HIMUNICATION

VHF MARINE RADIO

HM360 DSC MAX

User Manual

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

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HM360 DSC MAX User Manual

Introduction

HM360 DSC MAX is a new product developed and design by HIMUNICATION in 2021, and officially launched in 2022. It is an international professional marine radio , which can transmit and receive all ship's internationally channels in VHF band, such as the ITU. At the same time,the marine radio selected the best level of raw materials, built in battery design,TypeC charging design, highest level of safety and waterproof, and meet all industry standards to provide you a reliable communication radio . Last but important, it got extra additional innovatived marine torch. HIMUNICATION, Innovation,make a difference!

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.

CE

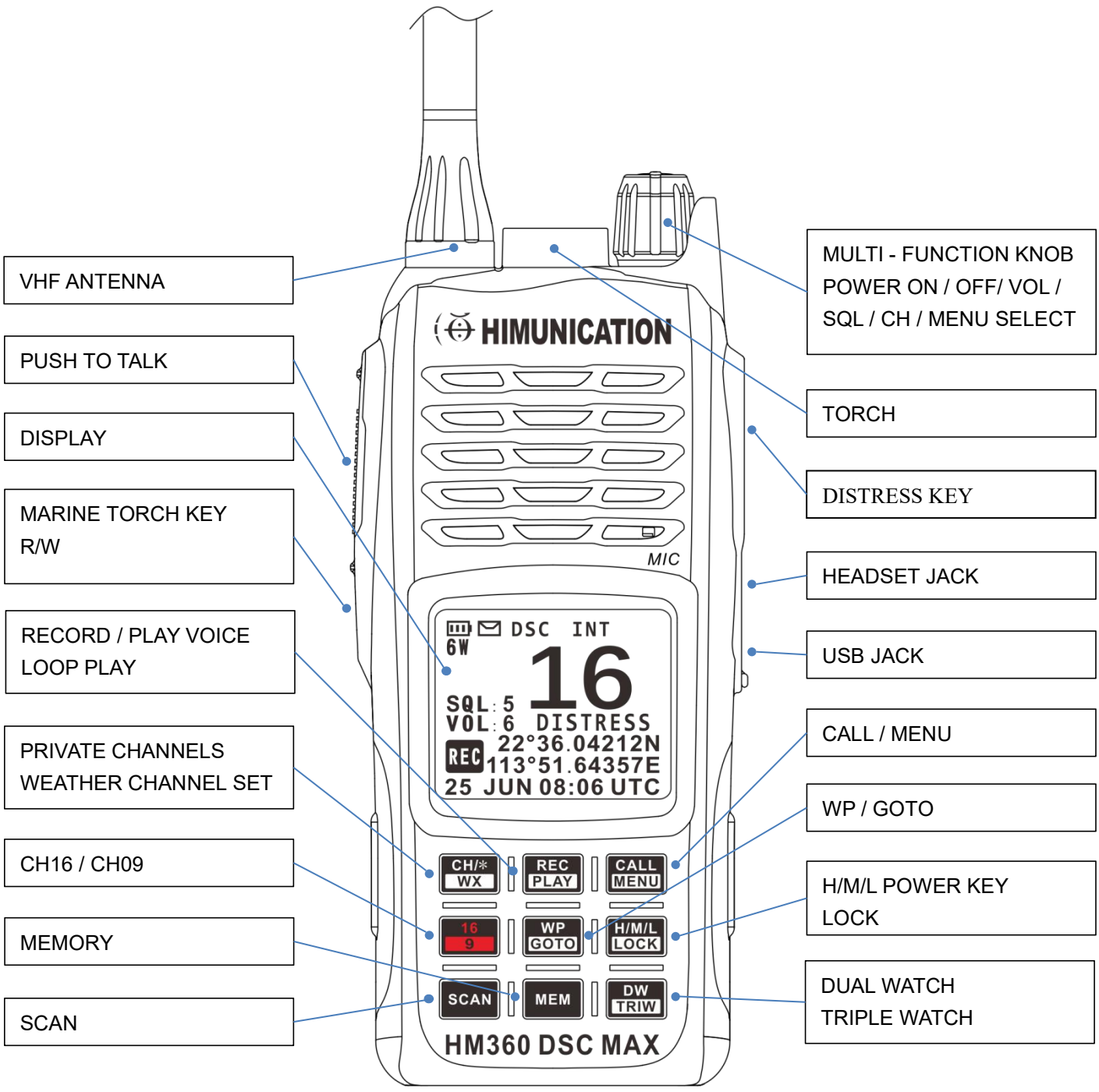
Caution

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 -15~55℃.
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.

