PROFESSIONAL HANDHELD MARINE RADIO

TideON

VHF MARINE TRANSCEIVER

Thank you for choosing this product.This product was designed and built with our state of the art technology and craftsmanship. With proper care, this product should provide you with years of trouble-free operation.

■ IMPORTANT

READ ALL INSTRUCTIONS carefully and completely before using the transceiver.

SAVE THIS INSTRUCTION MANUAL — This instruction manual contains important operating instructions for the radio.

■ EXPLICIT DEFINITIONS

WORD	DEFINITION
⚠DANGER!	Personal death, serious injury or an explosion may occur.
⚠WARNING!	Personal injury, fire hazard or electric shock may occur.
CAUTION	Equipment damage may occur.
NOTE	If disregarded, inconvenience only. No risk of personal injury, fire or electric shock.

■ FEATURES

- 5 W*¹ RF output power
- Powerful 700 mW audio output for clear communication
- Float'n Flash:
  Floats and flashes on the water
- IP67*² dust protection and waterproof construction
  *¹ 5 W for the AUS version.
  *² Only when the supplied battery pack or case, antenna, and jack cover are attached.

■ IN CASE OF EMERGENCY

If your vessel requires assistance, contact other vessels and the Coast Guard by sending a distress call on Channel 16.

◇ USING CHANNEL 16

1. Push [16/C] to switch to Channel 16.
2. While holding down [PTT], give the appropriate information as follows:

> - "MAYDAY MAYDAY MAYDAY."
> - "THIS IS [   ]" (name of vessel).
> - Say your call sign or other indication of the vessel (AND your 9 digit DSC ID, if you have one).
> - "LOCATED AT [   ]" (your position).
> - State the nature of the distress and assistance required.
> - Give any other information which might facilitate the rescue.

■ RECOMMENDATION

CLEAN THE TRANSCEIVER AND MICROPHONE THOROUGHLY WITH FRESH WATER after exposure to saltwater, and dry it before operating. Otherwise, the transceiver's keys, switches and controllers may become unusable, due to salt crystallization.

NOTE: If the transceiver's waterproof protection appears defective, carefully clean it with a soft, wet (fresh water) cloth, then, dry it before operating.
The transceiver may lose its waterproof protection if the case, jack cap, connector cover, or battery cover is cracked or broken, the transceiver has been dropped.
Contact your distributor or your dealer for advice.

■ FCC INFORMATION

This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense.

CAUTION: Changes or modifications to this transceiver, not expressly approved by our company, could void your authority to operate this transceiver under FCC regulations.

■ ABOUT CE AND DOC

 Hereby, our company declares that the versions of the radio which have the "CE" symbol on the product, comply with the essential requirements of the Radio Equipment Directive, 2014/53/EU, and the restriction of the use of certain hazardous substances in electrical and electronic equipment Directive, 2011/65/EU.

■ DISPOSAL

 The crossed-out wheeled-bin symbol on your product, literature, or packaging reminds you that in the European Union, all electrical and electronic products, batteries, and accumulators (rechargeable batteries) must be taken to designated collection locations at the end of their working life. Do not dispose of these products as unsorted municipal waste. Dispose of them according to the laws in your area.

■ TABLE OF CONTENTS

■ PRECAUTIONS

⚠ **WARNING! NEVER** use or charge our battery packs with non-our transceivers or non-our chargers. Only our battery packs are tested and approved for use with our transceivers or charged with our chargers. Using third-party or counterfeit battery packs or chargers may cause smoke, fire, or cause the battery to burst.

⚠ **WARNING! NEVER** hold the transceiver so that the antenna is very close to, or touching exposed parts of the body, especially the face or eyes, while transmitting.

⚠ **WARNING! NEVER** operate the transceiver with a headset or other audio accessories at high volume levels. The continuous high volume operation may cause a ringing in your ears. If you experience the ringing, reduce the volume level or discontinue use.

CAUTION: DO NOT short the terminals of the battery pack. Shorting may occur if the terminals touch metal objects such as a key, so be careful when placing the battery packs (or the transceiver) in bags, and so on. Carry them so that shorting cannot occur with metal objects. Shorting may damage not only the battery pack, but also the transceiver.

CAUTION: DO NOT use harsh solvents such as Benzine or alcohol when cleaning. This could damage the equipment surfaces. If the surface becomes dusty or dirty, wipe it clean with a soft, dry cloth.**CAUTION: DO NOT** place or leave the transceiver in excessively dusty environments. This could damage the transceiver.

NOTE: DO NOT place or leave the transceiver in direct sunlight or in areas outside of the specified temperature range:
  −20°C (−4˚F) ~ +60°C (+140˚F)
NEVER place the transceiver in an insecure place to avoid inadvertent use by unauthorized persons.

BE CAREFUL! The transceiver meets IP67 requirements for dust protection and waterproof protection. However, once the transceiver has been dropped, dust protection and waterproof protection cannot be guaranteed due to the fact that the transceiver may be cracked, or the waterproof seal damaged, and so on.
* Only when the supplied battery pack or case, antenna, and jack cover are attached.

Information:
In this instruction manual, the transceiver version names are described as shown below.

U.S.A.: USA   Export: EXP Europe: EUR
German: FRG Dutch: HOL   U.K.: UK
Australia: AUS

We are not responsible for the destruction, damage to, or performance of any our or non-our equipment, if the malfunction is because of:
• Force majeure, including, but not limited to, fires, earthquakes, storms, floods, lightning, other natural disasters, disturbances, riots, war, or radioactive contamination.
• The use of transceivers with any equipment that is not manufactured or approved by us.

■ SAFETY TRAINING INFORMATION

Your radio generates RF electromagnetic energy while transmitting. This radio is designed for and classified as for "Occupational Use Only." This means it must be used only during the course of employment by individuals aware of the hazards, and the ways to minimize such hazards. This radio is NOT intended for use by the "General Population" in an uncontrolled environment. This radio has been tested and complies with the FCC and IC RF exposure limits for "Occupational Use Only." In addition, your radio complies with the following Standards and Guidelines with regard to RF energy and electromagnetic energy levels and evaluation of such levels for exposure to humans:

• FCC KDB Publication 447498 D03, Evaluating Compliance with FCC Guidelines for Human Exposure to Radio Frequency Electromagnetic Fields.
• American National Standards Institute (C95.1-2019), IEEE Standard for Safety Levels with Respect to Human Exposure to Electric, Magnetic, and Electromagnetic Fields, 0 Hz to 300 GHz.
• American National Standards Institute (C95.3-2002), IEEE Recommended Practice for the Measurement of Potentially Hazardous Electromagnetic Fields– RF and Microwave.

To ensure that your expose to RF electromagnetic energy is within the FCC and IC allowable limits for occupational use, always adhere to the following guidelines:

• **DO NOT** operate the radio without a proper antenna attached, as this may damage the radio and may also cause you to exceed FCC and IC RF exposure limits. A proper antenna is the antenna supplied with this radio by the manufacturer or an antenna specifically authorized by the manufacturer for use with this radio.
• **DO NOT** transmit for more than 50% of the total radio use time ("50% duty cycle"). Transmitting more than 50% of the time can cause FCC and IC RF exposure compliance requirements to be exceeded. The radio is transmitting when "TX" is displayed on the function display. You can cause the radio to transmit by pushing the "PTT" switch.
• **ALWAYS** keep the antenna at least 2.5 cm (1 inch) away from the body when transmitting, and only use the our belt-clips when attaching the radio to your belt, or other place, to ensure FCC and IC RF exposure compliance requirements are not exceeded.

