



Guidelines for VHF Communications

- * Obtain your Restricted Operator's Certificate **before** you operate your VHF Radio.
- * Study your VHF User's Manual and learn to use your VHF Radio.
- * When your radio is on, always listen to CH 16.
- * To identify the name of your vessel, use the Phonetic Alphabet.
- * Read out numbers pronouncing each digit separately and use the term decimal for a decimal point.
- * When transmitting a coordinate use the terms **Latitude** or **Longitude, Degrees, Decimal, Minutes** and do not forget the cardinal (N, S, E or W).
- * Learn and use proper phraseology: **Acknowledge – Affirmative – Confirm – Correction - Go ahead - How do you read? - I say again – Negative – Over – Out - Read back – Roger - Stand by - Say again - That is correct - Words twice.**
- * Do not use phrases such as: **OK - Repeat - Comma - Ten-four - Over and out - Come in please - or slang expressions.**
- * Use low power (1 Watt) initially to call whenever possible.
- * Be patient. The CG operator or called station may be busy with an incident or communication on another channel.
- * Don't let unqualified people on board operate your VHF radio except in an emergency.
- * Do not shout into the microphone!
- * Keep communications brief, even on inter-ship channels. VHF is primarily for marine safety.
- * Remember: while you have the PTT (Push to Talk) switch pressed you will block out other operators on that channel and you will not be able to listen to any replies. **ONLY** press this switch when you are speaking.
- * For ship to ship calls use a working channel. You don't have to use CH 16. Preferably use the DSC capability of your VHF , if you have it.
- * Do not ask for a radio check on CH 16, use a working channel.
- * If you have children aboard, educate them **NOT** to use the marine radio except in emergencies. People's lives often depend on a clear channel.
- * Post an emergency MAYDAY Form for guests or children to use to call for help in an emergency. Spell your boat's name in the Phonetic Alphabet for them.
- * It is a criminal offence to call a false MAYDAY. If you are out of fuel but in no danger, anchor and call a marina or towing service.
- * It is an offence to broadcast profanity.
- * For the Canadian Pacific Coast: Use CH 26 or CH 84 to make MAREP Reports year round, **NOT** CH 16.



Burnaby Power & Sail Squadron

A Member of the Canadian Power & Sail Squadrons - Pacific Mainland District

Maritime Mobile Service Identity (MMSI) Directory

Name of Vessel: _____

VHF Radio Call Sign: _____

Boat Registration N°: _____

MMSI N°: **316-** _____

Registered Owner: _____

Always place an emergency MAYDAY Form next to your VHF Radio with clear step by step instructions for guests or children to use to call for help in case of an emergency

Suggestion: It is a good practice to write down the name of your vessel in the phonetic alphabet to be able to read it easily in case of an emergency by anyone. Write it here:

_____ . _____ . _____ .

_____ . _____ . _____ .

_____ . _____ . _____ .

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PRACTICE SAFE BOATING



About MMSI Numbers

By Tim Hasson, Marine Computer Systems. thasson@marinecomputer.com

The acronym MMSI stands for Maritime Mobile Service Identity. Sometimes called a "DSC Number", an MMSI is a 9-digit code that can be programmed into certain types of radio equipment, such as a marine radio with Digital Selective Calling (DSC). All INMARSAT satellite terminals use an MMSI number as the heart of their identification string, and the numbers are also used by 406Mhz EPIRB's (Emergency Position Indicating Radio Beacons).

When programmed into marine radio equipment, an MMSI provides a unique, internationally standardized number to identify the vessel. This number also provides a uniform way for authorities to get information about a vessel during a distress incident, and can be used by service providers as a common number for call tracking and billing. In fact, the numbering scheme was carefully designed to allow the worldwide public telephone network to communicate with the equipment on-board automatically. Because it makes sending and receiving voice, telex and e-mail messages to ships direct and automatic, it's convenient to think of an MMSI as being like a telephone number for the boat. While this is certainly true, there are a couple of distinctions worth pointing out.

For instance, while it's common in this day and age to add a second or even third phone line at home, MMSI numbers are designed to be unique to the vessel in question. It's important when licensing and programming the equipment aboard that the vessel receives only one identity, with the same number programmed into all devices.