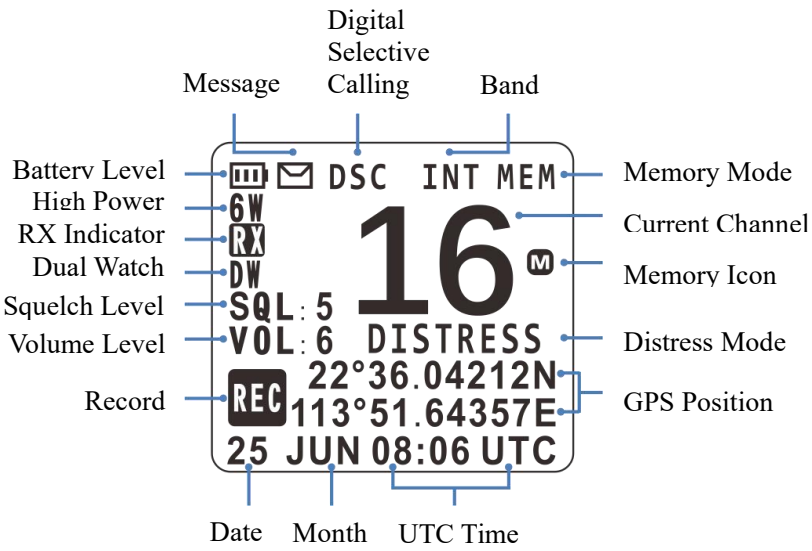
HM360 DSC MAX Controls



HM360 DSC MAX Key Function

Keys	Short press less than 3 seconds	Long press more than 3 seconds
Power Knob(Push)	Power ON/Menu Select	Power Off
Power Knob	Adjust the Volume Level	
Power Knob(Push 1)	Adjust the Squelch Level	
Power Knob(Push 2)	Adjust the Channel Up/Down and Scan Direction	
Torch/R/W	Torch On/Off	Toggle Red and White Torch
REC/PLAY	Record Voice Enable/Disable	Play Voice Enable/Disable
WP/GOTO	Set Way Point	Go to the Way Point
SCAN+Power On	Quake Water	
H/M/L /Lock	TX Power High/Middle/Low	Key Lock/key Unlock
16/9	CH16	CH09
DW/TRIW	Dual Watch Mode	Triple Watch Mode
CH/*/WX	Privater Channel	WX Band
SCAN	All Scan/all Memory Scan	Priority all/Memory Scan
MEM	Memory Mode	Save/Delete Memory Channel
CALL/MENU	DSC Call Menu	Main Setup Menu
DISTRESS	Distress Menu	Distress Alert Calling

HM360 DSC MAX LCD Display



Menu Screen Operation

The description on of the menu features:

DSC Menu	
Individual Call	Input Address
	From Phonebook
Position Request	Input Address
	From Phonebook
All Ship Call	Safety
	Urgency
Group Call	Input Address
	From Phonebook
Test Call	Input Address
	From Phonebook
Receive Call Log	Distress Call
	Others Call
Send Call Log	Distress Call
	MOB Call
	Others Call
Phone Book	Buddy List
	Group List
DSC Setup	Position Input
	Position Reply
	Test Ack
My MMSI ID	My MMSI ID
	100000008

Main Menu	
VHF Operation	Channel Band Set
	Priority 2nd Ch
GPS Setup	GPS Type
	GPS Setting
	GPS ON/OFF
ATIS Operation	My ATIS ID
	ATIS Function
DSC Operation	My MMSI ID
	DSC Function
System Config	LCD Back Light
	Back Light Time
	LCD Contrast
	Key Beep
	Torch Color
	Version Info
	Factory Reset
	Language Select

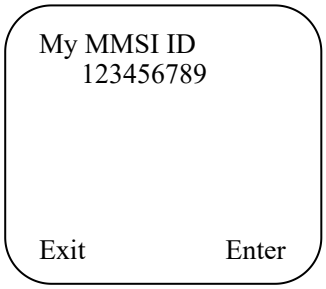
DSC Menu

Short press the Call/Menu key will saw below DSC Call Menu as below.

