

Chapter 6: Menu Settings

6.1 Menu Function

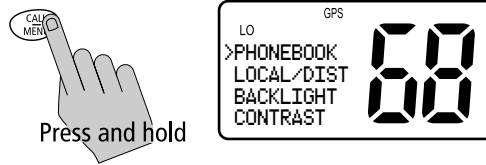
CALL
MENU

The radio's setup functions are accessed through the Menu mode. Menu mode selections are as follows.

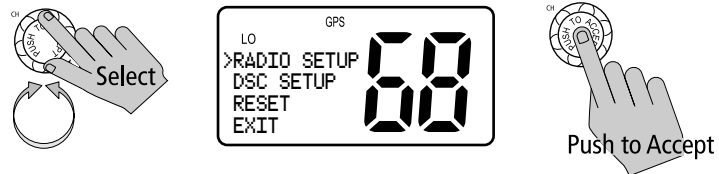
Item	Description
PHONEBOOK	A list of frequently-called DSC stations that you can select for making an individual call. Up to 20 Phonebook entries can be stored.
LOCAL/DIST	LOCAL mode eliminates noise, but degrades receiver sensitivity. DISTANT mode enables normal receiver sensitivity.
BACKLIGHTING	Selects the backlight levels for the LCD, base station keypad and microphone keypad.
CONTRAST	Selects the LCD contrast setting.
GPS/TIME	Used to manually set latitude/longitude position and UTC time for a DSC distress message. Also selects how the data is displayed on the LCD.
RADIO SETUP	Selects four separate radio settings: a) BAND – Frequency Group (US, International, Canadian) b) CH NAME – Descriptive name for each channel (up to 11 characters) c) RING VOLUME – Alarm tone volume (LOUD or SOFT) d) KEY BEEP – Key beep volume (LOUD, SOFT or OFF)
DSC SETUP	Selects the following DSC settings: a) MY MMSI ID – Used for one-time entry of the MMSI number required for DSC functions. If already programmed, displays the saved MMSI ID number. b) GROUP SETUP – Stores up to 3 Group MMSI IDs and associated Names c) POS REPLY – Selects how Position Request data is transmitted d) AUTO CH CHG – Selects whether your radio automatically switches to the requested working channel when DSC Calls are received.
RESET	Enables a return to factory default settings.

► To access the Menu Mode:

1. **Press and hold** the **CALL/MENU** key to enter menu mode. The list of available functions appear on the dot matrix display.



2. Rotate the **CH** knob to scroll down the list until the arrow points to the desired function. Push the **CH** knob to accept.



To exit the Menu mode or sub-mode, press the **16/9** or **CLEAR/WX** keys, or else select the EXIT option from the menu.

6.2 DSC Phonebook

PHONEBOOK The Phonebook stores up to 20 preprogrammed MMSI numbers that you can select for making an individual call. The numbers are stored by name and contain the station's MMSI number. You can add, edit and delete entries from the Phonebook, much as you would on a cellular telephone. Rotate the **CH** knob to make an item appear on the dot matrix display and then press in the **CH** knob to select that item.

Note: *The following examples demonstrate making calls to other ships. You may also make DSC calls to shore stations. Shore MMSI numbers start with "00".*

Adding an Entry

- PHONEBOOK** 1. Press and hold the **CALL/MENU** knob. The Menu screen appears on the dot matrix display.



2. Press the **CH** knob to select Phonebook. The Phonebook screen appears.



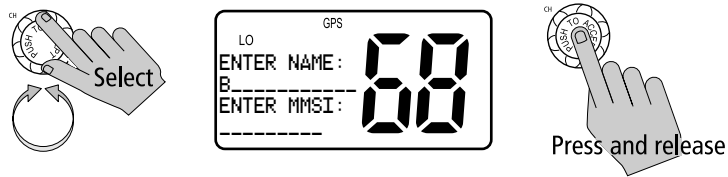
3. Press and release the **CH** knob to select <NEW ENTRY>.



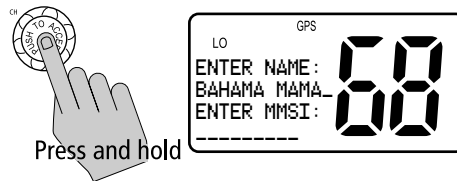
4. Rotate the **CH** knob to scroll through values for the first character in the NAME field.

All alpha and numeric characters are available. The first available character is a blank (space). The final available character is an arrow, which serves as a backspace. A total of 12 character spaces are available.

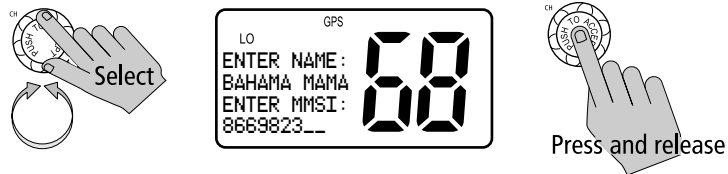
When the desired character appears, press and release the **CH** knob to accept it. The next position is ready to be selected.



5. Continue this process until all NAME characters are selected. **Press and hold** the **CH** knob to accept the name and move on to the MMSI ID.



6. Use same procedure to enter the MMSI characters.



7. When all characters have been selected, **press and hold** the **CH** knob to accept. The new entry appears in the Phonebook.



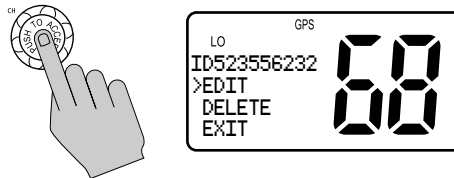
Editing an Existing Entry

PHONEBOOK

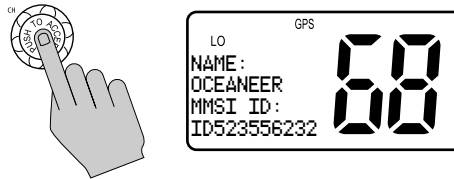
1. From the Phonebook, rotate the **CH** knob until the arrow on the dot matrix display points to entry you wish to edit.



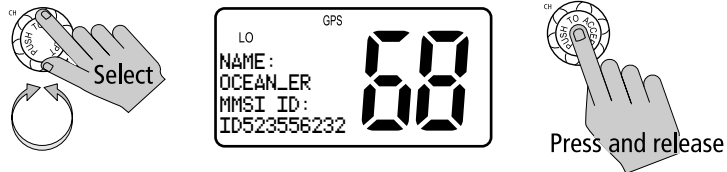
2. Push in the **CH** knob to select the name.



3. Push the **CH** knob again to select EDIT.



4. Make your changes, using the **CH** knob.



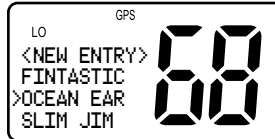
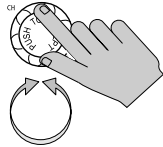
5. When finished, press and hold the **CH** knob to accept. The revised name appears in the list.



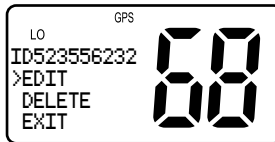
Deleting an Existing Entry

PHONEBOOK

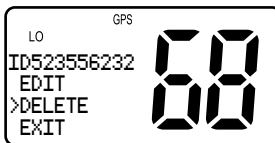
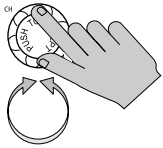
1. From the Phonebook, rotate the **CH** knob until the arrow on the dot matrix display points to entry you wish to delete.



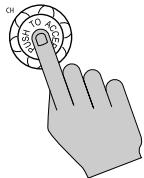
2. Push the **CH** knob to select the name.



3. Rotate the **CH** knob until the arrow is pointing to DELETE.



4. Push the **CH** knob. The entry is removed.

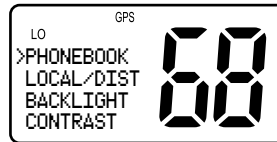


6.3 Local / Distant

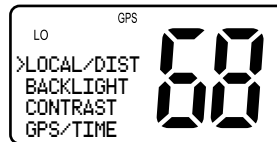
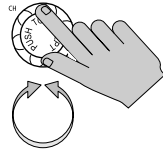
This mode toggles between full receiver sensitivity (Distant mode) and attenuated receiver sensitivity (Local mode). Local mode is used to decrease unwanted reception (noise). Local Mode is commonly used in areas where interference, usually from shore based paging systems, is high.

► To select the sensitivity setting:

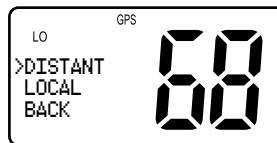
- LOCAL/DIST** 1. Press and hold the **CALL/MENU** key to enter Menu mode.



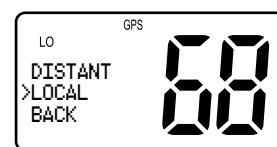
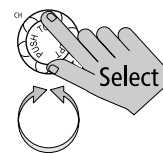
2. Rotate the **CH** knob to scroll down the list until the arrow points to LOCAL/DIST.



3. Push the **CH** knob to accept. The LOCAL/DIST screen appears.



4. Rotate the **CH** knob until the arrow points to the desired mode: LOCAL or DISTANT. Push the **CH** knob to accept. While in local mode, the LOCAL indicator appears in the LCD display.



To exit this sub-mode, press the **16/9** or **CLEAR/WX** keys, or else select the **BACK** option from the menu.

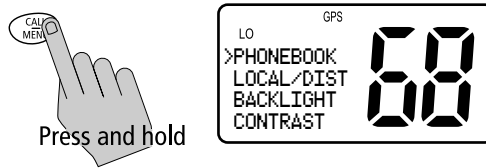
6.4 Backlight Adjustment

This setting adjusts the backlight brightness of the LCD, microphone keypad and base station keypad.

