



## INSTRUCTION MANUAL

VHF MOBILE TRANSCEIVERS  
**IC-F5020**  
Series

UHF MOBILE TRANSCEIVERS  
**IC-F6020**  
Series



Icom Inc.

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## IMPORTANT

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**READ ALL INSTRUCTIONS** carefully and completely before using the transceiver.

**SAVE THIS INSTRUCTION MANUAL** — This instruction manual contains important operating instructions for the **IC-F5021, IC-F5023/H, IC-5026/H, IC-F5028H VHF MOBILE TRANSCEIVERS** and the **IC-F6021, F6023/H, F6028H UHF MOBILE TRANSCEIVERS**.

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## EXPLICIT DEFINITIONS

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WORD	DEFINITION
 <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.

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## FCC INFORMATION

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**• FOR CLASS B UNINTENTIONAL RADIATORS:**

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.

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## PRECAUTIONS

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

**⚠ WARNING! NEVER** connect the transceiver to a power source of more than 16 V DC such as a 24 V battery. This connection will ruin 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! NEVER** allow children to touch the transceiver.

**CAUTION! NEVER** expose the transceiver to rain, snow or any liquids.

**USE** the specified microphone only. Other microphones have different pin assignments and may damage the transceiver.

**DO NOT** use or place the transceiver in areas with temperatures below  $-30^{\circ}\text{C}$  ( $-22^{\circ}\text{F}$ ) or above  $+60^{\circ}\text{C}$  ( $+140^{\circ}\text{F}$ ), or in areas subject to direct sunlight, such as the dashboard.

**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.

**DO NOT** place the transceiver in excessively dusty environments.

**DO NOT** place the transceiver against walls. This will obstruct heat dissipation.

**DO NOT** use chemical agents such as benzine or alcohol when cleaning, as they damage the transceiver surfaces.

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

***For U.S.A. only***

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

Icom optional equipment is designed for optimal performance when used with this transceiver. We are not responsible for the transceiver being damaged or any accident caused when using non-Icom optional equipment.

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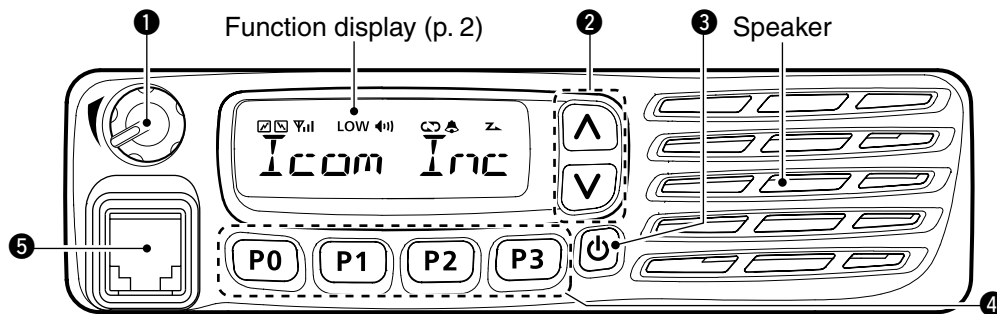
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## ■ Front panel

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### ① AF VOLUME CONTROL KNOB [VOL]

Rotate the knob to adjust the desired audio output level.

- Minimum audio level is pre-set. (p. 11)

### ② UP/DOWN KEYS [CH Up]/[CH Down]

Push to select an operating channel, etc.

\* The desired function can be assigned by your dealer. (p. 3)

### ③ POWER KEY [⏻]

Push to turn the power ON and OFF.

- The following functions are available at power ON as options:
  - Automatic scan start
  - Password prompt
  - Set mode

### ④ DEALER-PROGRAMMABLE KEYS

Desired functions can be programmed independently by your dealer. (p. 3)

### ⑤ MICROPHONE CONNECTOR

Connect the supplied or optional microphone.

**NEVER** connect non-specified microphones. The pin assignments may be different and the transceiver may be damaged.

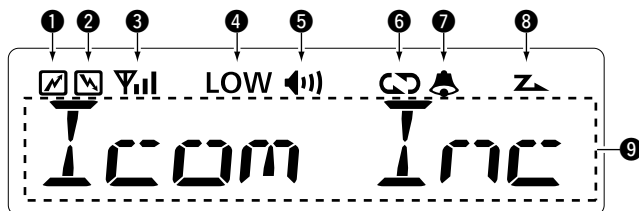
### ◇ MICROPHONE

The supplied microphone has a PTT switch and a hanger hook.

- The following functions are available when the microphone is on or off hook (depending on the setting):
  - Automatic scan starts when it is on hook.
  - Scan is cancelled when it is off hook.
  - Scan is paused when it is off hook.
  - Automatic priority channel selection is available when it is off hook.
  - Sets to 'Inaudible' condition (mute condition) when it is on hook.
  - Sets to 'Audible' condition (unmute condition) when it is off hook.

# 1 PANEL DESCRIPTION

## ■ Function display



### ❶ TRANSMIT INDICATOR

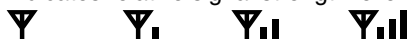
Appears while transmitting.

### ❷ BUSY INDICATOR

Appears while the channel is busy.

