

ICOM INSTRUCTIONS

VHF TRANSCEIVER IC-F3100D series

UHF TRANSCEIVER IC-F4100D series



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

SAVE THESE INSTRUCTIONS — These instructions contain important operating instructions for the **IC-F3103D/IC-F3107D VHF TRANSCEIVERS** and the **IC-F4103D UHF TRANSCEIVERS**.

IMPORTANT

This instruction sheet includes some functions that are usable only when they are preset by your dealer. The transceiver may have other functions and operations that are not described in this instruction sheet. Ask your dealer for preset function 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, 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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Osaka 547-0003, Japan
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Count on us!
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CAUTION: DO NOT expose the battery pack to rain, snow, saltwater, 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.

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: 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 ~ +35°C (–4°F ~ +95°F) (within 3 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 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: BC-193 (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, pack's performance or battery cell life may be reduced.


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 device, not expressly approved by Icom 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.


PRECAUTIONS

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

 **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 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 may result in an accident.

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 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 unless the flexible antenna, battery pack, and jack cover are securely attached to the transceiver, and that 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 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 place or leave the transceiver in excessively dusty environments. This could damage the transceiver.

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


CAUTION: DO NOT expose the transceiver to heavy rain, and never immerse it in the 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/case and jack cover are attached.


NOTE: DO NOT place or leave the transceiver in areas with temperatures below –30°C (–22°F) or above +60°C (+140°F), or in areas subject to direct sunlight, such as the dashboard.


NOTE: Even when the transceiver power is OFF, a slight current still flows in the circuits. Remove the battery pack or batteries from the transceiver while not using it for a long time. Otherwise, the installed battery pack or batteries will become exhausted, and will need to be recharged.

ALWAYS turn OFF the transceiver power before connecting any external devices.

◇ Battery caution for the BP-264 Ni-MH BATTERY

 **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** incinerate a used battery pack since internal battery gas may cause it to rupture, or may cause an explosion.

 **DANGER! NEVER** immerse the battery pack in water. If the battery pack becomes wet, be sure to wipe it dry **BEFORE** attaching it to the transceiver.

CAUTION: Always use the battery within the specified temperature range for the transceiver –30°C ~ +60°C (–22°F ~ +140°F), and the battery itself –5°C ~ +60°C (+23°F ~ +140°F). Using the battery out of its specified temperature range will reduce the battery's performance and battery 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 completely discharged, or in an excessive temperature environment (above 55°C, 131°F) for an extended period of time.
If the battery must be left unused for a long time, it must be detached from the transceiver after charging. Keep it safely in a cool dry place at the following temperature range:

- 20°C ~ +45°C (–4°F ~ +113°F) (within a month)
- 20°C ~ +35°C (–4°F ~ +95°F) (within 6 months)
- 20°C ~ +25°C (–4°F ~ +77°F) (within a year*)

* We recommend charging the battery pack every 6 months.

If your battery pack seems to have no capacity, even after being charged, completely discharge it by leaving the power ON overnight. Then, fully charge the battery pack again. If the battery pack still does not retain a charge (or only very little charge), a new battery pack must be purchased.


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.

INFORMATION SUR LA FORMATION À LA SÉCURITÉ


AVERTISSEMENT

Votre radio Icom produit une énergie électromagnétique de radiofréquences (RF), en mode de transmission. Cette radio est conçue pour un «usage professionnel seulement» et classée comme tel, ce qui signifie qu'elle doit être utilisée uniquement dans le cadre d'un

travail par des personnes conscientes des dangers et des mesures visant à minimiser ces dangers. Elle N'EST PAS conçue pour une «utilisation grand public», dans un environnement non contrôlé.

Cet appareil a été évalué et jugé conforme, 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:


- Publication 447498 D03 de la FCC KDB, «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 illustrés dans "Options" sur cette feuille 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.

- Le Code de sécurité 6 de Santé Canada - Les limites d'exposition humaine à l'énergie électromagnétique dans la gamme de fréquences de 3 kHz à 300 GHz.


MISE EN GARDE

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.

Prior to using the transceiver for the first time, the battery pack must be fully charged for optimum life and operation.


- Recommended temperature range for charging: between 10°C (50°F) and 40°C (104°F) (rapid charge: with BC-191) or between 0°C (32°F) and 45°C (113°F) (regular charge: with BC-192)
- Use the supplied charger or optional charger (BC-191 for rapid charging, BC-192 for regular charging) only. **NEVER** use other manufacturers' chargers.


The battery pack contains a rechargeable battery. Charge the battery pack before first operating the transceiver, or when the battery pack becomes exhausted. If you want to prolong the battery life, the following points should be observed:


- Avoid over charging. The charging time period by the BC-192 should be less than 48 hours.
- Use the battery pack until it becomes almost completely exhausted, under normal conditions. We recommend battery charging after transmitting becomes impossible.