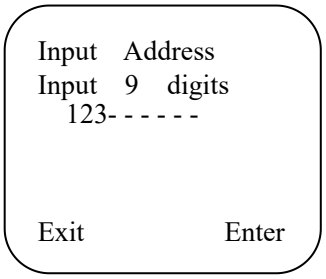
Then the CH/*/WX key will became the Exit key and the Call/Menu key will became the Enter key. Turn the coding knob to choose the item at the menu without the changes.

For My MMSI ID setup

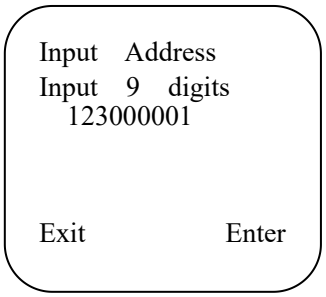
Firstly, set up the MMSI ID, to click the My MMSI ID and Enter, then you are able to set up your related MMSI ID as below generally you need to double confirm the MMSI ID then your MMSI ID will be locked by this radio.



When you input 9 digits, Turn the coding knob to choose the number from1-9,you need to input all numbers from the left to right one by one When you input all 9 digits then press the enter to confirm.



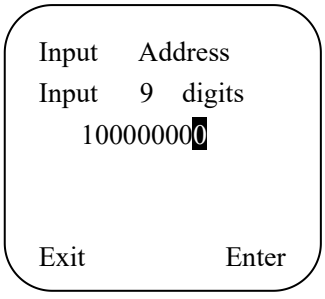
After you enter 123000001 these nine figures, the screen will be displayed as below



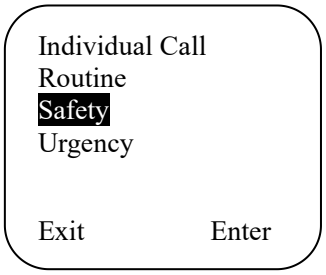
For Individual Call, Position Request, Group Call and Test Call

Click the preferred item then you able to find the target MMSI ID to call by Input Address or From Phonebook. We take the individual call as an example.

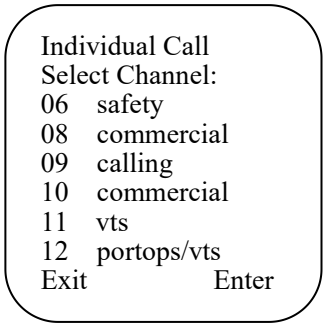
When you selected the input address item to click and input 9 digits such as the 100000000 for your address as below.



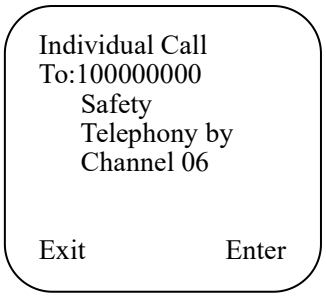
Then select the type of individual call such as the safety



Then select the channels such as the 06 port operation then confirm to call



Then the individual call is sent

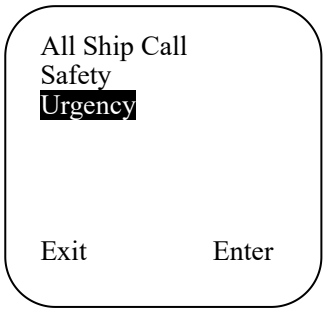


Then the individual call is sent

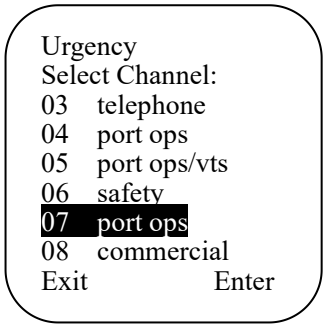
For All Ship Call

Select the All Ship Call item

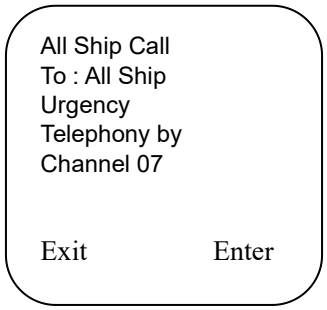
Then select the type of All Ship Call such as the Urgency



