



VHF MARINE RADIO

HM100

User Manual



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HM100 Instruction Manual

Introduction

EU Regulatory Conformance

As certified by the qualified laboratory, the product is in compliance with the essential requirements and other relevant provisions of the Directive 2014/53/EU. Please note that the above information is applicable to EU countries only.

Fabricant : HIMUNICATION

Numbel : 11005103

Adresse : Address:7th Floor, building 13, Run Dong Sheng Industrial Park, National Road 107, Longzhu community, Xixiang, baoan district, Shenzhen,China

Hereby, HIMUNICATION declares that this Maritime Radio is in compliance with essential requirements and other relevant provisions of Directive 2014/53/EU.



Caution

1. Risk of explosion if battery is replaced by an incorrect type. Dispose of used batteries according to the instructions.
2. Adapter shall be installed near the equipment and shall be easily accessible.
3. The device operating temperature range is $-15\sim 40^{\circ}\text{C}$.
4. The plug considered as disconnect device of adapter.
5. The device complies with RF specifications when the device used at 25mm from your front face and 0mm from your body.
6. Declaration of Conformity.

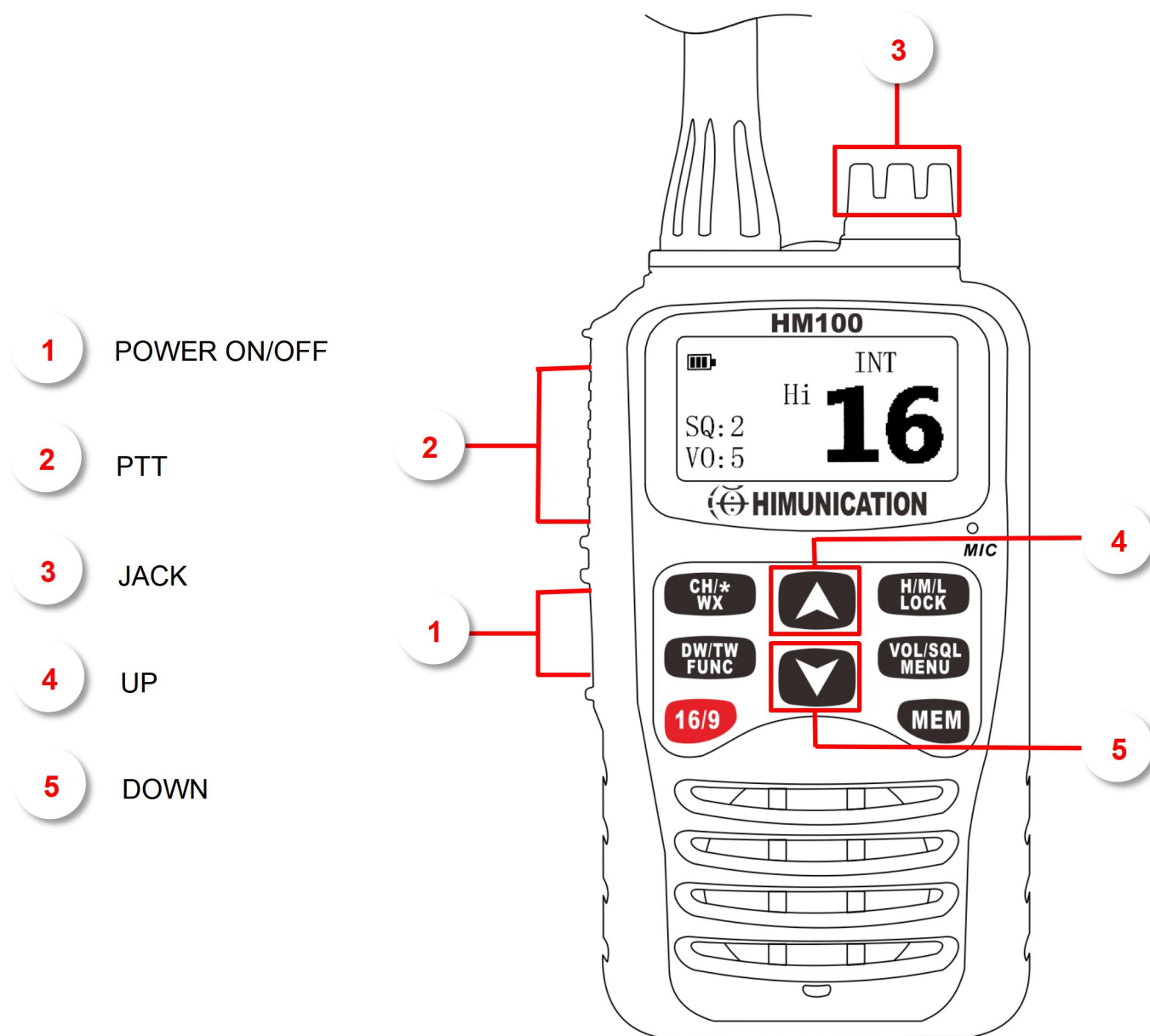
The information listed above provides the user with information needed to make him or her aware of a RF exposure, and what to do to assure that this radio operates within the CE exposure limits of this radio.

