ICOM

VHF MARINE TRANSCEIVER
IC-M25
IC-M25EURO

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.

FOREWORD

Thank you for purchasing this Icom radio. The IC-M25/IC-M25EURO VHF MARINE 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-M25/IC-M25EURO.

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, only inconvenience. No risk of personal injury, fire or electric shock.

FEATURES

☞ **Floats on water**
The transceiver floats in fresh or salt water even when the supplied accessories are attached.
• It may sink when a third-party strap, antenna, and so on is attached.
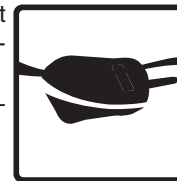
☞ **Floats and flashes**
An LED sends out intermittent light from a transparent section on the bottom of the radio, while floating in the water. As the LED light stands out in the dark, the radio can be easily retrieved from the water. This function works even when the radio is turned OFF.

☞ **Floats and flashes and alert**
An alert sounds when the radio is dropped into the water so that you can noticed that you dropped the radio.

For Canada:
This device complies with RSS-310 of Industry Canada. Operation is subject to the condition that this device does not cause harmful interference.

Cet appareil est conforme au CNR-310 d'Industrie Canada. Son exploitation est autorisée sous réserve que l'appareil ne cause pas de brouillage préjudiciable.

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 operating. Otherwise, the transceiver's keys, switches and controllers may become unusable due to salt crystallization.

NOTE: DO NOT submerge the transceiver in water if there is any reason to suspect the waterproof protection may not be effective. For example, in cases where the [SP/MIC] jack cap or [DC] connector cover seal is damaged, the transceiver/[DC] connector cover is cracked or broken, or the transceiver has been dropped, or when the antenna or DC connector cover is detached from the transceiver.

RADIO OPERATOR WARNING

WARNING

Your Icom radio generates RF electromagnetic energy during transmit mode. This radio is designed for and classified as "General Population Use" in an uncontrolled environment.

This radio has been evaluated for compliance at the distance of 2.5 cm (1 inch) with the FCC and IC RF exposure limits for "General Population Use." 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 01-01 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 and IC requirements for wireless RF exposure.; Belt Clip (MB-133), Rechargeable Li-ion Battery Pack (BP-282).

CAUTION

To ensure that your expose to RF electromagnetic energy is within the FCC and IC allowable limits for general population 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 and IC 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 and IC 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 clip which is listed on page 43 when attaching the radio to your belt, etc., to ensure FCC and IC 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 and IC 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.

AVERTISSEMENT POUR LES OPÉRATEURS RADIO

AVERTISSEMENT

Votre radio Icom produit une énergie électromagnétique de radiofréquences (RF), en mode de transmission. Elle est conçue pour une «utilisation grand public», dans un environnement non contrôlé. Cet appareil a été évalué et jugé conforme, à 2,5 cm, aux limites d'exposition aux RF de la FCC et d'IC, pour une «utilisation grand public». En outre, votre radio Icom satisfait les normes et directives qui suivent en matière de niveaux d'énergie et d'énergie électromagnétique de RF et d'évaluation de tels niveaux en ce qui concerne l'exposition humaine :

• Supplément C, édition 01-01, du Bulletin OET de la FCC, «Evaluating Compliance with FCC Guidelines for Human Exposure to Radio Frequency Electromagnetic Fields».

• Norme de l'American National Standards Institute (ANSI) : IEEE C95.1-1992 sur les niveaux de sécurité compatibles avec l'exposition humaine aux champs électromagnétiques de radiofréquences (3 kHz à 300 GHz).

• Norme de l'ANSI : IEEE C95.3-1992 sur la méthode d'évaluation recommandée du champ magnétique potentiellement dangereux des radiofréquences et des micro-ondes.

• Les accessoires qui suivent sont approuvés pour une utilisation avec ce produit. L'utilisation d'accessoires autres que ceux précisés peut entraîner des niveaux d'exposition aux RF supérieures aux limites établies par la FCC et d'IC en matière d'exposition aux RF sans fil; attache pour ceinture (MB-133), bloc-piles rechargeable au lithium-ion (BP-282).

MISE EN GARDE

CAUTION
Afin de vous assurer que votre exposition à une énergie électromagnétique de RF se situe dans les limites permises par la FCC et d'IC pour une utilisation grand public, veuillez en tout temps respecter les directives suivantes :

• **NE PAS** faire fonctionner la radio sans qu'une antenne appropriée y soit fixée, car ceci risque d'endommager la radio et causer une exposition supérieure aux limites établies par la FCC et d'IC. L'antenne appropriée est celle qui est fournie avec cette radio par le fabricant ou une antenne spécialement autorisée par le fabricant pour être utilisée avec cette radio.

• **NE PAS** émettre pendant plus de 50% du temps total d'utilisation de l'appareil («50% du facteur d'utilisation»). Émettre pendant plus de 50% du temps total d'utilisation peut causer une exposition aux RF supérieure aux limites établies par la FCC et d'IC. La radio est en train d'émettre lorsque le témoin du mode de transmission s'affiche sur l'écran ACL. La radio émettra si vous appuyez sur le bouton du microphone.

• **TOUJOURS** tenir l'antenne éloignée d'au moins 2,5 cm de votre corps au moment d'émettre et utiliser uniquement l'attache pour ceinture Icom illustrée à la p. 43, lorsque vous attachez la radio à votre ceinture, ou à autre chose, de façon à vous assurer de ne pas provoquer une exposition aux RF supérieure aux limites fixées par la FCC et d'IC. Pour offrir à vos interlocuteurs la meilleure qualité de transmission possible, tenez l'antenne à au moins 5 cm de votre bouche et légèrement de côté.

Les renseignements ci-dessus fournissent à l'utilisateur toute l'information nécessaire sur l'exposition aux RF et sur ce qu'il faut faire pour assurer que cette radio fonctionne en respectant les limites d'exposition aux RF établies par la FCC et d'IC.