Then select the channels such as the 07 Commercial then confirm to call

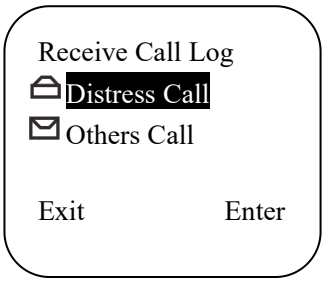


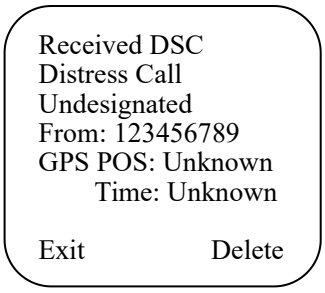
Then the All Ship Call is sent



Receive Call Log

When receive the DSC call and you able to check the message from the Distress Call then able to see the exact message.





Send Call Log

To press the Send Call Log able to saw the previous Distress Call MOB Call and Other Call you have sent

Phone Book

Able to check the contact ship by Buddy list and Group list

DSC Setup

The DSC setup menu got the 4 item to choose as the Position Input, Position Reply and Test Ack.

For Position Input you can set up the GPS position and UTC time by manual operation.

For Position Reply and Test Ack you can choose the Automatic or Manual by you interests.

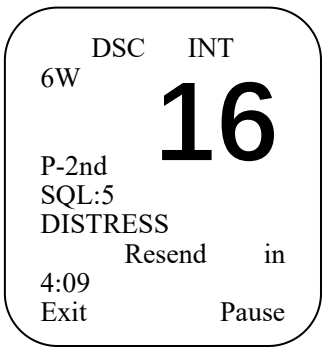
Distress Menu

Pull the Distress red cover then press the Distress key You are able to saw the Distress Menu in below.

Send the distress Message

Choose one distress item such as the Sinking the press and hold the distress key for 3 seconds the Sinking distress message will be sent.

You also able to choose to resend pause or Exit after the message be sent.

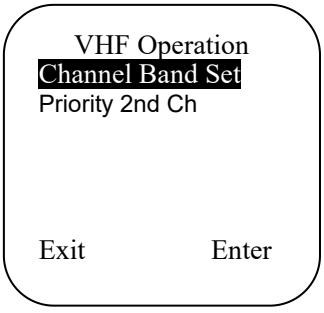


Main Menu

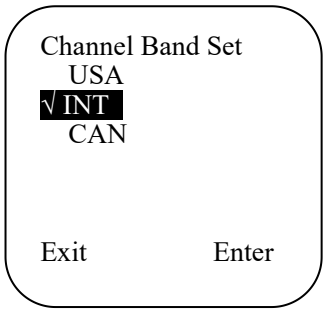
Long press the Call/Menu key will saw below Main Menu as below.

For VHF Operation

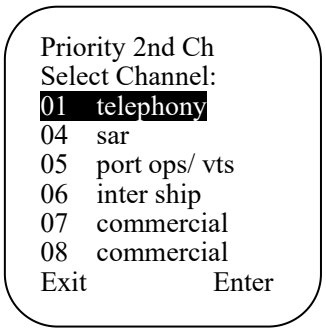
Select the VHF operation to enter will see Channel Band Set and Priority 2nd Ch options in below



For VHF Operation, you are able to choose the wanted channel band from those three options USA, INT and CAN

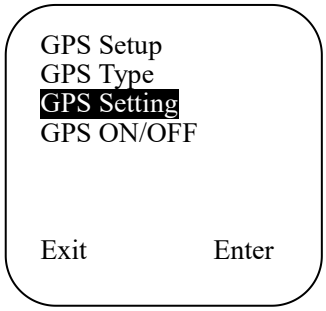


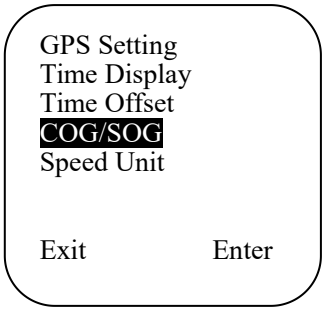
For Priority 2nd Ch you can select you wanted priority 2nd channel.



