

IP TRANSCEIVER  
**IP510H**

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 (important) operating instructions for the IP510H.

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.

For Advanced features and instructions, see the OPERATING GUIDE on the Icom website for details.  
<https://www.icomjapan.com/support/>

**EXPLICIT DEFINITIONS**

WORD	DEFINITION
<b>DANGER</b>	Personal death, serious injury or an explosion may occur.
<b>WARNING</b>	Personal injury, fire hazard or electric shock may occur.
<b>CAUTION</b>	Equipment damage may occur.
<b>NOTE</b>	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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**Icom Inc.**

1-1-32 Kamiminami, Hirano-ku,  
Osaka 547-0003, Japan  
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**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 device, not expressly approved by Icom Inc., could void your authority to operate this device under FCC regulations.

**◊ FCC SDoC**

This device complies with part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

**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

This transmitter must not be co-located or operated in conjunction with any other antenna or transmitter.

**FOR CANADA**

This device contains licence-exempt transmitter(s)/receiver(s) that comply with Innovation, Science and Economic Development Canada (ISED)'s licence-exempt RSS(s). Operation is subject to the following two conditions: (1) this device may not cause interference, and (2) this device must accept any interference, including interference that may cause undesired operation of the device.

- i. the device for operation in the band 5150 ~ 5350 MHz is only for indoor use to reduce the potential for harmful interference to co-channel mobile satellite systems.
- ii. where applicable, antenna type(s), antenna models(s), and worst-case tilt angle(s) necessary to remain compliant with the e.i.r.p. elevation mask requirement set forth in section 6.2.2.3 shall be clearly indicated.

**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! RF EXPOSURE!** This device emits Radio Frequency (RF) energy. Caution should be observed when operating this device. If you have any questions regarding RF exposure and safety standards, please refer to the Federal Communications Commission Office of Engineering and Technology's report on Evaluating Compliance with FCC Guidelines for Human Radio Frequency Electromagnetic Fields (OET Bulletin 65).

**⚠ 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 a 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** 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 antenna, battery pack, and connector cover are securely attached. Confirm that the antenna and battery pack are dry before attaching. Exposing the inside of the transceiver to dust or water will result in serious damage to the transceiver. After exposure to water, clean the battery contacts thoroughly with fresh water and dry them completely to remove any water or salt residue.

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

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

**DO NOT** place or leave the transceiver in areas with temperatures below -10°C (14°F) or above +60°C (140°F), or in areas subject to direct sunlight, such as the dashboard.

**DO NOT** push [PTT] when you do not actually intend to transmit.

**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.

**BE CAREFUL!** The transceiver may become hot when operating it continuously for long periods of time.

**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 battery pack, antenna, connector cover, and jack cover or the optional speaker microphone are attached.

**◊ Battery caution**

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

**⚠ 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** incinerate a used battery pack since internal battery gas may cause an explosion.

**⚠ 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** 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.

**⚠ WARNING! 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.

**⚠ WARNING! 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.

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

**⚠ 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** 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.

**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 -10°C ~ +60°C (14°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 60°C (140°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 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.

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**

**⚠ 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** 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.

**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 following specified temperature range.

BP-314: 0°C ~ 60°C (32°F ~ 140°F)

BP-315: 0°C ~ 60°C (32°F ~ 140°F)

Icom recommends charging the pack at 25°C (77°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.

**CAUTION: DO NOT** use the power adapter unless the power outlet is easily accessible and near the unit. Remove it from the AC power outlet when not in use.

**SAFETY TRAINING INFORMATION**

The available scientific evidence does not show that any health problems are associated with using low power wireless devices. There is no proof, however, that these low power wireless devices are absolutely safe. Low power Wireless devices emit low levels of radio frequency energy (RF) in the microwave range while being used. Whereas high levels of RF can produce health effects (by heating tissue), exposure of low-level RF that does not produce heating effects causes no known adverse health effects. Many studies of low-level RF exposures have not found any biological effects. Some studies have suggested that some biological effects might occur, but such findings have not been confirmed by additional research. This device has been tested and found to comply with FCC/ISED radiation exposure limits set forth for an uncontrolled environment and meets the FCC radio frequency (RF) Exposure Guidelines and RSS-102 of the ISED radio frequency (RF) Exposure rules.

**PRECAUTIONS ON USING THE WIRELESS LAN**

- We recommend that users with pacemakers take precautions to be sure that this device does not cause them a problem because of electromagnetic interferences.
- **DO NOT** use this device near microwave ovens. A microwave oven may cause electromagnetic interference to the communications through this device.
- **DO NOT** modify the device. The device warranty does not cover any problems caused by unauthorized modification.

**For Canada:**

- Operation of this device in the 5150–5350 MHz frequency range is restricted to indoor operation only. Outdoor operation in the 5150–5350 MHz frequency range is prohibited.

