



INSTRUCTION MANUAL

VHF MARINE TRANSCEIVER  
**IC-M35**

Icom Inc.



Thank you for choosing this Icom product.

This product is designed and built with Icom's state of the art technology and craftsmanship. With proper care, this product should provide you with years of trouble-free operation.

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## IMPORTANT

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**READ ALL INSTRUCTIONS** carefully and completely before using the transceiver.

**SAVE THIS INSTRUCTION MANUAL**—This instruction manual contains important operating instructions for the IC-M35 VHF MARINE TRANSCEIVER.

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## EXPLICIT DEFINITIONS

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

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## FEATURES

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### **Floating on water**

The transceiver floats on fresh or salt water even when the supplied accessories are attached.

- When a third-party battery pack, strap, antenna, etc. is used, it may sink.
- The battery contacts may be prone to rust if the transceiver is kept floating on the water.



### **Clear voice boost**

The transceiver has the noise detection function which enables automatic volume adjustment and the volume loud function that enables you to maximize the volume level instantly to provide clear communication in the noisy marine environments.

### **Noise cancelling microphone**

The sub-microphone on the rear panel inverts the phase and cancels out the ambient noise from the main microphone. As a result, the transceiver can reduce the influence of the background noise (particularly treble noise) on the transmitted signal.

- The noise cancellation can produce no effect according to conditions such as loudness and type of noise, or the position and distance between the noise source and the microphone, etc.
- The noise cancellation does not work when an optional external speaker-microphone is connected.

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## IN CASE OF EMERGENCY

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

○ **USING CHANNEL 16**

**DISTRESS CALL PROCEDURE**

1. "MAYDAY MAYDAY MAYDAY."
2. "THIS IS ..... " (name of vessel)
3. Your call sign or other indication of the vessel.
4. "LOCATED AT ..... " (your position)
5. The nature of the distress and assistance required.
6. Any other information which might facilitate the rescue.

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## RECOMMENDATION

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CLEAN THE TRANSCEIVER THOROUGHLY IN A BOWL OF 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, and/or the charging terminals of the battery pack may corrode.

- /// **NOTE:** If the transceiver's waterproof protection appears defective, carefully clean it with a soft, damp (fresh water) cloth, then dry it before operating.
- /// The transceiver may lose its waterproof protection if the case, jack cap, or connector cover is cracked or broken, the transceiver has been dropped, or the battery pack screw is not tightened.
- /// Contact your Icom distributor or your dealer for advice.

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## PRECAUTIONS

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⚠ **DANGER! NEVER** short terminals of the battery pack. Also, current may flow into nearby metal objects such as a key, so be careful when placing the battery packs (or the transceiver) in handbags, and so on. Simply carrying with or placing near metal objects such as a key, and so on may cause shorting. This may damage not only the battery pack, but also the transceiver.

⚠ **DANGER! NEVER** use and charge other than the specified Icom battery pack with Icom radios or Icom charger. Only Icom battery pack is tested and approved for use and charge with Icom radios or Icom charger. Using third-party or counterfeit battery packs or charger may cause smoke, fire, or cause the battery to burst.

⚠ **DANGER! NEVER** operate the transceiver near unshielded electrical blasting caps or in an explosive atmosphere.

⚠ **WARNING! NEVER** connect the transceiver to an AC outlet. This may pose a fire hazard or result in an electric shock.

⚠ **WARNING! NEVER** hold the transceiver so that the antenna is closer than 2.5 cm (1 inch) from exposed parts of the body, especially the face or eyes, while transmitting. The transceiver will perform best if the microphone is 5 to 10 cm (2 to 4 inches) away from the lips and the transceiver is vertical.

**CAUTION: DO NOT** attach the battery unless the flexible antenna, battery pack and jack cover are securely attached to the transceiver. Confirm that the antenna and battery pack are dry before attaching. Exposing the inside of the transceiver to dust or water can cause serious damage to the transceiver. After exposure to water, clean the battery contacts thoroughly with fresh water and dry them completely to remove any water or salt residue.

**NEVER** connect the transceiver to a power source other than the BP-251 (option) or BP-252. Such a connection will ruin the transceiver.

**DO NOT** operate or place the transceiver in direct sunlight or in areas with temperatures below  $-15^{\circ}\text{C}$  or above  $+55^{\circ}\text{C}$ .

**DO NOT** use harsh solvents such as Benzine or alcohol when cleaning, as they will damage the transceiver surfaces.

**DO NOT** push [PTT] when not actually intending to transmit.

**DO NOT** modify the transceiver. The transceiver warranty does not cover any problems caused by unauthorized modifications.

**PLACE** the transceiver in a secure place to avoid inadvertent use by unauthorized persons.

**KEEP** the transceiver at least 0.9 meters (3.0 ft) away from your vessel's magnetic navigation compass.

**BE CAREFUL!** The transceiver's right-side panel will become hot when operating continuously for long periods of time.

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**BE CAREFUL!** The transceiver meets IPX7\* requirements for waterproof protection. However, once the transceiver has been dropped, waterproof protection cannot be guaranteed because of possible damage to the transceiver's case or the waterproof seal.

\* Only when the BP-251 (option) or BP-252, flexible antenna, [**SP MIC**] cap is attached.

**MAKE SURE** to turn OFF the transceiver power before connecting or disconnecting the supplied or optional accessory.

Icom is not responsible for the destruction, damage to, or performance of any Icom or non-Icom equipment, if the malfunction is because of:

- Force majeure, including, but not limited to, fires, earthquakes, storms, floods, lightning, or other natural disasters, disturbances, riots, war, or radioactive contamination.
- The use of Icom transceivers with any equipment that is not manufactured or approved by Icom.

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## ◇ **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**

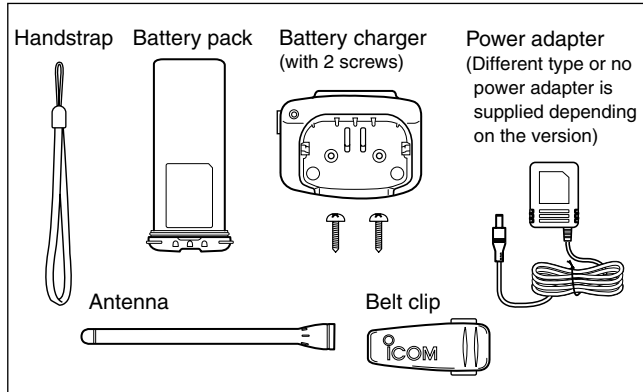
A Restricted Radiotelephone Operator Permit is the license most often held by small vessel radio operators when a radio is not required for safety purposes.

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.

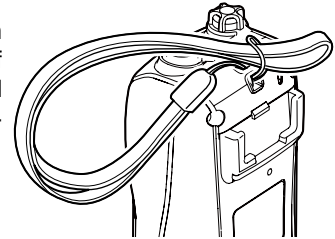
A current copy of the applicable government rules and regulations is only required to be on hand for vessels in which a radio telephone is compulsory. However, even if you are not required to have these on hand it is your responsibility to be thoroughly acquainted with all pertinent rules and regulations.

## ■ Supplied accessories



### ◇ Handstrap

Pass the handstrap through the loop on the back side of the transceiver as illustrated at right. This facilitates carrying.

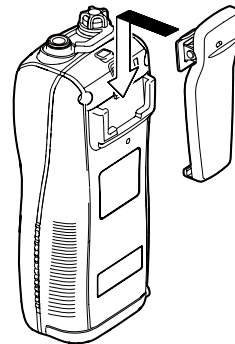


### ◇ Belt clip

Attach/detach the belt clip to the transceiver as illustrated below.

To attach the belt clip

To detach the belt clip



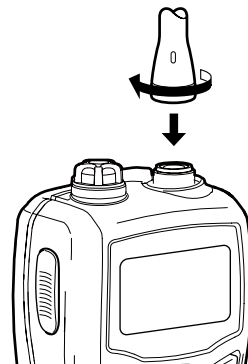
## ■ Attachments

### ◇ Flexible antenna

Connect the supplied flexible antenna to the antenna connector.

#### CAUTION:

- **NEVER** carry the transceiver by holding the antenna.
- **DO NOT** transmit without an antenna.





◇ **Battery pack**

*To remove the battery pack:*

Turn the screw counter clockwise one quarter turn, then pull the battery pack in the direction of the arrow as shown below.

*To attach the battery pack:*

Insert the battery pack in the transceiver completely, then turn the screw clockwise one quarter turn.