Interférence électromagnétique et compatibilité

En mode de transmission, votre radio Icom produit de l'énergie de RF qui peut provoquer des interférences avec d'autres appareils ou systèmes. Pour éviter de telles interférences, mettez la radio hors tension dans les secteurs où une signalisation l'exige. **NE PAS** faire fonctionner l'émetteur dans des secteurs sensibles au rayonnement électromagnétique tels que les hôpitaux, les aéronefs et les sites de dynamitage.

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.

CAUTION: NEVER connect the transceiver to a power source more than 5 V DC (1 A). Such a connection will ruin the transceiver.

DO NOT use or place 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 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 flexible antenna, **[DC]** cover and **[SP/MIC]** jack cap are securely attached.

MAKE SURE the antenna is securely attached to the transceiver, and that the antenna is dry before attachment. Exposing the inside of the transceiver to water will result in serious damage to the transceiver.

TABLE OF CONTENTS

FCC INFORMATION

FOR CLASS A UNINTENTIONAL RADIATORS

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

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

◇ **Priorities**
• Read all rules and regulations pertaining to call 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 may require a current radio station license before using the transceiver. It is unlawful to operate a ship station which is not licensed, but required to be.

If required, contact 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.

If required, the Restricted Radiotelephone Operator Permit must be posted or kept with the operator. If required, 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-M25/IC-M25EURO 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 USA waters.

2 SUPPLIED ACCESSORIES ATTACHMENTS

■ Supplied accessories

Handstrap   Charger*   Belt clip

Antenna

* Not supplied, depending on the version)
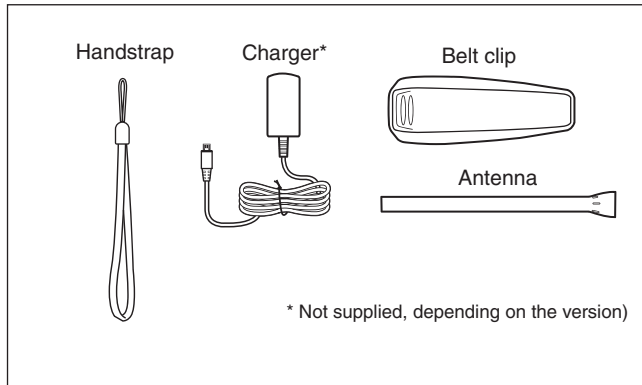
■ Attachments

◇ Antenna
Connect the supplied antenna to the antenna connector.

CAUTION:
• **NEVER** carry the transceiver by holding just the antenna.
• Transmitting without an antenna can damage the transceiver.
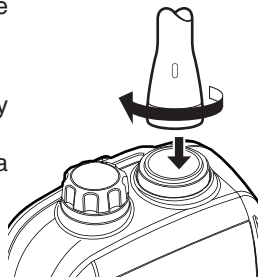
◇ Handstrap
Pass the handstrap through the loop on the back side of the transceiver as shown.
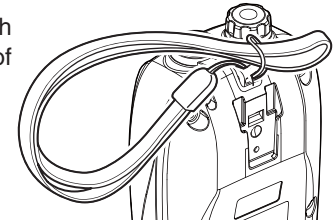
◇ Belt clip
Attach the belt clip to, or detach the belt clip from the transceiver.

To attach the belt clip
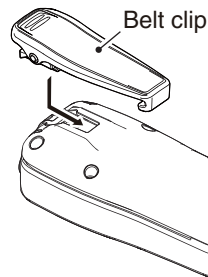
Belt clip

Be careful! Don't break your fingernail.

To detach the belt clip

Lift the tab up (①), and slide the belt clip in the direction of the arrow (②).

❶   ❷
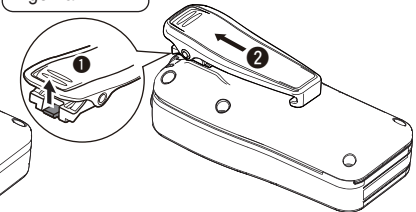
■ Charger

IMPORTANT: Prior to use the transceiver for the first time, fully charge the battery for optimum life and operation. To avoid damage to the battery, turn OFF the power while charging.

◇ Charging

① Turn OFF the power.
② Connect the charger as shown below.
  • The battery icon scrolls while charging.

③ The charging is completed in approximately 3 hours, depending on the remaining capacity before charging.

Power OFF

Charger

[DC] connector
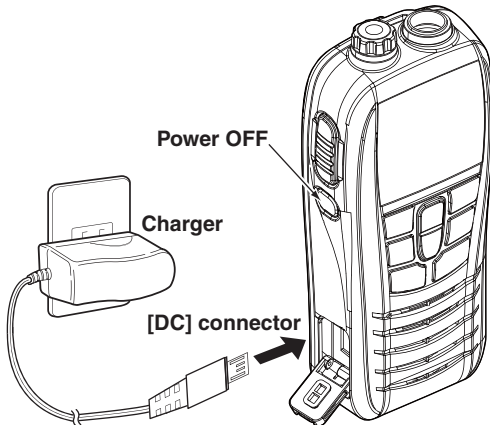
## ◇ Charging from other than supplied charger

• PC'S USB port
*Some PCs may not supply the required voltage and current.
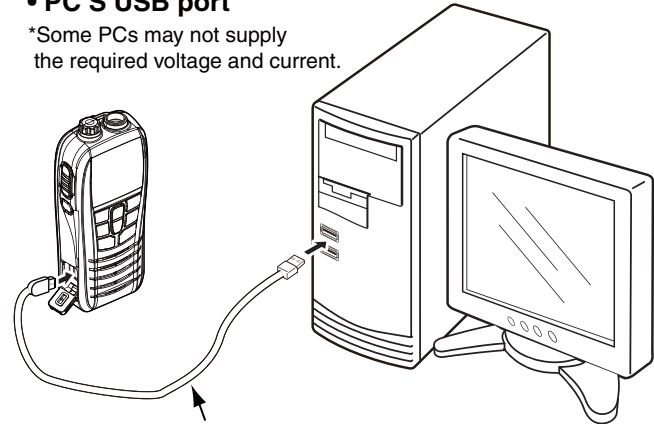
USB to Micro-B USB cable (purchase separatelly)

