

HIMUNICATION VHF MARINE RADIO

TS19 User Manual



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EN/FR/ES/ITA Multi-language User Manual

Contents

| | |
|--|----|
| EU REGULATORY CONFORMANCE..... | 2 |
| CAUTION..... | 2 |
| TS19 PRODUCT DESCRIPTION..... | 3 |
| PTT BUTTON..... | 4 |
| DISTRESS BUTTON..... | 4 |
| SHORTCUT KEYS..... | 4 |
| ICON..... | 4 |
| 1. MAIN | 4 |
| 2. DSC | 6 |
| 3. MOB | 7 |
| 4. H/M/L | 7 |
| 5. SCAN | 7 |
| 6. LOCK | 7 |
| 7. GPS | 7 |
| 8. DIM | 7 |
| 9. CHAN | 7 |
| 10. CH16 | 8 |
| 11. CH09 | 8 |
| 12. NIGHT | 8 |
| 13. PSCAN | 8 |
| 14. DUAL | 8 |
| 15. TRIW | 8 |
| 16. MEM | 8 |
| 17. SAVE | 8 |
| 18. P2nd | 8 |
| 19. BAND | 8 |
| 20. LANG | 8 |
| 21. DASH | 8 |
| OTHER FEATURES AND SOLUTIONS..... | 9 |
| TX Time Out..... | 9 |
| How to update the software of TS19..... | 9 |
| The local time and date on screen..... | 9 |
| Appendix A – Near Lightning Strike Test..... | 10 |
| Appendix B – Channel List..... | 11 |
| International Marine VHF Channels & Frequencies..... | 11 |
| U.S. Marine VHF Channels and Frequencies..... | 13 |
| Canadian Marine VHF Channels and Frequencies..... | 15 |
| European Private Channels and Frequencies..... | 18 |
| Weather Channels and Frequencies..... | 18 |
| Specifications..... | 19 |
| Declaration of Conformity..... | 21 |

TS19 User Manual

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.

Manufacturer: HIMUNICATION

Trademark number: 11005103

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Cautions

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~+55°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. Maximum SAR Value (10g):0.459W/Kg.

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



Installation and charging of the Li-Polymer battery pack

Place the battery on the device and secure it with the clip.

The battery pack can be charged when installed on the VHF radio, or separately on its supplied charger.

1. Insert the adapter connector into the charger.
2. Plug the adapter into a 220V AC socket.
3. Place the battery and VHF radio, installed on the VHF radio or separately, on the base of charge.

Note: The battery pack charges only on its base. The charging temperature of the charger base is -20~+40°C.

