



ICOM

INSTRUCTIONS

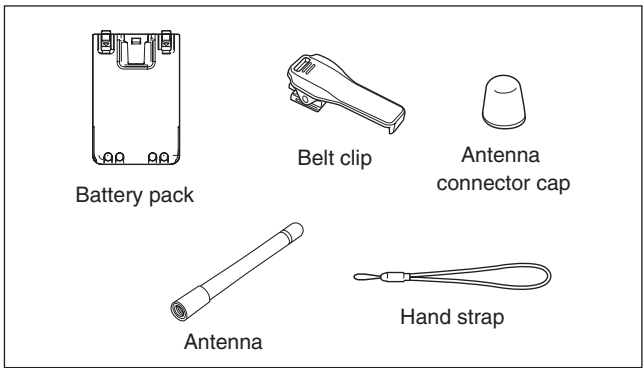
IP ADVANCED RADIO SYSTEM  
COMMUNICATION TERMINAL  
IP100H

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>	If disregarded, inconvenience only. No risk of personal injury, fire or electric shock.


Thank you for purchasing the IP100H IP COMMUNICATION TERMINAL.  
Please read these instructions carefully before operating the communication terminal.


SUPPLIED ACCESSORIES





PRECAUTIONS

 **DANGER! NEVER** short the terminals (or charging terminals) of the battery pack. Also, current may flow into nearby metal objects such as a key, so be careful when placing battery packs (or the communication terminal) in bags, etc. Simply carrying with or placing near metal objects may cause shorting. This may damage not only the battery pack, but also the communication terminal.

 **DANGER!** Use and charge only specified Icom battery packs with Icom terminals or Icom chargers. Only Icom battery packs are tested and approved for use with Icom 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.

 **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 an earphone, headphones or other audio accessories at high volume levels. Hearing experts advise against continuous high volume operation. If you experience a ringing in your ears, reduce the volume level or discontinue use.

**CAUTION: MAKE SURE** the flexible antenna and battery pack are securely attached to the communication terminal, and that the antenna and battery pack are dry before attachment. Exposing the inside of the communication terminal to 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.

**CAUTION: DO NOT** use harsh solvents such as benzine or alcohol to clean the communication terminal, because they can damage the communication terminal's surfaces.

**DO NOT** operate the communication terminal near unshielded electrical blasting caps or in an explosive atmosphere.

**DO NOT** use or place the communication terminal in direct sunlight or in areas with temperatures below  $-10^{\circ}\text{C}$  ( $+14^{\circ}\text{F}$ ) or above  $+60^{\circ}\text{C}$  ( $+140^{\circ}\text{F}$ ).

**DO NOT** push the PTT unless you actually intend to transmit.


**DO NOT** modify the transceiver. The transceiver warranty does not cover any problems caused by unauthorized modification.


**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 and HM-186LS meet IPX4 requirements for splash resistance. When it is attached, the communication terminal corresponds to IPX4.

• Battery caution


 **DANGER! DO NOT** hammer 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** use or leave battery pack in areas with temperatures above  $+60^{\circ}\text{C}$  ( $+140^{\circ}\text{F}$ ). 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! DO NOT** 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.


PRECAUTIONS (Continued)


 **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 see a doctor immediately.

 **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,  $-10^{\circ}\text{C}$  to  $+60^{\circ}\text{C}$  ( $+14^{\circ}\text{F}$  to  $+140^{\circ}\text{F}$ ). 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  $+50^{\circ}\text{C}$ ;  $+122^{\circ}\text{F}$ ) 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 dry place at the following temperature range:


- $-20^{\circ}\text{C}$  ( $-4^{\circ}\text{F}$ ) to  $+50^{\circ}\text{C}$  ( $+122^{\circ}\text{F}$ ) (within a month)
- $-20^{\circ}\text{C}$  ( $-4^{\circ}\text{F}$ ) to  $+35^{\circ}\text{C}$  ( $+95^{\circ}\text{F}$ ) (within three months)
- $-20^{\circ}\text{C}$  ( $-4^{\circ}\text{F}$ ) to  $+20^{\circ}\text{C}$  ( $+68^{\circ}\text{F}$ ) (within a year)

**BE SURE** to replace the battery with a new one after five years, even if still holds a charge. The inside battery material will deteriorate after a period of time, even with little use.