Like a phone number, devices programmed with an MMSI can be used to "direct dial" another boat, provided similar equipment is aboard the other vessel. VHF DSC is a good example of this use. Increasingly, MMSI's are also used for contact with shore-based service providers, to place phone calls, send e-mail, or to send/receive telex (teletype) messages. While this kind of direct, one-on-one communication is extremely convenient and "telephone-like", the MMSI coding scheme actually goes a step further.

When used with DSC, the MMSI system also provides for something called Group Calling. It is possible, for example, for an owner to simultaneously call every ship in the line to deliver an important message. It is also possible to hail every Coast Guard vessel or coast station within radio range at the same time. Going even further, in an emergency a DSC-equipped boat can transmit a special distress signal to every similarly equipped station that is listening, on land or sea, including nearby commercial vessels. This alert message, which can be activated with the push of an idiot-proof button, includes the MMSI number of the vessel in distress along with its position (provided the radio is linked to a GPS receiver), and even the nature of the emergency. The safety advantages of this kind of instant, automatic alerting are obvious.

Because MMSI numbers are unique, authorities (the FCC in the U.S.) can use them to positively identify a vessel in distress. The International Telecommunications Union (ITU) in Geneva, Switzerland, and the Local Coast Guard maintain a database of MMSI's that contains details on every vessel, it's owner, and homeport (recreational boats included) which travels internationally. This Maritime mobile Access and Retrieval (MARS) database is accessible by anyone at www.itu.int/cgi-bin/htsh/mars_index.sh . For privacy reasons, access to vessel particulars and emergency contact information is restricted to authorized users only.

At this writing the distress-alerting capabilities of VHF DSC are not completely implemented with the Coast Guard, and probably won't be until 2005 or 2006. In the meantime, nearby commercial vessels may monitor a VHF distress call and relay to the Coast Guard. DSC on HF (single side band) frequencies is further along, with most Coast Guard stations now "on line". The good news is that while



VHF Digital Selective Calling between stations

VHF radios with Digital Selective Calling possess an internal directory, a database where you can store the name and MMSI of individuals and stations. The Individual Call function which these radios possess enables you to transmit a DSC signal to a specific party only (see the owner's manual for details on entering and retrieving the directory's data). All other receivers do not respond to these Individual calls, something like a telephone number response.

The sequence to follow in all cases is to first determine the traffic channel for voice communication that is free or open. With this channel selected, access the Directory and select the Individual or Station you wish to call (the channel you select forms part of the code that is transmitted to the receiver). With the Individual or Station selected on screen place the call.

In response to placing the call the screen will display either: "No Reply" if the station called is not acknowledged, "Unattended" if unable to comply and the receiver is on standby, or if the receiver is able to comply, the pre selected channel is selected and an alarm sounds.

After the alarm is turned off, both transceivers will be tuned to the pre selected voice channel and communication may proceed from there.

If you wish to contact any vessel within range, or you do not have their MMSI in the Individual calling directory, again first pre-select the traffic channel and instead of selecting an Individual Call, select an All Ship call and the nature of the call: Urgency, Safety or Routine. Once this is done transmit the All Ship DSC signal. Once the signal is transmitted the equipment should wait and monitor Channel 16. Proceed once a contact has been made.

Some radios have a Call Waiting feature which enables the equipment to log calls received, either Distress or Individual, while the set is on DSC Standby mode or if busy with other communications. Once you are able to respond, access the logged data and resend the Individual Call.

Distress Calls with DSC

DSC Distress Calls are made automatically by pressing the Distress Key. This call is made on Channel 70 and it includes the vessel's MMSI number and Lat/Lon position if connected to a positioning source. After the call has been sent the set shadow-watches for transmissions between CH16 and CH70 until an acknowledgement signal is received, repeating the call every 4 minutes. Once contact is made the equipment automatically selects CH16 for voice communication.

In the case of receiving DSC Distress calls, a Distress Relay call, a Geographical Area call or an All Ships call, an alarm will sound and CH16 will be automatically selected for voice communication.

