ICOM

INSTRUCTION MANUAL

VHF MARINE TRANSCEIVER

IC-M34

This device complies with Part 15 of the FCC Rules. Operation is subject to the condition that this device does not cause harmful interference.

Icom Inc.

SAFETY TRAINING INFORMATION

Your Icom radio generates RF electromagnetic energy during transmit mode. This radio is designed for and classified as "Occupational Use Only", meaning 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 evaluated for compliance at the distance of 2.5 cm with the FCC RF exposure limits for "Occupational Use Only". In addition, your Icom 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 OET Bulletin 65 Edition 97-01 Supplement C, Evaluating Compliance with FCC Guidelines for Human Exposure to Radio Frequency Electromagnetic Fields.
- American National Standards Institute (C95.1-1992), IEEE Standard for Safety Levels with Respect to Human Exposure to Radio Frequency Electromagnetic Fields, 3 kHz to 300 GHz.
- American National Standards Institute (C95.3-1992), IEEE Recommended Practice for the Measurement of Potentially Hazardous Electromagnetic Fields– RF and Microwave.
- The following accessories are authorized for use with this product. Use of accessories other than those specified may result in RF exposure levels exceeding the FCC requirements for wireless RF exposure.; Belt Clip (MB-109), Rechargeable Li-Ion Battery Pack (BP-252) and Alkaline Battery Case (BP-251).

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

- **DO NOT** operate the radio without a proper antenna attached, as this may damaged the radio and may also cause you to exceed FCC RF exposure limits. A proper antenna is the antenna supplied with this radio by the manufacturer or antenna specifically authorized by the manufacturer for use with this radio.
- **DO NOT** transmit for more than 50% of total radio use time ("50% duty cycle"). Transmitting more than 50% of the time can cause FCC RF exposure compliance requirements to be exceeded. The radio is transmitting when the "transmit indicator" appears on the LCD. You can cause the radio to transmit by pressing the "PTT" switch.
- **ALWAYS keep** the antenna at least 2.5 cm (1 inch) away from the body when transmitting and only use the Icom belt-clips which are listed on p. 28 when attaching the radio to your belt, etc., to ensure FCC RF exposure compliance requirements are not exceeded. To provide the recipients of your transmission the best sound quality, hold the antenna at least 5 cm (2 inches) from your mouth, and slightly off to one side.

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 with the FCC RF exposure limits of this radio.

Electromagnetic Interference/Compatibility

During transmissions, your Icom 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 blasting sites.

Occupational/Controlled Use

The radio transmitter is used in situations in which persons are exposed as consequence of their employment provided those persons are fully aware of the potential for exposure and can exercise control over their exposure.

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*

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.

RECOMMENDATION

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

NOTE: DO NOT wash the transceiver in water if there is any reason to suspect the waterproof protection may not be effective. For example, in cases where the battery pack rubber seal is damaged, the transceiver/battery pack is cracked or broken, or has been dropped, or when the battery pack is detached from the transceiver.
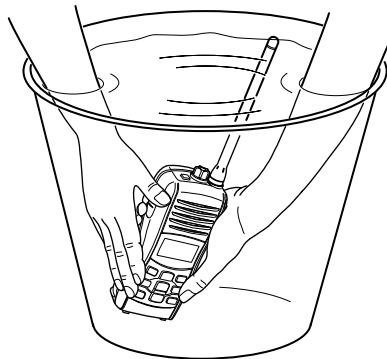
FOREWORD

Thank you for purchasing this Icom radio. The IC-M34 VHF MA-RINE TRANSCEIVER is designed and built with Icom's state of the art technology and craftsmanship. With proper care this radio 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 IC-M34.

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

☞ **Submersible construction**
Built tough to withstand the punishing marine environment, the transceiver's submersible construction meets IPX7* requirements for waterproof protection (1 meter; 3.3 ft depth for 30 min.).
* Only when the BP-251 (option) or BP-252, flexible antenna, **[SP MIC]** cap is attached.

☞ **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 in fresh or salt water.

☞ **Large, easy-to-read LCD**
With dimensions of 16(H) × 32(W) mm; $\frac{5}{8}$(H) × $1\frac{1}{4}$(W) inch, the function display is easy to read and shows operating conditions at a glance. Backlighting and contrast can be adjusted to suit your preferences.

☞ **Easy to use, easy to hold**
9 large buttons on the front panel provide user-friendly operation. The transceiver weights only 305 g; 10.7 oz, and the easy-to-hold rounded body fits comfortably in your hand.

PRECAUTIONS

⚠️**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.

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

AVOID using or placing the transceiver in direct sunlight or in areas with temperatures below –20°C (–4°F) or above +60°C (+140°F).

KEEP the transceiver out of the reach of children.

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.

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 waterproof seal.

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

MAKE SURE the flexible antenna and battery pack are securely attached to the transceiver, and that the antenna and battery pack are dry before attachment. Exposing the inside of the transceiver to water will result in 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.

For U.S.A. only
CAUTION: Changes or modifications to this device, not expressly approved by Icom Inc., could void your authority to operate this device under FCC regulations.

TABLE OF CONTENTS

◇ 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

When your craft is equipped with a VHF FM transceiver, 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. This license includes 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 near the transceiver or be 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 IC-M34 is capable of operation on VHF marine channels 3, 21, 23, 61, 64, 81, 82 and 83, according to FCC regulations these simplex channels cannot be lawfully used by the general population in U.S.A. waters.

2 SUPPLIED ACCESSORIES AND ATTACHMENTS

■ Supplied accessories

Handstrap   Battery pack   Battery charger (with 2 screws)   AC adapter (Different type is supplied depending on the version)

Antenna   Belt clip

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■ Attachments

◇ Flexible antenna

Connect the supplied flexible antenna to the antenna connector.

CAUTION:
- **NEVER** carry the transceiver by holding the antenna.
- Transmitting without an antenna may damage the transceiver.

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◇ Handstrap

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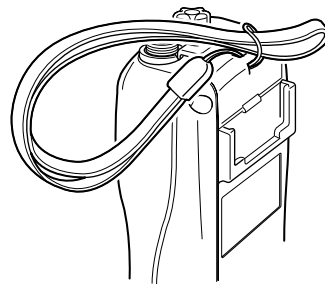
◇ Belt clip

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

To attach the belt clip   To detach the belt clip

Be careful! Not to break your nails.

◇ Battery pack

To remove the battery pack:
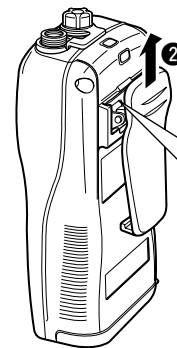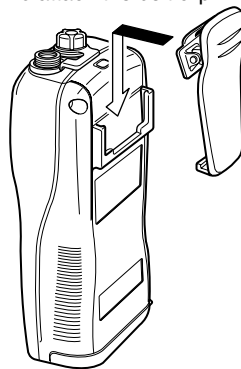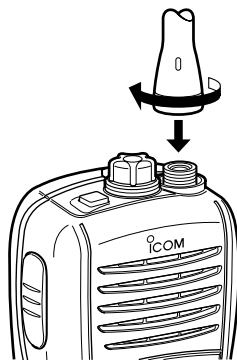Turn the screw counterclockwise one quarter turn, then pull the battery pack in the direction of the arrow as shown below.

