

ICOM®

INSTRUCTION MANUAL

VHF TRANSCEIVER

IC-F521

UHF TRANSCEIVER

IC-F621

**SmarTrunk II™
Compatible**



Icom Inc.

IMPORTANT

READ ALL INSTRUCTIONS carefully and completely before using the transceiver.

SAVE THIS INSTRUCTION MANUAL — This instruction manual contains important operating instructions for the **IC-F521 VHF TRANSCEIVER** and **IC-F621 UHF TRANSCEIVER**.

EXPLICIT DEFINITIONS

WORD	DEFINITION
⚠ 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.

CAUTIONS

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

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.

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.

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

NEVER allow children to touch the transceiver.

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

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

DO NOT use or place the transceiver in areas with tem-

peratures below -22°F (-30°C) or above $+140^{\circ}\text{F}$ ($+60^{\circ}\text{C}$) or, in areas subject to direct sunlight, such as the dashboard.

AVOID operating the transceiver without running the vehicle's engine. The vehicle's battery will quickly run out if the transceiver is in transmission while the vehicle's engine OFF.

AVOID placing the transceiver in excessively dusty environments.

AVOID placing the transceiver against walls. This will obstruct heat dissipation.

AVOID the use of 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.

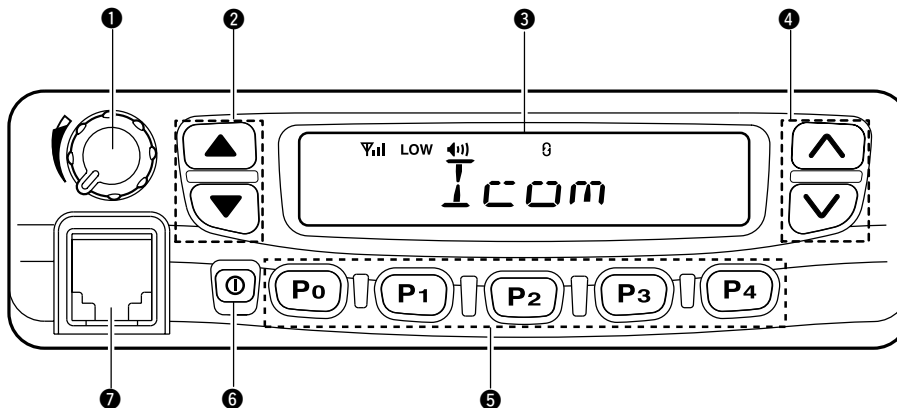
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PANEL DESCRIPTION

■ Front panel



① AF VOLUME CONTROL KNOB

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

② LEFT UP/DOWN [▲]/[▼] KEYS

- ➔ One of several functions can be programmed by your Dealer. (Same as [P0] to [P4] keys)

③ FUNCTION DISPLAY

- ➔ Displays variety of information, such as an operating channel number/name, 2/5tone code, DTMF numbers and audible condition, etc.

NOTE: The above functions depend on pre-programming.

④ RIGHT UP/DOWN [^]/[v] KEYS

- ➔ Push to select the operating channel.
- ➔ Can be programmed for one of several functions by your Dealer. (Same as [P0] to [P4] keys)

5 DEALER-PROGRAMMABLE KEYS [P0] to [P4]

➔Desired functions can be programmed independently by your Dealer.

6 POWER SWITCH [POWER]

- ➔Push to turns the power ON and OFF.
- The following functions are available at power ON as options:
 - Automatic scan start
 - Password prompt
 - Set mode

7 MICROPHONE CONNECTOR

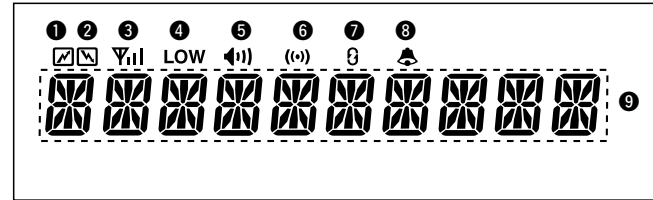
➔Connect the supplied microphone or optional DTMF microphone for SmarTrunk II™ operation here.

/// **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:
 - Automatic scan start when hung on.
 - Automatic priority channel selection when hung off.
 - Sets to 'Inaudible' condition (mute condition) when hung on.
 - Sets to 'Audible' condition (un-mute condition) when hung off.

Function display



1 TRANSMIT INDICATOR

➔Appears while transmitting or sending a 2/5tone code.

2 BUSY INDICATOR

➔Appears while the channel is in busy.

3 SIGNAL STRENGTH METER

➔Indicates relative signal strength level.

4 LOW POWER INDICATOR

➔Appears when low output power is selected.