TS19 Product Description

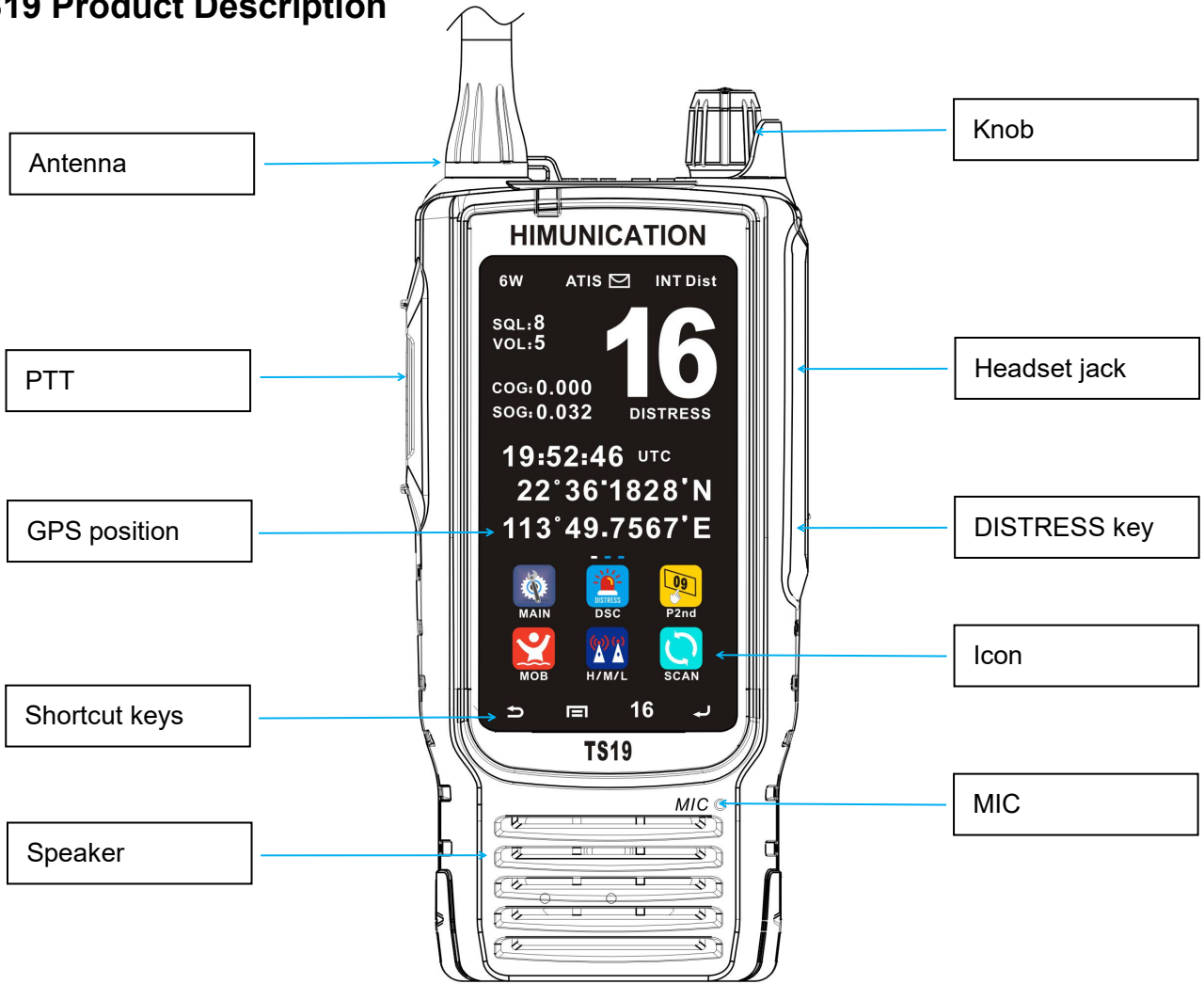
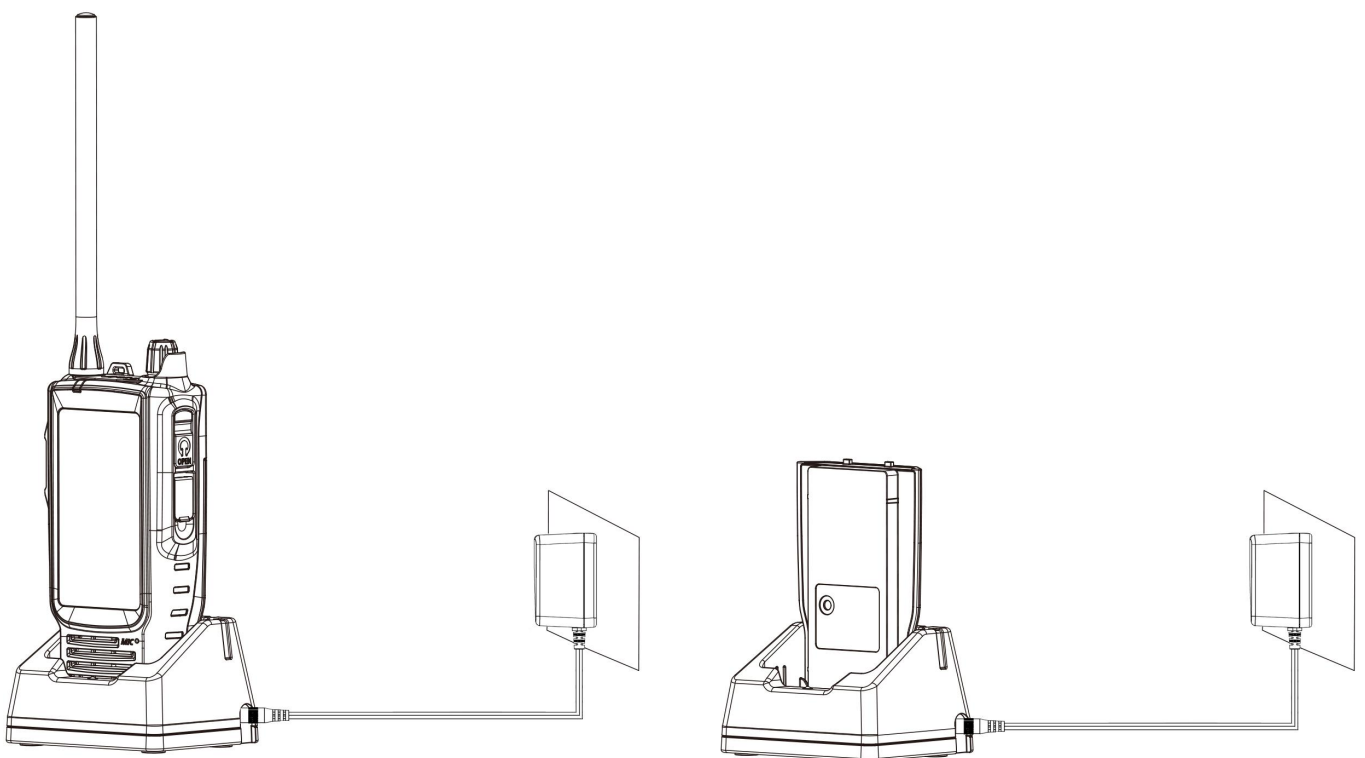


Figure 1 - TS19 VHF Hand Held Radio

Figure 2 - TS19 AC/DC adapter and charge base



When turned on, the top of the interface is the information display: battery power, high and low power, DSC, etc. The large word shows the current channel. You can click the large word and select the channel in the pop up interface. You can scroll up large word by swiping it up and down.

GPS information is displayed in the middle of the screen. When the radio receive the GPS information, the screen will show the GPS time, date, latitude and longitude. If the radio did not receive the GPS, the screen will display "SEACHING GPS". It means the GPS is being searched.