**Bluetooth® INTERFERENCE**

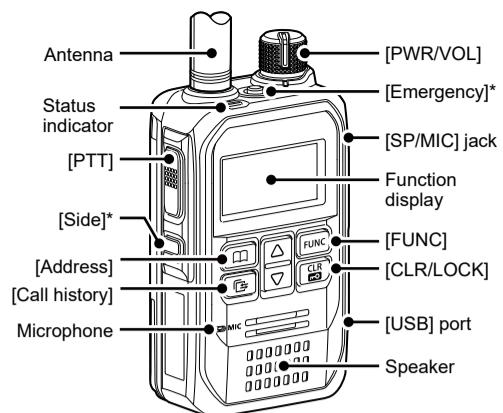
Bluetooth uses the 2.4 GHz band. When using the transceiver in the 2.4 GHz band near a Bluetooth device, interference may occur. This may cause a decrease in communication speed, and an unstable connection. In such case, use the transceiver away from the Bluetooth device communication area, or stop using the Bluetooth device.

**TECHNICAL INFORMATION**

(For only the European version) SAR 10g : TBD

	Frequency Band or Frequency Range	Output Power (Maximum)
3G (W-CDMA)	B1, B8	
4G (LTE)	B1, B3, B7, B8, B20, B28	23 dBm
	2.4 GHz band	2412–2472 MHz
WLAN	5180–5320 MHz	10 mW/MHz
	5500–5700 MHz	
Bluetooth	5745–5825 MHz	
	BR/EDR	2402–2480 MHz
LE		9.07 dBm
		8.99 dBm

## PANEL DESCRIPTION



\* Ask your dealer for details on the assigned function.

### When connecting optional equipment

- Be sure to turn OFF the transceiver before connecting or disconnecting optional equipment to or from the jack.
- Remove the cable by holding the plug not cable.
- Insert the plug securely when connecting the cable.

**CAUTION:** Attach the jack cover when no optional equipment is connected.

### ◇ Status indicator

Lights Red: Transmitting.  
Lights Green: Receiving or squelch is open.  
Lights Yellow: Transmitting and receiving in the Full-Duplex mode.

### ◇ Key operations

#### [Address]\*

Displays the "Address book" Push **[▲]/[▼]** to select "All Call," "Group/Talkgroup Call," "Individual Call," or "Phone Call."

#### [Call history]\*

Selects the call history. Push [Call history] to select "TX log," "RX log," "TX MSG log," "RX MSG log," "TX TEL log," or "RX TEL log."  
• Hold down while "Record history" is displayed to play back the recordings.

#### [FUNC]\*

Selects the Message, Status, or Talkgroup to send. You can also use other functions if preset.

#### [CLR/LOCK]

• Push to return to the previous screen from a function screen.  
• Hold down for 1 second to turn the Key Lock function ON or OFF.  
① [PTT], [PWR/VOL], and [Emergency] can be used even while the Key Lock function is ON.

#### [▲]/[▼]

Push to scroll the screen or move the cursor.

\* May be usable, depending on the presetting.  
Ask your dealer for details.

## FUNCTION DISPLAY

	Displays the signal strength in 3 levels.*
	Displayed when the transceiver is not connected to the IP transceiver controller or unregistered.*
	Blinks when the transceiver is out of the service area.
	Displays the signal strength in 3 levels during wireless LAN connection.
	<ul style="list-style-type: none"> <li>Blinks when the transceiver is not connected to an access point.</li> <li>Displayed when the transceiver is not connected to the controller.</li> </ul>
	All Call
	Group Call
	Talkgroup Call
	Individual Call
	Phone Call
	Displayed when the received audio is muted.
	Displayed when the Temporary Audio Level function is ON.
	Displayed when the Silent Mode is ON.
	<ul style="list-style-type: none"> <li>Blinks while recording or when there is a new recording.</li> <li>Displayed when the Recording function is ON.</li> </ul>
	Displayed when the Bluetooth function is ON.
	Displayed when a Bluetooth device is connected to the transceiver.
	Displayed when the Key lock function is ON.
	Displayed when the VOX function is ON.
	Displayed when the Emergency function is ON.
	<ul style="list-style-type: none"> <li>Displayed when valid GPS data is received.</li> <li>Blinks when no valid GPS data is received.</li> </ul>
	Displayed when the Pocket Beep function is ON.
	Displayed when the P-Bell function is ON.
	Displayed when the Surveillance function is ON.
	Displays the remaining capacity in 4 steps. Full: Full Mid: Mid Low: Low (Charge as soon as possible) Exhausted: (Charging required) The battery icon blinks and the low battery warning beep sounds every 30 seconds.
	Blinks when the transceiver is downloading a new firmware.