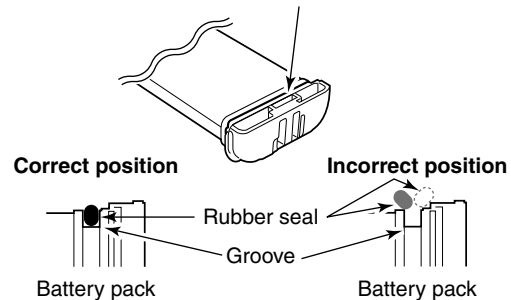
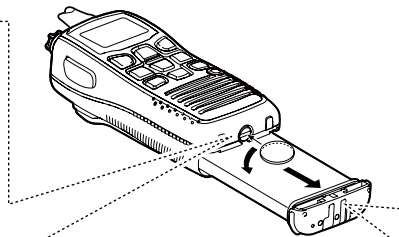
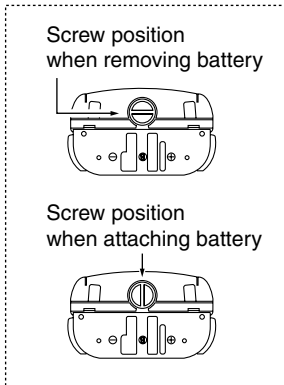
**NEVER** remove or insert the battery pack when the transceiver is wet or soiled. This may result water or dust getting into the transceiver/battery pack and may result in the transceiver being damaged.

**NOTE:** When removing or attaching the battery pack, use a coin or standard screwdriver to loosen or tighten the bottom screw.

**CAUTION:** When attaching or removing a battery pack, make sure the rubber seal is set in the groove of the battery pack correctly. If the seal is not correctly in the groove, it may be damaged when attaching the battery pack. If the seal is damaged, waterproof protection is not guaranteed.

**NOTE:** When attaching a battery pack, make sure dust or other material does not adhere to the rubber seal. If dust or other material is on the seal when attaching a battery pack, waterproof protection may not be guaranteed.

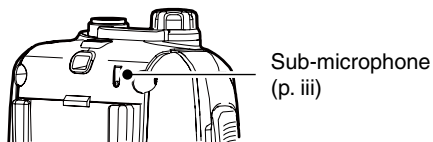
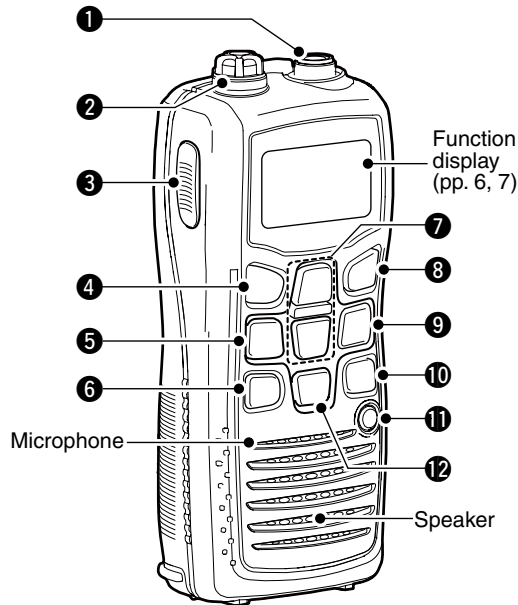
Make sure the rubber seal (purple) is properly seated in the groove and dust or other material does not adhere to it.



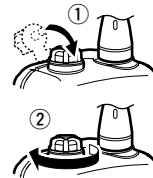
# 3

## PANEL DESCRIPTION

### ■ Front, top, side and rear panels



- 1 ANTENNA CONNECTOR** (p. 2)  
Connects to the supplied antenna.
- 2 SPEAKER-MICROPHONE CONNECTOR [SP MIC]** (p. 25)  
Connects to the optional external speaker-microphone.  
**NOTE:** Attach the [SP MIC] cap when the optional speaker-microphone is not used. Otherwise, water will get into the transceiver.

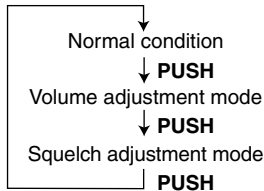


- ① Attach the [SP MIC] cap.
- ② Then rotate it clockwise completely.

- 3 PTT SWITCH [PTT]**  
Hold down to transmit; release to receive. (p. 10)
- 4 CHANNEL 16 KEY [16 C]**
  - ➔ Push to select Channel 16. (p. 8)
  - ➔ Hold down for 1 second to select the call channel. (p. 8)
  - ➔ When the call channel is selected, hold down for 3 seconds to enter the call channel entry mode. (p. 11)
  - ➔ While in the set mode, push to return to the normal mode. (p. 17)


**5 VOLUME/SQUELCH/MONITOR KEY [VOL/SQL MONI]**

- ➔ Push to enter the volume adjustment mode and the squelch adjustment mode. (pp. 11, 12)



- ➔ Push to restore the changed volume level by the noise detection, volume loud, or volume mute function to the original. (pp. 12, 20)
- ➔ Hold down for 1 second to activate the monitor function. (p. 13)
- ➔ While holding down this key, turn ON the power to enter the set mode. (p. 17)
- ➔ While in the set mode, push to select an item. (p. 17)

**6 SCAN/DUAL KEY [SCAN DUAL]**

- ➔ Push to start or stop normal or priority scan. (p. 15)
- ➔ Hold down for 1 second to enter the watch mode. (p. 16)
- ➔ Push to exit the watch mode. (p. 16)
- ➔ Hold down this key and **[Hi/Lo **], to activate the AquaQuake function. (p. 13)

**7 CHANNEL UP/DOWN KEYS []/**

- ➔ Selects an operating channel. (pp. 8, 9)
- ➔ While in the set mode, selects the setting or value of an item. (p. 17)
- ➔ Checks TAG channels or changes scanning direction during scan. (p. 15)

**8 FAVOURITE/TAG KEY [FAV TAG]**

- ➔ Push this key to select the favourite (TAG) channels with ignoring untagged channels in a channel group in sequence. (p. 8)
- ➔ Hold down for 1 second to set or clear TAG for the displayed channel. (p. 15)
- ➔ While holding down this key, turn ON the power to clear or set all TAG channels in the selected channel group. (p. 15)

**9 CHANNEL KEY [CH]**

- ➔ Hold down for 1 second to select the channel group from USA\*1, International, Canadian\*2 and ATIS\*3. (p. 9)
- ➔ Push to return to the previous channel before selecting channel 16 or the call channel.

\*1 UK and China versions only.

\*2 China version only.

\*3 German and Holland versions only.

**10 TRANSMIT POWER/LOCK KEY [Hi/Lo **

- ➔ Push to select the output power from high and low. (p. 10)
- ➔ Hold down for 1 second to turn the key lock function ON or OFF. (p. 13)

**11 POWER KEY [**

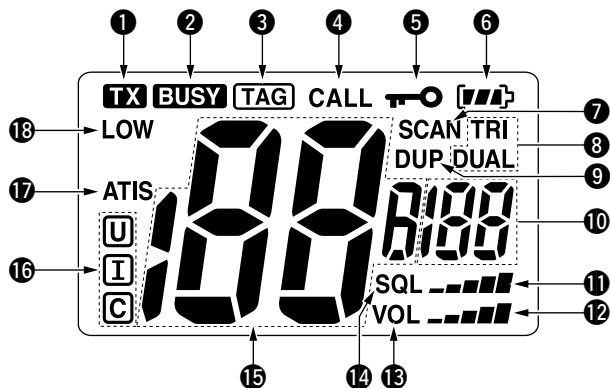
Hold down to turn the power ON or OFF.

**12 LOUD/MUTE KEY [LOUD MUTE]**

- ➔ Push to turn the volume loud function ON or OFF. (p. 12)
- ➔ Hold down for 1 second to turn ON the volume mute function, and push to turn OFF the function. (p. 12)

### 3 PANEL DESCRIPTION

## ■ Function display



**1 TRANSMIT INDICATOR** (p. 10)  
Appears while transmitting.

**2 BUSY INDICATOR**  
 ➔ Appears when receiving a signal or when the squelch opens. (p. 10)  
 ➔ Blinks while monitoring. (p. 13)

**3 TAG CHANNEL INDICATOR** (p. 15)  
Appears when a TAG channel is selected.

**4 CALL CHANNEL INDICATOR** (p. 8)  
Appears when the call channel is selected.

**5 LOCK INDICATOR** (p. 13)  
Appears while the lock function is activated.

**6 BATTERY INDICATOR**  
Indicates remaining battery power.

Indication	[     ]	[    ]	[  ]	[ ]
Battery level	Full	Middle	Charging required	No battery

[|||||] blinks when the battery is over charged.

[ ] blinks when the battery is exhausted.