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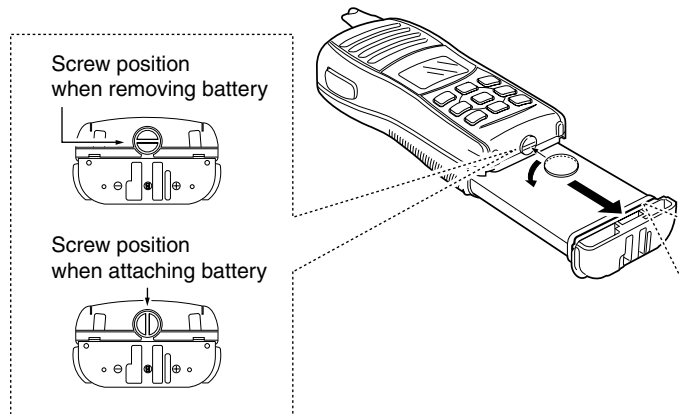
NOTE: When removing or attaching the battery pack, use a coin or standard screwdriver to loosen or tighten the bottom screw.

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 neatly 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 be compromised.

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

Screw position
when removing battery

Screw position
when attaching battery

Correct position   **Incorrect position**

Rubber seal

Groove

Battery pack   Battery pack

3 PANEL DESCRIPTION
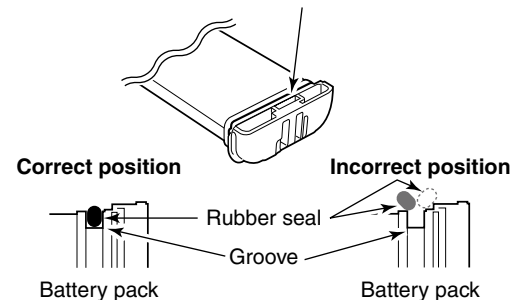
■ Front, top and side panels

① POWER SWITCH [PWR]

Microphone

Speaker

Function display (pgs. 6, 7)
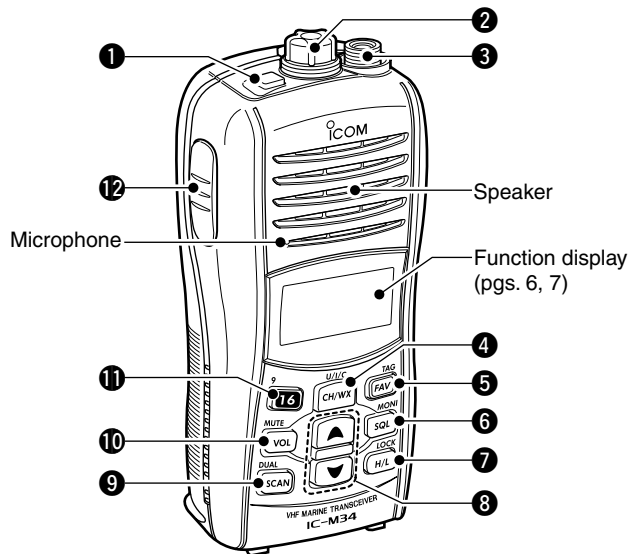
q **POWER SWITCH [PWR]**
Push and hold to turn power ON and OFF.

w **SPEAKER-MICROPHONE CONNECTOR [SP MIC]** (p. 25)
Connects 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.
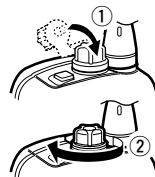
① Attach the **[SP MIC]** cap.

② Then rotate it clockwise completely.

e **ANTENNA CONNECTOR** (p. 2)
Connects the supplied antenna.

r **CHANNEL/WEATHER CHANNEL KEY [CH/WX•U/I/C]**
➥Toggles between the regular channel and weather channel when pushed. (p. 9)
➥Selects the U.S.A., International or Canadian channel group when pushed and held for 1 sec. (p. 9)
➥Push to return to the previous channel before selecting Channel 16 or the call channel.

3

❺ FAVORITE/TAG KEY [FAV•TAG]
➡ While pushing and holding this key, push [▲]/[▼] to select the favorite (TAG) channels with ignoring un-tagged channels in the selected channel group in sequence. (p. 8)
  • Pushing this key only advances the displayed TAG channel.
➡ Push and hold for 1 sec. to set or clear the displayed channel as a TAG (scanned) channel. (p. 15)
➡ While pushing and holding this key, turn power ON to clear or set all TAG channels (when no TAG channel has been set) in the selected channel group. (p. 15)

❻ SQUELCH/MONITOR KEY [SQL•MONI]
➡ Push this key, then adjust the squelch level with [▲]/[▼]. (p. 12)
➡ Manually opens the squelch for monitoring the channel while pushing and holding. (p. 13)
➡ While pushing and holding this key, turn power ON to enter the set mode. (p. 17)

❼ TRANSMIT POWER/LOCK KEY [H/L•LOCK]
➡ Selects high or low power when pushed. (p. 10)
➡ Toggles between the key lock function ON/OFF when pushed and held for 1 sec. (p. 12)

❽ CHANNEL UP/DOWN KEYS [▲]/[▼]
➡ Selects an operating channel. (pgs. 8, 9)
➡ Selects the set mode setting of the item. (p. 17)
➡ Checks TAG channels or changes scanning direction during scan. (p. 15)

❾ SCAN/DUAL KEY [SCAN•DUAL]
➡ Push to start or stop normal or priority scan. (p. 15)
➡ Push and hold for 1 sec. to enter watch mode. (p. 16)
➡ Push and hold this key and **[H/L]**, to activate the AquaQuake function. (p. 13)
➡ Exits watch mode when pushed during watch operation. (p. 16)

❿ VOLUME KEY [VOL•MUTE]
➡ Push this key, then adjust the volume level with [▲]/[▼]. (p. 11)
➡ Push and hold for 1 sec. to activate the volume mute function. (p. 11)

⓫ CHANNEL 16 KEY [16•9]
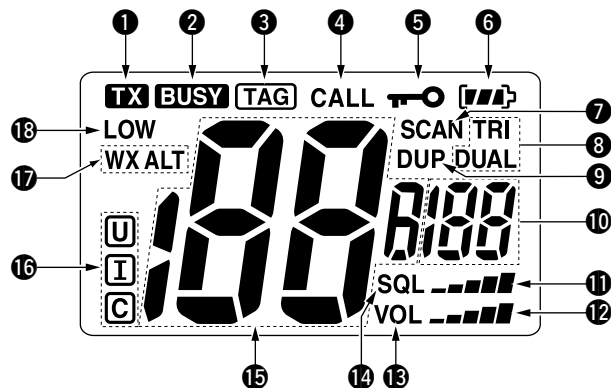➡ Push to select Channel 16. (p. 8)
➡ Push and hold for 1 sec. to select the call channel. (p. 8)
➡ Enters call channel programming condition when the call channel is selected and this key is pushed and held for 3 sec. (p. 11)
➡ Push to exit set mode during set mode operation. (p. 17)

⓬ PTT SWITCH [PTT]
Push and hold to transmit; release to receive. (p. 10)

■ **Function display**

❶ TRANSMIT INDICATOR (p. 10)
Appears while transmitting.