• 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! DO NOT** 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: NEVER** charge the battery outside of the specified temperature range:

- BC-202:  $\pm 0^{\circ}\text{C}$  to  $+40^{\circ}\text{C}$  ( $+32^{\circ}\text{F}$  to  $+104^{\circ}\text{F}$ )
- BC-211:  $+10^{\circ}\text{C}$  to  $+40^{\circ}\text{C}$  ( $+50^{\circ}\text{F}$  to  $+104^{\circ}\text{F}$ )

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

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 WITH FRESH WATER after exposure to saltwater. Otherwise, the communication terminal's keys, switches and controllers may become inoperable due to salt crystallization.

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.

• FOR CLASS B UNINTENTIONAL RADIATORS:

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.

- 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.
- 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 an telephone call.  
Or, push to select one of the often used messages or IDs, 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, Individual or Telephone.

- Selectable address book may differ depending on the IP1000C settings.
- Push [Δ]/[▽] to select a desired 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.

- Push [Δ]/[▽] to select a desired log.

#### [Δ] (Up)/[▽] (Down) keys

Push to select a desired address (ID), log, message, status or the Area Call function.

#### [FUNC] key

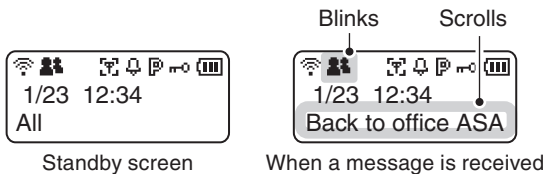
After a desired address is selected, repeatedly push to select a message, status or the Area Call function select status.

- Selectable functions may differ, depending on the IP1000C settings.
- Push [Δ]/[▽] to select a desired 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.

### ◆ Function display



#### • 📶 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 “📶” appears if your communication terminal is not registered, or not connected to the IP1000C.

#### • 👤 Call mode icon

👤 : Appears when All or Group call is selected.  
👤 : Appears when Individual call is selected.  
📞 : Appears when Telephone call is selected.

#### • 📶 Area call function icon

Appears when the Area call function is ON.

#### • 🔔 Pocket beep function icon

Appears when the Pocket beep function is ON.

#### • 📞 P-Bell function icon

Appears when the P-Bell function is ON.

#### • 🔒 Key lock function icon

Appears when the Key lock function is ON.

#### • 🔋 Battery indicator

Displays the attached battery pack's remaining battery charges.

## BATTERY CHARGING

### ◆ Using the BC-202

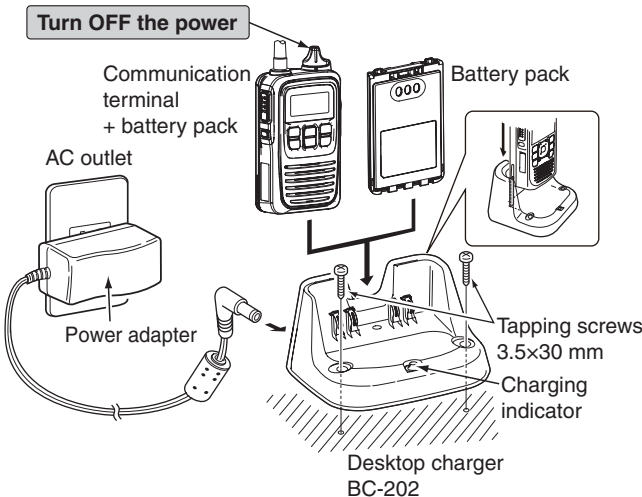
The BC-202 rapidly charges a battery pack.

Charging time: Approximately 2 hours for the BP-271

Approximately 3.5 hours for the BP-272

The following item is required.