**7 SCAN INDICATOR** (p. 15)  
Blinks during scan.

**8 DUALWATCH/TRI-WATCH INDICATORS** (p. 16)  
“DUAL” appears during Dualwatch; “TRI” appears during Tri-watch.

**9 DUPLEX INDICATOR**  
Appears when a duplex channel is selected.

**10 SUB CHANNEL READOUT**  
 ➔ Indicates Channel 16 during priority scan, Dualwatch or Tri-watch. (p. 16)  
 ➔ Indicates the set mode item while in the set mode. (p. 17)  
 ➔ Indicates the volume level while in the volume adjustment mode. (p. 11)  
 ➔ Indicates the squelch level while in the squelch adjustment mode. (p. 12)

**11 SQUELCH LEVEL INDICATOR**

Shows the squelch level.

**12 VOLUME LEVEL INDICATOR**

- Shows the volume level.
- The bars appear in ascending order repeatedly while the volume loud function is activated. (p. 12)
- Blinks while the volume mute function is activated. (p. 12)

**13 VOLUME LEVEL ADJUSTING INDICATOR (p. 11)**

- Blinks while adjusting the volume level.
- This indicator and the volume level indicator appear alternately while the volume level is turned up by the noise detection function. (p. 20)

**14 SQUELCH LEVEL ADJUSTING INDICATOR (p. 12)**

Blinks while adjusting the squelch level.

**15 CHANNEL NUMBER READOUT**

- Indicates the selected operating channel number.
- In the set mode, indicates the selected condition or value. (p. 17)

**16 CHANNEL GROUP INDICATOR (p. 9)**

“**U**” appears when USA\*1; “**I**” appears when International; “**C**” appears when Canadian\*2 channel group is selected.

\*1 UK and China versions only.

\*2 China version only.

**17 ATIS INDICATOR (p. 9)**

“**ATIS**” appears when the channel group, which ATIS function is activated, is selected. (Available with German and Holland versions only.)

**18 LOW POWER INDICATOR (p. 10)**

- “**LOW**” appears when low power is selected.
- “**LOW**” blinks when switching forced low power mode because of a high temperature error or low voltage.

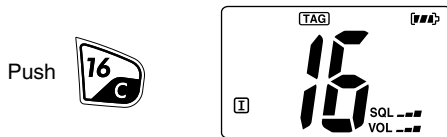
## ■ Channel selection

**IMPORTANT:** Prior to using the transceiver for the first time, the battery pack must be fully charged for optimum life and operation. To avoid damage to the transceiver, turn OFF the power while charging.

### ◇ Channel 16

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

- ① Push **[16 C]** momentarily to select Channel 16.
- ② Push **[CH]** to return to the channel used before Channel 16, or push **[▲]/[▼]** to select a channel.



### Convenient!

While pushing and holding **[FAV TAG]**, push **[▲]/[▼]** to select the favourite (TAG) channels with ignoring untagged channels in the selected channel group in sequence.

- Pushing **[FAV TAG]** only advances the displayed TAG channel.
- The favourite channels are selected using the TAG channel setting. (p. 15)

### ◇ Call channel

Each regular channel group has separate leisure-use call channels. The call channel is monitored during Tri-watch. The call channels can be programmed (p. 11) and are used to store your most often used channel in each channel group for quick recall.

- ① Hold down **[16 C]** for 1 second to select the call channel of the selected channel group.
  - “CALL” and call channel number appear.
  - Each channel group may have an independent call channel after programming a call channel. (p. 11)
- ② Push **[CH]** to return to the channel used before call channel, or push **[▲]/[▼]** to select a channel.

Push and hold for 1 sec.



◇ **USA, International, Canadian and ATIS channels**

The transceiver is pre-programmed with USA\*1, International, Canadian\*2 and ATIS\*3 channels. These channel groups may be specified for the operating area.

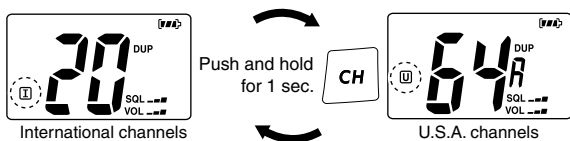
- ① Push [CH] to select a regular channel.
- ② Hold down [CH] for 1 second to change the channel group. Repeat to advance to the next group .
  - The usable channel groups are different depending on the versions.
- ③ Push [▲]/[▼] to select a channel.
  - “DUP” appears for duplex channels.

\*1 UK and China versions only.

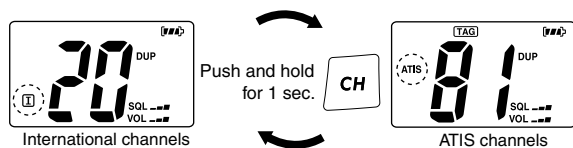
\*2 China version only.

\*3 German and Holland versions only.

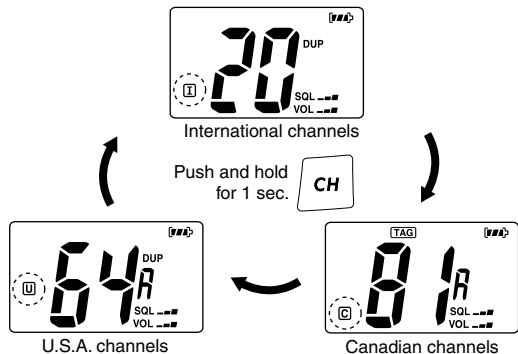
**For UK version**



**For German and Holland versions**




**For China version**



## 4 BASIC OPERATION

### ■ Receiving and transmitting

⚡ **CAUTION: DO NOT** transmit without an antenna.

- ① Hold down [⏻] to turn ON the transceiver.
- ② Set the volume and squelch levels.  
You can enter each adjust mode with [VOL/SQL MONI].
  - ➔ Enter the squelch adjustment mode, and push [▼] several times to open the squelch.
  - ➔ Enter the volume adjustment mode, then push [▲]/[▼] to adjust the volume level.
  - ➔ Enter the squelch adjustment mode again, and push [▲] until the noise disappears.
- ③ Push [▲]/[▼] to select the desired channel.
  - When receiving a signal, “**BUSY**” appears and audio is heard from the speaker.
  - Further adjustment of the audio may be necessary at this point.
- ④ Push [Hi/Lo - “**LOW**” appears when low power is selected; no indication when high power is selected.
- Choose low power for short range communications, choose high power for longer distance communications.
- Some channels are for low power only.
- ⑤ Hold down [PTT] to transmit, then speak into the microphone.
  - “**TX**” appears.
  - Channel 70 cannot be used for transmission.
- ⑥ Release [PTT] to receive.

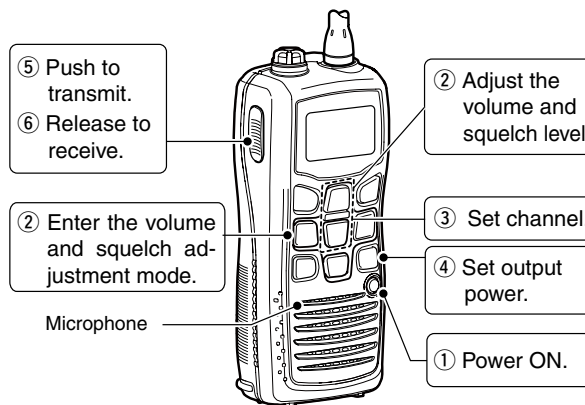
⚡ **IMPORTANT:** To maximize the readability of your transmitted signal, pause a few seconds after pushing [PTT], hold the microphone 5 to 10 cm from your mouth and speak into the microphone at a normal voice level.

⚡ **NOTE:** The transceiver has a power save function to conserve the battery power. The power save function activates automatically 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 and “to” blinks to indicate that the transmission will be cut OFF. After it is cut OFF, “to” is displayed for 10 seconds, and you cannot transmit until it disappears.

⚡ \*This function may not be installed in some versions.

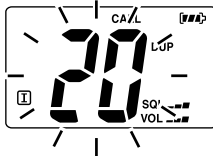
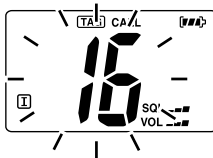




## ■ Call channel programming

Call channel is used to access Channel 16 (default; may differ according to the version), however, you can program the call channel with your most often-used channels in each channel group for quick recall.

- ① Hold down **[CH]** for 1 second once or twice to select the desired channel group (USA, International, Canadian or ATIS) to be programmed. (p. 9)
- ② Hold down **[16 C]** for 1 second to select the call channel of the selected channel group.
  - “**CALL**” and call channel number appear.
- ③ Hold down **[16 C]** again for 3 seconds (until a long beep changes to 2 short beeps) to enter the call channel programming mode.
  - Channel number starts blinking.
- ④ Push **[▲]/[▼]** to select the desired channel.
- ⑤ Push **[16 C]** to program the displayed channel as the call channel.
  - The channel number stops blinking.



