ICOM INSTRUCTIONS

VHF DIGITAL TRANSCEIVER
IC-F52D
UHF DIGITAL TRANSCEIVER
IC-F62D

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

IMPORTANT

SAVE THESE INSTRUCTIONS— These instructions contain basic operating instructions for the IC-F52D/IC-F62D.

This instruction sheet includes some functions that are usable only when they are preset by your dealer. 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	Recommended for optimum use. 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, including, but 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** 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.

⚠ **DANGER! 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.

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

⚠ **WARNING! NEVER** operate the transceiver with 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 the ringing, reduce the volume level or discontinue use.

⚠ **WARNING! NEVER** operate the transceiver while driving a vehicle. Safe driving requires your full attention — anything less could result in an accident.

CAUTION: DO NOT modify the transceiver. The specifications may change and then the transceiver may not comply with the requirements of required regulations. The transceiver warranty does not cover any problems caused by unauthorized modification.

CAUTION: DO NOT carry the transceiver by holding the antenna.

CAUTION: DO NOT operate unless the flexible antenna, battery pack are securely attached to the transceiver. Confirm that the antenna and battery pack are dry before attaching. Exposing the inside of the transceiver to dust or water can cause serious damage to the transceiver.

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.

CAUTION: DO NOT operate the transceiver if it becomes hot after continuously transmitting for long periods of time. This may damage the transceiver.

DO NOT place or leave the transceiver in direct sunlight or in places with temperatures below –30°C (–22°F) or above +60°C (+140°F). The basic operations of the transceiver are guaranteed within the specified operating temperature range. However, the Liquid Crystal Display may not operate correctly, or show an indication in the case of long hours of operation, or after being placed in extremely cold areas.

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

BE CAREFUL! The transceiver meets IP67* requirements for dust-tight and waterproof protection. However, once the transceiver has been dropped, dust-tight and waterproof protection cannot be guaranteed due to the fact that the transceiver may be cracked or the waterproof seal damaged, and so on.
* Only when the BP-290 or BP-294, flexible antenna, and the connector cover or the optional speaker microphone are attached.

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 will become exhausted, and will need to be recharged or replaced.

MAKE SURE to turn OFF the transceiver power before connecting the supplied or optional equipment.

Operate the transceiver that complies with your local laws and regulations.
Depending on countries and/or regions, transceiver's output power and/or operations on specific frequencies may be restricted to avoid interferences with existing radio stations or services.

◇ 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** 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** place or leave battery packs in areas 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** 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** expose the battery pack to rain, snow, seawater, or any other liquids. Do not charge or use a wet pack. If the pack gets wet, be sure to wipe it dry before using.

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

⚠ **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** 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 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.

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

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

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

CAUTION: Shorter battery life could occur if the battery is left fully charged, completely discharged, or in an excessive temperature environment (above 50°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)

BE SURE to replace the battery pack with a new one approximately five years after manufacturing, even if it still holds a charge. The inside battery material will become weak after a period of time, even with little use. The estimated number of times you can charge the battery is between 300 and 500. Even when the battery appears to be fully charged, the operating time of the transceiver may become short when:
- Approximately five years have passed since the battery was manufactured.
- The battery has been repeatedly charged.

The battery cells may deteriorate and swell due to their characteristics if used in an environment and conditions such as: frequently charged, recharged immediately after full charge, used or saved in a hot place, or charged by methods other than the instructions. If the battery pack swells, it has reached the end of its life due to deterioration. Replace it with a brand new one.

◇ 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.

⚠ **WARNING! NEVER** insert the transceiver (battery attached to the transceiver) into the charger if it is wet or soiled. This could corrode the battery charger terminals or damage the charger. The charger is not waterproof.

⚠ **CAUTION: NEVER** charge the battery outside of the specified temperature range: BC-214N and BC-219N (16˚C ~ 40˚C (60.8˚F ~ 104˚F)). Otherwise, the charging time will be longer, but the battery will not reach a full charge. While charging, at a point after the temperature goes out of the specified range, the charging will automatically stop.