The device complies with RF specifications when the device used at 25mm from your front face and 0mm from your body. Third-party belt-clips, holsters, and similar accessories used by this device should not contain any metallic components. Body-worn accessories that do not meet these requirements may not comply with RF exposure requirements and should be avoided. Maximun SAR Value (10g):0.459W/Kg.

Waterproof design Warning

This product is the IPX8 waterproof design, in order to achieve the best performance.

Handset



Key function

POWER

Power key. Long press to turn on/off.

PTT

Press PTT to transmit, release PTT to end transmission.

JACK

for charging, upgrading and connecting ear-piece mic.

UP

UP key. Press UP key to adjust the channel upward.

DOWN

DOWN key. Press DOWN key to adjust the channel downwards.

CH/* WX

1. Short press CH/*WX key to enter the private channel in band I, enter the WX band in band U or C.
2. Press and hold CH/* WX key on WX Band to turn on the 1050 frequency alarm, press and hold again to cancel the 1050 frequency alarm.
3. Long press to switch between band U, I, and C.

DW/TW FUNC

1. Short press DW/TW FUNC key once to enter DW WATCH, short press DW/TW FUNC key again to enter TW WATCH, Short press DW/TW FUNC key again to return
2. Long press DW/TW FUNC key to enter SCAN or PSCAN (which can be set in the menu), long press DW/TW FUNC key again to return.

16/9

Short press 16/9 key once to enter channel 16, short press 16/9 key again to return.

Long press 16/9 key to enter the second priority channel

H/M/L LOCK

Short press H/M/L LOCK key to change the transmit power, long press to lock the key.

VOL/SQL MENU

1. Short press VOL/SQL MENU key once, the number indicating VOL level flashes, press UP or DOWN key to adjust the VOL level.
2. Short press VOL/SQL MENU key again, the number indicating SQL level flashes, press UP or DOWN Key to adjust the SQL level.Short press VOL/SQL MENU key again to exit.
3. Long press VOL/SQL MENU key to enter the menu, select Function, press H/M/L LOCK key to enter, press UP/DOWN key to select Scan or Pscan, press CH/* WX key to return.
4. Select Contrast, press H/M/L LOCK key to enter, press UP/DOWN key to adjust screen contrast, press CH/* WX key to return.

5. Select Radio, press H/M/L LOCK key to display radio frequency and volume. When a radio signal is received, the speaker plays the sound and the screen displays BUSY. Press UP/DOWN key to adjust radio frequency. Short press VOL/SQL MENU key to adjust radio volume, short press VOL/SQL MENU key again to exit.

MEM

1. Short press MEM key once to enter the saved channel if there is one, short press MEM key again to return.
2. Long press MEM key to save the current channel.

MICROPHONE

Press PTT to transmit, the voice spoken to the microphone will be transmitted.

SPEAKER

When a channel is received, the speaker plays sound.

Antenna terminal

Connect the antenna while using

Special function operation

ATIS

In power off state, press and hold DOWN key, turn on the VHF to set ATIS code, press UP/DOWN key to change the number, press MEM key to save and enter the next digit, the ATIS codes entered twice must be consistent, the screen displays the entered ATIS code. Press CH/* WX key to exit.

water shaking

1. In power state, press and hold DW/TW Func key, turn on the radio to enter the water shaking mode.
2. Press DW/TW Func key once to start shaking water, press DW/TW Func key again to stop it.
3. Press power Key to Exit shake mode.

