



ICOM IC-V3MR Multi-Use Radio Service Handheld Two-Way Radio Instructions

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INSTRUCTIONS

VHF TRANSCEIVER IC-V3MR

Thank you for choosing this Icom product. READ ALL INSTRUCTIONS carefully and completely before using this product.



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IMPORTANT

SAVE THESE INSTRUCTIONS— These instructions contain important operating instructions for the IC-V3MR. For more operating instructions, see the instruction manual for details. The instruction manual can be downloaded from the following internet address: <https://www.icomjapan.com/support/> The transceiver may have other functions and operations that are not described in this instruction sheet. Ask your dealer for details.

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.

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

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

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PRECAUTIONS




DANGER! NEVER operate the transceiver near unshielded electrical blasting caps or in an explosive atmosphere. This could cause an explosion and death.



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



WARNING! NEVER hold the transceiver so that the antenna is very close to, or touching exposed parts of

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

CAUTION: DO NOT use or leave the transceiver in excessively dusty environments. This could damage the transceiver.

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

CAUTION: DO NOT change the internal settings of the equipment. This may reduce equipment performance and/or cause extensive and expensive damage to the equipment. The equipment warranty does not cover any problems caused by unauthorized internal adjustments.

CAUTION: DO NOT operate the transceiver unless the flexible antenna, battery pack, and jack cover are securely

attached to the transceiver and the antenna and battery pack are dry before attachment. Exposing the inside of the transceiver to dust or water will result in serious damage to the transceiver.

CAUTION: DO NOT operate the transceiver while driving a vehicle. Safe driving requires your full attention—anything less may result in an accident.

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

NOTE: DO NOT use or leave the transceiver in areas with temperatures below -30°C (-22°F) or above $+60^{\circ}\text{C}$ ($+140^{\circ}\text{F}$), or in areas subject to direct sunlight, such as the dashboard.

DO NOT push PTT unless you actually intend to transmit.

KEEP the transceiver away from heavy rain and never immerse it in water. The transceiver meets IP54* requirements for dust protection and splash resistance. However, once the transceiver has been dropped, dust protection and splash resistance cannot be guaranteed due to the fact that the transceiver may be cracked or the waterproof seal damaged, and so on. Only when the battery pack and jack cover are attached.

NEVER place the transceiver in an insecure place to avoid inadvertent use by unauthorized persons.

BE CAREFUL! The transceiver may become hot after continuously transmitting for long periods of time. Even when the transceiver power is OFF, a slight current still flows in the circuits. Remove the battery pack from the transceiver when not using it for a long time. Otherwise, the installed battery pack or batteries will become exhausted and will need to be recharged or replaced.

Battery caution

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



DANGER! NEVER

incinerate used battery packs. Internal battery gas may cause an explosion.



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



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



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



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



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



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



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



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

CAUTION: DO NOT use the battery pack out of the specified temperature range for the transceiver (-30°C – $+60^{\circ}\text{C}$ (-22°F – $+140^{\circ}\text{F}$)) and the battery itself (-20°C – $+60^{\circ}\text{C}$ (-4°F – $+140^{\circ}\text{F}$)). Using the battery out of its specified temperature range will reduce its performance and battery cell life. Please note that the specified temperature range of the battery may exceed that of the transceiver. In such cases, the transceiver may not work properly because it is out of its operating temperature range.

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

-20°C – +50°C (-4°F – +122°F) (within a month)

-20°C – +40°C (-4°F – +104°F) (within three months)

-20°C – +20°C (-4°F – +68°F) (within a year)

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

CAUTION: DO NOT continue to use the battery pack if it emits an abnormal odor, heats up, or is discolored or deformed. If any of these conditions occur, contact your Icom dealer or distributor. BE SURE to replace the battery pack with a new one approximately five years after manufacturing, even if it still holds a charge. The material inside the battery cells will become weak after a period of time, even with little use. The estimated number of times you can charge the pack is between 300 and 500. Even when the pack appears to be fully charged, the operating time of the transceiver may become short when:

- Approximately 5 years have passed since the pack was manufactured.
- The pack has been repeatedly charged.

Charging caution



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



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



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



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

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

CAUTION: DO NOT charge the battery pack outside of the specified temperature range: 10°C — 40°C (50°F — 104°F). Icom recommends charging the pack at 20°C (68°F). The pack may heat up or rupture if charged out of the specified temperature range. Additionally, battery performance or battery life may be reduced.