\* "4G" or "3G" may not be displayed, depending on the presetting.

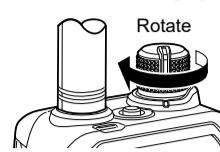
## BASIC OPERATION

**NOTE:** IP510H operation requires SIM insertion. Contact your dealer for details.

### ◇ Turning the transceiver ON or OFF

#### Turning ON:

- Rotate [PWR/VOL] clockwise to the 12 o'clock position.  
• A beep sounds.
- The knob is built tightly to resist dust and water intrusion.



Standby screen

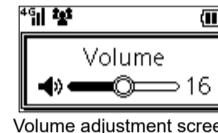
#### Turning OFF:

- Rotate [PWR/VOL] maximum counter clockwise until it makes a 'click' sound.

#### Adjusting the audio output level:

- Rotate [PWR/VOL] to adjust the audio output level.  
• The volume can be adjusted between 0 and 32.

**NOTE:** If the output level is set to the minimum, the beep does not sound.



Volume adjustment screen

### ◇ Receiving and Transmitting

#### Receiving:

When a Call is received, the status indicator lights green. Rotate [PWR/VOL] to adjust the audio output level to a comfortable listening level.

#### Transmitting:

While holding down [PTT], speak at your normal voice level.

- The status indicator lights red while [PTT] is pushed.

#### Talk while receiving a call:

While receiving a call, push [PTT] to talk in the Full-Duplex mode\* like a telephone call.

- In the Full-Duplex mode, the status indicator lights orange.

\* The communication method may differ, depending on the presetting. Ask your dealer for details.

#### IMPORTANT:

To maximize the readability of your signal:

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

## USING THE SET MODE

You can use the SET mode to set infrequently changed values or function settings.

The transceiver has 2 types of SET modes, as described below.

- ① You cannot transmit or receive while the transceiver is in the SET mode.
- ② Refer to the IP510H OPERATING GUIDE on the Icom website for more details.
- ③ Release [FUNC] when "SET" is displayed.

### ◇ Entering the SET mode

#### Basic SET mode:

- While holding down [FUNC], rotate [PWR/VOL] to turn ON the transceiver.

① Release [FUNC] when "SET" is displayed.

**NOTE:** If preset, you can also enter the Basic SET mode by following the steps below.

- While in the Standby mode, push [FUNC] to open the menu.
- Push [FUNC] or [Address] to select "SET mode Select."
- Push **[▲]** or **[▼]** to select "Yes" and then push [Call history].
- "SET" is displayed.

#### Detailed SET mode:

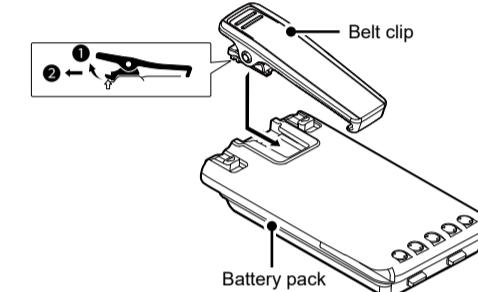
- While holding down [FUNC] and [Address], rotate [PWR/VOL] to turn ON the transceiver.

① Release [FUNC] and [Address] when "SET (Detail)" is displayed.

### ◇ Using the SET mode

- Push [FUNC] or [Address] to select an item.
- Push **[▲]** or **[▼]** to change the settings.  
① Pushing [Call history] can perform some items, such as "Delete History" and "Delete Recording."
- Repeat the steps above if necessary.
- Push [PTT] or [CLR/LOCK] to exit the SET mode.

## ATTACHING THE BELT CLIP



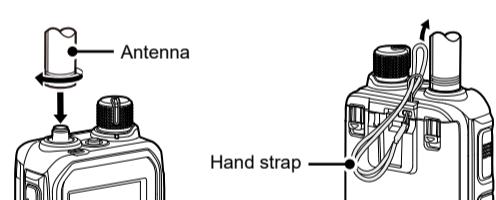
### Attaching the belt clip:

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

### Detaching the belt clip:

- Remove the battery pack from the transceiver, if it is attached.
- Lift the tab up (①), and slide the belt clip in the direction of the arrow (②).

## ATTACHING THE ANTENNA/HAND STRAP



#### CAUTION:

- NEVER carry the transceiver by holding only the antenna.
- DO NOT transmit without an antenna.

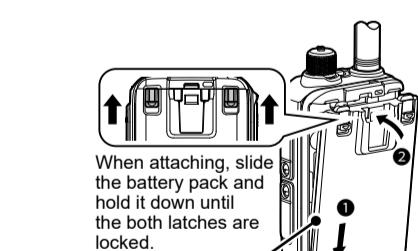
NOTE: You can use only the supplied antenna.