• Micro-B USB type charger*

External battery

AC power converter

Cigarret lighter socket with power converter
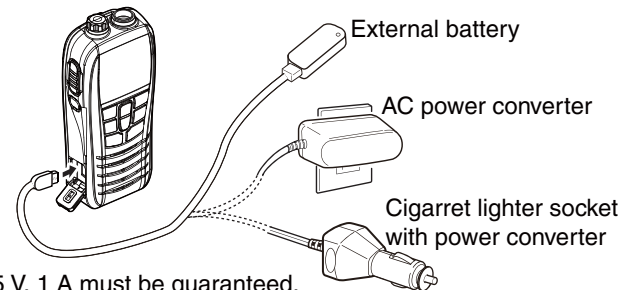
*5 V, 1 A must be guaranteed.

3 PANEL DESCRIPTION

■ Nomenclature and main functions

Antenna connector

[SP/MIC] JACK

Function display

[UP/DWN]

PTT

[FAV]

PWR SWICH

[16/9]

[CH/WX]*

VOL/SQL

[Hi/Lo]

SCAN

Microphone
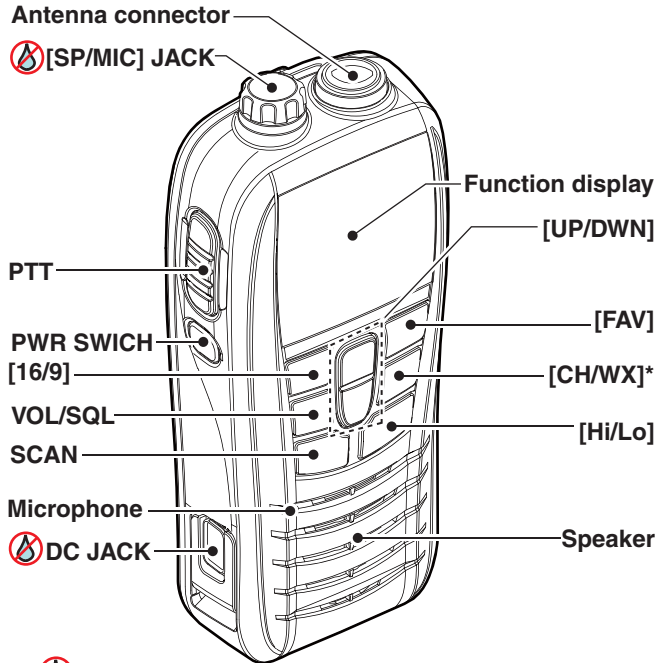
DC JACK

Speaker

• **Close up firmly** when no cable is conencted.
• **Make sure** dust or other material does not adhere to the seal.
Otherwise, waterproof protection may not be guaranteed.

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

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

1) Rotate the cap counter clockwise.   2) Pull the cap up to detach it.
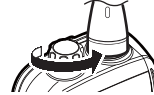
PTT SWITCH [PTT]
Hold down to transmit: release to receive. (p. 11)

POWER KEY [⏻]
Hold down to turn power ON or OFF.

CHANNEL 16 KEY [16 9]
➥ Push to select Channel 16. (p. 8)
➥ Hold down for 1 second to select the Call channel. (p. 8)

3

VOLUME/SQUELCH/MONITOR KEY [VOL/SQL MONI]
➥ Push when you adjust the volume level. While the "VOL" icon blinking, push **[UP]/[DWN]** to adjust the volume level.

The Volume Mute function:
➥ While holding down this key, push [▼] to temporary maximize the volume level. Do the same operation again to turn OFF the function.
The Volume Loud function:
➥ While holding down this key, push [▲] to temporary mute the audio output. Do the same operation again to turn OFF the function.

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

CHARGING CONNECTOR
Connect the supplied charger.

UP/DOWN KEYS [▲] or [▼]
➥ Push to select an operating channel. (pp. 8, 9)

FAVORITE/TAG KEY [FAV TAG]
➥ Push to sequentially select the favorite (TAG) channels skipping untagged channels. (p. 8)
➥ Hold down for 1 second to set or clear the selected channel as the TAG channel. (p. 15)

CHANNEL/WEATHER CHANNEL KEY [CH/WX U/I/C]
➥ Push to switch between a regular channel and a weather channel. (p. 9)
➥ Hold down for 1 second to select the channel group from USA, International and Canada. (p. 9)

TRANSMIT POWER/LOCK KEY [Hi/Lo ⌐O]
➥ Push to select the output power from high and low. (p. 11)
➥ Hold down for 1 second to lock the key.