PTT button

When you press the PTT button, the radio will start to transmit if the current channel is available for transmission, and the radio will end the transmit after you release the PTT button.

DISTRESS button

Press the DISTRESS button to enter the DISTRESS interface, then select the DISTRESS that need to be transmit, and press the DISTRESS button for 3 seconds to launch.

Knob

After power off, long press the knob until the screen display and then released the knob, the radio will power on. After power on, long press the knob until the screen turns black and release to turn off, the radio will power off. After power on, turn the knob or lower pressure knob to enter VOL adjustment; press down the knob again to adjust SQL, then press the knob again to adjust the channel. The radio will exit adjustment operating (mode) if there is no operation within 5 seconds.

Shortcut keys



This is the return function key.



This is the display desktop function key.



When the radio is not in priority channel, press this key to enter priority channel; If it is in priority channel, press this button to exit priority channel.



This is the display confirmation function key

Icon

1. MAIN 

Click MAIN icon to enter the main menu interface.

| Main Menu | |
|-----------------|-------|
| VHF Operation | > |
| GPS Setup | > |
| ATIS Operation | > |
| DSC Operation | > |
| System Config | > |
| Shake the water | > |
| Exit | Enter |

VHF Operation

You can enter the setting of VHF Operation when you click the VHF Operation submenu.

| | |
|------------------|---|
| VHF Operation | |
| Channel Band Set | > |
| Priority 2nd Ch | > |

You can enter the setting of BAND when you click the Channel Band Set submenu.

Click Priority 2nd Ch to enter the setting of the second Priority channel. You can turn the page to the left or right, or click the two triangles in the upper right corner to turn the page to find the channel you want to set. Then click the corresponding position to display the selected second Priority channel

GPS Setup

You can enter the setting of GPS when you click the GPS Setup submenu.

| | |
|-------------|---|
| GPS Setup | |
| GPS Setting | > |
| GPS ON/OFF | > |
| GPS Source | > |

GPS ON/OFF is the function switch of GPS. You can set the GPS information signal source from the built-in or via 2.4G channel.

ATIS Operation

You can enter the ATIS setting when you click the ATIS Operation submenu.

| | |
|----------------|---|
| ATIS Operation | |
| MY ATIS ID | > |
| ATIS Function | > |

Click MY ATIS ID: if ATIS ID has been set, ATIS ID will be displayed. If not, you can set the ATIS ID. Click ATIS Function to enable or disable ATIS Function.

You must enter your user ATIS ID before you can access the ATIS functions. This is a once-only operation.

To change your ATIS ID please contact your local dealer.

Note: when ATIS mode is enabled, the following occurs:

DSC, DUAL watch, Tri Watch, Scan and PScan functions are disabled.

DSC Operation

You can click the DSC Operation submenu to enter DSC setting.

| | |
|---------------|---|
| DSC Operation | |
| MY MMSI ID | > |
| DSC Function | > |

Click MY MMSI ID: if the MMSI ID is set, the MMSI ID will be displayed. If not, you can set the MMSI ID. Click DSC Function to enable or disable the DSC Function.

You must enter your user MMSI ID before you can access the DSC functions. This is a once-only operation. To change your MMSI ID please contact your local dealer.

Note: when DSC mode is enabled, the ATIS function is disabled.

System Configuration

Click System Config submenu to enter the function interface of the setting System.

| | |
|------------------|---|
| System Config | |
| Powersaving Time | > |
| Key Beep | > |
| Version Info | > |
| Factory Reset | > |

| | |
|-----------------|---|
| Language Select | > |
| Speed Unit | > |
| Dash simulator | > |
| 2.4G ON/OFF | > |

- ◆ Powersaving time: It is how long it takes to enter the power saving mode after no operation. After setting the power saving, if there is no operation for five seconds, the backlight will be dimmed
- ◆ Key Beep: To set the key beep
- ◆ Version Info :You can check the SW Version number
- ◆ Factory Reset: To enter the system reset
- ◆ Language Select: Select the language you want (English, French and Spanish languages are available)
- ◆ Speed Unit: To set the unit of wind speed of the instrument panel (kts or m/s)
- ◆ Dash simulator: To simulate the dashboard display

2.4G ON/OFF

You can set the 2.4G switch by click the 2.4G ON/OFF.

| | |
|----------------------------------|-----|
| 2.4G ON/OFF | |
| <input checked="" type="radio"/> | ON |
| <input type="radio"/> | Off |



2. DSC

You can enter the DSC operation interface (mode) when you click DSC icon, and you can swipe the screen up and down or click the scroll bar to display other menus.

| DSC Menu | |
|------------------|-------|
| Individual Call | > |
| Position Request | > |
| All Ship Call | > |
| Group call | > |
| Test Call | > |
| Receive Call Log | > |
| Send Call Log | > |
| Phone Book | > |
| DSC Setup | > |
| My MMSI ID | > |
| Exit | Enter |

◆ Individual Call

Click and enter the Individual Call interface, then click the Input Address to enter the MMSI which need to be sent to the target. After completion, click Enter to enter the next page, and then click Enter to enter the next page. Click Call launch, click Call to transmit. You can select the MMSI to send the target From Phonebook if you have saved Phonebook.

