



INSTRUCTION MANUAL

VHF DIGITAL TRANSCEIVERS

IC-F3230D Series

UHF DIGITAL TRANSCEIVERS

IC-F4230D Series

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.

The photo shows the VHF transceiver (S type)



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-F3230DT, IC-F3230DS VHF DIGITAL TRANSCEIVERS** and the **IC-F4230DT, IC-F4230DS UHF DIGITAL TRANSCEIVERS**.

/// See the operating guide for details of IDAS (ICOM Digital Advanced System) system operations. Ask your dealer for details.

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EXPLICIT DEFINITIONS

WORD	DEFINITION
 DANGER!	Personal death, serious injury or an explosion may occur.
 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.

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 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 and #5,195,166.

PRECAUTIONS

⚠ DANGER! NEVER short the terminals of the battery pack.

⚠ DANGER! Use and charge only specified Icom battery packs with Icom radios or Icom chargers. Only Icom battery packs are tested and approved for use with Icom radios 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! NEVER hold the transceiver so that the antenna is very close to, or touching exposed parts of the body, especially the face or eyes, while transmitting. The transceiver will perform best if the microphone is 5 to 10 cm (2 to 4 inches) away from the lips and the transceiver is vertical.

⚠ WARNING! NEVER operate the transceiver with a headset 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.

⚠ WARNING! NEVER operate the transceiver while driving a vehicle. Safe driving requires your full attention—anything less may result in an accident.

CAUTION: MAKE SURE the flexible antenna, battery pack and jack cover are securely attached to the transceiver, and that the antenna and battery pack are dry before attachment. Exposing the inside of the transceiver to dust or water will result in serious damage to the transceiver.

DO NOT operate the transceiver near unshielded electrical blasting caps or in an explosive atmosphere.

DO NOT push [PTT] when you do not actually intend to transmit.

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

The basic operations, transmission and reception of the transceiver are guaranteed within the specified operating temperature range. However, the LCD display may not be operate correctly, or show an indication in the case of long hours of operation, or after being placed in extremely cold areas.

DO NOT modify the transceiver. The specifications may change and then not comply with the requirements of a corresponded regulation. The transceiver warranty does not cover any problems caused by unauthorized modification.

DO NOT use harsh solvents such as benzine or alcohol when cleaning, as they will damage the transceiver surfaces.

PRECAUTIONS (Continued)

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

BE CAREFUL! The transceiver meet IP67* requirements for dust-tight and waterproof protection. However, once the transceiver has been dropped, dust-tight and waterproof protection cannot be guaranteed because of possible damage to the transceiver's case or the waterproof seal.

* Only when the jack cover or the optional HM-168LWP is attached.

Even when the transceiver power is OFF, a slight current still flows in the circuits. Remove the battery pack or batteries from the transceiver when not using it for a long time. Otherwise, the installed battery pack or batteries will become exhausted, and will need to be recharged or replaced.

MAKE SURE to turn the transceiver power OFF before connecting the supplied/optional equipment.

FCC INFORMATION

• 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.

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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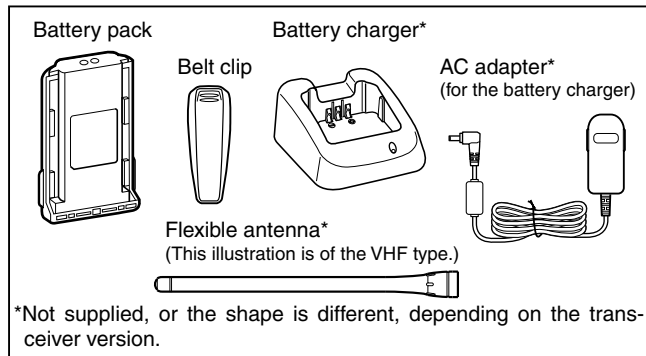
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■ Supplied accessories

NOTE: Some accessories are not supplied, depending on the transceiver version.



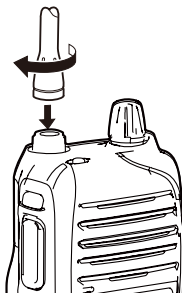
■ Accessory attachments

◇ Flexible antenna

Connect the supplied flexible antenna to the antenna connector.

CAUTION:

- **NEVER** carry the transceiver by holding only the antenna.
- **DO NOT** connect an antenna other than those listed on page 24.
- Transmitting without an antenna may damage the transceiver.



◇ Battery pack

To attach the battery pack:

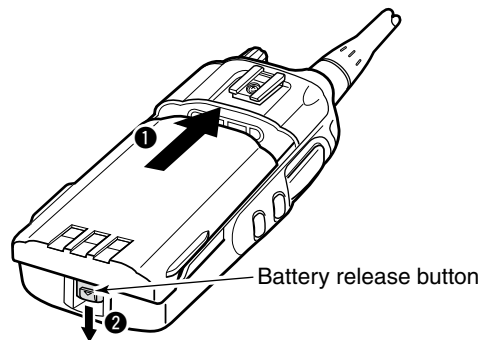
Slide the battery pack in the direction of the arrow (1) until the battery release button makes a 'click' sound.