■ Function display

CHANNEL NUMBER READOUT

TRANSMIT ICON BUSY ICON ATIS BATTERY ICONS

TAG CHANNEL ICON

LOW POWER INDICATOR

CHANNEL GROUP INDICATOR

DUPLEX INDICATOR

SCAN INDICATOR

DUALWATCH INDICATOR

TRI-WATCH INDICATOR

KEY LOCK ICON

WX channel is selected

VOLUME/SQUELCH LEVEL ICON

WX Alert received CALL CHANNEL INDICATION Blinks while adjusting.
"SQL"= Squelch level "VOL"= Volume level
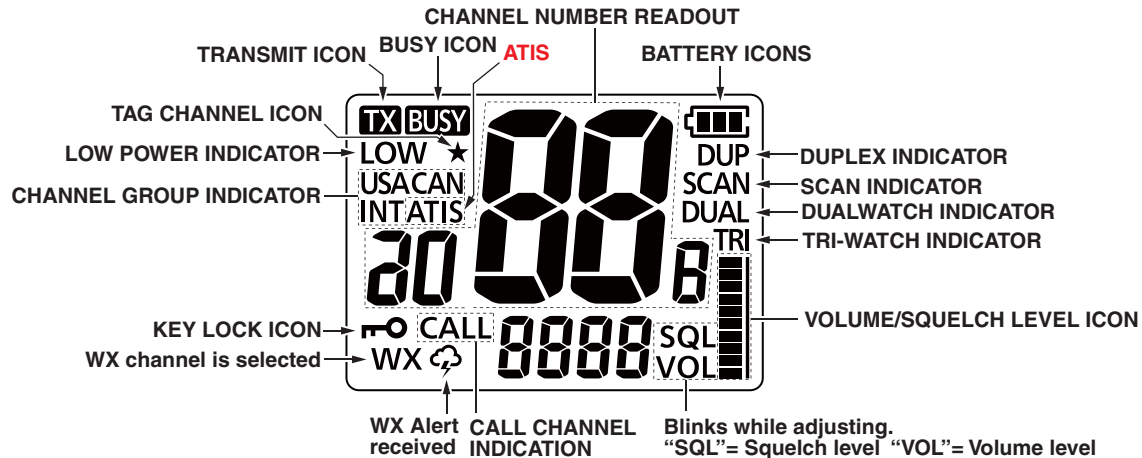
TRANSMIT ICON (p. 11)
Appears while transmitting.

BUSY ICON
➥ Appears while receiving a signal or when the squelch opens. (p. 11)
➥ Blinks while the Monitor function is ON. (p. 13)

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

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

BATTERY ICONS
➥ Displays the remaining battery capacity.

Indication	▭	▭	▭	▭
Battery status	Full	Middle	Charging required	Exhausted

➥ Scrolls while charging.

3

SCAN INDICATOR (p. 15)
Blinks during a scan.

LOCK ICON (p. 13)
Appears when the Lock function is turned ON.

DUALWATCH/TRI-WATCH INDICATORS (p. 16)
"**DW**" appears during Dualwatch.
"**TW**" appears during Tri-watch.

DUPLEX INDICATOR
Appears when a duplex channel is selected.

SUB CHANNEL READOUT
➥ Displays Channel 16 during a priority scan, Dualwatch or Tri-watch. (p. 16)
➥ Displays the Set mode item while in the Set mode. (p. 17)

SQUELCH/ VOLUME LEVEL ICON
➥ Displays the squelch/volume level.
➥ "**SQL**" blinks while adjusting the squelch level. (p. 10)
➥ "**VOL**" blinks while adjusting the volume level. (p. 10)
➥ The bars repeatedly appear in ascending order when the Volume Loud function is turned ON. (p. 12)
➥ The bars blink while the Volume Mute function is turned ON. (p. 12)

CHANNEL NUMBER READOUT
Displays the selected operating channel number.

CHANNEL GROUP ICON (p. 9)
Displays the selected channel group.

WEATHER CHANNEL/WEATHER ALERT ICONS (p. 9)
➥ "**WX**" appears when the weather channel group is selected.
➥ "☁" appears while the Weather Alert function is turned ON, and blinks when the alert tone is received.

LOW POWER ICON (p. 11)
➥ "**LOW**" appears when the low TX power is selected.
➥ "**LOW**" blinks when switching to the low power mode is forced because of a high temperature error or low voltage.

4 BASIC OPERATION

■ Selecting channel

Choose the appropriate channel groups for your operating area, and then select the channel.

◇ Selecting channel group

The transceiver is pre-programmed with 59 USA, 61 International and 65 Canadian channels.

➥ Hold down **[U/I/C]** (CH/WX) for 1 second to change the channel group. Repeat to advance to the next group.

◇ Selecting regular channel

➥ Push **[▲]** or **[▼]** to select a channel.
  • "**DUP**" appears for duplex channels.
  • "A" appears when a simplex channel is selected.

◇ **Channel 16**

Channel 16 is the distress and safety channel. It is used for establishing initial contact with a station, and for emergency communications. While in the standby mode, you must monitor Channel 16.

① Push **[16]** momentarily to select Channel 16.
② Push **[CH/WX]** to recall the channel, displayed before selecting Channel 16.

◇ **Channel 9 (Call channel)**

Channel 9 is a leisure-use Call channel. Each channel group has a Call channel.

① Hold down **[9]** (16) for 1 second to select the Call channel of the selected channel group.
  • "**CALL**" and the Call channel number appear.
② Push **[CH/WX]** to recall the channel displayed before selecting Channel 16.

◇ **Weather channels**

The transceiver has 10 weather channels. These are used for monitoring broadcasts from 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 during a scan. (p. 18)

① Push **[CH/WX]** once or twice to select the Weather channel group.
 • "**WX**" appears when a weather channel is selected.

② Push **[▲]** or **[▼]** to select a weather channel.

■ Receiving and transmitting

CAUTION: Transmitting without an antenna can damage the transceiver.

① Push **[▲]** or **[▼]** to select the channel.
• When a signal is received, "🄱🅄🅂🅈" appears.

② Hold down **[PTT]**, and then speak into the microphone.
• "🅃🅇" appears while transmitting.

③ Release **[PTT]** to receive.

1) Select a channel.

2) Push to transmit.
4) Release to receive.

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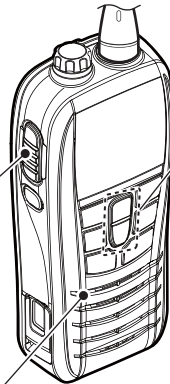
IMPORTANT: To maximize the readability of your transmitted signal, pause for a second after pushing **[PTT]**, hold the microphone 5 to 10 cm (2 to 4 inches) from your mouth and speak into the microphone at a normal voice level.

