, receivers still had to be tuned to those frequencies so that the voice signal could be properly demodulated and understood.

Maritime digital signals, such as narrow band direct printing (NBDP or sitor) or digital selective calling (DSC), are transmitted on an assigned frequency 1.7 kHz above the (suppressed) carrier frequency. Marine weatherfax signals are transmitted on an assigned frequency 1.9 kHz above the carrier frequency. NBDP, DSC and weatherfax radios normally display the assigned frequency. However, if a single sideband radio with a separate decoder unit is used to receive a sitor, DSC or weatherfax signal, it's likely that receiver would have to be tuned to the carrier frequency for the decoder to work properly.

The ITU assigned channel numbers to many single sideband and NBDP frequencies to help avoid this confusion. However, DSC frequencies, and most simplex single sideband, NBDP and weatherfax frequencies do not have channel numbers.

Window Frequency

The window frequency is simply the frequency displayed (on the front panel numeric display "window") by a particular radio receiver or transmitter. Depending on the equipment, the window frequency could be either the carrier or the assigned frequency. Since the window frequency is dependent upon the equipment used, the term is not generally used by the USCG.

Is the frequency listed assigned or carrier? What frequency do I tune my radio to?

The USCG tries to use standard convention in its listing of radio frequencies: Single sideband frequencies are generally carrier frequencies; all others are generally assigned frequencies. When the carrier and assigned frequencies differ, we generally list both.

Read your radio's instruction manual, or talk to your marine electronics dealer, to learn whether your radio should be tuned to the assigned or the carrier frequency.

MF & HF CHANNEL INFORMATION

This section provides information on middle and high frequency marine radiotelephone channels. The links below and to the left provide tables which show the various channels and their assigned frequencies. Clicking on the links below will open a new browser window.

Duplex Channels

These single sideband radiotelephone channels are used for communications between coast and ship stations. Frequencies listed are carrier frequencies. Channels used for calling, and channels guarded by the U.S. Coast Guard are indicated.

- 4 MHz Channels
- 6 MHz Channels
- 8 MHz Channels
- 12 MHz Channels
- 16 MHz Channels
- 18 MHz Channels
- 22 MHz Channels
- 25 MHz Channels

2 MHz Simplex Frequencies

These 2 Mhz single sideband radiotelephone frequencies are available for ships in or near U.S. waters.

HF Simplex Frequencies

HF Simplex single sideband radiotelephone frequencies are provided for worldwide common use by ships of all categories, for communications with coast stations or other ships. Global Maritime Distress and Safety System distress and safety working frequencies are also listed.

Channels in the band 4000 - 4063 kHz and 8100 - 8195 kHz are now included here as well.

Note: all duplex and simplex frequencies are upper sideband (USB), with assigned frequency 1.4 kHz above the listed carrier frequency.

This HF radiotelephone channel and frequency information was obtained from Appendix 16 of the International Telecommunications Union (ITU) Radio Regulations, including revisions made by the 1987 Mobile World Administrative Radio Conference (Mob-87).

- Download complete duplex and simplex channel plan (14.5 Kb text file)
- HF frequencies used to contact the U.S. Coast Guard

4 MHz Duplex Channels

ITU Channel No.	Coast Transmit kHz	Ship Transmit kHz
401	4357	4065
402	4360	4068
403	4363	4071
404	4366	4074
405	4369	4077
406	4372	4080
407	4375	4083
408	4378	4086
409	4381	4089
410	4384	4092
411	4387	4095
412	4390	4098
413	4393	4101
414	4396	4104
415	4399	4107
416	4402	4110
417	4405	4113
418	4408	4116
419	4411	4119
420	4414	4122
421	4417	4125 **(USCG Calling** **(See Note below)**
422	4420	4128
423	4423	4131
424	4426	4134
425	4429	4137
426	4432	4140
427	4435	4143
428	4351	(varies)
429	4354	(varies)

Note regarding channel 421: *4125 kHz is used for calling, and is for GMDSS distress and safety communications, in the simplex mode. Distress and safety communications have priority over all other communications. The USCG urges that channel 421 not be used in the duplex mode.*

6 MHz Duplex Channels

ITU Channel No.	Coast Transmit (kHz)	Ship Transmit (kHz)
601	6501	6200
602	6504	6203
603	6507	6206
604	6510	6209
605	6513	6212
606	6516	6215 **(Calling, distress & safety working on 6215 kHz simplex)**
607	6519	6218
608	6522	6221

8 MHz Duplex Channels

ITU Channel No.	Coast Transmit (kHz)	Ship Transmit (kHz)
801	8719	8195
802	8722	8198
803	8725	8201
804	8728	8204
805	8731	8207
806	8734	8210
807	8737	8213
808	8740	8216
809	8743	8219
810	8746	8222
811	8749	8225
812	8752	8228
813	8755	8231
814	8758	8234
815	8761	8237
816	8764	8240 **(USCG Calling)**
817	8767	8243
818	8770	8246
819	8773	8249
820	8776	8252
821	8779	8255 **(Calling)**
822	8782	8258
823	8785	8261
824	8788	8264
825	8791	8267
826	8794	8270
827	8797	8273
828	8800	8276
829	8803	8279
830	8806	8282
831	8809	8285
832	8812	8288
833	8291	8291
834	8707	(varies)
835	8710	(varies)
836	8713	(varies)
837	8716	(varies)

12 MHz Duplex Channels

ITU Channel No.	Coast Transmit kHz	Ship Transmit kHz
1201	13,077	12,230
1202	13,080	12,233
1203	13,083	12,236
1204	13,086	12,239
1205	13,089	12,242
1206	13,092	12,245
1207	13,095	12,248
1208	13,098	12,251
1209	13,101	12,254
1210	13,104	12,257
1211	13,107	12,260
1212	13,110	12,263
1213	13,113	12,266
1214	13,116	12,269
1215	13,119	12,272
1216	13,122	12,275
1217	13,125	12,278
1218	13,128	12,281
1219	13,131	12,284
1220	13,134	12,287
1221	13,137	12,290 (See Note below)
1222	13,140	12,293
1223	13,143	12,296
1224	13,146	12,299
1225	13,149	12,302
1226	13,152	12,305
1227	13,155	12,308
1228	13,158	12,311
1229	13,161	12,314
1230	13,164	12,317
1231	13,167	12,320
1232	13,170	12,323
1233	13,173	12,326
1234	13,176	12,329
1235	13,179	12,332
1236	13,182	12,335
1237	13,185	12,338

1238	13,188	12,341
1239	13,191	12,344
1240	13,194	12,347
1241	13,197	12,350

Note regarding channel 1221: *The ITU, at its 1997 World Radio Conference, urged Administrations to move, where relevant, their coast stations calling frequency from channel 1221 to any other suitable HF channel, and to request ships under its jurisdiction to refrain from using the frequency 12290 kHz for non-safety calling. (WRC 97 Rec COM 4-1)*

16 MHz Duplex Channels

ITU Channel No.	Coast Transmit kHz	Ship Transmit kHz
1601	17,242	16,360
1602	17,245	16,363
1603	17,248	16,366
1604	17,251	16,369
1605	17,254	16,372
1606	17,257	16,375
1607	17,260	16,378
1608	17,263	16,381
1609	17,266	16,384
1610	17,269	16,387
1611	17,272	16,390
1612	17,275	16,393
1613	17,278	16,396
1614	17,281	16,399
1615	17,284	16,402
1616	17,287	16,405
1617	17,290	16,408
1618	17,293	16,411
1619	17,296	16,414
1620	17,299	16,417
1621	17,302	16,420 (See Note below)
1622	17,305	16,423
1623	17,308	16,426
1624	17,311	16,429
1625	17,314	16,432 **(USCG Calling)**
1626	17,317	16,435
1627	17,320	16,438
1628	17,323	16,441
1629	17,326	16,444
1630	17,329	16,447
1631	17,332	16,450
1632	17,335	16,453
1633	17,338	16,456
1634	17,341	16,459
1635	17,344	16,462
1636	17,347	16,465
1637	17,350	16,468
1638	17,353	16,471
1639	17,356	16,474
1640	17,359	16,477
1641	17,362	16,480

1642	17,365	16,483
1643	17,368	16,486
1644	17,371	16,489
1645	17,374	16,492
1646	17,377	16,495
1647	17,380	16,498
1648	17,383	16,501
1649	17,386	16,504
1650	17,389	16,507
1651	17,392	16,510
1652	17,395	16,513
1653	17,398	16,516
1654	17,401	16,519
1655	17,404	16,522
1656	17,407	16,525

Note regarding channel 1621: *The ITU, at its 1997 World Radio Conference, urged Administrations to move, where relevant, their coast stations calling frequency from channel 1621 to any other suitable HF channel, and to request ships under its jurisdiction to refrain from using the frequency 16420 kHz for non-safety calling. (WRC 97 Rec COM 4-1)*

18/19 MHz Duplex Channels

ITU Channel No.	Coast Transmit kHz	Ship Transmit kHz
1801	19,755	18,780
1802	19,758	18,783
1803	19,761	18,786
1804	19,764	18,789
1805	19,767	18,792
1806	19,770	18,795 **(Calling)**
1807	19,773	18,798
1808	19,776	18,801
1809	19,779	18,804
1810	19,782	18,807
1811	19,785	18,810
1812	19,788	18,813
1813	19,791	18,816
1814	19,794	18,819
1815	19,797	18,822