NOTE: Push on the bottom of the pack to make sure the release button is firmly locked.

To release the battery pack:

Slide the battery release button in the direction of the arrow (2) as shown below. The battery pack is then released.

NEVER release or attach the battery pack when the transceiver is wet or soiled. This may result water or dust getting into the transceiver/battery pack and may result in the transceiver being damaged.

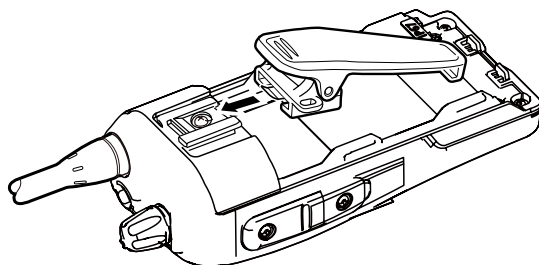


NOTE: Keep battery terminals clean. It's a good idea to occasionally clean them.

◇ Belt clip

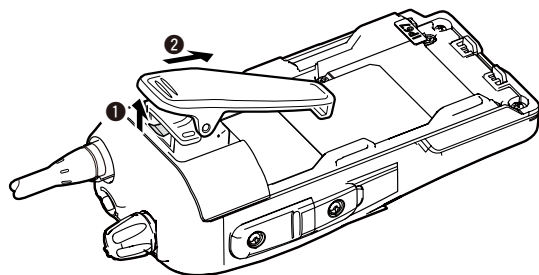
To attach the belt clip:

- ① Remove the battery pack if it is attached.
- ② Slide the belt clip in the direction of the arrow until the belt clip is locked and makes a 'click' sound.



To detach the belt clip:

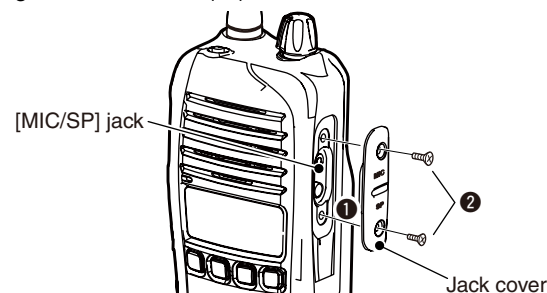
- ① Remove the battery pack if it is attached.
- ② Pinch the clip (①), and slide the belt clip in the direction of the arrow (②).



◇ Jack cover

To attach the jack cover:

- ① Attach the jack cover to the [MIC/SP] jack. (①)
- ② Tighten the screws. (②)

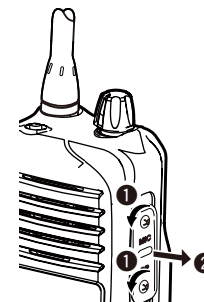


CAUTION:

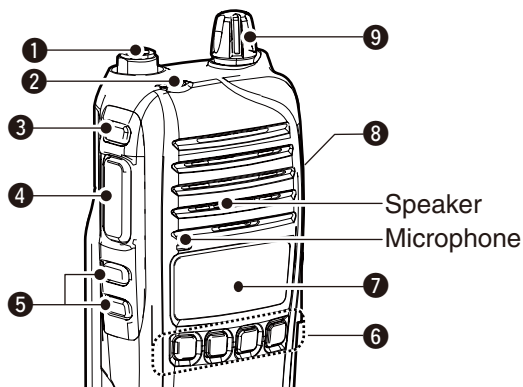
- Attach the jack cover when the optional equipment is not used.
- Use only the supplied screws.

To detach the jack cover:

- ① Unscrew the screws using a phillips screwdriver. (①)
- ② Detach the jack cover to connect the optional equipment. (②)



■ Front panel



1 ANTENNA CONNECTOR

Connects the supplied antenna.

2 DEALER-PROGRAMMABLE KEY [Emer]

A desired function can be programmed by your dealer. (p. 5)

3 DEALER-PROGRAMMABLE KEY [Side1]

A desired function can be programmed by your dealer. (p. 5)

4 PTT SWITCH [PTT]

Hold down to transmit, release to receive.

5 DEALER-PROGRAMMABLE KEYS [Side2]/[Side3]

Desired functions can be independently programmed by your dealer. (p. 5)

6 DEALER-PROGRAMMABLE KEYS [P0] to [P3]

Desired functions can be independently programmed by your dealer. (p. 5)

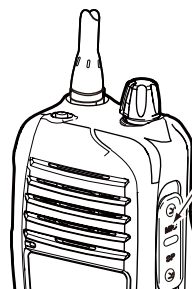
7 FUNCTION DISPLAY (p. 4)

Displays a variety of information such as an operating channel number, channel name, User Set mode contents, and so on.

8 EXTERNAL MICROPHONE/SPEAKER JACK

Connect an optional equipment.

NOTE: Connect or disconnect the optional equipment after the transceiver is turned OFF.



Jack cover

NOTE: Attach the jack cover when optional equipment is not used. See (p. 2) for details.

9 VOLUME CONTROL [VOL]

Rotate to turn the power ON or OFF and to adjust the audio level.

Count on us!

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