For U.S.A version: To prevent prolonged transmission, a time-out timer cuts OFF after 5 minutes of continuous transmission.

■ Adjusting the volume level

You can adjust the volume level while the "**VOL**" icon is blinking.
① Push **[VOL/SQL]** once.
• The "**VOL**" icon starts blinking.
• If no key operation is performed for 5 seconds, the transceiver returns to the normal mode.

② Push **[▲]** or **[▼]** to adjust the volume level.
• The level is displayed on the screen.

③ Push **[VOL/SQL]** twice.
• Returns to the normal operating mode.

■ Adjusting the squelch level

Squelch is a function that allows the audio to be heard only while receiving a signal that is stronger than a set level. You can adjust the squelch threshold level.
A higher level blocks weak signals, so you receive only stronger signals. A lower level allows you to hear weak signals including noise.

Adjust the squelch level when you want to:
• block weak signals including noise. -> Set the level higher.
• hear weak signals, even in the noise. -> Set the level lower.

You can adjust the squelch level while the "**SQL**" icon is blinking.
① Push **[VOL/SQL]** twice.
　• The "**SQL**" icon starts blinking.
　• If no key operation is performed for 5 seconds, the transceiver returns to the normal mode.

② Push **[▲]** or **[▼]** to adjust the squelch level.
　• The level is displayed on the screen.
③ Push **[VOL/SQL]** once.
　• Returns to the normal operating mode.

■ Monitor function

The Monitor function momentary cancels the squelch function. You can check for weak signals including noise.
➥ Hold down **[MONI]** (VOL/SQL).
　• " BUSY " blinks.
　• If there is a weak signal, you can hear the signal and noise.
　• Release **[MONI]** (VOL/SQL) to return the normal squelch mode.

NOTE: This function has options. See page ?? for more.

■ Toggling the transmit power

If you receive no response to your call, your transmit signal might not be reached to your callee. Choose high power (5 W: default) for longer distance communications.
On the other hand, transmitting at low power is enough to communicate, according to the distance. Choose low power (1 W) for short range and battery conservation.

➥ Push **[Hi/Lo]** to toggle the transmit power between low and high.
• "**LOW**" is displayed when low power is selected. When high power is selected, no icon is displayed.

NOTE:
• Some channels are restricted to low power.
• You cannot transmit on Channel 70.

■ Volume Loud function

You can temporary maximize the volume level with a simple operation.

① While holding down **[VOL/SQL]**, push **[▲]**.
  • The volume level is set to the maximum level.
  • The bars of the volume level icon repeatedly appear in ascending order.
② Push **[VOL/SQL]** and **[▲]** again to turn OFF the function.

■ Volume Mute function

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

① While holding down **[VOL/SQL]**, push **[▼]**.
  • The volume level is set to the minimum level (OFF).
  • The bars of the volume level icon blink.
② Push **[VOL/SQL]** and **[▼]** again to turn OFF the function.

■ Lock function

This function electronically locks the keys to prevent accidental changing of the channel and function access.

➡ Hold down **[⊶O]** (Hi/Lo) for 1 second to turn the function ON and OFF.

NOTE:
[PTT], **[VOL/SQL]**, **[MONI]** (VOL/SQL), **[⊶O]** (Hi/Lo) and **[▲]** or **[▼]*** are not locked.
*Only while the adjusting the volume or squelch, and volume loud and Volume Mute functions.

■ AquaQuake Water Draining function

Water in the speaker grill may muffle the sound coming from the speaker. The AquaQuake Water Draining function removes water from the speaker grill, by generating vibrating sound.

➡ Hold down both **[SCAN]** and **[Hi/Lo]**.
  • A low vibration tone sounds for 9 seconds to drain water, regardless of the volume level setting.
  • The transceiver does not accept any key operations while this function is activated.

■ Setting TAG channels

You can quickly recall often-used channels by tagging them as TAG channels.
TAG channels can be independently assigned to each channel group (USA, International and Canada).

① Hold down **[U/I/C]** (CH/WX) for 1 second to change the channel group, if needed. Repeat to go to the next group.
② Select the desired channel you want to set as a TAG channel.
③ Hold down **[*]** (FAV) for 1 second.
  • The displayed channel is set as a TAG channel.
  • " TAG " appears on the display.

To select a TAG channel:
➥ Push **[FAV]** (*) several times to select the desired TAG channel.
  • Non-TAG channels are skipped.

To clear a TAG channel:
① Select the desired channel you wan to clear the tagging.
② Hold down **[*]** (FAV) for 1 second.
  • " TAG " disappears.

To clear all TAG channels:
➥ While holding down **[*]** (FAV), turn ON the power.
  • All TAG channels in the selected channel group are cleared.

■ Setting the Call channel

You can recall the most often-used channel with a single operation, by setting the channel as a Call channel.
A Call channel can be set in each channel group.

① Hold down **[U/I/C]** (CH/WX) for 1 second to change the channel group. Repeat to go to the next group.
② Hold down **[9]** (16) for 1 second to recall the current Call channel in the selected group.
  • "**CALL**" and the Call channel number appear.
③ Hold down **[9]** (16) again for 3 seconds (until a long beep changes to 2 short beeps) to enter the Call channel setting mode.
  • The channel number starts blinking.

④ Push **[▲]** or **[▼]** to select the new Call channel.

⑤ Push **[9]** (16) to set.
  • The channel number stops blinking.

■ Scan types

You can efficiently locate signals over the channels by scanning. You can find the ongoing call by scanning the TAG channel.

Before starting to scan:
• Only TAG channels are scanned so you must set the channels to be scanned, before scanning.
• Choose the desired scan type from "Priority" and "Normal" in the Set mode.