❷ BUSY INDICATOR
� ➥ Appears when receiving a signal or when the squelch opens. (p. 10)
➥ Blinks while monitoring. (p. 13)

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

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

❺ LOCK INDICATOR (p. 12)
Appears while the lock function is activated.

❻ 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.

❼ SCAN INDICATOR (p. 15)
Blinks while scanning.

❽ DUALWATCH/TRI-WATCH INDICATORS (p. 16)
"**DUAL**" appears during Dualwatch; "**TRI**" appears during Tri-watch.

❾ DUPLEX INDICATOR
Appears when a duplex channel is selected.

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

⑪ **SQUELCH LEVEL INDICATOR**
Shows the squelch level.

⑫ **VOLUME LEVEL INDICATOR**
➥ Shows the volume level.
➥ Blinks when the volume mute is activated. (p. 11)

⑬ **VOLUME LEVEL ADJUSTING INDICATOR** (p. 11)
Blinks while adjusting the volume level.

⑭ **SQUELCH LEVEL ADJUSTING INDICATOR** (p. 12)
Blinks while adjusting the squelch level.

⑮ **CHANNEL NUMBER READOUT**
➥ Indicates the selected operating channel number.
➥ In set mode, indicates the selected condition.

⑯ **CHANNEL GROUP INDICATOR** (p. 9)
"Ⓤ" appears when U.S.A.; "Ⓘ" appears when International; "Ⓒ" appears when Canadian channel group is selected.

⑰ **WEATHER CHANNEL/WEATHER ALERT INDICATORS**
(p. 9)
➥ "**WX**" appears when the weather channel group is selected.
➥ "**WX ALT**" appears while the weather alert function is activated; blinks when the alert tone is received.

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.
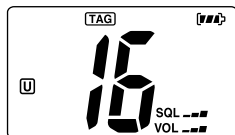
■ Channel selection

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 the power OFF 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 Dualwatch and Tri-watch. While standing by, you must monitor Channel 16.

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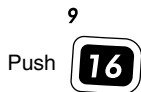
Push

Convenient!

While pushing and holding **[FAV]**, push [▲]/[▼] to select the favorite (TAG) channels with ignoring untagged channels in the selected channel group in sequence.
• Pushing **[FAV]** only advances the displayed TAG channel.
• The favorite channels are selected using the TAG channel setting. (p. 15)

◇ Channel 9 (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 Push and hold **[9]** (16) for 1 sec. 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/WX]** to return to the channel used before call channel, or push **[▲]/[▼]** to select a channel.

Push and hold for 1 sec.

◇ U.S.A., International and Canadian channels

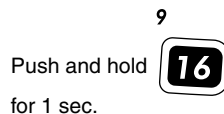The transceiver is pre-programmed with 59 U.S.A., 59 International and 63 Canadian channels. These channel groups may be specified for the operating area.

① Push **[CH/WX]** to select a regular channel.
  • If a weather channel appears, push **[CH/WX]** again.
② Push and hold **[U/I/C]** (CH/WX) for 1 sec. to change the channel group. Repeat to advance to the next group.
  • U.S.A., International and Canadian channel groups can be selected in sequence.
③ Push **[▲]/[▼]** to select a channel.
  • "**DUP**" appears for duplex channels.

U.S.A. channels

U/I/C

Push and hold **[CH/WX]** for 1 sec.

International channels   Canadian channels
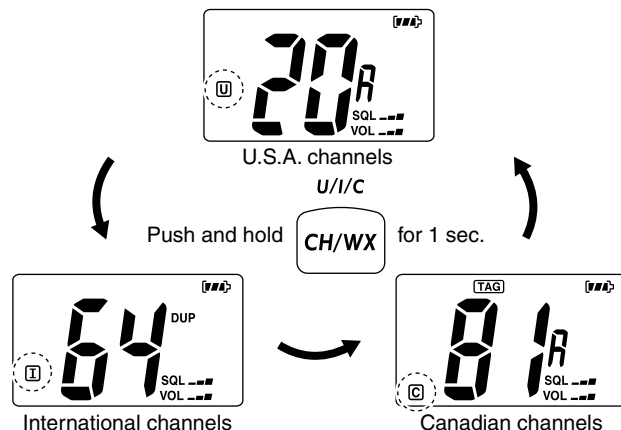
◇ Weather channels

The transceiver has 10 pre-programmed weather channels. These are used for monitoring broadcasts from the NOAA (National Oceanic and Atmospheric Administration).

The transceiver can automatically detect a weather alert tone on the selected weather channel while receiving another channel or while scanning. (p. 18)

① Push **[CH/WX]** once or twice to select a weather channel.
  • "**WX**" appears when a weather channel is selected.
  • "**WX ALT**" appears when the weather alert function is turned ON. (p. 18)
② Push **[▲]/[▼]** to select a weather channel.

U/I/C

Push **[CH/WX]** once or twice.
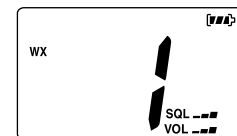
Weather alert is OFF.   Weather alert is ON.
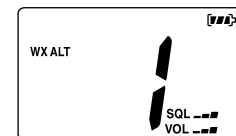
4 BASIC OPERATION

■ Receiving and transmitting

// **CAUTION:** Transmitting without an antenna will damage
// the transceiver.

① Push and hold **[PWR]** to turn power ON.
② Set the audio and squelch levels.
   ➡ Push **[SQL]**, and push **[▼]** several times to open the
     squelch.
   ➡ Push **[VOL]**, then push **[▲]/[▼]** to adjust the volume
     level.
   ➡ Push **[SQL]**, and push **[▲]** until the noise disappears.
③ Push **[▲]/[▼]** to select the desired channel.
   • When receiving a signal, " BUSY " appears and audio is emitted
     from the speaker.
   • Further adjustment of the audio may be necessary at this point.
④ Push **[H/L]** to select the output power if necessary.
   • "**LOW**" appears when low power is selected; no indication when
     high power is selected.
   • Choose low power to conserve battery power, choose high
     power for longer distance communications.
   • Some channels are for low power only.
⑤ Push and hold **[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 trans-
// mitted signal, pause a few sec. after pushing **[PTT]**, hold
// the microphone 5 to 10 cm (2 to 4 inches) from your
// mouth and speak into the microphone at a normal voice
// level.