TX Time Out

The transmission will be automatically turn off after PTT key pressed over 5 consecutive minutes. The Tx mode will be terminate and back to Rx mode. Once the PTT key is released, the TX time out timer will be reset. PTT key will work back normally.

Power save Mode

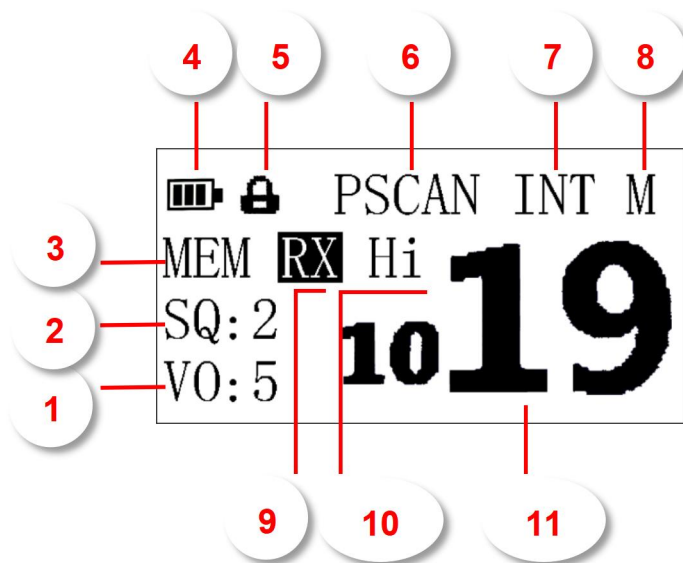
In order to save power, when Transceiver's does not receive a signal for 5 seconds, it will enter the power save state after 5 seconds.

TX Indicator

When the radio is transmitting, the "TX" icon will be lit up

LCD INDICATORS

The screen illustrations of this manual is described on the INT band.



“VO” VOL Indicator

This indicator shows the receive audio volume level.

“SQ” SQL Indicator

This indicator shows the squelch setting level.

MEM Indicator

This indicator shows it is in memory mode.

Battery Indicator

Battery display

Lock Icon

Short press H/M/L LOCK key to change the transmit power, long press to lock the key.

“P” Indicator

Shown when the channel is set as the Priority Channel.

“SCAN” scan channels

DUAW: Dual Watch is activated.

TRIW: Tri-Watch is activated.

SCAN is activated.

INT Channel Group Indicator

These indicators show the selected channel group.

“USA”: USA BAND

“INT”: International BAND

“CAN”: Canada BAND

“WX”: weather channel

“M”The channel memoried Indicator

This indicator shows the channel is memoried in the transceiver.

RX Indicator

This indicator appears when a signal is being received or the radio is unscquelched.

“RX” Indicator

HI TRANSMIT POWER Indicator

“HI”: 6 W (5W)*

“Mi”: 3 W

“Lo”: 1 W

*(5W TX required in Some Countries)





Channel Display



The operating channel is shown on the LCD in both the transmit and the receive modes.



BASIC OPERATION

Install the antenna

Long press the power key to turn on the radio.

Short press  or  to adjust the channel, long press  or  to adjust quickly.

Short press VOL/SQL MENU key to enter the interface of adjusting volume, short press  or  to change the volume.

Short press VOL/SQL MENU to enter the interface of adjust SQL, short press  or  to change SQL level.

Short press VOL/SQL MENU again to exit.

Short press H/M/L LOCK to adjust the transmit power.

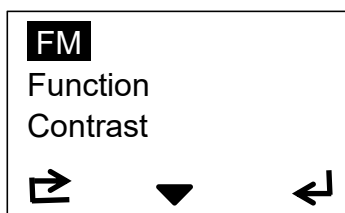
Short press 16/9 key to enter channel 16, long press 16/9 key to enter the second priority channel, the default is channel 09.

Press PTT to start transmitting, the screen will display TX, speak to the mic, release PTT to end transmitting, and TX will disappear from the screen.

When a signal is received, the speaker outputs sound and the screen displays RX.

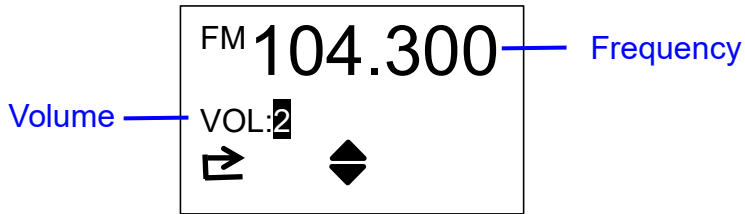
MENU



Long press VOL/SQL MENU to enter the main menu.