- A power adapter (A different type, or no power adapter is supplied, depending on the charger versions).



## CALLING PROCEDURES

- ① Push [☰] one or more times to select a desired address book.
  - Select “All” for all stations call, “Group” for group call, “Individual” for individual station call or “Telephone” for telephone call.
  - Selectable address book may differ according to the IP1000C's setting.
- ② Push [Δ]/[▽] one or more times to select a desired ID or extension number.
  - Selectable ID or extension number may differ according to the IP1000C's setting.
  - You can select a desired ID or extension number from call history by pushing [☰] for easy recalling.
- ③ If you want to send a message or status, or make an area call, push [FUNC] one or more times.
  - Select “Message” to transmit a message, “Status” to transmit a status, or “Area Call” for an area call.
  - When Area Call is selected, push [Δ]/[▽] 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 listen.
- ⑦ Repeat the steps ⑤ and ⑥ until you finish your conversation.
- ⑧ To hang up the telephone call, push [Option].

### For your information

When the VOX function or full-duplex mode is set in the IP1000C, the steps ⑤ and ⑥ are not necessary.

When the VOX function is set, speak into the headset microphone to transmit, then stop speaking to listen.

In full-duplex, you can speak and hear the other person at the same times.

### ◆ Using the BC-211

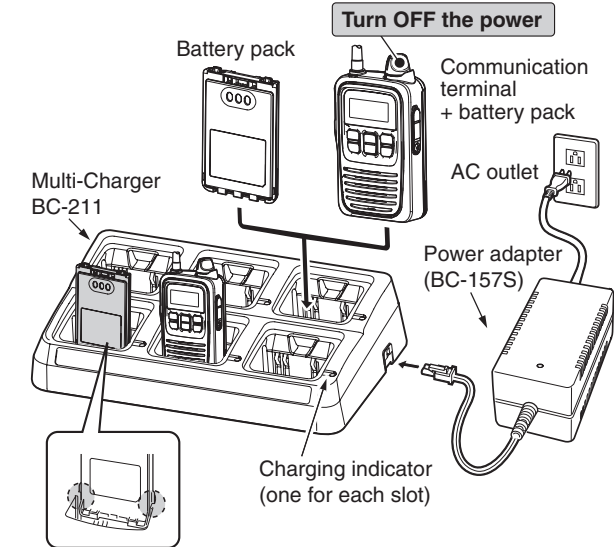
The BC-211 rapidly charges up to 6 battery packs.

Charging time: Approximately 2 hours for the BP-271

Approximately 3.5 hours for the BP-272

The following item is required.

- A power adapter (not supplied with some versions).



## OPTIONS

- **BP-271/BP-272** Li-ion BATTERY PACKS  
BP-271: 7.4 V/1150 mAh (min.), 1200 mAh (typ.)  
BP-272: 7.4 V/1880 mAh (min.), 2000 mAh (typ.)

- **BP-273** BATTERY CASE  
For LR6 (AA) × 3 alkaline batteries

- **BC-202** DESKTOP CHARGER + **BC-123S** AC ADAPTER
- **BC-211** MULTI-CHARGER + **BC-157S** AC ADAPTER

- **MB-127** BELT CLIP

- **HM-153** EARPHONE MICROPHONE + **OPC-2144** ADAPTER CABLE
- **HM-166** EARPHONE MICROPHONE + **OPC-2144** ADAPTER CABLE
- **HM-153LS/HM-166LS** EARPHONE MICROPHONES

- **HM-186** SPEAKER-MICROPHONE + **OPC-2144** ADAPTER CABLE
- **HM-186LS** SPEAKER-MICROPHONE  
For simplex operation

- **HS-85** VOX UNIT + **OPC-2144** ADAPTER CABLE

- **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

- **SP-13** EARPHONE + **OPC-2144** ADAPTER CABLE

- **LC-181** CARRYING CASE

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Morisawa font is used in this product.