◆ Position Request

Click and enter the Position Call interface, click the Input Address to enter the MMSI which need to be sent to the target. After completion, click Enter to enter the next page, and then click Enter to enter the next page. You can select the MMSI to send the target From Phonebook if you have saved Phonebook.

◆ All Ship Call

Click into the interface of All ShipCall and select Safety or Urgency, then click Enter to enter the next page and select the channel which need to be sent, then go to the next page and click Call to transmit.

◆ Group Call

Click to enter the Group Call interface, click the Input Address to enter the Group ID of the target which need to be sent, click Enter to enter the next page after completion, then click Enter to enter the next page, and click Call to transmit. You can select the Group ID of the target which need to be sent from Phonebook If you have your Phonebook saved.

◆ Test Call

Click and enter the TestCall interface: click the Input Address to enter the MMSI of the target which need to be sent, click Enter to enter the next page after completion, then click Enter to enter the next page, and click Call to transmit. You can select the MMSI to send the target From Phonebook If you have your Phonebook saved.

◆ Receive Call Log

To check the CALL that you received.

◆ Send Call Log

To check the CALL that you transmit.

◆ Phone Book

Click in and edit Phone Book, there are Buddy List and Group List, you can edit or modify the number that you want to save.

◆ DSC Setup

Click in and set whether Position Reply and Test Ack will Reply automatically or manually after receiving the CALL.

◆ MY MMSI ID

Click MY MMSI ID: the MMSI ID will be displayed if the MMSI ID was set; If not, then you can set the MMSI ID. And you can click DSC Function to enable or disable the DSC Function.



3. MOB

Click MOB Icon to enter the function interface of transmitting MOB, and then long press DITRESS for 3 seconds to transmit MOB.



4. H/M/L

The radio will convert the current channel to transmit High (H), Mid (M) or Low (L) output power when you click this Icon.



5. SCAN

To click SCAN icon to start scanning all channels, and click "STOP" on the scan screen to STOP scanning. At the channel display, you can swipe up to change the scan direction to increase, and swipe down to change the scan direction to decrease.

Note: this function does not work in ATIS mode.



6. LOCK

Click LOCK icon on the touch screen to lock display: long press the switch knob to unlock.



7. GPS

You can enter the GPS display mode when you click GPS Icon.



8. DIM

To adjust screen brightness.



9. CHAN

Click and enter the interface of selecting working channel. 'x' indicates the same frequency of transmitting and receiving, while no 'x' , it indicates the different frequency of transmitting and receiving. You can swipe the screen

left and right or click the triangle in the upper right corner to turn the page and then to find the working channel that you want to set, then click the channel to complete the setting.

10. CH16 

Click and enter the priority channel (channel 16), and click it again to exit priority channel.

11. CH09 

Click and enter the second priority channel (the default channel is channel 09), and click it again to exit the second priority channel.

12. NIGHT 

Conversion of Day and night display mode.

13. PSCAN 

Click PSCAN Icon to enter priority scan, and click "STOP" on the scan screen to STOP scanning. At the channel display, swipe up to change the scan direction to increase, and swipe down to change the scan direction to decrease.

Note: this function does not work in ATIS mode.

14. DUAL 

When you click and enter the DUAL mode, the current channel and priority channel will be scanned circularly. Click "STOP" on the scan screen to STOP scanning.

Note: this function does not work in ATIS mode.

15. TRIW 

When you click and enter TRIW mode. the current channel, priority channel and second priority channel will be scanned circularly. Click "STOP" on the scan screen to STOP scanning.

Note: this function does not work in ATIS mode.

16. MEM 

To click it enter the storage mode If you have already saved the channel, click again to exit the reservoir mode. If the channel is not saved, an error tone will appear when clicking.

17. SAVE 


Click it to save the current channel, click again to cancel the save of current channel.

18. P2nd 

Click this icon to enter the interface of selecting the second priority channel, to find the channel you want to select, and click it to complete the setting.

19. BAND 

Chick BAND Icon to enter the BAND interface.

20. LANG 

You can click LANG Icon to enter the language selection interface.

21. DASH 

Click DASH Icon to enter the instrument panel display interface.

The instrument is at the top of the instrument panel interface, below is the selection of instrument panel. When the instrument panel signal is received, the interface will display the instrument data.

Other features and solutions

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 the radio back to Rx mode. To indicate the PTT key as the stuck condition. Once the PTT key is released, the TX time out timer will be reset. PTT key will work back normally.

How to update the software of TS19

- ◆ In the off state, press and hold the distress button, meanwhile press the knob to turn on the radio. Then connect the radio to the computer via the programming cable and you will see the radio show as follow
- ◆ Put the file to be upgraded in the same directory as the TS19.exe. Note: there can only be one file to be upgraded. Delete all files that are not upgraded.
- ◆ Open TS19.exe. If the COMM port is displayed, then click the UPDATE to update the software. Finally, wait for the update to be finished.