SAFETY TRAINING INFORMATION

WARNING

Your Icom 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 Population" in an uncontrolled environment. This radio has been tested and complies with the FCC and IC 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 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 Electric, Magnetic, and Electromagnetic Fields, 0 Hz to 300 GHz.
- American National Standards Institute (C95.3-2021), IEEE Recommended Practice for Measurements and Computations of Electric, Magnetic, and Electromagnetic Fields with Respect to Human Exposure to Such Fields, 0 Hz to 300 GHz.
- The antennas, batteries, belt clips, speaker-microphone, and other accessories that are listed in "OPTIONS" on the INSTRUCTIONS sheet, 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.
- Health Canada Safety Code 6 - Limits of Human Exposure to Electromagnetic Energy in the Frequency Range from 3 kHz to 300 GHz.

CAUTION

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

DO NOT operate the radio without a proper antenna attached, as this may damage 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 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 and IC RF exposure compliance requirements to be exceeded. The radio is transmitting when the LED indicator lights red. You can cause the radio to transmit by pushing 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 listed in "OPTIONS" of the INSTRUCTIONS sheet when attaching the radio to your belt, or other place, to ensure FCC and IC 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 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.

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 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 transceiver, not expressly approved by Icom Inc., could void your authority to operate this transceiver under FCC regulations.

◇ FCC SDoC

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

Responsible Party
Company Name: Icom America Inc.
Address: 12421 Willows Road NE, Kirkland, WA 98034

U.S. Contact Information
800-USA-ICOM (800-872-4266)
Monday – Friday 7 AM to 5 PM PST

RECOMMENDATION

CLEAN THE TRANSCEIVER THOROUGHLY IN A BOWL OF FRESH WATER after exposure to saltwater, and dry it before operating. Otherwise, the transceiver's keys, switches, and controllers may become unusable, due to salt crystallization, and/or the charging terminals of the battery pack may corrode.

NOTE: If the transceiver's waterproof protection appears defective, carefully clean it with a soft, damp (fresh water) cloth, then dry it before operating. The transceiver may lose its waterproof protection if the case or connector cover is cracked or broken, or the transceiver has been dropped.
Contact your Icom distributor or your dealer for advice.

ABOUT CE AND DOC

Hereby, Icom Inc. declares that the versions of IC-F52D and IC-F62D which have the "CE" symbol on the product, comply with the essential requirements of the Radio Equipment Directive, 2014/53/EU, and the restriction of the use of certain hazardous substances in electrical and electronic equipment Directive, 2011/65/EU. The full text of the EU declaration of conformity is available at the following internet address: https://www.icomjapan.com/support/

DISPOSAL

The crossed-out wheeled-bin symbol on your product, literature, or packaging reminds you that in the European Union, all electrical and electronic products, batteries, and accumulators (rechargeable batteries) must be taken to designated collection locations at the end of their working life. Do not dispose of these products as unsorted municipal waste. Dispose of them according to the laws in your area.

ABOUT UKCA DOC

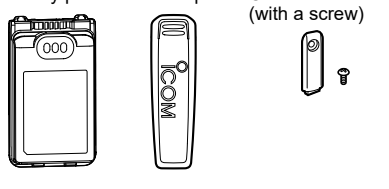
To obtain the UKCA Declaration of Conformity, please contact Icom UK Limited by email at info@icomuk.co.uk or alternatively call + 44(0) 1227 741741.

VOICE CODING TECHNOLOGY

The AMBE+2™ voice coding Technology embodied in this product is protected by intellectual property rights including patent rights, copyrights and trade secrets of Digital Voice Systems, Inc. This voice coding Technology is licensed solely for use within this Communications Equipment. The user of this Technology is explicitly prohibited from attempting to extract, remove, decompile, reverse engineer, or disassemble the Object Code, or in any other way convert the Object Code into a human-readable form.
U.S. Patent Nos.
#8,359,197 and #7,970,606.