22 MHz Duplex Channels

ITU Channel No.	Coast Transmit kHz	Ship Transmit kHz
2201	22,696	22,000
2202	22,699	22,003
2203	22,702	22,006
2204	22,705	22,009
2205	22,708	22,012
2206	22,711	22,015
2207	22,714	22,018
2208	22,717	22,021
2209	22,720	22,024
2210	22,723	22,027
2211	22,726	22,030
2212	22,729	22,033
2213	22,732	22,036
2214	22,735	22,039
2215	22,738	22,042
2216	22,741	22,045
2217	22,744	22,048
2218	22,747	22,051
2219	22,750	22,054
2220	22,753	22,057
2221	22,756	22,060 **(Calling)**
2222	22,759	22,063
2223	22,762	22,066
2224	22,765	22,069
2225	22,768	22,072
2226	22,771	22,075
2227	22,774	22,078
2228	22,777	22,081
2229	22,780	22,084
2230	22,783	22,087
2231	22,786	22,090
2232	22,789	22,093
2233	22,792	22,096
2234	22,795	22,099
2235	22,798	22,102
2236	22,801	22,105
2237	22,804	22,108
2238	22,807	22,111
2239	22,810	22,114
2240	22,813	22,117
2241	22,816	22,120
2242	22,819	22,123

2243	22,822	22,126
2244	22,825	22,129
2245	22,828	22,132
2246	22,831	22,135
2247	22,834	22,138
2248	22,837	22,141
2249	22,840	22,144
2250	22,843	22,147
2251	22,846	22,150
2252	22,849	22,153
2253	22,852	22,156

25/26 MHz Duplex Channels

ITU Channel No.	Coast Transmit kHz	Ship Transmit kHz
2501	26,145	25,070
2502	26,148	25,073
2503	26,151	25,076
2504	26,154	25,079
2505	26,157	25,082
2506	26,160	25,085
2507	26,163	25,088
2508	26,166	25,091
2509	26,169	25,094
2510	26,172	25,097 **(Calling)**

HF DISTRESS AND USCG CONTACT FREQUENCIES

*** SAFETY ALERT - KNOW YOUR COMMUNICATIONS EQUIPMENT! - August 3rd, 2017 ***

HF RADIOTELEPHONE (SINGLE SIDEBAND) – DISTRESS AND INITIAL CONTACT

THIS SCHEDULE IS/WAS EFFECTIVE JULY 2017

Authorized for the handling of Distress message traffic and initial contact with United States Coast Guard Long Range Communication facilities.

KHz SHIP STATION	KHz COAST STATION	Station and Schedule (UTC)			
		NMF	NMN	NMA	NMG
4125	4125	2300-1100Z	2300-1100Z	2300-1100Z	2300-1100Z
6215	6215	24 HRS	24 HRS	24 HRS	24 HRS
8291	8291	24 HRS	24 HRS	24 HRS	24 HRS
12290	12290	1100-2300Z	1100-2300Z	1100-2300Z	1100-2300Z

KHz SHIP STATION	KHz COAST STATION	Station and Schedule (UTC)		
		NMC	NMO	NOJ
4125	4125	24 HRS	0600-1800Z	24 HRS
6215	6215	24 HRS	24 HRS	24 HRS
8291	8291	24 HRS	24 HRS	24 HRS
12290	12290	24 HRS	1800-0600Z	

KHz SHIP STATION	KHz COAST STATION	Station and Schedule (UTC) Guam
6215	6215	0900-2100Z
12290	12290	2100-0900Z

Note: 12290 KHz are available under NOJ upon request
Note: 16420 KHz is available at all stations upon request

HF RADIOTELPHONE (SINGLE SIDEBAND) - WORKING CHANNELS

These channels are available at all Coast Guard Long Range Communication Facilities for traffic handling purposes after initial contact is established on the HF Radiotelephone (Single Sideband) - Distress and Initial Contact frequencies. These coast station frequencies are also used for scheduled broadcasts of marine weather forecasts.

ITU CHANNEL	KHz SHIP STATION	KHz COAST STATION
424	4134	4426
601	6200	6501
816	8240	8764
1205	12242	13089
1625	16432	17314

U.S. COAST GUARD COMMUNICATION STATIONS

Station	MARITIME MOBILE SERVICE IDENTITY
Universal US Coast Guard shore-based identity	003669999
USCG Communications Command, Chesapeake VA/NMN	003669995
USCG Communications Command, remotely keying transmitters at Boston/NMF	003669991
USCG Communications Command, remotely keying transmitters at Miami/NMA	003669997
USCG Communications Command, remotely keying transmitters at New Orleans/NMG	003669998
USCG Communications Command, remotely keying transmitters at Pt. Reyes CA/NMC	003669990
USCG Communications Command, remotely keying transmitters at Honolulu HI/NMO	003669993
USCG Communications Command, remotely keying transmitters at Kodiak AK/NOJ	003669899
USCG Sector Guam	003669994

HF DIGITAL SELECTIVE CALLING

Portsmouth/NMN, Boston/NMF, Miami/NMA, New Orleans/NMG, Pt. Reyes/NMC, Honolulu HI/NMO, Kodiak AK/NOJ	
4207.5	DSC test calls on 4207.5 kHz will be automatically acknowledged from any of the US Coast Guard Communication Stations listed above EXCEPT USCG SECTOR Guam.
6312	
8414.5	
12577	
16804.5	

Note: For digital selective calling, frequencies listed are assigned. Carrier frequency is located 1700Hz below the assigned frequency.

HF RADIOTELEX (SITOR OR NARROW BAND DIRECT PRINTING)

Effective 31 March 2012, the Coast Guard
discontinued ALL ship/Shore/Ship SITOR services except for marine information broadcasts.

U.S. VHF CHANNEL INFORMATION

New Channel Number	Old Channel Number	Ship Transmit MHz	Ship Receive MHz	Use
1001	01A	156.050	156.050	Port Operations and Commercial, VTS. Available only in New Orleans / Lower Mississippi area.
1005	05A	156.250	156.250	Port Operations or VTS in the Houston, New Orleans and Seattle areas.
06	06	156.300	156.300	Intership Safety
1007	07A	156.350	156.350	Commercial. VDSMS
08	08	156.400	156.400	Commercial (Intership only). VDSMS
09	09	156.450	156.450	Boater Calling. Commercial and Non-Commercial. VDSMS
10	10	156.500	156.500	Commercial. VDSMS
11	11	156.550	156.550	Commercial. VTS in selected areas. VDSMS
12	12	156.600	156.600	Port Operations. VTS in selected areas.
13	13	156.650	156.650	Intership Navigation Safety (Bridge-to-bridge). Ships >20m length maintain a listening watch on this channel in US waters.
14	14	156.700	156.700	Port Operations. VTS in selected areas.
15	15	--	156.750	Environmental (Receive only). Used by Class C EPIRBs.
16	16	156.800	156.800	International Distress, Safety and Calling. Ships required to carry radio, USCG, and most coast stations maintain a listening watch on this channel. See our Watchkeeping Regulations page.
17	17	156.850	156.850	State & local govt maritime control
1018	18A	156.900	156.900	Commercial. VDSMS
1019	19A	156.950	156.950	Commercial. VDSMS
20	20	157.000	161.600	Port Operations (duplex)
1020	20A	157.000	157.000	Port Operations
1021	21A	157.050	157.050	U.S. Coast Guard only
1022	22A	157.100	157.100	Coast Guard Liaison and Maritime Safety Information Broadcasts. Broadcasts announced on channel 16.
1023	23A	157.150	157.150	U.S. Coast Guard only
24	24	157.200	161.800	Public Correspondence (Marine Operator). VDSMS
25	25	157.250	161.850	Public Correspondence (Marine Operator). VDSMS
26	26	157.300	161.900	Public Correspondence (Marine Operator). VDSMS
27	27	157.350	161.950	Public Correspondence (Marine Operator). VDSMS
28	28	157.400	162.000	Public Correspondence (Marine Operator). VDSMS
1063	63A	156.175	156.175	Port Operations and Commercial, VTS. Available only in New Orleans / Lower Mississippi area.
1065	65A	156.275	156.275	Port Operations
1066	66A	156.325	156.325	Port Operations
67	67	156.375	156.375	Commercial. Used for Bridge-to-bridge communications in lower Mississippi River. Intership only.
68	68	156.425	156.425	Non-Commercial. VDSMS
69	69	156.475	156.475	Non-Commercial. VDSMS
70	70	156.525	156.525	Digital Selective Calling (voice communications not allowed)
71	71	156.575	156.575	Non-Commercial. VDSMS
72	72	156.625	156.625	Non-Commercial (Intership only). VDSMS

73	73	156.675	156.675	Port Operations
74	74	156.725	156.725	Port Operations
77	77	156.875	156.875	Port Operations (Intership only)
1078	78A	156.925	156.925	Non-Commercial. VDSMS
1079	79A	156.975	156.975	Commercial. Non-Commercial in Great Lakes only. VDSMS
1080	80A	157.025	157.025	Commercial. Non-Commercial in Great Lakes only. VDSMS
1081	81A	157.075	157.075	U.S. Government only - Environmental protection operations.
1082	82A	157.125	157.125	U.S. Government only
1083	83A	157.175	157.175	U.S. Coast Guard only
84	84	157.225	161.825	Public Correspondence (Marine Operator). VDSMS
85	85	157.275	161.875	Public Correspondence (Marine Operator). VDSMS
86	86	157.325	161.925	Public Correspondence (Marine Operator). VDSMS
87	87	157.375	157.375	Public Correspondence (Marine Operator). VDSMS
88	88	157.425	157.425	Commercial, Intership only. VDSMS
AIS 1	AIS 1	161.975	161.975	Automatic Identification System (AIS)
AIS 2	AIS 2	162.025	162.025	Automatic Identification System (AIS)

Note: VDSMS (VHF Digital Small Message Services). Transmissions of short digital messages in accordance with RTCM Standard 12301.1 is allowed.