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

Electromagnetic Interference/ Compatibility
During transmissions, your radio generates RF energy that can possibly cause interference with other devices or systems. To avoid such interference, turn off the radio in areas where signs are posted to do so.
DO NOT operate the transmitter in areas that are sensitive to electromagnetic radiation such as hospitals, aircraft, and blastings ites.
Occupational/Controlled Use
The radio transmitter is used in situations in which persons are exposed as a consequence of their employment, provided those persons are fully aware of the potential for exposure and can exercise control over their exposure.

◇ Priorities

• Read all rules and regulations pertaining to priorities and keep an up-to-date copy handy. Safety and distress calls take priority over all others.

• You must monitor Channel 16 when you are not operating on another channel.

• False or fraudulent distress calls are prohibited under law.

◇ Privacy

• Information overheard but not intended for you cannot lawfully be used in any way.

• Indecent or profane language is prohibited.

◇ Radio licenses

(1) SHIP STATION LICENSE
You must have a current radio station license before using the transceiver. It is unlawful to operate a ship station which is not licensed.

Inquire through your dealer or the appropriate government agency for a Ship-Radiotelephone license application. This government-issued license states the call sign which is your craft's identification for radio purposes.

(2) OPERATOR'S LICENSE
A Restricted Radiotelephone Operator Permit is the license most often held by small vessel radio operators when a radio is not required for safety purposes.

The Restricted Radiotelephone Operator Permit must be posted or kept with the operator. Only a licensed radio operator may operate a transceiver.

However, non-licensed individuals may talk over a transceiver if a licensed operator starts, supervises, ends the call and makes the necessary log entries.

A current copy of the applicable government rules and regulations is only required to be on hand for vessels in which a radio telephone is compulsory. However, even if you are not required to have these on hand it is your responsibility to be thoroughly acquainted with all pertinent rules and regulations.

NOTE: Even though the radio is capable of operation on VHF marine channels 1021, 1023, 1081, 1082, and 1083, according to FCC regulations these simplex channels cannot be lawfully used by the general population in USA waters.
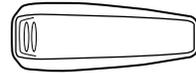
2 ACCESSORIES

■ Supplied accessories

Antenna   Handstrap   Belt clip
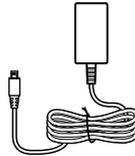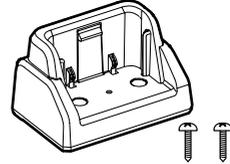
Battery pack   Power adapter   Desktop charger
                      (For Desktop charger)   (With two screws)

NOTE: Some accessories are not supplied, or the shape is different, depending on the transceiver version.

■ Attaching accessories

◇ Antenna

Connect the supplied antenna to the antenna connector.

CAUTION:
• **DO NOT** carry the transceiver by holding only the antenna.
• **DO NOT** connect an antenna other than those listed in this instruction manual.
• **DO NOT** transmit without an antenna.
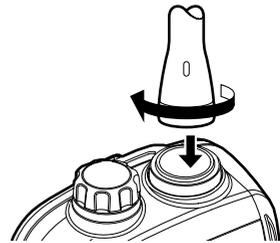
◇ Belt clip

To attach:
Slide the belt clip in the direction of the arrow until the belt clip is locked and makes a 'click' sound.

To detach:
Lift the tab up (❶), and slide the belt clip in the direction of the arrow (❷).

BE CAREFUL! DO NOT break your fingernail.

Belt clip

3 PANEL DESCRIPTION

■ Front, top and side panels

Function display

Speaker

Microphone

❶ SPEAKER/MIC JACK [SP/MIC]
(p. 23)
Connect the optional HM-213 speaker microphone here.

❷ PTT SWITCH [PTT]
Hold down to transmit, release to receive.

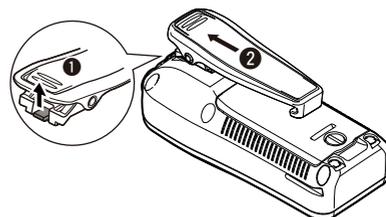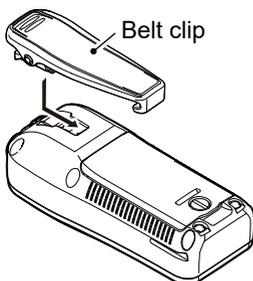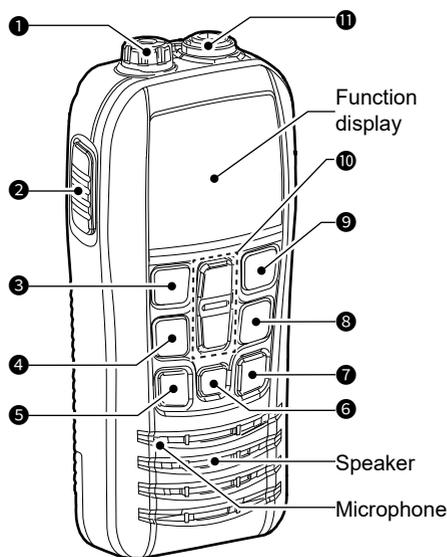**❸ CHANNEL 16/CALL CHANNEL KEY [16/C]** (p. 9)
• Push to select Channel 16.
• Hold down for 1 second to select the Call channel.

❹ VOLUME/SQUELCH/MONITOR KEY [VOL/SQL]/[MONI]
• Push once to display the volume level setting screen. (p. 11)
• Push twice to display the squelch level setting screen. (p. 12)
• Hold down for 1 second to turn ON the monitor function. (p. 12)

❺ SCAN/DUAL KEY [SCAN]/[DUAL]
• Push to start or stop a scan. (p. 15)
• Hold down for 1 second to start the Dual/Tri-watch mode. (p. 16)
  ⓘ While in Dualwatch, push to cancel Dualwatch.
  ⓘ Tri-watch may start, depending on the Set mode settings.
• Hold down both [SCAN] and [Hi/Lo] for 1 second to turn ON the AquaQuake function. (p. 12)

❻ POWER KEY [⏻]
Hold down for 1 second to turn the transceiver ON or OFF.

❼ TRANSMIT POWER/LOCK KEY [Hi/Lo]/[🔒]
• Push to set the power level to High or Low.
  ⓘ Some channels are set to only Low power.
• Hold down for 1 second to lock or unlock the keypad.

❽ CHANNEL/WEATHER CHANNEL[*1] KEY [CH/WX]/[U/I/C] or [CH]
• Push to switch between a regular channel and weather channel.[*1] (p. 10)
• Push to select a regular channel.[*2]
• Hold down for 1 second to change the channel group. (p. 9)

NOTE: [CH] is described as [CH/WX] or [U/I/C] in this instruction manual.

❾ FAVORITE CHANNEL KEY [FAV] (p. 15)
• Push to select a Favorite channel.
• Hold down for 1 second to set or clear the selected channel as a Favorite channel.

❿ UP/DOWN KEYS [▲]/[▼]
• Push to select the operating channel.
• Push to change the volume/squelch level while adjusting.
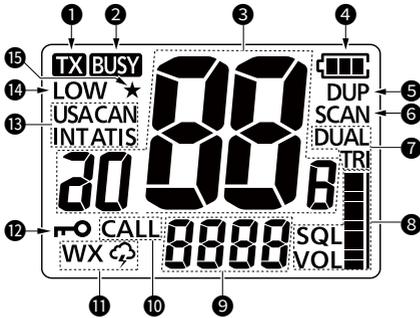• In the Set mode, push to select an item option.

⓫ ANTENNA CONNECTOR (p. 2)
Connect the supplied antenna here.

