



## VHF AND UHF TRANSCEIVERS

# IC-F50

 (VHF Transceiver)

# IC-F60

 (UHF Transceiver)

**Submersible**

1m depth for 30 minutes

**Intrinsically safe**  
versions available



Rugged

**MIL-STD 810**

**BIIS 1200**  
Compatible

Photo includes optional speaker-microphone, HM-138.

**Icom Inc.**



# Superior Water Supports De

Firefighters, Police, Security, own unique challenges, but a munications. Icom's IC-F50/F easy to use. Rain or shine, th

## IPX7 waterproof protection

The gasket sealed waterproof housing provides superior waterproof protection, equivalent to IPX7\*. Reliable and dependable use in harsh conditions such as rain, snow, sudden change in temperature, make the IC-F50/F60 the radio for all situations.



\* According to the international standard IEC 529 (1989). 1m depth for 30 minutes.

## Built-in Tone signaling

Use the built-in CTCSS, DTCS, 2-Tone and 5-Tone capability to set up your own talk groups and quiet stand-by when others are talking. You can also set up selective calls to individuals or control a repeater.

## Multiple 2-Tone, Multiple 5-Tone

Up to 10 2-Tone codes can be decoded on a single memory channel. This is perfect for professionals who require multiple district paging on one channel. When a matched tone is received, the following items are programmable for each code.

- Bell icon
- Answer back
- Stun
- Beep sound
- Auto transmit
- Scan



▼ IC-F50



▼ IC-F60



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# IC-F50

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UHF transceiver

# Waterproof Protection Demanding Communication

Oil industry and Public utilities. Each profession has its own. All have one thing in common: the need for reliable communication. IC-F50/F60 offers a compact waterproof, MIL STD package, that's rugged. This radio keeps you in contact in nearly any environment.



## Li-Ion battery pack

The large capacity 1700mAh Lithium-Ion (Li-Ion) battery pack, BP-227 provides a practical 10 hours\* of operating time. Li-Ion batteries allow flexible charging and have almost no memory effect.

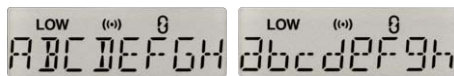
\* Typical operation Tx:Rx: Stand-by=5:5:90

## Up to 7 programmable buttons

The [P0]–[P3], [Red] and [Up], [Down] buttons are programmable to meet specific needs. The [Red] button on the top panel can be assigned as an emergency trigger.

## Alphanumeric display

The 8-character alphanumeric display shows channel, bank, tone code and scanning channel names on the display. 7 operational icons on the sub-line show various status at a glance.



Upper and lower case characters available.

## Wide range coverage and large channel capacity

The IC-F50/F60 covers a wide frequency range in one version. The large capacity of 128 memory channels with 8 memory banks allows you to divide and store a variety of channels from local to wide area network channels. Both wide and narrow (25/12.5kHz) channel bandwidth is programmable to each channel.

## Compact body

56(W)×97(H)×36.4(D) mm\* compact body with durable, dependable construction, has been tested to MIL standard specifications. \* 2<sup>7</sup>/<sub>32</sub>(W)×3<sup>13</sup>/<sub>16</sub>(H)×1<sup>7</sup>/<sub>16</sub>(D) in

## Built-in voice scrambler

The IC-F50/F60 has a built-in inversion type voice scrambler in all versions. When a more secure system is required, versions with a rolling type voice scrambler\* equivalent to the UT-110 are available.

\* Built-in, optional unit not required.

## BIIS 1200 Compatible

The following selective calling and data features are available with the BIIS system.

- 32 abbreviated call memories
- 7 group IDs
- 24-status Messages
- 8-character SDM (Short Data Message)
- RS-232C interface
- Position data transmission with a GPS

## Intrinsically safe version

Intrinsically safe version approved by the FMRC, is suitable for use in hazardous areas where flammable gasses or liquids are used. See specification page for applied classes.