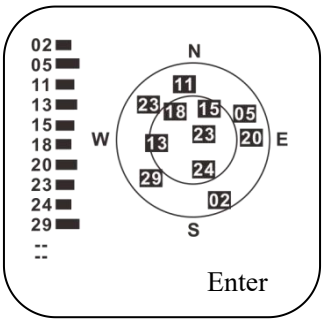
For GPS Setup

Long press the Call/Menu key will saw below Main Menu as below.





Turn the knob to switch the GPS satellite location map.



For System Config

Select the system Config and you are able to see the below menu to check and adjust the LCD/Key Beep figure, version info and factory reset.

CONTROLS OPERATION

Power ON/OFF(Knob)

Push the coding knob until a click sound heard the unit will power on.

The unit will start with Normal mode

- Turn on the 1000Hz tone for 100ms
- Turn on the backlit in full scale for 5 sec
- Recall the last channel number, TX power settings and operational mode
- If no last channel info, go to Channel 16, TX Power be Hi
- Volume set level 5 (default),max is level 9
- Squelch set levle 5 (default),max is level 9

Volume、Squelch &Channel Select (Knob)

Volume Control (Knob)

Turn the coding knob to control the loudspeaker volume level.

Clockwise-volume up, anti-clockwise-volume down.

Squelch Control (Knob)

At the radio normal mode to adjust the squelch level, short press the coding knob will

Flash SQL's level , clockwise or anti clockwise the coding knob to select SQL level accordingly.

Channel UP/DOWN (Knob)

At the radio normal mode to adjust Channel Up/Down. short press the coding knob twice will Flash Channel Number , clockwise or anti clockwise the coding knob to select Channel Number according,then short press the coding knob to exit the setting status.

Special function: Distress Key and Real DSC

Send the Distress message:

Pull the Distress key cover then able to Press the Red key into the Distress Menu selection. Then select the current distress situation such as the "Flooding" then press and hold for 3 seconds, the selected DSC message will be send. This message also will be resend within 4 minutes, press the Up key will pause or resume the resend, press Call/Menu key will resend immediately. Press the CH/WX/UIC key will exit the current menu and give the option on cancel of this selected distress alert.

Receive the Distress message:

The HM360 DSC MAX model has two receivers, one receiver used for receiving/transmit voice and another receiver used for to continually monitor 70 channels. The DSC function for HM360 DSC MAX model is operated by individual way.Even you are using the HM360 DSC MAX to make the transmit or receive, when the DSC message is arrived.The HM360 DSC MAX handheld model always can receive all of the DSC message as a fixed mounted marine radio.Press the Call/Menu key and select the receive call log then press the enter to see all received DSC message.

REC/PLAY key

The record IC can record voice 60 seconds.Short press the REC key will switch record function enable or disable. If record function enable and the squelch open, The record IC will record the receiving voice. Short press PLAY/ LOOP key will switch play function enable or disable.Long press PLAY/LOOP key will enter loop play voice in record IC.

WP/GOTO key

Waypoint Navigation

The Navigation function navigates from your current position to an entered regular Waypoint or MOB waypoint.

16/9 key

At the normal mode ,pressing the 16 / 9 Key (short press to jump to priority CH16 at High Power and long press to jump to priority CH9 at High Power) if the current channel

is not the priority channel.

After the channel is tuned to the priority channel, the "P-CH" and "P-2nd"icon is lit to indicate that the priority CH16 or CH9 has been reached.

Select the second priority channel

Change the second priority channel by 16/9 key: normally the second priority channel is initially sets as the channel 9.At the normal mode, Long press the 16/9 Key will display the second priority channel as channel 9.Then long press the 16/9 Key again and the "2nd Prior" icon will display on the screen. Turn the coding knob to choose your prefer channel as the second priority channel then long press the 16/9

Key to confirm it Change the second priority channel by Menu key: Press the 16 / 9 Key then press the Call/ Main key to select VHF operation option then press Enter to select the Priority 2nd Ch then press Enter and select you preferred channel by the coding knob then press Enter to confirm

H/M/L/LOCK Key

Short press the H/M/L/LOCK key will toggle the TX power from H to M or L vice versa.The corresponding "6W to 3W or 1W" icon will turn on to display on the LCD.