[*1] For the USA, EXP, and AUS versions
[*2] For the EUR, FRG, HOL, and UK versions

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■ Function Display

❶ TRANSMIT INDICATOR
Displayed while transmitting.

❷ BUSY ICON
Displayed while receiving, or the squelch is open.

❸ CHANNEL NUMBER READOUT
Displays the selected operating channel number.

❹ BATTERY INDICATOR
• Displays the battery status.

Indication	Battery status
▇▇▇	Full
▇▇	Mid
▇	Charging required
▢	Battery exhausted

❺ DUPLEX INDICATOR
Displayed when a Duplex channel is selected.

❻ SCAN INDICATOR*¹
Blinks while scanning. (p. 15)

❼ DUALWATCH/TRI-WATCH INDICATOR*¹
Blinks during Dualwatch or Tri-watch operation. (p. 16)

❽ VOLUME/SQUELCH LEVEL INDICATOR
• Number of bars shows the volume/squelch level.
• "SQL" blinks when adjusting the squelch level. (p. 12)
• "VOL" blinks when adjusting the volume level.

❾ SUB CHANNEL READOUT
• Displays the volume/squelch level while adjusting the level. (p. 12)
• Displays Channel 16 during a priority scan, Dualwatch or Tri-watch. (p. 16)
• Displays the Set mode item while in the Set mode. (p. 17)

❿ CALL CHANNEL INDICATOR
Displayed when the Call channel is selected. (p. 9)

⓫ WEATHER CHANNEL ICON*²
Displayed when the Weather channel is selected. (p. 10)
  ⓘ "☁" is displayed when the Weather Alert function is ON.

⓬ LOCK ICON
Displayed when the Lock function is ON.

⓭ CHANNEL GROUP INDICATOR (p. 9)
Displays the selected channel group, INT (International), USA, CAN (Canada), or ATIS.
  ⓘ The selectable channels differ, depending on the transceiver version, or the presetting.

⓮ LOW POWER INDICATOR
• Displayed when low power is selected.
• Blinks when a high temperature error or low voltage is detected, and automatically switches to low power.

⓯ FAVORITE CHANNEL ICON
Displayed when a Favorite channel is selected. (p. 15)

*¹ Except the HOL version
*² For the USA, EXP, and AUS versions

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4 **BATTERY CHARGING**

■ **Battery caution**

Misuse of Li-ion batteries may result in the following hazards: smoke, fire, or the battery may rupture. Misuse can also cause damage to the battery or degradation of battery performance.

⚠ **DANGER! NEVER** solder the battery terminals, or **NEVER** modify the battery pack. This may cause heat generation, and the battery may burst, emit smoke or catch fire.

⚠ **DANGER! NEVER** place or leave battery packs in areas with temperatures above 60°C (140°F). High temperature buildup in the battery cells, such as could occur near fires or stoves, inside a sun-heated vehicle, or in direct sunlight for long periods of time may cause the battery cells to rupture or catch fire. Excessive temperatures may also degrade the battery pack's performance or shorten the battery cell's life.

⚠ **DANGER! NEVER** strike or otherwise impact the battery pack. Do not use the battery pack if it has been severely impacted or dropped, or if the pack has been subjected to heavy pressure. Battery pack damage may not be visible on the outside of the case. Even if the surface of the battery does not show cracks or any other damage, the cells inside the battery may rupture or catch fire.

⚠ **DANGER! NEVER** place battery packs near a fire. Fire or heat may cause them to rupture or explode. Dispose of used battery packs in accordance with local regulations.

⚠ **DANGER! NEVER** let fluid from inside the battery get in your eyes. This can cause blindness. Rinse your eyes with clean water, without rubbing them, and immediately go to a doctor.

⚠ **WARNING! NEVER** use deteriorated battery packs. They could cause a fire.

⚠ **WARNING! NEVER** put the battery pack in a microwave oven, high-pressure container, or in an induction heating cooker. This could cause a fire, overheating, or cause the battery cells to rupture.

⚠ **WARNING! NEVER** let fluid from inside the battery cells come in contact with your body. If it does, immediately wash with clean water.

CAUTION: DO NOT continue to use the battery pack if it emits an abnormal odor, heats up, or is discolored or deformed. If any of these conditions occur, contact your dealer or distributor.

CAUTION: DO NOT expose the battery pack to rain, snow, saltwater, or any other liquids. Do not charge or use a wet pack. If the pack gets wet, be sure to wipe it with a clean dry cloth before using.

CAUTION: DO NOT use the battery pack out of the specified temperature range for the transceivers:
 –20°C ~ +60°C (–4°F ~ +140°F)and the battery itself (–20°C ~ +60°C (–4°F ~ +140°F)). Using the battery out of its specified temperature range will reduce its performance and battery cell's life. Please note that the specified temperature range of the battery may exceed that of the transceiver. In such cases, the transceiver may not work properly because it is out of its operating temperature range.

CAUTION: DO NOT leave the pack fully charged, completely discharged, or in an excessive temperature environment (above 50°C, 122°F) for an extended period of time. If the battery pack must be left unused for a long time, it must be detached from the transceiver after discharging. You may use the battery pack until the remaining capacity is about half, then keep it safely in a cool and dry place at the following temperature range:
–20°C ~ +50°C (–4°F ~ +122°F)
(within a month)
–20°C ~ +40°C (–4°F ~ +104°F)
(within three months)
–20°C ~ +20°C (–4°F ~ +68°F)
(within a year)

BE SURE to replace the battery pack with a new one approximately five years after manufacturing, even if it still holds a charge. The material inside the battery cells will become weak after a period of time, even with little use. The estimated number of times you can charge the pack is between 300 and 500. Even when the pack appears to be fully charged, the operating time of the transceiver may become short when:
• Approximately 5 years have passed since the pack was manufactured.
• The pack has been repeatedly charged.

■ Charging caution

⚠ **DANGER! NEVER** charge the battery pack in areas with extremely high temperatures, such as near fires or stoves, inside a sun-heated vehicle, or in direct sunlight. In such environments, the safety/protection circuit in the battery will activate, causing the battery to stop charging.

⚠ **WARNING! NEVER** charge the transceiver during a lightning storm. It may result in an electric shock, cause a fire or damage the transceiver. Always disconnect the power adapter before a storm.

⚠ **WARNING! NEVER** charge or leave the battery in the battery charger beyond the specified time for charging. If the battery is not completely charged by the specified time, stop charging and remove the battery from the battery charger. Continuing to charge the battery beyond the specified time limit may cause a fire, overheating, or the battery may rupture.

⚠ **WARNING!** Occasionally observe the battery pack condition while charging. If any abnormal condition occurs, discontinue using the battery pack.

CAUTION: DO NOT insert the transceiver (battery attached to the transceiver) into the charger if it is wet or soiled. This could corrode the battery charger terminals or damage the charger. The charger is not waterproof.

CAUTION: DO NOT charge the battery pack outside of the specified temperature range for BC-235: 15˚C ~ 40˚C (59˚F ~ 104˚F)

Otherwise, the charging time will be longer, but the battery will not reach a full charge. While charging, at a point after the temperature goes out of the specified range, the charging will automatically stop.
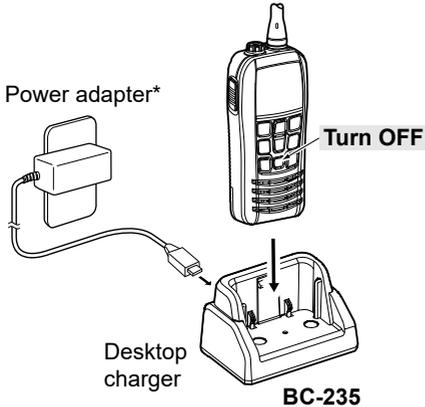
CAUTION: DO NOT use the power adapter unless the power outlet is easily accessible and near the unit. Remove it from the power outlet when not in use.