All VHF DSC radios retain a log of the data sent by Distress Calls while the set was busy or in Standby mode. In these cases access the Call Waiting Directory and scroll through the calls in the log. If the transmitter was connected to a positioning source, the screen will indicate the Lat/Lon of the transmitting vessel together with the date and time of the call. If no position data is given this will show on the screen.

NOTE: VHF DSC radios today do not have the capability of manually entering the MMSI of your destination like a telephone would. DSC calls rely on the internal directory or placing an All Ships call. If you habitually call other boaters, enter their MMSI in your directory to be able to make direct DSC calls.



The MMSI Numbering System

A basic understanding of the ITU's MMSI numbering system is key to understanding how the system works, and how to go about using your equipment to call another station.

To begin with, the ITU has assigned every country at least one set of 3-digit Maritime Identification Digits, called a MID. The MID is a "Country Code". At present Canada has been assigned the digits "316" to "318", and U.S.A. the digits "366" to "369".

The first one or two digits of an MMSI are used to specify whether the ID belongs to an individual vessel, an individual coast station, a group of vessels or a group of coast stations as follows:

First Digit(s)	Meaning
"0"	The MMSI will call a group of ships
"00"	The MMSI will call a group of coast stations
"1"	Reserved for INMARSAT "A" satellite terminals
"2" - "7"	The MMSI will call an individual vessel
"8"	Reserved for groups among neighbouring nations
"9"	Reserved for groups within an individual nation

These leading digits are combined with the MID and other unique digits (assigned by the telecommunications authorities in each nation) to form a complete MMSI. For example:

Scheme	Example	Meaning
MIDnnnnnn	316777490	Individual Canadian vessel registered in Canada
1MIDnnnnn	131677749	Individual Canadian vessel, INMARSAT A
0MIDnnnnn	031699999	Group of Canadian vessels
00MIDnnnn	003169999	Group of Canadian Coast Stations

The exact rules for MMSI number assignment get more complicated when fleets are involved and with different types of satellite terminal equipment.

We thank Mr. Tim Hasson, the Mid-Atlantic Representative for Marine Computer Systems, for allowing us to reproduce this article in this Directory and on our website. Mr. Hanson is an avid sailor and amateur radio operator, and has over 18 years of experience with personal computers and wireless communications technologies. He can be reached at 610-287-0703 or via e-mail to thasson@marinecomputer.com.



Did you listen to the weather forecast today?



The Burnaby Squadron Boating Guide Series is a public contribution from the Burnaby Power & Sail Squadron, a member of the Canadian Power & Sail Squadrons, Pacific Mainland District, to the advancement of "Safe Boating through Education".

The Boating Guides are the result of articles and instructional material prepared by members of the Burnaby Squadron, and contributions received from other members of the Canadian Power & Sail Squadrons and United States Power Squadrons.

The Boating Guide Series is divided into the following categories

BB - Boating Basics	NA - Navigation
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Phonetic Alphabet

A Alpha	J Juliet	S Sierra
B Bravo	K Kilo	T Tango
C Charlie	L Lima	U Uniform
D Delta	M Mike	V Victor
E Echo	N November	W Whiskey
F Foxtrot	O Oscar	X X-ray
G Golf	P Papa	Y Yankee
H Hotel	Q Quebec	Z Zulu
I India	R Romeo	



Maritime Radio Protocol

DISTRESS CALLS

**MAYDAY, MAYDAY, MAYDAY.
THIS IS ...
CALLER, CALLER, CALLER.
MAYDAY CALLER.**

- (Give your position as accurately as possible)*
- (Nature of the Distress)*
- (Kind of assistance required)*
- (Description of the vessel in distress)*
- (Number of persons on board and injuries)*
- (Safety equipment on hand being used)*
- (What you intend to do)*

**CALLER.
OVER.**

ETC.

When you encounter a MAYDAY call in progress, silence your radio till the distress is over. Not only because it is the law but to open all channels to resolve the distress. It could be you calling sometime in need of assistance.

If the person in distress is not contacting the SAR for help and you are within radio range, relay the MAYDAY for the distressed vessel.