◇ Battery caution for the BP-265 Li-ion BATTERY


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** 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** 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 get medical treatment from an eye 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 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 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.

- 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 IC. Lorsque le voyant DEL rouge s'allume, cette radio est en train d'émettre. La radio émettra si vous appuyez sur le bouton du microphone ou la fonction VOX.

- 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 dans "Options" sur cette feuille, 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. 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.

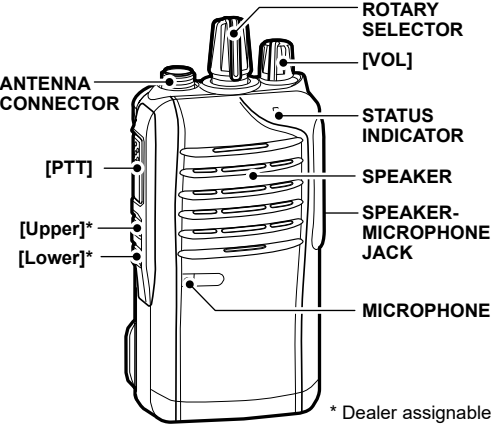
Usage professionnel/contrôlé

Ce radio émetteur est utilisé dans des cas où des personnes sont exposées en raison de leur travail, pourvu qu'elles soient conscientes du risque d'exposition et qu'elles puissent exercer un contrôle sur cette exposition. their exposure.

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. #8,595,002, #8,359,197, #8,315,860, #8,200,497, #7,970,606, and #6,912,495 B2.

PANEL DESCRIPTION

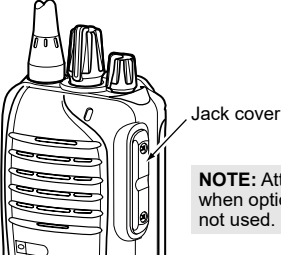


◇ About the Status Indicator

Lights red* while transmitting.
* When the optional battery case is attached, the Status indicator lights orange.
Lights green while receiving a signal, or when the squelch is open.
Lights or blinks orange when a matching 2-Tone or 5-Tone code is received, depending on the presetting.

◇ About the speaker-microphone jack

Connect the optional speaker-microphone or VOX adapter cable.



◇ About the assignable key functions

Your dealers can assign some functions to [Upper] and [Lower]. Ask your dealer for preset function details.

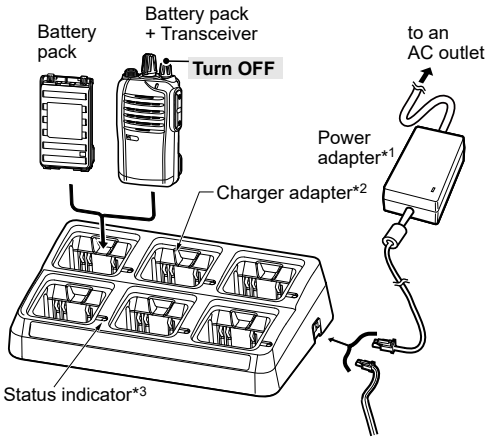
◇ Rapid charging with the BC-197

You can rapidly and simultaneously charge up to 6 battery packs with the optional BC-197.

Charging time:
With AD-120: Approximately 2 hours for the BP-264
With AD-121: Approximately 2.5 hours for the BP-265

Additionally needed item (purchase separately):
• The BC-157S AC ADAPTER or the OPC-656 DC POWER CABLE

CAUTION: DO NOT reverse the polarity when connecting the OPC-656 to a power source. This will ruin the battery charger.
Red line: ⊕, Black line: ⊖



*1 Charger adapter's shape may differ, depending on the charger version.
*2 A different type, or no power adapter is supplied, depending on the charger version.
*3 Each indicator independently functions.

There are two types of BC-197 chargers for the transceiver, one is for Ni-MH batteries, and the other is for Li-ion batteries. Before you purchase a BC-197, check the type of battery you are using, and then be sure to choose the suitable charger type.

BC-197 with Charger adapters	Chargeable Battery
With AD-120*	BP-264 Ni-MH battery
With AD-121*	BP-265 Li-ion battery

* The charger adapter type, AD-120 or AD-121, is printed on the inside bottom of the charger adapter. The type of battery it holds is printed on the top right corner of the adapter.