// **NOTE:** The transceiver has a power save function to con-
// serve the battery power. The power save function acti-
// vates automatically when no signal is received for 5 sec.

// ***For U.S.A version*:** To prevent accidental prolonged
// transmission, etc., the transceiver has a time-out timer
// function. This timer cuts a transmission OFF after 5 min.
// of continuous transmission.

⑤ Push to transmit.
⑥ Release to receive.

Microphone

② Set volume.

② Set the squelch and volume level.

① Power ON.

③ Set channel.

② Set the squelch level.

④ Set output power.
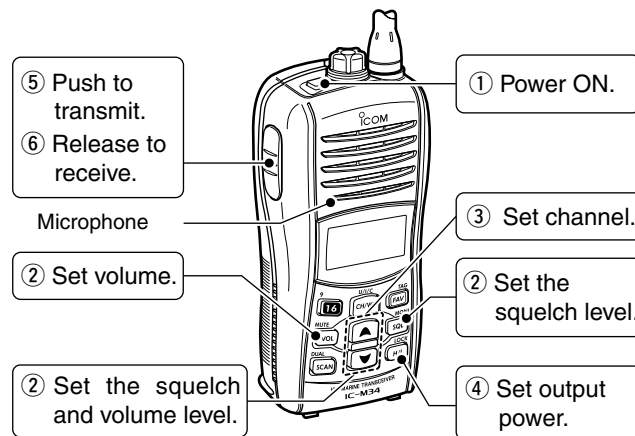
■ Call channel programming

Call channel is used to access Channel 9 (default), however, you can program the call channel with your most often-used channels in each channel group for quick recall.

① Push and hold **[U/I/C]** (CH/WX) for 1 sec. several times to select the desired channel group (U.S.A., International or Canada) to be programmed. (p. 9)
② Push and hold **[9]** (16) for 1 sec. to select the call channel of the selected channel group.
  • "**CALL**" and call channel number appear.
③ Push and hold **[9]** (16) again for 3 sec. (until a long beep changes to 2 short beeps) to begin call channel programming.
  • Channel number starts blinking.

④ Push **[▲]/[▼]** to select the desired channel.
⑤ Push **[16]** to program the displayed channel as the call channel.
  • The channel number stops blinking.
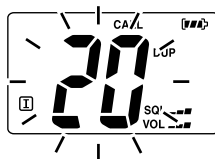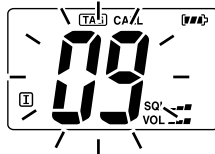
■ Adjusting the volume level

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

① Push **[VOL]**, then adjust the volume level with **[▲]/[▼]**.
  • "**VOL**" indicator starts blinking.
  • There are 31 volume levels and OFF.
  • When no key is pushed for 5 sec., the transceiver returns to normal condition.
② Push **[VOL]** again to return to normal condition.
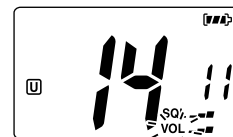
Indicates the volume level.

Blinks during volume level adjustment.

■ Volume mute function

The volume mute function can be activated temporarily with **[MUTE]** (VOL).

① Push and hold **[MUTE]** (VOL) for 1 sec to activate the volume mute function.
  • The audio is muted.
  • The volume level indicator starts blinking.
② Push **[VOL]** again or turn power OFF to turn the volume mute function OFF.

■ Adjusting the squelch level

To adjust the squelch level, use the **[▲]**/**[▼]** keys as de-scribed below. 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 **[SQL]**, then adjust the squelch level with **[▲]**/**[▼]**.
  • "**SQL**" indicator starts blinking.
  • There are 11 squelch levels to choose from: OP is completely open; 10 is tight squelch; 1 is loose squelch.
  • If no key is pushed for 5 sec., the transceiver returns to normal operation.
② Push **[SQL]** again to return to normal condition.

Indicates the squelch level.

Blinks during squelch level adjustment.
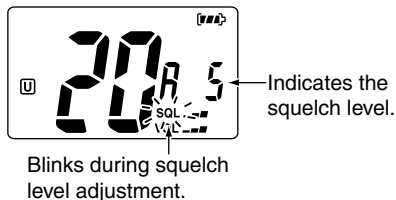
■ Lock function

This function electronically locks all keys (except for **[PTT]**, **[SQL•MONI]**, **[VOL•MUTE]**, **[H/L•LOCK]** and **[▲]**/**[▼]***) to prevent accidental channel changes and function access.
* After pushing **[VOL•MUTE]** or **[SQL•MONI]** only.

➥ Push and hold **[LOCK]** (H/L) for 1 sec. to turn the lock function ON and OFF.

Appears while the lock function is used.

LOCK

Push and hold for 1 sec.

H/L
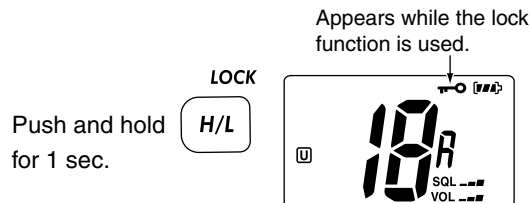
■ Automatic backlighting

This function is convenient for nighttime operation. The auto-matic backlighting can be activated in set mode. (p. 19)

➥ Push any key except for **[PTT]** to turn the backlighting ON.
  • The backlighting is automatically turned OFF after 5 sec. of in-activity.

■ Monitor function

The monitor function opens the squelch. See p. 5 for details of the monitor key action.

➥ The monitor function activates while pushing and holding **[MONI]** (SQL).
• " BUSY " blinks and audio is emitted.

Blinks while the monitor function is used.

Push and hold
MONI

SQL
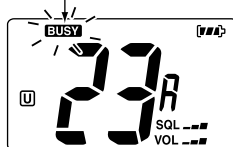
■ AquaQuake water draining function

The transceiver uses a new technology to clear water away from the speaker grill: AquaQuake. AquaQuake helps drain water away from the speaker housing (water that might otherwise muffle the sound coming from the speaker). The transceiver emits a vibrating beep when this function is being used.

➥ Push and hold both **[SCAN]** and **[H/L]**.
• A low beep tone sounds for 9 sec. to drain water, regardless of volume level setting.
• The transceiver does not perform key operations while the AquaQuake function is activated. The AquaQuake function can not be activated when an optional speaker-microphone is connected.

5 **SCAN OPERATION**

■ **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 weather alert and auto scan functions are available for standby convenience. These functions can be activated simultaneously, depending on the setting in set mode. (pgs. 18, 19)

Set the TAG channels (scanned channels) before scanning. Clear any TAG channels which inconveniently stop scanning, such as digital communications.