Frequencies are in MHz. Modulation is 16KF3E or 16KG3E.

Note that the four digit channel number beginning with the digits "10" indicates simplex use of the ship station transmit side of what had been an international duplex channel. These new channel numbers, now recognized internationally, were previously designated in the US by the two digit channel number ending with the letter "A". That is, the international channel 1005 has been designated in the US by channel 05A, and the US Coast Guard channel 1022 has been designated in the US as channel 22A. Four digit channels beginning with "20", sometimes shown by the two-digit channel number ending with the letter "B", indicates simplex use of the coast station transmit side of what normally was an international duplex channel. The U.S. does not currently use "B" or "20NN" channels in the VHF maritime band. Some VHF transceivers are equipped with an "International - U.S." switch to avoid conflicting use of these channels. See ITU Radio Regulation Appendix 18 and ITU-R M.1084-5 Annex 4, summarized here.

These new channel numbers should eventually begin to be displayed on new models of VHF marine radios.

Boaters should normally use channels listed as Non-Commercial. Channel 16 is used for calling other stations or for distress alerting. Channel 13 should be used to contact a ship when there is danger of collision. All ships of length 20m or greater are required to guard VHF channel 13, in addition to VHF channel 16, when operating within U.S. territorial waters. Users may be fined by the FCC for improper use of these channels. See Marine Radio Watch Requirements for further information.

VHF Maritime Spectrum Chart

NOAA Weather Radio Frequencies

Channel	Frequency (MHz)
WX1	162.550
WX2	162.400
WX3	162.475
WX4	162.425
WX5	162.450
WX6	162.500
WX7	162.525

Channel numbers, e.g. (WX1, WX2) etc. have no special significance but are often designated this way in consumer equipment. Other channel numbering schemes are also prevalent.

The order of channels shown is the order they were established and is slowly becoming less "popular" over time than a numerical ordering of channels.

See NATIONAL WEATHER SERVICE MARINE PRODUCTS VIA NOAA WEATHER RADIO and the NOAA Weather Radio Homepage for more information.

Additional Information, Frequencies, & Charts

Also available are International VHF Maritime Radio Channels and Frequencies, Narrowband VHF Maritime Channels and Frequencies, Radio Information for Boaters , and U.S. Coast Guard VHF Distress and Safety Coverage Charts.

DIGITAL SELECTIVE CALLING

The U.S. Coast Guard offers VHF and MF/HF radiotelephone service to mariners as part of the Global Maritime Distress and Safety System. This service, called digital selective calling (DSC), allows mariners to instantly send an automatically formatted distress alert to the Coast Guard or other rescue authority anywhere in the world. Digital selective calling also allows mariners to initiate or receive distress, urgency, safety and routine radiotelephone calls to or from any similarly equipped vessel or shore station, without requiring either party to be near a radio loudspeaker. DSC acts like the dial and bell of a telephone, allowing you to "direct dial" and "ring" other radios, or allow others to "ring" you, without having to listen to a speaker. New VHF and HF radiotelephones have DSC capability.

History

On February 1, 1999, the Safety of Life at Sea (SOLAS) Convention, a treaty document, required all passenger ships and most other ships 300 grt and larger on international voyages, including all cargo ships, to carry DSC - equipped radios. Ships were allowed to turn off their 2182 kHz radio listening watch on that date. The International Maritime Organization has postponed indefinitely plans to suspend this VHF watch on ships It had originally planned to suspend this watch on February 1, 2005.

Because of the safety problems that lack of communications interoperability would cause between SOLAS-regulated vessels (mostly cargo ships) and other vessels (recreational boaters, commercial fishing vessels, etc.), the Coast Guard petitioned the Federal Communications Commission in 1992 to require all marine radios made or sold in the U.S. have a DSC capability. The Coast Guard had also asked the Radio Technical Commission for Maritime Services (RTCM), a non-profit professional organization, to develop a standard which would allow incorporation of DSC in a marine radio without affecting the low-end market price of that radio. The FCC solicited comments on that petition in 1992 and 1993, and prepared a Notice of Proposed Rulemaking on that and other maritime radiocommunications matters in early 1994. The FCC requested comments concerning that rulemaking from May to November 1995. On 27 June 1997, the FCC adopted a Report and Order requiring radios type accepted on or after 17 June 1999 to include this minimum DSC capability.

Recommendations On Digital Selective Calling (DSC) Test Calls To Coast Stations

The International Telecommunications Union Sector for Radiocommunications has indicated that excessive test calls on MF/HF DSC distress and safety frequencies are overloading the system to the point where interference to distress and safety calls has become a cause for concern. To minimize possible interference, live testing on DSC distress and safety frequencies with coast stations should be limited to once a week as recommended by the International Maritime Organization.

US Coast Guard Sea Implementation of Areas A1 (VHF)

The USCG implemented Sea Area A1 on 20 January 2015.

US Coast Guard Sea Implementation of Areas A3 (INMARSAT) & A4 (HF)

US Coast Guard DSC (MF/HF) Equipped Shore Stations Areas A3/A4 (INMARSAT/HF)

Station	Type	Remote Site	MMSI
COMMCOM Chesapeake VA	HF	--	003669995
COMMSTA Boston MA	HF	Remoted to COMMCOM	003669991
COMMSTA Miami FL	HF	Remoted to COMMCOM	003669997
COMMSTA Belle Chase LA	HF	Remoted to COMMCOM	003669998
COMMSTA Pt Reyes CA	HF	Remoted to COMMCOM	003669990
COMMSTA Honolulu HI	HF	Remoted to COMMCOM	003669993
COMMSTA Kodiak AK	HF	Remoted to COMMCOM	003669899

HF DSC test calls on 4207.5 kHz will be automatically acknowledged.

Interconnection to a GPS Receiver

All DSC-equipped radios, and most GPS receivers, have an NMEA 0183 two-wire data protocol. That NMEA protocol allows any model of GPS to be successfully interconnected to any model of radio, regardless of manufacture. Although NMEA has no standard for the type of cable or connector used, many if not most DSC and GPS receiver manufactures generally use ribbon cable with no connectors. These wires are simply connected between the radio and the GPS by twisting the wires (some people solder) and tape (some people use waterproof heat shrink tubing). Note also that NMEA 0183 and IEC 61162-1 data interfaces are identical.

**The Coast Guard urges, in the strongest terms possible, that you take the time to interconnect your GPS and DSC-equipped radio. Doing so may save your life in a distress situation! Before interconnecting your radio & GPS consult the owner's manuals.

INTERNATIONAL VHF MARINE RADIO CHANNELS AND FREQUENCIES

The following table is adapted from the International Telecommunications Union Radio Regulations Appendix 18, including changes adopted by the 2015 World Radio Conference. Transmission on frequencies or channels shown in blue are not allowed within U.S. territorial waters, but are allowed on the high seas and in most other countries. Note that a marine radio operating in the international mode on a channel in which the ship station frequency is shown in black and the shore station frequency shown in blue would not be able to communicate with a U.S. shore station. Frequencies and channels shown in **green** were auctioned in the U.S. and are only available from the auction winner. The large number of blue channels and frequencies indicates the shortage of VHF maritime spectrum in the U.S. compared to most other maritime countries.

The Table below defines the channel numbering for maritime VHF communications based on 25 kHz channel spacing and use of several duplex channels. The channel numbering and the conversion of two-frequency channels for single-frequency operation shall be in accordance with Recommendation ITU-R M.1084-5 Annex 4, Tables 1 and 3. The Table below also describes the harmonized channels where the digital technologies defined in the most recent version of Recommendation ITU-R M.1842 could be deployed.

Table of Transmitting Frequencies in the VHF Maritime Mobile							
Channel Designator	Notes	Transmitting Frequencies (MHz)		Intership	Port Operations and Ship Movement		Public correspondence
		Ship Stations	Coast Stations		Single frequency	Two frequency	
60	*m*	156.025	160.625		x	x	x
01	*m*	156.050	160.650		x	x	x
1001		156.050	156.050		x		
61	*m*	156.075	160.675		x	x	x
02	*m*	156.100	160.700		x	x	x
62	*m*	156.125	160.725		x	x	x
03	*m*	156.150	160.750		x	x	x
63	*m*	156.175	160.775		x	x	x
1063		156.175	156.175		x		
04	*m*	156.200	160.800		x	x	x
64	*m*	156.225	160.825		x	x	x
05	*m*	156.250	160.850		x	x	x
1005		156.250	156.25		x		
65	*m*	156.275	160.875		x	x	x
1065		156.275	156.275		x		
06	*f*	156.300		x			
2006	r	160.900	160.900				
66	*m*	156.325	160.925		x	x	x
1066		156.325	156.325		x		
07	*m*	156.350	160.950		x	x	x
1007		156.350	156.350		x		
67	*h*	156.375	156.375	x	x		
08		156.400		x			
68		156.425	156.425		x		
09	*i*	156.450	156.450	x	x		
69		156.475	156.475	x	x		
10	*h,q*	156.500	156.500	x	x		
70	*f,j*	156.525	156.525	Digital selective calling for distress, safety and calling			
11	*q*	156.550	156.550		x		
71		156.575	156.575		x		
12		156.600	156.600		x		

