ICOM INSTRUCTIONS

VHF DIGITAL TRANSCEIVERS
IC-F5400D series
IC-F5400DP series
UHF DIGITAL TRANSCEIVERS
IC-F6400D series
IC-F6400DP 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 following models:
- VHF DIGITAL TRANSCEIVERS
  IC-F5400D, IC-F5400DS, IC-F5400DP, IC-F5400DPS
- UHF DIGITAL TRANSCEIVERS
  IC-F6400D, IC-F6400DS, IC-F6400DP, IC-F6400DPS

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.

Icom is not responsible for the destruction or damage to the Icom transceiver, 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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All other products or brands are registered trademarks or trademarks of their respective holders.

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EXPLICIT DEFINITIONS

WORD	DEFINITION
⚠ **WARNING!**	Personal injury, fire hazard or electric shock may occur.
CAUTION	Equipment damage may occur.
NOTE	Recommended for optimum use. No risk of personal injury, fire or electric shock.

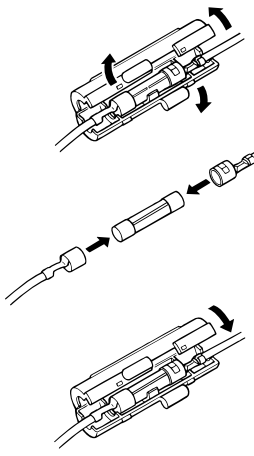
ANTENNA

A key element in the performance of any communication systems is the antenna. Contact your dealer for information regarding antennas and how to install them.

FUSE REPLACEMENT

Fuses are installed in the supplied DC power cable*. If a fuse blows, track down the source of the problem, repair it, and then replace the damaged fuse with a new rated one.
*Depending on version, only 1 fuse holder may be attached.
ⓘ Fuse rating: 250 V 10 A (for 1 fuse holder)/
20 A (for 2 fuse holders)

NOTE: Use only specified fuses.



Fuse Coding Explanation

Fuse Coding: FUSE 250 V 10 A
Fuse Voltage Rating: 250 Volts
Fuse Current Rating: 10 Amperes

CLEANING

If the transceiver becomes dusty or dirty, wipe it clean with a soft, dry cloth.

PRECAUTIONS

⚠ **WARNING! NEVER** connect the transceiver to an AC outlet. This may pose a fire hazard or result in an electric shock.

⚠ **WARNING! NEVER** operate the transceiver during a lightning storm. It may result in an electric shock, cause a fire or damage the transceiver. Always disconnect the power source and antenna before a storm.

⚠ **WARNING! NEVER** connect the transceiver to a power source of more than 16 V DC such as a 24 V battery. This could damage the transceiver.

⚠ **WARNING! NEVER** cut the DC power cable between the DC plug and fuse holder. If an incorrect connection is made after cutting, the transceiver might be damaged.

⚠ **WARNING! NEVER** place the transceiver where normal operation of the vehicle may be hindered or where it could cause bodily injury.

CAUTION: DO NOT expose the transceiver to rain, snow or any liquids.

CAUTION: DO NOT use the non-specified microphone only. Other microphones have different pin assignments and may damage the radio.

CAUTION: 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.

CAUTION: DO NOT operate the transceiver without running the vehicle's engine. The vehicle's battery will quickly run out when the transceiver transmits while the vehicle's engine is OFF.

CAUTION: DO NOT place or leave the transceiver in excessively dusty environments.

CAUTION: DO NOT place the transceiver against walls. Otherwise heat dissipation will be obstructed.

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

CAUTION: CONFIRM that all connectors and jacks are dry and clean before attachment. Exposing them to dust or water will result in serious damage to the transceiver.

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

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

BE CAREFUL! DO NOT block the air vent when installing the transceiver. This transceiver has an air vent on the bottom panel of the transceiver to meet the IP55 requirements.

Operate the transceiver that complies with your local laws and regulations.

Depending on countries and/or regions, transceiver's output power and/or operations on specific frequencies may be restricted to avoid interferences with existing radio stations or services.

CAUTION: Hot surfaces. **DO NOT** touch the transceiver's surface after continuously transmitting for long periods of time. The transceiver's chassis radiates heat, and it will become hot to protect the power amplifier unit from overheating. Touching it may cause a burn.

