



## INSTRUCTION MANUAL

VHF MOBILE TRANSCEIVER

**IC-F1721/D**

**IC-F1821/D**

UHF MOBILE TRANSCEIVER

**IC-F2721/D**

**IC-F2821/D**

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

**Icom Inc.**

**BIIS 1200  
Compatible**



Above photo shows the IC-F1721/D or IC-F2721/D.

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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-F1721, IC-F1721D, IC-F1821, IC-F1821D, IC-F2721, IC-F2721D, IC-F2821 and IC-F2821D VHF/UHF MOBILE TRANSCEIVERS**.


/// See the operating guide for details of MDC 1200 system operation. Consult with your Icom dealer or system operator for details concerning your transceiver's programming.

This instruction manual includes some functions which are usable only when they are preprogrammed by your dealer. Ask your dealer for details.

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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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## 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** place the transceiver where normal operation of the vehicle may be hindered or where it could cause bodily injury.

**⚠ 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.

**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 the 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.

Approved Icom optional equipment is designed for optimal performance when used with an Icom transceiver.

Icom is not responsible for the destruction or damage to an Icom transceiver in the event the Icom transceiver is used with equipment that is not manufactured or approved by Icom.

***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.

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## ABOUT APCO PROJECT 25

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This device made under license under one or more of the following US patents: #4,590,473, #4,636,791, #5,148,482, #5,185,796, #5,271,017, #5,377,229.

The IMBE™ 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 decompile, reverse engineer, or disassemble the Object Code, or in any other way convert the Object Code into a human-readable form. U.S. Pat. Nos. #5,870,405, #5,826,222, #5,754,974, #5,701,390, #5,715,365, #5,649,050, #5,630,011, #5,581,656, #5,517,511, #5,491,772, #5,247,579, #5,226,084, #5,195,166.

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## FCC INFORMATION

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### • FOR CLASS A UNINTENTIONAL RADIATORS:

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.

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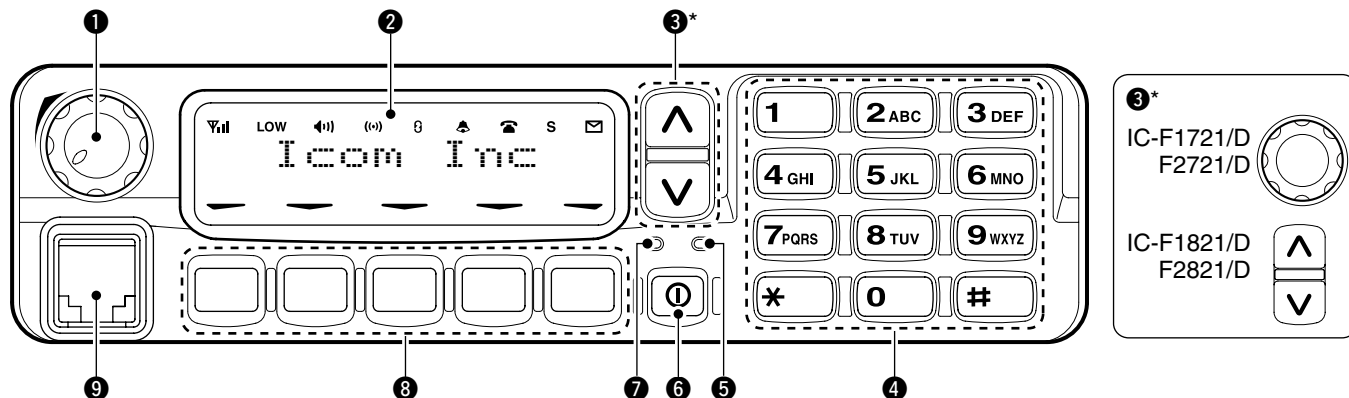
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# 1 PANEL DESCRIPTION

## ■ Front panel



### 1 AF VOLUME CONTROL KNOB

- Rotate the knob to adjust the audio output level.
- Minimum audio level is pre-programmed.

### 2 FUNCTION DISPLAY (p. 2)

Displays a variety of information, such as an operating channel number/name, 5-tone code, DTMF numbers and audible condition, etc.