■ **Battery charger**

◇ **Supplied battery charger**

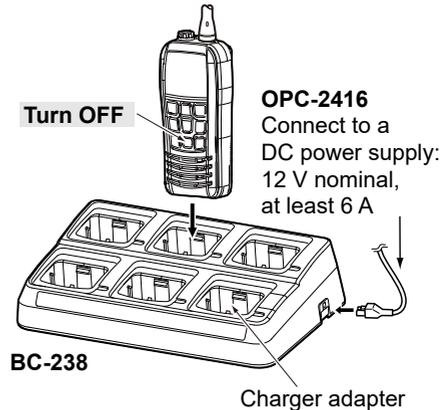Charging time: Approximately 4 hours for
the BP-296

Power adapter*

Turn OFF

Desktop
charger

BC-235

◇ **Optional battery charger**

Charging time: Approximately 4 hours for
the BP-296

CAUTION: NEVER connect the OPC-2416 to a power source using reverse polarity. This will ruin the battery charger. The positive (⊕) side is marked with a white dashed line.

Turn OFF

OPC-2416
Connect to a
DC power supply:
12 V nominal,
at least 6 A

BC-238

Charger adapter

* Not supplied, or the shape is different, depending on the transceiver version.

ⓘ "ᒐᕼᘜ" is displayed and bars of the battery icon scroll while charging.

ⓘ "Fᒐ" is displayed when the battery has been fully charged.

NOTE:
• The transceiver **MUST** be turned OFF while charging.
  Otherwise:
  - The battery will not be charged correctly.
  - The battery life may be shortened.
• **DO NOT** transmit while charging. When you need to transmit, remove the transceiver from the charger, and then turn ON the transceiver.
• The transceiver is designed to not easily come out of the charger when the vessel is pitching and rolling, because the charger has a locking tab inside. If you cannot easily remove the transceiver from the charger, tilt the transceiver forward to release it from the locking tab, and then remove it while holding down the charger.
• If the battery pack does not properly charge when it is attached to the transceiver, remove the transceiver from the charger and insert the transceiver into the charger again.
  ⓘ When error is detected, the battery icon blinks, and "Eᖇ" and "ᒐᕼᘜ" are displayed.

Locking tab
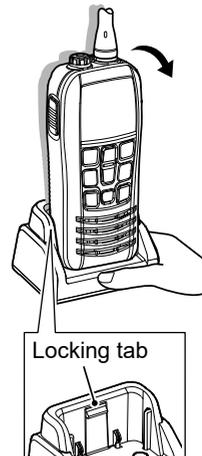
■ Selecting a channel

◇ Regular Channel

You can select a channel by pushing [▲] or [▼].

◇ Channel 16

Channel 16 is the distress and safety channel. It is used to establish the initial contact with a station, and for emergency communications. Channel 16 is monitored during both Dualwatch and Tri-watch. While in the standby, you must monitor Channel 16.

● Push [16/C] to select Channel 16.
 ⓘ To return to the previously selected channel, push [CH/WX].
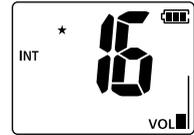
◇ Call channel

Each Channel Group has separate leisure-use Call channels. The Call channel is scanned during Tri-watch. The Call channels can be selected and used to store your most often used channels in each Channel Group, for quick recall.
See page 13 for details on setting the Call channel.

● Hold down [16/C] for 1 second to select the Call channel.
  • The Call channel number and "CALL" are displayed.
  ⓘ To return to the previously selected channel, push [CH/WX].
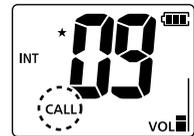
◇ Selecting a Channel Group

Channel Groups are preset into your transceiver. You can select a Channel Group for USA, International, Canadian, and ATIS, depending on the transceiver version.

● Hold down [U/I/C] (CH/WX) for 1 second to change the channel group.
  ⓘ The selectable channel groups may differ, depending on the transceiver version.

| Version	Preset Channel Group			
	USA	INT	CAN	ATIS
USA	✓	✓	✓	
UK	✓	✓		
EUR		✓		
FRG		✓		✓
HOL		✓		✓
AUS	✓	✓		
EXP (Other)	✓	✓	✓	

NOTE: You cannot transmit on Channel 70.

5 BASIC OPERATION

■ Weather channels and Weather Alert (For the USA, EXP, and AUS versions)

The transceiver has 10 preset Weather channels. The transceivers are capable* of monitoring broadcasts from the National Oceanographic and Atmospheric Administration (NOAA). The transceiver automatically detects a Weather alert tone on the selected weather channel, or while scanning.
* When used within range of the broadcasts.

1. Push [CH/WX].
   • "WX" is displayed on the operating screen instead of the Channel Group.
2. Push [▲] or [▼] to select a Weather channel.
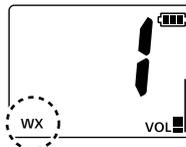
◇ Setting the Weather Alert

1. While holding down [VOL/SQL], push [⏻] to enter the Set mode.
2. Push [VOL/SQL] to select the Weather Alert item.
   • "ᴿᴸᵣₜ" is displayed.
3. Push [▲] or [▼] to turn ON the Weather Alert.
   • "⌂" is displayed.
4. Push [16/C] to exit the Set mode.
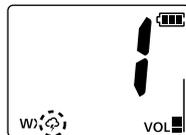
The Weather channel list

Channel	Frequency (MHz)	Channel	Frequency (MHz)
1	162.550	6	162.500
2	162.400	7	162.525
3	162.475	8	161.650
4	162.425	9	161.775
5	162.450	10	163.275

NOTE: When this function is turned ON, the currently selected weather channel is monitored, even while receiving another channel (when the Power Save function is turned ON), or during a scan.

9

■ Receiving and transmitting

CAUTION: DO NOT transmit without an antenna.

NOTE: Before using the transceiver for the first time, the battery pack must be fully charged for optimum life and operation. See Section 4 for battery charging.

1. Push [▲] or [▼] to select a channel.
   • When a signal is received, "**BUSY**" is displayed.
2. Hold down [PTT], and speak into the microphone to transmit.
   • "**TX**" is displayed while transmitting.
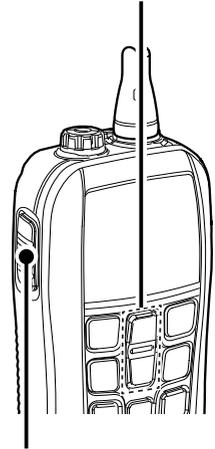3. Release [PTT] to receive.

TIP: To maximize the readability of your transmitted signal, pause for a second after pushing [PTT] and hold the microphone 5 ~ 10 cm (2 ~ 4 inches) from your mouth, and then speak at your normal voice level.

NOTE:
• To conserve battery power, the Power Save function automatically turns ON when no signal is received for 5 seconds.
• The Time-out Timer function* cuts OFF transmission after 5 minutes of continuously transmitting, to prevent prolonged transmission. 10 seconds before transmission is cut off, a beep sounds to indicate the transmission will be cut off, and "TOT" blinks. After it is cut OFF, "TOT" is displayed for 10 seconds, and you cannot transmit until it disappears.
  * This function may not be installed, depending on the transceiver version.