URGENCY CALLS

**PAN PAN, PAN PAN, PAN PAN.
THIS IS ...
CALLER, CALLER, CALLER.**

- (Give your position as accurately as possible)*
- (Nature of the Urgency)*
- (Kind of assistance required)*

**CALLER.
OVER.**

ETC.

SAFETY CALLS

**SÉCURITÉ, SÉCURITÉ, SÉCURITÉ.
ALL STATIONS, ALL STATIONS,
STATIONS.**

**THIS IS ...
CALLER, CALLER, CALLER.
SAFETY MESSAGE CONCERNING ...**

(reason or location)

TO FOLLOW ON CHANNEL ...

(a working Channel)

**CALLER.
OUT.**

(switch to the working channel and relay the safety call)

SHIP TO SHIP CALLS

**CALLED, CALLED.
THIS IS ...
CALLER, CALLER.
OVER.**

**CALLER.
THIS IS ...
CALLED.**

SWITCH TO CHANNEL ...

(a working channel)

**OUT.
ETC.**

GENERAL CALLS TO ALL STATIONS

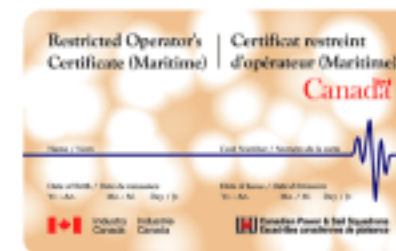
ALL STATIONS, ALL STATIONS, ALL STATIONS.

**THIS IS ...
CALLER, CALLER, CALLER.**

(Nature of the call or message)

SWITCH TO CHANNEL ...

OUT. *(a working channel)*



Some timely pointers

Obtain your Restricted Operator's Certificate **before** you operate your VHF Radio.

Learn to use your VHF Radio.

Practice on station to station calls till you feel comfy.

Keep a constant monitor of Channel 16 at all times.

Do not be shy to intervene in the case of a distress or emergency which needs a relay.

Be brief and to the point.

Don't sit on the PTT key.

If you have children or visitors on board, see that they don't play with the radio.



Canada and the U.S. may be lagging in some respects, this system is in widespread use in Europe and beyond.

In fact, DSC and MMSI numbers are critical pieces of an internationally agreed-upon plan called the Global Maritime Distress and Safety System (GMDSS). GMDSS is a major rethinking of the emergency communications capabilities required of commercial shipping vessels.

By international agreement the International Telecommunications Union sets the rules that determine how MMSI's are assigned and used. In Canada, Industry Canada is responsible for actually assigning MMSI's to commercial and recreational vessels.

An MMSI number can be obtained when the radio or satellite terminal equipment is first licensed. Note that if you have already commissioned an INMARSAT B, C, or M terminal through COMSAT, then an MMSI number has probably been issued to your vessel.

[For the USA: Recreational users who will remain in domestic waters and only carry VHF, EPIRB and Radar are not required to be licensed, but may wish to obtain an MMSI for use with a VHF DSC radio or EPIRB.]

Finally, some recommended "Do's and Don'ts" with respect to MMSI numbers and DSC equipment:

Table with 2 columns: DO and DON'T. DO: Program all DSC, Satellite and EPIRB equipment aboard with a valid, properly obtained MMSI; Confirm your MMSI is properly listed in the ITU's international database; Answer "yes" to the question on the license application form; Use extreme care when programming MMSI numbers into equipment. DON'T: Obtain more than one number, or program equipment aboard the same vessel with different MMSI's; Transmit false or "test" distress signals; Carry DSC-equipped radio equipment or EPIRBS programmed with your MMSI aboard another vessel.



Maritime Identification Digits (MID)

3 figure codes allocated by the International Telecommunications Union (ITU), used to denote the country of registration of a vessel or the location of a shore station using DSC.