✍ Choose priority or normal scan in set mode. (p. 18)
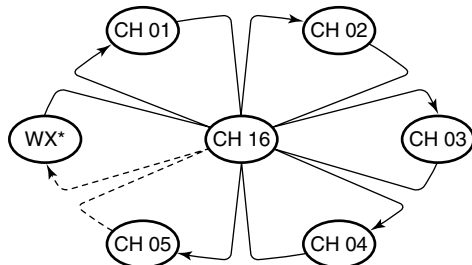
PRIORITY SCAN

* Previously selected weather channel when weather alert function is ON.

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.
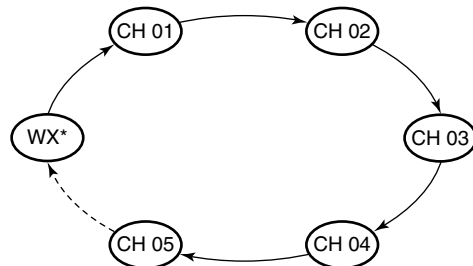
NORMAL SCAN

* Previously selected weather channel when weather alert function is ON.

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, set the desired channels as TAG channels or clear the TAG setting from unwanted channels. Channels that are not tagged will be skipped during scanning. TAG channels can be assigned to each channel group (U.S.A., International and Canada) independently.

① Push and hold **[U/I/C]** (CH/WX) for 1 sec. several times to select the desired channel group, if desired.
② Select the desired channel to be set as a TAG channel.
③ Push and hold **[TAG]** (FAV) for 1 sec. to set the displayed channel as a TAG channel.
   • " TAG " appears in the function display.
④ To cancel the TAG channel setting, push and hold **[TAG]** (FAV) for 1 sec.
   • " TAG " disappears.

✔ Clearing (or setting) all tagged channels

While pushing and holding **[TAG]** (FAV), turn power ON 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 weather alert function, priority scan function, scan resume timer and auto scan function in advance, using set mode. (pgs. 18, 19)

① Push and hold **[U/I/C]** (CH/WX) for 1 sec. several times to select the desired channel group, if desired.
   • When the weather alert function is in use, select the desired weather channel with **[CH/WX]** and **[▲]/[▼]**.
② Push **[SCAN]** to start priority or normal scan.
   • "**SCAN**" blinks in the function 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 sec. according to the scan resume timer setting. (Channel 16 is still monitored during priority scan.)
   • 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]**.
   • "**SCAN**" disappears.
   • Pushing **[PTT]**, **[16]**, **[CH/WX]** or **[FAV]** also stops the scan.

[Example]: Starting a normal scan.
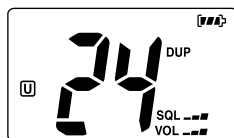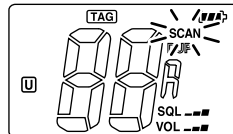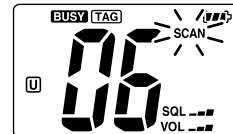
6 DUALWATCH/TRI-WATCH

■ 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
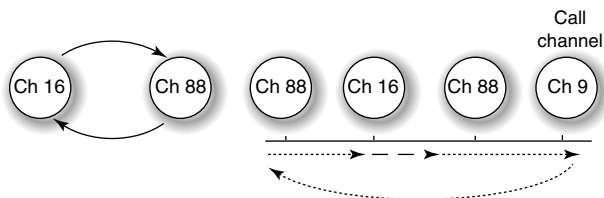
Dualwatch   **Tri-watch**

- 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, push and hold **[PTT]**.

■ Operation

① Select Dualwatch or Tri-watch in set mode. (p. 19)
② Select the desired channel.
③ Push and hold **[DUAL]** (SCAN) for 1 sec. to start Dualwatch or Tri-watch (depending on 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]** again.

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

Tri-watch starts.
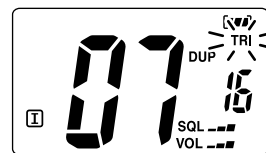
Signal is received on call channel.
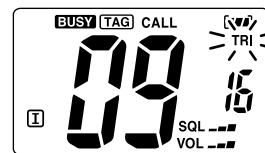
Tri-watch resumes after the signal disappears.

Signal received on Channel 16 takes priority.
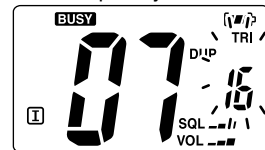
■ Set mode programming

Set mode is used to change the settings for 12 transceiver functions: Beep tone function, Weather alert 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 and Low fix function*.

*Appears only when the optional battery case is attached.

◇ **Set mode operation**
① Turn power OFF.
② While pushing **[SQL]**, turn power ON to enter set mode.
 • "bP" appears.
③ Push **[SQL]** or **[▲]/[▼]** while pushing and holding **[SQL]** to select the desired item, if necessary.
④ Push **[▲]/[▼]** to select the desired setting of the item.
⑤ To exit set mode, push **[16]**.

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◇ **SET MODE ITEMS** (The display shows the current settings, and the selected function is displayed in the dotted circle.)

• Low fix*

• Beep tone — Starting item

• Weather alert

• Priority scan

• Scan resume timer

• Squelch sensitivity

⟶ : Push [SQL] or [SQL] + [▲]

*Appears only when the optional battery case is attached.

• Auto scan

⟵--- : Push [SQL] + [▼]

• Power save

• LCD contrast

• Automatic backlighting

• Monitor key action

• Dual/Tri-watch
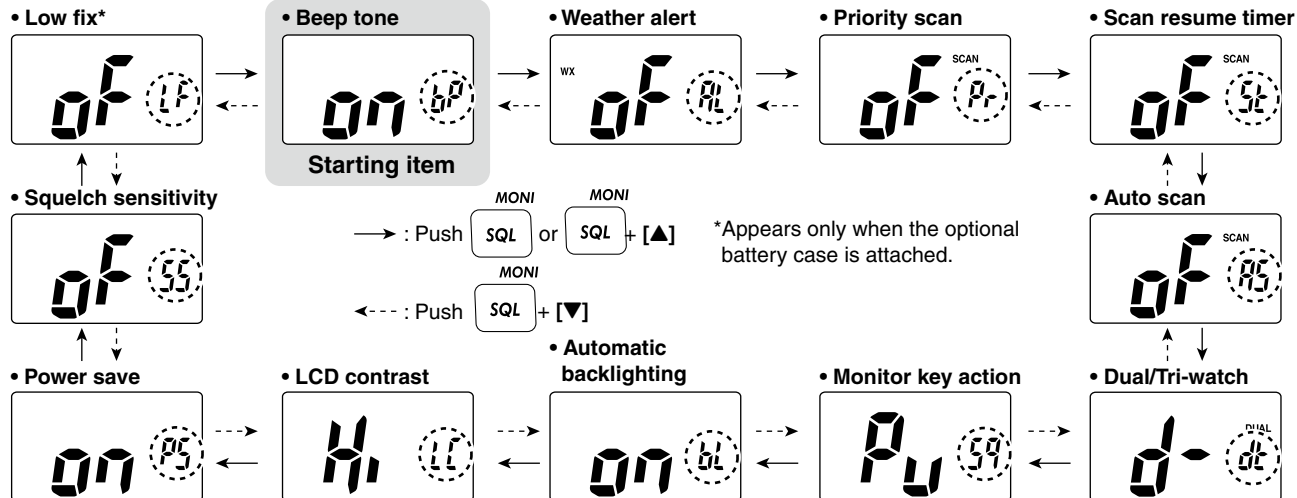
■ Set mode items

◇ Beep tone function   "bP"