► To adjust the backlight setting:

BACKLIGHT

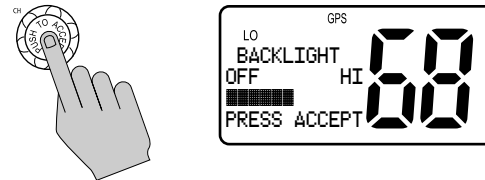
1. Press and hold the **CALL/MENU** key to enter Menu mode.



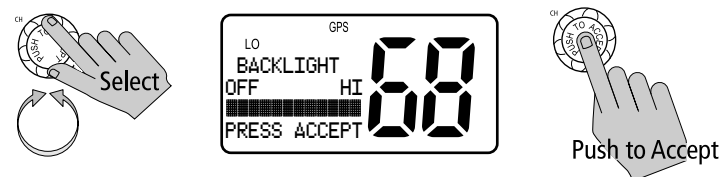
2. Rotate the **CH** knob until the arrow points to BACKLIGHT.



3. Push the **CH** knob to accept. The Backlight screen appears.



4. Rotate the **CH** knob to select the desired backlight level. The number of blocks illuminated on line 3 of the dot matrix display indicate the level: For HI all blocks are illuminated; for LOW only half are illuminated; for OFF none are illuminated. Push the **CH** knob to accept.



The Distress key backlighting is never turned OFF. When the selection is made the radio returns to the previous Menu Selection.

To exit this sub-mode, press the **16/9** or **CLEAR/WX** keys.

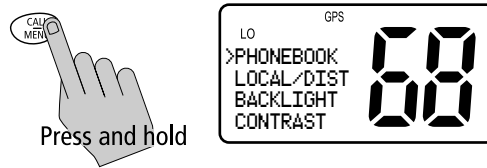
6.5 Contrast Adjustment

This setting adjusts the four levels of LCD contrast. A larger number of blocks indicate a darker LCD.

► To adjust the contrast setting:

CONTRAST

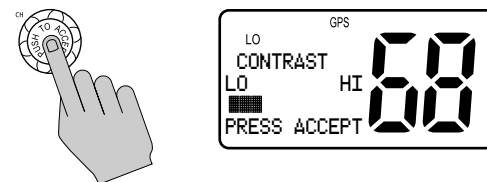
1. Press and hold the **CALL/MENU** key to enter Menu mode.



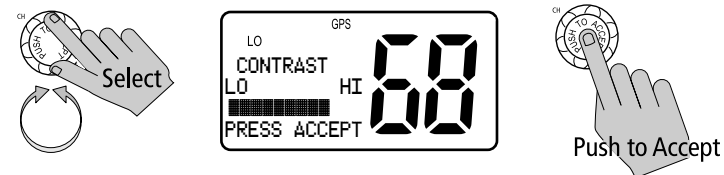
2. Rotate the **CH** knob to scroll down the list until the arrow points to **CONTRAST**.



3. Push the **CH** knob to accept. The Contrast screen appears.



4. Rotate the **CH** knob to select the desired contrast level. The number of blocks illuminated on line 3 of the dot matrix display indicate the level: For HI all blocks are illuminated; for LO none are illuminated. Push the **CH** knob to accept your selection.



When the selection is made the radio returns to the previous Menu Selection. To exit this sub-mode, press the **16/9** or **CLEAR/WX** keys.

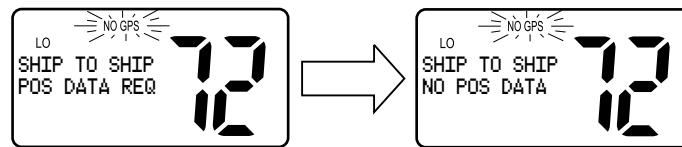
6.6 GPS/Time Setup

By default, the Ray54 auto-detects NMEA strings and decodes appropriate latitude/longitude position and time. If the GPS navigation receiver is not connected on or is not functional, a manual latitude/longitude position and UTC time can be entered and used in the DSC distress transmitted message.

When valid Lat/Lon information is detected, the GPS icon is displayed on the LCD. When there is no valid position information, NO GPS appears.

When GPS Information Not Available

If no GPS data is available, the NO GPS icon appears, POS DATA REQ is displayed on the dot matrix display, followed by NO POS DATA. An alarm sounds for 5 seconds or until you acknowledge by pressing any key.



The position (lat/lon) fields are set to all 9's and time field is set to all 8's. The alert repeats every four hours as long as no position information has been entered manually.

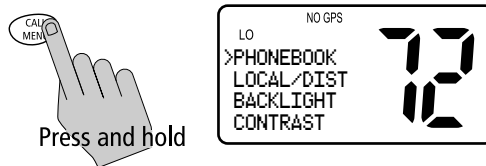
If position data is entered manually but has not been updated during the previous 23.5 hours, all the position fields are set to 9's and the display reverts to NO POS DATA.

Note: *The Manual Lat/Lon function is valid only when your radio is not connected to a GPS receiver.*

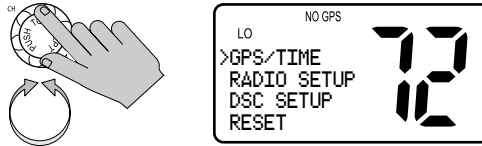
► To manually set the GPS position and time settings:

GPS/TIME

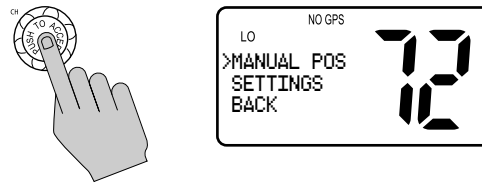
1. **Press and hold** the **CALL/MENU** key to enter Menu mode.



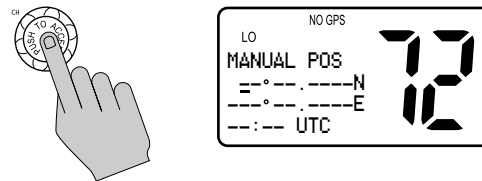
2. Rotate the **CH** knob to scroll down the list until the arrow points to **GPS/TIME**.



3. Push in the **CH** knob. The arrow is pointing to **MANUAL POS**.



4. Push **CH** again to accept. The Manual Position screen appears.



5. Using the **CH** knob, fill in the numerical latitude information, one character at a time:

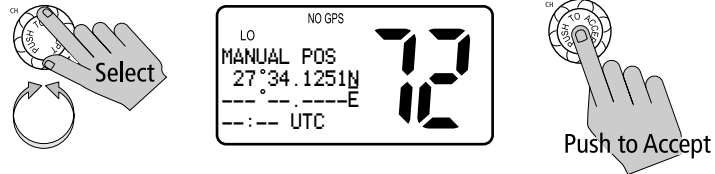
- i. Rotate the **CH** knob to scroll through the selections.

Note: The last selection in each field is a caret (<), which represents a BACKSPACE. Accepting the caret returns the current character to its default value and moves you back to the previous position.

- ii. When the desired character appears, push in the **CH** knob to accept it. The next position is ready to be selected.

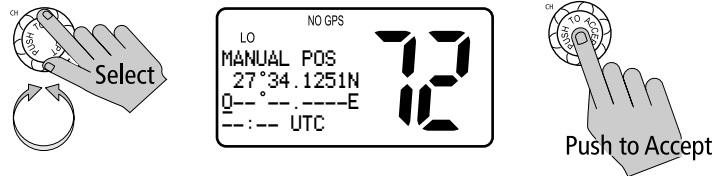
Note: The next character to be filled in sequence is underlined (_).

- iii. Continue this process until all longitude numerical characters have been selected.

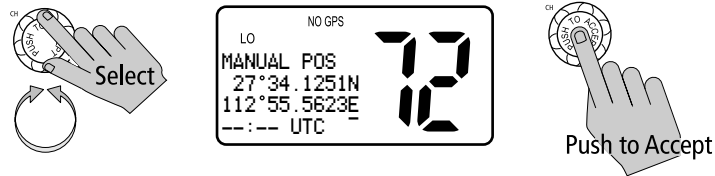


Note: Pressing *and holding* the CH knob indicates you have completed editing the current line and forwards you to the first position of the next line. This eliminates the need to accept each character individually.

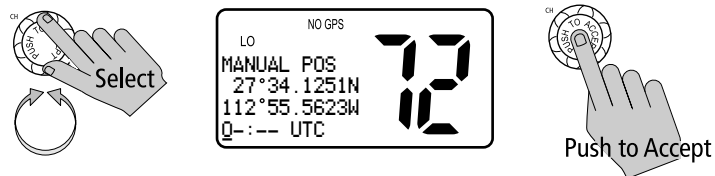
6. Next, select the latitude direction. Rotate the **CH** knob to scroll between N and S. When the desired value appears, push the **CH** knob to accept.



7. Push the **CH** knob to accept the longitude and move on to the latitude numerical data. Continue the process until all digits have been selected.

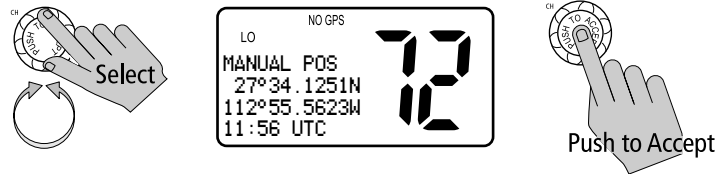


8. Next, select the longitude direction. Rotate the **CH** knob to scroll between E and W. When the desired value appears, push the **CH** knob to accept.