72	*i*	156.625		x			
13	*k*	156.650	156.650	x	x		
73	*h,i*	156.675	156.675	x	x		
14		156.700	156.700		x		
74		156.725	156.725		x		
15	*g*	156.750	156.750	x	x		
75	*n,s*	156.775	156.775		x		
16	f	156.800	156.800	DISTRESS, SAFETY AND CALLING			
76	*n,s*	156.825	156.825		x		
17	*g*	156.850	156.850	x	x		
77		156.875		x			
18	*m*	156.900	161.500		x	x	x
1018		156.900	156.900		x		
78	*m*	156.925	161.525		x	x	x
1078		156.925	156.925		x		
2078	*mm*	161.525	161.525		x		
19	*m*	156.950	161.550		x	x	x
1019		156.950	156.950		x		
2019	*mm*	161.550	161.550		x		
79	*m*	156.975	161.575		x	x	x
1079		156.975	156.975		x		
2079	*mm*	161.575	161.575		x		
20	*m*	157.000	161.600		x	x	x
1020		157.000	157.000		x		
2020	*mm*	161.600	161.600		x		
80		157.025	161.625		x	x	x
1080		157.025	157.025		x		
21	*y,wa*	157.050	161.650		x	x	x
1021		157.050	157.050			x	
81	*y,wa*	157.075	161.675		x	x	x
1081		157.075	157.075		x		
22	*y,wa*	157.100	161.700		x	x	x
1022		157.100	157.100		x		
82	*x,y,wa*	157.125	161.725		x	x	x
1082		157.125	157.125		x		
23	*x,y,wa*	157.150	161.750		x	x	x
1023		157.150	157.150		x		
83	*x,y,wa*	157.175	161.775		x	x	x
1083		157.175	157.175		x		
24	*w,wx,x,xx*	157.200	161.800		x	x	x
1024	*w,wx,x,xx*	157.200					
2024	*w,wx,x,xx*	161.800	161.800	x (digital only)			
84	*w,wx,x,xx*	157.225	161.825		x	x	x
1084	*w,wx,x,xx*	157.225		x (digital only)			
2084	*w,wx,x,xx*	161.825	161.825				
25	*w,wx,x,xx*	157.250	161.850		x	x	x
1025	*w,wx,x,xx*	157.250		x			

				(digital only)			
2025	*w,wx,x,xx*	161.850	161.850				
85	*w,wx,x,xx*	157.275	161.875		x	x	x
1085	*w,wx,x,xx*	157.275					
2085	*w,wx,x,xx*	161.875	161.875				
26	*w,ww,x*	157.300	161.900		x	x	x
1026	*w,ww,x*	157.300					
2026	*w,ww,x*		161.900				
86	*w,ww,x*	157.325	161.925		x	x	x
1086	*w,ww,x*	157.325					
2086	*w,ww,x*		161.925				
27	z,zx	157.350	161.950			x	x
1027	z,zz	157.350	157.350				
ASM 2 (2027)	z	161.950	161.950				
87	z,zz	157.375	157.375		x		
28	z,zx	157.400	162.000			x	x
1028	z,zz	157.350	157.350		x		
ASM 2 (2028)	z	162.000	162.000				
88	z,zz	157.425	157.425		x		
AIS 1	*f, l, p*	161.975	161.975				
AIS 2	*f, l, p*	162.025	162.025				

NOTES FROM THE TABLE ABOVE:

General Notes

a. Administrations may designate frequencies in the intership, port operations and ship movement services for use by light aircraft and helicopters to communicate with ships or participating coast station in predominantly maritime support operations under the conditions specified in Nos. **51.69, 51.73, 51.74, 51.75, 51.76, 51.77** and **51.78**. However, the use of the channels which are shared with public correspondence shall be subject to prior agreement between interested and affected administrations.

b. The channels of the present Appendix, with the exception of channels 06, 13, 15, 16, 17, 70, 75 and 76, may also be used for highspeed data and facsimile transmissions, subject to special arrangement between interested and affected administrations.

c. The channels of the present Appendix, with exception of channels 06, 13, 15, 16, 17, 70, 75 and 76, may be used for direct-printing telegraphy and data transmission, subject to special arrangement between interested and affected administrations

d. The frequencies in this table may also be used for radiocommunications on inland waterways in accordance with the conditions specified in No. **5.226**.

e. Administrations may apply 12.5 kHz channel interleaving on a non-interference basis to 25 kHz channels, in accordance with the most recent version of Recommendation ITU-R M.1084, provided:

- It shall not affect the 25 kHz channels of the present Appendix maritime mobile distress and safety frequencies, especially the channels 06, 13, 15, 16, 17, 70, AIS 1 and AIS 2, nor the technical characteristics mentioned in Recommendation ITU-R M.489-2 for these channels;
- Implementation of 12.5 kHz channel interleaving and consequential national requirements shall be subject to coordination with affected administrations.

Specific notes

f. The frequencies 156.300 MHz (channel 06), 156.525 MHz (channel 70), 156.800 MHz (channel 16), 161.975 MHz (AIS 1) and 162.025 MHz (AIS 2) may also be used by aircraft stations for the purpose of search and rescue operations and other safety-related operations.

g. Channels 15 and 17 may also be used for on-board communications provided the effective radiated power does not exceed 1 W, and subject to the national regulations of the administration concerned when these channels are used in its territorial waters.

h. Within the European Maritime Area and in Canada these frequencies (channels 10, 67, 73) may also be used, if so required, by the individual administrations concerned, for communication between ship stations, aircraft stations and participating land stations engaged

in coordinated search and rescue and anti-pollution operations in local areas, under the conditions specified in Nos. **51.69, 51.73, 51.74, 51.75, 51.76, 51.77** and **51.78**.

i. The preferred first three frequencies for the purpose indicated in note *a)* are 156.450 MHz (channel 09), 156.625 MHz (channel 72) and 156.675 MHz (channel 73).

j. Channel (70) is to be used exclusively for digital selective calling for distress, safety and calling.

k. Channel 13 is designated for use on a world-wide basis as a navigation safety communication channel, primarily for intership navigation safety communications. It may also be used for the ship movement and port operations service subject to the national regulations of the administrations concerned.

l. The channels (AIS 1 and AIS 2) are used for an automatic identification system (AIS) capable of providing worldwide operation, unless other frequencies are designated on a regional basis for this purpose. Such use should be in accordance with the most recent version of Recommendation ITU-R M.1371.

m. These channels may be operated as a single frequency channels, subject to coordination with affected administrations. The following conditions apply for single frequency usage:

- The lower frequency portion of these channels may be operated as single frequency channels by ship and coast stations.
- Transmission using the upper frequency portion of these channels is limited to coast stations.
- If permitted by administrations and specified by national regulations, the upper frequency portion of these channels may be used by ship stations for transmission. All precautions should be taken to avoid harmful interference to channels AIS 1, AIS 2, 2027 and 2028. From 1 January 2019, channel 2027 will be designated ASM 1 and channel 2028 will be designated ASM 2.

mm. Transmission on these channels is limited to coast stations. If permitted by administrations and specified by national regulations, these channels may be used by ship stations for transmission. All precautions should be taken to avoid harmful interference to channels AIS 1, AIS 2, 2027 and 2028. From 1 January 2019, channel 2027 will be designated ASM 1 and channel 2028 will be designated ASM 2.

n. With the exception of AIS, the use of these channels (75 and 76) should be restricted to navigation-related communications only and all precautions should be taken to avoid harmful interference to channel 16 by limiting the output power to 1 W.

o. (n/a)

p. Additionally, AIS 1 and AIS 2 may be used by the mobile-satellite service (Earth-to-space) for the reception of AIS transmissions from ships.

q. When using these channels (10 and 11), all precautions should be taken to avoid harmful interference to channel 70.

r. In the maritime mobile service, this frequency is reserved for experimental use for future applications or systems (e.g. new AIS applications, man over board systems, etc.). If authorized by administrations for experimental use, the operation shall not cause harmful interference to, or claim protection from, stations operating in the fixed and mobile services.

s. Channels 75 and 76 are also allocated to the mobile-satellite service (Earth-to-space) for the reception of long-range AIS broadcast messages from ships (Message 27; see the most recent version of Recommendation ITU-R M.1371).

t. (n/a)

u. (n/a)

v. (n/a)

w. In Regions 1 and 3:

Until 1 January 2017, the frequency bands 157.025-157.325 MHz and 161.625-161.925 MHz (corresponding to channels: 80, 21, 81, 22, 82, 23, 83, 24, 84, 25, 85, 26, 86) may be used for new technologies, subject to coordination with affected administrations. Stations using these channels or frequency bands for new technologies shall not cause harmful interference to, or claim protection from, other stations operating in accordance with Article 5.

From 1 January 2017, the frequency bands 157.025-157.325 MHz and 161.625-161.925 MHz (corresponding to channels: 80, 21, 81, 22, 82, 23, 83, 24, 84, 25, 85, 26, 86) are identified for the utilization of the digital systems described in the most recent version of Recommendation ITU-R M.1842. These frequency bands could also be used for analogue modulation described in the most recent version of Recommendation ITU-R M.1084 by an administration that wishes to do so, subject to not claiming protection from other stations in the maritime mobile service using digitally modulated emissions and subject to coordination with affected administrations.

ww. In Region 2 (i.e. N. and S. America), the frequency bands 157.200-157.325 and 161.800-161.925 MHz (corresponding to channels: 24, 84, 25, 85, 26 and 86) are designated for digitally modulated emissions in accordance with the most recent version of Recommendation ITU-R M.1842.

wa. In Regions 1 and 3:

Until 1 January 2017, the frequency bands 157.025-157.175 MHz and 161.625-161.775 MHz (corresponding to channels: 80, 21,

81, 22, 82, 23 and 83) may be used for digitally modulated emissions, subject to coordination with affected administrations. Stations using these channels or frequency bands for digitally modulated emissions shall not cause harmful interference to, or claim protection from, other stations operating in accordance with
Article 5.