Central and North America

- 301 Anguilla
303 Alaska (State of)
304 Antigua and Barbuda
306 Netherlands Antilles
307 Aruba
308 Bahamas (Commonwealth of the)
310 Bermuda
312 Belize
314 Barbados
316 Canada
319 Cayman Islands
321 Costa Rica
323 Cuba
325 Dominica (Commonwealth of)
327 Dominican Republic
329 Guadeloupe (French Department of)
330 Grenada
331 Greenland
332 Guatemala (Republic of)
334 Honduras (Republic of)
336 Haiti (Republic of)
338 Hawaii (State of)
339 Jamaica
341 Saint Kitts and Nevis
343 Saint Lucia
345 Mexico
347 Martinique (French Department of)
348 Montserrat
350 Nicaragua
352 Panama (Republic of)
358 Puerto Rico
359 El Salvador (Republic of)
361 Saint Pierre & Miquelon (French Dep. of)
362 Trinidad and Tobago
364 Turks and Caicos Islands
366 United States of America
376 Saint Vincent and the Grenadines
378 British Virgin Islands
379 United States Virgin Islands
South America
701 Argentine Republic
710 Brazil (Federative Republic of)
720 Bolivia (Republic of)
725 Chile
730 Colombia (Republic of)
735 Ecuador
740 Falkland Islands
745 Guiana (French Department of)
750 Guyana
755 Paraguay (Republic of)
760 Peru

- 765 Suriname (Republic of)
770 Uruguay (Eastern Republic of)
775 Venezuela (Republic of)
Europe
201 Albania (Socialist People's Republic of)
202 Andorra (Principality of)
203 Austria
204 Azores
205 Belgium
206 Belarus
207 Bulgaria (People's Republic of)
208 Vatican City State
209 Cyprus (Republic of)
211-8 Germany (Federal Republic of)
219 Denmark
224 Spain
227 France
230 Finland
231 Faroe Islands
232-3 United Kingdom of Great Britain and Northern Ireland
236 Gibraltar
237 Greece
238 Croatia
239 Greece
242 Morocco (Kingdom of)
243 Hungary (Republic of)
244-6 Netherlands (Kingdom of the)
247 Italy
250 Ireland
251 Iceland
252 Liechtenstein (Principality of)
253 Luxembourg
254 Monaco
255 Madeira
256 Malta (Republic of)
257-8 Norway
261 Poland (Republic of)
263 Portugal
264 Romania
265 Sweden
268 San Marino (Republic of)
269 Switzerland (Confederation of)
270 Czech and Slovak Federal Republic
271 Turkey
272 Ukraine
273 Russian Federation
275 Latvia
276 Estonia
277 Lithuania
278 Slovenia
279 Yugoslavia (Socialist Fed. Republic of)

You can find a complete list of MID's for all continents on our website: www.seatosky.com/burnaby.

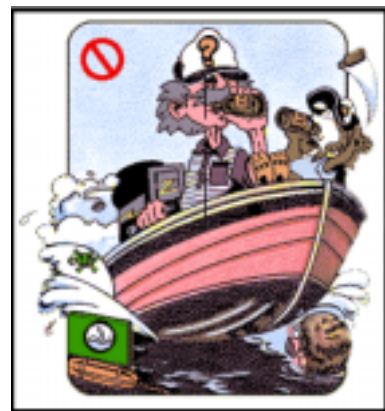


U. S. Coast Guard Station MMSI Numbers

Group Office	MMSI	Position
West Coast		
Port Angeles, WA	003669904	48.08n 123.24w
Astoria, OR	003669935	46.12n 123.57w
Group Astoria, OR	003669910	
North Bend, OR	003669911	43.25n 124.14w
Humboldt Bay, CA	003669909	40.46n 124.03w
San Francisco, CA	003669990	37.56n 122.44w
San Francisco, CA	003669926	37.38n 122.23w
Long Beach, CA	003669912	33.47n 118.13w
San Diego, CA	003669913	32.44n 117.10w
Alaska		
Kodiak	003669899	57.46n 152.34w
Hawaii		
Honolulu, HI	003669993	21.26n 158.09w
MARSEC		
Guam	003669994	13.29n 144.50e