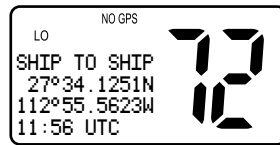


9. Push in the **CH** knob to accept the latitude data and move onto UTC time. Continue the process until all time characters have been selected.

Note: You must enter the *TIME* parameter in *UTC* time and not in local time.



When time data is entered manually, the **NO GPS** indicator remains illuminated and the **UTC** designator appears following the time.



Note: When the final selection is made the radio returns to the previous Menu Selection. To exit this sub-mode, select **BACK** or else press the **16/9** or **CLEAR/WX** keys.

6.7 Settings

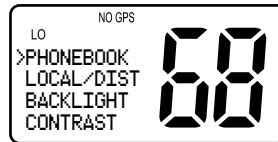
You can also set how some time and position information is displayed on the screen:

- whether Lat/Lon data is displayed
- whether the Time is displayed
- whether a Time Zone Offset is used
- how the Time data is formatted
- whether COG/SOG data is displayed

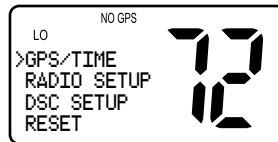
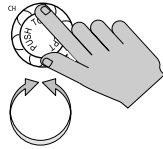
► To adjust these Settings:

GPS/TIME

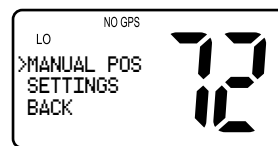
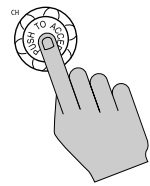
1. Press and hold the **CALL/MENU** key to enter Menu mode.



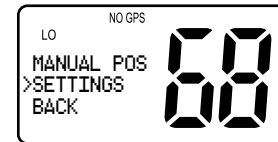
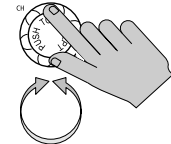
2. Rotate the **CH** knob until the arrow points to GPS/TIME.



3. Push the **CH** knob to accept. The GPS/Time screen appears.

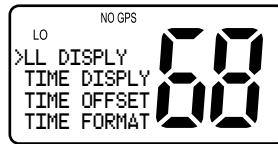


4. Rotate the **CH** knob and scroll down the list to SETTINGS.

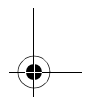
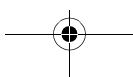
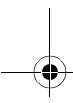
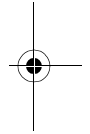
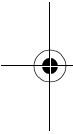




5. Push the **CH** knob to accept.



Make your selection from the options on the list, which are described as follows.

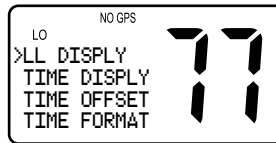
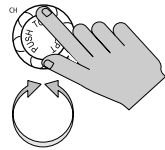


Latitude/Longitude Display

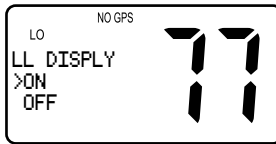
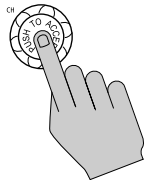
The LL/DISPLY setting indicates whether Latitude and Longitude position data are displayed on the screen in normal mode.

SETTINGS

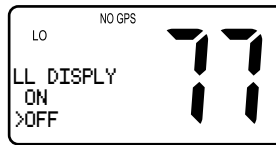
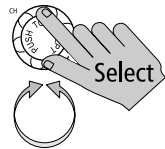
1. From the GPS/TIME/SETTINGS menu item, rotate the **CH** knob until the arrow points to LL DISPLY.



2. Push the **CH** knob to accept.



3. Rotate the **CH** knob to select whether you wish lat/lon data display to be set ON or OFF. Push the **CH** knob to accept.



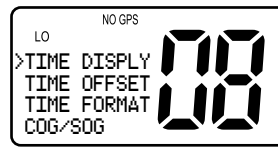
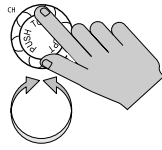
Time Display

The TIME DISPLY setting indicates whether time information is displayed on the screen in normal mode.

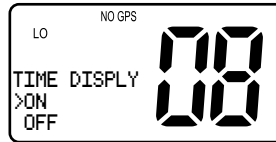
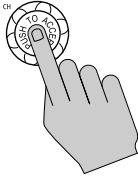
► To adjust the Time Display setting:

SETTINGS

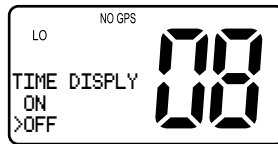
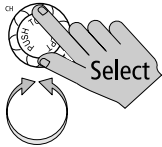
1. From the GPS/TIME/SETTINGS menu item, rotate the **CH** knob until the arrow points to TIME DISPLY.



2. Push the **CH** knob to accept.



3. Rotate the **CH** knob to select whether you wish time data display to be set ON or OFF. Push the **CH** knob to accept.



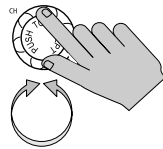
Time Offset

The TIME OFFSET setting indicates the amount of time to add or subtract from UTC time to equal your local time.

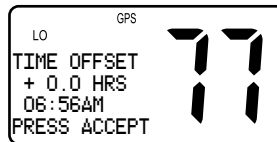
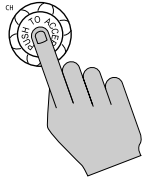
► To adjust the Time Offset setting:

SETTINGS

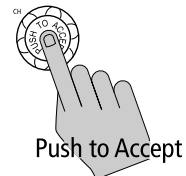
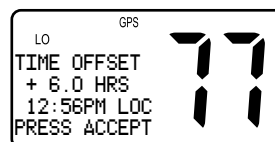
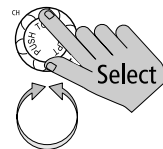
1. From the GPS/TIME/SETTINGS menu item, rotate the **CH** knob until the arrow points to TIME OFFSET.



2. Push the **CH** knob to accept.



3. Rotate the **CH** knob until the desired offset time appears. The offset changes in 0.5 hour increments. Push the **CH** knob to accept. LOC appears following the time, indicating local time is being displayed.



Note: The Time Offset setting is only available when valid GPS data is available. When manual time is used, it is always displayed as UTC time.

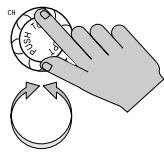
Time Format

The TIME FORMAT setting indicates whether the time is displayed in 12 hour or 24 hour format.

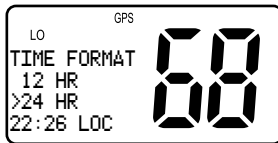
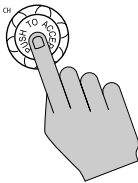
► To adjust the Time Format setting:

SETTINGS

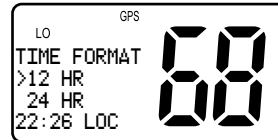
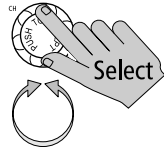
1. From the GPS/TIME/SETTINGS menu item, rotate the **CH** knob until the arrow points to TIME FORMAT.



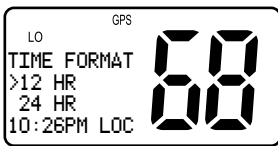
2. Push in the **CH** knob to accept.



3. Rotate the **CH** knob until the arrow points to the desired time format.



4. Push **CH** again knob to accept.



To exit this sub-mode, press the **16/9** or **CLEAR/WX** keys, or else select the **BACK** option from the menu.

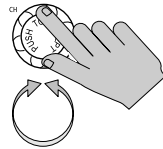
COG/SOG Display

This setting determines whether COG/SOG data is displayed on the display. If COG/SOG is set ON, TIME DISPLY is automatically set to OFF; only one of these two settings can be displayed at a time.

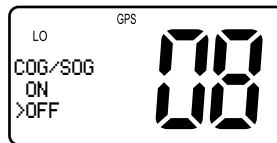
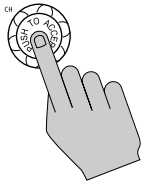
► To adjust the COG/SOG setting:

SETTINGS

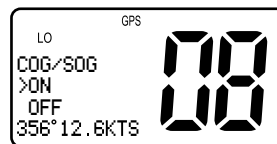
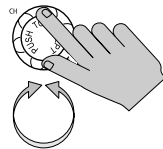
1. From the GPS/TIME/SETTINGS menu item, rotate the **CH** knob until the arrow points to COG/SOG.



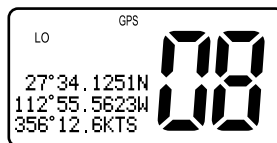
2. Push in the **CH** knob to accept.



3. Rotate the **CH** knob to select whether you wish COG/SOG data display to be set ON or OFF.



4. Push **CH** again to accept. COG/SOG data appears on the last line of the dot matrix display.



To exit this sub-mode, press the **16/9** or **CLEAR/WX** keys, or else select the **BACK** option from the menu.

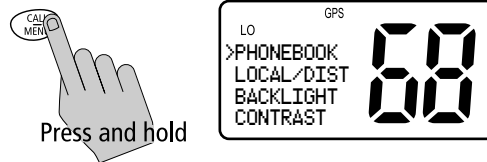
6.8 Radio Setup

The Radio Setup menu item is used to determine four separate settings:

- Frequency Band
- Channel Name
- Ring Volume
- Key Beep

► To adjust these settings:

- RADIO SETUP** 1. Press and hold the **CALL/MENU** key to enter Menu mode.