1. FM

short press H/M/L LOCK to enter.



Short press  or  to change the receiving frequency. If a signal is received, the speaker will output sound.

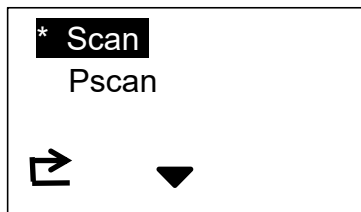
Short press VOL/SQL MENU to adjust the volume of the radio.

Short press CH/* WX to return main menu.

2. Function

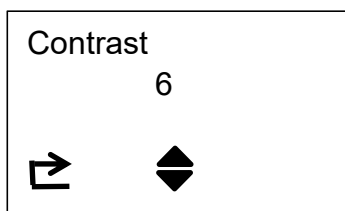
Select Function, short press H/M/L Lock, select Scan or Pscan.



Short press CH/* WX to return main menu.



3. Contrast

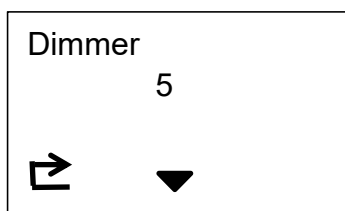
Short press  to select Contrast





Short press  or  to change contrast. Short press CH/* WX to return main menu.

4. Dimmer

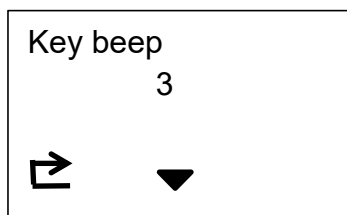
Short press  to select Dimmer.



Short press  or  to change dimmer. Short press CH/* WX to return main menu.

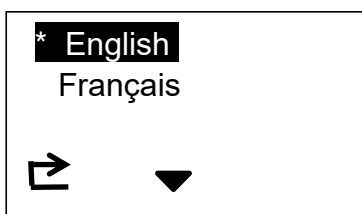
5. Key beep



Short press  to select Key beep.



Short press  or  to change key beep. Short press CH/* WX to return main menu.

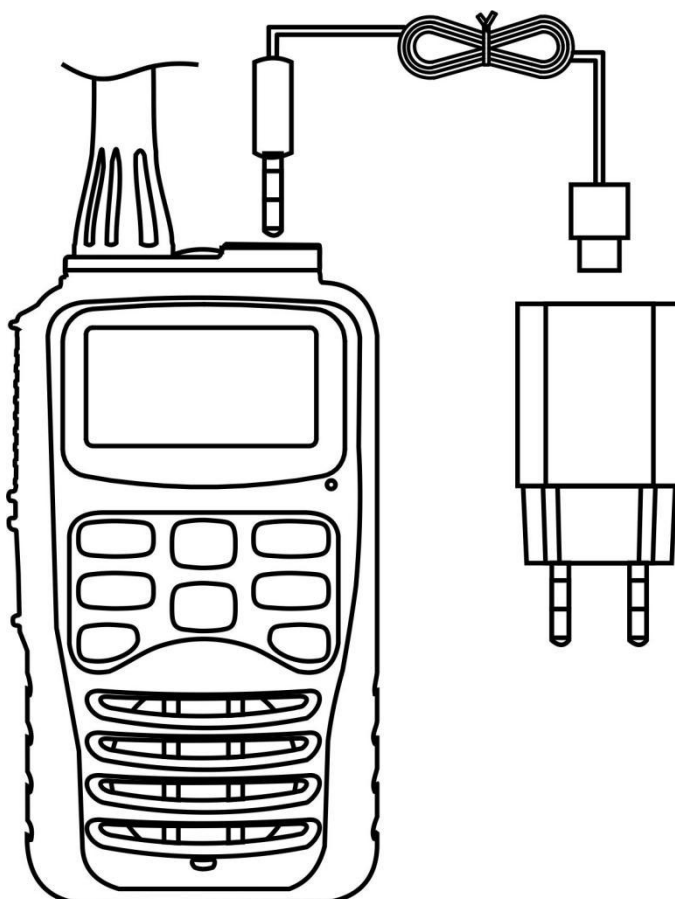
6. Language



Press  or  to choose English or French, press CH/*WX to return

Charging

Charging diagram



Appendix A – Near Lightning Strike Test

This appendix describes the general procedure for evaluating the immunity to near lightning strikes (NLS) of the HM100 VHF Radio.