## ■ Adjusting the volume level

The volume level can be adjusted with **[VOL/SQL MONI]** and **[▲]/[▼]**.

- ① Push **[VOL/SQL MONI]** once to enter the volume adjustment mode, then adjust the volume level with **[▲]/[▼]**.
  - “**VOL**” indicator starts blinking.
  - The transceiver has 31 volume levels and OFF.
  - With no key operation is performed for 5 seconds, the transceiver returns to the normal condition.
- ② Push **[VOL/SQL MONI]** twice to exit the volume adjustment mode.



Indicates the volume level.

Blinks while adjusting the volume level.

## 4 BASIC OPERATION

### ■ Volume loud function

The volume loud function can be activated temporarily by pushing **[LOUD MUTE]**.

⚡ The function does not work when the volume level is 31.

- ① Push **[LOUD MUTE]** to activate the volume loud function.
  - The volume level is set to the maximum level (level 31).
  - The bars of the volume level indicator appears in ascending order repeatedly.
- ② Push **[LOUD MUTE]** again, or push **[VOL/SQL MONI]** to turn the volume loud function OFF.

### ■ Volume mute function

The volume mute function can be activated temporarily by holding down **[LOUD MUTE]**.

⚡ The function does not work when the volume level is OFF.

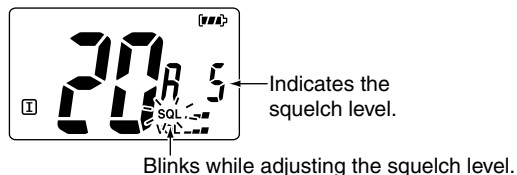
- ① Hold down **[LOUD MUTE]** for 1 second to activate the volume mute function.
  - The volume level is set to the minimum level (OFF).
  - The volume level indicator blinks.
- ② Push **[LOUD MUTE]** again, or push **[VOL/SQL MONI]** to turn the volume mute function OFF.

### ■ Adjusting the squelch level


The squelch level can be adjusted with **[VOL/SQL MONI]** and **[▲]/[▼]**.

In order to receive signals properly, as well as for the scan to function effectively, the squelch must be adjusted to the proper level.


- ① Push **[VOL/SQL MONI]** twice to enter the squelch adjustment mode, then adjust the squelch level with **[▲]/[▼]**.
  - “SQL” indicator starts blinking.
  - The transceiver has 11 squelch levels: OP is completely open; 10 is tight squelch; 1 is loose squelch.
  - With no key operation is performed for 5 seconds, the transceiver returns to the normal condition.
- ② Push **[VOL/SQL MONI]** again to exit the squelch adjustment mode.



## ■ Lock function

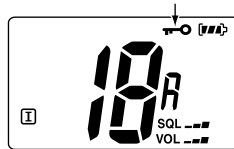
This function electronically locks all keys (except for [PTT], [VOL/SQL MONI], [LOUD MUTE], [Hi/Lo ] and [▲]/[▼]\*) to prevent accidental channel changes and function access.

\* In the volume or squelch adjustment mode only.

➔ Hold down [Hi/Lo ] for 1 second to turn the lock function ON or OFF.

Appears while the lock function is activated.

Hold down  
for 1 second.



## ■ Monitor function

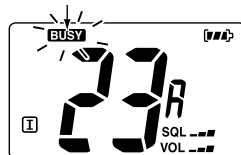
The monitor function opens the squelch. The monitor key action can be selected in the set mode. (p. 19)

➔ The monitor function is activated by holding down [VOL/SQL MONI] for 1 second

- "BUSY" blinks and the squelch is opened.

Blinks while the monitor function is activated.

Hold down  
for 1 sec.



## ■ Automatic backlighting

This function lights the function display and keys, and it is convenient for night-time operation. The automatic backlighting can be activated in the set mode. (p. 19)

➔ Push any key except for [PTT] to turn ON the backlight.

- The backlight is automatically turned OFF after 5 seconds of inactivity.

## ■ AquaQuake water draining function

The AquaQuake water draining function clears water away from the speaker grill. Without this function, water may muffle the sound coming from the speaker. The transceiver emits a vibrating beep when this function is activated.

➔ Hold down both [SCAN DUAL] and [Hi/Lo ].

- A low beep tone sounds for 9 seconds to drain water, regardless of the volume level setting.
- The transceiver never accepts key operation while the AquaQuake function is activated.
- The AquaQuake function cannot be activated when an optional speaker-microphone is connected.

## ■ Scan types

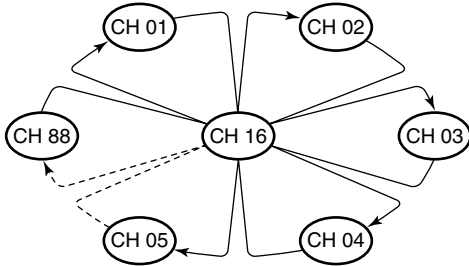
Scanning is an efficient way to locate signals quickly over a wide frequency range. The transceiver has priority scan and normal scan.

In addition, the auto scan function is available for standby convenience. This function can be activated depending on the setting in the set mode. (p. 18)

Set the TAG channels (scanned channels) before scanning. Clear the TAG for unwanted channels which inconveniently stop scanning, such as those for digital communications. (p. 15)

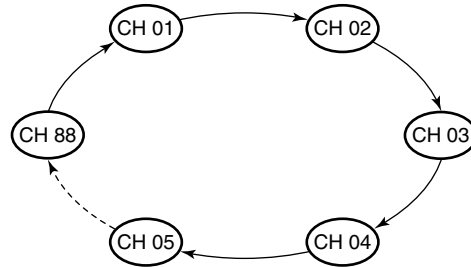
/// Choose the desired scan type from "Priority" or "Normal" in the set mode. (p. 18)

### PRIORITY SCAN



Priority scan searches through all TAG channels in sequence while monitoring Channel 16. When a signal is detected on Channel 16, scan pauses until the signal disappears; when a signal is detected on a channel other than Channel 16, scan becomes Dualwatch until the signal disappears.

### NORMAL SCAN



Normal scan, like priority scan, searches through all TAG channels in sequence. However, unlike priority scan, Channel 16 is not checked unless Channel 16 is set as a TAG channel.

## ■ Setting TAG channels

For more efficient scanning, add channels as TAG channels or clear TAG for unwanted channels.

Channels that are not tagged will be skipped during scanning. TAG channels can be assigned to each channel group (USA, International, Canadian and ATIS) independently.

- ① Hold down **[CH]** for 1 second once or twice to select the channel group.
- ② Select the channel to be set as a TAG channel.
- ③ Hold down **[FAV TAG]** for 1 second to set the displayed channel as a TAG channel.
  - “**TAG**” appears on the display.
- ④ To cancel TAG channel setting, hold down **[FAV TAG]** for 1 second
  - “**TAG**” disappears.

### ✓ Clearing (or setting) all tagged channels

While holding down **[FAV TAG]**, turn ON the power to clear all TAG channels in the selected channel group.

- Repeat above procedure to set all channels as TAG channels (when no TAG channel has been set.)

## ■ Starting a scan

Set the priority scan function, scan resume timer and auto scan function in advance, using the set mode. (p. 18)

- ① Hold down **[CH]** for 1 second once or twice to select the channel group.
- ② Push **[SCAN DUAL]** to start priority or normal scan.
  - “**SCAN**” blinks in the display.
  - “16” appears on the sub channel readout during priority scan.
  - When a signal is received, scan pauses until the signal disappears or resumes after pausing 5 seconds according to the set mode setting.
  - Push **[▲]/[▼]** to check which channels have been set as TAG channels, change the scanning direction or resume the scan manually.
- ③ To stop the scan, push **[SCAN DUAL]**.
  - “**SCAN**” disappears.
  - Pushing **[PTT]**, **[16 C]**, **[CH]** or **[FAV TAG]** also stops the scan.

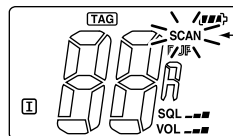
**[Example]:** Starting a normal scan.



Push

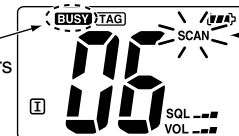


Scan starts



Blinks

When a signal is received



Appears

Blinks

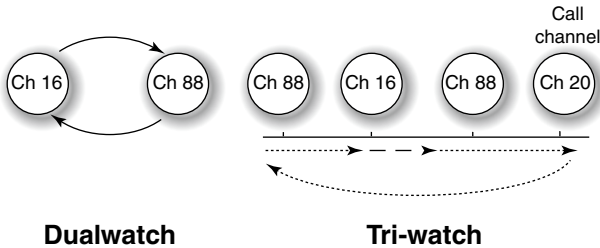
# 6

## DUALWATCH/TRI-WATCH (Except Holland version)

### ■ Description

Dualwatch monitors Channel 16 while you are receiving on another channel; Tri-watch monitors Channel 16 and the call channel while receiving another channel. Dualwatch/Tri-watch is convenient for monitoring Channel 16 when you are operating on another channel.