SAFETY TRAINING INFORMATION

Your (corn radio generates RF electromagnetic energy while transmitting. This radio is designed for and classified as for 'Occupational Use Only.' This means it must be used only during the course of employment by individuals aware of the hazards, and the ways to minimize such hazards. This radio is NOT intended for use by the 'General Populabore in an uncontrolled environment This radio has been tested and complies with the FCC RF exposure limits for 'Occupational Use Only. In eddle011. your Icom radio complies with the foe:ma-is Standards and Guidelines with regard to RF energy and electromagnetic energy levels and evaluation of such levels for exposure to humans:

- FCC KDB Publication 447498 D03. Evaluating Compliance with FCC Guidelines for Human Exposure to Radio Frequency Electromagnetic Fields.
- American National Standards Institute (C95.1-2019). IEEE Standard for Safety Levels with Respect to Human Exposure to Radio Frequency Electromagnetic Fields. 0 Hz to 300 GHz.
- American National Standards Institute (C95.3-2002). IEEE Recommended Practice for the Measurement of Potentially Hazardous Electromagnetic RF and Microwave.
- The antenna, battery, belt clip, speaker-microphone, and other accessories that are listed in 'OPTIONS' on this sheet are authorized for use with this product. The use of accessories other than those specified may result in

RF exposure levels exceeding the FCC requirements for wireless RF exposure. To ensure that your exposure to RF electromagnetic energy is within the FCC allowable limits for occupational use, always adhere to the following guidelines:



CAUTION

DO NOT operate the radio without a proper antenna attached. as this may damage the radio and may also cause you to exceed FCC RF exposure limits. A proper antenna is an antenna supplied with this radio by the manufacturer or an antenna specifically authorized by the manufacturer for use with this radio.

DO NOT transmit for more than 50% of the total radio use time (-50% duty cycle). Transmitting more than 50% of the time can cause FCC RF exposure compliance requirements to be exceeded. The radio is transmitting when the status indicator lights red. You can cause the radio to transmit by pushing the -PIT switch.

ALWAYS keep the antenna at least 2.5 cm (1 inch) away from the body when transmitting. and only use the loom belt-clip listed in -OPTIONS' on this sheet when attaching the radio to your belt, or another place. to ensure FCC RF exposure compliance requirements are not exceeded.

The information listed above provides the user with the information needed to make him or her aware of RF exposure, and what to do to assure that this radio operates within the FCC 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 a consequence of their employment, provided those persons are fully aware of the potential for exposure and can exercise control over their exposure.

FCC INFORMATION

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.



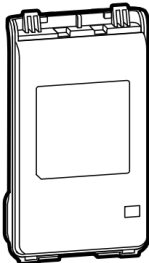
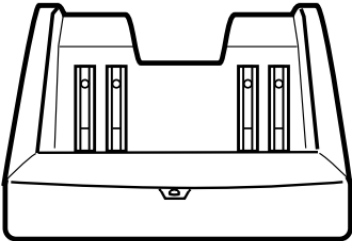

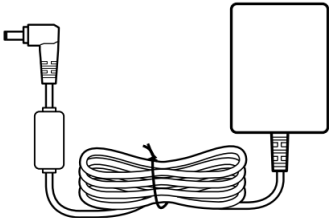

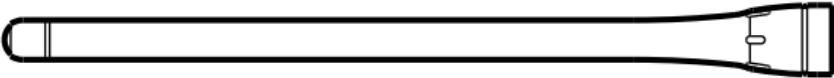
CAUTION: Changes or modifications to this transceiver, not expressly approved by 'corn Inc., could void your authority to operate this transceiver under FCC regulations.

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

- DO NOT operate or adjusted all controls, adjustments, and switches without resulting in a violation of the FCC rules.
- DO NOT replace any transmitter components such as crystal, semiconductor, and so on. It could result in a violation of the FCC rules.