From 1 January 2017, the frequency bands 157.025-157.100 MHz and 161.625-161.700 MHz (corresponding to channels: 80, 21, 81 and 22) are identified for utilization of the digital systems described in the most recent version of Recommendation ITU-R M.1842 using multiple 25 kHz contiguous channels.

From 1 January 2017, the frequency bands 157.150-157.175 MHz and 161.750-161.775 MHz (corresponding to channels: 23 and 83) are identified for utilization of the digital systems described in the most recent version of Recommendation ITU-R M.1842 using two 25 kHz contiguous channels. From 1 January 2017, the frequencies 157.125 MHz and 161.725 MHz (corresponding to channel: 82) are identified for the utilization of the digital systems described in the most recent version of Recommendation ITU-R M.1842.

The frequency bands 157.025-157.175 MHz and 161.625-161.775 MHz (corresponding to channels: 80, 21, 81, 22, 82, 23 and 83) can also be used for analogue modulation described in the most recent version of Recommendation ITU-R M.1084 by an administration that wishes to do so, subject to not claiming protection from other stations in the maritime mobile service using digitally modulated emissions and subject to coordination with affected administrations.

ww. In Region 2, the frequency bands 157.200-157.325 and 161.800-161.925 MHz (corresponding to channels: 24, 84, 25, 85, 26 and 86) are designated for digitally modulated emissions in accordance with the most recent version of Recommendation ITU-R M.1842.

In Canada and Barbados, from 1 January 2019 the frequency bands 157.200-157.275 and 161.800-161.875 MHz (corresponding to channels: 24, 84, 25 and 85) may be used for digitally modulated emissions, such as those described in the most recent version of Recommendation ITU-R M.2092, subject to coordination with affected administrations.

x. From 1 January 2017, in Angola, Botswana, Lesotho, Madagascar, Malawi, Mauritius, Mozambique, Namibia, Democratic Republic of the Congo, Seychelles, South Africa, Swaziland, Tanzania, Zambia and Zimbabwe, the frequency bands 157.125-157.325 and 161.725-161.925 MHz (corresponding to channels: 82, 23, 83, 24, 84, 25, 85, 26 and 86) are designated for digitally modulated emissions.
From 1 January 2017, in China, the frequency bands 157.150-157.325 and 161.750-161.925 MHz (corresponding to channels: 23, 83, 24, 84, 25, 85, 26 and 86) are designated for digitally modulated emissions.

xx. From 1 January 2019, the channels 24, 84, 25 and 85 may be merged in order to form a unique duplex channel with a bandwidth of 100 kHz in order to operate the VDES terrestrial component described in the most recent version of Recommendation ITU-R M.2092.

y. These channels may be operated as single or duplex frequency channels, subject to coordination with affected administrations.

z. Until 1 January 2019, these channels may be used for possible testing of future AIS applications without causing harmful interference to, or claiming protection from, existing applications and stations operating in the fixed and mobile services.

From 1 January 2019, these channels are each split into two simplex channels. The channels 2027 and 2028 designated as ASM 1 and ASM 2 are used for application specific messages (ASM) as described in the most recent version of Recommendation ITU-R M.2092.

zx. In the United States, these channels are used for communication between ship stations and coast stations for the purpose of public correspondence.

zz. From 1 January 2019, channels 1027, 1028, 87 and 88 are used as single-frequency analogue channels for port operation and ship movement.

See the U.S. VHF Marine Radio Frequencies and Channels

(Source: Final Acts WRC-14 World Radio Conference, Geneva 2015)

MARITIME VHF NARROWBAND CHANNELS - 12.5 KHZ

Assignment of channel numbers to interleaved channels and simplex operation of duplex channels in the VHF maritime band at 12.5 kHz offsets. Frequencies are in MHz. Limited operation on narrowband channels is permitted in ITU-R Radio Regulations Appendix 18, and is allowed in the US on public correspondence channels under 47 CFR 80.371(c)(iii) (Third R&O PR Docket 92-257 released 9 July 1998). Channels and frequencies colored **teal** will be available in the U.S. for public correspondence.

A channel plan for simplex use of duplex channels, and 6.25 kHz channels (presently not authorized), is described at the bottom of this page.

This information is adapted from ITU-R Rec. M.1084-5, available from the International Telecommunications Union.

CHANNEL NUMBER			SHIP	SHIP & COAST	COAST
First 25kHz Channel	Interleaved 12.5 kHz Channel	Second 25 kHz Channel			
		60	156.0250		160.6250
	260		156.0375		160.6375
01			156.0500		160.6500
	201		156.0625		160.6625
		61	156.0750		160.6750
	261		156.0875		160.6875
02			156.1000		160.7000
	202		156.1125		160.7125
		62	156.1250		160.7250
	262		156.1375		160.7375
03			156.1500		160.7500
	203		156.1625		160.7625
		63	156.1750		160.7750
	263		156.1875		160.7875
04			156.2000		160.8000
	204		156.2125		160.8125
		64	156.2250		160.8250
	264		156.2375		160.8375
05			156.2500		160.8500
	205		156.2625		160.8625
		65	156.2750		160.8750
	265		156.2875		160.8875
06				156.3000	
	206		156.3125		160.9125
		66	156.3250		160.9250
	266		156.3375		160.9375
07			156.3500		160.9500
	207		156.3625		160.9625
		67		156.3750	
	267			156.3875	
08				156.4000	
	208			156.4125	
		68		156.4250	

	268			156.4375	
09				156.4500	
	209			156.4625	
		69		156.4750	
	269			156.4875	
10				156.5000	
	210			156.5125	DSC guardband
		70		156.5250	DSC calling, distress, & safety
	270			156.5375	DSC guardband
11				156.5500	
	211			156.5625	
		71		156.5750	
	271			156.5875	
12				156.6000	
	212			156.6125	
		72		156.6250	
	272			156.6375	
13				156.6500	
	213			156.6625	
		73		156.6750	
	273			156.6875	
14				156.7000	
	214			156.7125	
		74		156.7250	
	274			156.7375	
15				156.7500	
	215			156.7625	
		75		156.7750	AIS Long Range
	275			156.7875	Guardband
16				156.8000	Calling, distress & safety
	216			156.8125	Guardband
		76		156.8250	AIS Long Range
	276			156.8375	
17				156.8500	
	217			156.8625	
		77		156.8750	
	277			156.8875	
18			156.9000		161.5000
	218		156.9125		161.5125
		78	156.9250		161.5250
	278		156.9375		161.5375
19			156.9500		161.5500
	219		156.9625		161.5625
		79	156.9750		161.5750
	279		156.9775		161.5775
20			157.0000		161.6000
	220		157.0125		161.6125
		80	157.0250		161.6250
	280		157.0375		161.6375

21			157.0500		161.6500
	221		157.0625		161.6625
		81	157.0750		161.6750
	281		157.0875		161.6875
22			157.1000		161.7000
	222		157.1125		161.7125
		82	157.1250		161.7250
	282		157.1375		161.7375
23			157.1500		161.7500
	223		157.1625		161.7625
		83	157.1750		161.7750
	283		157.1875		161.7875
24			157.2000		161.8000
	224		157.2125		161.8125
		84	157.2250		161.8250
	284		157.2375		161.8375
25			157.2500		161.8500
	225		157.2625		161.8625
		85	157.2750		161.8750
	285		157.2875		161.8875
26			157.3000		161.9000
	226		157.3125		161.9125
		86	157.3250		161.9250
	286		157.3375		161.9375
27			157.3500		161.9500
	227		157.3625		161.9625
		87	157.3750		161.9750
	287		158.3875		161.9875
28			157.4000		162.0000
	228		157.4125		162.0125
		88	157.4250		162.0250

Simplex Use of Duplex Channels

For channel number assignments to simplex operation of duplex channels. (This channel numbering sequence is provided as an example.):

CHANNEL No.	SHIP	SHIP & COAST	COAST
For normal duplex operation:			
60	156.025	–	160.625
For simplex operation of ship station frequency:			
1 060 (Also channel 60A)(see Note 1)	–	156.025	–
For simplex operation of coast station frequency:			

2 060 (Also channel 60B)(see Note 1)	–	160.625	–

NOTE 1 – This method of numbering a duplex channel used for simplex operation is in accordance with the Digital Selective Calling Recommendation ITU-R M.493, Annex 1, Table A1-5. Simplex use of duplex channels, long required in the United States, are now permitted worldwide in accordance with Appendix 18 of the ITU-R Radio Regulations, as amended by WRC-12 and WRC-15.

6.25 kHz Narrowband Channels

Extension of channel number assignments for migration to 6.25 kHz channel spacing from the current 25 kHz channel spacing with interleaved 12.5 kHz offset frequencies channels. 6.25 kHz is currently not authorized in the maritime service in either ITU-R or U.S. regulations. (This channel numbering sequence is provided as an example.):

CHANNEL No. (6.25 kHz spacing)					SHIP	SHIP & COAST	COAST
				60	156.025		160.625
			160		156.03125		160.63125
		260			156.0375		160.6375
	360				156.04375		160.64375
01					156.050		160.650
	101				156.05625		160.65625
		201			156.0625		160.6625
			301		156.06875		160.66875
				61	156.075		160.675

International VHF Maritime Channels and Frequencies

U.S. VHF Maritime Channels and Frequencies

FCC ON COAST RADIO STATIONS

The FCC licenses coast radio stations in the maritime mobile service to provide for a variety of distress, navigational, business, and personal communications needs of vessels. These land stations in the marine services are the links between vessels at sea and activities ashore. They are spread throughout the coastal and inland areas of the United States to carry radio signals and messages to and from ships on the water. These stations are generally characterized by the services they provide.

