ICOM®

INSTRUCTION MANUAL

VHF MARINE TRANSCEIVER

IC-M502A

Icom Inc.

FOREWORD

Thank you for purchasing this Icom product. The IC-M502A VHF MARINE TRANSCEIVER is designed and built with Icom's state of the art technology and craftsmanship. With proper care, this product should provide you with years of trouble-free operation.

We want to take a couple of moments of your time to thank you for making the IC-M502A your radio of choice, and hope you agree with Icom's philosophy of "technology first." Many hours of research and development went into the design of your IC-M502A.

◇ *FEATURES*

- ❍ *Standard 4″×6″ flush mount design*
- ❍ *Built-in DSC meets RTCM SC101 requirement*
- ❍ *Rugged waterproof construction*
- ❍ *NMEA Input/Output*
- ❍ *Optional COMMANDMIC® is connectable*

IMPORTANT

READ THIS INSTRUCTION MANUAL CAREFULLY before attempting to operate the transceiver.

SAVE THIS INSTRUCTION MANUAL. This manual contains important safety and operating instructions for the IC-M502A.

CLEAN THE TRANSCEIVER AND MICROPHONE THOROUGHLY WITH FRESH WATER after exposure to water including salt water, otherwise, the keys and switches may become inoperable due to salt crystallization.

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IN CASE OF EMERGENCY

If your vessel requires assistance, contact other vessels and the Coast Guard by sending a distress call on Ch 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 (AND 9-digit DSC ID if you have one).
4. "LOCATED AT ....." (your position)
5. The nature of the distress and assistance required.
6. Any other information which might facilitate the rescue.

Or, transmit your distress call using digital selective calling on Ch 70.

USING DIGITAL SELECTIVE CALLING (Ch 70)
DISTRESS CALL PROCEDURE

1. While lifting up the switch cover, push and hold **[DISTRESS]** for 5 sec. until you hear 5 short beeps change to one long beep.
2. Wait for an acknowledgment from a coast station.
   • Channel 16 is automatically selected.
3. Push and hold **[PTT]**, then transmit the appropriate information as at above.

NOTE

A WARNING STICKER is supplied with the transceiver.
To comply with FCC regulations, this sticker must be affixed in such a location as to be readily seen from the operating controls of the radio as in the diagram below. Make sure the chosen location is clean and dry before applying the sticker. (p. 42)

EXAMPLE

RADIO OPERATOR WARNING

Icom requires the radio operator to meet the FCC Requirements for Radio Frequency Exposure. An omnidirectional antenna with gain not greater than 9 dBi must be mounted a minimum of 5 meters (measured from the lowest point of the antenna) vertically above the main deck and all possible personnel. This is the minimum safe separation distance estimated to meet all RF exposure compliance requirements. This 5 meter distance is based on the FCC Safe Maximum Permissible Exposure (MPE) distance of 3 meters added to the height of an adult (2 meters) and is appropriate for all vessels.

For watercraft without suitable structures, the antenna must be mounted so as to maintain a minimum of 1 meter vertically between the antenna, (measured from the lowest point of the antenna), to the heads of all persons AND all persons must stay outside of the 3 meter MPE radius.

Do not transmit with radio and antenna when persons are within the MPE radius of the antenna, unless such persons (such as driver or radio operator) are shielded from antenna field by a grounded metallic barrier. The MPE Radius is the minimum distance from the antenna axis that person should maintain in order to avoid RF exposure higher than the allowable MPE level set by FCC.

FAILURE TO OBSERVE THESE LIMITS MAY ALLOW THOSE WITHIN THE MPE RADIUS TO EXPERIENCE RF RADIATION ABSORPTION WHICH EXCEEDS THE FCC MAXIMUM PERMISSIBLE EXPOSURE (MPE) LIMIT.
IT IS THE RESPONSIBILITY OF THE RADIO OPERATOR TO ENSURE THAT THE MAXIMUM PERMISSIBLE EXPOSURE LIMITS ARE OBSERVED AT ALL TIMES DURING RADIO TRANSMISSION. THE RADIO OPERATOR IS TO ENSURE THAT NO BYSTANDERS COME WITHIN THE RADIUS OF THE MAXIMUM PERMISSIBLE EXPOSURE LIMITS.