BATTERY CHARGING

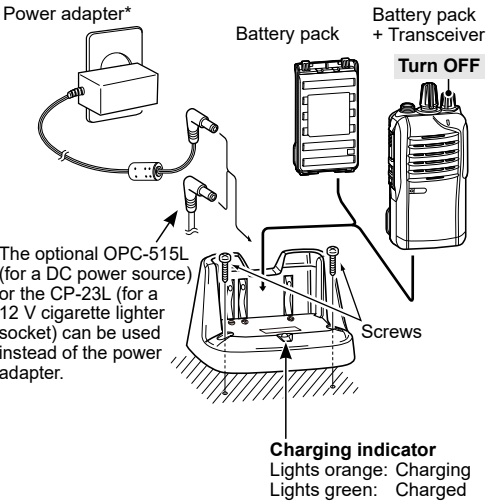
NOTE: Before detaching or attaching a battery pack, BE SURE to turn OFF the transceiver by rotating [VOL] fully counter clockwise, until it makes a "click" sound. Otherwise, a transceiver malfunction could occur.

◇ Rapid charging with the BC-191

You can rapidly charge the BP-264 Ni-MH battery pack with the BC-191.

Charging time:
Approximately 2 hours for the BP-264

Additionally needed item (purchase separately):
• A power adapter (may be supplied with the charger, depending on the charger version).



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

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

Screws:
User supplied self tapping screw (M3.5 × at least 30 mm). Using screws to secure the charger is recommended.

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.

- Rotate [VOL] to turn ON the transceiver.

◇ Receiving and Transmitting

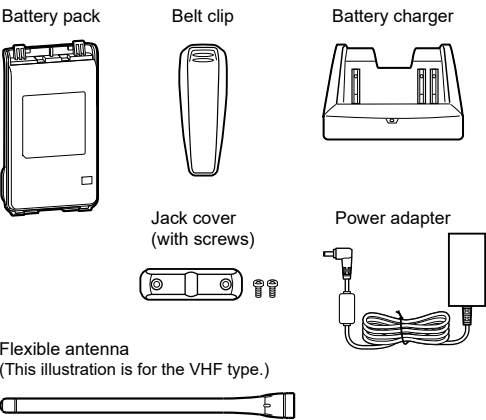
- Receiving:**
1. Select a channel.
 - ① Rotate [ROTARY SELECTOR], or push one of the Memory channel keys, [MR-CH 1] to [MR-CH 4], to select a channel.
 2. When receiving a call, rotate [VOL] to adjust the audio output level to a comfortable listening level.

Transmitting:
CAUTION: Attach an antenna before transmitting. 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.

SUPPLIED ACCESSORIES



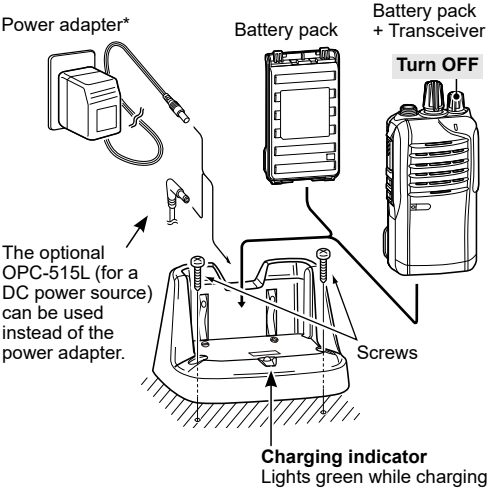
NOTE: Some accessories are not supplied, or the shape is different, depending on the transceiver version.

◇ Regular charging with the BC-192

You can regularly charge the BP-264 Ni-MH battery pack with the BC-192.

Charging time: (at 16 V DC is supplied)
Approximately 16 hours for the BP-264

Additionally needed item (purchase separately):
• A power adapter (may be supplied with the charger, depending on the charger version).



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

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

Screws:
User supplied self tapping screw (M3.5 × at least 30 mm). Using screws to secure the charger is recommended.

Charging indicator:
① The charging indicator will not go out even after a battery pack is fully charged.

Charging time period differs depending on the input voltage.	
12 V:	Approximately 36 hours
13.8 V:	Approximately 21 hours
16 V:	Approximately 16 hours

OPTIONS

◇ BATTERY PACKS

- BP-263 BATTERY CASE
- BP-264/BP-265 BATTERY PACKS

Battery pack	Voltage	Capacity	Approximate battery life*	
BP-263		Battery case for AA (LR6) × 6 alkaline	—	
BP-264	7.2 V	1400 mAh (minimum) 1420 mAh (typical)	VHF	12 hours
			UHF	11.3 hours
BP-265	7.4 V	1850 mAh (minimum) 2000 mAh (typical)	VHF	17.5 hours
			UHF	16.1 hours

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

◇ CHARGERS

- **BC-191 DESKTOP CHARGER**
For rapid charging of the Ni-MH battery pack. A power adapter may be supplied with the charger, depending on the version.
Charging time: Approximately 2 hours for the BP-264.
- **BC-192 DESKTOP CHARGER**
For regular charging of the Ni-MH battery pack. A power adapter may be supplied with the charger, depending on the version.
Charging time: Approximately 16 hours for the BP-264.
- **BC-193 DESKTOP CHARGER**
For rapid charging of the Li-ion battery pack. A power adapter may be supplied with the charger, depending on the version.
Charging time: Approximately 2.5 hours for the BP-265.
- **BC-197 MULTI CHARGER**
For rapid simultaneous charging of up to 6 battery packs. A power adapter may be supplied with the charger, depending on the version. There are 2 types of the BC-197 chargers for the transceiver.