❶ **Select a channel.**

❷ **Push to transmit.**
❸ **Release to receive.**

◇ SP Line Convert function

When the optional speaker microphone is not used, the speaker can be converted into a microphone.
ⓘ The speaker automatically converts into a microphone when the transceiver is floating on the water, depending on the Set mode setting. (p. 19)

● Push [VOL/SQL] while holding down [PTT] to turn the function ON or OFF.
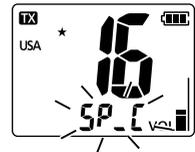
■ Adjusting the volume level

You can adjust the volume level while the "VOL" icon is blinking.

1. Push [VOL/SQL] once to enter the Volume Adjustment mode.
2. Push [▲] or [▼] to adjust the volume level.
3. Push [VOL/SQL] twice to exit the Volume Adjustment mode.
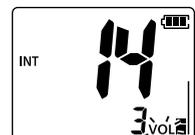
5 BASIC OPERATION

■ Adjusting the squelch level

Squelch enables the audio to be heard only while receiving a signal that is stronger than the set level. A higher level blocks weak signals, so that you can receive only stronger signals. A lower level enables you to hear weak signals.

1. Push [VOL/SQL] twice to enter the Squelch Adjustment mode.
2. Push [▲] or [▼] to adjust the squelch level, until the noise just disappears.
3. Push [VOL/SQL] once to exit the Squelch Adjustment mode.

■ Volume Loud/Mute function

You can temporary maximize the volume level with a simple operation.
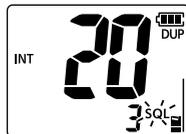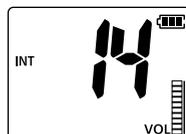
● While holding down [VOL/SQL], push [▲].
  • The volume level is set to the maximum level.
  • Push [VOL/SQL] and [▲] again to turn OFF the function.

You can temporary mute the audio output with a simple operation.

● While holding down [VOL/SQL], push [▼].
  • The volume level is set to the minimum level (OFF).
  • Push [VOL/SQL] and [▼] again to turn OFF the function.
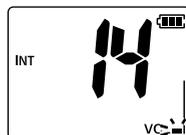
■ Monitor function

The monitor function opens the squelch.
ⓘ The monitor key action can be selected in the set mode. (p. 18)

● The monitor function is activated by holding down [MONI] for 1 second.
  • "BUSY" blinks and the squelch is opened.

■ AquaQuake Water Draining function

Water in the speaker grill may muffle the sound coming from the speaker. The AquaQuake Water Draining function removes water from the speaker grill by vibrating the speaker cone.
ⓘ The AquaQuake Water Draining function is not usable when using the optional speaker microphone.

1. Hold down both [SCAN] and [Hi/Lo] for 1 second.
  • "ᴀ۹ᵤᴀ" is displayed.
  • A low frequency vibration sounds is heard for 10 seconds to drain the water, regardless of the volume level setting.

  CAUTION: The low frequency vibration sounds loudly.

2. Push any key to turn OFF the function.

■ Setting the Call channel

By default, a Call channel is set in each Channel Group.
You can set your most often-used channel as your Call channel in each Channel Group, for quick recall.
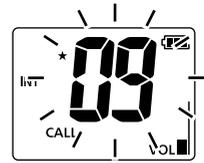
1. Hold down [16/C] for 1 second to select the Call channel.
   • "CALL" and the Call channel number is displayed.
2. Hold down [16/C] again for 3 seconds (until a long beep changes to 2 short beeps).
   • The Call channel number blinks.
3. Push [▲] or [▼] to select the channel.
4. Push [16/C] to set the selected channel as the Call channel.
   • The Call channel number stops blinking.

■ Power OFF Subfunction

Subfunctions can be activated by holding down a specific key when the transceiver is OFF.
ⓘ This function works even if the lock function is turned ON.

1. Turn OFF the transceiver.
2. Hold down a key to turn ON the function.

Mode	Key	Function
Light	[VOL/SQL]	Turns ON the an LCD and key backlight.
Emergency	[SCAN]	An emergency alarm sounds, and the sound gradually becomes louder. **CAUTION:** The alarm sounds loudly.
Battery Voltage	[FAV]	Displays the battery voltage. (For example: [3_60] means 3.60 V.) ⓘ [AL] is displayed when using alkaline batteries.
Flash	[Hi/Lo]	The LCD and key backlight blink.

• The function is activated while holding down the key.
ⓘ The function is turned OFF after the set period has passed from releasing the key, depending on the Set mode setting. (p. 19)
ⓘ If you want to turn OFF the function before the set period has passed, push any key.

■ CH History function

The CH History function quickly selects your last-used channel.
ⓘ Up to 5 channels are saved in each Channel Group.
ⓘ The CH History is saved, even if the transceiver is turned ON or OFF.

1. Push [CH/WX] and [▼] to enter the CH History selection mode.
   • "Hi St" blinks.
2. Push [▼] to select the registered channel.
3. Turn OFF the transceiver, and then push [⏻] while holding down [▼] to delete the CH History.

5

12
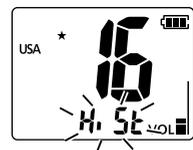
6 SCAN OPERATION

You can find ongoing communication by scanning the Favorite channels. Scan is for the all transceiver versions except the HOL version.

Before starting a scan:
• Set the channels that you want to scan as Favorite channels. (p. 15)
  ⓘ Only the Favorite channels are scanned.
• Set the scan type to "Priority Scan" or "Normal Scan" on the Set mode setting. (p. 18)

Normal Scan
Sequentially searches through all Favorite channels. Channel 16 is not scanned unless it is set as a Favorite channel.
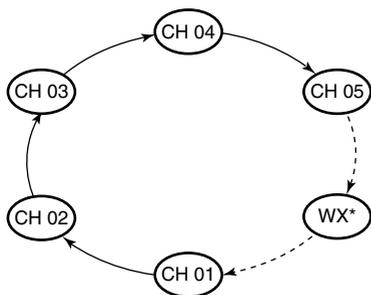
```
        CH 04
   CH 03      CH 05

  CH 02          WX*     * For the USA, EXP, and AUS versions. When
                           the Weather Alert function is ON, the previously
        CH 01              selected Weather channel is also scanned.
```

Priority Scan
Sequentially searches through all Favorite channels, while also periodically checking Channel 16.
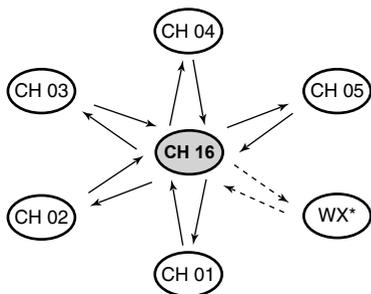
```
           CH 04
    CH 03         CH 05

            CH 16

    CH 02          WX*     * For the USA, EXP, and AUS versions. When
                             the Weather Alert function is ON, the previously
           CH 01              selected Weather channel is also scanned.
```

When a signal is received:
On Channel 16: The scan pauses until the signal disappears.
On a channel other than Channel 16: The scan switches to Dualwatch until the signal disappears.

■ Favorite channels

You can quickly recall often-used channels by setting them as Favorite channels. You can set Favorite channels in each Channel Group.

◇ Setting/Clearing

1. Push [▲] or [▼] to select the channel.
2. Hold down [FAV] for 1 second to set or clear as a Favorite channel.
   • The selected channel is set as a Favorite channel, and "★" is displayed.

◇ Selecting

● Push [FAV].
  ⓘ Non-Favorite channels are skipped and not displayed.

TIP: You can clear all Favorite channels.
ⓘ If there is no Favorite channel, all channels will be set as Favorite channels.
1. Turn OFF the transceiver.
2. While holding down [FAV], turn ON the transceiver.