Types of Stations

Public coast stations are an integral part of the Maritime Services, and traditionally have served the maritime community as commercial mobile radio service providers, permitting ships to send and receive messages and to interconnect with the public switched telephone network. VHF public coast stations were established to serve port and coastal areas using 156-162 MHz band frequencies that are allocated internationally for maritime service, and generally provide short-range communications for vessels not more than 30 nautical miles from shore. High seas public coast stations may use low frequency (.100-.160 MHz), medium frequency (.405-.525 and 2 MHz), and high frequency (HF) (4, 6, 8, 12, 16, 18/19, 22, and 25/26 MHz) band frequencies to serve vessels on the high seas, often hundreds or even thousands of miles from land. In addition to providing needed services for a fee, public coast stations have obligations to monitor distress frequencies and to relay messages free of charge to search and rescue personnel. VHF public coast stations also may provide private radio service under certain circumstances, and have limited authority to provide service to units on land. High seas public coast stations are not permitted to serve units on land. A VHF public coast station licensee (but not a high seas public coast station licensee) may lease all or part of the spectrum usage rights associated with the license.

Automated Maritime Telecommunications System (AMTS) stations are a special type of public coast station. The AMTS service was established in 1981 as an alternative to traditional VHF public coast service, primarily to meet the specialized needs of tugs, barges, and other commercial vessels on inland waterways. AMTS stations, which use 217/219 MHz frequencies, were intended primarily to provide public correspondence service to such vessels, but in an integrated manner not readily available from individual VHF public coast stations. AMTS public coast stations also may provide private radio service under certain circumstances, and have limited authority to provide service to units on land. An AMTS licensee may lease all or part of the spectrum usage rights associated with the license.

Private coast stations are not common carriers -- they cannot charge for communications services. Instead, they provide information to associated vessels. Only those entities that provide some sort of service to vessels or control a bridge or waterway may become a private coast station licensee. Some common uses of private coast stations include: marinas, radio repair shops, bridges, locks, and yacht clubs.

Marine utility stations are hand-held radios operating at ten watts or less. Marine utility stations provide similar types of services to vessels as are provided by private coast stations. The station operates under the rules applicable to ship stations when the unit is aboard a vessel, and under the rules applicable to private coast stations when the unit is on land.

Alaska public fixed stations provide communications for safety and public correspondence like public coast stations, but they serve Alaskan communities exclusively.

Alaska private fixed stations provide point-to-point and coast-to-ship communications in Alaska. They are not common carriers and may not charge for service.

Radar stations on land are used mostly to locate and track vessels in coastal and inland waters. Some radars also serve as navigational fixes for vessels in their range.

Radiobeacons/RACONS emit a constant radio signal from fixed locations on land, like lighthouses, or from buoys in the water, for navigational reference.

FCC ON SHIP RADIO STATIONS

About

A shipboard radio station includes all the transmitting and receiving equipment installed aboard a ship for communications afloat. Depending on the size, purpose, or destination of a ship, its radio station must meet certain requirements established by law or treaty. For example, large passenger or cargo ships that travel on the open sea are required by the Communications Act and by international agreements to be equipped with a radio station for long distance radio communications. Small passenger

ships that travel along the coast may only need to communicate at shorter range with coast stations. These are examples of "compulsory ships" because they are required or compelled by treaty or statute to be equipped with specified telecommunications equipment.
Smaller ships used for recreation (e.g., sailing, diving, sport fishing, fishing, water skiing) are not required to have radio stations installed but they may be so equipped by choice. These ships are known as "voluntary ships" because they are not required by treaty or statute to carry a radio but voluntarily fit some of the same equipment used by compulsory ships.
Ship stations may communicate with other ship stations or coast stations primarily for safety, and secondarily for navigation and operational efficiency. The FCC regulates marine communications in cooperation with the U.S. Coast Guard, which monitors marine distress frequencies continuously to protect life and property. All users of marine radio, whether voluntary or compulsory, are responsible for observing both FCC and Coast Guard requirements.
VHF Channel Listing
The chart below summarizes a portion of the FCC rules -- 47 CFR 80.371(c) and 80.373(f)

Type of Message Appropriate Channel(s)

DISTRESS SAFETY AND CALLING - Use this channel to get the attention of another station (calling) or in emergencies (distress and safety).
16
INTERSHIP SAFETY - Use this channel for ship-to-ship safety messages and for search and rescue messages to ships and aircraft of the Coast Guard.
6
COAST GUARD LIAISON - Use this channel to talk to the Coast Guard (but first make contact on Channel 16).
22
NONCOMMERCIAL - Working channels for voluntary boats. Messages must be about the needs of the ship. Typical uses include fishing reports, rendezvous,scheduling repairs and berthing information. Use Channels 67 and 72 only for ship-to-ship messages.
96, 679,68, 69, 718, 72, 78, 794, 804
COMMERCIAL - Working channels for working ships only. Messages must be about business or the needs of the ship. Use channels 8, 67, 72 and 88A only for ship-to-ship messages.
15, 7, 8, 9, 10, 11, 18, 19, 635, 677, 79, 80, 88A1
PUBLIC CORRESPONDENCE (MARINE OPERATOR) - Use these channels to call the marine operator at a public coast station. By contacting a public coast station, you can make and receive calls from telephones on shore. Except for distress calls, public coast stations usually charge for this service.
24, 25, 26, 27, 28, 84, 85, 86
PORT OPERATIONS - These channels are used in directing the movement of ships in or near ports, locks or waterways. Messages must be about the operational handling movement and safety of ships. In certain major ports, Channels 11,12 and are not available for general port operations messages. Use channel 20 only for ship-to-coast messages. Channel 77 is limited to intership communications to and from pilots
15, 53, 12, 14, 20, 635, 65, 66, 73, 74, 7510,7610, 77
NAVIGATIONAL - (Also known as the bridge-to-bridge channel.) This channel is available to all ships. Messages must be about ship navigation, for example, passing or meeting other ships. You must keep your messages short. Your power output must not be more than one watt. This is also the main working channel at most locks and drawbridges.
13, 67
MARITIME CONTROL - This channel may be used to talk to ships and coast stations operated by state or local governments. Messages must pertain to regulation and control, boating activities, or assistance to ships.
17
DIGITAL SELECTIVE CALLING - Use this channel for distress and safety calling and for general purpose calling using only digital selective calling techniques.
70
WEATHER - On these channels you may receive weather broadcasts of the National Oceanic and Atmospheric Administration. These channels are only for receiving. You cannot transmit on them.
Wx-1 162.55 Wx-2 162.4 Wx-3 162.475 Wx-4 162.425 Wx-5 162.45 Wx-6 162.5 Wx-7 162.525
1. Not available in the Great Lakes, St. Lawrence Seaway, or the Puget Sound and the Strait of Juan de Fuca and its approaches.
2. Only for use In the Great Lakes, St Lawrence Seaway, and Puget Sound and the Strait of Juan de Fuca and its approaches.
3. Available only In the Houston and New Orleans areas.
4. Available only in the Great Lakes.
5. Available only In the New Orleans area.

6. Available for Intership, ship, and coast general purpose calling by noncommercial ships.
7. Available only In the Puget Sound and the Strait of Juan de Fuca.
8. Available for port operations communications only within the U.S. Coast Guard designated VTS radio protection area of Seattle (Puget Sound). Normal output must not exceed 1 watt.
9. Available for navigational communications only in the Mississippi River/Southwest Pass/Gulf outlet area.
10. Available for navigation-related port operations or ship movement only. Output power limited to 1 watt.

Licensing

Who Needs a Ship Station License

You do not need a license to operate a marine VHF radio, radar, or EPIRBs aboard voluntary ships operating domestically. The term "voluntary ships" refers to ships that are not required by law to carry a radio. Generally, this term applies to recreation or pleasure craft. The term "voluntary ships" does not apply to the following:

1. Cargo ships over 300 gross tons navigating in the open sea;
2. Ships certified by the U.S. Coast Guard to carry more than 6 passengers for hire in the open sea or tidewaters of the U.S.;
3. Power driven ships over 20 meters in length on navigable waterways;
4. Ships of more than 100 gross tons certified by the U.S. Coast Guard to carry at least one passenger on navigable waterways;
5. Tow boats of more than 7.8 meters in length on navigable waterways; and,
6. Uninspected commercial fishing industry vessels required to carry a VHF radio.
7. Ships required to carry an Automatic Identification System (AIS) transceiver by the U.S. Coast Guard regulations enacted pursuant to the Maritime Transportation Security Act of 2000.

Ships are considered as operating domestically when they do not travel to foreign ports or do not transmit radio communications to foreign stations. Sailing in international waters is permitted, so long as the previous conditions are met. If you travel to a foreign port (e.g., Canada, Mexico, Bahamas, British Virgin Islands), a license is required. Additionally, if you travel to a foreign port, you are required to have an operator permit.

Radio Equipment You May Use

You do not need a license to use marine VHF radios, any type of EPIRB, any type of radar, GPS or LORAN receivers, depth finders, CB radio, or amateur radio (an amateur license is required). Ships that use MF/HF single side-band radio, satellite communications, or telegraphy must continue to be licensed by the FCC.