Select the key touch beep sound from ON or US, or turn sound OFF.
• US : The preset beeps (e.g. do, re, mi) sound
• ON   : A fixed beep sounds
• OFF: Silent operation

Beep tone ON (default)   Push   Beep tone OFF

◇ Weather alert function   "AL"

A NOAA broadcast station transmits a weather alert tone
before any important weather announcements. When the
weather alert function is turned ON and the transceiver detect
the alert, "**WX ALT**" indicator blinks and a beep tone sounds.
The blinking stops when the transceiver is operated.
The currently selected weather channel is checked when the
power save function is turned ON or while scanning.
• "**ALT**" appears when the function is set ON.

Weather alert function   Push   Weather alert function
OFF (default)   ON

◇ Priority scan function   "Pr"

The transceiver has 2 scan types— normal (OFF) and prior-
ity (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.
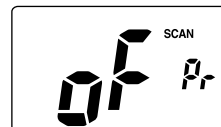
Normal scan (default)   Push   Priority scan

◇ Scan resume timer   "St"

The scan resume timer can be set as a pause (OFF) or timer
scan (ON). When OFF is selected, the scan pauses until a
received signal disappears. When ON is selected, the scan
pauses for 5 sec. after receiving a signal and then resumes
even if the signal is being received.
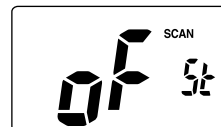
Scan resume timer OFF   Push   Scan resume timer ON
(default)

◇ **Auto scan function** "AS"

The auto scan function starts the desired scan automatically when no signal is received, and no operation is performed for 30 sec.
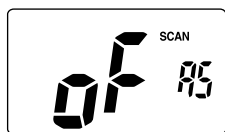
Auto scan OFF (default)   Push   Auto scan ON
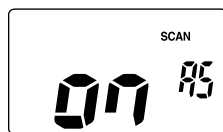
◇ **Dual/Tri-watch function** "dt"

This item selects Dualwatch or Tri-watch as desired. See p. 16 for details.
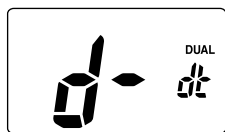
Dualwatch function
(default)   Push   Tri-watch function
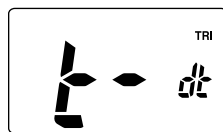
◇ **Monitor key action** "Sq"

The monitor key opens the squelch temporarily. This key action contains PUSH (Pu) or HOLD (Ho) settings as shown below.

• Pu (PUSH) : After pushing **[MONI]** (SQL) for 1 sec., the squelch opens and emits audio. The squelch is held open while continuously pushing and holding **[MONI]** (SQL).

• Ho (HOLD) : After pushing **[MONI]** (SQL) for 1 sec., the squelch opens and emits audio even while **[MONI]** (SQL) is released. To close the squelch, push any key.

Push setting (default)   Push   Hold setting

◇ **Automatic Backlighting** "bL"

This function is convenient for nighttime 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 sec. of inactivity.
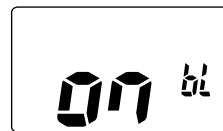
Auto backlighting ON
(default)   Push   Auto backlighting OFF

◇ **LCD contrast setting** "LC"

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

NOTE: The LCD contrast level between High contrast and Low contrast makes no difference indoors.

High contrast (default)

Push

Low contrast

◇ **Power save function** "PS"

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

• ON : The power save function is turned ON. The power save function will activate when no signal is received, and no operation is performed for 5 sec.

• OFF : The power save function is turned OFF.

Power save ON (default)

Push

Power save OFF

◇ **Squelch sensitivity** "SS"

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

Squelch sensitivity OFF (default)

Push

Squelch sensitivity ON

◇ **Low fix function** "LF"

(Appears only when the optional battery case is attached.)

When this function is turned ON, the output power is fixed to low except for Channel 16.

Low fix function OFF (default)

Push

Low fix function ON

■ 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.

⚠ **DANGER!** Use and charge only 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.

◇ 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 (+140˚F). 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 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, seawater, or any other liquids. Do not 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! NEVER** incinerate a used battery pack since internal battery gas may cause them to rupture or may cause an explosion.

⚠ **DANGER! NEVER** solder the battery terminals, or **NEVER** modify the battery pack. This may cause heat generation, and the battery may rupture, 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 specified 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.

8 BATTERY CHARGING

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

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.

CAUTION! Always use the battery within the specified temperature range for the transceiver (–20˚C to +60˚C; –4˚F to +140˚F) and the battery itself (–20˚C to +60˚C; –4˚F to +140˚F). Using the battery out of its specified temperature range will reduce the battery's performance and battery life.

CAUTION! Shorter battery life could occur if the battery is left fully charged, completely discharged, or in an excessive temperature environment (above +50˚C; +122˚F) for an extended period of time. If the battery must be left unused for a long time, it must be detached from the radio 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˚C to +50˚C (–4˚F to +122˚F) (within a month)

   –20˚C to +35˚C (–4˚F to +95˚F)   (within three months)

   –20˚C to +20˚C (–4˚F to +68˚F)   (within a year)

◇ 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! DO NOT 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! NEVER insert the battery and 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 specified temperature range: ±0˚C to +40˚C (+32˚F to +104˚F). Icom recommends charging the battery at +20˚C (+68˚F). The battery may heat up or rupture if charged out of the specified 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, if desired.
② Connect the AC 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 battery charge.
  • The charge indicator lights green when charging is completed.

Charge indicator lights orange when the battery pack (with/without the transceiver) is inserted.

Battery pack

Transceiver

Turn power OFF

NOTE: The battery charger, BC-173, has a charging timer. The timer stops the charging process after 14 hours (approx.).

AC adapter*

*Different type is supplied depending on the version.