DISPOSAL

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

ABOUT CE AND DOC

Hereby, Icom Inc. declares that the versions of IC-F5400D, IC-F5400DS, IC-F5400DP, IC-F5400DPS, IC-F6400D, IC-F6400DS, IC-F6400DP, and IC-F6400DPS which have the "CE" symbol on the product, comply with the essential requirements of the Radio Equipment Directive, 2014/53/EU, and the restriction of the use of certain hazardous substances in electrical and electronic equipment Directive, 2011/65/EU. The full text of the EU declaration of conformity is available at the following Internet address:
https://www.icomjapan.com/support/

These versions also comply with the essential requirements of the Battery Regulation, (EU) 2023/1542.

About E-marking: Detailed installation notes for Icom mobile transceivers to be fitted into vehicles are available. Please contact your Icom dealer or distributor.

ABOUT UKCA DOC

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

VOICE CODING TECHNOLOGY

The AMBE+2™ voice coding Technology embodied in this product is protected by intellectual property rights including patent rights, copyrights and trade secrets of Digital Voice Systems, Inc. This voice coding Technology is licensed solely for use within this Communications Equipment. The user of this Technology is explicitly prohibited from attempting to extract, remove, decompile, reverse engineer, or disassemble the Object Code, or in any other way convert the Object Code into a human-readable form. U.S. Patent No. #8,359,197.

SAFETY TRAINING INFORMATION

WARNING

Your Icom radio generates RF electromagnetic energy during transmit mode. This radio is designed for and classified as "Occupational Use Only", meaning it must be used only during the course of employment by individuals aware of the hazards, and the ways to minimize such hazards. This radio is NOT intended for use by the "General Population" in an uncontrolled environment.

For compliance with FCC and IC RF Exposure Requirements, the transmitter antenna installation shall comply with the following three conditions:

1. The transmitter antenna gain shall not exceed 0 dBi.
2. IC-F5400D series:
   The antenna is required to be located outside of a vehicle and kept at a distance of 57 centimeters (23 inches) or more between the transmitting antenna of this device and any persons during operation. For small vehicle as worst case, the antenna shall be located on the roof top at any place on the center line along the vehicle in order to achieve 57 centimeters (23 inches) separation distance. In order to ensure this distance is met, the installation of the antenna must be mounted at least 57 centimeters (23 inches) away from the nearest edge of the vehicle in order to protect against exposure to bystanders.
   IC-F6400D series:
   The antenna is required to be located outside of a vehicle and kept at a distance of 42 centimeters (17 inches) or more between the transmitting antenna of this device and any persons during operation. For small vehicle as worst case, the antenna shall be located on the roof top at any place on the center line along the vehicle in order to achieve 42 centimeters (17 inches) separation distance. In order to ensure this distance is met, the installation of the antenna must be mounted at least 42 centimeters (17 inches) away from the nearest edge of the vehicle in order to protect against exposure to bystanders.
3. IC-F5400D series:
   Transmit only when people outside the vehicle are at least the recommended minimum distance of 136 centimeters (54 inches) away from the properly installed antenna. This separation distance will ensure that there is sufficient distance from a properly installed externally-mounted antenna to satisfy the RF exposure requirements in the applicable RF exposure compliance standards.
   IC-F6400D series:
   Transmit only when people outside the vehicle are at least the recommended minimum distance of 119 centimeters (47 inches) away from the properly installed antenna. This separation distance will ensure that there is sufficient distance from a properly installed externally-mounted antenna to satisfy the RF exposure requirements in the applicable RF exposure compliance standards.

CAUTION

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

- **DO NOT** operate the radio without a proper antenna attached, as this may damage the radio and may also cause you to exceed FCC and IC RF exposure limits. A proper antenna is the antenna supplied with this radio by the manufacturer or an antenna specifically authorized by the manufacturer for use with this radio.
- **DO NOT** transmit for more than 50% of total radio use time ("50% duty cycle"). Transmitting more than 50% of the time can cause FCC and IC RF exposure compliance requirements to be exceeded. The radio is transmitting when the status indicator lights red. You can cause the radio to transmit by pressing the "PTT" switch.

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.

FCC INFORMATION

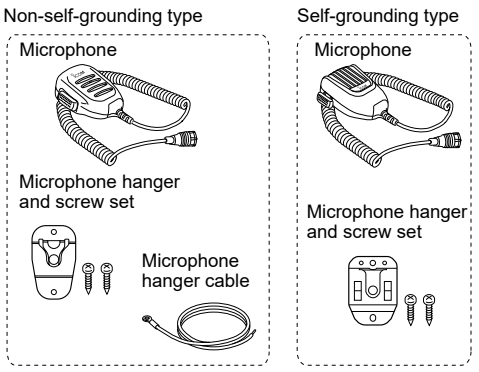
This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense.