Radios with Digital Selective Calling (DSC) Capability

If you have a marine radio with DSC capability, you must obtain a nine-digit maritime mobile service identity (MMSI) number and have it programmed into the unit before you transmit. Each vessel needs only one MMSI number. Prior to obtaining an MMSI number, you will be asked to provide certain information about your ship. It is important that you obtain an MMSI number because the U.S. Coast Guard uses this information to help speed search and rescue operations.

If your vessel requires licensing by the FCC you will obtain an MMSI number during the application/licensing process when you file FCC Forms 159 and 605 with the FCC. After the FCC grants a new, modified, or administratively updated ship station license, it reports the MMSI and certain other data to the International Telecommunication Union's Maritime mobile Access and Retrieval System (MARS) so that other countries' search and rescue authorities also have access to the information. Licensees may check the MARS database to confirm that their information is listed and up to date.

If your vessel does not require a license you may obtain an MMSI by contacting either BoatUS, Sea Tow Service International, Inc., Shine Micro, or United States Power Squadrons. Information is contained in the Public Notice (pdf) announcing agreements with and the procedures for private entities to apply to issue MMSIs.

If your vessel requires licensing by the FCC after you have obtained an MMSI number from BoatUS, Sea Tow Service, Shine Micro, Inc., or United States Power Squadrons, that MMSI number cannot be used during the application/licensing process when you file FCC Forms 159 and 605 with the FCC. MMSI numbers issued by other authorized entities are valid only for ship stations that do not have FCC-issued licenses. Since the ULS will not accept the MMSI that was issued by another entity, you should not enter anything on FCC Form 605, Schedule B. Leave the field blank and the FCC will issue you a new MMSI number.

Obtaining a License

File FCC Forms 159 and 605 with the FCC, preferably through electronic filing in ULS. Licensees can opt to receive Electronic Authorizations by logging into the License Manager and changing their print preferences or can continue to have the FCC mail the license to you. The license is valid for a term of ten years. Don't forget to sign and date your application and include any applicable fees; otherwise it will be dismissed.

Licensing a Fleet of Ships

Under certain conditions, two or more ships having a common owner or operator may be issued a fleet license for operation of all ship radio stations aboard the ships in the fleet. This allows an applicant to file a single FCC Form 605 for multiple ships. The total fee due for the fleet license, however, is the fee due for a single license multiplied by the total number of ships in the fleet. You must retain a copy of the fleet license with the station records on each ship. Fleet licensing is not available for any vessel required to have its own MMSI number; such vessels must be licensed individually. If any of the vessels use DSC or AIS equipment, an MMSI number is required and you must apply for individual licenses rather than a fleet license. When filing Renewals, Renewal Modifications, Modifications and Updates to fleet licenses, applicants are required to attach a self-certification statement to their filing. This statement should indicate that the licensee does not have DSC or AIS on-board any of the vessels that are covered by the fleet license. If it is discovered that there is a DSC or AIS equipment on-board, a regular license should be obtained for each vessel that requires an MMSI. The fleet license should then be modified to reduce the number in the fleet, or cancelled if there are fewer than two vessels that do not require MMSIs.

Obtaining a Restricted Radiotelephone Operator Permit

File FCC Forms 159 and 605 with the FCC. You do not need to take a test to obtain this permit. The FCC will mail the permit to you and it will be valid for your lifetime or licensees may opt to receive Electronic Authorizations by logging into License Manager and changing their print preferences. Don't forget to sign and date your application and include any applicable fees; otherwise it will be dismissed.

Operating a Marine Radio While Your Applications are Being Processed

You may operate your marine radio after you have mailed your application(s) to the FCC so long as you fill out, detach, and retain the temporary operating authority attached to the application form. The temporary operating authority is valid for 90 days after you mail your application to the FCC and should be kept with your station records until you receive your license/ permit through the mail.

Making Changes During Your License Term

If you change your mailing address, legal name, or ship name, you must complete FCC Form 605 for Administrative Update. There is no fee required. No action is required when you add or replace a transmitter that operates in the same frequency band.

Send your completed form to:

Federal Communications Commission Address
1270 Fairfield Road
Gettysburg, PA 17325-7245

To change your ship official number or state registration number, you must submit a request by letter to:
Federal Communications Commission
1270 Fairfield Road
Gettysburg, PA 17325-7245

IMPORTANT NOTE: The procedures described above for making changes to your license DO NOT apply if you are selling your vessel. In those circumstances, see the information described below under "What to Do If Selling Your Ship."

License Renewals

If you operate a marine VHF radio, radar, or EPIRBs aboard a voluntary ship operating domestically, you are not required to renew your current license. Although a license is no longer required for these ships, you may still renew your license and retain your call sign.

The FCC will send you a Renewal Reminder Notice approximately 120 days prior to the expiration date of your license. You must submit FCC Form 605 along with the proper payment to renew your license.

If you send an application for renewal before your current license expires, you may continue to operate until the FCC acts on your application. You do not need a temporary permit but you should keep a copy of the renewal application you send the FCC.

You must stop transmitting as soon as your license expires, unless you have already sent your renewal application to the FCC.

License Expiration

If your station license has expired, you must complete FCC Forms 159 and 605 for a NEW station license. There is NO grace period. You may use the temporary operating authority (schedule F on FCC Form 605) to operate your marine radio while your application is being processed.

Lost Licenses or Permits

If you lose your license, you must request a duplicate.

For a duplicate SHIP STATION LICENSE, you must complete FCC Forms 159 and 605 or you can obtain an Electronic Authorization.

For a duplicate RESTRICTED RADIOTELEPHONE OPERATOR PERMIT there are two possibilities. If you need to replace a lost restricted radiotelephone operator permit that is not recorded in the FCC's ULS database, you must apply for a new one using FCC Forms 159 and 605. If the restricted radiotelephone operator permit is already recorded in the FCC's ULS database, you may obtain a duplicate by completing FCC Forms 159 and 605 or by requesting an Electronic Authorization. There are fees required for requesting a duplicate license or a new permit. For additional information, see Public Notice DA 01-1157 (pdf).

What to Do If Selling Your Ship

If you sell your ship, you may file FCC Form 605 requesting cancellation to:

Federal Communications Commission
1270 Fairfield Road
Gettysburg, PA 17325-7245

Once your license is cancelled, the new owner may apply for a NEW license.

Or you may request a transfer of control or assignment of the vessel to the new owner. See "Assigning or Transferring a Ship Station License."

If you have a RESTRICTED RADIOTELEPHONE OPERATOR PERMIT, you should retain it for future use since it is authorized for your lifetime.

Assigning or Transferring a Ship Station License

Subject to the FCC's advance approval, you may assign a Ship Station License (as when you are selling a vessel) or transfer control of a Ship Station License (as when there is a change in the ownership of the licensee or its parent company). To obtain the FCC's approval for the assignment or transfer of control, you must file FCC Form 603. There is no fee required. After the transaction is consummated, the assignee/transferee must file a notification of consummation using Schedule D of FCC Form 603. The notification of consummation must be filed within thirty (30) days of the actual consummation. (It must also be filed within six months after the FCC gives public notice of its consent to the application.)

Operations

Even though a station license may no longer be required, you must continue to follow the operating procedures for calling other stations, maintaining a safety watch, and relaying distress messages as specified in the FCC Rules. You may identify your ship station over the air using your FCC-issued call sign, maritime mobile service identity (MMSI), the state registration number or official number of your ship, or the name of your ship.

Do I Need a Restricted Radiotelephone Operator Permit?

If you plan to dock in a foreign port (e.g., Canada or the Bahamas) or if you communicate with foreign coast or ship stations, you must have a RESTRICTED RADIOTELEPHONE OPERATOR PERMIT (sometimes referred to by boaters as an "individual license") in addition to your ship radio station license. However, if (1) you merely plan to sail in domestic or international waters without docking in any foreign ports and without communicating with foreign coast stations, and (2) your radio operates only on VHF frequencies, you do not need an operator permit.

File FCC Forms 159 and 605 with the FCC. You do not need to take a test to obtain this permit. The FCC will mail the permit to you and it will be valid for your lifetime. Don't forget to sign and date your application and include any applicable fees; otherwise it will be dismissed

NOTE: A ship radio station license authorizes radio equipment aboard a ship, while the restricted radiotelephone operator permit authorizes a specific person to communicate with foreign stations or use certain radio equipment (e.g., MF/HF single sideband radio or satellite radio).

Using Your Radio on Multiple Ships

If you can provide justification for the use of a single transmitter from two or more ships, a portable ship station license may be issued. This could authorize various types of marine radio equipment to be carried from ship to ship.

Using Hand-Held Marine VHF Radios on Land

You must have a special license, called a marine utility station license, in addition to a ship station license, to operate a hand-held marine radio from land -- a ship station license IS NOT sufficient. You may apply for this license by filing FCC

Forms 159 and 601 with the FCC. To be eligible for a marine utility station license, you must generally provide some sort of service to ships or have control over a bridge or waterway. Additionally, you must show a need to communicate using hand-held portable equipment from both a ship and from coast locations. Each unit must be capable of operation while being hand-carried by an individual. The station operates under the rules applicable to ship stations when the unit is aboard a ship, and under the rules applicable to private coast stations when the unit is on land.

Acceptable Marine VHF Radios

The power output of your radio must not be more than 25 watts. You must also be able to lower the power of your radio to one watt or less. Your radio must be able to transmit on 156.8 MHz (Channel 16), 156.3 MHz (Channel 6) and at least one other channel. Your radio must be type accepted or certified by the FCC. You can tell an acceptable radio by the FCC ID label on the radio. You may look at a list of acceptable radios at any FCC field office, FCC headquarters, or the FCC Office of Engineering and Technology web site.