Determining MPE Radius
THE MAXIMUM PERMISSIBLE EXPOSURE (MPE) RADIUS HAS BEEN ESTIMATED TO BE A RADIUS OF ABOUT 3M PER OET BULLETIN 65 OF THE FCC.
THIS ESTIMATE IS MADE ASSUMING THE MAXIMUM POWER OF THE RADIO AND ANTENNAS WITH A MAXIMUM GAIN OF 9dBi ARE USED FOR A SHIP MOUNTED SYSTEM.

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PRECAUTION

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

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

NEVER connect the transceiver to a power source of more than 16 V DC or use reverse polarity. This will ruin the transceiver.

NEVER cut the DC power cable between the DC plug and fuse holder. If an incorrect connection is made after cutting, the transceiver may be damaged.

NEVER place the transceiver where normal operation of the vessel may be hindered or where it could cause bodily injury.

KEEP the transceiver at least 3.3 ft (1 m) away from the ship's navigation compass.

DO NOT use or place the transceiver in areas with temperatures below –4°F (–20°C) or above +140°F (+60°C) or, in areas subject to direct sunlight, such as the dashboard.

AVOID the use of chemical agents such as benzine or alcohol when cleaning, as they may damage the transceiver surfaces.

BE CAREFUL! The transceiver rear panel will become hot when operating continuously for long periods.

Place the transceiver in a secure place to avoid inadvertent use by children.

BE CAREFUL! The transceiver and optional HM-127 employ waterproof construction, which corresponds to JIS waterproof specification, Grade 7 (1 m/30 min.). However, once the transceiver or microphone has been dropped, waterproofing cannot be guaranteed due to the fact that the case may be cracked, or the waterproof seal damaged, etc.

EXPLICIT DEFINITIONS

WORD	DEFINITION
⚠**WARNING**	Personal injury, fire hazard or electric shock may occur.
CAUTION	Equipment damage may occur.
NOTE	If disregarded, inconvenience only. No risk or personal injury, fire or electric shock.

◇ 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 signals are prohibited and punishable by law.

◇ PRIVACY

- Information overheard but not intended for you cannot lawfully be used in any way.
- Indecent or profane language is prohibited.

◇ RADIO LICENSES

(1) SHIP STATION LICENSE

You must have a current radio station license before using the transceiver. It is unlawful to operate a ship station which is not licensed.

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

(2) OPERATOR'S LICENSE

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

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

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

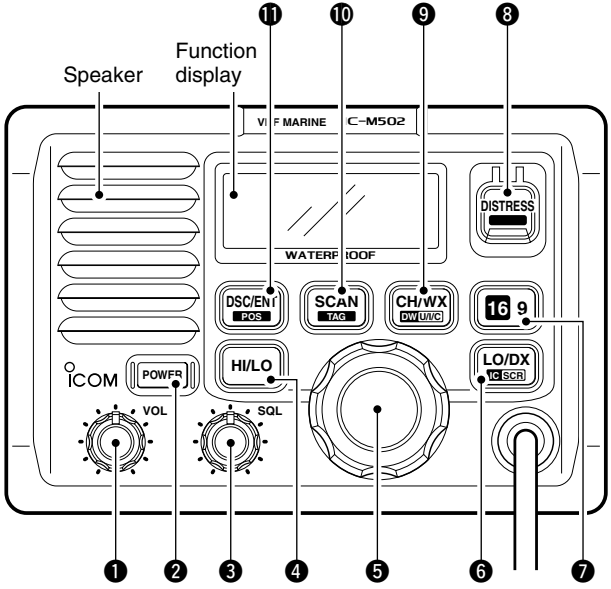
Keep a copy of the current government rules and regulations handy.