■ Starting a scan (Except the HOL version)

Example: Starting a Normal Scan.

1. Push [SCAN] to start the scan.
   • "SCAN" blinks during a Normal Scan.
   • "ƙ" is also displayed during a Priority Scan.
   • " BUSY " is displayed when a signal is received.
   ⓘ When a signal is received, the scan pauses until it disappears, or resumes after 5 seconds, depending on the Set mode setting. (p. 18)
   ⓘ 2 beeps sound and "ƙ" blinks when a signal is received on Channel 16 during a Priority scan.
2. Push [SCAN] to stop the scan.

TIP: In order to properly receive signals, be sure to adjust the squelch to a suitable level.

---
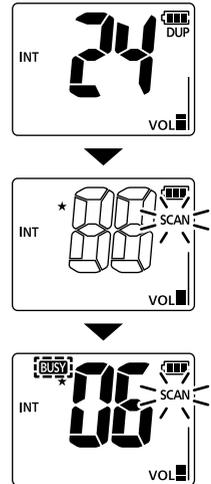
7 DUALWATCH AND TRI-WATCH (Except the HOL version)

■ Description

Dualwatch and Tri-watch are convenient to periodically check Channel 16 while you are operating on another channel.

Dualwatch

Operating channel → **CH 16**
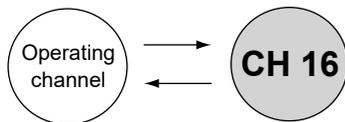
Periodically checks Channel 16 while operating on another channel.

Tri-watch

Operating channel ⇄ Call channel / **CH 16**
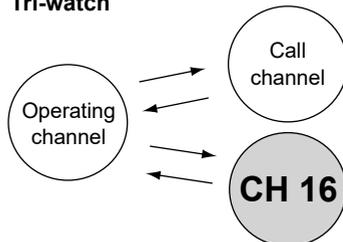
Periodically checks Channel 16 and the Call channel while operating on another channel.

When a signal is received:

On Channel 16: Dualwatch/Tri-watch pauses on Channel 16 until the signal disappears.

On the Call channel: Tri-watch switches to Dualwatch until the signal on the Call channel disappears.

■ Operation

Example: Operating Dualwatch on Channel 7.

1. Select Dualwatch in the Set mode setting. (p. 18)
2. Push [▲] or [▼] to select a channel.
3. Hold down [DUAL] for 1 second.
   • Dualwatch starts.
   • "DUAL" and "16" blink during Dualwatch.
   • "CALL" is displayed when a signal is received on the Call channel.
   ⓘ A beep tone sounds when a signal is received on Channel 16.
4. Push [DUAL] again to cancel Dualwatch.
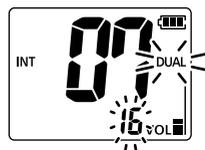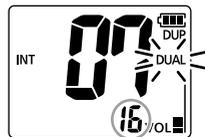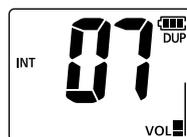
■ Using the Set mode

You can set seldom changed settings in the Set mode.
You can customize the transceiver settings to suit your preference and operating style.

1. While holding down [VOL/SQL], push [⏻] to enter the Set mode.
    • The "Beep" item is displayed.
    ⓘ When the transceiver is turned OFF:
      Hold down [VOL/SQL], and within 1 second, push [⏻]. This will turn ON the transceiver and enter the Set mode.
2. Push [VOL/SQL], or push [▲] or [▼] while holding down [VOL/SQL] to select an item.
3. Push [▲] or [▼] to select an option.
4. Push [16/C] to exit the Set mode.

• Beep	• WX Alert*¹	• Scan Type*²
on bEEP	oF wx ☊ ALrt	oF SCAN Prio
• Scan Timer*²	• Auto Scan*²	• Dual/Tri-watch*²
oF SCAN S_t,	oF SCAN Auto	d -◄ DUAL dt
• SQL Key Action	• Backlight	• Contrast
Pu SQLS	on A_bL	Hi Lcdc
• Power Save	• CH Display*³	• Float'n Flash
on P_SA	USA 4d CH_U	on FLAS
• Float'n Flash Alarm	• Float'n Flash Power Save	• Low Battery Alarm
oF F_AL	oF F_PS	oF Lb_A
• Sub-function Delay Timer	• Auto SP Line Convert	
10 Sb_t	oF SP_C	

*¹ For the USA, EXP, and AUS transceiver versions *² Except the HOL version
*³ The "CH Display" item is displayed for each selectable channel group.

16

8 SET MODE

■ Set mode items

NOTE: The Set mode items contained in the transceiver may be different, depending on the transceiver's version or presettings. Ask your dealer for details.

Beep "bEEP"

Turns the Key Beep function ON or OFF.
OFF: Turns OFF the function for silent operation.
ON: When a key is pushed, a beep sounds.

WX Alert "ALrt"
(For the USA, EXP, and AUS versions)

Turns the Weather Alert function ON or OFF.
① See page 10 for details.
OFF: The transceiver does not detect a Weather Alert tone.
ON: The transceiver detects the Weather Alert tone, and the "WX ⌖" icon blinks and a beep sounds.
     ① The blinking stops when another key is pushed.

Scan Type "Prio"
(Except the HOL version)

Turns the Priority Scan function ON or OFF.
OFF: The scan type is set to "Normal," which sequentially searches all Favorite channels in the channel group.
ON: The scan type is set to "Priority," which sequentially searches all Favorite channels in the channel group, while also periodically checking Channel 16 (Priority channel).

Scan Timer "S_ti"
(Except the HOL version)

Turns the Scan Resume Timer ON or OFF.
OFF: When a signal is detected on a channel, the scan pauses until the signal disappears, and then resumes.
ON: When a signal is detected on a channel, the scan pauses for 5 seconds, and then resumes. If the signal disappears in less than 5 seconds, the scan immediately resumes.

Auto Scan "Auto"
(Except the HOL version)

Turns the Automatic Scan function ON or OFF.
OFF: The function is OFF.
ON: Scan automatically starts when no signal is received, or no operations are carried out for 30 seconds.

Dual/Tri-watch "dt"
(Except the HOL version)

Selects Dualwatch or Tri-watch.
d- (Dual): Periodically checks Channel 16 while operating on another channel.
t- (Tri): Periodically checks Channel 16 and the Call channel while operating on another channel.

SQL Key Action "SQLS"

The function temporarily opens the squelch.
Pu (Push): The Monitor function is activated by holding down [VOL/SQL] for more than 1 second. The squelch opens while holding down the key.
Ho (Hold): The Monitor function is activated by holding down [VOL/SQL] for more than 1 second. The squelch stays open until the user pushes any key.

Backlight "A_bL"

Turns the Automatic Backlight function ON or OFF.
OFF: The function is OFF.
ON: The backlight turns ON for 5 seconds when the user pushes any key except [PTT].

Contrast "Lcdc"

Selects the transceiver's display contrast.
Hi: The transceiver's display contrast is set to High.
Lo: The transceiver's display contrast is set to Low.

Power Save "P_SA"

Turns the Power Save function ON or OFF.
OFF: The function is OFF.
ON: The Power Save function reduces current drain by deactivating the receiver circuit of the transceiver at specified intervals.

CH Display "[H_ l"/"[H_U"/"[H_["

Selects the number of digits to display the channel number. You can select settings for each channel group.
3d: The channel number is displayed in 3 digits, such as "78A."
4d: The channel number is displayed in 4 digits, such as "1078."