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

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

- **Model Name**
  IC-F5400D, IC-F5400DS, IC-F6400D, IC-F6400DS
- **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

SUPPLIED ACCESSORIES



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

ABOUT GPS/GLONASS RECEIVER

DO NOT install the GPS antenna near the transceiver or the antenna.
A GPS or GLONASS receiver may not work if the transceiver transmits or receives in the frequency ranges as shown below.

For the IC-F5400D/IC-F5400DP series (Unit: MHz)

	GPS Receiver	GLONASS Receiver
Transmit	142.850 ~ 142.860	145.275 ~ 145.945
	157.135 ~ 157.145	159.805 ~ 160.540
Receive	146.845 ~ 147.110	149.745 ~ 150.790

For the IC-F6400D/IC-F6400DP series (Unit: MHz)

	GPS Receiver	GLONASS Receiver
Transmit	392.840 ~ 392.865	399.515 ~ 401.343
Receive	443.545 ~ 444.065	449.335 ~ 451.425

OPTIONS

- **RMK-5** SEPARATION KIT + SEPARATION CABLE*1
  Enables you to separately install the transceiver's main unit from the front panel for convenient operation.
- **HM-218** HAND MICROPHONE + SEPARATION CABLE*2
  Command microphone with a built-in speaker
  ⓘ You need the RMK-5 to connect the HM-218 to the transceiver.
- **RMK-7** DUAL HEAD KIT + SEPARATION CABLE*1
  Enables you to connect two control heads to the transceiver's main unit for dual head operation.

*1 **OPC-2364**, **OPC-2365**, **OPC-2366**, or **OPC-2367** SEPARATION CABLE is used to connect between the control head and the transceiver's main unit.
- **OPC-2364**: 1.9 m / 6.3 ft
- **OPC-2365**: 3 m / 9.9 ft
- **OPC-2366**: 5 m / 16.4 ft
- **OPC-2367**: 8 m / 26.3 ft

*2 **OPC-2373** or **OPC-2374** SEPARATION CABLE for command microphone is used to connect between the HM-218 and RMK-5.
- **OPC-2373**: 1.9 m / 6.3 ft
- **OPC-2374**: 8 m / 26.3 ft

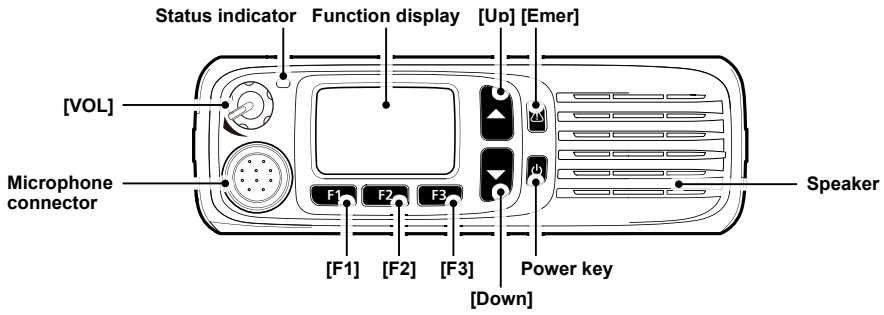
- **SP-30, SP-35, SP-35L** EXTERNAL SPEAKERS
  Input impedance: 4 Ω
  SP-30: Rated input= 20 W, Maximum input = 30 W
  SP-35/SP35L: Rated input= 5 W, Maximum input = 7 W
- **HM-220**, **HM-220T**, **HM-221**, **HM-221T, HM-258T** HAND MICROPHONES
  HM-220: Self-grounding heavy duty microphone
  HM-220T: Self-grounding heavy duty DTMF microphone
  HM-221: Hand microphone
  HM-221T: DTMF microphone
  HM-258T*: Self-grounding heavy duty DTMF microphone
  * Depending on the firmware viersion.
- **SM-29** DESKTOP MICROPHONE
- **UX-241** GPS ANTENNA
  Enables you to use the GPS function.
- **VS-3** Bluetooth® HEADSET
  (For only the transceiver with the Bluetooth function.)
  The Bluetooth headset with a [PTT] switch.
- **About the third party Bluetooth® headsets:**
  Icom has checked the PTT operation with some 3M Peltor headsets such as the WS Headset XP, WS ProTac XP and WS Alert XP. (Compatibility not guaranteed.)

