⃝ICOM INSTRUCTIONS

**IP ADVANCED RADIO SYSTEM
COMMUNICATION TERMINAL**

IP100H

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

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.

SUPPLIED ACCESSORIES

Battery pack   Belt clip   Antenna connector cap   Antenna*

Hand strap

*A different type may be supplied, depending on the communication terminal version.
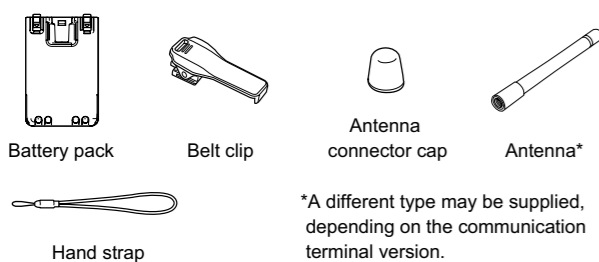
PRECAUTIONS

⚠ **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 communication terminal) 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 communication terminal.

⚠ **DANGER!** Use and charge only specified Icom battery packs with Icom communication terminals or Icom chargers. Only Icom battery packs are tested and approved for use with Icom communication terminals 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 communication terminal near unshielded electrical blasting caps or in an explosive atmosphere. This could cause an explosion and death.

⚠ **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 communication terminal so that the antenna is very close to, or touching exposed parts of the body, especially the face or eyes, while transmitting. The communication terminal will perform best if the microphone is 5 to 10 cm (2 to 4 inches) away from the lips and the communication terminal is vertical.

⚠ **WARNING! NEVER** operate the communication terminal 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.

CAUTION: DO NOT use harsh solvents such as Benzine or alcohol when cleaning, because they will damage the communication terminal's surfaces.

CAUTION: DO NOT operate the communication terminal unless the flexible antenna, battery pack, and jack cover are securely attached. Confirm that the antenna and battery pack are dry before attaching. Exposing the inside of the communication terminal to dust or water will result in serious damage to the communication terminal.
After exposure to water, clean the battery contacts thoroughly with fresh water and dry them completely to remove any water or salt residue.

DO NOT use or place the communication terminal in direct sunlight or in areas with temperatures below –10°C (+14°F) or above +60°C (+140°F).

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

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

BE CAREFUL! The communication terminal will become hot when operating it continuously for long periods of time.

BE CAREFUL! The communication terminal meets IPX7* requirements for waterproof protection. However, once the communication terminal has been dropped, waterproof protection cannot be guaranteed because of possible damage to the communication terminal's case or waterproof seal.
*Only when the BP-271 or BP-272 (option), flexible antenna or antenna cap and [\/◯] cap are attached.

The optional BP-273 meets IPX4 requirements for splash resistance. When it is attached, the communication terminal corresponds to IPX4.

◇ 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** strike or otherwise impact the battery. Do not use the battery if it has been severely impacted or dropped, or if the battery has been subjected to heavy pressure. Battery damage may not be visible on the outside of the case. Even if the surface of the battery does not show cracks or any other damage, the cells inside the battery may rupture or catch fire.

⚠ **DANGER! NEVER** leave battery pack in places with temperatures above +60°C (+140°F). High temperature buildup in the battery, such as could occur near fires or stoves, inside a sun heated car, or in direct sunlight may cause the battery to rupture or catch fire. Excessive temperatures may also degrade battery performance or shorten battery life.

⚠ **DANGER! NEVER** expose the battery to rain, snow, seawater, or any other liquids. Do not charge or use a wet battery. If the battery gets wet, be sure to wipe it dry before using.

⚠ **DANGER! NEVER** incinerate a used battery pack since internal battery gas may cause it to rupture, or may cause an explosion.

⚠ **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!** Use the battery only with the communication terminal for which it is specified. Never use a battery with any other equipment, or for any purpose that is not specified in this instruction manual.

⚠ **DANGER!** If fluid from inside the battery gets in your eyes, blindness can result. Rinse your eyes with clean water, without rubbing them, and go to a doctor immediately.

PRECAUTIONS (Continued)

⚠ **WARNING!** Immediately stop using the battery 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!** Immediately wash, using clean water, any part of the body that comes into contact with fluid from inside the battery.