## ATTACHING THE BATTERY PACK

Before attaching or detaching the battery pack, turn OFF the transceiver.

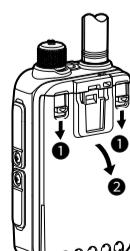
#### Attaching the battery pack:

- Slide the battery pack in the direction of the arrow. (①)
- Push the battery pack until the latches make a 'click' sound. (②)



#### Detaching the battery pack:

- Pull both latches in the direction of the arrow. (①)
- Lift the battery pack up to detach. (②)



**CAUTION:** Even when the transceiver's power is OFF, a small current still flows in the transceiver. Remove the battery pack when not using it for a long time. Otherwise, the battery will become exhausted.

## BATTERY CHARGING

Charge the battery before using the transceiver for the first time, or if it has not been used for more than 2 months.

**NOTE:** Before charging the battery, carefully read "Battery caution" and "Charging caution" on this instruction.

### ◇ Using the supplied USB cable and AC adapter

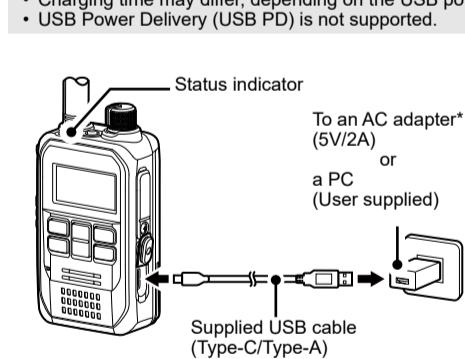
**Charging time:** Approximately 2 hours\* (BP-314)

\* When using the BC-258 and a USB Type-C cable.

The battery pack can be replaced while power is supplied through the USB cable.

#### NOTE:

- You may not be able to charge:
  - Depending on your USB cable or power adapter.
  - When using a USB hub or connecting to a low output USB port.
  - Charging time may differ, depending on the USB port.
  - USB Power Delivery (USB PD) is not supported.



\* May not be supplied, depending on the transceiver version.

#### Status indicator:

Lights blue: Charging.

Turns OFF: Not charging or charging completed.

Blinks blue: Charging failed. It may have some problems.

If the status indicator blinks blue, refer to the figure above and try the following remedies to confirm the connection.

- Detach the battery pack from the transceiver and reattach it.
- Reconnect the USB cable and the AC adapter.

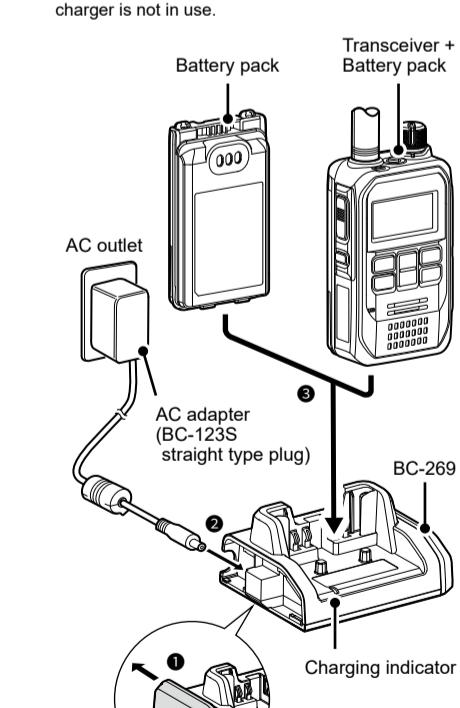
### ◇ Using the optional BC-269 DESKTOP CHARGER

**Charging time:** Approximately 2.5 hours (BP-314)

Approximately 4 hours (BP-315)

**△ DANGER! NEVER charge other battery packs than the specified Icom battery packs. (BP-314/BP-315)**

- Before turning ON or OFF the transceiver, remove it from the charger.
- The battery pack will be recharged automatically as its voltage goes low, even if it is left fully charged.
- Resuming charging immediately after the battery pack is fully charged does not indicate a charger malfunction.
- Disconnect the AC adapter from the outlet when the charger is not in use.



#### Charging indicator:

Lights orange: Charging.

Lights green: Charging is completed.

Blinks orange: Charging failed. It may have some problems.

If the charging indicator blinks orange, refer to the figure above and try the following remedies to confirm the connection.

- Remove the transceiver or the battery pack from the charger and reinsert it.
- Reconnect the AC adapter.

## OPTIONS

### ◇ Battery packs

<b>BP-314<sup>*1</sup></b>	Li-ion BATTERY PACK
Voltage: 7.2 V	Capacity: Minimum: 1910 mAh, Typical: 2010 mAh

**BP-315<sup>\*1</sup>**	Li-ion BATTERY PACK