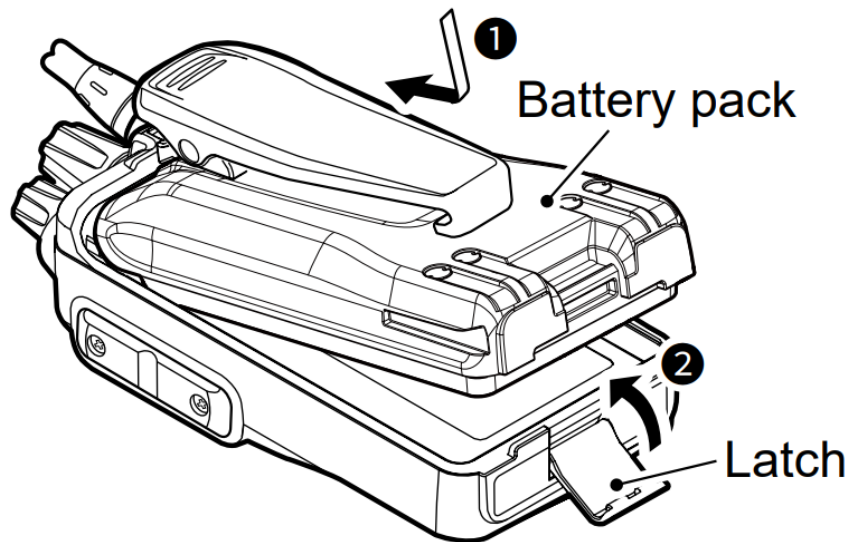
- Adjustment of this radio should be performed by or under the immediate supervision and responsibility of Icom Inc. or:
- A person certified as technically qualified to perform transmitter maintenance and repair duties in the private land mobile services.
- Services by an organization or committee representative of the private land mobile services user.
- Since FCC Part 95.2725 requires monitoring the channel before transmitting, Lock-out (Busy lockout) must be enabled if Moni (Monitor) button was disabled.

SUPPLIED ACCESSORIES

Battery pack(BP-298)	
Battery charger (BC-240)	
Belt clip (MB-124)	
Power adapter (BC-242)	
Jack cover (with screws)	
Flexible antenna (FA-SC28V)	

Battery pack

Attaching: 1. Insert the battery pack in the direction of the arrow (1), and then close.
2. Hook the latch until it makes a 'click' sound (2)

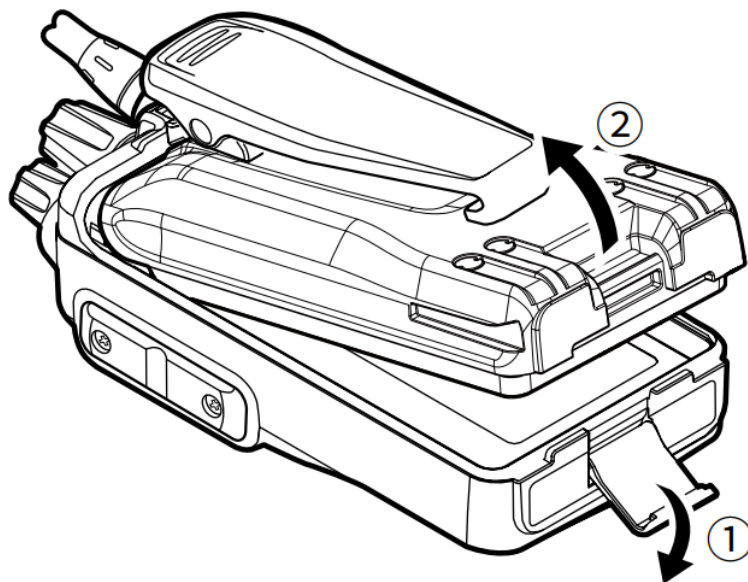


Detaching:



WARNING! The latch is tightly locked, so use caution when releasing it. DO NOT use your fingernail. Use the edge of a coin or screwdriver tip to carefully release it.