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

CAUTION: Always use the battery within the specified temperature range, –10°C ~ +60°C (+14°F ~ +140°F). Using the battery out of its specified temperature range will reduce the battery's performance and battery life.

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 must be left unused for a long time, it must be detached from the terminal after discharging. You may use the battery until the battery indicator shows half capacity, then keep it safely in a cool and dry place at the following temperature range:

        –20°C (–4°F) ~ +50°C (+122°F)   (within a month)
        –20°C (–4°F) ~ +35°C (+95°F)   (within three months)
        –20°C (–4°F) ~ +20°C (+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 communication terminal may become short when:
• Approximately five years have passed since the battery was manufactured.
• The battery 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 communication terminal during a lightning storm. It may result in an electric shock, cause a fire or damage the communication terminal. 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! NEVER** insert the communication terminal (battery attached to the communication terminal) 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 outside of the specified temperature range:
        BC-202:   ±0°C ~ +40°C (+32°F ~ +104°F)
        BC-202IP2/BC-211: +10°C ~ +40°C (+50°F ~ +104°F)

Icom recommends charging the battery at +25°C (+77°F). The battery may heat up or rupture if charged out of the specified temperature range. Additionally, battery performance or battery life may be reduced.

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.

IP100H and Bluetooth® Interference

Bluetooth® uses the 2.4 GHz band. When using the IP100H 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 IP100H away from the Bluetooth® device communication area, or stop using the Bluetooth® device.

RECOMMENDATION

CLEAN THE COMMUNICATION TERMINAL THOROUGHLY IN A BOWL OF FRESH WATER after exposure to saltwater, and dry it before operating. Otherwise, the communication terminal'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 communication terminal's waterproof protection appears defective, carefully clean it with a soft, damp (fresh water) cloth, then dry it before operating.
The communication terminal may lose its waterproof protection if the case, jack cap, or connector cover is cracked or broken, or the transceiver has been dropped.
Contact your Icom distributor or your dealer for advice.

FCC INFORMATION

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.

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

NOTE: 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.

FOR CANADA

This device complies with Industry Canada licence-exempt RSS standard(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 5150–5250 MHz is only for indoor use to reduce the potential for harmful interference to co-channel mobile satellite systems.
ii. the maximum antenna gain permitted for devices in the bands 5250–5350 MHz and 5470–5725 MHz shall comply with the e.i.r.p. limit.

SAFETY TRAINING INFORMATION

This device was tested and approved with original accessories to ensure FCC Compliance. The use of third-party accessories may not comply with FCC RF exposure compliance requirements, and should be avoided.

PANEL DESCRIPTIONS

◇ Front and side panels

Antenna connector
Attach the supplied antenna.
Or, attach the supplied antenna connector cap, if the internal antenna is used.

CAUTION: NEVER HOLD just the attached antenna when carrying the communication terminal.

[PTT] switch
In the simplex mode, hold down to transmit, and release to receive.
In the full-duplex mode, push to make a call.

[Option] key
● Push to hang up a telephone call.
Or, push to select one of the often used messages or IDs, depending on the settings.
● Hold down until "Emergency" is displayed to send an emergency call depending on the settings.

Internal microphone
When the VOX function is used, the internal microphone is disabled.

[PWR/VOL] knob
Turns the communication terminal power ON or OFF and adjusts the audio output level.

Function display

[🎤/🎧] jack
(External microphone/speaker jack)
Connect an optional speaker-microphone or headset for hands-free, full-duplex operation.

CAUTION: Attach the jack cover when optional equipment is not used.

Be sure to turn power OFF before connecting or disconnecting optional equipment to or from the [🎤/🎧] jack.

Function keys

Internal speaker
When an optional speaker-microphone or headset is connected, the internal speaker is disabled.

◇ Function keys

[📖] (Address) key
● Repeatedly push to select an address book from All, Group, Talkgroup, Individual or Telephone.
ⓘ Selectable address book may differ, depending on the Controller settings.
● Push [△]/[▽] to select an address.