You may install your radio in your ship by yourself. All internal repairs or adjustments to your radio must be made by or under the supervision of an FCC-licensed technician holding at least a General Radiotelephone Operator License. It is recommended that the radio be inspected by the service person when installed.

Marine VHF Channels

The marine VHF channels are divided into operational categories, based on the types of messages that are appropriate for each channel, and are available for the shared use of all boaters. You must choose a channel which is available for the type of message you want to send. Except where noted, channels are available for both ship-to-ship and ship-to-coast messages.

The document Marine VHF Radio Channels contains a list of the marine VHF channels and their designated uses. The channels listed in the table are the only channels you may use, even if your radio has more channels available.

Prohibited Communications

YOU MUST NOT TRANSMIT --

- False distress or emergency messages.
- Messages containing obscene, indecent, or profane words or meaning.
- General calls, signals, or messages on channel 16, except in an emergency or if you are testing your radio (these are messages not addressed to a particular station), or
- When your ship is on land (for example, while the ship is on a trailer).

Voluntary boaters are not required to keep radio logs or keep a copy of the FCC's rules. Regardless of whether or not you have a copy of the rules, however, you are responsible for compliance.

Ship Inspections

Your station and your station records (station license and operator license or permit, if required) must be shown when requested by an authorized FCC representative.

In addition, the Commission's rules requires that the radio installations on certain vessels be inspected periodically by an FCC-licensed inspector. Checklists for conducting these inspections are available here. Also, the United States Coast Guard has posted an inspection list for Automatic Identification System Installations here.

Violating the Rules

If it appears to the FCC that you have violated the Communications Act or the rules, the FCC may send you a written notice of the apparent violation. If the violation notice covers a technical radio standard, you must stop using your radio. You must not use your radio until you have had all the technical problems fixed. You may have to report the results of those tests to the FCC. Test results must be signed by the commercial operator who conducted the test. If the FCC finds that you have willfully or repeatedly violated the Communications Act or the rules, your authorization to use the radio may be revoked and you may be fined or sent to prison.

Procedures for Making a Call Using Voice Calling on VHF

- Maintain your watch. Whenever your boat is underway, the radio must be turned on and be tuned to Channel 16 except when being used for messages.
- Power. Try one watt first if the station being called is within a few miles. If there is no answer, you may switch to higher power.
- Calling coast stations. Call a coast station on its assigned channel. You may use Channel 16 when you do not know the assigned channel.
- Calling other ships. Call other ships on Channel 16. You may call on ship-to-ship channels when you know that the ship is listening on both a ship-to-ship channel and Channel 16. NOTE: To do this the ship has to have two separate receivers.
- Limits on calling. You must not call the same station for more than 30 seconds at a time. If you do not get a reply, wait at least two minutes before calling again. After three calling periods, wait at least 15 minutes before calling again.
- Change channels. After contacting another station on Channel 16, change immediately to a channel which is available for the type of message you want to send.

• Station identification. Identify, in English, your station by your FCC call sign, ship name, the state registration number or official number at the beginning and end of each message.

How to Call Another Ship Using Voice Calling

• Make sure your radio is on.

• Speak directly into the microphone in a normal tone of voice -- clearly -- distinctly.

• Select Channel 16 (156.8 MHz) and listen to make sure it is not being used. NOTE: Channel 9 (156.45 MHz) may be used by recreational vessels for general-purpose calling. This frequency should be used whenever possible to relieve congestion on Channel 16.

• When the channel is quiet, press the microphone button and call the ship you wish to call. Say "[name of ship being called] THIS IS [your ship's name and call sign (if applicable)]."

• Once contact is made on Channel 16, you must switch to a ship-to-ship channel.

• After communications are completed, each ship must give its call sign or ship name and switch to Channel

How to Call Another Ship using DSC

Ships whose radios are fitted with DSC will be watching VHF Channel 70, as well as Channel 16. Channel 70 is exclusively used for digital selective calling. The DSC is equipped with appropriate alarms to announce that a call has been received. Your radio operators manual should describe all of the available features and procedures for making and receiving calls. Generally, you must know the MMSI number of the ship that you want to call, but if you suspect that the ship has DSC you can send an all ships call using low power first to a geographic area which only includes the intended vessel (coordinates are selected by operator prior to sending the call, check operators manual). When you are in distress you can send a distress call to all stations. Other ships will acknowledge the call only after waiting to see if a coast station answers first. These acknowledgements will be on Channel 16. Only if no coast station has answered your call within a few minutes will another ship answer.

Certain cautions should be observed.

Do not send a distress call as a test. Severe penalties can result if false distress alerts are transmitted and not cancelled by the appropriate procedure.

Do not under any circumstances transmit a DSC distress relay call on receipt of a DSC distress alert from another ship on VHF or MF channels. In this case, you must listen on Channel 16 for 5 minutes. If no acknowledgement is noticed or no traffic is heard, acknowledge the alert by radiotelephony on Channel 16 and inform the RCC (Coast Radio Station, or Coast Guard).

How to Place a Call through a Public Coast Station

Boaters may make and receive telephone calls to and from any telephone with access to the nationwide telephone network by utilizing the services of Public Coast Stations. Calls can be made to other ships or telephones on land, sea, and in the air.

IMPORTANT: A ship owner who plans on using these services should consider registering with the operator of the Public Coast Station through which he/she plans to operate. If a person is not registered with the Public Coast Station, then billing information must be given to the Coast Station operator each time a call is made, which results in additional time and effort.

Making Ship to Shore Calls

• Select the public correspondence channel desired.

• LISTEN to see if the channel is busy (i.e., speech, signaling tones, or busy signal).

• If not busy, say, for example, "Pleasure craft [name of ship] calling [name of Public Coast Station] on Channel XX.

• If busy, wait until the channel clears or switch to another channel.

• When a coast station operator answers, say, "This is [name of ship and ships phone or billing number if assigned] placing a call to [city and phone number desired]." Give the operator billing information. If billing information for your ship has not been registered, the operator will ask for additional identification for billing purposes.

• At completion of call say, "[Name of ship] OUT."

Receiving Shore to Ship Calls

To receive public Coast Station calls on VHF-FM frequencies, the receiver must be in operation on the proper channel. Coast stations will call on 156.8 MHz (channel 16) unless you have Ringer Service (which requires a second receiver).

Ship to Ship Calls

Contacts between ships are normally made directly but you can go through your coast station using the same procedure as ship to shore calls.

Marine Emergency Signals

The three spoken international emergency signals are:

1. MAYDAY -- The distress signal MAYDAY is used to indicate that a station is threatened by grave and imminent danger and requests immediate assistance

2. PAN PAN -- The urgency signal PAN PAN is used when the safety of the ship or person is in jeopardy.

3. SECURITE -- The safety signal SECURITE is used for messages about the safety of navigation or important weath-

er warnings.
When using an international emergency signal, the appropriate signal is to be spoken three times prior to the message. You must give any message beginning with one of these signals priority over routine messages.

Marine Distress Procedure

Speak slowly -- clearly -- calmly.

1. Make sure your radio is on.
2. Select VHF Channel 16 (156.8 MHz).
3. Press microphone button and say: "MAYDAY --MAYDAY-- MAYDAY."
4. Say "THIS IS [your ship ID]."
5. Say "MAYDAY [your ship name]."
6. Tell where you are: (what navigational aids or landmarks are near).
7. State the nature of your distress .
8. Give number of persons aboard and conditions of any injured.
9. Estimate present seaworthiness of your ship.
10. Briefly describe your ship (meters, type, color, hull).
11. Say: I will be listening on Channel 16."
12. End message by saying "THIS IS [your ship name or call sign] OVER."
13. Release microphone button and listen. Someone should answer. If not, repeat call, beginning at Item 3 above.

Equipment

The maritime mobile and maritime mobile satellite radio equipment listed below may be used aboard a ship. If your ship must be licensed, all equipment is authorized under a single ship radio station license.

• VHF Radiotelephone (156-162 MHz) - Used for voice communications with other ships and coast stations over short distances.

• Digital Selective Calling (DSC) - Used with VHF, MF, and HF radio systems to establish communications with (call) ships or coast stations or to receive calls from other ships or coast stations. Uses two tone digital signaling protocol to selectively call a particular station or to call a group of stations, all stations in a particular geographic area, or to call all stations.

• Radar - Used for navigating, direction-finding, locating positions, and ship traffic control.

• EPIRB - Emergency Position Indicating Radio Beacons, or EPIRBs, are used when a ship is in distress, to emit a radio signal marking the ship's location. Extreme care must be taken to prevent inadvertent activation and batteries should be replaced prior to expiration date.

• Single sideband Radiotelephone (2-27.5 MHz) - Used to communicate over medium and long distances (hundreds, sometime thousands of nautical miles).

• Satellite Radio - Used to communicate by means of voice, data or direct printing via satellites.

• Radiotelegraph - Used to communicate by means of Morse code, facsimile, or narrow-band direct-printing, any technique for coding and decoding printed text over radio.

• Survival Craft Radio - Used only for communications during distress incidents between ship and rescue vessels/aircraft or between lifeboats and rafts.

• On Board Radio - These are low-powered radios used for internal voice communications on board a ship or for authorized short range communications directly associated with ship operations.

In addition, ships may use GPS or LORAN receivers, depth finders, citizens band (CB) radios, or amateur radios (an amateur license from the FCC is required).