#### DUALWATCH/TRI-WATCH SIMULATION



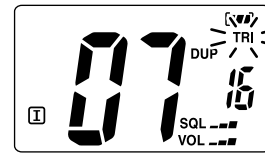
- If a signal is received on Channel 16, Dualwatch/Tri-watch pauses on Channel 16 until the signal disappears.
- If a signal is received on the call channel during Tri-watch, Tri-watch becomes Dualwatch until the signal disappears.
- To transmit on the selected channel during Dualwatch/Tri-watch, hold down **[PTT]**.

### ■ Operation

- ① Select Dualwatch or Tri-watch in the set mode. (p. 19)
- ② Select the channel.
- ③ Hold down **[SCAN DUAL]** for 1 second to start Dualwatch or Tri-watch (depending on the set mode setting).
  - “**DUAL**” blinks during Dualwatch; “**TRI**” blinks during Tri-watch.
  - A beep tone sounds when a signal is received on Channel 16.
  - Tri-watch becomes Dualwatch when receiving a signal on the call channel.
- ④ To cancel Dualwatch/Tri-watch, push **[SCAN DUAL]** again.

**[Example]:** Operating Tri-watch on INT channel 07.

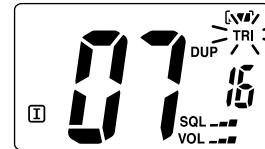
Tri-watch starts.



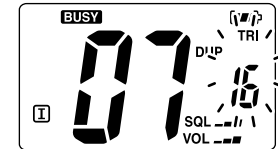
Signal is received on call channel.



Tri-watch resumes after the signal disappears.



Signal received on Channel 16 takes priority.



## ■ Set mode programming

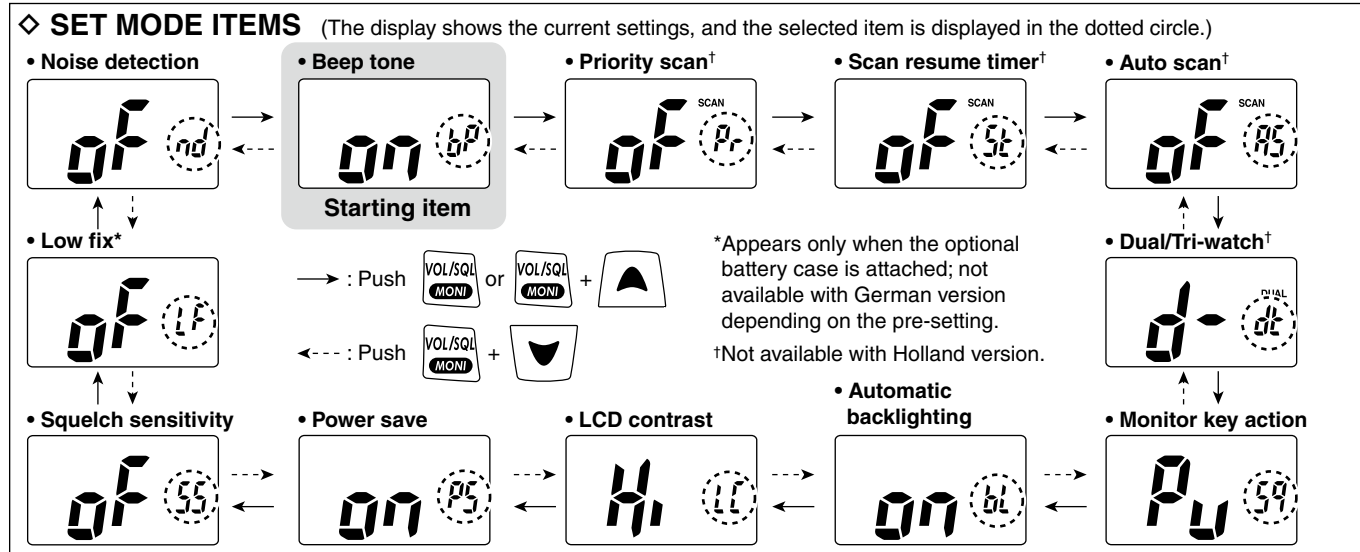
Set mode is used to change the conditions of transceiver's functions: Beep tone function, Priority scan function†, Scan resume timer†, Auto scan function†, Dual/Tri-watch function†, Monitor key action, Automatic backlighting, LCD contrast setting, Power save function, Squelch sensitivity, Low fix function\* and Noise detection function.

\* Appears only when the optional battery case is attached; not available with German version depending on the pre-setting.

† Not available with Holland version.

### ◇ Set mode operation

- ① Turn OFF the power.
- ② While pushing [VOL/SQL MONI], turn ON the power to enter the set mode.
  - "bP" appears.
- ③ Push [VOL/SQL MONI], or push [▲]/[▼] while holding down [VOL/SQL MONI] to select the desired item.
- ④ Push [▲]/[▼] to select the condition of the item.
- ⑤ To exit the set mode, push [16 C].



## ■ Set mode items

### ◇ Beep tone function

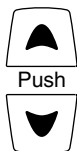
“bP”

Select the key touch beep sound from ON, US, or OFF.

- OFF: For silent operation.
- ON : A fixed beep sounds.
- US : The preset beeps (e.g. do, re, mi) sound.



Beep tone ON (default)



Beep tone OFF

### ◇ Priority scan function

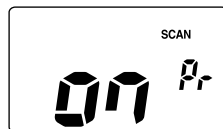
“Pr”

(Not available with Holland version)

The transceiver has 2 scan types— normal (OFF) and priority (ON) scans. Normal scan searches all TAG channels in the selected channel group. Priority scan searches all TAG channels in sequence while monitoring Channel 16.



Normal scan (default)



Priority scan

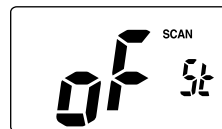
### ◇ Scan resume timer

“St”

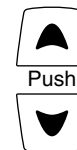
(Not available with Holland version)

The scan resume timer can be set as a pause (OFF) or timer scan (ON).

- OFF: When a signal is detected on a channel, scan pauses on the channel until the signal disappears, and then resumes.
- ON : When a signal is detected on a channel, scan pauses on the channel for 5 seconds, and then resumes.



Scan resume timer OFF (default)



Scan resume timer ON

### ◇ Auto scan function

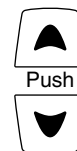
“AS”

(Not available with Holland version)

The auto scan function starts normal or priority scan automatically when no signal is received, and no operation is performed for 30 seconds.



Auto scan OFF (default)



Auto scan ON

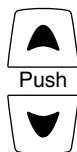


◇ **Dual/Tri-watch function** “dt”  
 (Not available with Holland version)

This item can be set as Dualwatch or Tri-watch. (p. 16)



Dualwatch function  
 (default)



Tri-watch function

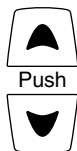
◇ **Monitor key action** “Sq”

The monitor key opens the squelch temporarily. This item sets the key action.

- Pu (PUSH) : The monitor function is activated by holding down [VOL/SQL MONI] for 1 second. The squelch opens while holding down the key.
- Ho (HOLD) : The monitor function is activated by holding down [VOL/SQL MONI] for 1 second. The squelch stays open until any key is pushed.



Push setting (default)



Hold setting

◇ **Automatic backlighting** “bl”

This function is convenient for night-time operation. The backlight can be selected from ON and OFF.

- The backlight is automatically activated when any key except for [PTT] is pushed.
- The backlight is automatically turned OFF after 5 seconds of inactivity.



Auto backlighting ON  
 (default)



Auto backlighting OFF

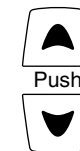
◇ **LCD contrast setting** “LC”

Set the LCD contrast level from High contrast and Low contrast.

☞ The LCD contrast level makes no difference for indoor use.



High contrast (default)



Low contrast

## 7 SET MODE

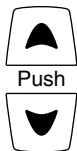
### ◇ Power save function “PS”

The power save function reduces current drain by deactivating the receiver circuit for preset intervals.

- OFF : The power save function is turned OFF.
- ON : The power save function is turned ON when no signal is received for 5 seconds.



Power save ON  
(default)



Power save OFF

### ◇ Squelch sensitivity “SS”

When this function is turned ON, rejection of noise is improved so that the audio is not easily affected by noise.