[📇] (Call History) key
● Repeatedly push to select call history from the TX log, RX log, TX MSG log, RX MSG log, TX TEL log or RX TEL log.
ⓘ Selectable log may differ, depending on the Controller settings.
ⓘ Push [△]/[▽] to select a desired log.
● Hold down until "Emergency" is displayed to send an emergency call, depending on the settings.

[FUNC] key
● Push to select a Talkgroup, depending on the settings.
● When an address is selected, push to select a message, status, or the Area Call function select status.
ⓘ Selectable functions may differ, depending on the Controller settings.
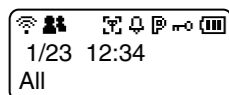ⓘ Push [△]/[▽] to select a message, status or the function setting.

[CLR•🔒] (Clear•Lock) key
● Push momentarily to select the standby screen.
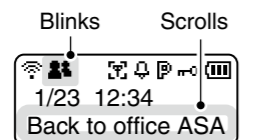● Hold down for 1 second to turn the Key lock function ON or OFF.

[△] (Up)/[▽] (Down) keys
Push to select a desired address (ID), log, message, status or the Area Call function.

◇ Function display

Blinks   Scrolls

Standby screen   When a message is received

• 📶 **Signal strength indicator**
Displays the signal strength in 3 levels when your communication terminal is in a service area.
"✕" blinks when you are out of the service area, and "✕" is displayed if your communication terminal is not registered, or not connected to the Controller.

• 👥 **Call mode icon**
👥 : Displayed when All or Group call is selected.
👤 : Displayed when Individual call is selected.
☎ : Displayed when Telephone call is selected.
👥 : Displayed when Talkgroup call is selected.

• 🔲 **Area Call function icon**
Displayed when the Area Call function is ON.

• 🔔 **Pocket beep function icon**
Displayed when the Pocket beep function is ON.

• ℗ **P-Bell function icon**
Displayed when the P-Bell function is ON.

• 🔒 **Key lock function icon**
Displayed when the Key lock function is ON.

• 🔋 **Battery indicator**
Displays the attached battery pack's remaining battery charges.

BATTERY CHARGING

◇ Using the BC-202 or BC-202IP2
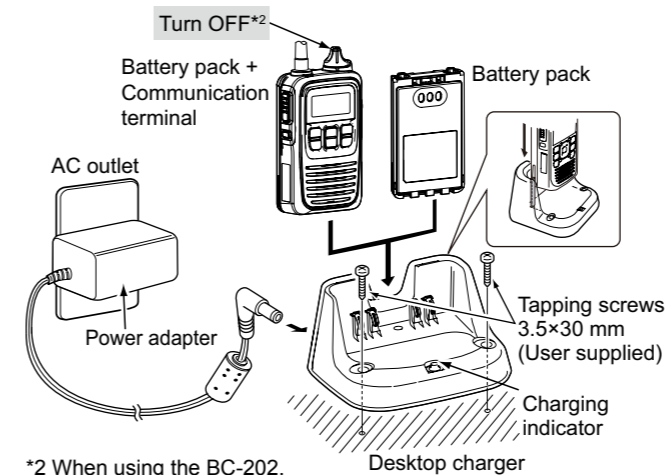The BC-202 and BC-202IP2 desktop chargers rapidly charges a battery pack.

Approximate charging time:

Charger Battery pack	BC-202	BC-202IP2*1
BP-271	2 hours	1.4 hours
BP-272	3.5 hours	2.2 hours

*1 When the battery is exhausted, and charging with the transceiver power OFF.

The BC-123S AC ADAPTER is required.
(A different type, or no power adapter is supplied, depending on the charger versions).

Turn OFF*2

Battery pack + Communication terminal

Battery pack

AC outlet

Power adapter

Tapping screws 3.5×30 mm (User supplied)