SUPPLIED ACCESSORIES

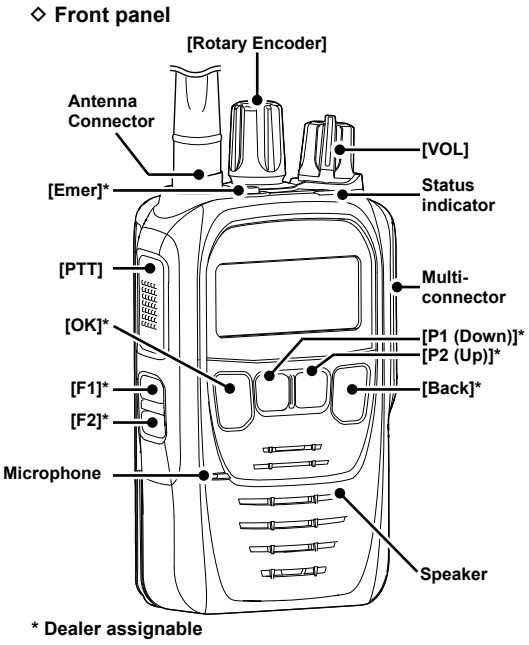
Battery pack | Belt clip | Connector cover (with a screw)



NOTE:
- Some accessories are not supplied, or the shape is different, depending on the transceiver version.
- Confirm both battery sliding locks are locked in place, when attaching the battery to the transceiver. Both sliding locks make a 'click' sound when locked.

PANEL DESCRIPTION

◇ Front panel



*** Dealer assignable**

◇ About the Status indicator

- Lights white, then blinks red, yellow, and green when turning ON the transceiver.
- Lights red while transmitting.
- Lights green while receiving a signal, or when the squelch is open.

◇ About the Multi-connector

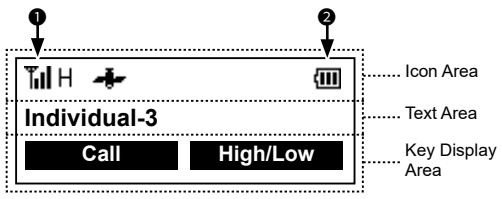
Connects to an optional speaker microphone or headset.

CAUTION: DO NOT use the transceiver without the connector cover or the optional microphone attached. The transceiver meets IP67 requirements for dust-tight and waterproof protection only when the connector cover or the optional microphone is attached.

◇ About the Software key functions

Your dealers can assign the Software key functions to the keys.

FUNCTION DISPLAY



NOTE: The screen is an example.
The displayed position of each icon may differ, depending on the function being used.

◇ Icon Area

Indicators

❶ **SIGNAL STRENGTH INDICATOR**
Displays the relative receive signal strength level.

❷ **BATTERY INDICATOR**
Displayed or blinks to indicate the battery status.

Indication				
Battery status	Full	Mid	Charging required	Battery exhausted

blinks when the battery is exhausted.

Icons

The following icons are displayed in the Icon Area.

SHIFT ICON
Displayed when the Shift function is ON.
ⓘ A user can use a Software key's secondary function in the Shift mode. Ask your dealer for details.

POWER ICON L1 L2 H
Displays the output power level.
• "L1" is displayed when the output power is set to Low.
• "L2" is displayed when the output power is set to Mid.
• "H" is displayed when the output power is set to High.

AUDIBLE ICON
Displayed when the channel is in the 'audible' (unmute) mode.

MESSAGE ICON
• Blinks after messages (Message or Status Message) have been received.
• Stops blinking when the screen is changed, or any key is pushed, but is displayed if unread messages are still in the Message memory.
• Disappears when all messages in the Message memory have been read.

BELL ICON
Displayed when a matching signal is received, depending on the presetting.

SCAN ICON
• Displayed when a scan is paused.
• Blinks while scanning.

SCAN TARGET CHANNEL ICON
Displayed when the channel is selected as a scan target channel.

SCRAMBLER/ENCRYPTION ICON
In the Analog mode:
• Displayed when the Voice Scrambler function is ON.
In the Digital mode:
• Displayed when the Encryption function is ON.
• Blinks when decoding an encrypted signal.