- Unhook the latch (1), and then lift up the battery pack in the direction of arrow 2

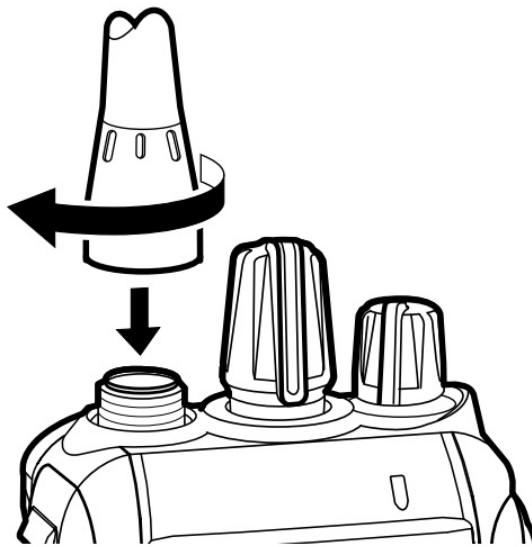


CAUTION: NEVER remove or attach the battery pack when the transceiver is wet or soiled. This may result in water or dust getting into the transceiver or the battery pack, and may result in them being damaged.

NOTE: Keep battery terminals clean. It's a good idea to occasionally clean them.

Flexible antenna

Connect the antenna to the antenna connector.

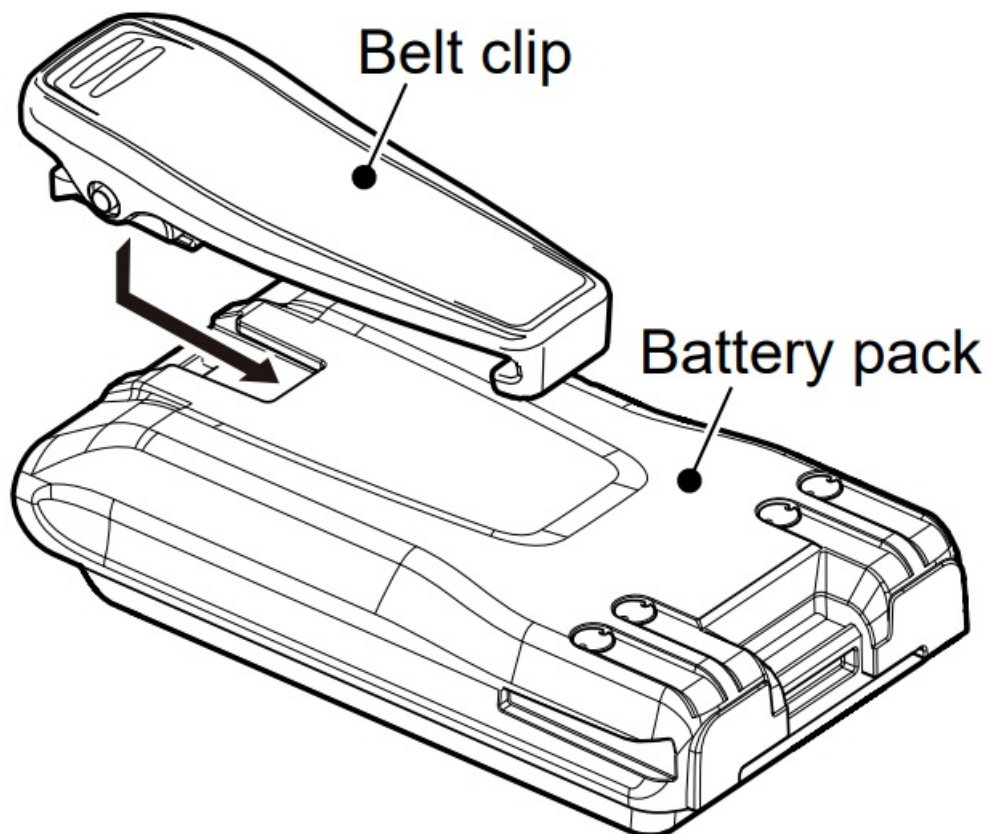


CAUTION:

- **DO NOT** carry the transceiver by holding only the antenna.
- **DO NOT** connect an antenna other than the specified antenna.
- **DO NOT** transmit without an antenna.