Group Office	MMSI	Position
Gulf Coast		
Corpus Christi, TX	003669916	27.48n 97.24w
* Galveston, TX	003669915	29.20n 94.46w
New Orleans, LA	003669908	29.53n 89.57w
New Orleans, LA	003669998	29.53n 89.57w
* Mobile, AL	003669914	30.39n 88.03w
St Petersburg, FL	003669917	27.45n 82.38w
Key West	003669918	24.33n 81.48w
GANTSEC		
San Juan, PR	003669992	18.28n 66.07w
East Coast		
Miami, FL	003669997	25.37n 80.23w
* Miami, FL	003669919	25.54n 80.16w
Mayport, FL	003669925	30.23n 81.19w
Charleston, SC	003669907	32.47n 79.57w
Fort Macon, GA	003669920	34.41n 76.41w
Cape Hatteras, NC	003669906	35.14n 75.32w
Portsmouth, VA	003669995	36.44n 76.01w
Eastern Shore, VA	003669932	37.54n 75.23w
Atlantic City, NJ	003669903	38.57n 74.53w
Activity New York	003669929	40.41n 74.01w
Moriches, NY	003669985	40.47n 72.45w
Long Island Sound, CT	003669931	41.16n 72.54w
Woods Hole, MA	003669902	41.31n 70.40w
Boston, MA	003669991	41.38n 70.30w
South Portland, ME	003669934	43.40n 70.15w
Southwest Harbor, ME	003669921	44.16n 68.19w

Note: Not all are operational nor do they receive VHF DSC Calls on CH70. Progressively they will enter into service under the MMSI numbers that each Station has been assigned. Should you be aware of any other Station that does not figure here please let us know so that we might include it in our listing.



DONT DRINK AND DRIVE!



Canadian Coast Guard Station MMSI Numbers

Not all of these coast stations are operational and capable of receiving VHF DSC distress calls on CH70 yet. On the West Coast only Tofino and Victoria are on the air. It is hoped that Comox and Prince Rupert will be operational by the end of summer 2002.

MMSI	Call	Location	Position
003160010	VAS	MCTS Vancouver (Vancouver BC)	49.285N 123.022W
003160011	VAK	MCTS Victoria (Sidney BC)	48.402N 123.571W
003160012	VAE	MCTS Tofino (Ucluelet BC)	48.925N 125.540W
003160013	VAJ	MCTS Prince Rupert (Prince Rupert BC)	54.298N 130.418W
003160014	VAC	MCTS Comox (Cape Lazo BC)	49.707N 124.861W
003160015	VAU	MCTS Saint John (Scotch Mountain NB)	
003160016	VCS	MCTS Halifax (Ketch Harbour NS)	
003160017	VCO	MCTS Sydney (Port Caledonia NS)	
003160018	VOJ	MCTS Port Aux Basques (Stephenville NF)	47.572N 59.133W
003160019	VCP	MCTS Placentia (St. Lawrence NF)	47.974N 53.994W
003160020	VON	MCTS St. John's (St. John's NF)	47.557N 52.707W
003160021	VCM	MCTS St. Anthony (St. Anthony NF)	51.499N 55.825W
003160022	VOK	MCTS Labrador (Cartwright NF)	53.296N 60.543W
003160023	VFF	MCTS Iqaluit (Iqaluit NT)	
003160024	VFA	MCTS Inuvik (Inuvik NT)	
003160025	VCG	SCTM Riviere-Au-Renard (Riviere-Au-Renard QU)	
003160026	VCK	SCTM Les Escoumins (Lac D'aigle QU)	
003160027	VCC	SCTM Quebec (Quebec QU)	
003160028	VFN	SCTM Montreal (Mont St-Bruno QU)	
003160029	VBR	MCTS Prescott (Prescott ON)	
003160030	VBE	MCTS Sarnia (Sarnia ON)	
003160031	VBA	MCTS Thunder Bay (Thunder Bay ON)	
003160032	VBK	SCTM Quebec (Ste-Marthe Du Cap QU)	
003160033	VCC	SCTM Quebec (Montmagny QU)	
003160034	VCC	SCTM Quebec (Lauzon QU)	
003160035	VDE648	SCTM Montreal (Sorel QU)	
003160036	VDE658	SCTM Montreal (Longueuil QU)	

Note: A MMSI corresponds to a station or vessel, not a specific radio equipment or frequency of such station or vessel. All radios (and EPIRBs) forming part of a station or vessel use the same MMSI. This way both vessels and EPIRBs can be uniquely identified.

MCTS = Marine Communications & Traffic Services.