Figure 3 - TS19 software update

The local time and date on screen

When the TS19 is unable to receive the GPS signal to display the current position, the screen will automatically display the UTC local time and date. The user can press the menu to switch the local time according to the UTC time. Click MAIN ICON, then GPS Setup, then enter GPS Setting, then enter Time Offset, you can set the LOCAL and UTC time difference, then press Enter to confirm.

Time offset

UTC - 00:00

| | | | |
|---|---|---|---|
| | ← | → | ⊗ |
| + | - | | |

Exit ▲▼ Enter



UTC TIME



LOCAL TIME

Generally, it all likes when you operate your locate time at your computer or laptop

Appendix A – Near Lightning Strike Test

This appendix describes the general procedure for evaluating the immunity to near lightning strikes (NLS) of the TS19 VHF Radio. The test simulates a slow, high-energy pulse produced by an NLS event.

Related External Documents

- BS EN 61000-4-5 : 2006
- EMC Directive 2004/108/EC

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 |

Safety

The high voltage interference pulse can contain a very large quantity of energy and every precaution shall be taken to avoid contact with EUT during a test. It is highly recommended that at least one other person is present (or very close by) during the test.

Test Configuration

EUT Setup

The EUT shall be setup in a typical system configuration on an isolated wooden bench with NO GROUNDPLANE. The power to the EUT and auxiliary equipment shall be from 12V or 24V sealed lead-acid batteries via a suitable fuse. The length of the EUT power cable shall be no more than 2m. Any screens within the system shall be terminated at the battery –ve connection.

EUT Operating Configuration

All operating configurations should be tested with appropriate performance criteria defined for each test.

Performance Criteria

From BS EN 61000-4-5 : 2006

Performance criteria C: Temporary loss of function or degradation of performance, the correction of which requires operator intervention.

Appendix B – Channel List

International Marine VHF Channels & Frequencies

| CH | TX Freq | RX Freq | Mode | FreqUse |
|------|---------|---------|---------|--|
| 1 | 156.050 | 160.650 | | Public Correspondence, Port Operations and Ship Movement |
| 2 | 156.100 | 160.700 | | Public Correspondence, Port Operations and Ship Movement |
| 3 | 156.150 | 160.750 | | Public Correspondence, Port Operations and Ship Movement |
| 4 | 156.200 | 160.800 | | Public Correspondence, Port Operations and Ship Movement |
| 5 | 156.250 | 160.850 | | Public Correspondence, Port Operations and Ship Movement |
| 6 | 156.300 | 156.300 | Simplex | Inter-ship [1] |
| 7 | 156.350 | 160.950 | | Public Correspondence, Port Operations and Ship Movement |
| 8 | 156.400 | 156.400 | Simplex | Inter-ship |
| 9 | 156.450 | 156.450 | Simplex | Inter-ship, Port Operations and Ship Movement |
| 10 | 156.500 | 156.500 | Simplex | Inter-ship, Port Operations and Ship Movement [2] |
| 11 | 156.550 | 156.550 | Simplex | Port Operations and Ship Movement |
| 12 | 156.600 | 156.600 | Simplex | Port Operations and Ship Movement |
| 13 | 156.650 | 156.650 | Simplex | Inter-ship Safety, Port Operations and Ship Movement [3] |
| 14 | 156.700 | 156.700 | Simplex | Port Operations and Ship Movement |
| 15 | 156.750 | 156.750 | Simplex | Inter-ship and On-board Communications at 1W only [4] |
| 16 | 156.800 | 156.800 | Simplex | Distress, Safety and Calling |
| 17 | 156.850 | 156.850 | Simplex | 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 | | Public Correspondence, Port Operations and Ship Movement |
| 2019 | 161.550 | 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 | | Public Correspondence, Port Operations and Ship Movement |
| 2020 | 161.600 | 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 |
| 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 | Simplex | Inter-ship, Port Operations and Ship Movement [2] |

| | | | | |
|------|---------|---------|---------|--|
| 68 | 156.425 | 156.425 | Simplex | Port Operations and Ship Movement |
| 69 | 156.475 | 156.475 | Simplex | Inter-ship, Port Operations and Ship Movement |
| 71 | 156.575 | 156.575 | Simplex | Port Operations and Ship Movement |
| 72 | 156.625 | 156.625 | Simplex | Inter-ship |
| 73 | 156.675 | 156.675 | Simplex | Inter-ship [2] |
| 74 | 156.725 | 156.725 | Simplex | Port operations and Ship movement |
| 75 | 156.775 | 156.775 | Simplex | See Note [5] |
| 76 | 156.825 | 156.825 | Simplex | See Note [5] |
| 77 | 156.875 | 156.875 | Simplex | Inter-ship |
| 78 | 156.925 | 161.525 | | Public correspondence, Port Operations and Ship Movement |
| 1078 | 156.925 | 156.925 | | Public correspondence, Port Operations and Ship Movement |
| 2078 | 161.525 | 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 | | Public correspondence, Port Operations and Ship Movement |
| 2079 | 161.575 | 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 |
| 84 | 157.225 | 161.825 | | Public correspondence, Port Operations and Ship Movement |
| 85 | 157.275 | 161.875 | | Public correspondence, Port Operations and Ship Movement |
| 86 | 157.325 | 161.925 | | Public correspondence, Port Operations and Ship Movement |
| 87 | 157.375 | 157.375 | Simplex | Port Operations and Ship Movement |
| 88 | 157.425 | 157.425 | Simplex | 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.
- ◆ 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, icebreakers 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 station 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 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.