The test simulates a slow, high-energy pulse produced by an NLS event.

List of Abbreviations

AE	Auxiliary Equipment
CE	Conducted Emissions
EMC	Electromagnetic Compatibility
EN	European Norm
EUT	Equipment Under Test
FTB	Fast Transient Burst
MED	Marine Equipment Directive
QP	Quasi Peak

Appendix B – Channel List

International Marine VHF Channels & Frequencies				
CH	TX Freq	RX Freq	Simple	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	Inter-ship [1]
07	156.350	160.950		Public Correspondence, Port Operations and Ship Movement
08	156.400	156.400	x	Inter-ship
09	156.450	156.450	x	Inter-ship, Port Operations and Ship Movement
10	156.500	156.500	x	Inter-ship, 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	Inter-ship Safety, Port Operations and Ship Movement [3]
14	156.700	156.700	x	Port Operations and Ship Movement
15	156.750	156.750	x	Inter-ship and On-board Communications at 1W only [4]
16	156.800	156.800	x	Distress, Safety and Calling
17	156.850	156.850	x	Inter-ship and On-board Communications at 1W only [4]
18	156.900	161.500		Public Correspondence, Port Operations and Ship Movement
19	156.950	161.550		Public Correspondence, Port Operations and Ship Movement
1019	156.950	156.950	x	Public Correspondence, Port Operations and Ship Movement
2019	RX Only	161.550		Public Correspondence, Port Operations and Ship Movement
20	157.000	161.600		Public Correspondence, Port Operations and Ship Movement
1020	157.000	157.000	x	Public Correspondence, Port Operations and Ship Movement

2020	RX Only	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
1027	157.350	157.350	x	Public Correspondence
1028	157.400	157.400	x	Public Correspondence
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	Inter-ship, Port Operations and Ship Movement [2]
68	156.425	156.425	x	Port Operations and Ship Movement
69	156.475	156.475	x	Inter-ship, Port Operations and Ship Movement
71	156.575	156.575	x	Port Operations and Ship Movement
72	156.625	156.625	x	Inter-ship
73	156.675	156.675	x	Inter-ship [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	Inter-ship
78	156.925	161.525		Public correspondence, Port Operations and Ship Movement
1078	156.925	156.925	x	Public correspondence, Port Operations and Ship Movement
2078	RX Only	161.525		Public correspondence, Port Operations and Ship Movement
79	156.975	161.575		Public correspondence, Port Operations and Ship Movement
1079	156.975	156.975	x	Public correspondence, Port Operations and Ship Movement
2079	RX Only	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		Public correspondence, Port Operations and Ship Movement
83	157.175	161.775		Public correspondence, Port Operations and Ship Movement
87	157.375	157.375	x	Port Operations and Ship Movement
88	157.425	157.425	x	Port Operations and Ship Movement
31	157.550	162.150		Public Correspondence, Port Operations and Ship Movement

- ◆ Inter-ship channels are for communications between ship stations. Inter-ship communications should be restricted to Channels 6, 8, 72 and 77. If these are not available, the other channels marked for Inter-ship may be used.
- ◆ 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. Within the European Maritime Area and in Canada, channels 10, 67 and 73 may also be used by the individual administrations concerned for communication between ship stations, aircraft stations and participating land stations engaged in coordinated search and rescue and anti-pollution operations in local areas. 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 inter-ship 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.