2. Rotate the **CH** knob to scroll down the list until the arrow points to **RADIO SETUP**.



3. Push the **CH** knob to accept. The Radio Setup screen appears.



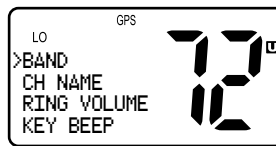
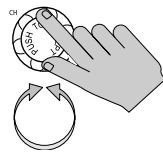
Make your selection from the options on the list, which are described as follows.

Frequency Band

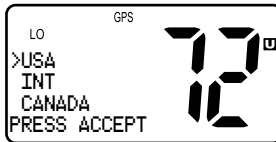
The Ray54 can transmit and receive all USA, International and Canadian frequencies. This setting determines which channel set is being used. The appropriate indicator is illuminated in the LCD: U for US, I for International, or C for Canadian channel sets.

RADIO SETUP

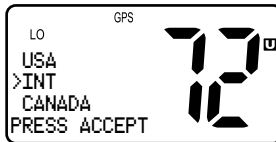
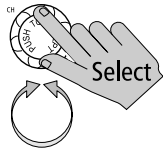
1. From the RADIO SETUP menu item described on *Radio Setup* on page 6-93, rotate the **CH** knob until the arrow points to BAND.



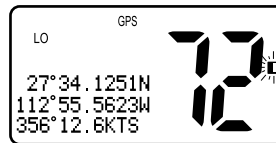
2. Push the **CH** knob to accept.



3. Rotate the **CH** knob until the arrow points to the desired frequency band.



4. **Press and hold** the **CH** knob to accept. The new corresponding Band icon illuminates on the LCD.



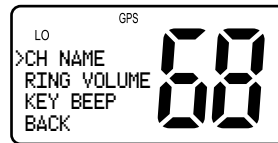
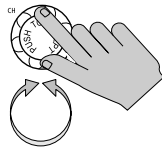
To exit this sub-mode, press the **16/9** or **CLEAR/WX** keys, or else select the **BACK** option from the menu.

Displaying the Channel Name

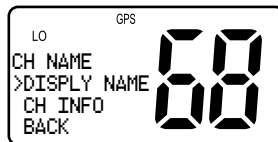
By default, the Ray54 lists a descriptive name in the dot matrix display for each channel. You can toggle this Channel Name ON or OFF.

CH NAME

1. From the RADIO SETUP menu item described on *page 93*, rotate the **CH** knob until the arrow points to CH NAME.

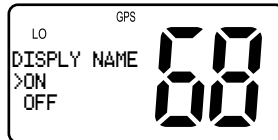
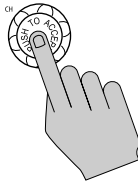


2. Push the **CH** knob to accept. The arrow points to DISPLAY NAME.

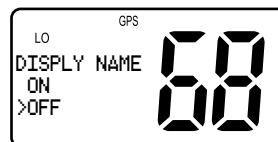
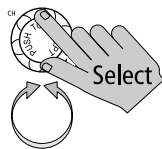


3. Push the **CH** knob to accept.

Note: The *CH INFO* option is used to edit the Channel Name. This is described in the following Section, *Editing an Existing Entry*.



4. Rotate the **CH** knob until the arrow points to the desired setting: ON or OFF. Push the **CH** knob to accept.

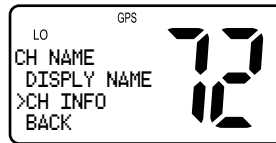
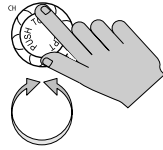


Editing a Channel Name Entry

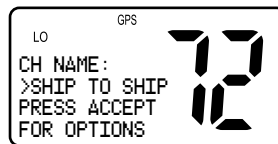
Using this feature you can change the Channel Names from the default.

CH NAME

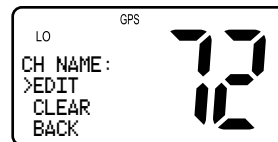
1. From the CH NAME menu item, rotate the **CH** knob until the arrow on the dot matrix display points to CH INFO.



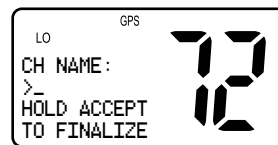
2. Push in the **CH** knob to select. The currently assigned channel name appears.



3. Push the **CH** knob to display your options.



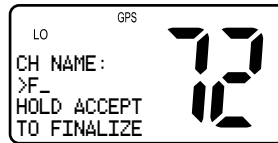
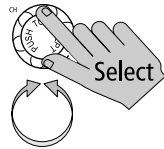
4. Push **CH** again to select EDIT.



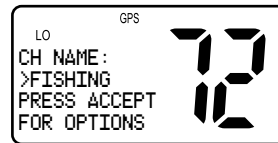
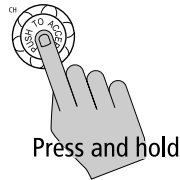
5. Rotate the **CH** knob to scroll through values for the first character in the NAME field. The character field you are editing is blinking.

All alpha and numeric characters are available. The first available character is a blank (space). The final available character is an arrow, which serves as a backspace. A total of 11 character spaces are available.

When the desired character appears, **press and release** the **CH** knob to accept it. The next position begins to blink, indicating it is ready to be selected.



6. When you have completed the name, **press and hold** the **CH** knob to accept. The new entry appears on the LCD.

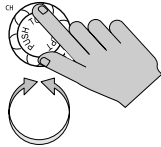


Deleting a Channel Name Entry

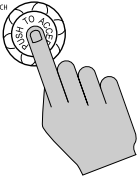
Using this feature you can delete a Channel Name from the list.

CH NAME

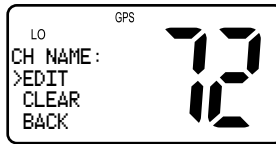
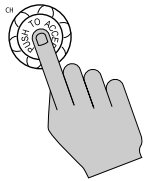
1. From the CH NAME menu item, rotate the **CH** knob until the arrow on the dot matrix display points to CH INFO.



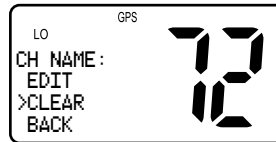
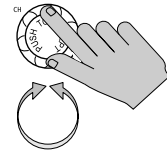
2. Push the **CH** knob to select. The currently assigned channel name appears.



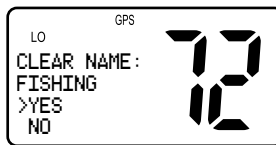
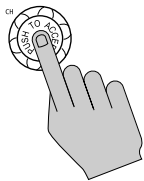
3. Push **CH** again to display your options.



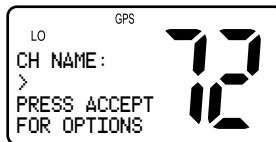
4. Rotate the **CH** knob to select CLEAR.



5. Push the **CH** knob to accept.



6. Push **CH** again. The name is cleared.



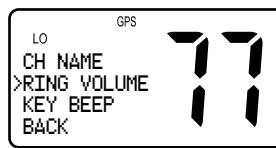
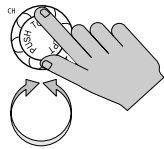
Ring Volume

This setting is used to set the volume of the ring that is sounded when an incoming call is received.

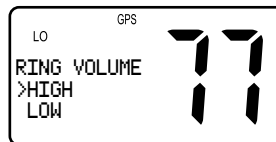
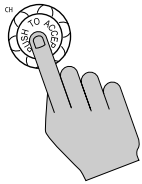
► To set the Ring volume:

SETTINGS

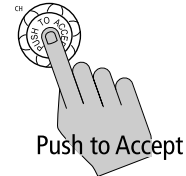
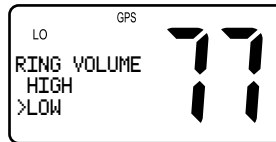
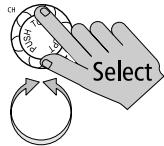
1. From the RADIO SETUP menu item described on *page 93*, rotate the **CH** knob until the arrow points to RING VOLUME.



2. Push the **CH** knob to accept.



3. Rotate the **CH** knob until the arrow points to the desired setting: HIGH or LOW. Push the **CH** knob to accept.



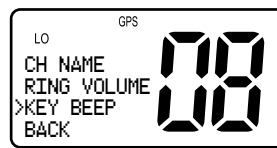
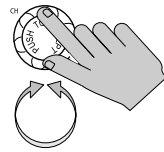
Key Beep

This setting is used to set the volume of the beep that sounds when a key is pressed.

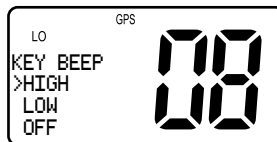
► To set the Key Beep volume:

SETTINGS

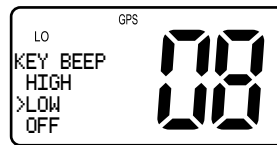
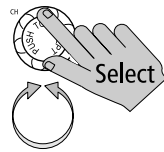
1. From the RADIO SETUP menu item described on *page 93*, rotate the **CH** knob until the arrow points to KEY BEEP.



2. Push the **CH** knob to accept.



3. Rotate the **CH** knob until the arrow points to the desired setting: HIGH, LOW or OFF. Push the **CH** knob to accept.



6.9 DSC Setup

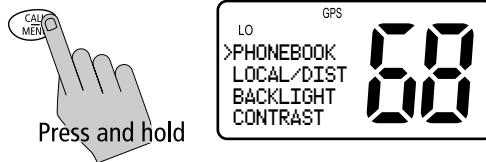
The DSC Setup menu item is used to determine these four functions:

- the radio's MMSI ID number
- the radio's Group MMSI ID number
- how your radio responds to a Position Reply request
- whether your radio automatically changes channels for DSC Calls

► To adjust the DSC Settings:

DSC SETUP

1. Press and hold the **CALL/MENU** key to enter Menu mode.



2. Rotate the **CH** knob to scroll down the list until the arrow points to DSC SETUP.



3. Push the **CH** knob to accept. The DSC Setup screen appears.



Make your selection from the following options:

- MY MMSI ID
- GROUP SETUP
- POS RPLY
- AUTO CH CHG

My MMSI ID

This operation stores the MMSI number required for DSC communications, including distress calls.