Squelch sensitivity  
OFF (default)



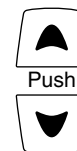
Squelch sensitivity  
ON

### ◇ Low fix function “LF”

(Appears only when the optional battery case is attached; not available with German version depending on the pre-setting.)  
When this function is turned ON, the output power is fixed to low except for Channel 16.



Low fix function  
OFF (default)



Low fix function ON

### ◇ Noise detection function “nd”

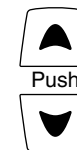
The noise detection function enables the transceiver to detect the ambient noise while in the standby condition. If the detecting noise and the received signal are stronger than the specific level, the transceiver increases the volume level automatically to suit the environment when receiving a signal.

⚡ When the squelch is open, the transceiver won't detect noise.

- OFF : The noise detection function is turned OFF.
- Low : When the detecting noise is louder than the specific level, the transceiver turns up the volume.
- High : When the detecting noise is louder than the specific level, the transceiver turns up the volume greater than "Low" setting.



Noise detection function  
OFF (default)



Noise detection function  
ON (High)

## ■ Battery caution

Misuse of Lithium-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.

### ◇ Battery caution

⚠ **DANGER! DO NOT** hammer or otherwise impact the battery. Do not use the battery if it has been severely impacted or dropped, or if the battery has been subjected to heavy pressure. Battery 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** use or leave battery pack in areas with temperatures above 60°C. High temperature buildup in the battery, such as could occur near fires or stoves, inside a sun-heated car, or by setting the battery in direct sunlight for long periods of time may cause the battery to rupture or catch fire. Excessive temperatures may also degrade battery performance or shorten battery life.

⚠ **DANGER! DO NOT** expose the battery to rain, snow, saltwater, or any other liquids. Never charge or use a wet battery. If the battery gets wet, be sure to wipe it dry before using. The battery by itself is not waterproof.

⚠ **DANGER! KEEP** battery packs away from fire. Fire or heat may cause them to rupture or explode. Dispose of an used battery pack in accordance with local regulations.

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

⚠ **DANGER!** Use the battery only with the transceiver for which it is specified. Never use a battery with any other equipment, or for any purpose that is not described in this instruction manual.

⚠ **DANGER!** If fluid from inside the battery gets in your eyes, blindness can result. Rinse your eyes with clean water, without rubbing them, and see a doctor immediately.

⚠ **WARNING!** Immediately stop using the battery if it emits an abnormal odour, heats up, or is discoloured or deformed. If any of these conditions occur, contact your Icom dealer or distributor.

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

⚠ **WARNING!** Immediately wash, using clean water, any part of the body that comes into contact with fluid from inside the battery.

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

## 8 BATTERY CHARGING

**CAUTION:** Always use the battery within the specific temperature range for the transceiver ( $-15^{\circ}\text{C}$  to  $+55^{\circ}\text{C}$ ) and the battery itself ( $-20^{\circ}\text{C}$  to  $+60^{\circ}\text{C}$ ). Using the battery out of its specific temperature range will reduce the battery's performance and battery 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:** Shorter battery life could occur if the battery is left fully charged, completely discharged, or in an excessive temperature environment (above  $50^{\circ}\text{C}$ ) for an extended period of time. If the battery must be left unused for a long time, it must be detached from the transceiver after discharging.

You may use the battery until the remaining capacity is about half, then keep it safely in a cool dry place with the temperature range as below;

- $-20^{\circ}\text{C}$  to  $+50^{\circ}\text{C}$  (within a month)
- $-20^{\circ}\text{C}$  to  $+35^{\circ}\text{C}$  (within three months)
- $-20^{\circ}\text{C}$  to  $+20^{\circ}\text{C}$  (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 inside battery material will become weak after a period of time, even with little use. The estimated number of times you can charge the battery is between 300 and 500.

Even when the battery appears to be fully charged, the operating time of the transceiver may become short when:

- Approximately five years have passed since the battery was manufactured.
- The battery 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 car, 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! DO NOT** charge or leave the battery in the battery charger beyond the specific time for charging. If the battery is not completely charged by the specific time, stop charging and remove the battery from the battery charger. Continuing to charge the battery beyond the specific 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 battery pack.

⚠ **WARNING! NEVER** 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.

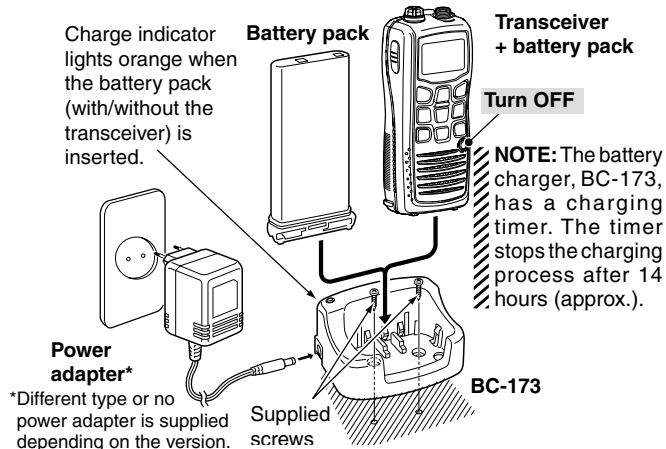
**CAUTION: DO NOT** charge the battery outside of the specific temperature range:  $10^{\circ}\text{C}$  to  $40^{\circ}\text{C}$ . Icom recommends charging the battery at  $20^{\circ}\text{C}$ . The battery may heat up or rupture if charged out of the specific temperature range. Additionally, battery performance or battery life may be reduced.

## ■ Supplied battery charger

### ◇ Charging connections

⚡ Do not charge batteries other than the BP-252.

- ① Attach the BC-173 to a flat surface, such as a desk, with the supplied two screws.
- ② Connect the power adapter as shown below.
- ③ Insert the battery pack with/without the transceiver into the charger.
  - The charge indicator lights orange.
  - The charge indicator blinks orange (or orange/green alternately) when the protector is activated.
- ④ Charge the battery pack approx. 10 hours, depending on the remaining power condition.
  - The charge indicator lights green when charging is completed.



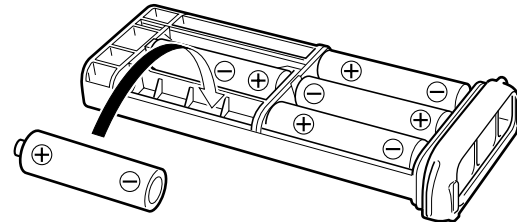
## ■ Optional battery case

When you would like to use the optional AAA(LR03) size battery case (BP-251), install the batteries as illustrated below. Be sure to observe the correct polarity.

### ⚠ CAUTION:

- When installing batteries, make sure they are all the same brand, type and capacity. Also, do not mix new and old batteries together.
- Keep battery contacts clean. It's a good idea to clean battery terminals once a week.
- When using the optional battery case, output power level is 2 W at high. (Depends on the pre-setting for German version.)

⚠ **NOTE:** The transceiver can sink when the optional battery case is attached. (Depends on the weight of the installed batteries.)



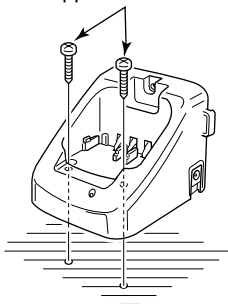
## 8 BATTERY CHARGING

### ■ Optional battery charger

#### ◇ BC-162 installation

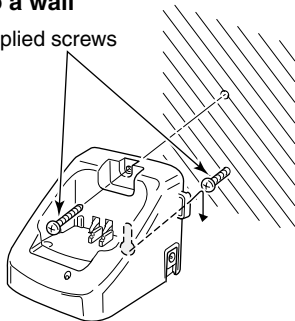
##### • To a desktop

Supplied screws

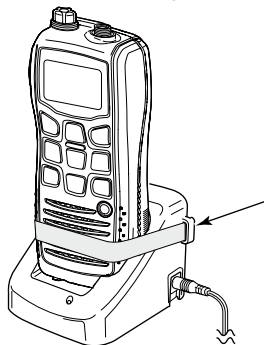


##### • To a wall

Supplied screws



##### • For added stability

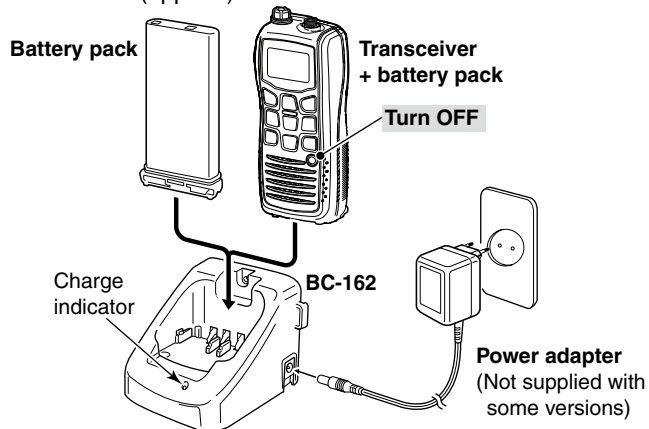


**Eyelet:**  
Use a rubber band to secure the transceiver, if desired.

#### ◇ Charging

- ① Connect the power adapter as shown below.
- ② Insert the battery pack with/without the transceiver into the charger.
  - The charge indicator lights orange.
  - The charge indicator blinks orange (or red) when the protector is activated.
- ③ Charge the battery pack approx. 2 hours, depending on the remaining power condition.
  - The charge indicator lights green when charging is completed.