Float'n Flash "FLAS"

Turns the Float'n Flash function ON or OFF. You can easily retrieve the transceiver from the water.
ⓛ This function works even if the transceiver is turned OFF.
OFF: This function is OFF.
ON: The backlight, LED, or both of them send out intermittent light when the transceiver is floating on the water.
     ⓛ This function is temporally OFF, and the transceiver can be operated when any key is pushed. This function is turned ON in 10 seconds after releasing the key.

Float'n Flash Alarm "F_ AL "

Selects whether or not an alarm sounds while the light blinks when the transceiver is floating on the water.
ⓛ This function is usable only when the Float'n Flash is turned ON.
OFF: The alarm does not sound.
ON: The alarm sounds while the light blinks when the transceiver is floating on the water.

> **CAUTION:** The alarm sounds loudly.

Float'n Flash Power Save "F_PS"

Turns the Float'n Flash Power Save function ON or OFF.
ⓛ This function is usable only when the Float'n Flash is turned ON.
OFF: This function is OFF.
ON: When the transceiver floats on the water, it enters the Float'n Flash Power Save mode to conserve battery power.

Low Battery Alarm "Lb_A"

Selects whether or not an alarm sounds when the battery is low. A beep sounds every time the battery indication is lower than a displayed value. The beep interval changes, as shown below, according to the number of bars displayed.

Option	Beep interval		
	Battery exhausted	Charging required	Mid
OFF	This function is OFF.		
1	Every 30 seconds	–	–
2		Every minute	
3			Every 2 minutes

Delay Timer Subfunction "Sb_t"

Sets the Delay Timer Subfunction to 10, 30, 60 seconds, or OFF. A sub function is turned OFF after the set period of time has passed after releasing a specific key.
ⓛ When the timer is set to OFF, the sub function is turned OFF when releasing the specified key.
ⓛ See page 13 for details.

Auto SP Line Convert "SP_["

Turns the Auto SP Line Convert function ON or OFF.
ⓛ The speaker is converted into a microphone by pushing [VOL/SQL] while holding down [PTT], regardless of this setting. (p. 11)
OFF: This function is OFF.
ON: Automatically converts the speaker into a microphone, when the transceiver is floating on the water.

9 ATIS CODE
(For only the HOL and FRG versions)

The Automatic Transmitter Identification System (ATIS) ID consists of 10 digits. You can set and confirm the ID as shown below.

NOTE: You can enter this initial code ONLY ONCE. After entry, only your dealer or distributor can change it. If your ATIS code has already been entered, this entry is not necessary.

◇ Setting the ATIS code
1. Turn OFF the power.
2. While holding down [16/C], push [⏻].
   • Enters to the ATIS Code Setting mode.
3. Push [▲] or [▼] to select the number for the first digit of the ATIS code.
4. Push [CH/WX] to select the next digit, and then push [▲] or [▼] to select a number.
   • Pushing [VOL/SQL] selects the previous digit.
5. After the 10th digit has been input, push [Hi/Lo] to store the code.
   • The code number stops blinking.
   • Push [16/C] to return to the normal operating mode.
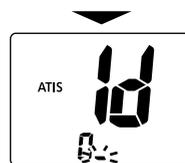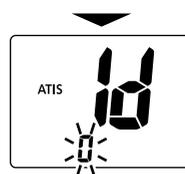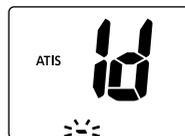
◇ ATIS code confirmation
(Can be performed only when the ATIS code has been programmed.)
1. Turn OFF the power.
2. While holding down [16/C], push [⏻] to enter the ATIS code confirmation mode.
   • The stored code number is displayed.
   • Push [CH] to select the next digit, push [VOL/SQL] to select the previous digit.
3. Push [16/C] to exit the ATIS Confirmation mode.

■ Specifications

ⓘ All stated specifications are subject to change without notice or obligation.
ⓘ Measurements made without an antenna.

General		M73		
Frequency coverage	TX	156.025 ~ 157.425 MHz		
	RX	156.050 ~ 163.275 MHz		
Type of emission		16K0G3E (FM)		
Antenna impedance		50 Ω nominal		
Input impedance (MIC)		2 kΩ		
Output impedance (audio)	External	4 Ω		
	Internal	8 Ω		
Operating temperature range		−20°C ~ +60°C, −4ºF ~ +140ºF		
Power supply voltage		Negative ground: 3.7 V DC nominal		
Current drain (at 3.7 V DC) (approximate)	Maximum audio	External speaker: 0.2 A Internal speaker: 0.4 A		
	TX high	5 W: 2.6 A 1 W: 1.0 A		
Dimensions (projections not included)		59.7 (W) × 140.5 (H) × 38.7 (D) mm 2.4 (W) × 5.5 (H) × 1.5 (D) in		
Weight (approximate)		293 g, 10.3 oz (including battery pack, antenna, and belt clip)		

Transmitter	M73		
Rated output power	5 W or 1 W		
SAR 10g			
Modulation	Variable reactance frequency modulation		
Maximum frequency deviation	±5 kHz		
Frequency error	±10 ppm		
Spurious emissions	−68 dBc (typical)		
Adjacent channel power	70 dB		
Audio harmonic distortion (at 60% Deviation)	10%		
Residual modulation	40 dB		
Audio frequency response	+1 dB ~ −3 dB of 6 dB octave from 300 Hz ~ 3000 Hz		

Receiver	M73		
Sensitivity (typical)	0.25 µV at 12 dB SINAD		
Squelch sensitivity (typical) (at threshold)	0.25 µV		
Audio output power (at 10% distortion)	External (with 4 Ω)	0.3 W (typical)	
	Internal (with 8 Ω)	0.7 W (typical)	

9

10

10 SPECIFICATIONS AND OPTIONS

■ Specifications

Receiver	M73		
Adjacent channel selectivity	70 dB (typical)		
Spurious response	70 dB (typical)		
Intermodulation	70 dB (typical)		
Hum and noise			
Audio frequency response	+1 dB ~ –3 dB of –6 dB octave from 300 Hz ~ 3000 Hz		

■ Options

◇ Battery pack/Battery case

· BP-296 LI-ION BATTERY PACK

Voltage: 3.6 V
  Capacity: 1800mAh(typical),
  Battery life: Approximately 12 hours*
  * When the Power Save function is ON,
    and the operating periods are calculated
    under the following conditions:
    TX : RX : standby = 5 : 5 : 90
· **BP-297** BATTERY CASE
  Battery case for 3 × AAA (LR03) alkaline
  batteries.

Some options may not be available in some
countries. Please ask your dealer for details.

◇ Charger
· **BC-235** DESKTOP CHARGER
  +BC-217 AC ADAPTER
  To rapidly charge a battery pack.

· **BC-238** MULTI CHARGER
  +OPC-2416 DC POWER CABLE
  To rapidly charge up to 6 battery packs.
  ⓘ The AD-138 CHARGER ADAPTERS are installed.

◇ Others
· **FA-SC59V** ANTENNA
· **MB-133** BELT CLIP
· **HM-213** SPEAKER MICROPHONE
  Full sized waterproof speaker
 microphone including alligator type clip to
 attach to your shirt or collar, and so on.

■ Using the BP-297

When using the optional BP-297 battery case, install 3 × AAA (LR03) size Alkaline batteries.

CAUTION:
· **NEVER** incinerate used battery cells since internal battery gas
  may cause them to rupture.
· **NEVER** expose a detached battery case to water. If the battery
  case gets wet, be sure to wipe it dry before using it.
· **NEVER** use batteries whose insulated cover is damaged.
· **NEVER** insert the transceiver into the charger, and charge it
  when the optional battery case is attached.