If you try to access a DSC function before the MMSI number has been entered, an error message appears and you are prompted to enter the MMSI ID.

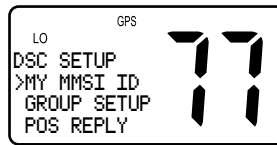
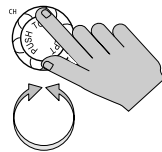
This is a one time operation. After the MMSI number has been programmed:

- you will not be able to change it
- only your dealer/distributor can change it
- accessing this menu item will display the programmed MMSI number

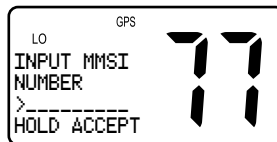
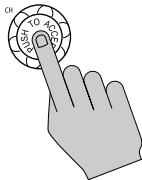
► To enter or view the MMSI ID number:

DSC SETUP

1. From the DSC SETUP menu item described on *page 101*, rotate the **CH** knob until the arrow points to MY MMSI ID.

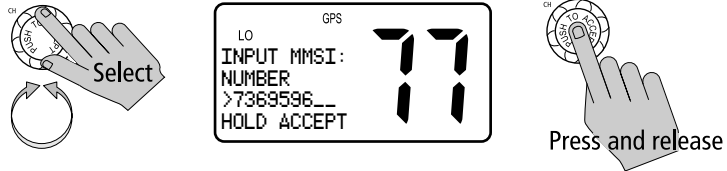


2. Push the **CH** knob to accept. If an existing MMSI ID is stored, the value appears. If the MMSI ID is blank, dashes appear, indicated that one has yet to be entered.

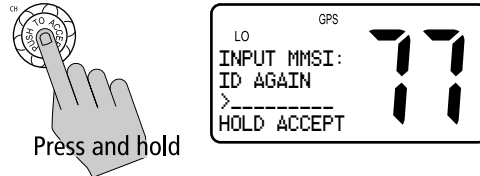


3. To enter the MMSI ID number, rotate the **CH** knob or use the microphone UP/ DOWN keys to scroll through the digits for entry into the MMSI ID field. The final available character is an arrow, which serves as a back-space. The character field you are editing is blinking.

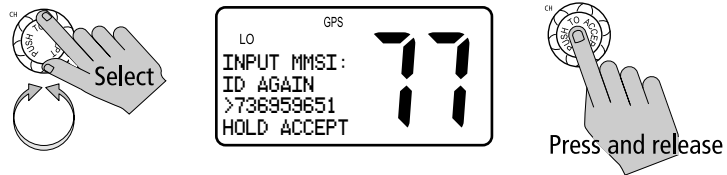
When the desired character appears, press and release the **CH** knob to accept it. The next position begins to blink.



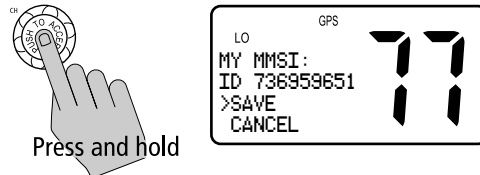
4. When all digits are selected, **press and hold** the **CH** knob to accept.



5. **Re-enter** all nine MMSI digits.



6. When complete, **press and hold** the **CH** knob to accept.



7. Press the **CH** knob one last time to save the MMSI ID number.



If the second entry does not match the first entry, the radio exits MY MMSI ID and returns to the previous menu.

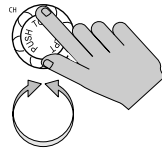
Group MMSI Setup

This operation sets up the MMSI number, which is used for DSC Group calls between radios that share a common Group MMSI number.

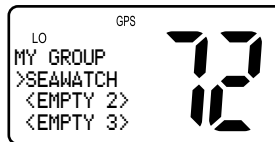
You can program up to three Group MMSI ID numbers and associated Group names, which can be up to 11 characters long. Group MMSI ID numbers always begin with a zero (0). You only enter the last 8 digits of the Group ID number; the initial "0" is automatically entered for you.

Adding a New Group

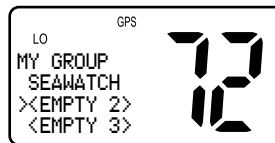
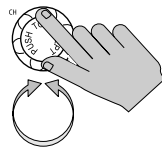
- DSC SETUP** 1. From the DSC SETUP menu item described on page *page 101*, rotate the **CH** knob until the arrow points to GROUP SETUP.



2. Press the **CH** knob to accept. If an existing Group name and MMSI ID number are already stored, those values appear. If blank, <EMPTY 1>, <EMPTY 2>, and <EMPTY 3> are shown to indicate that the Group IDs have not yet been programmed into the radio.



3. Rotate the **CH** knob until the arrow points to the first available empty group location.



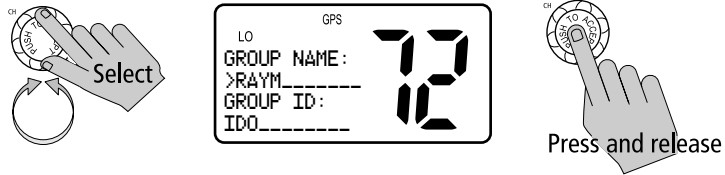
4. Press the **CH** knob to accept. The first field for you to enter data is the Group Name. The initial character position is blinking.



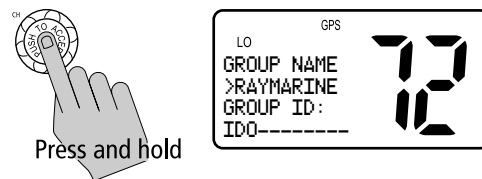
5. Rotate the **CH** knob to scroll through values for the first character in the NAME field.

All alpha and numeric characters are available. The first available character is a blank (space). The final available character is an arrow, which serves as a backspace. A total of 11 character spaces are available.

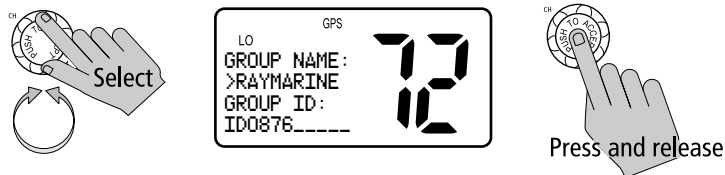
When the desired character appears, press and release the **CH** knob to accept it. The next position begins to blink, indicating it is ready to be selected.



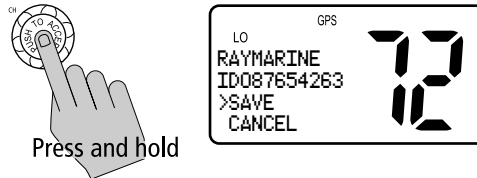
6. Continue this process until all GROUP NAME characters have been entered. **Press and hold** the **CH** knob to accept the name and move on to the GROUP ID.



7. Use the same procedure to enter the GROUP ID numbers.



8. **Press and hold** the **CH** knob to accept.



9. **Press** the **CH** knob one more time to save. The new entry appears in the list.



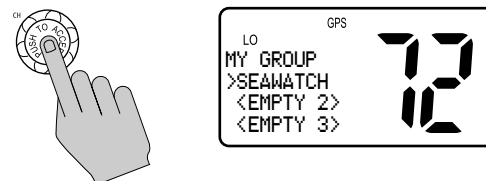
Editing an Existing Entry

DSC SETUP

1. From the **DSC SETUP** menu item described on page *page 101*, rotate the **CH** knob until the arrow points to **GROUP SETUP**.



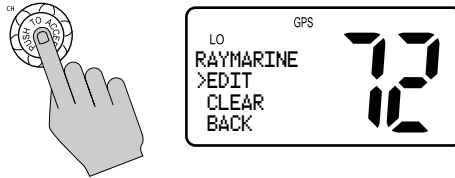
2. Press the **CH** knob to accept.



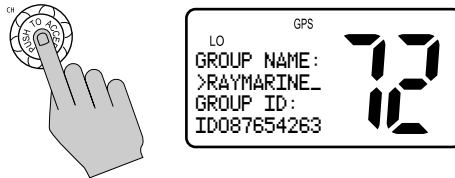
3. Rotate the **CH** knob until the arrow points to the group location you wish to edit.



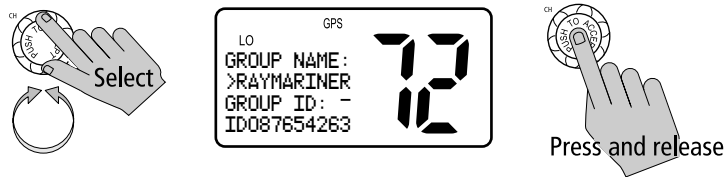
4. Press the **CH** knob to select that Group.



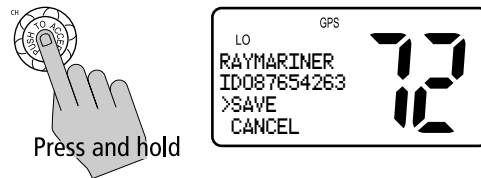
5. Press the **CH** knob again to select EDIT.



6. Make your changes, using the **CH** knob.



7. **Press and hold** the **CH** knob to accept your changes.



8. **Press** the **CH** knob to save. The revised entry appears in the list.