U.S. Marine VHF Channels and Frequencies				
CH	TX Freq	RX Freq	Simplex	Freq Use
1001	156.050	156.050	x	Port Operations and Commercial, VTS. Available only in New Orleans / Lower Mississippi area.
1003	156.150	156.150	x	U.S. Government only
1005	156.250	156.250	x	Port Operations or VTS in the Houston, New Orleans and Seattle areas.
06	156.300	156.300	x	Inter-ship Safety
1007	156.350	156.350	x	Commercial
08	156.400	156.400	x	Commercial (Inter-ship 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	Inter-ship Navigation Safety (Bridge-to-bridge). Ships >20meters in length maintain a listening watch on this channel in US waters.
14	156.700	156.700	x	Port Operations. VTS in selected areas.
15	RX Only	156.750		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.
17	156.850	156.850	x	State Control
1018	156.900	156.900	x	Commercial
1019	156.950	156.950	x	Commercial
20	157.000	161.600		Port Operations (duplex)
1020	157.000	157.000	x	Port Operations
1021	157.050	157.050	x	U.S. Coast Guard only
1022	157.100	157.100	x	Coast Guard Liaison and Maritime Safety Information Broadcasts. Broadcasts announced on channel 16.
1023	157.150	157.150	x	U.S. Coast Guard only
1027	157.350	157.350	x	PC Public Correspondence
1028	157.400	157.400	x	PC Public Correspondence
1061	156.075	156.075	x	U.S. Government only
1063	156.175	156.175	x	Port Operations and Commercial, VTS. Available only in New Orleans / Lower Mississippi area.
1064	156.225	156.225	x	U.S. Coast Guard only
1065	156.275	156.275	x	Port Operations
1066	156.325	156.325	x	Port Operations
67	156.375	156.375	x	Commercial. Used for Bridge-to-bridge communications in lower Mississippi River. Inter-ship 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 (Inter-ship 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 (Inter-ship only)
1078	156.925	156.925	x	Non-Commercial
1079	156.975	156.975	x	Commercial. Non-Commercial in Great Lakes only.

1080	157.025	157.025	x	Commercial. Non-Commercial in Great Lakes only
1081	157.075	157.075	x	U.S. Government only – Environmental protection operations.
1082	157.125	157.125	x	U.S. Government only
1083	157.175	157.175	x	U.S. Coast Guard only
87	157.375	157.375	x	Public Correspondence Marine Operator)
88	157.425	157.425	x	Public Correspondence only near Canadian border

- ◆ Recreational boaters normally use channels listed as Non-Commercial: 68, 69, 71, 72, 1078.
- ◆ Channel 70 is used exclusively for Digital Selective Calling (DSC) and is not available for regular voice communications.
- ◆ Channel 16 and are not available for regular voice communications.

Notes:

1. The digits “10” following a channel number indicates simplex use of the ship station transmit side of an international semi-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 is Receive Only.
4. Channel 16 is used for calling other stations or for distress alerting.
5. Output power is fixed at 1 watt only.
6. Output power is initially set to 1 watt. User can temporarily override this restriction to transmit at high power.