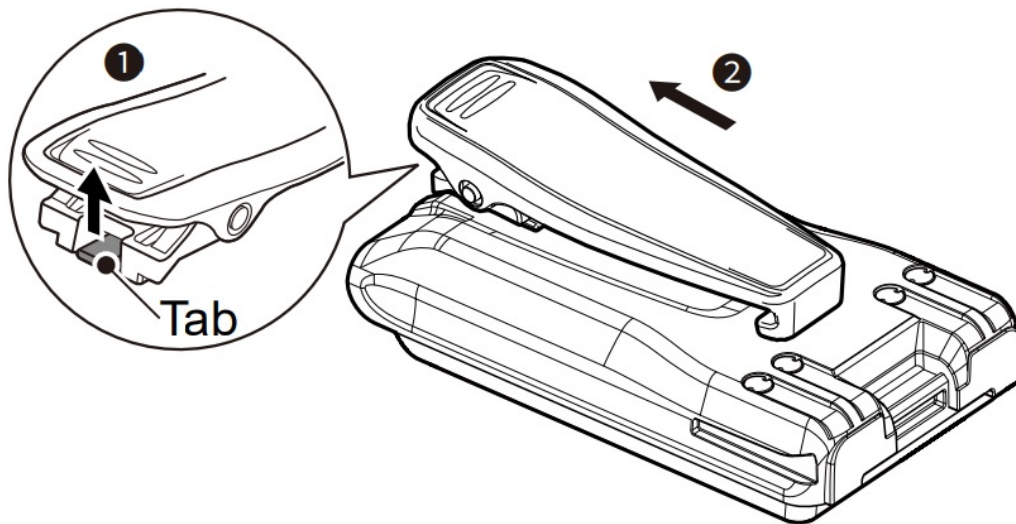
Belt clip Attaching:

1. Remove the battery pack from the transceiver if it is attached.
2. Slide the belt clip in the direction of the arrow until the belt clip is locked and makes a 'click' sound.



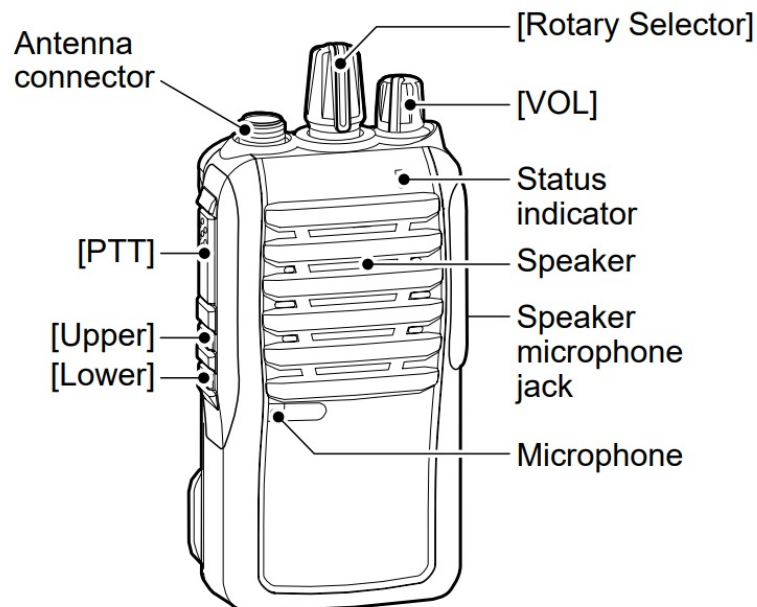
Detaching:

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



BE CAREFUL DO NOT break your fingernail.

PANEL DESCRIPTION



Status indicator

Lights red: Transmitting. Lights green: Receiving or squelch is open. Lights or blinks orange: A matching signal is received, depending on the presetting.

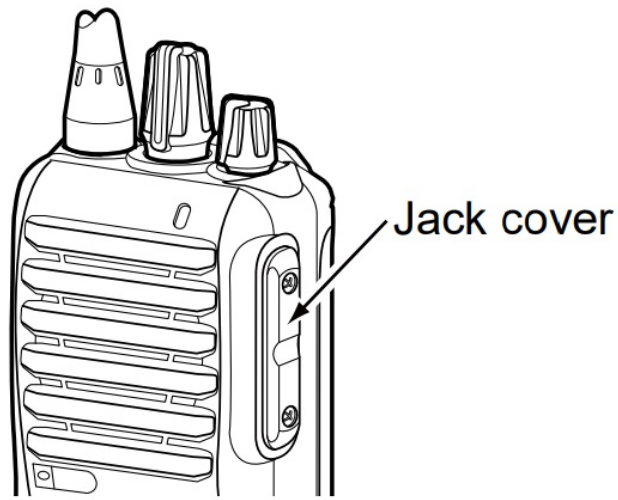
About the keys

[Upper]: Push to turn the monitor function ON or OFF. [Lower]: No function is assigned in default.