Some of the channel such as channel 16 only for high power/channel 13&67 only for low power) has been limited to be low power only or high power only. Thus, the software needs to check against the channel setting stored in the EEPROM

Long press the H/M/L/LOCK key will lock the keys and the "lock " icon will appear， then all of the key will be locked to use except the PTT key and Distress key. Long press the H/M/L/LOCK key again to cancel the lock mode and the "lock " icon will disappear.

CH/*/WX/ key

NOTE: In European version, WX function from the CH/*/WX key will be changed to PRIVATE CHANNEL function. Weather Channels will not be available for HM360 DSC MAX (European).

Short press CH/*/WX key will enter Wx mode. Turn the coding knob to change Wx channel. The "WX"icon will display on the screen.

When Dual or Tri watch is being activated in the Wx mode, the watch will monitor the current WX channel and priority channel(s).

Weather Alert Operation (WAT)

At the weather mode, Long press the CH/*/WX key will switch on the weather alert function. Toggling the Weather Alert function ON and OFF will toggle the icon "WAT" accordingly

When Weather Alert function is enabled. Every 4 seconds the last used weather channel should be checked for weather alert tone when the radio is tuned to working channel. With Weather Alert Function enable, the "WX" and "Cloud" symbol should display. if the alert tone is detected, A short alarm tone should sound. The radio would automatically tune to the current monitor WX channel where the weather alert has been detected. The alert should be detected in all the modes of Dual and Tri-watch, Scan etc.)

SCAN Key

This is the function to scan for currently working channels. When a signal is detected, the scan pauses until the signal disappears.

Short press the Scan Key, to activate the SCAN function. Scan all channels.

Long press the Scan Key, to activate the Priority Scan.

MEM Key

Enter /Exit the memory mode

Short press the MEM key to enter the memory mode, the memory channel will mark as the "M" icon at the right side of channel number. At the left side of the current channel will mark as the "user "icon means as already enter the user memory mode.

At the Memory mode, short press the MEM key to exit the memory mode. The "M" icon (at the right side of channel number) and the "user"icon (at the left side of the current channel) will disappear.

Adding/Deleting memory CH:

During the normal mode, Turn the coding knob to select the desired channel for programming.

Long press the MEM key to store up the channel as memory channel.

The "M" icon at the right side of current channel number will shows up to indicate the current CH has been saved in the memory. No limited of memory channels.

Separate memory channel exists for USA, International, and Canadian Frequency group.

During the normal mode, Turn the coding knob to select the memory channel to be deleted.

Long press the MEM key to delete the selected channel from the memory.

DW/Triw key (Dual Watch/Tri Watch)

At the normal mode, short press DW/TRIW key to activate the DUAL WATCH mode. Monitor the current channel and Ch 16 in cycle. Whenever, Weather Alert is activated, the Wx Alert channel will be monitored once every 4sec.
Long press DW/TRI key to activate the TRI WATCH mode. Monitor the Ch 16, current channel and 1 programmed channels in cycle.

Torch/R/W

The torch can work at two color :red and white.Short press the Torch/R/W key will switch the torch on or off, If quickly short press the Torch/R/W key, the torch will sequence produces this phenomenon: no flash,fastly flash,slowly flash (SOS) the led. Long press the Torch/R/W key will toggle red color torch or white color torch.

Backlight

Any key press will turn on the backlit (if backlit setting is ON) except the PTT key. The backlit should be remaining on for 5 seconds if no any keys pressed. The time out will be reset if any key pressed within the time frame.

Quake Water

To activate Quake Water press and hold the SCAN key whilst switching on the HM360 DSC MAX. You will be prompted with a beep tone and the letter‘Shock Wave Short Press the SCAN to run it ’will display. Press SCAN to activate Quake Wate and hold the HM360 DSC MAX face down. After the water completely kick off from the speaker grids,short press the 'SCAN 'key to stop the Quake Wate feature. Then reset the HM360 DSC MAX again.

Other features and solutions

Special function keys

If you press the call/menu key and power key then you can enter the up grade mode directly

The software’s
Upgrading by PC
Please wait----

Press the DW/TRW key and the power key，then you can enter the writing channel mode Directly

The Private
Channels are
Cloning by PC
Please wait----

TX Time Out

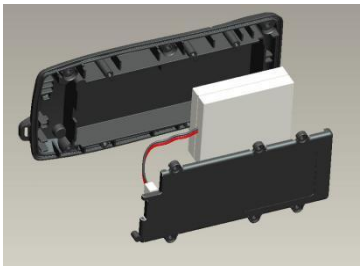
The transmission will be automatically turn off after PTT key pressed over 5 consecutive minutes. The TX mode will be terminate and back to Rx mode. To indicate the PTT key as the stuck condition. Once the PTT key is released, the TX time out timer will be reset. PTT key will work back normally.