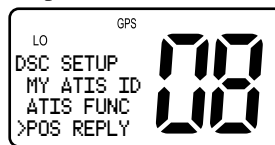
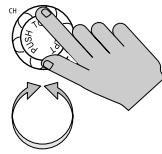
Position Reply

This option enables you to determine how your radio responds to a request for your GPS position information (lat/lon) from another station.

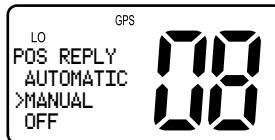
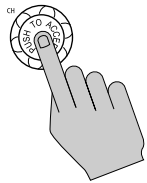
► To enable/disable Position Reply:

DSC SETUP

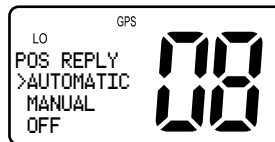
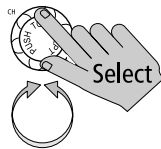
1. From the DSC SETUP menu item described on page *page 101*, rotate the **CH** knob until the arrow points to POS REPLY.



2. Press the **CH** knob to accept.



3. Rotate the **CH** knob to select the desired setting. Press the **CH** knob to accept.



AUTOMATIC sends out your vessel's position data as soon as it is requested.
 MANUAL sends out the data only after you respond to the request.
 OFF will not send position data under any circumstances.

The default setting is MANUAL.

Note: *The Position Reply function is only available when a working GPS is connected to the radio.*

Automatic Channel Changing of DSC Calls

DSC calls have encoded within them the working channel on which the caller wishes to converse once the call is received. This option determines whether you want your radio automatically switched to the indicated channel or instead to be prompted to receive or decline the incoming DSC call.

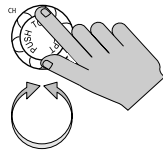
This feature is useful for preventing your radio from automatically switching channels while you are, for example, maintaining a continuous watch on a certain channel (say, in a VTS controlled area) or working with other vessels (say, for towage).

By regulation, this feature cannot disable the automatic switching of Individual Distress and Individual Urgency Alerts.

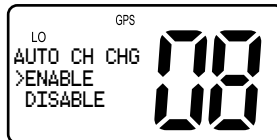
► To enable/disable Channel Change:

DSC SETUP

1. From the DSC SETUP menu item described on page *page 101*, rotate the **CH** knob until the arrow points to AUTO CH CHG.



2. Press the **CH** knob to accept.



Procedure When Enabled

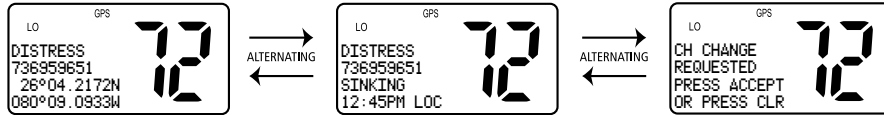
If you accept ENABLE, your Ray54 automatically changes to the channel indicated in the received DSC call.

The default setting is ENABLE.

Procedure When Disabled

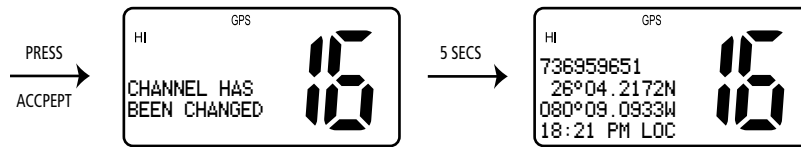
If you accept DISABLE, on receipt of a DSC call you are presented with brief details of the call and advised that a channel change has been requested. You can either accept the channel change by pressing **ACCEPT (CH knob)** or

decline by pressing **CLEAR** and thus remain monitoring the originally chosen channel.



If you ignore the call, after 5 minutes the radio declines the call, records the call in the Call Log and maintains normal operation.

If you accept the call, the Distress call is received, a tone sounds and the radio is changed to channel 16. Pressing any key disables the alarm. When position and time data is included in the signal, it is displayed in the text area of the LCD. If invalid GPS or Time data is received, the lat/lon position shows 9s in all digits and all 8s for the time. The two alternating pages of data are recorded in the Distress Call Log.



6.10 Resetting Factory Defaults

This feature resets all radio settings back to their factory defaults, except MY MMSI ID number and the PHONEBOOK list.

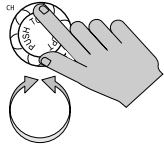
► To perform the reset:

RESET

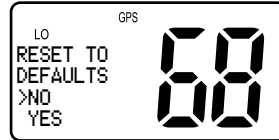
1. **Press and hold** the **CALL/MENU** key to enter Menu mode.



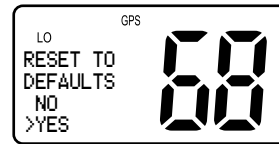
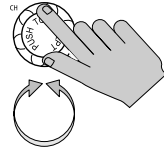
2. Rotate the **CH** knob to scroll down the list until the arrow points to RESET.



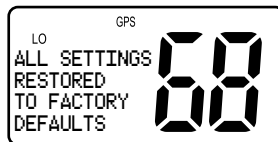
3. Press the **CH** knob to accept. The Reset screen appears.

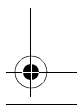
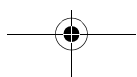
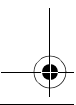
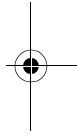
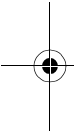
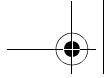


4. Rotate the **CH** knob until arrow points to YES.



5. Press the **CH** knob to accept.





Appendix A: Specifications

General

Size (H x W x D)	3.11" (79 mm) x 6.57" (167 mm) x 6.73" (171 mm)
Weight	2.87 lbs (1.3kg)
Mounting	Bracket or flush mount
Power	13.6 VDC \pm 15%
Environmental: Operating Range: Storage Range: Humidity:	Waterproof to IPX7 -15°C to +55°C -20°C to +70°C up to 95%
Frequency Range: Transmit Receive	156.050 To 157.425 MHz 156.050 To 163.275 MHz
Channels	All available US, Canadian and International VHF Marine Band.
Frequency Range	156.025 to 157.425MHz
Oscillate Mode	PLL
Modulation	FM(16F3)
Channel Spacing	25 kHz Increments
Frequency Stability	+/- 10PPM (+/- 0.001%)

Receiver

Intermediate Frequency:	
1st	MHz
2nd	455 KHz
Sensitivity	12dB SINAD = 0 (EMF) db μ V
Squelch Sensitivity	3 db μ V at Tight
Spurious Response Rejection Ratio	70 dB
Adjacent Channel Selectivity	70 dB
Intermodulation Rejection Ratio	68dB
S/N at 3KHz Dev.	40 dB

Audio Output Power At THD 10%	2 W
Audio Distortion	10%
Audio Response	EIA STANDARD dB
Current Drain at:	
Max Audio Power	1.5 A
Stand-By	0.5 A

Transmitter

RF Power:		
Hi Mode	23 ±2 W	
Lo Mode	0.8 ± 0.1 W	
Maximum Deviation	±5 KHz	
S/N at 3KHz Dev	35 dB	
Modulation Distortion	3KHz $\leq 7\%$	
Audio Response	1KHz EIA STANDARD dB	
Spurious/Harmonic Emissions:		
Hi Power	__ dB	
Lo Power	__ dB	
Modulation Sensitivity	$\leq 12\text{mv}$	
Current Drain At 13.8V DC:		
Hi Power	$\leq 6\text{ A}$	
Lo Power	$\leq 1.5\text{A}$	

Appendix B: Channel List

U.S. VHF Marine Radio Channels and Frequencies

CH. No	XMIT Freq	RCV Freq	Single Freq	Use
01A	156.050	156.050	x	Port Operations and Commercial, VTS. Available only in New Orleans / Lower Mississippi area. ¹
03A	156.150	156.150	x	U.S. Government only
05A	156.250	156.250	x	Port Operations or VTS in the Houston, New Orleans and Seattle areas.
06	156.300	156.300	x	Intership Safety
07A	156.350	156.350	x	Commercial
08	156.400	156.400	x	Commercial (Intership only)
09	156.450	156.450	x	Boater Calling. Commercial and Non-Commercial.
10	156.500	156.500	x	Commercial
11	156.550	156.550	x	Commercial. VTS in selected areas.
12	156.600	156.600	x	Port Operations. VTS in selected areas.
13	156.650	156.650	x	Intership Navigation Safety (Bridge-to-bridge). Ships >20meters in length maintain a listening watch on this channel in US waters. ²
14	156.700	156.700	x	Port Operations. VTS in selected areas.
15	–	156.750	x	Environmental (Receive only). Used by Class 'C' EPIRBs.
16	156.800	156.800	x	International Distress, Safety and Calling. Ships required to carry radio, USCG, and most coast stations maintain a listening watch on this channel. ³ HAILING
17	156.850	156.850	x	State Control
18A	156.900	156.900	x	Commercial
19A	156.950	156.950	x	Commercial
20	157.000	161.600		Port Operations (duplex)
20A	157.000	157.000	x	Port Operations
21A	157.050	157.050	x	U.S. Coast Guard only

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Ray54 VHF Radio

CH. No	XMIT Freq	RCV Freq	Single Freq	Use
22A	157.100	157.100	x	Coast Guard Liaison and Maritime Safety Information Broadcasts. Broadcasts announced on channel 16.
23A	157.150	157.150	x	U.S. Coast Guard only
24	157.200	161.800		Public Correspondence (Marine Operator)
25	157.250	161.850		Public Correspondence (Marine Operator)
26	157.300	161.900		Public Correspondence (Marine Operator)
27	157.350	161.950		Public Correspondence (Marine Operator)
28	157.400	162.000		Public Correspondence (Marine Operator)
61A	156.075	156.075	x	U.S. Government only
63A	156.175	156.175	x	Port Operations and Commercial, VTS. Available only in New Orleans / Lower Mississippi area.
64A	156.225	156.225	x	U.S. Coast Guard only
65A	156.275	156.275	x	Port Operations
66A	156.325	156.325	x	Port Operations
67	156.375	156.375	x	Commercial. Used for Bridge-to-bridge communications in lower Mississippi River. Intership only.
68	156.425	156.425	x	Non-Commercial
69	156.475	156.475	x	Non-Commercial
71	156.575	156.575	x	Non-Commercial
72	156.625	156.625	x	Non-Commercial (Intership only)
73	156.675	156.675	x	Port Operations
74	156.725	156.725	x	Port Operations
77	156.875	156.875	x	Port Operations (Intership only)
78A	156.925	156.925	x	Non-Commercial
79A	156.975	156.975	x	Commercial. Non-Commercial in Great Lakes only.
80A	157.025	157.025	x	Commercial. Non-Commercial in Great Lakes only
81A	157.075	157.075	x	U.S. Government only – Environmental protection operations.