5 AUDIBLE INDICATOR

➔Appears when the channel is in the 'Audible' condition (unmute condition).

6 COMPANDER INDICATOR

➔Appears when compander function is activated.

1 PANEL DESCRIPTION

⑦ SCRAMBLER INDICATOR

➔ Appears when scrambler function is activated. (Optional UT-109 (#02)/UT110 (#02) SCRAMBLER UNIT is required.)

⑧ 2/5 TONE INDICATOR

➔ Appears when specified 2/5 tone call is received.

⑨ ALPHANUMERIC DISPLAY

➔ Displays the CH number, 2/5 tone indication, DTMF numbers, Audible indication, etc.

■ Programmable function keys

The following functions can be assigned to **[P0]**, **[P1]**, **[P2]**, **[P3]**, **[P4]**, **[▲]**, **[▼]**, **[^]** and **[v]** programmable function keys.

Consult your Icom Dealer or System operator for details concerning your transceivers programming.

In the following explanations, programmable function names are bracketed, the specific switch used to activate the function depends on programming.

[CH UP] ***CH UP AND DOWN KEYS***

- [CH DN]**
- Select an operating channel.
 - Select a transmit code channel after pushing the **[TX CH]** key.
 - Select a DTMF channel after pushing the **[DTMF]** key.
 - Select a scan group while pushing and holding the **[SCAN]** key.

[CH1] ***OPERATING CHANNEL KEYS***

[CH2] Select an operating channel directly.

[CH3]

[CH4]



[PRI A] ***PRIORITY CHANNEL KEYS***

[PRI B] Select priority A or priority B channel with each push.

[BANK] BANK KEY
 Select and determine a bank number.

- When the optional UT-105 is installed, push **[BANK]** then push **[CH UP]/[CH DN]** to select operating bank number, and then push **[BANK]** to determine the bank number.

[SCAN A] SCAN START/STOP KEY
[SCAN B] Push this key to start scanning; and push again to stop.

 **NOTE:** Place the microphone on hook to start scanning.
 Take the microphone off hook to stop scanning.

Push and hold this key to indicate the scan group, then push to select the desired group.


[TAG] SCAN TAG KEY
 Adds or deletes the selected channel to the scan group.

[LOCK] LOCK KEY
 Electronically locks all programmable keys except the following:

- **[CALL]** (incl. **[CAL A]** and **[CAL B]**), **[MONI]** and **[EMER]** keys.

[MONI] MONITOR KEY
 Activates one of (or two of) the following functions on each channel independently:

- Push and hold the key to unmute the channel (audio is emitted; 'Audible' condition).
- Push the key to toggle the mute and unmute conditions (toggles 'Audible' and 'Inaudible').
- Push the key to mute the channel (sets to 'Inaudible' only).
- Push the key to unmute the channel (sets to 'Audible' only).
- Push the key after the communication is finished to send a 'reset code'.

 **NOTE:** The unmute condition ('Audible' condition) may automatically return to the mute condition ('Inaudible' condition) after a specified period.

[W/N] WIDE/NARROW KEY
 Push **[W/N]** to toggle bandwidth between wide or narrow.

[H/L] OUTPUT POWER SELECTION KEYS
 Select the transmit output power temporarily or permanently depending on the pre-setting.

- Ask your Dealer or System Operator for the output power level for each selection.

1 PANEL DESCRIPTION

[T A] **TALK AROUND KEY**

Turns the talk around function ON and OFF.

- The talk around function equalises the transmit frequency to the receive frequency for mobile-to-mobile communication.

[CALL] **CALL KEYS**

[CAL A] Transmit a 5-tone code.

- [CAL B]
- Call transmission is necessary before you call another station depending on your signaling system.
 - The [CAL A] and/or [CAL B] keys may be available when your system employs selective 'Individual/Group' calls. Ask your Dealer which call is assigned to each key.

[EMER] **EMERGENCY KEY**

Push and hold the key to transmit an emergency call.

- If you want to cancel the emergency call, push (or push and hold) the key again before transmitting the call.
- The emergency call is transmitted one time only or repeatedly until receiving a control code depending on the pre-setting.

[TX CH] **TX CODE KEY**

Select a transmit 5-tone code (station code) channel.

[CODE] **TX CODE CHANNEL UP/DOWN KEY**

Push to selects a TX code channel directory.

[DTMF] **DTMF CHANNEL SELECT KEY**

Push this key to select a DTMF channel.

- Push this key, then select the desired DTMF channel using the [^]/[v] keys.
- Push the key to transmit the selected DTMF code.

[TONE] **C. TONE CHANNEL ENTER KEY**

Push this key then input a continuous tone memory channel number using [^]/[v] keys to change the tone frequency.