Charging indicator

Desktop charger
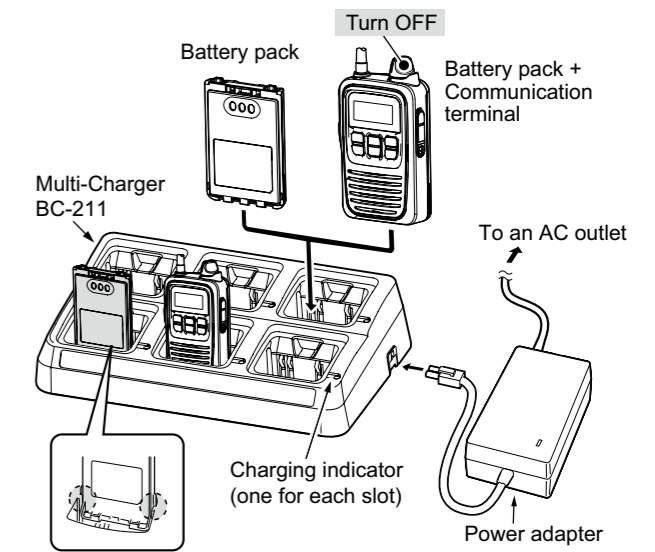
*2 When using the BC-202.

◇ Using the BC-211
The BC-211 rapidly charges up to 6 battery packs.
Approximate charging time: 2 hours for the BP-271
3.5 hours for the BP-272

The BC-157S AC ADAPTER is required.
(Not supplied with some versions)

Turn OFF

Battery pack

Battery pack + Communication terminal

Multi-Charger BC-211

To an AC outlet

Charging indicator (one for each slot)

Power adapter

CALLING PROCEDURES

1. Push [📖] to select an address book.
Select "All," "Group," "Talkgroup," "Individual," or "Telephone," depending on a call type.
ⓘ Selectable address book may differ, according to the Controller setting.
2. Push [△]/[▽] to select an ID or extension number.
ⓘ Selectable ID or extension number may differ, according to the Controller setting.
ⓘ You can select an ID or extension number from your Call History by pushing [📇] for easy recalling.
3. If you want to send a message or status, or make an Area Call, push [FUNC] several times.
ⓘ Selectable function may differ, according to the Controller setting.
• Select "Message" to transmit a message, "Status" to transmit a status, or "Area Call" for an Area Call.
• When Area Call is selected, push [△]/[▽] to select ON.
4. Push [PTT] to make a call.
5. Hold down [PTT], and speak at your normal voice level.
6. Release [PTT] to receive.
7. Repeat steps 5 and 6.
8. Push [Option] to hang up the telephone call.

For your information
When the VOX function or full-duplex mode is set in the Controller, steps 5 and 6 above are not necessary.
When the VOX function is set, speak into the headset microphone to transmit, then stop speaking to receive.
In full-duplex, you can speak and hear the other person at the same times.
For full-duplex operation, either an optional earphone or microphone described to the right is required.

OPTIONS

• **BP-271/BP-272** Li-ion BATTERY PACKS
BP-271: 7.4 V/1150 mAh (minimum), 1200 mAh (typical)
BP-272: 7.4 V/1880 mAh (minimum), 2000 mAh (typical)
• **BP-273** BATTERY CASE (for LR6 (AA) × 3 alkaline batteries)
• **BC-202** DESKTOP CHARGER **+ BC-123S** AC ADAPTER
• **BC-202IP2** DESKTOP CHARGER **+ BC-123S** AC ADAPTER
• **BC-211** MULTI-CHARGER **+ BC-157S** AC ADAPTER
• **MB-127** BELT CLIP
• **LC-181** CARRYING CASE

For full-duplex operation
• **HM-153** EARPHONE MICROPHONE **+ OPC-2144** ADAPTER CABLE
• **HM-166** EARPHONE MICROPHONE **+ OPC-2144** ADAPTER CABLE
• **HM-153LS/HM-166LS** EARPHONE MICROPHONES
• **HS-85** VOX UNIT **+ OPC-2144** ADAPTER CABLE
• **HS-102** HEADSET **+ OPC-2359** PTT SWITCH CABLE

For simplex operation only
• **HM-186** SPEAKER-MICROPHONE **+ OPC-2144** ADAPTER CABLE
• **HM-183LS/HM-186LS** SPEAKER-MICROPHONES
• **HS-94/HS-95** HEADSETS/**HS-97** THROAT MICROPHONE
+ OPC-2006LS ADAPTER CABLE/**OPC-2328** PTT SWITCH CABLE
HS-94:   Ear-hook type
HS-95:   Neck-arm type
OPC-2006LS: For VOX operation

*This document is described based on the IP100H firmware version 2.10.