### ❸ SIGNAL STRENGTH INDICATOR

Indicates relative signal strength level as below.



Weak ⇐ Receive Signal level ⇒ Strong

### ❹ LOW POWER INDICATOR

Appears when low output power is selected.

### ❺ AUDIBLE INDICATOR

- ➡ Appears when the channel is in the 'Audible' (unmute) condition.
- ➡ Appears when the specific 2/5-tone/MDC\* code is received.

### ❻ SCRAMBLER INDICATOR

Appears when the voice scrambler function is activated.

### ❼ BELL INDICATOR

Appears/blinks when the specific 2/5-tone/MDC\* code is received, according to the pre-programming.

### ❽ SCAN INDICATOR

Blinks during scan.

### ❾ ALPHANUMERIC DISPLAY

Displays an operating channel number, channel name, Set mode contents, DTMF code, etc.

\* MDC operation only (p. 13)

## ■ Programmable function keys

The following functions can be assigned to [UP], [DOWN], [P0], [P1], [P2] and [P3] programmable function keys.

Consult your Icom dealer or system operator for details concerning your transceivers programming.

If the programmable function names are bracketed in the following explanations, the specific key is used to activate the function depends on the programming.

### CH UP AND DOWN KEYS

- Push to select an operating channel.
- Push to select a transmit code channel after pushing [TX Code CH Select].
- Push to select a DTMF channel after pushing [DTMF Audial].
- Push to select a scan group after pushing and holding [Scan A Start/Stop]/[Scan B Start/Stop] for 1 sec.

### ZONE KEY

Push this key, then select the desired zone using [CH Up]/[CH Down].

/// **What is “zone”?**— Selected channels are assigned to a zone according to how they are to be used in a group. For example, ‘Staff A’ and ‘Staff B’ are assigned into a “Business” zone, and ‘John’ and ‘Cindy’ are assigned into a “Private” zone.

### SCAN A START/STOP KEY

- Push to start and cancel scanning operation.
  - When Power ON Scan function is activated, push to pause the scanning operation. And the paused scan resumes after the specified time period has passed.
- Push and hold this key for 1 sec. to indicate the scan list, then push [CH Up] or [CH Down] to select the desired list.

### SCAN B START/STOP KEY

- Push to start and cancel scanning operation.
 

The scan restarts after the specified time period has passed when the scan (started with this key) is cancelled by except for this key operation.
- Push and hold this key for 1 sec. to indicate the scan list, then push [CH Up] or [CH Down] to select the desired list.

### SCAN ADD/DEL (TAG) KEY

- Push to add/delete the selected channel to/from the scan list.
  1. Push to indicate the scan group, then push [CH Up] or [CH Down] to select the desired list.
  2. Push to add or delete the channel to/from the selected scan list.
  3. Push and hold for 1 sec. to exit the scan list selection mode.
- Push this key while scan is paused (a signal is detected) on a channel (except for priority channel), the channel is cleared from the scan list.

/// Depending on the setting, the cleared channel is added to the scan list again after the scan is cancelled.

# 1 PANEL DESCRIPTION

## **PRIO A/B KEYS**


- ➡ Push to select Priority A or Priority B channel.
- ➡ Push and hold [Prio A (Rewrite)] or [Prio B (Rewrite)] for 1 sec. to rewrite the operating channel as the Priority A or Priority B channel.

## **MR-CH 1/2/3/4 KEYS**

Push to select the memory channel 1 to 4 directly.

## **MONI (AUDI) KEY**

- ➡ Push to mute and release the CTCSS (DTCS) or 2-tone squelch mute. Open any squelch/deactivate any mute while pushing and holding this key. (LMR operation only)
- ➡ Activates one of (or two of) the following functions on each channel independently: (PMR operation only)
  - Push and hold to unmute the channel (audio is emitted; 'Audible' condition).
  - Push to mute the channel (sets to 'Inaudible' only).
  - Push after the communication is finished to send a 'reset code'. (5-tone operation only)

 **NOTE:** The un-mute condition ('Audible' condition) may automatically return to the mute condition ('Inaudible' condition) after a specified period depending on programming.

## **LOCK KEY**

Push and hold to electronically lock all programmable keys except the following:

[Moni(Audi)], [Lock], [Call] (incl. Call A and Call B), [Emergency], [Surveillance], [Siren], [Lone Worker] and [OPT 1/2/3].

## **LONE WORKER KEY**

Push to turn the Lone Worker function ON or OFF.

- If the Lone Worker function is activated, Emergency function is automatically turned ON after the specified time period has passed with no operation is performed.

## **HIGH/LOW KEY**

Push to select the transmit output power temporarily or permanently, depending on the pre-setting.

- Ask your dealer for the output power level for each selection.

## **C.TONE CH ENT KEY**

Push to enter the continuous tone channel selection mode. Then, push [CH Up]/[CH Down] to change the tone frequency/code setting. The selected channel remains set as the continuous tone channel until another channel is designated as such.

## **TALK AROUND KEY**

Push to turn the talk around function ON and OFF.

- The talk around function equalizes the transmit frequency to the receive frequency for transceiver-to-transceiver communication.



**Count on us!**

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