Radio license for boaters (U.S.A. only)

The Telecommunications Act of 1996 permits recreational boaters to have and use a VHF marine radio, EPIRB, and marine radar without having an FCC ship station license. Boaters traveling on international voyages, having an HF single sideband radiotelephone or marine satellite terminal, or required to carry a marine radio under any other regulation must still carry an FCC ship station license. For further information, see the FCC Ship Radio Stations Fact Sheet.

2 PANEL DESCRIPTION

■ Front panel



❶ VOLUME CONTROL [VOL] (p. 8)
Adjusts the audio level.

❷ POWER KEY [POWER]
Push to turn the transceiver power ON or OFF.

❸ SQUELCH CONTROL [SQL] (p. 8)
Sets the squelch threshold level.

❹ TRANSMIT POWER KEY [HI/LO]
➥ Toggles power high or low when pushed. (p. 8)
• Some channels are set to low power only.
➥ While pushing this key, some keys perform secondary functions.

❺ CHANNEL SELECTOR [CHANNEL]
➥ Rotate **[CHANNEL]** to select the operating channels, Set mode settings, etc. (pgs. 8, 38)
➥ While pushing **[HI/LO]**, rotate **[CHANNEL]** to adjust the brightness of the LCD and key backlight. (p. 37)

❻ ATTENUATOR/INTERCOM/SCRAMBLER KEY [LO/DX] (IC SCR)

➥Toggles the Attenuator function ON or OFF when pushed momentarily. (p. 8)
- "LOCAL" appears when the Attenuator is in use. The order of indication precedence is "SP OFF," "LOCAL" and "CALL."

➥Activates an optional Intercom function when pushed for 1 sec. (p. 36)

➥Calls optional HM-127 REMOTE-CONTROL MICROPHONE when pushed and held while in Intercom mode. (p. 36)

➥While pushing **[HI/LO]**, activates an optional Voice scrambler function. (p. 10)
- The optional Voice scrambler function cannot be used on Channel 16 and 70.

❼ CHANNEL 16/CALL CHANNEL KEY [16 9]

➥Selects Channel 16 when pushed. (p. 6)

➥Selects call channel when pushed for 1 sec. (p. 6)
- "CALL" appears when call channel is selected. "SP OFF" and "LOCAL" indications have priority.

➥Push for 3 sec. to enter call channel programming condition when call channel is selected. (p. 9)

➥While pushing **[HI/LO]**, enters channel comments programming condition. (p. 9)

➥Enters Set mode when pushed while turning power ON. (p. 38)

❽ DISTRESS KEY [DISTRESS]

Transmits Distress call when pushed for 5 sec. (p. 18)

❾ CHANNEL/DUALWATCH/TRI-WATCH KEY [CH/WX] (DW U/I/C)

➥Selects and toggles the regular channels and weather channel when pushed momentarily. (p. 7)

➥While pushing **[HI/LO]**, selects one of 3 regular channels in sequence when pushed. (p. 7)
- International, U.S.A. and Canadian channels are available for regular channels.

➥Starts Dualwatch or Tri-watch when pushed for 1 sec. (p. 11)

➥Stops Dualwatch or Tri-watch when either is activated.

❿ SCAN KEY [SCAN] (TAG) (p. 13)

➥Starts and stops Normal or Priority scan when tag (scanned) channels are programmed.

➥Push **[SCAN] (TAG)** for 1 sec. to set or cancel the displayed channel as a tag (scanned) channel.

➥While pushing **[HI/LO]**, push for 3 sec. to clear or set all tag channels.

⓫ DSC/POSITION KEY [DSC/ENT] (POS)

➥Selects the DSC menu when pushed. (p. 14)

➥Shows current position and time from a GPS receiver, etc. when pushed for 1 sec. (p. 17)

Count on us!

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