### 3 DIAL or UP/DOWN KEYS

- IC-F1721/D, F2721/D: **DIAL**  
Rotate to select an operating channel, etc.\*
- IC-F1821/D, F2821/D: **UP/DOWN Keys**  
Push to select an operating channel, etc.\*

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

### 4 10-KEYPAD (IC-F1821/D or IC-F2821/D only)

The keypad allows you to enter digits to:

- Select memory channels, tone channels and DTMF codes (when in the DTMF code channel selection mode)
- Set TX codes and BIIS status number
- Input text message for SDM operation
- Start up with a password
- Input the Individual ID code for digital operation.

### 5 BUSY INDICATOR

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

## 6 POWER SWITCH [POWER]

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

## 7 TRANSMIT INDICATOR

Lights red while transmitting.

## 8 DEALER-PROGRAMMABLE KEYS

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

/// In this instruction manual, these keys are from the left, called [P0]/[P1]/[P2]/[P3]/[P4].

## 9 MICROPHONE CONNECTOR

Connect the supplied microphone or optional DTMF microphone.

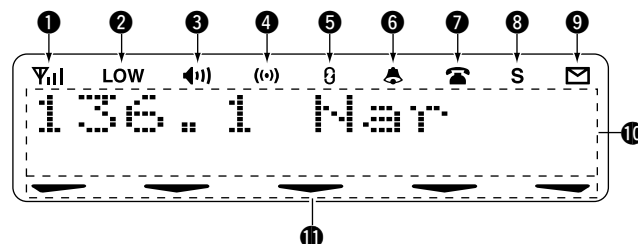
/// **NEVER** connect non-specified microphones. The pin assignments may be different and the transceiver may be damaged.

## ◇ MICROPHONE

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

- The following functions are available when the microphone is on or off hook:
  - Automatic scan start when on hook.
  - Automatic priority channel selection when off hook.
  - Sets to 'Inaudible' condition (mute condition) when on hook.
  - Sets to 'Audible' condition (unmute condition) when off hook.

## Function display



### 1 SIGNAL STRENGTH INDICATOR

Indicates relative signal strength level.

### 2 LOW POWER INDICATOR

Appears when low output power is selected.

### 3 AUDIBLE INDICATOR

- ➔ Appears when the channel is in the 'audible' (unmute) condition.
- ➔ Appears when the specified 2/5-tone/BIIS code is received.

### 4 COMPANDER INDICATOR

Appears when the compander function is activated.

### 5 SCRAMBLER INDICATOR

Appears when the voice scrambler function is activated.

# 1 PANEL DESCRIPTION

## ■ Function display (Continued)

### 6 BELL INDICATOR

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

### 7 CALL CODE MEMORY INDICATOR

Appears when the call code memory is selected.

### 8 SDM MEMORY INDICATOR

Appears when the SDM memory is displayed.

### 9 SDM INDICATOR

Appears when an SDM is received, or a transmit SDM is selected.

### 10 ALPHANUMERIC DISPLAY

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

The indication mode can be selected from 1 line or 2 lines. Ask your dealer for details.

In this instruction manual, the LCD illustration is described using the 2 lines indication mode.

### 11 ACTIVATED KEY INDICATOR

Appears above the key assigned as [DIGITAL] key when that key has been activated.

## ■ Programmable function keys

The following functions can be assigned to [DIAL]\*, [UP], [DOWN], [P0], [P1], [P2], [P3] and [P4] 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.

\*The functions you can assign to [DIAL] are limited.

(Only functions marked with ☆ can be assigned.)

### ☆ CH UP AND DOWN KEYS

- ➡ Push (or Rotate)\* to select an operating channel.
- ➡ Push (or Rotate)\* to select a transmit code channel after pushing [TX Code CH Select].
- ➡ Push (or Rotate)\* to select a DTMF channel after pushing [DTMF Autodial].
- ➡ Push (or Rotate)\* to select a scan group after pushing and holding [Scan A Start/Stop]/[Scan B Start/Stop].
- ➡ Push (or Rotate)\* to select a BIIS code, status number or SDM after pushing [Digital].
- ➡ Push (or Rotate)\* to select an Individual ID code or Talk-group ID code after pushing [Individual] or [Talkgroup].

\*Rotate when this function is assigned to [DIAL].

☆ **ZONE UP AND DOWN KEY** (This function is for [DIAL] only)  
Rotate to select the desired zone.



**Count on us!**

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