U.S. Marine VHF Channels and Frequencies

| CH | TX Freq | RX Freq | Mode | FreqUse |
|-----|---------|---------|---------|---|
| 01A | 156.050 | 156.050 | Simplex | Port Operations and Commercial, VTS. Available only in New Orleans / Lower Mississippi area. [1] |
| 03A | 156.150 | 156.150 | Simplex | U.S. Government only |
| 05A | 156.250 | 156.250 | Simplex | Port Operations or VTS in the Houston, New Orleans and Seattle areas. |
| 6 | 156.300 | 156.300 | Simplex | Inter-ship Safety |
| 07A | 156.350 | 156.350 | Simplex | Commercial |
| 8 | 156.400 | 156.400 | Simplex | Commercial (Inter-ship only) |
| 9 | 156.450 | 156.450 | Simplex | Boater Calling. Commercial and Non-Commercial. |
| 10 | 156.500 | 156.500 | Simplex | Commercial |
| 11 | 156.550 | 156.550 | Simplex | Commercial. VTS in selected areas. |
| 12 | 156.600 | 156.600 | Simplex | Port Operations. VTS in selected areas. |
| 13 | 156.650 | 156.650 | Simplex | Inter-ship Navigation Safety (Bridge-to-bridge). Ships >20meters in length maintain a listening watch on this channel in US waters. [2] [6] |
| 14 | 156.700 | 156.700 | Simplex | Port Operations. VTS in selected areas. |
| 15 | — | 156.750 | Simplex | Environmental (Receive only). Used by Class 'C' EPIRBs. [3] |
| 16 | 156.800 | 156.800 | Simplex | International Distress, Safety and Calling. Ships required to carry radio, [4] |
| 17 | 156.850 | 156.850 | Simplex | State Control [5] |
| 18A | 156.900 | 156.900 | Simplex | Commercial |
| 19A | 156.950 | 156.950 | Simplex | Commercial |
| 20 | 157.000 | 161.600 | Simplex | Port Operations (duplex) |
| 20A | 157.000 | 157.000 | Simplex | Port Operations |
| 21A | 157.050 | 157.050 | Simplex | U.S. Coast Guard only |
| 22A | 157.100 | 157.100 | Simplex | Coast Guard Liaison and Maritime Safety Information Broadcasts. Broadcasts announced on channel 16. |
| 23A | 157.150 | 157.150 | Simplex | 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 | Simplex | U.S. Government only |
| 63A | 156.175 | 156.175 | Simplex | Port Operations and Commercial, VTS. Available only in New Orleans / Lower Mississippi area. |
| 64A | 156.225 | 156.225 | Simplex | U.S. Coast Guard only |
| 65A | 156.275 | 156.275 | Simplex | Port Operations |
| 66A | 156.325 | 156.325 | Simplex | Port Operations |

| | | | | |
|-----|---------|---------|---------|---|
| 67 | 156.375 | 156.375 | Simplex | Commercial. Used for Bridge-to-bridge communications in lower Mississippi River. Inter-ship only. [6] |
| 68 | 156.425 | 156.425 | Simplex | Non-Commercial |
| 69 | 156.475 | 156.475 | Simplex | Non-Commercial |
| 70 | 156.525 | 156.525 | Simplex | Non-Commercial |
| 71 | 156.575 | 156.575 | Simplex | Non-Commercial |
| 72 | 156.625 | 156.625 | Simplex | Non-Commercial (Inter-ship only) |
| 73 | 156.675 | 156.675 | Simplex | Port Operations |
| 74 | 156.725 | 156.725 | Simplex | Port Operations |
| 77 | 156.875 | 156.875 | Simplex | Port Operations (Inter-ship only) [5] |
| 78A | 156.925 | 156.925 | Simplex | Non-Commercial |
| 79A | 156.975 | 156.975 | Simplex | Commercial. Non-Commercial in Great Lakes only. |
| 80A | 157.025 | 157.025 | Simplex | Commercial. Non-Commercial in Great Lakes only |
| 81A | 157.075 | 157.075 | Simplex | U.S. Government only – Environmental protection operations. |
| 82A | 157.125 | 157.125 | Simplex | U.S. Government only |
| 83A | 157.175 | 157.175 | Simplex | U.S. Coast Guard only |
| 84 | 157.225 | 161.825 | | Public Correspondence (Marine Operator) |
| 84A | 157.225 | 157.225 | | Non-Commercial |
| 85 | 157.275 | 161.875 | | Public Correspondence (Marine Operator) |
| 85A | 157.275 | 157.275 | | Non-Commercial |
| 86 | 157.325 | 161.925 | | Public Correspondence (Marine Operator) |
| 86A | 157.325 | 157.325 | | Non-Commercial |
| 87 | 157.375 | 161.975 | | Public Correspondence Marine Operator) |
| 87A | 157.375 | 157.375 | | Non-Commercial |
| 88 | 157.425 | 162.025 | | Public Correspondence only near Canadian border |
| 88A | 157.425 | 157.425 | Simplex | Commercial, Inter-ship only |