NOTE: Other functions can be assigned to these keys with the CS-V3MR programming software.

Speaker microphone jack

Connect the optional speaker microphone or VOX adapter cable.



CAUTION: DO NOT use the transceiver without the jack cover or the optional equipment attached. The transceiver meets IP54 requirements for dust protection and splashes resistance only when the battery pack and jack cover are attached.

BATTERY CHARGING

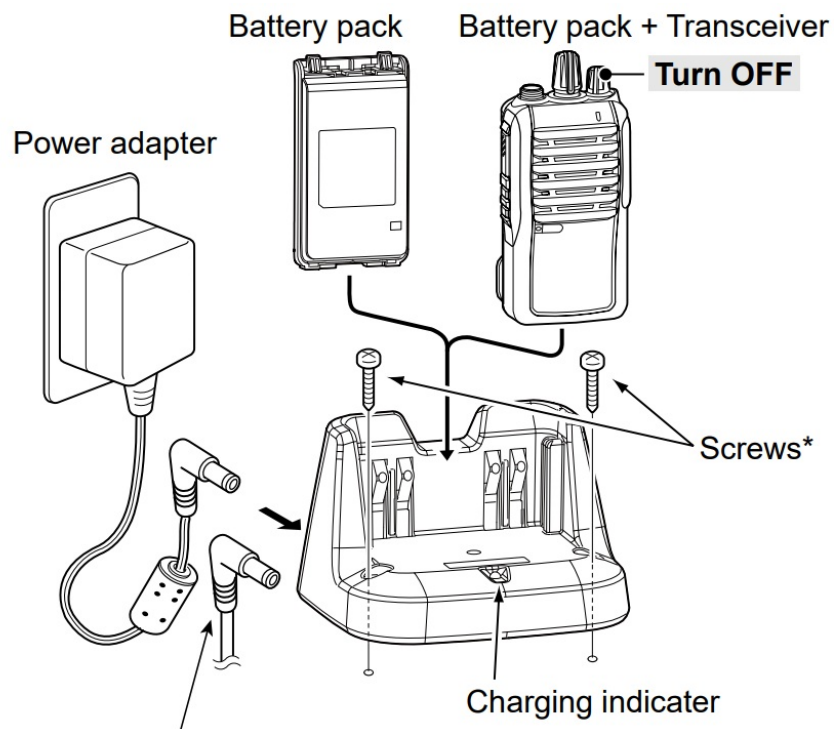
Rapid charging with the BC-240

You can rapidly charge a Li-ion battery pack with the BC-240.

Charging time* for the BP-298: Approximately 3 hours

When the Extend Battery Life function is turned OFF. Additionally needed item (purchase separately):

- A power adapter or the OPC-515L or CP-23L DC power cable



The optional OPC-515L (for a DC power source) or CP-23L (for a 12 V cigarette lighter socket) can be used instead of the power adapter.

CAUTION: NEVER connect the OPC-515L to a power source using reverse polarity. This will win the battery charger. White line: C), Blackline: G

* Self-tapping screw: M3.5 x at least 30 mm Purchase separately. Using screws is recommended to secure the charger.

Self-tapping screw: M3.5 x at least 30 mm Purchase separately. Using screws is recommended to secure the charger.

Charging indicator

Lights orange: While charging

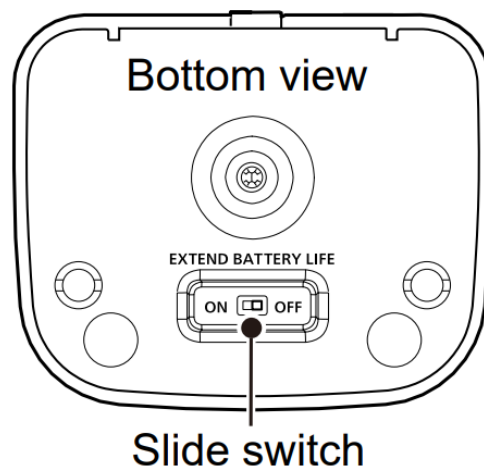
Lights green: When charging is completed.

Blinks red: When a charging error has occurred. Reinstall the battery or the transceiver.