Supplied screws

BC-173
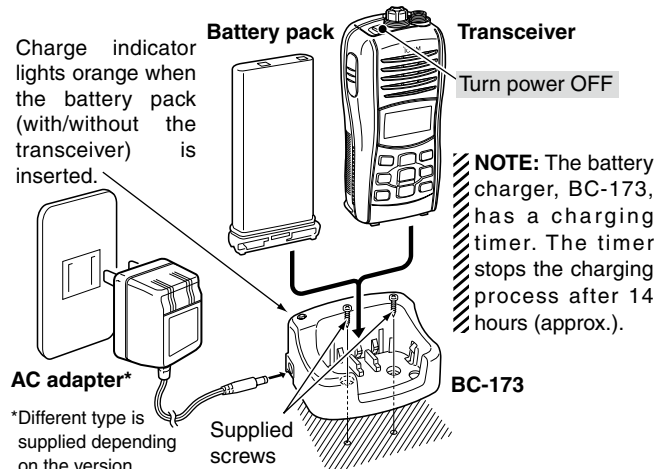
■ Optional battery case

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).

NOTE: The transceiver floats even the optional battery case is attached. However, Icom recommends to use the following brand's alkaline batteries that we verified. If another brand's alkaline batteries are used, the transceiver may sink.

• DURACELL   • Energizer   • TOSHIBA
• Panasonic   • VARTA

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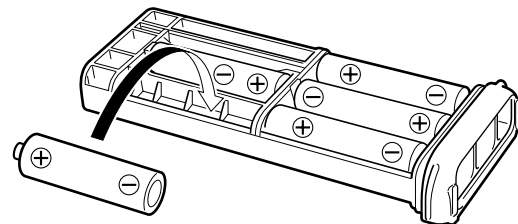
■ Optional battery charger

◇ BC-162 installation

• To a desktop

Supplied screws
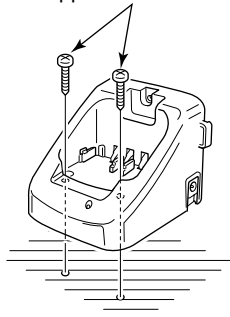
• To a wall

Supplied screws
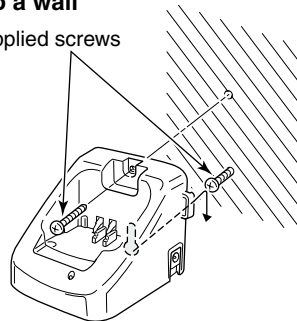
• For added stability
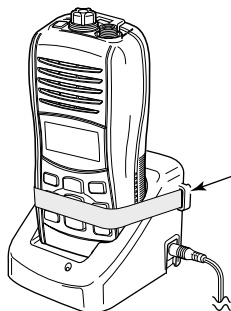
Eyelet:
Use a rubber band to secure the transceiver, if desired.

◇ Charging

① Connect the AC 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 battery charge.
  • 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.).

Battery pack   **Transceiver**

Turn power OFF

Charge indicator   **BC-162**

AC adapter
(Not supplied with some versions)
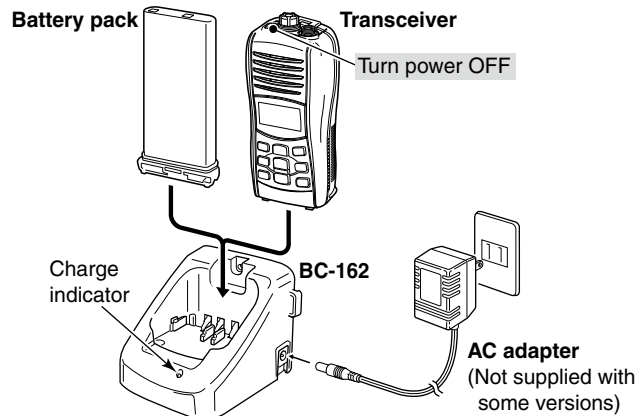
■ HM-165 descriptions

Alligator type clip
To attach the speaker-mic. 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.
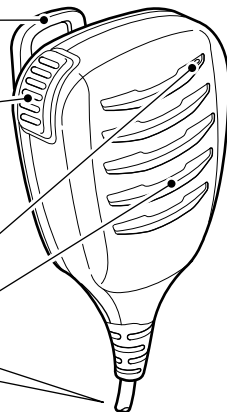
NEVER immerse the connector in water. If the connector becomes wet, be sure to dry it BEFORE attaching it to the transceiver.

NOTE: The microphone is located at the top of the speaker-microphone, as shown in the diagram above. To maximize the readability of your transmitted signal (voice), hold the microphone approx. 5 to 10 cm (2 to 4 inch) from your mouth, and speak in a normal voice level.

■ Attachment

Turn power OFF before attaching the speaker-microphone. Then, insert the speaker-mic connector onto the **[SP MIC]** connector and carefully screw it tight, as shown in the diagram 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 cap 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.

Detaching:
Rotate the **[SP MIC]** cap counter-clockwise (❶), then detach it (❷).

Attaching:
Attach the **[SP MIC]** cap (❶), then rotate it clockwise completely (❷).

8
9
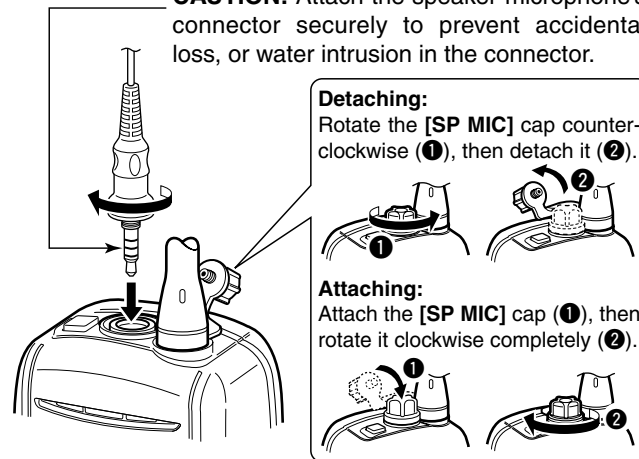
10 <u>TROUBLESHOOTING</u>

PROBLEM	POSSIBLE CAUSE	SOLUTION	REF.
The transceiver does not turn ON.	• The battery is exhausted. • The battery pack is not attached correctly.	• Recharge the battery pack. • Attach the battery pack correctly.	p. 23 p. 3
No sound from speaker.	• Squelch level is too high. • Volume level is too low. • Speaker has been exposed to water.	• Set squelch to the threshold point. • Push **[▲]/[▼]** after pushing **[VOL]** to set a suitable level. • Drain water from the speaker.	p. 12 p. 11 p. 13
Transmitting is impossible, or high power can not be selected.	• Some channels are for low power or receive only. • The battery is exhausted. • The battery over charged. • The output power is set to low.	• Change channels. • Recharge the battery pack. • Verify the battery voltage is correct. • Push **[H/L]** to select high power.	pgs. 8, 9, 27 p. 23 — p. 10
The displayed channel cannot be changed.	• Lock function is activated.	• Push and hold **[LOCK]** (H/L) for 1 sec. to cancel the function.	p. 12
Scan does not start.	• "TAG" channels are not programmed.	• Set the desired channels as "TAG" channels.	p. 15
No beep.	• Beep tone function is turned OFF.	• Set the beep tone to ON (Fix Beep/User Beep) in set mode.	p. 18
Battery voltage error.	• The connected battery pack's voltage is more than 11 V.	• Verify the battery voltage is correct.	—