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

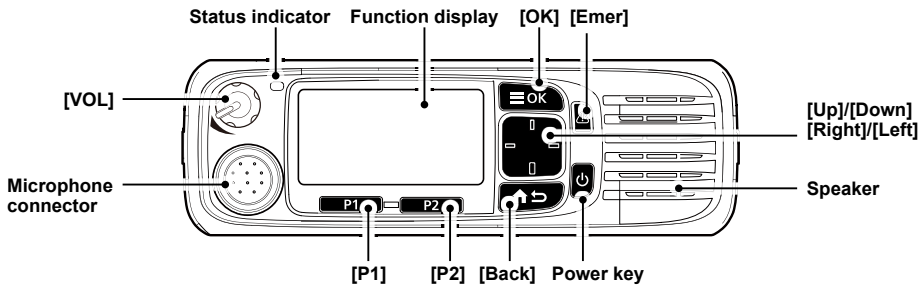
PANEL DESCRIPTION

NOTE: Different functions may have been assigned to the keys by your dealer, except for the Power key.

◇ Segment type



◇ LCD type



◇ About the Status indicator

- Lights red while transmitting.
- Lights green while receiving a signal, or when the squelch is open.

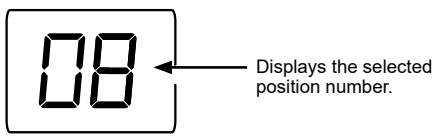
◇ About the Microphone connector

Connect the supplied or optional microphone.

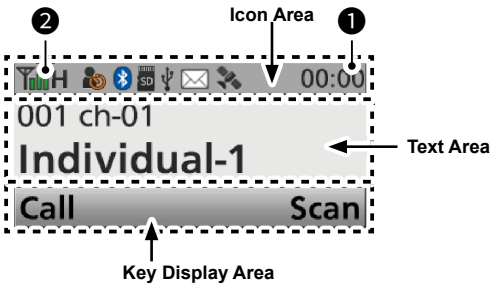
CAUTION: DO NOT connect non-specified microphones. The pin assignments may be different and may damage the transceiver.

FUNCTION DISPLAY (Segment type)

The number that is displayed on the segment type screen is called "Position."
The position number is selected by pushing [Up] or [Down].



FUNCTION DISPLAY (LCD type)



◇ Icon Area

Indicators

❶ SIGNAL STRENGTH INDICATOR
Displays the relative received signal strength.

❷ CLOCK
Displays the current time.
ⓘ "AM" or "PM" is displayed beside the time display when the 12 hour display format is selected.
ⓘ "--:--" is displayed instead of the current time when the internal clock is not set.

Icons

* These icons are not displayed, depending on the presetting.

POWER ICON L1 L2 H
- "L1" is displayed when the output power is set to low.
- "L2" is displayed when the output power is set to mid.
- "H" is displayed when the output power is set to high.

AUDIBLE ICON
Displayed when the channel is in the Audible (unmuted) mode.

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

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

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

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

SCRAMBLER ICON
In the Analog mode:
Displayed when the Voice Scrambler function is ON.
In the Digital mode:
- Displayed when the Voice Encryption function is ON.
- Blinks when receiving an encrypted signal.

GPS ICON*
- Displayed when valid position data is received.
- Blinks when searching for satellites or calculating position data.

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

ⓘ "⚠" is displayed when there is no microSD card's free space and cannot record audio.

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

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

BROADCAST CALL ICON
Displayed when receiving a Broadcast Call.
ⓘ For only the IC-F5400DP and IC-F6400DP series transceivers.

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

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

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

SURVEILLANCE ICON
Displayed when the Surveillance function is ON.

VOX ICON VOX
Displayed when the VOX function is ON.

Bluetooth® ICON
(For only the transceiver with the Bluetooth function.)
- Displayed when Bluetooth is activated.
- Lights Blue when a Bluetooth device is connected.
- Does not light when no Bluetooth® device is connected.

microSD ICON*
Displayed when a microSD card is inserted.
ⓘ "⚠" is displayed when the microSD card has not been formatted.

USB ICON
Displayed when a USB device is connected.