1) **FCC caution:**

**RF Exposure Information (SAR)**

This device meets the government's requirements for exposure to radio waves. This device is designed and manufactured not to exceed the emission limits for exposure to radio frequency (RF) energy set by the Federal Communications Commission of the U.S. Government.

The exposure standard employs a unit of measurement known as the Specific Absorption Rate, or SAR. The SAR limit set by the FCC is 1.6 W/kg. Tests for SAR are conducted using standard operating positions accepted by the FCC with the EUT transmitting at the specified power level in different channels.

The highest SAR value for the device as reported to the FCC is **1.313 W/kg** when placed next to the body.

This radio transmitter **FCCID: AFJ357600** has been approved by FCC to operate with the antenna types listed below with the maximum permissible gain and required antenna impedance for each antenna type indicated. Antenna types not included in this list, having a gain greater than the maximum gain indicated for that type, are strictly prohibited for use with this device.

**Antenna List**

No.	Manufacturer	Part No.	Antenna Type	Peak Gain	Remark
1	Exceltek	N/A	Dipole	2.0 dBi for 2.4GHz 2.0 dBi for 5.15~5.35GHz 2.0 dBi for 5.47~5.725GHz	External Antenna
2	TAIYO YUDEN	AH 104N2450D1	Monopole	2.1 dBi for 2.4GHz 2.4 dBi for 5.15~5.35GHz 2.4 dBi for 5.47~5.725GHz	Internal Antenna

Note: The antenna connector is Reverse SMA type.

**Canada, avis d'Industry Canada (IC)**

Cet appareil numérique de classe B est conforme aux normes canadiennes ICES-003 et RSS-210.

Son fonctionnement est soumis aux deux conditions suivantes : (1) cet appareil ne doit pas causer d'interférence et (2) cet appareil doit accepter toute interférence, notamment les interférences qui peuvent affecter son fonctionnement.



### **Radio Frequency (RF) Exposure Information**

The radiated output power of the Wireless Device is below the Industry Canada (IC) radio frequency exposure limits. The Wireless Device should be used in such a manner such that the potential for human contact during normal operation is minimized.

This device has been evaluated for and shown compliant with the IC Specific Absorption Rate ("SAR") limits when operated in portable exposure conditions.

### **Informations concernant l'exposition aux fréquences radio (RF)**

La puissance de sortie émise par l'appareil de sans fil est inférieure à la limite d'exposition aux fréquences radio d'Industry Canada (IC). Utilisez l'appareil de sans fil de façon à minimiser les contacts humains lors du fonctionnement normal.

Ce dispositif a été évalué pour et démontré conforme à la Taux IC d'absorption spécifique ("SAR") des limites lorsqu'il est utilisé dans des conditions d'exposition portatifs.

This radio transmitter **IC: 202D-357600** has been approved by Industry Canada to operate with

the antenna types listed below with the maximum permissible gain and required antenna impedance for each antenna type indicated. Antenna types not included in this list, having a gain greater than the maximum gain indicated for that type, are strictly prohibited for use with this device.

Cet émetteur radio **IC: 202D-357600** a été approuvé par Industrie Canada pour fonctionner avec les types d'antennes énumérés ci-dessous avec le gain maximal admissible et impédance d'antenne requise pour chaque type d'antenne indiqué. Types d'antennes n'est pas inclus dans cette liste, ayant un gain supérieur au gain maximal

indiqué pour ce type, sont strictement interdits pour une utilisation avec cet appareil.

#### Antenna List

No.	Manufacturer	Part No.	Antenna Type	Peak Gain	Remark
1	Exceltek	N/A	Dipole	2.0 dBi for 2.4GHz 2.0 dBi for 5.15~5.35GHz 2.0 dBi for 5.47~5.725GHz	External Antenna
2	TAIYO YUDEN	AH 104N2450D1	Monopole	2.1 dBi for 2.4GHz 2.4 dBi for 5.15~5.35GHz 2.4 dBi for 5.47~5.725GHz	Internal Antenna

Note: The antenna connector is Reverse SMA type.

This device is slave equipment without the radar detection and doesn't have ad-hoc operation in the DFS band.