Appendix B: Channel List

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CH. No	XMIT Freq	RCV Freq	Single Freq	Use
82A	157.125	157.125	x	U.S. Government only
83A	157.175	157.175	x	U.S. Coast Guard only
84	157.225	161.825		Public Correspondence (Marine Operator)
85	157.275	161.875		Public Correspondence (Marine Operator)
86	157.325	161.925		Public Correspondence (Marine Operator)
87	157.375	161.975		Public Correspondence Marine Operator)
88	157.425	162.025		Public Correspondence only near Canadian border
88A	157.425	157.425	x	Commercial, Intership only

- Boaters should normally use channels listed as Non-Commercial.
- Channel 70 is used exclusively for Digital Selective Calling (DSC) and is not available for regular voice communications.
- Channels 75 and 76 are reserved as guard bands for Channel 16 and are not available for regular voice communications.

Notes:

1. The letter "A" following a channel number indicates simplex use of the ship station transmit side of an international duplex channel. Operations are different from that of international operations on that channel.
2. Channel 13 should be used to contact a ship when there is danger of collision. All ships of length 20 meters or greater are required to guard VHF channel 13, in addition to VHF channel 16, when operating within U.S. territorial waters.
3. Channel 16 is used to hail other stations or for distress alerting.

Canadian VHF Marine Radio Channels and Frequencies

CH No.	XMIT Freq	RCV Freq	Area of Operation	Use
01	156.050	160.650	PC	Public Correspondence
02	156.100	160.700	PC	Public Correspondence
03	156.150	160.750	PC	Public Correspondence
04A	156.200	156.200	PC	Intership, Ship/Shore and Safety: Canadian Coast Guard search and rescue ¹
04A	156.200	156.200	EC	Intership, Ship/Shore and Commercial: Commercial fishing only
05A	156.250	156.250		Ship Movement
06	156.300	156.300	All areas	Intership, Commercial, Non-commercial and Safety: May be used for search and rescue communications between ships and aircraft.
07A	156.350	156.350	All areas	Intership, Ship/Shore, Commercial
08	156.400	156.400	WC, EC	Intership, Commercial and Safety: Also assigned for operations in the Lake Winnipeg area.
09	156.450	156.450	AC	Intership, Ship/Shore, Commercial, Non-commercial and Ship Movement: May be used to communicate with aircraft and helicopters in predominantly maritime support operations.
10	156.500	156.500	AC, GL	Intership, Ship/Shore, Commercial, Non-commercial, Safety and Ship Movement: May also be used for communications with aircraft engaged in coordinated search and rescue and antipollution operations.
11	156.550	156.550	PC, AC, GL	Intership, Ship/Shore, Commercial, Non-commercial and Ship Movement: Also used for pilotage purposes.
12	156.600	156.600	WC, AC, GL	Intership, Ship/Shore, Commercial, Non-commercial and Ship Movement: Port operations and pilot information and messages.
13	156.650	156.650	All areas	Intership, Commercial, Non-commercial and Ship Movement: Exclusively for bridge-to-bridge navigational traffic.
14	156.700	156.700	AC, GL	Intership, Ship/Shore, Commercial, Non-commercial and Ship Movement: Port operations and pilot information and messages.

Appendix B: Channel List

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CH No.	XMIT Freq	RCV Freq	Area of Operation	Use
15	156.750	156.750	All areas	Intership, Ship/Shore, Commercial, Non-commercial and Ship Movement: All operations limited to 1-watt maximum power. May also be used for on-board communications.
16	156.800	156.800	All areas	International Distress, Safety and Calling ²
17	156.850	156.850	All areas	Intership, Ship/Shore, Commercial, Non-commercial and Ship Movement: All operations limited to 1-watt maximum power. May also be used for on-board communications.
18A	156.900	156.900	All areas	Intership, Ship/Shore and Commercial: Towing on the Pacific Coast.
19A	156.950	156.950	All areas except PC	Intership and Ship/Shore: Canadian Coast Guard only.
19A	156.950	156.950	PC	Intership and Ship/Shore: Various Government departments.
20	157.000	161.600	All areas	Ship/Shore, Safety and Ship Movement: Port operations only with 1-watt maximum power.
21A	157.050	157.050	All areas	Intership and Ship/Shore: Canadian Coast Guard only.
21B	-	161.650	All areas	Safety: Continuous Marine Broadcast (CMB) service. ³
22A	157.100	157.100	All areas	Intership, Ship/Shore, Commercial and Non-commercial: For communications between Canadian Coast Guard and non-Canadian Coast Guard stations only.
23	157.150	161.750	PC	Ship/Shore and Public Correspondence: Also in the inland waters of British Columbia and the Yukon.
24	157.200	161.800	All areas	Ship/Shore and Public Correspondence
25	157.250	161.850	PC	Ship/Shore and Public Correspondence: Also assigned for operations in the Lake Winnipeg area.
25B	-	161.850	AC	Safety: Continuous Marine Broadcast (CMB) service.
26	157.300	161.900	All areas	Ship/Shore, Safety and Public Correspondence
27	157.350	161.950	AC, GL, PC	Ship/Shore and Public Correspondence
28	157.400	162.000	PC	Ship/Shore, Safety and Public Correspondence
28B	-	162.000	AC	Safety: Continuous Marine Broadcast (CMB) service.

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CH No.	XMIT Freq	RCV Freq	Area of Operation	Use
60	156.025	160.625	PC	Ship/Shore and Public Correspondence
61A	156.075	156.075	PC	Intership and Ship/Shore: Canadian Coast Guard only.
61A	156.075	156.075	EC	Intership, Ship/Shore and Commercial: Commercial fishing only.
62A	156.125	156.125	PC	Intership and Ship/Shore: Canadian Coast Guard only.
62A	156.125	156.125	EC	Intership, Ship/Shore and Commercial: Commercial fishing only.
64	156.225	160.825	PC	Ship/Shore and Public Correspondence
64A	156.225	156.225	EC	Intership, Ship/Shore and Commercial: Commercial fishing only.
65A	156.275	156.275		Intership, Ship/Shore, Commercial, Non-commercial, Safety: Search & rescue and antipollution operations on the Great Lakes. Towing on the Pacific Coast. Port operations only in the St. Lawrence River areas with 1W maximum power. Pleasure craft in the inland waters of Alberta, Saskatchewan and Manitoba (excluding Lake Winnipeg and the Red River).
66A	156.325	156.325		Intership, Ship/Shore, Commercial, Non-commercial, Safety and Ship Movement: Port operations only in the St. Lawrence River/Great Lakes Areas with 1-watt maximum power.
67	156.375	156.375	EC	Intership, Ship/Shore and Commercial: Commercial fishing only.
67	156.375	156.375	All areas except EC	Intership, Ship/Shore, Commercial, Non-commercial, Safety: May also be used for communications with aircraft engaged in coordinated search and rescue and antipollution operations.
68	156.425	156.425	All areas	Intership, Ship/Shore and Non-commercial: For marinas and yacht clubs.
69	156.475	156.475	All areas except EC	Intership, Ship/Shore, Commercial and Non-commercial
69	156.475	156.475	EC	Intership, Ship/Shore and Commercial: Commercial fishing only.
71	156.575	156.575	PC	Intership, Ship/Shore, Commercial, Non-commercial, Safety and Ship Movement

Appendix B: Channel List

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CH No.	XMIT Freq	RCV Freq	Area of Operation	Use
71	156.575	156.575		Intership, Ship/Shore and Non-commercial: For marinas and yacht clubs on the East Coast and on Lake Winnipeg.
72	156.625	156.625	EC, PC	Intership, Commercial and Non-commercial: May be used to communicate with aircraft and helicopters in predominantly maritime support operations.
73	156.675	156.675	EC	Intership, Ship/Shore and Commercial: Commercial fishing only
73	156.675	156.675	All areas except EC	Intership, Ship/Shore, Commercial, Non-commercial, Safety: May also be used for communications with aircraft engaged in coordinated search and rescue and antipollution operations.
74	156.725	156.725	EC, PC	Intership, Ship/Shore, Commercial, Non-commercial and Ship Movement.
77	156.875	156.875		Intership, Ship/Shore, Safety and Ship Movement: Pilotage on Pacific Coast. Port operations only in the St. Lawrence River/Great Lakes areas with 1W maximum power.
78A	156.925	156.925	EC, PC	Intership, Ship/Shore and Commercial
79A	156.975	156.975	EC, PC	Intership, Ship/Shore and Commercial
80A	157.025	157.025	EC, PC	Intership, Ship/Shore and Commercial
81A	157.075	157.075		Intership and Ship/Shore: Canadian Coast Guard use only in the St. Lawrence River/Great Lakes areas.
81A	157.075	157.075	PC	Intership, Ship/Shore and Safety: Canadian Coast Guard antipollution.
82A	157.125	157.125	PC	Intership, Ship/Shore and Safety: Canadian Coast Guard use only.
82A	157.125	157.125		Intership and Ship/Shore: Canadian Coast Guard use only in the St. Lawrence River/Great Lakes areas.
83	157.175	161.775	PC	Ship/Shore and Safety: Canadian Coast Guard use only.
83A	157.175	157.175	EC	Intership and Ship/Shore: Canadian Coast Guard and other Government agencies.
83B	-	161.775	AC, GL	Safety: Continuous Marine Broadcast (CMB) Service.
84	157.225	161.825	PC	Ship/Shore and Public Correspondence