NOTE:
· When installing the batteries, make sure they are all the same brand,
  type and capacity. Also, do not mix new and old batteries together.
· Keep the battery terminals clean. It's a good idea to occasionally
  clean them.
· The transceiver may sink when the optional battery case is
  attached. (Depends on the weight of the installed batteries.)
· When using the optional battery case, the output power level is
  fixed at Low power.

■ Using the HM-213

Alligator type clip
To attach the speaker microphone
to your shirt or collar.

PTT switch
Push to transmit.
Release to receive.

Microphone

Speaker
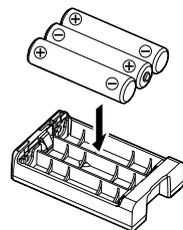
Turn the transceiver power OFF
when connecting the HM-213.
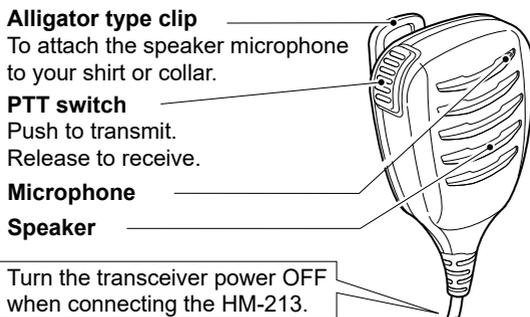
NOTE:
• **NEVER** immerse the connector in water. If the connector becomes wet, **BE SURE** to dry it before attaching to the transceiver.
• The microphone element is located at the top of the speaker microphone, as shown in the illustration above. To maximize the readability of your transmitted audio, hold the microphone approximately 5 ~ 10 cm (2 ~ 4 inches) from your mouth, and then speak at your normal voice level.

◇ Attaching the HM-213

1. Turn OFF the power.
2. Insert the speaker microphone connector into the [SP/MIC] connector and securely screw it, as shown below.
   ⓘ Be careful not to cross-thread the connection.

CAUTION: Attach the speaker microphone's connector securely to prevent accidental loss, or water intrusion into the connector.
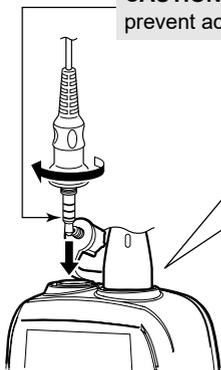
Detaching: Rotate the [SP/MIC] cap counter-clockwise, and then detach it.

Attaching: Attach the [SP/MIC] cap, and then rotate it clockwise completely.

NOTE: KEEP the transceiver's [SP/MIC] cap attached when the speaker microphone is not used. If the cover is not attached, water will get into the transceiver. Moreover, the terminals (pins) will become rusty, or the transceiver will function abnormally if the connector gets wet.

11 VHF MARINE CHANNEL LIST

■ For M73 (USA and EXP)

NOTE: When the "CH Display" is set to "3d" in the Set mode, the channel number is displayed in 3 digits. See page 19 for details. (For example: "1001 is displayed as "01A.")

USA	INT	CAN	Transmit	Receive	USA	INT	CAN	Transmit	Receive
	01	01	156.050	160.650		61		156.075	160.675
1001	1001*4		156.050	156.050			1061	156.075	156.075
	02	02	156.100	160.700		62		156.125	160.725
	03	03	156.150	160.750			1062	156.125	156.125
	04		156.200	160.800		63		156.175	160.775
		1004	156.200	156.200	1063	1063*4	1063	156.175	156.175
	05		156.250	160.850		64	64	156.225	160.825
1005	1005*4	1005	156.250	156.250			1064	156.225	156.225
06	06	06	156.300	156.300		65		156.275	160.875
	07		156.350	160.950	1065	1065*4	1065*1	156.275	156.275
1007	1007*4	1007	156.350	156.350		66		156.325	160.925
08	08	08	156.400	156.400	1066	1066*4	1066*1	156.325	156.325
09	09	09	156.450	156.450	67*1	67	67	156.375	156.375
10	10	10	156.500	156.500	68	68	68	156.425	156.425
11	11	11	156.550	156.550	69	69	69	156.475	156.475
12	12	12	156.600	156.600	71	71	71	156.575	156.575
13*1	13	13*1	156.650	156.650	72	72	72	156.625	156.625
14	14	14	156.700	156.700	73	73	73	156.675	156.675
15*3	15*2	15*1	156.750	156.750	74	74	74	156.725	156.725
16	16	16	156.800	156.800		75*2	75*1	156.775	156.775
17*1	17	17*1	156.850	156.850		76*2	76*1	156.825	156.825
	18		156.900	161.500	77*1	77	77*1	156.875	156.875
1018	1018*4	1018	156.900	156.900		78		156.925	161.525
	19		156.950	161.550	1078	1078	1078	156.925	156.925
1019	1019	1019	156.950	156.950		2078		RX only	161.525
	2019		RX only	161.550		79		156.975	161.575
20	20	20*1	157.000	161.600	1079	1079	1079	156.975	156.975
1020	1020		157.000	157.000		2079		RX only	161.575
	2020		RX only	161.600		80		157.025	161.625
	21		157.050	161.650	1080	1080*4	1080	157.025	157.025
1021	1021*4	1021	157.050	157.050		81		157.075	161.675
		2021	RX only	161.650	1081	1081*4	1081	157.075	157.075
	22		157.100	161.700		82		157.125	161.725
1022	1022*4	1022	157.100	157.100	1082	1082*4	1082	157.125	157.125
	23	23	157.150	161.750		83		157.175	161.775
1023	1023*4		157.150	157.150	1083	1083*4	1083	157.175	157.175
		2023	RX only	161.750			2083	RX only	161.775
24	24*5	24	157.200	161.800	84	84*5	84	157.225	161.825
25	25*5	25	157.250	161.850	85	85*5	85	157.275	161.875
		2025	RX only	161.850	86	86*5	86	157.325	161.925
26	26*5	26	157.300	161.900	87	87	87	157.375	157.375
27	27	27	157.350	161.950	88	88	88	157.425	157.425
	1027*4		157.350	157.350					
28	28	28	157.400	162.000					
	1028*4		157.400	157.400					
		2028	RX only	162.000					
60	60	60	156.025	160.625					

*1 Low power only
*2 Low power only except the AUS version
*3 RX only
*4 For only the USA and EXP versions
*5 For only the AUS versions

NOTE: Simplex channels, 1021, 1023, 1081, 1082, and 1083 **CANNOT** be lawfully used by the general public in USA waters.

12 TROUBLESHOOTING

The transceiver does not turn ON.
● The battery is exhausted.
   → Recharge the battery pack. (p. 8)
● The battery pack is not correctly attached.
   → Correctly reattach the battery pack. (p. 3)

Little or no sound comes from the speaker.
● Squelch level is set too high.
   → Adjust the squelch level. (p. 12)
● Volume level is set too low.
   → Adjust the volume level.
● The speaker has been exposed to water.
   → Use the AquaQuake Water Draining function to remove water from the speaker grill.
      (p. 12)

You cannot transmit, or cannot select high power.
● Some channels are set for low power or receive only by regulations.
   → Change channels. (p. 9)
● The output power is set to low.
   → Push [Hi/Lo] to select high power. (p. 4)

Scan does not start.
● More than 2 favorite channels are not set.
   → Set the Favorite channels. (p. 15)

No beep sounds.
● The Key Beep function is OFF.
   → Turn ON the Key Beep function. (p. 18)

The keypad does not work.
● The keypad is locked.
   → Hold down [�] for 1 second to lock or unlock the keypad. (p. 4)

How the World Communicates