GPS ICON
• Displayed when valid position data is received.
• Blinks when searching for satellites or calculating position data.
* HM-233GP is required to use the GPS function.

RECORD ICON
• Displayed when the Record function is ON.
• Blinks while recording audio.

TALK AROUND ICON
Displayed when the Talk Around function is ON.

PHONE ICON
• Displayed when the transceiver is connected to a telephone network on the selected channel.
• Blinks while receiving a phone call.

BROADCAST CALL ICON
Displayed when the Broadcast call is received.
* For only the dPMR version.

SITE LOCK ICON
Displayed when the Site Lock function is ON.

LONE WORKER ICON
Displayed when the Lone Worker function is ON.

MOTION SENSOR ICON
Displayed when the Motion Sensor function is ON.

NOISE CANCEL ICON
Displayed when the Noise Cancel function is ON.

SURVEILLANCE ICON
Displayed when the Surveillance function is ON.

VIBRATION ICON
Displayed when the Vibration function is ON.

VOX ICON VOX*
Displayed when the VOX function is ON.
* VS-5MC,VS-3, or other Bluetooth headset is required to use the VOX function.

Bluetooth® ICON
(For only the transceiver with the Bluetooth function.)
"" is displayed when Bluetooth is activated.
"" is displayed when a Bluetooth device is connected.

◇ Text Area

Displays the selected Zone number, Channel number, and Channel name, if set.

◇ Key Display Area

Displays the names of the function assigned to [P1] and [P2].
ⓘ Ask your dealer about the assigned Software key functions.

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 section of this sheet.

● Rotate [VOL] to turn ON the transceiver.

◇ Receiving and Transmitting

Receiving:
1. Select a channel.
   ⓘ Rotate [Rotary Encoder] or push [Up] or [Down], depending on the presetting.
2. When receiving a call, rotate [VOL] to adjust the audio output level to a comfortable listening level.

Transmitting:

CAUTION: DO NOT transmit without an antenna.

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

IMPORTANT:
To maximize the readability of your signal:
1. After pushing [PTT], 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.

BATTERY CHARGING

NOTE: Before detaching or attaching a battery pack, **BE SURE** to turn OFF the transceiver by rotating [VOL] fully counter clockwise, until it makes a "click" sound. Otherwise, a transceiver malfunction could occur.

NOTE:
• The transceiver **MUST** be turned OFF while charging. Otherwise:
  - The battery will not be charged correctly.
  - The battery life may be shortened.
• **DO NOT** transmit while charging. When you need to transmit, remove the transceiver from the charger, and then turn ON the power.
• If the battery pack does not properly charge when it is attached to the transceiver, remove it from the transceiver and insert only the battery pack into the charger.

Rapid charging with the BC-219N

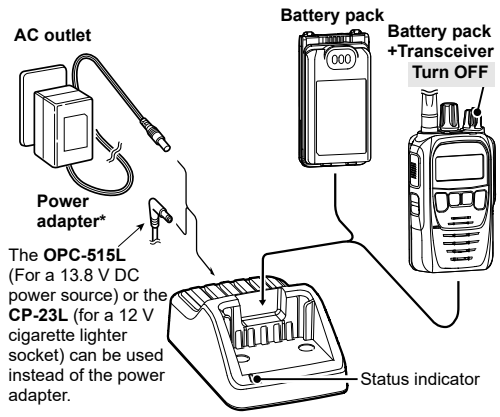
(Except for the EUR version)

You can rapidly charge the Li-ion battery pack with the BC-219N.

Charging time:
For the BP-290 Approximately 2.5 hours
For the BP-294 Approximately 4.5 hours

Additionally needed item (purchase separately):
A power adapter (may be supplied with the charger, depending on the charger version) or the OPC-515L/ CP-23L DC POWER CABLES.