Canadian Marine VHF Channels and Frequencies				
CH	TX Freq	RX Freq	Simple	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
1004	156.200	156.200	x	PC Inter-ship, Ship/Shore and Safety: Canadian Coast Guard S&R
1005	156.250	156.250	x	Ship Movement
06	156.300	156.300	x	All areas Inter-ship, Commercial, Non commercial and Safety: May Be used for search and rescue communications between ships and aircraft.
1007	156.350	156.350	x	All areas Inter-ship, Ship/Shore, Commercial
08	156.400	156.400	x	WC, EC Inter ship, Commercial and Safety: Also assigned for operations in the Lake Winnipeg area.
09	156.450	156.450	x	AC Inter-ship, 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	x	AC, GL Inter-ship, 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	x	PC, AC, GL Inter-ship, Ship/Shore, Commercial, Non-commercial and Ship Movement: Also used for pilotage purposes.
12	156.600	156.600	x	WC, AC, GL Inter-ship, Ship/Shore, Commercial, Non-commercial and Ship Movement: Port operations and pilot information and messages.
13	156.650	156.650	x	All areas Inter-ship, Commercial, Non-commercial and Ship Movement: Exclusively for bridge-to-bridge navigational traffic. Limited to 1-watt maximum power.
14	156.700	156.700	x	AC, GL Inter-ship, Ship/Shore, Commercial, Non-commercial and Ship Movement: Port operations and pilot information and Messages.
15	156.750	156.750	x	All areas Inter-ship, Ship/Shore, Commercial, Non-commercial and Ship Movement: All May also be used for on-board Communications.
16	156.800	156.800	x	All areas International Distress, Safety and Calling.
17	156.850	156.850	x	All areas Inter-ship, Ship/Shore, Commercial, Non-commercial and Ship Movement: All operations limited to 1-watt maximum power. May also be used for on-board Communications.
1018	156.900	156.900	x	All areas Inter-ship, Ship/Shore and Commercial: Towing on the Pacific Coast.
1019	156.950	156.950	x	All areas except PC Inter-ship and Ship/Shore: Canadian Coast Guard only.
20	157.000	161.600		All areas Ship/Shore, Safety and Ship Movement: Port operation
1021	157.050	157.050	x	All areas Inter-ship and Ship/Shore: Canadian Coast Guard only.
2021	RX Only	161.650		All areas Safety: Continuous Marine Broadcast (CMB) service.
1022	157.100	157.100	x	All areas Inter-ship, 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.
2023	RX Only	161.750		Continuous Marine Broadcast Service
1027	157.350	157.350	x	PC Ship/Shore and Public Correspondence
1028	157.400	157.400	x	PC Ship/Shore and Public Correspondence
60	156.025	160.625		PC Ship/Shore and Public Correspondence.
61	156.075	160.675		PC Ship/Shore and Public Correspondence
1061	156.075	156.075	x	EC Inter-ship, Ship/Shore and Commercial: Commercial fishing only.
1062	156.125	156.125	x	EC Inter-ship, Ship/Shore and Commercial: Commercial fishing only.
1063	156.175	156.175	x	Tow Boats - BCC area
64	156.225	160.825		PC Ship/Shore and Public Correspondence
1064	156.225	156.225	x	EC Inter-ship, Ship/Shore and Commercial: Commercial fishing only.
1065	156.275	156.275	x	Inter-ship, 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).
1066	156.325	156.325	x	Inter-ship, 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	x	All areas except EC Inter-ship, 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	x	All areas Inter-ship, Ship/Shore and Non-commercial: For marinas and yacht clubs.
69	156.475	156.475	x	All areas except EC Inter-ship, Ship/Shore, Commercial and Non-commercial
71	156.575	156.575	x	PC Inter-ship, Ship/Shore, Commercial, Non-commercial, Safety and Ship Movement the East Coast and on Lake Winnipeg.
72	156.625	156.625	x	EC, PC Inter-ship, Commercial and Non-commercial: May be used to communicate with aircraft and helicopters in predominantly maritime support
73	156.675	156.675	x	All areas except EC Inter-ship, 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	x	EC, PC Inter-ship, Ship/Shore, Commercial, Non-commercial and Ship Movement.
75	156.775	156.775	x	Simplex port operation, Ship movement and navigation related communication only. 1 watt maximum
76	156.825	156.825	x	Simplex port operation, Ship movement and navigation related communication only. 1 watt maximum
77	156.875	156.875	x	Inter-ship, 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.
1078	156.925	156.925	x	EC, PC Inter-ship, Ship/Shore and Commercial
1079	156.975	156.975	x	EC, PC Inter-ship, Ship/Shore and Commercial
1080	157.025	157.025	x	EC, PC Inter-ship, Ship/Shore and Commercial

1081	157.075	157.075	x	Inter-ship and Ship/Shore: Canadian Coast Guard use only in the St. Lawrence River/ Great Lakes areas.
1082	157.125	157.125	x	Inter-ship 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 Public Correspondence
1083	157.175	157.175	x	EC Inter-ship and Ship/Shore: Canadian Coast Guard and other Government agencies.
2083	RX Only	161.775		AC, GL Safety: Continuous Marine Broadcast (CMB) Service.
87	157.375	157.375	x	AC, GL, NL Ship/Shore and Public Correspondence
88	157.425	157.425	x	AC, GL, NL Ship/Shore and Public Correspondence

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 digits "10" 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 digits "20" 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.

European Private Channels and Frequencies

In addition to the channels listed above in the International Marine VHF Channels & Frequencies table, your radio may also include some of the following private channels. Which channels are included depend upon the country in which the radio is to be operated and whether you possess the appropriate licensing

Country	CH	TX Freq	RX Freq	Freq Use
Belgium	96	162.425	162.425	Marina
Denmark	L1	155.500	155.500	Leisure
	L2	155.525	155.525	Leisure
Denmark, Finland, Norway & Sweden	F1	155.625	155.625	Fishing
	F2	155.775	155.775	Fishing
	F3	155.825	155.825	Fishing
Finland, Norway&Sweden	L1	155.500	155.500	Leisure
	L2	155.525	155.525	Leisure
	L3	155.650	155.650	Leisure
Netherlands	31	157.550	162.150	Marina
	37	157.850	157.850	Leisure
UK	M1	157.850	157.850	Marina
	M2	161.425	161.425	Marina

Notes: A license may be required to operate the radio on the private channels. It is your responsibility to obtain the proper license to operate the radio on these frequencies.