**NOTE:** The battery charger, BC-162, has a charging timer. The timer stops the charging process after 4 hours (approx.).



## ■ HM-165 descriptions

### Alligator type clip

To attach the speaker-microphone to your shirt or collar, etc.

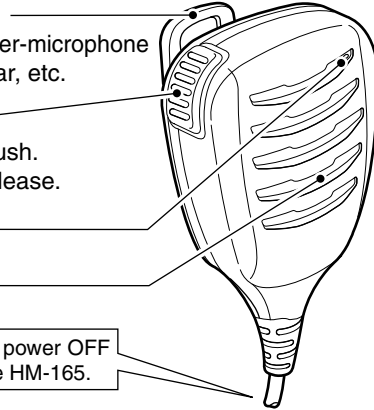
### PTT switch

Transmits during push.  
Receives during release.

### Microphone

### Speaker

Turn the transceiver power OFF when connecting the HM-165.



**NEVER** immerse the connector in water. If the connector gets wet, be sure to dry it **BEFORE** attaching it to the transceiver.

**NOTE:** The microphone is located at the top of the speaker-microphone, as shown above. To maximize the readability of your transmitted signal (voice), hold the microphone approx. 5 to 10 cm from your mouth, and speak in a normal voice level.

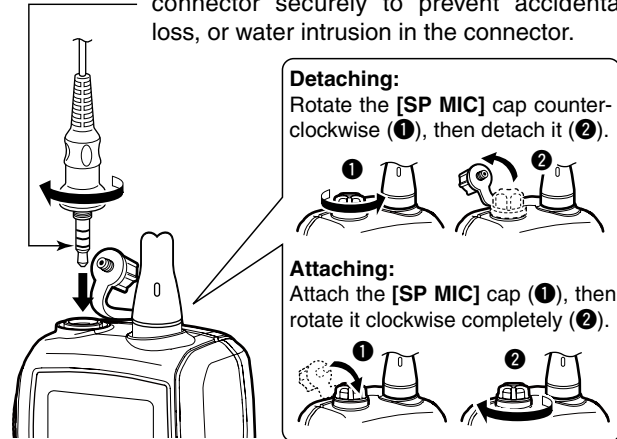
**NOTE:** When the speaker-microphone is connected to the transceiver, the noise cancellation does not work.

## ■ Attachment



Turn OFF the power before attaching the speaker-microphone. Then, insert the speaker-microphone's connector into the **[SP MIC]** connector and carefully screw it tight, as shown below. Be careful not to cross-thread the connection.

**IMPORTANT:** **KEEP** the transceiver's **[SP MIC]** cap attached when the speaker-microphone is not in use. 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.

**CAUTION:** Attach the speaker-microphone's connector securely to prevent accidental loss, or water intrusion in the connector.



# 10 TROUBLESHOOTING

PROBLEM	POSSIBLE CAUSE	SOLUTION	REF.
The transceiver does not turn ON.	<ul style="list-style-type: none"> <li>• The battery is exhausted.</li> <li>• The battery pack is not attached correctly.</li> </ul>	<ul style="list-style-type: none"> <li>• Recharge the battery pack.</li> <li>• Attach the battery pack correctly.</li> </ul>	p. 23 p. 3
No sound comes from the speaker.	<ul style="list-style-type: none"> <li>• The squelch level is too high.</li> <li>• The volume level is too low.</li> <li>• The speaker has been exposed to water.</li> </ul>	<ul style="list-style-type: none"> <li>• Set the squelch level to the threshold level.</li> <li>• Adjust the volume level to a suitable level.</li> <li>• Drain water from the speaker.</li> </ul>	p. 12 p. 11 p. 13
Transmitting is impossible, or high power cannot be selected.	<ul style="list-style-type: none"> <li>• Some channels are for low power or receive only.</li> <li>• The battery is exhausted.</li> <li>• The battery is over charged.</li> <li>• The output power is set to low.</li> </ul>	<ul style="list-style-type: none"> <li>• Change channels.</li> <li>• Recharge the battery pack.</li> <li>• Make sure the battery voltage is correct.</li> <li>• Push <b>[Hi/Lo </b>] to select high power.</li> </ul>	pp. 8, 9, 27 p. 23 — p. 10
The displayed channel cannot be changed.	<ul style="list-style-type: none"> <li>• The lock function is activated.</li> </ul>	<ul style="list-style-type: none"> <li>• Hold down <b>[Hi/Lo </b>] for 1 second to cancel the function.</li> </ul>	p. 13
Scan does not start.	<ul style="list-style-type: none"> <li>• “TAG” channels are not programmed.</li> </ul>	<ul style="list-style-type: none"> <li>• Set the desired channels as “TAG” channels.</li> </ul>	p. 15
No beep sounds.	<ul style="list-style-type: none"> <li>• The beep tone function is turned OFF.</li> </ul>	<ul style="list-style-type: none"> <li>• Set the beep tone function to ON (Fix Beep/User Beep) in the set mode.</li> </ul>	p. 18
Battery voltage error.	<ul style="list-style-type: none"> <li>• The connected battery pack’s voltage is more than 11 V.</li> </ul>	<ul style="list-style-type: none"> <li>• Make sure the battery voltage is correct.</li> </ul>	—
The noise cancellation does not work.	<ul style="list-style-type: none"> <li>• The sub-microphone is covered with something.</li> <li>• An optional external speaker-microphone is connected.</li> </ul>	<ul style="list-style-type: none"> <li>• Make sure the sub-microphone is not covered.</li> <li>• Disconnect the microphone.</li> </ul>	p. 4 p. 25
The noise detection function does not work.	<ul style="list-style-type: none"> <li>• The sub-microphone is covered with something.</li> <li>• The squelch is open.</li> </ul>	<ul style="list-style-type: none"> <li>• Make sure the sub-microphone is not covered.</li> <li>• Set the squelch level to the desired level.</li> </ul>	p. 4 p. 12



# VHF MARINE CHANNEL LIST

# 11

## • International channels

CH	Frequency (MHz)		CH	Frequency (MHz)		CH	Frequency (MHz)		CH	Frequency (MHz)		CH	Frequency (MHz)		CH	Frequency (MHz)	
	Transmit	Receive		Transmit	Receive		Transmit	Receive		Transmit	Receive		Transmit	Receive		Transmit	Receive
01	156.050	160.650	13	156.650	156.650	25	157.250	161.850	67	156.375	156.375	79	156.975	161.575	19A	156.950	156.950
02	156.100	160.700	14	156.700	156.700	26	157.300	161.900	68	156.425	156.425	80	157.025	161.625	20A	157.000	157.000
03	156.150	160.750	15*1	156.750	156.750	27	157.350	161.950	69	156.475	156.475	81	157.075	161.675	78A	156.925	156.925
04	156.200	160.800	16	156.800	156.800	28	157.400	162.000	70	RX only	156.525	82	157.125	161.725	79A	156.975	156.975
05	156.250	160.850	17*1	156.850	156.850	37A*3	157.850	157.850	71	156.575	156.575	83	157.175	161.775	19b	161.550*2	161.550
06	156.300	156.300	18	156.900	161.500	60	156.025	160.625	72	156.625	156.625	84	157.225	161.825	20b	161.600*2	161.600
07	156.350	160.950	19	156.950	161.550	61	156.075	160.675	73	156.675	156.675	85	175.275	161.875	78b	161.525*2	161.525
08	156.400	156.400	20	157.000	161.600	62	156.125	160.725	74	156.725	156.725	86	157.325	161.925	79b	161.575*2	161.575
09	156.450	156.450	21	157.050	161.650	63	156.175	160.775	75*1	156.775	156.775	87	157.375	157.375	P4*3	161.425	161.425
10	156.500	156.500	22	157.100	161.700	64	156.225	160.825	76*1	156.825	156.825	88	157.425	157.425			
11	156.550	156.550	23	157.150	161.750	65	156.275	160.875	77	156.875	156.875						
12	156.600	156.600	24	157.200	161.800	66	156.325	160.925	78	156.925	161.525						