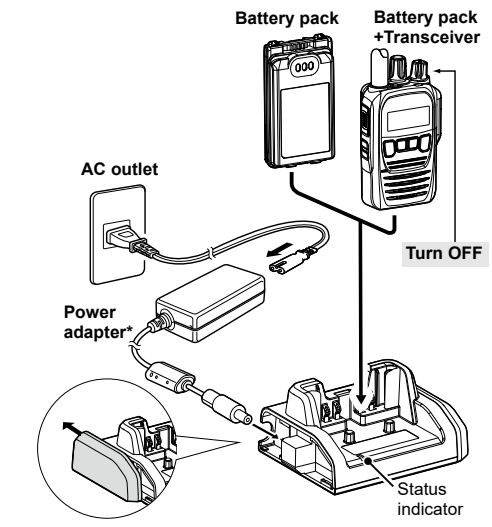
CAUTION: NEVER reverse the polarity when connecting the OPC-515L to a power source. This will ruin the battery charger.
White line: ⊕, Black line: ⊖



* A different type, or no power adapter is supplied, depending on the charger version.

◇ Rapid charging with the BC-226

Charging time:
For the BP-290 Approximately 2.7 hours
For the BP-294 Approximately 4.3 hours



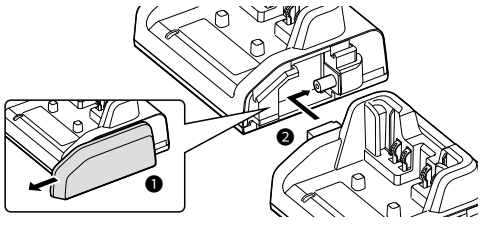
ⓘ To connect the power adapter to the charger, remove the charger's left cover.

* A different type, or no power adapter is supplied, depending on the charger version.

❍ Status indicator

Light color	Status
Orange	Charging.
Green	Charging is completed.
Blinks orange and green	Charging failed. It may have some problems.

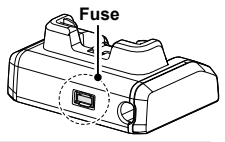
❍ Connecting BC-226 together
You can connect up to 6 BC-226 together.
Remove the charger's right cover. (❶)
Snap the DC power plug to the other charger's DC power jack. (❷)



⚠ **WARNING! NEVER** connect more than 6 chargers together. It may result in an electric shock, cause a fire, overheating, or damage the chargers and AC adapter.

⚠ **WARNING! NEVER** use other than the BC-228 power adapter when connecting multiple BC-226 units. It may result in an electric shock, cause a fire, overheating, or damage the chargers and AC adapter.

❍ BC-226 Fuse replacement
If a fuse blows, find and repair the cause of the problem. Then replace the damaged fuse with a new, adequately rated fuse.
Fuse type: 5 A/58 V (low profile mini blade fuse)



NOTE: Remove the fuse using the needle-nose pliers.

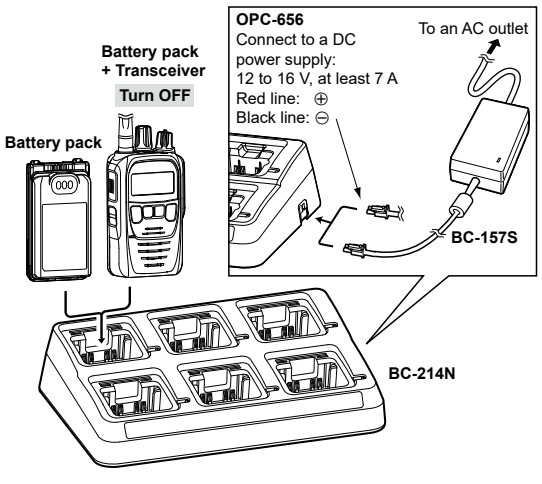
◇ Rapid charging with the BC-214N

You can rapidly charge up to 6 battery packs with the optional BC-214N.