About the BC-240

Turn the Extend Battery Life function ON or OFF. The battery charger has a function switch on the bottom panel.
(Default: OFF)

(Default: OFF)



OFF: The battery is fully charged. The operating time of the transceiver is maximum.

ON: The battery is not fully charged to not shorten the battery life cycle. The battery life cycle is extended. But the operating time of the transceiver becomes shorter.

BASIC OPERATION

Turning ON the transceiver

NOTE: Before using the transceiver for the first time, the battery pack must be fully charged for optimum life and operation. See the “BATTERY CHARGING:

- Rotate [VOL] to turn ON the transceiver.

Receiving and Transmitting

CAUTION: DO NOT transmit without an antenna.

1. Rotate [Rotary Selector] to select a channel
2. When receiving a call, rotate [VOL] to adjust the audio output level to a comfortable listening level.

NOTE: Push [Upper] to listen on the channel, to confirm that no one is operating on the channel before transmitting.

Transmitting:

1. Wait until the channel is clear to avoid interference.
2. While holding down (Mt speak at your normal voice level.
3. Release [P11] to receive.

IMPORTANT: To maximize the readability of your signal:

1. After pushing [P11], pause briefly before you start speaking.
2. Hold the microphone 5 to 10 cm (2 to 4 inches) from your mouth, then speak at your normal voice level.

DEFAULT FREQUENCIES CHART

Channel	Frequency (MHz)	CTCSS Tone (Hz)	Band Width	TX PWR(W)
Ch1	151.820	67.0	Narrow	2
ch2	151.880			
Ch3	151.940			
Ch4	151.570		Wide	
Ch5	154.600			

Channel 6 to 16 are not programmed by default. Ask your Receiving: dealer for details.

OPTIONS

Battery pack

- BP-298 BATTERY PACK

Battery pack	Voltage	Capacity
BP-298	7.2 V	2100 mAh (minimum) 2250 mAh (typical)

* When the power save function is turned ON, the operating periods are calculated under the following conditions.
TX: RX: standby = 5: 5: 90, TX Power 2 W

Chargers

BC-240 DESKTOP CHARGER To rapidly charge a single battery pack.

BC-214N MULTI CHARGER + BC-157S AC ADAPTER To rapidly charge up to 6 battery packs. A power adapter may be supplied, depending on the charger version.

DC cables

CP-23L CIGARETTE LIGHTER CABLE Use when charging the battery pack from a 12 V cigarette lighter socket. (Use with the BC-240)

OPC-515L DC POWER CABLE Use with a 13.8 V power source instead of the power adapter. (Use with the BC-240)

Antenna

FA-SC28V VHF ANTENNA 148 — 162 MHz

Others

AD-98FSC ANTENNA CONNECTOR CONVERTER Enables you to connect an external antenna with a BNC connector.

MB-124 BELT CLIP


HM-158LA/HM-159LA/HM-222HLWP

SPEAKER-MICROPHONE Combination speaker-microphone that provides convenient operation while the transceiver is hanging on your belt. ® Adjust the microphone gain before use. HM-222HLWP: With an Emergency key and a loudspeaker. Meets IP68 requirements for waterproof protection. (I) Not yet released as of August 2021.

HS-94/HS-95/HS-97 HEADSET + VS-4LA PTT SWITCH CABLE/ OPC-2004UOPC-2004LA ADAPTER CABLE
HS-94: Ear-hook type HS-95: Neck-arm type HS-97: Throat microphone VS-4LA: To connect to headsets OPC-2004UOPC-2004LA: To connect to headsets for VOX operation (1), Adjust both microphones and VOX gain before use.

CS-V3MR PROGRAMMING SOFTWARE + OPC-478UC PROGRAMMING CABLE Provides quick and easy programming of such settings as memory channels and Set modes contents. Ask your dealer for details. You can download the CS-V3MR Programming software from the Icom website. (<https://www.icomjapan.com/support/>)
OPC-474 PROGRAMMING CABLE For transceiver-to-transceiver programming.

Documents / Resources

	<p>ICOM IC-V3MR Multi-Use Radio Service Handheld Two-Way Radio [pdf] Instructions 328550, AFJ328550, IC-V3MR, Multi-Use Radio Service Handheld Two-Way Radio</p>
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