WDT–Water Displacement Technology

To activate WDT press and hold the SCAN key whilst switching on the HM360 DSC MAX. You will be prompted with a beep tone and the letter‘Shock Wave Short Press the SCAN to run it ’will display. Press SCAN to activate WDT and hold the HM360 DSC MAX face down. After the water completely kick off from the speaker grids,short press the 'SCAN 'key to stop the WDT feature. Then reset the HM360 DSC MAX again.

Build in Battery

The HM360 DSC MAX model has the Build in Battery design likes the iphone there are three steps to installation and removal the battery in below diagram.



Step1

Step2

Step3

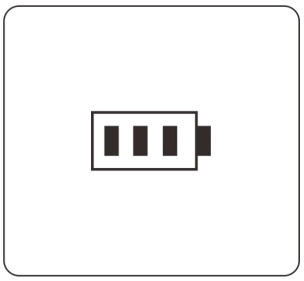
Connection Cable

The length of the Type-C USB Cable is 1 meter, the cable can be used for the software update and charge.

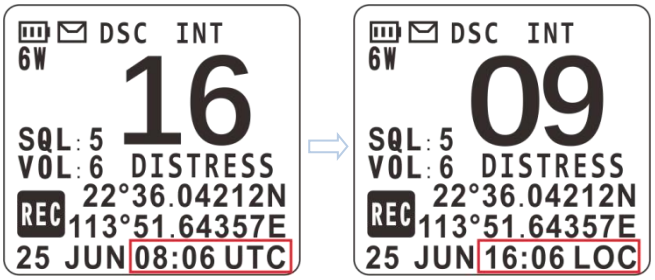
While the charger is connected the display will show the battery charging state by animating the battery icon.

when the radio is on, the battery symbol animates in the corner of the display.

when the radio is switched off, the battery symbol animates in the centre of the display.



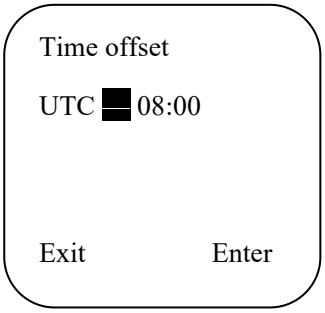
The local time and date on screen



UTC TIME LOCAL TIME

When the HM360 DSC MAX cannot receive the GPS signal to display the current position, the screen will automatic display the UTC local time and date.

The user can press the menu to switching your local time based on the UTC time. Long press the Call/Menu key then select the GPS setup item to enter. Then you can saw the GPS setting item and click the enter to select the Time offset item Then you are able to adjust your location time based on the time difference with the UTC time then press the enter to confirm. (You need to pass the entire item from the hour-minutes – seconds then able to saw the enter option to click and confirm).



Appendix A – Near Lightning Strike Test

This appendix describes the general procedure for evaluating the immunity to near lightning strikes (NLS) of the HM360 DSC MAX 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

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.

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

- 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
70	156.525	156.525	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