Channel number			Frequency (MHz)	
USA	INT	CAN	Transmit	Receive
	01	01	156.050	160.650
01A			156.050	156.050
	02	02	156.100	160.700
	03	03	156.150	160.750
03A			156.150	156.150
	04		156.200	160.800
		04A	156.200	156.200
	05		156.250	160.850
05A		05A	156.250	156.250
06	06	06	156.300	156.300
	07		156.350	160.950
07A		07A	156.350	156.350
08	08	08	156.400	156.400
09	09	09	156.450	156.450
10	10	10	156.500	156.500
11	11	11	156.550	156.550
12	12	12	156.600	156.600
13*	13	13*	156.650	156.650
14	14	14	156.700	156.700
15*	15*	15*	156.750	156.750
16	16	16	156.800	156.800
17*	17	17*	156.850	156.850
	18		156.900	161.500
18A		18A	156.900	156.900
	19		156.950	161.550
19A		19A	156.950	156.950
20	20	20*	157.000	161.600
20A			157.000	157.000

Channel number			Frequency (MHz)	
USA	INT	CAN	Transmit	Receive
	21	21	157.050	161.650
21A		21A	157.050	157.050
		21b	Rx only	161.650
	22		157.100	161.700
22A		22A	157.100	157.100
	23	23	157.150	161.750
23A			157.150	157.150
24	24	24	157.200	161.800
25	25	25	157.250	161.850
		25b	Rx only	161.850
26	26	26	157.300	161.900
27	27	27	157.350	161.950
28	28	28	157.400	162.000
		28b	Rx only	162.000
	60	60	156.025	160.625
	61		156.075	160.675
61A		61A	156.075	156.075
	62		156.125	160.725
		62A	156.125	156.125
	63		156.175	160.775
63A			156.175	156.175
	64	64	156.225	160.825
64A		64A	156.225	156.225
	65		156.275	160.875
65A	65A	65A	156.275	156.275
	66		156.325	160.925
66A	66A	66A*	156.325	156.325
67*	67	67	156.375	156.375

Channel number			Frequency (MHz)	
USA	INT	CAN	Transmit	Receive
68	68	68	156.425	156.425
69	69	69	156.475	156.475
70	70	70	RX only	156.525
71	71	71	156.575	156.575
72	72	72	156.625	156.625
73	73	73	156.675	156.675
74	74	74	156.725	156.725
75*	75*	75*	156.775	156.775
76*	76*	76*	156.825	156.825
77*	77	77*	156.875	156.875
	78		156.925	161.525
78A		78A	156.925	156.925
	79		156.975	161.575
79A		79A	156.975	156.975
	80		157.025	161.625
80A		80A	157.025	157.025
	81		157.075	161.675
81A		81A	157.075	157.075
	82		157.125	161.725
82A		82A	157.125	157.125
	83	83	157.175	161.775
83A		83A	157.175	157.175
		83b	Rx only	161.775
84	84	84	157.225	161.825
84A			157.225	157.225
85	85	85	157.275	161.875
85A			157.275	157.275
86	86	86	157.325	161.925

Channel number			Frequency (MHz)	
USA	INT	CAN	Transmit	Receive
86A			157.325	157.325
87	87	87	157.375	161.975
87A			157.375	157.375
88	88	88	157.425	162.025
88A			157.425	157.425

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11

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

* Low power only.

NOTE: Simplex channels, 3, 21, 23, 61, 64, 81, 82 and 83 **CANNOT** be lawfully used by the general public in U.S.A. waters.

12 SPECIFICATIONS AND OPTIONS

■ SPECIFICATIONS

◇ GENERAL

• Frequency coverage	: Transmit 156.025–157.425 MHz
	Receive 156.050–163.275 MHz
• Mode	: FM (16K0G3E)
• Power supply requirement	: BP-251 and BP-252 only
• Current drain (at 7.4 V DC)	: TX (5 W/1 W) 1.5 A/0.7 A
	Max. audio 0.2 A
	Power save 20 mA typical
• Frequency stability	: ±10 ppm (–20°C to +60°C)
• Useable temperature range	: –20°C to +60°C; –4°F to +140°F
• Dimensions	: 62 (W) × 141.5(H) × 43(D) mm
(Projections not included)	$2^7/_{16}$(W) × $5^9/_{16}$(H) × $1^{11}/_{16}$(D) inch
• Weight	: Approx. 305 g (10.7 oz)
(with BP-252, FA-SC58V and MB-109)	

◇ TRANSMITTER

• Output power (at 7.4 V DC)	: 5 W (High) and 1 W (Low)
• Modulation system	: Variable reactance frequency modulation
• Max. frequency deviation	: ±5 kHz
• Adjacent channel power	: 70 dB
• Spurious emissions	: –68 dBc typical

◇ RECEIVER

• Receive system	: Double-conversion superheterodyne
• Sensitivity (12 dB SINAD)	: 0.25 μV typical
• Squelch sensitivity	: 0.35 μV typical (at threshold)
• Intermodulation	: 70 dB typical
• Spurious response	: 70 dB typical
• Adjacent channel selectivity	: 70 dB typical
• Audio output power	: 0.35 W typical at 10% distortion with an 8 Ω load

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

■ OPTIONS

◇ BATTERY CASE AND PACK

• **BP-251** BATTERY CASE
Battery case for 5 × AAA (LR03) alkaline cells.
Output power level: 2 W

• **BP-252** Li-Ion BATTERY PACK
Voltage   : 7.4 V
Capacity   : 950 mAh (minimum) / 980 mAh (typical)

◇ CHARGERS

• **BC-173** DESKTOP CHARGER **+ BC-147/BC-174** AC ADAPTER
Used for regular charging of battery pack. An AC adapter is supplied with the charger depending on the version.
Charging time   : approx. 10 hours

• **BC-162** DESKTOP CHARGER **+ BC-145** AC ADAPTER
Used for rapid charging of battery pack. The AC adapter, BC-145, is not supplied with some versions.
Charging time   : approx. 2 hours.

◇ BELT CLIPS

• **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 it has been dropped, the IP rating cannot be guaranteed because of possible damage to the case or the waterproof seal.

• **FA-SC58V** ANTENNA

Icom optional equipment is designed for optimal performance when used with this transceiver. We are not responsible for the transceiver being damaged or any accident caused when using non-Icom optional equipment.

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

FOR CLASS B UNINTENTIONAL RADIATORS

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

• Reorient or relocate the receiving antenna.
• Increase the separation between the equipment and receiver.
• Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
• Consult the dealer or an experienced radio/TV technician for help.

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Count on us!

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