- ◆ Recreational boaters normally use channels listed as Non-Commercial: 68, 69, 71, 72, 78A.
- ◆ 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 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 | Area of Operation Use |
|-----|---------|---------|---|
| 1 | 156.050 | 160.650 | PC Public Correspondence |
| 2 | 156.100 | 160.700 | PC Public Correspondence |
| 3 | 156.150 | 160.750 | PC Public Correspondence |
| 04A | 156.200 | 156.200 | PC Inter-ship, Ship/Shore and Safety: Canadian Coast Guard S&R |
| 05A | 156.250 | 156.250 | Ship Movement |
| 6 | 156.300 | 156.300 | All areas Inter-ship, Commercial, Non commercial and Safety: May Be used for search and rescue communications between ships and aircraft. |
| 07A | 156.350 | 156.350 | All areas Inter-ship, Ship/Shore, Commercial |
| 8 | 156.400 | 156.400 | WC, EC Inter ship, Commercial and Safety: Also assigned for operations in the Lake Winnipeg area. |
| 9 | 156.450 | 156.450 | 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 | 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 | PC, AC, GL Inter-ship, Ship/Shore, Commercial, Non-commercial and Ship Movement: Also used for pilotage purposes. |
| 12 | 156.600 | 156.600 | 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 | 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 | AC, GL Inter-ship, Ship/Shore, Commercial, Non-commercial and Ship Movement: Port operations and pilot information and Messages. |
| 15 | 156.750 | 156.750 | 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 | All areas International Distress, Safety and Calling. |
| 17 | 156.850 | 156.850 | 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. |
| 18A | 156.900 | 156.900 | All areas Inter-ship, Ship/Shore and Commercial: Towing on the Pacific Coast. |
| 19A | 156.950 | 156.950 | 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 |
| 21A | 157.050 | 157.050 | All areas Inter-ship and Ship/Shore: Canadian Coast Guard only. |
| 21B | — | 161.650 | All areas Safety: Continuous Marine Broadcast (CMB) service. |
| 22A | 157.100 | 157.100 | 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. |
| 23B | – | 161.750 | Continuous Marine Broadcast Service |
| 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. |
| 60 | 156.025 | 160.625 | PC Ship/Shore and Public Correspondence. |
| 61A | 156.075 | 156.075 | EC Inter-ship, Ship/Shore and Commercial: Commercial fishing only. |
| 62A | 156.125 | 156.125 | EC Inter-ship, Ship/Shore and Commercial: Commercial fishing only. |
| 63A | 156.175 | 156.175 | Tow Boats - BCC area |
| 64 | 156.225 | 160.825 | PC Ship/Shore and Public Correspondence |
| 64A | 156.225 | 156.225 | EC Inter-ship, Ship/Shore and Commercial: Commercial fishing only. |
| 65A | 156.275 | 156.275 | 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). |
| 66A | 156.325 | 156.325 | 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 | 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 | All areas Inter-ship, Ship/Shore and Non-commercial: For marinas and yacht clubs. |
| 69 | 156.475 | 156.475 | All areas except EC Inter-ship, Ship/Shore, Commercial and Non-commercial |
| 71 | 156.575 | 156.575 | PC Inter-ship, Ship/Shore, Commercial, Non-commercial, Safety and Ship Movement the East Coast and on Lake Winnipeg. |
| 72 | 156.625 | 156.625 | 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 | 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 | EC, PC Inter-ship, Ship/Shore, Commercial, Non-commercial and Ship Movement. |

| | | | |
|-----|---------|---------|--|
| 75 | 156.775 | 156.775 | Simplex port operation, Ship movement and navigation related communication only. 1 watt maximum |
| 76 | 156.825 | 156.825 | Simplex port operation, Ship movement and navigation related communication only. 1 watt maximum |
| 77 | 156.875 | 156.875 | 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. |
| 78A | 156.925 | 156.925 | EC, PC Inter-ship, Ship/Shore and Commercial |
| 79A | 156.975 | 156.975 | EC, PC Inter-ship, Ship/Shore and Commercial |
| 80A | 157.025 | 157.025 | EC, PC Inter-ship, Ship/Shore and Commercial |
| 81A | 157.075 | 157.075 | Inter-ship and Ship/Shore: Canadian Coast Guard use only in the St. Lawrence River/ Great Lakes areas. |
| 82A | 157.125 | 157.125 | Inter-ship and Ship/Shore: Canadian Coast Guard use only in the St. Lawrence River/ Great Lakes areas. |
| 83A | 157.175 | 157.175 | EC Inter-ship 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 |
| 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 |

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. An "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.