NORMAL SCAN

A normal scan sequentially searches through all TAG channels. However, Channel 16 is not checked unless Channel 16 is set as a TAG channel.
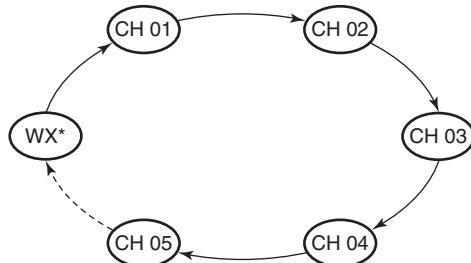
* Previously selected weather channel.
  (when the Weather Alert function is activated)

PRIORITY SCAN

A priority scan sequentially searches through all TAG channels while monitoring Channel 16.
When a signal is received on Channel 16, the scan pauses until the signal on Channel 16 disappears.
When a signal is received on a channel other than Channel 16, the scan switches to Dualwatch, until the signal disappears.
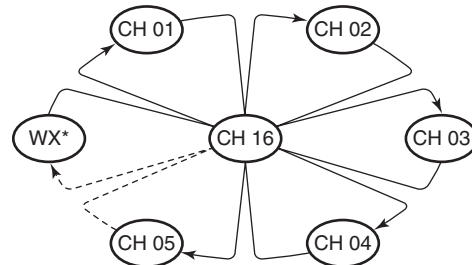
* Previously selected weather channel.
  (when the Weather Alert function is activated)

■ Start to scan

① Hold down **[U/I/C]** (CH/WX) for 1 second one or more times to select a desired channel group.
  • When the Weather Alert function is in use, select a desired weather channel using **[CH/WX]** and **[▲]** or **[▼]**.

② Push **[SCAN]** to start a scan.
  • "**SCAN**" blinks while scanning.
  • "16" appears on the sub channel readout during a priority scan.
  • When a signal is received, the scan pauses until the signal disappears, or resumes after pausing 5 seconds, depending on the Set mode setting.

③ To stop the scan, push **[SCAN]** again.
  • "**SCAN**" disappears.
  • Pushing **[PTT]**, **[16]**, **[CH/WX]** or **[FAV]** also stops the scan.

5

6 DUALWATCH AND TRI-WATCH

■ Description

Dualwatch/Tri-watch are convenient for monitoring Channel 16 when you are operating on another channel.

Dualwatch monitors Channel 16 while you are receiving on another channel.

Tri-watch monitors Channel 16 and Call channel while receiving on another channel.

DUALWATCH/TRI-WATCH SIMULATION

Call channel

Ch 16   Ch 88   Ch 88   Ch 16   Ch 88   Ch 9

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.
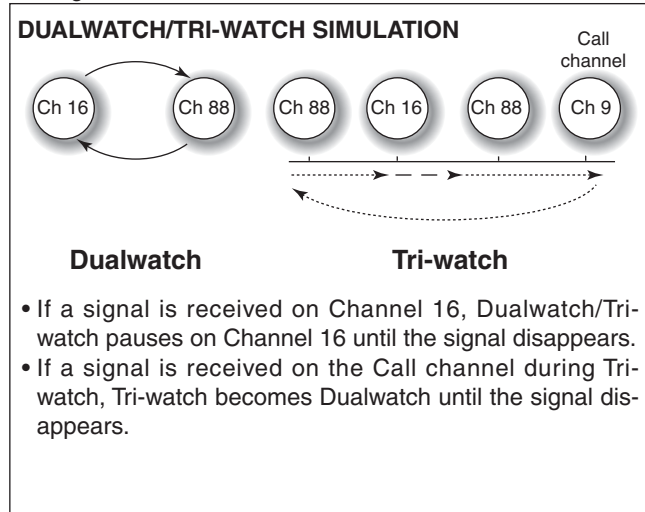
■ Operation

q Select Dualwatch or Tri-watch in the Set mode. (p. 19)
w Select the desired channel.
e Hold down **[DUAL]** (SCAN) 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 switches to Dualwatch when receiving a signal on the Call channel.
r To cancel Dualwatch/Tri-watch, push **[DUAL]** (SCAN) again.

■ Set mode programming

The Set mode is used to select an option for the transceiver's functions.

◇ Set mode operation

① Turn OFF the power.

② While holding down **[VOL/SQL]**, turn ON the power to enter the Set mode.
  • The starting item "bEEP" appears.

③ While holding down **[VOL/SQL]**, push **[▲]** or **[▼]** to select an item.

④ Push **[▲]** or **[▼]** to select an option of the item.

⑤ Push **[16]** to exit the Set mode, .

■ Set mode items

◇ Beep Tone function   "bEEP"
Turn the key touch beep sound ON or OFF.
• OFF: For silent operation.
• ON : A beep sounds when a key is pushed.

◇ Priority Scan function   "Prio"
The transceiver has 2 scan types— Normal (OFF) and Priority (ON) scan. A normal scan searches all TAG channels in the selected channel group. A priority scan sequentially searches all TAG channels while monitoring Channel 16.

◇ Weather Alert function   "ALrt"
A NOAA broadcast station transmits a weather alert tone before any important weather announcements. When the function is turned ON and the transceiver detects a weather alert tone, the "**WX**⌣" icon blinks and a beep sounds. The blinking stops when an operation is performed.
The currently selected weather channel is checked while the Power Save function is activated, or during a scan.
• "⌣" appears when the Weather Alert function is turned ON. (p. 18)
" appears when the function is set to ON.

◇ Scan resume timer   "S_ti"
Select the scan timer option.
• OFF: When a signal is received, the scan pauses on the channel until the signal disappears.
• ON : When a signal is received, the scan pauses on the channel for 5 seconds, and then resumes.

◇ **Auto Scan function**   "Auto"
The Auto Scan function automatically starts a normal or priority scan when no signal is received, and no operation is performed for 30 seconds.