Charging time:
For the BP-290 Approximately 2.8 hours
For the BP-294 Approximately 5 hours

Additionally needed items (purchase separately):
• The BC-157S AC ADAPTER or the OPC-656 DC POWER CABLE
• The AD-132N CHARGER ADAPTER (may be supplied with the charger, depending on the charger version)

CAUTION: NEVER reverse the polarity when connecting the OPC-656 to a power source. This will ruin the battery charger.
Red line: ⊕, Black line: ⊖



OPTIONS

ⓘ Some options may not be available in some countries. Ask your dealer for details.

◇ BATTERY PACKS

• **BP-290** Li-ion BATTERY PACK
(Except for the EUR version)
Voltage: 7.2 V
Capacity: 1910 mAh (minimum), 2010 mAh (typical)
Battery life: Approximately 13 hours
• **BP-291** BATTERY CASE
Battery case for AA alkaline batteries.
• **BP-294** Li-ion BATTERY PACK
Voltage: 7.2 V
Capacity: 3050 mAh (minimum), 3150 mAh (typical)
Battery life: Approximately 18.5 hours

◇ CHARGERS

• **BC-226** DESKTOP CHARGER + **BC-228** AC ADAPTER
For rapidly charging battery packs.
Charging time: Approximately 2.7 hours for the BP-290
Approximately 4.3 hours for the BP-294
ⓘ A power adapter may be supplied, depending on the charger's version.
• **BC-214N** MULTI-CHARGER + **BC-157S** AC ADAPTER, **OPC-656** DC POWER CABLE
For rapidly charging of up to 6 battery packs simultaneously.
Charging time: Approximately 2.8 hours for the BP-290
Approximately 5 hours for the BP-294
ⓘ The AD-132N CHARGER ADAPTER adapter may be needed, depending on the charger's version.
ⓘ The BC-157S AC ADAPTER or OPC-656 DC POWER CABLE must be purchased separately.
• **BC-219N** DESKTOP CHARGER + **BC-123S** AC ADAPTER
(Except for the EUR version)
For rapidly charging of battery packs.
Charging time: Approximately 2.5 hours for the BP-290
Approximately 4.5 hours for the BP-294
ⓘ A power adapter may be supplied, depending on the charger's version.
• **BC-225** INTELLIGENT DESKTOP CHARGER+ **BC-123S** AC ADAPTER + **RS-BC225** READER SOFTWARE
(Except for the EUR version)
For rapidly charging battery packs.
You can check the charging status using the RS-BC225.
Charging time: Approximately 2.5 hours for the BP-290
Approximately 4 hours for the BP-294
ⓘ A power adapter may be supplied, depending on the charger's version.
ⓘ A USB (Micro-B) cable is required to connect the BC-225 and a PC with the RS-BC225 installed.
• **BC-227** DESKTOP CHARGER + **BC-123S** AC ADAPTER, **OPC-515L** DC POWER CABLE or **CP-23L** CIGARETTE LIGHTER CABLE
For rapidly charging battery packs.
Charging time: Approximately 2.7 hours for the BP-290
Approximately 4.5 hours for the BP-294
ⓘ The OPC-515L DC POWER CABLE or CP-23L CIGARETTE LIGHTER CABLE must be purchased separately.

◇ DC CABLES

• **CP-23L** CIGARETTE LIGHTER CABLE
Used when charging battery packs through a 12 V cigarette lighter socket.
For use with the BC-219N, the BC-225 or the BC-227.
• **OPC-515L, OPC-656** DC POWER CABLES
Used when charging battery packs using a 13.8 V DC power source instead of the power adapter.
OPC-515L: For use with the BC-219N, the BC-225 or the BC-227.
OPC-656: For use with the BC-214N.