2. duplex channel. Operations are different from that of international operations on that channel.
3. Channel 16 is used for calling other stations or for distress alerting.
4. 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.
5. Channel 70 is used exclusively for Digital Selective Calling (DSC) and is not available for regular voice communications.
6. 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,	F1	155.625	155.625	Fishing
Norway & Sweden	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)　DSC(16K0G2B)
Channel Spacing	KHz	25
Frequency Stability	PPM	±5
Digital Selectivity Calling (DSC)		Class〝H〞
Standard Operation Temperature	°C	-15 ~ +55
Record	S	Maximum 60 seconds
Controls:POWER ON/OFF /VOL/SQL/CH/MENU SELECT		Multi-Function Coding Knob
Feature Keys		PTT,Torch/R/W,DISTRESS
		CH/*/WX,REC/PLAY,CALL/MENU,16/9,WP/GOTO, H/M/L/LOCK,SCAN,MEM,DW/TRIW
Normal Working Voltage	V	3.7 (With Li-Polymer Battery 4000mAh)
Low Limit Working Voltage	V	3
Battery Lifetime(TX 5%/RX 5%/Standby 90%)	H	≥ 10
Torch current	A	0.7
Controls:Volume		Rotary switch with push on
Charging current	mA	1500+/- 200
Antenna Socket		SMA
Display		Dot-Matrix 128*108,2.0 inch LCD　With White Back Light
Built-In Speaker		Diameter 40mm / Impedance 8 Ohm
Accessory		IPX8 waterproof cable,Belt Clip,Hand Strap,Rubber Duck Antenna,3.7V　Li-Polymer Battery Pack (4000mAh),AC 100~240V / DC 5V Wall Adapter (worldwide)
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	≤450
DSC(CH70)		
Sensitivity (1% BER)	V	≤ 0 dBμ (EMF)
Intermediate frequency		1st 19.65 MHz, 2nd 450 kHz
Intermodulation rejection ratio	dB	≥68 (1% BER)
Adjacent channel selectivity	dB	≥ 70 dB (1% BER)
GENERAL STANDARD		
1. Floating&Flash		
2, Waterproof: IPX8		
3.Communication Range: About 5 nautical miles		
4.Own an individual DSC receive		
5.Inside 56 channels GPS module		
6. Build in Battery		
DIMENSION & WEIGHT		
Dimension (L/W/H)	mm	155×60×40
Weight	g	287

Declaration of Conformity

We, the undersigned (☒ Manufacturer / ☐ The manufacturers authorized representative established within EEA):

Company	Shenzhen Jiuzhou Himunication Technology Co., Ltd
Address	7th Floor, building 13, Run Dong Sheng Industrial Park, National Road 107, Longzhu community, Xixiang, Baoan district, Shenzhen, China
Country	China
Telephone number	13713517852
Telefax number	-
E-mail	rd@himunication.com

Certify and declare under our responsibility that the following product:

Product Description	**Handheld Maritime Radio Transceiver**
Manufacturer	Shenzhen Jiuzhou Himunication Technology Co., Ltd
Brand Name	HIMUNICATION, NAVICOM
Model/Type	HM360 DSC MAX, RT420 DSC MAX
Hardware version	1.0B
Software version	SW314

Is tested to and conforms with the essential test suites included in the following standards, which are in force within the EEA:

Standard	**Issue date**	**Reference to report/file**
ETSI EN 300 698 V2.3.1 (2018-11)	2021-10-19	CHTEW21100112
ETSI EN 301 843-1 V2.2.0 (2017-07) ETSI EN 301 843-2 V2.2.0 (2017-07)	2021-10-19	CHTEW21100113
ETSI EN 301 489-1 V2.2.3 (2019-11) Draft ETSI EN 301 489-19 V2.2.0 (2020-09)	2021-10-19	CHTEW21100114
ETSI EN 302 885 V2.2.3 (2017-04) ETSI EN 300 338-5 V1.2.1(2017-02)	2021-10-19	CHTEW21100115
ETSI EN 303 413 V1.1.1: (2017-06)	2021-10-19	CHTEW21100116
EN 62368-1:2014+A11:2017	2021-10-20	CHTSE21100108
EN 50566:2017 EN 62209-2:2010/A1:2019	2021-10-18	CHTEW21100069

And therefore complies with the essential requirements of the following directives:

Directive Name	**Directive number**	**Further identification**
Radio Equipment Directive	2014/53/EU	

The following Notified Bodies have been consulted in the Conformity Assessment procedure (whenever applicable):

Notified Body number	**Name and address**
1622	Nemko Canada Inc 303 River Road Ottawa,Ontario, Canada K1V 1H2

The technical documentation as required by the conformity assessment procedure is kept at the following address for a period ending at least 10 years after the last product has been manufactured at the disposal of the relevant national authorities of any Member State for inspection:

Company	Shenzhen Jiuzhou Himunication Technology Co., Ltd
Address	7th Floor, building 13, Run Dong Sheng Industrial Park, National Road 107, Longzhu community, Xixiang, Baoan district, Shenzhen, China
Country	China
Telephone number	13713517852
Telefax number	-
E-mail	rd@himunication.com

Product is CE-marked in	

CE	**Drawn up in**	
	Date	**2021-10-23**
		
	Signature and Company Stamp	**Oliver Zou / R&D Director**