\*1 Low power only

\*2 RX only except for the CHN version

\*3 UK Marina Channels: M1=37A (157.850 MHz), M2=P4 (161.425MHz)  
for only the UK version

**NOTE:**The international channels from 19A to 79b after channel 88 represent the 4-digit channels listed below:

- 19A = 1019      • 19b = 2019
- 20A = 1020      • 20b = 2020
- 78A = 1078      • 78b = 2078
- 79A = 1079      • 79b = 2079

10

11

# 11 VHF MARINE CHANNEL LIST

• **USA channels** (for U.K. and China versions)

CH	Frequency (MHz)		CH	Frequency (MHz)		CH	Frequency (MHz)		CH	Frequency (MHz)		CH	Frequency (MHz)	
	Transmit	Receive		Transmit	Receive		Transmit	Receive		Transmit	Receive		Transmit	Receive
01A	156.050	156.050	15	RX only	156.750	25	157.250	161.850	71	156.575	156.575	85	175.275	161.875
05A	156.250	156.250	16	156.800	156.800	26	157.300	161.900	72	156.625	156.625	86	157.325	161.925
06	156.300	160.300	17* <sup>1</sup>	156.850	156.850	27	157.350	161.950	73	156.675	156.675	87	157.375	157.375
07A	156.350	156.350	18A	156.900	156.900	28	157.400	162.000	74	156.725	156.725	88	157.425	157.425
08	156.400	156.400	19A	156.950	156.950	37A* <sup>2</sup>	157.850	157.850	77* <sup>1</sup>	156.875	156.875	P4* <sup>2</sup>	161.425	161.425
09	156.450	156.450	20	157.000	161.600	63A	156.175	156.175	78A	156.925	156.925			
10	156.500	156.500	20A	157.000	157.000	65A	156.275	156.275	79A	156.975	156.975			
11	156.550	156.550	21A	157.050	157.050	66A	156.325	156.325	80A	157.025	157.025			
12	156.600	156.600	22A	157.100	157.100	67* <sup>1</sup>	156.375	156.375	81A	157.075	157.075			
13*	156.650	156.650	23A	157.150	157.150	68	156.425	156.425	82A	157.125	157.125			
14	156.700	156.700	24	157.200	161.800	69	156.475	156.475	83A	157.175	157.175			

\*1 Low power only

\*2 UK Marina Channels: M1=37A (157.850 MHz), M2=P4 (161.425MHz) for only the UK version

**NOTE:** Simplex channels, 21,23,81,82 and 83 **CANNOT** be lawfully used by the general public in U.S.A. waters.

• **Canadian channels** (China version only)

CH	Frequency (MHz)		CH	Frequency (MHz)		CH	Frequency (MHz)		CH	Frequency (MHz)		CH	Frequency (MHz)		CH	Frequency (MHz)	
	Transmit	Receive		Transmit	Receive		Transmit	Receive		Transmit	Receive		Transmit	Receive		Transmit	Receive
01	156.050	160.650	12	156.600	156.600	22A	157.100	157.100	61A	156.075	156.075	72	156.625	156.625	83A	157.175	157.175
02	156.100	160.700	13*	156.650	156.650	23	157.150	161.750	62A	156.125	156.125	73	156.675	156.675	83b	RX only	161.775
03	156.150	160.750	14	156.700	156.700	23b	RX only	161.750	63A	156.175	156.175	74	156.725	156.725	84	157.225	161.825
04A	156.200	156.200	15*	156.750	156.750	24	157.200	161.800	64	156.225	160.825	75*	156.775	156.775	85	157.275	161.875
05A	156.250	156.250	16	156.800	156.800	25	157.250	161.850	64A	156.225	156.225	76*	156.825	156.825	86	157.325	161.925
06	156.300	156.300	17*	156.850	156.850	25b	RX only	161.850	65A*	156.275	156.275	77*	156.875	156.875	87	157.375	157.375
07A	156.350	156.350	18A	156.900	156.900	26	157.300	161.900	66A*	156.325	156.325	78A	156.925	156.925	88	157.425	157.425
08	156.400	156.400	19A	156.950	156.950	27	157.350	161.950	67	156.375	156.375	79A	156.975	156.975			
09	156.450	156.450	20*	157.000	161.600	28	157.400	162.000	68	156.425	156.425	80A	157.025	157.025			
10	156.500	156.500	21A	157.050	157.050	28b	RX only	162.000	69	156.475	156.475	81A	157.075	157.075			
11	156.550	156.550	21b	RX only	161.050	60	156.025	160.625	71	156.575	156.575	82A	157.125	157.125			

\* Low power only

# 12 SPECIFICATIONS

Measurements made without an antenna.

## ◇ GENERAL

- Frequency coverage
  - Transmit: 156.000–161.450 MHz  
156.000–161.600 MHz for Chinese version  
156.300–157.425 MHz for Australian version
  - Receive: 156.000–163.425 MHz  
156.300–162.025 MHz for Australian version
- Mode: FM (16K0G3E)
- Channel spacing: 25 kHz
- Power supply requirement: BP-251 and BP-252 only
- Current drain (at 7.4 V DC)
  - TX at 6 W: 1.5 A typical  
for other than Australian version
  - at 5 W: 1.3 A typical for Australian version
  - at 2 W: 1.0 A typical
  - at 1 W: 0.7 A typical
  - at 0.5 W: 0.6 A typical
- RX maximum audio
  - Internal speaker: 0.3 A typical
  - External speaker: 0.2 A typical
- Power save: 10 mA typical
- Frequency stability:  $\pm 1.5$  kHz
- Operating temperature range:  $-15^{\circ}\text{C}$  to  $+55^{\circ}\text{C}$
- Dimensions:  $62$  (W)  $\times$   $139.5$  (H)  $\times$   $43$  (D) mm  
(Projections not included)
- Weight: Approximately 295 g  
(including BP-252, FA-SC58V, and MB-109)

## ◇ TRANSMITTER

- Output power (at 7.4 V DC): 6 W (High) and 1 W (Low)  
5 W (High) and 1 W (Low) for Australian version  
1 W (High) and 0.5 W (Low) for German version depending on the pre-setting
- Modulation system: Variable reactance frequency modulation
- Maximum frequency deviation:  $\pm 5$  kHz
- Adjacent channel power: 70 dB
- Spurious emissions: 0.25  $\mu\text{W}$

## ◇ RECEIVER

- Receive system: Double-conversion superheterodyne
- Sensitivity (20 dB SINAD):  $-2$  dB $\mu$  emf typical
- Squelch sensitivity:  $-6$  dB $\mu$  emf typical (at threshold)
- Intermodulation: 68 dB
- Spurious response: 70 dB\*  
\*65 dB for Australian version
- Adjacent channel selectivity: 70 dB
- Audio output power (at 10% distortion)
  - Internal speaker: 0.7 W typical with a 16  $\Omega$  load
  - External speaker: 0.2 W with an 8  $\Omega$  load

All stated specifications are subject to change without notice or obligation.

◇ **BATTERY CASE AND PACK**

- **BP-251** BATTERY CASE  
 Battery case for 5 × AAA (LR03) alkaline cells  
 Output power level: 2 W at high (Depends on the pre-setting for German version.)
- **BP-252** Li-Ion BATTERY PACK  
 Voltage : 7.4 V  
 Capacity : 950 mAh (minimum) / 980 mAh (typical)

◇ **CHARGERS**

- **BC-173** DESKTOP CHARGER + **BC-147S** AC ADAPTER  
 Used for regular charging of battery pack. The power adapter, BC-147S, is not supplied with some versions.  
 Charging time : Approximately 10 hours
- **BC-162** DESKTOP CHARGER + **BC-145S** AC ADAPTER  
 Used for rapid charging of battery pack. The power adapter, BC-145S, is not supplied with some versions.  
 Charging time : Approximately 2 hours

◇ **BELT CLIP**

- **MB-109** BELT CLIP

◇ **OTHER OPTIONS**

- **HM-165** SPEAKER-MICROPHONE  
 Full sized speaker-microphone including an alligator clip to attach the microphone to your shirt, collar, etc. The HM-165 meets IPX7\* requirements for waterproof protection. However, once the item has been dropped, the IP rating cannot be guaranteed because of possible damage to the case or the waterproof seal.
- **FA-SC58V** ANTENNA

## ■ 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.

## ■ About CE and DOC



Hereby, Icom Inc. declares that the versions of IC-M35 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. The full text of the EU declaration of conformity is available at the following internet address:

<http://www.icom.co.jp/world/support>



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