◇ **Dual/Tri-watch function**   "dt"
Set the watch type to Dualwatch or Tri-watch. (p. 16)

◇ **Monitor key action**   "SqLS"
The monitor key momentary cancels the squelch function. Select a key action option.
• Pu (PUSH) : The Monitor function is activated while holding down **[MONI]** (VOL/SQL). The squelch function is canceled while holding down the key.
• Ho (HOLD) : The Monitor function is activated by holding down **[MONI]** (VOL/SQL) for 1 second. The squelch function is canceled until any key is pushed again.

7

7 SET MODE

◇ **Automatic backlighting** "A_bL"

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

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

◇ **LCD contrast setting** "Lcdc"

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

⚡ The LCD contrast level has little effect during indoor use.

◇ **Power Save function** "P_SA"

The Power Save function reduces current drain by periodically turning OFF the receiver circuit.

• OFF : The function is turned OFF.
• ON : When no signal is received, and no operation is performed for 5 seconds, the Power Save function is activated.

◇ **Float Alert function** "FLAr"

Alert periodically sounds while the radio is floating in the water so that you can noticed that you dropped the radio.

• OFF : The function is OFF.
• ON : Alert periodically sounds while the radio is floating in the water.

◇ **Automatic Water Draining function** "AquA"

This function automatically activates the AquaQuake Water Draining function when the radio has been retrieved from the water.

• OFF : The function is OFF.
• 2/5/10 : The AquaQuake Water Draining function is automatically activated and A low vibration tone sounds for the specified time period (2, 5 or 10 seconds).

■ Battery caution

Misuse of Lithium-ion batteries may result in the follow-ing hazards: smoke, fire, or the battery may rupture. Misuse can also cause damage to the battery or deg-radation of battery performance.

◇ Charging caution

CAUTION: DO NOT charge the battery outside of the specified temperature range: ±0˚C to +45˚C (+32˚F to +113˚F). Icom recom-mends charging the battery at +20˚C (+68˚F). The battery may heat up or rupture if charged out of the specified temperature range, and battery performance or battery life may be reduced.

Charge the battery at least once every six months, even if it has been not used for a long period of time. The battery will have slowly self-discharged, even though it has not been used. If the battery pack is left for a long period without being charged, its life cycle will be shorter, or worse, it will never accept a charge again.

When the battery life cycle is shorter, it is time to replace it with a new one. Contact your Icom's local service shop about replacing the inside battery pack.

■ HM-213 descriptions

A speaker microphone is light weight and fits in your palm and allows you to talk and listen more easier. The HM-213 speaker microphone is prepared for the IC-M25/M25EURO.

Alligator type clip
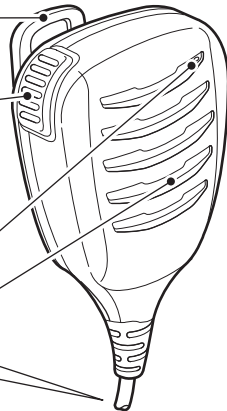To attach the speaker-mic.
to your shirt or collar, and so on.

PTT switch
Transmits during push.
Receives during release.

Microphone

Speaker

Turn the transceiver power OFF when connecting the HM-213.

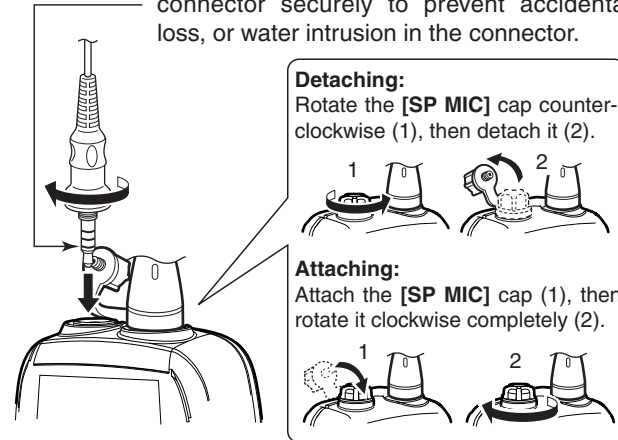**NEVER** immerse the connector in water. If the connector gets wet, be sure to dry it BEFORE attaching it to the transceiver.

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 (2 to 4 inches) from your mouth, and speak in a normal voice level.

■ Attachment

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

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

Detaching:
Rotate the **[SP MIC]** cap counter-clockwise (1), then detach it (2).

1   2

Attaching:
Attach the **[SP MIC]** cap (1), then rotate it clockwise completely (2).

1   2

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.

PROBLEM	POSSIBLE CAUSE	SOLUTION
The transceiver does not turn ON.	• The battery is exhausted.	• Charge the battery.
No sound from speaker.	• The squelch level is too high. • Volume level is too low. • Speaker has been exposed to water.	• Set the squelch level to the threshold level. • Adjust the audio level to a suitable level. • Remove water from the speaker grill.
Transmitting is impossible, or high power can not be selected.	• Some channels are limited to low power or only receive. • The output power is set to low. • The battery is exhausted.	• Change the channel. • Push **[Hi/Lo]** to select high power. • Recharge the battery pack.
The displayed channel cannot be changed.	• The Lock function is activated.	• Hold down **[⌐O]** (Hi/Lo) for 1 second to turn OFF the function.
Scan does not start	• "TAG" channels are not programmed.	• Set desired channels as "TAG" channels.
No beep sounds.	• Beep Tone function is turned OFF.	• Turn ON the Beep Tone in the set mode.