◇ ANTENNAS

• **FA-SC26VS, FA-SC27VS, FA-SC56VS, FA-SC57VS FA-SC26US, FA-SC73US** STUBBY ANTENNAS
Shorter VHF or UHF antennas.
FA-SC26VS: 136 ~ 144 MHz FA-SC27VS: 142 ~ 150 MHz
FA-SC56VS: 150 ~ 162 MHz FA-SC57VS: 160 ~ 174 MHz
FA-SC26US: 400 ~ 450 MHz FA-SC73US: 450 ~ 490 MHz
• **FA-SC25V, FA-SC28V, FA-SC29V, FA-SC01U, FA-SC25U, FA-SC57U, FA-SC72U** FLEXIBLE ANTENNAS
VHF or UHF antennas.
FA-SC25V: 136 ~ 150 MHz FA-SC28V: 148 ~ 162 MHz
FA-SC29V: 160 ~ 174 MHz FA-SC01U: 350 ~ 400 MHz
FA-SC25U: 400 ~ 430 MHz FA-SC57U: 430 ~ 470 MHz
FA-SC72U: 470 ~ 520 MHz
• **FA-SC61VC, FA-SC61UC** CUT ANTENNAS
• **FA-SC62V, FA-SC63V** HIGH GAIN ANTENNAS

◇ BELT CLIPS and BELT HANGERS

• **MB-136, MBB-3** BELT CLIP
• **MB-96F, MB-96FL, MB-96N** BELT HANGERS

◇ OTHERS

• **HM-222, HM-222H*** SPEAKER MICROPHONE
With an Emergency key.
These microphones meet IP68 requirements for waterproof protection.
* High audio output is only usable with transceivers that support the function. (With a "U" mark on the serial number label)
• **HM-233GP** GPS SPEAKER MICROPHONE
The microphone with high-performance GPS receiver.
• **HM-163MC** TIEPIN TYPE MICROPHONE + **EH-15B** EARPHONE, **SP-26** TUBE EARPHONE, **SP-28** EAR HOOK TYPE EARPHONE
• **SP-32** TUBE TYPE EARPHONE ADAPTER
For use with EH-15B.
• **SP-27** TUBE EARPHONE, **SP-29** EAR HOOK TYPE EARPHONE, **SP-40** EARPHONE + **AD-135** EARPHONE ADAPTER
AD-135: Used to connect an earphone to the transceiver's multi-connector.
• **AD-118** ACC ADAPTER
To connect an accessory. See the AD-118 instruction sheet for details on recommended accessories.

CAUTION: The AD-118 does not have waterproof protection. When it is connected, **NEVER** expose the adaptor and the transceiver to rain, snow or any liquids.

• **LC-187, LC-188*** CARRYING CASE
For use with the BP-290.
• **LC-190*** CARRYING CASE
For use with the BP-294.
* Remove the carrying case from the transceiver before charging.
• **VS-5MC*** PTT SWITCH CABLE + **HS-94**, **HS-95**, **HS-97** HEADSET
VS-5MC: Used to connect a headset to a transceiver.
HS-94: Ear-hook type HS-95: Neck-arm type
HS-97: Throat microphone
* Non-waterproof.
• **VS-3** Bluetooth® HEADSET
The Bluetooth headset with a [PTT] switch.
• **About the third party Bluetooth headsets:**
Icom has checked the PTT operation with some 3M Peltor headsets such as the WS Headset XP, WS ProTac XP and WS Alert XP. (Compatibility not guaranteed.)

ⓘ The VS-3 and the third-party Bluetooth headsets are usable only by the transceiver with the Bluetooth function.

TECHNICAL INFORMATION

◇ IC-F52D

Radio:

Frequency Range	Output Power	SAR 10g
136 ~ 174 MHz	5 W	2.03 W/kg

- Channel spacing: 6.25 kHz*, 12.5 kHz, 20 kHz, 25 kHz
  * For only the Digital mode

Bluetooth:

Frequency Range	Output Power
2402 ~ 2480 MHz	4.33 dBm (EIRP)

TECHNICAL INFORMATION

◇ IC-F62D

Radio:

Frequency Range	Output Power	SAR 10g
400 ~ 470 MHz	5 W	3.95 W/kg

- Channel spacing: 6.25 kHz*, 12.5 kHz, 20 kHz, 25 kHz
  * For only the Digital mode

Bluetooth:

Frequency Range	Output Power
2402 ~ 2480 MHz	4.33 dBm (EIRP)