BC-197 Charger Type	Chargeable Battery	Charging time
with AD-120*	BP-264 Ni-MH battery	Approximately 2 hours
with AD-121*	BP-265 Li-ion battery	Approximately 2.5 hours

* Either the AD-120 or the AD-121 charger adapters are installed in the BC-197, depending on the chargeable battery pack.

◇ DC CABLES

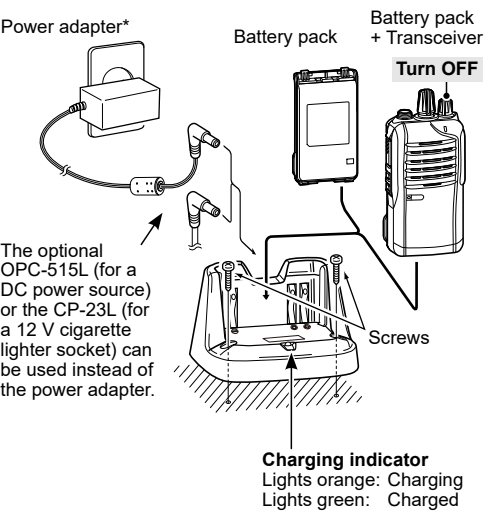
- **CP-23L CIGARETTE LIGHTER CABLE**
Use when charging the battery pack from a 12 V cigarette lighter socket. (Use with the BC-191/BC-193)
- **OPC-515L/OPC-656 DC POWER CABLE**
Use with a 13.8 V power source instead of the power adapter.
OPC-515L: For the BC-191/BC-192/BC-193
OPC-656: For the BC-197

◇ Rapid charging with the BC-193

You can rapidly charge the BP-265 Li-ion battery pack with the BC-193.

Charging time:
Approximately 2.5 hours for the BP-265

Additionally needed item (purchase separately):
• A power adapter (may be supplied with the charger, depending on the charger version).



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

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

Screws:
User supplied self tapping screw (M3.5 × at least 30 mm). Using screws to secure the charger is recommended.

◇ ANTENNAS

- **FA-SC25V/FA-SC55V** VHF ANTENNAS
FA-SC25V: 136 ~ 155 MHz
FA-SC55V: 146 ~ 174 MHz
- **FA-SC56VS/FA-SC57VS** VHF STUBBY ANTENNAS
FA-SC56VS: 150 ~ 162 MHz
FA-SC57VS: 160 ~ 174 MHz
- **FA-SC61VC** VHF CUT ANTENNA
FA-SC61VC: 136 ~ 174 MHz
- **FA-SC25U/FA-SC57U/FA-SC72U** UHF ANTENNAS
FA-SC25U: 400 ~ 430 MHz
FA-SC57U: 430 ~ 470 MHz
FA-SC72U: 470 ~ 520 MHz
- **FA-SC73US** UHF STUBBY ANTENNAS
FA-SC73US: 450 ~ 490 MHz
- **FA-SC61UC** UHF CUT ANTENNAS
FA-SC61UC: 380 ~ 520 MHz

OTHERS

- **AD-98FSC** ANTENNA CONNECTOR CONVERTER
Enables you to connect an external antenna with a BNC connector.
- **HM-158L/HM-159L** SPEAKER-MICROPHONE
Combination speaker-microphone that provides convenient operation while the transceiver is hanging on your belt.
- **HM-171GP** SPEAKER-MICROPHONE
GPS speaker-microphone for BIIIS and Digital modes operation.
- **HS-94/HS-95/HS-97** HEADSET
+ **OPC-2004LA** PLUG ADAPTER CABLE
HS-94: Ear-hook type
HS-95: Neck-arm type
HS-97: Throat microphone
OPC-2004LA: Enables you to connect the HS-94/HS-95/HS-97 to the transceiver. After connecting, you can use the VOX function.
- **SP-27** TUBE EARPHONE
Provides clear audio in noisy environments.

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

FREQUENCY RANGE AND OUTPUT POWER

Model	Version	Frequency Range	Output Power
VHF TRANSCEIVERS IC-F3103D IC-F3107D	—	136–174 MHz	5 W
UHF TRANSCEIVERS IC-F4103D	EXP-17	350–400 MHz	4 W
	EXP-11 EXP-12	400–470 MHz	
	EXP-14 EXP-15 AUS-12	450–520 MHz	

• Channel spacing:
6.25 kHz*/12.5 kHz/25.0 kHz
* Only Digital mode