9
10

VHF MARINE CHANNEL LIST

• **USA channels** (for U.K. 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
01A	156.050	156.050	12	156.600	156.600	22A	157.100	157.100	64A	156.225	156.225	75*1	156.775	156.775	85	157.275	161.875
- -	- - -	- - -	13*1	156.650	156.650	23A	157.150	157.150	65A	156.275	156.275	76*1	156.825	156.825	85A	157.275	157.275
03A	156.150	156.150	14	156.700	156.700	24	157.200	161.800	66A	156.325	156.325	77*1	156.875	156.875	86	157.325	161.925
- -	- - -	- - -	15*1	156.750	156.750	25	157.250	161.850	67*1	156.375	156.375	78A	156.925	156.925	86A	157.325	157.325
05A	156.250	156.250	16	156.800	156.800	26	157.300	161.900	68	156.425	156.425	79A	156.975	156.975	87	157.375	161.975
06	156.300	156.300	17*1	156.850	156.850	27	157.350	161.950	69	156.475	156.475	80A	157.025	157.025	87A	157.375	157.375
07A	156.350	156.350	18A	156.900	156.900	28	157.400	162.000	70	RX Only	156.525	81A	157.075	157.075	88	157.425	162.025
08	156.400	156.400	19A	156.950	156.950	37A*2	157.850	157.850	71	156.575	156.575	82A	157.125	157.125	88A	157.425	157.425
09	156.450	156.450	20	157.000	161.600	61A	156.075	156.075	72	156.625	156.625	83A	157.175	157.175	P4*2	161.425	161.425
10	156.500	156.500	20A	157.000	157.000	- -	- - -	- - -	73	156.675	156.675	84	157.225	161.825			
11	156.550	156.550	21A	157.050	157.050	63A	156.175	156.175	74	156.725	156.725	84A	157.225	157.225			

*1 Low power only.

*2 UK Marina Channels: M1=37A (157.850 MHz), M2=P4 (161.425 MHz) for U.K. version 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.

• 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	11	156.550	156.550	21	157.050	161.650	61	156.075	160.675	71	156.575	156.575	81	157.075	161.675
02	156.100	160.700	12	156.600	156.600	22	157.100	161.700	62	156.125	160.725	72	156.625	156.625	82	157.125	161.725
03	156.150	160.750	13	156.650	156.650	23	157.150	161.750	63	156.175	160.775	73	156.675	156.675	83	157.175	161.775
04	156.200	160.800	14	156.700	156.700	24	157.200	161.800	64	156.225	160.825	74	156.725	156.725	84	157.225	161.825
05	156.250	160.850	15*1	156.750	156.750	25	157.250	161.850	65	156.275	160.875	75*3	156.775	156.775	85	157.275	161.875
06	156.300	156.300	16	156.800	156.800	26	157.300	161.900	66	156.325	160.925	76*3	156.825	156.825	86	157.325	161.925
07	156.350	160.950	17*1	156.850	156.850	27	157.350	161.950	67	156.375	156.375	77	156.875	156.875	87	157.375	157.375
08	156.400	156.400	18	156.900	161.500	28	157.400	162.000	68	156.425	156.425	78	156.925	161.525	88	157.425	157.425
09	156.450	156.450	19	156.950	161.550	37A*2	157.850	157.850	69	156.475	156.475	79	156.975	161.575	P4*2	161.425	161.425
10	156.500	156.500	20	157.000	161.600	60	156.025	160.625	70	RX Only	156.525	80	157.025	161.625			

*1 Channels 15 and 17 may also be used for on-board communications provided the effective radiated power does not exceed 1 W, and subject to the national regulations of the administration concerned when these channels are used in its territorial waters.

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

*3 The output power of channels 75 and 76 are limited to low power (1 W) only. The use of these channels should be restricted to navigation-related communications only and all precautions should be taken to avoid harmful interference to channel 16, e.g. by means geographical separation.

11

11 SPECIFICATIONS AND OPTIONS

■ Specifications

◇ GENERAL
- Frequency coverage : Transmit 156.025–157.425 MHz
  - Receive 156.050–163.275 MHz
- Mode : FM (16K0G3E)
- Power supply voltage : 3.7 V DC nominal (negative ground)
- Current drain (approximately) : TX (5 W/1.0 W) 2.3 A/0.9 A
  - Maximum audio with Int. SP 0.30 A typical
  - Maximum audio with Ext. SP 0.20 A typical
- Frequency stability : ±10 ppm
- Operating temperature range : –20°C to +60°C: –4°F to +140°F
- Dimensions : 56.6(W)×134.2(H)×30.5(D) mm
- (projections not included) 2.2(W) × 5.3(H) × 1.2(D) inch
- Weight : Approximately 220 g, 7.8 oz
  (including battery pack, antenna and belt clip)

◇ TRANSMITTER
- Output power : 5 W (approximately, High) and 1 W (Low)
- Modulation system : Variable reactance frequency modulation
- Maximum frequency deviation : ±5 kHz
- Adjacent channel power : 70 dB
- Spurious emissions : –68 dBc typical
- Residual modulation : 40 dB
- Audio frequency response : +1 dB to –3 dB of 6 dB oct. from 300–3000 Hz

◇ RECEIVER
- Sensitivity (12 dB SINAD) : 0.25 μV typical
- Squelch sensitivity : 0.25 μV typical (at threshold)
- Intermodulation : 70 dB typical
- Spurious response : 70 dB typical
- Adjacent channel selectivity : 70 dB typical
- Audio output impedance : 12 Ω (Internal speaker), 4 Ω (External speaker)
- Audio output power : 0.55 W typical (Int. SP)
- (at 10% distortion) 0.30 W typical (Ext. SP)

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

■ Options

◇ CHARGERS
- **BC-217** AC ADAPTER
  For charging.
  Charging time: Approximately 3 hours

◇ OTHER OPTIONS
- **FA-SC59V** ANTENNA
- **MB-133** BELT CLIP
- **HM-213** SPEAKER-MICROPHONE
  Full sized waterproof speaker-microphone including alligator type clip to attach to your shirt or collar, etc.

Approved Icom optional equipment is designed for optimal performance when used with an Icom transceiver. Icom is not responsible for the destruction or damage to an Icom transceiver in the event the Icom transceiver is used with equipment that is not manufactured or approved by Icom.

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

MEMO

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