CH No.	XMIT Freq	RCV Freq	Area of Operation	Use
85	157.275	161.875	AC, GL, NL	Ship/Shore and Public Correspondence
86	157.325	161.925	PC	Ship/Shore and Public Correspondence
87	157.375	161.975	AC, GL, NL	Ship/Shore and Public Correspondence
88	157.425	162.025	AC, GL, NL	Ship/Shore and Public Correspondence

Area of Operation

AC: Atlantic Coast, Gulf and St. Lawrence River up to and including Montreal

EC (East Coast): includes NL, AC, GL and Eastern Arctic areas

GL: Great Lakes (including St. Lawrence above Montreal)

NL: Newfoundland and Labrador

PC: Pacific Coast

WC (West Coast): Pacific Coast, Western Arctic and Athabasca-Mackenzie Watershed areas

All areas: includes East and West Coast areas

Notes:

1. The letter "A" following a channel number indicates simplex use of the ship station transmit side of an international duplex channel. Operations are different from that of international operations on that channel.
2. Channel 16 is used for calling other stations or for distress alerting.
3. The letter "B" following a channel number indicates simplex use of the coast station transmit side of an international duplex channel. That is, the channel is Receive Only.
4. Channel 70 is used exclusively for Digital Selective Calling (DSC) and is not available for regular voice communications.
5. Channels 75 and 76 are reserved as guard bands for Channel 16 and are not available for regular voice communications.

International VHF Marine Radio Channels & Frequencies

CH No.	XMIT Freq	RCV Freq	Single Freq	Use
01	156.050	160.650		Public Correspondence, Port Operations and Ship Movement
02	156.100	160.700		Public Correspondence, Port Operations and Ship Movement
03	156.150	160.750		Public Correspondence, Port Operations and Ship Movement
04	156.200	160.800		Public Correspondence, Port Operations and Ship Movement
05	156.250	160.850		Public Correspondence, Port Operations and Ship Movement
06	156.300	156.300	x	Intership ¹
07	156.350	160.950		Public Correspondence, Port Operations and Ship Movement
08	156.400	156.400	x	Intership
09	156.450	156.450	x	Intership, Port Operations and Ship Movement
10	156.500	156.500	x	Intership, Port Operations and Ship Movement ²
11	156.550	156.550	x	Port Operations and Ship Movement
12	156.600	156.600	x	Port Operations and Ship Movement
13	156.650	156.650	x	Intership Safety, Port Operations and Ship Movement ³
14	156.700	156.700	x	Port Operations and Ship Movement
15	156.750	156.750	x	Intership and On-board Communications at 1W only ⁴
16	156.800	156.800	x	Distress, Safety and Calling
17	156.850	156.850	x	Intership and On-board Communications at 1W only ⁴
18	156.900	161.500		Public Correspondence
19	156.950	161.550		Public Correspondence, Port Operations and Ship Movement
20	157.000	161.600		Public Correspondence, Port Operations and Ship Movement
21	157.050	161.650		Public Correspondence, Port Operations and Ship Movement
22	157.100	161.700		Public Correspondence, Port Operations and Ship Movement
23	157.150	161.750		Public Correspondence, Port Operations and Ship Movement
24	157.200	161.800		Public Correspondence, Port Operations and Ship Movement

CH No.	XMIT Freq	RCV Freq	Single Freq	Use
25	157.250	161.850		Public Correspondence, Port Operations and Ship Movement
26	157.300	161.900		Public Correspondence, Port Operations and Ship Movement
27	157.350	161.950		Public Correspondence, Port Operations and Ship Movement
28	157.400	162.000		Public Correspondence, Port Operations and Ship Movement
60	156.025	160.625		Public Correspondence, Port Operations and Ship Movement
61	156.075	160.675		Public Correspondence, Port Operations and Ship Movement
62	156.125	160.725		Public Correspondence, Port Operations and Ship Movement
63	156.175	160.775		Public Correspondence, Port Operations and Ship Movement
64	156.225	160.825		Public Correspondence, Port Operations and Ship Movement
65	156.275	160.875		Public Correspondence, Port Operations and Ship Movement
66	156.325	160.925		Public Correspondence, Port Operations and Ship Movement
67	156.375	156.375	x	Intership, Port Operations and Ship Movement
68	156.425	156.425	x	Port Operations and Ship Movement
69	156.475	156.475	x	Port Operations and Ship Movement
71	156.575	156.575	x	Port Operations and Ship Movement
72	156.625	156.625	x	Intership
73	156.675	156.675	x	Intership ²
74	156.725	156.725	x	Port operations and Ship movement
75	156.775	156.775	x	See Note 5
76	156.825	156.825	x	See Note 5
77	156.875	156.875	x	Intership
78	156.925	161.525		Public correspondence, Port Operations and Ship Movement
79	156.975	161.575		Public correspondence, Port Operations and Ship Movement
80	157.025	161.625		Public correspondence, Port Operations and Ship Movement
81	157.075	161.675		Public correspondence, Port Operations and Ship Movement
82	157.125	161.725	x	Public correspondence, Port Operations and Ship Movement

CH No.	XMIT Freq	RCV Freq	Single Freq	Use
83	157.175	161.775	x	Public correspondence, Port Operations and Ship Movement
84	157.225	161.825	x	Public correspondence, Port Operations and Ship Movement
85	157.275	161.875	x	Public correspondence, Port Operations and Ship Movement
86	157.325	161.925	x	Public correspondence, Port Operations and Ship Movement
87	157.375	157.375		Port Operations and Ship Movement
88	157.425	157.425		Port Operations and Ship Movement

- Intership channels are for communications between ship stations. Intership communications should be restricted to Channels 6, 8, 72 and 77. If these are not available, the other channels marked for Intership may be used.
- Channels 10, 67 and 73 should be avoided within VHF range of coastal areas in Europe and Canada.
- Channel 70 is used exclusively for Digital Selective Calling (DSC) and is not available for regular voice communications.

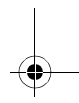
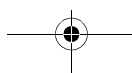
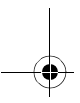
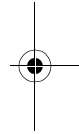
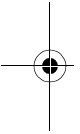
Notes:

1. Channel 06 may also be used for communications between ship stations and aircraft engaged in coordinated search and rescue operations. Ship stations should avoid harmful interference to such communications on channel 06 as well as to communications between aircraft stations, ice breakers and assisted ships during ice seasons.
2. Channels 10 or 73 (depending on location) are also used for the broadcast of Marine Safety Information by the Maritime and Coast Guard Agency in the UK only.
3. Channel 13 is designated for use on a worldwide basis as a navigation safety communication channel, primarily for intership navigation safety communications.
4. Channels 15 and 17 may also be used for on-board communications provided the effective radiated power does not exceed 1 Watt.
5. The use of Channels 75 and 76 should be restricted to navigation related communication only and all precautions should be taken to avoid harmful interference to channel 16. Transmit power is limited to 1 Watt.



WX Channels (North America only)

Weather Channel	Frequency in MHz
WX1	162.550
WX2	162.400
WX3	162.475
WX4	162.425
WX5	162.450
WX6	162.500
WX7	162.525
WX8	161.650
WX9	161.775
WX10	163.275

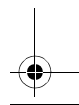
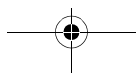
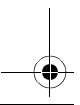
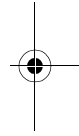
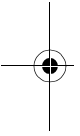


Appendix C: Glossary

Term	Meaning
All Scan	A feature that scans all channels.
Canadian Channels	Channel designator as defined by Industry Canada.
CH	Channel selection key
DSC	Digital Selective Calling
Dual Watch	A feature that monitors the Priority Channel 16 while working on another channel.
Duplex	Transmit and receive on different frequencies
FCC	Federal Communications Commission (US)
International Channels	Channel designator as defined by the ITU
ITU	International Telecommunications Union (EU)
LCD	Liquid Crystal Display
MMSI	Maritime Mobile Service Identity; a number issued by each country to identify maritime stations
NOAA	National Oceanographic and Atmospheric Administration (USA)
Priority Channel	Channel 16 or 9
Priority Scan (PSCAN)	A feature that alternates monitoring the Priority Channel 16 with each of the regular channels
PTT switch	Microphone push-to-talk switch
RF	Radio Frequency
RX	Receive
Saved Scan	Scans only user-selected memory channels
Simplex	Transmit and receive on the same frequency
Squelch	A circuit that sets the threshold for cutting off the receiver when the signal is too weak for reception of anything but noise.
TX	Transmit
Tri Watch	A function that monitors the Priority Channel and the Secondary Priority Channel while working on another channel.
US Channels	Channel designations as defined by the FCC.



Term	Meaning
VOL	Volume key
VHF	Very High Frequency (30MHz to 300MHz)
Weather (WX) Channels	Channels for routine and emergency weather information broadcast by NOAA (USA).
WX	Weather Band key
Working Channel	The currently-selected (non-priority, non-WX) channel.



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