Weather Channels and Frequencies

WX channel	Frequency(MHz)		Remarks
	Transmit	Receive	
1	RX only	162.550	Weather(receive only)
2	RX only	162.400	Weather(receive only)
3	RX only	162.475	Weather(receive only)
4	RX only	162.425	Weather(receive only)
5	RX only	162.450	Weather(receive only)
6	RX only	162.500	Weather(receive only)
7	RX only	162.525	Weather(receive only)
8	RX only	161.650	Weather(receive only)
9	RX only	161.775	Weather(receive only)
10	RX only	163.275	Weather(receive only)

SPECIFICATIONS

DESCRIPTION	Unit	LIMIT
Frequency Range:Transmit	MHz	156.025 To 162.425
Frequency Range:Receive	MHz	156.050 To 163.275
Number Of Channels VHF		56 INT Channels
		52 USA Channels
		59 Canada Channels
		10 Weather Channels(only for USL)
Memory Channel		99 Memory Channels
Oscillate Mode		PLL
Modulation		FM(16K0G3E)
Channel Spacing	KHz	25
Frequency Stability	PPM	±5
Standard Operation Temperature	°C	-15 ~ +55
Feature Keys		PTT,power on/off
		CH*/WX,DW/TW/FUNC,UP,DOWN,16/9,VOL/SQL/MENU, MEM,H/M/L/LOCK
Normal Working Voltage	V	3.7 (With Li-Polymer Battery 3000mAh)
Low Limit Working Voltage	V	3
Battery Lifetime (Tx 5% / Rx 5% / Standby 90%)	H	≥ 24
Charging current	mA	1500+/- 200
Antenna Socket		SMA
Display		Segment Code 2.0 Inch LCD With White Back Light
Built-In Speaker		Diameter 36mm / Impedance 8 Ohm
battery		Built-in 3.7V 3000mAh rechargeable lithium battery
Accessory :		USB charger Input:5V=2A,USB Charging cable,Belt Clip,Wrist Strap,Hi Gain Flexible Antenna
TRANSMITTER		
1.Carrier power(no mod)		
High power	W	6
Middle power	W	3
Low power	W	1
2.Carrier freq.Tolerance	ppm	±5
3.Max Modulation limiting	±KHz	5
4.Audio frequency response		
@300Hz	dB	-13.5~-9.5
@2KHz	dB	3.0~7.0
@3KHz	dB	6.5~+10.5
5.Audio distortion at 3 KHz Dev.	%	<5
6.Residual modulation	dB	≤-40
7.Mic sens.For 3KHz	mV	13±3
8.Conducted spurious emission	dBm	≤-36
9.Current drain		
Transmit(High)	A	≤3.2
Transmit(Middle)	A	≤2
Transmit(Low)	A	≤1.2
RECEIVER		
1.Sensitivity For 12dB Sinad	dBμV	≤-6(EMF)
2.Squelch		
a) squelch threshold	dBμV	<-6.0(EMF)
b) squelch tight	dBμV	0dBuV ~ +6dBuV
c) hysteresis	dB	3~6

3.Rated audio output at 10% Thd Speaker	mW	≥700
4.Max.S/N ratio at 1mV	dB	≥40
5.Audio frequency resp.	dB	1KHz/0dB ref.
@300Hz	dB	+7.5~+11.5
@2KHz	dB	-9~-5
@3KHz	dB	-12.5~-8.5
6.Adjacent ch.Rejection	dB	≥70
7.Image rejection	dB	≥70
8.Intermod rejection	dB	≥68
9.Spurious response rejection	dB	≥70
10.Scan time. Per channel	ms	≤200
11.StandBy Current	mA	≤40
12.Max Audio Power	mA	≤400
GENERAL STANDARD		
1. Optional Floating Case With Flashes		
2. Waterproof: IPX8		
3. Communication Range: About 5 nautical miles		
4. Build in Battery		
VHF Radio DIMENSION & WEIGHT		
Dimension (L/W/H)	mm	95×53×32
Weight	g	190