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 No. | XMIT Freq | RCV 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 |

Note: 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

GENERAL

| | |
|---|---|
| TX Frequency..... | 156.025 - 157.425 MHz |
| RX Frequency..... | 156.025 - 163.425 MHz |
| Modulation Type | FM(16K0G3E) DSC(16K0G2B) |
| Frequency stability | ±5 ppm (-20°C to +60°C) |
| Channel spacing..... | 25 kHz |
| Digital Selectivity Calling (DSC) | Class H (ITU-R M.493-13) |
| Private channels..... | 99 |
| Built-in GPS..... | Integrated GNSS |
| Built-in 2.4G MODULE..... | It can receive and show the information of dashboard |
| Floating&Flash..... | YES |
| Waterproof..... | IP67(1m/30min) |
| Communication Range..... | About 5 nautical miles |
| Antenna socket..... | SMA |
| Display..... | 480x800 pixel bit-mapped full touch screen LCD with backlight |
| Operation temperature..... | -15 to +55°C |
| Storage temperature..... | -20 to +70°C |
| Humidity..... | 60% |
| Vibration..... | 3.5mm 5Hz |

TRANSMITTER

| | |
|--|--|
| Power output (Hi/Mid/Low) | 6W/3W/1W |
| Max. frequency deviation..... | ≤±5 kHz |
| Audio distortion @ 3 KHz Dev..... | <5% |
| Residual modulation..... | ≤-40 dB |
| Audio frequency response..... | +1 dB to -3 dB of 6 dB oct. from 0.3-3 KHz |
| Adjacent channel power..... | ≤70 dB |
| Spurious emissions..... | ≤-36 dBm |
| TX Current drain (Hi / Mid / Low)..... | <1.8A / <1.4A / <1A |
| Emission designator..... | Voice communication: 16K0G3E; DSC: 16K0G2B; 2.4G:1M00F1D |

RECEIVER

| | |
|---|---|
| Sensitivity for 12dB SINA..... | ≤-6(EMF) dBμV |
| Squelch sensitivity..... | 0.20 uV |
| Rated audio output @10% Thd Speaker..... | ≥800 mW |
| Max.S/N ratio..... | ≥40 dB |
| Audio frequency resp..... | +1 dB to -3 dB of 6 dB oct. from 0.3-3KHz |
| Adjacent channel selection..... | ≥70 dB |
| Intermodulation rejection (3-Gen.Method)..... | ≥68 dB |
| Spurious response rejection | ≥70 dB |
| StandBy Current..... | ≤150 mA |
| Max Audio Power Current..... | ≤600 mA |
| Audio distortion @ 3 KHz Dev..... | <5% |

Built-in GPS

| | |
|----------------|------------|
| Frequency..... | 1575.42MHz |
|----------------|------------|

| | |
|------------------------|--------------|
| Chanel number..... | 56 |
| Mode..... | GPS/GALILEO |
| Position accuracy..... | 5m, C/A mode |
| Cold start..... | 60 seconds |
| Hot start..... | 30 seconds |

Built-in 2.4G module

| | |
|--------------------|-----------------|
| Frequency..... | 2.401-2.480 GHz |
| Chanel number..... | 80 |
| Output power..... | 20 dBm |

BATTERY AND CHARGER

| | |
|--------------------------------|--|
| Adapter/Charging Cradle | 220VAC/12VDC |
| Charging current..... | 800±200 mA |
| Li-polymer Battery | 2300 mAh |
| Battery life..... | 8 Hours (with GPS/DSC on and 6W 5/5/90% ratio) |
| Cigarette Lighter Socket | Optional |
| Ear-Piece Mic | Optional |

Dimension & Weight

| | |
|------------------------------------|---------------------------|
| Fixed unit dimensions (L/W/H)..... | 179mm(W)×191mm(H)×77mm(D) |
| Fixed unit Weight..... | 1.2 kg |

Declaration of Conformity with Marine VHF Radio

Product Designation:

TS19 Handheld Marine Radio

Registration No: 1622-RED-200902

Brand: HIMUNICATION

Trademark number: 11005103

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

Radio Equipment Directive 2014/53/EU

| Applied Specifications/Standards | | Documentary Evidence | Result |
|----------------------------------|--|--|---------|
| Art 3.1(a) | EN 62368-1:2014+A11:2017, EN 50566:2017, EN 62209-2:2010/A1:2019, | Test Report CHTSE19120011 Test Report CHTEW19110186 | conform |
| Art 3.1(b) | ETSI EN 301489-1 V2.2.3 ETSI EN 301489-5 V2.2.1 Draft ETSI EN 301489-17 V3.2.2 ETSI EN 301489-19 V2.1.1 ETSI EN 301843-1 V2.2.1 ETSI EN 301843-2 V2.2.1 | Test Report CHTEW19120148 Test Report CHTEW19120149 | conform |
| Art 3.2 | ETSI EN 300698 V2.2.1 Annex B ETSI EN 302885 V2.2.3 ETSI EN 300338-5 V1.2.1 ETSI EN 300328 V2.1.1 ETSI EN 303413 V1.1.1 | Test Report CHTEW19120147 Test Report CHTEW19120150 Test Report CHTEW19120146 Test Report CHTEW19120151 | conform |

The product shall be marked with the CE conformity marking as shown on the right.



Technical Details:

1. Frequency Range:

VHF 156.025-157.425MHz

2.4G Receiver:2402 MHz(RX)

GPS:1575.42 MHz(RX)

2. Rated Output Power:6W/3W/1W

3. Modulation Type:VHF PM,FSK

2.4G Receiver:N/A

GPS:BPSK

Shenzhen, February 28, 2020

Francis Sun, General Manager