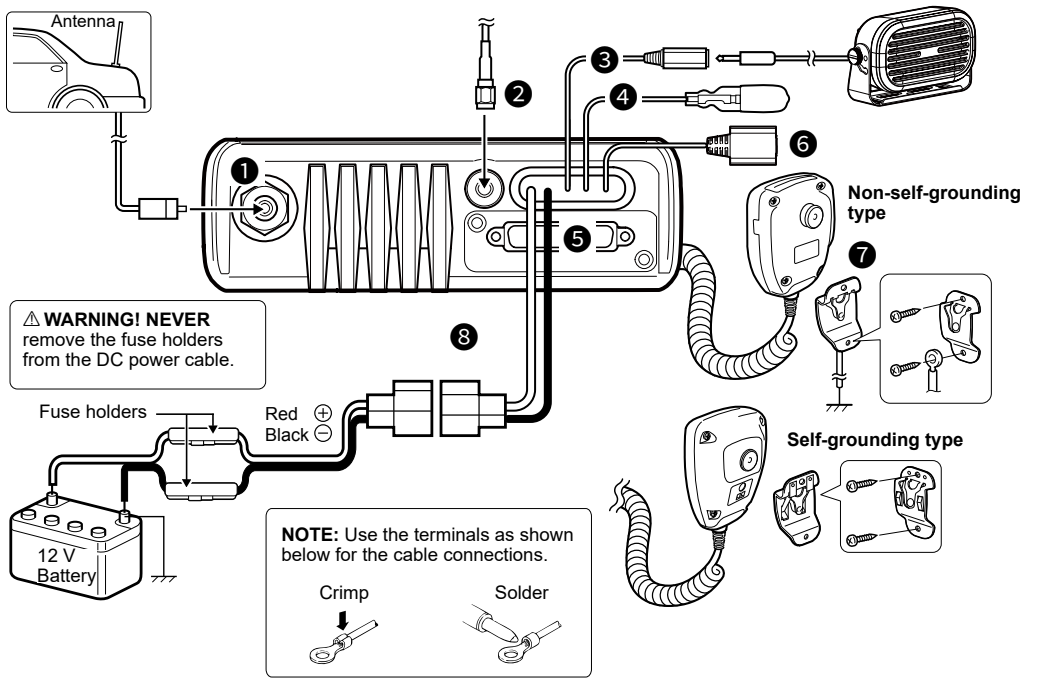
◇ Text Area

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

◇ Key Display Area

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

REAR PANEL CONNECTION



❶ ANTENNA CONNECTOR
Connect to an antenna. Contact your dealer about antenna selection and placement.

❷ GPS ANTENNA CONNECTOR
Connect the UX-241 GPS antenna.

❸ EXTERNAL SPEAKER JACK
Connect a 4 ~ 8 Ω external speaker.

❹ IGNITION LEAD
Connects to an ignition line.

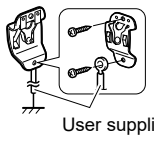
CAUTION: DO NOT put pressure on this lead. Binding to the DC power cable is recommended.

❺ D-Sub 25-pin
Connects to an external unit.

❻ USB CABLE
Connects to a PC.

❼ MICROPHONE HANGER
For a non-self-grounding type:
Connect the supplied microphone hanger to the vehicle's ground for microphone ON/OFF hook functions.

For a self-grounding type:
The microphone ON/OFF hook functions can be used without the vehicle's ground.



Connect the microphone hanger to the vehicle's ground for microphone ON and OFF hook functions when the HM-220/HM-220T/HM-258T microphone is used.

User supplied

❽ Connects to a 12 V DC battery.
Pay attention to polarities.

CAUTION: DO NOT connect to a 24 V battery. This will damage the transceiver.

BASIC OPERATION

◇ Turning power ON

Push [⏻] to turn ON the transceiver.

◇ Receiving and Transmitting

Receiving:
1. Push [Up] or [Down] to select a channel.
2. When receiving a call, rotate [VOL] to adjust the audio output level to a comfortable listening level.

Transmitting:
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 ~ 10 cm (2 ~ 4 inches) from your mouth, then speak at your normal voice level.

TECHNICAL INFORMATION

◇ IC-F5400D series, IC-F5400DP series, IC-F6400D series, IC-F6400DP series

Radio:

Model	Frequency Range	Output Power
IC-F5400D series IC-F5400DP series	136 ~ 174 MHz	25 W
IC-F6400D series IC-F6400DP series	380 ~ 470 MHz	25 W

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

Bluetooth: (For only built-in versions)

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