## Other features

- Built-in audio compander
- 8 DTMF auto-dial memories
- Powerful 5W/4W (VHF/UHF) output
- Normal and priority scans
- 2 step power saver
- Optional AA alkaline battery case, BP-226 for battery back up
- Busy, repeater lockout functions
- Power ON password, and more...

## OPTIONS

Some options may not be available in some countries. Please ask your dealer for details.



**BP-226 BATTERY CASE:** AA (LR6)×5 alkaline cells. BP-226 is water-resistant, equivalent to IPX4.  
**BP-227/BP-227FM Li-Ion BATTERY PACK,** 7.2V/1700mAh. Provides 10 hours operating time\* (approx.). Operating temp. range: -20°C to +60°C; -4°F to +140°F.  
\* Tx: Rx: standby=5:5:90.  
BP-227FM is intrinsically safe version.



**BC-147A/E**  
**BC-152**  
**BC-152 DESKTOP CHARGER**  
+ **BC-147A/E** AC ADAPTER  
Regularly charges the BP-227 in 9–10 hours.



**BC-145** **BC-119N+AD-100**  
**BC-119N DESKTOP CHARGER**  
+ **AD-100** CHARGER ADAPTER  
+ **BC-145A/E/W** AC ADAPTER  
Rapidly charges the BP-227 in 2.5–3 hrs.



**BC-121N MULTI-CHARGER** + **AD-100** CHARGER ADAPTER  
+ **BC-157** AC ADAPTER  
Rapid charges up to 6 battery packs (Six AD-100s are required) in 2.5–3 hours.  
**OPC-656 DC POWER CABLE;** For use with the BC-121. (12–20V DC required).



**HM-138:** Full sized, waterproof construction equivalent to IPX7. (1 m/30 min.).



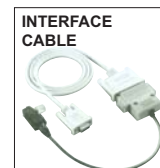
**MB-86:** Swivel type. Prevents accidental dropping from your belt.  
**MB-98:** Alligator type. Same as supplied.



**MB-96F:** Fixed type belt hanger for use with MB-98.  
**MB-96N:** Swivel type belt hanger.



**CP-17L:** CIGARETTE LIGHTER CABLE  
**OPC-515L:** DC POWER CABLE  
For use with the BC-152 or BC-119N. (12–16V DC required)



**OPC-966:** RS-232C interface cable for connecting with a PC.

**ANTENNAS**  
**FA-S24V:** 136–150MHz (Blue ring)  
**FA-S59V:** 150–174MHz (Red ring)  
**FA-S27U:** 400–470MHz (Green ring)  
**FA-S56U:** 450–520MHz (Red ring)  
**FA-S74U:** 490–520MHz (Blue ring)

**STUBBY ANTENNAS**  
**FA-S62VS:** 150–162MHz (Red ring)  
**FA-S63VS:** 160–174MHz (Green ring)  
**FA-S57US:** 450–490MHz (Red ring)

**SPECIFICATIONS**

**GENERAL**

- Frequency range :
  - IC-F50 136–174MHz
  - IC-F60 400–470MHz
  - 450–512MHz (U.S.A.)
  - 450–520MHz (General)
- Number of Channels : Max. 128 channels/ 8 banks
- Channel spacing : 12.5/25kHz, 15/30kHz
- Antenna impedance : 50Ω (SMA Type)
- Frequency error : ±2.5ppm
- PLL channel step :
  - IC-F50 2.5/3.125kHz
  - IC-F60 5/6.25kHz
- Power supply requirement : 7.2V DC
- Current drain (approx) :
  - Transmit IC-F50 1.5A/0.7A (5W/1W)
  - IC-F60 1.5A/0.8A (4W/1W)
  - Receive AF max. 300mA
  - Stand-by 85mA
- Operating temperature range : –30°C to +60°C; –22°F to +140°F
- Dimensions (W × H × D) : 56 × 97 × 36.4 mm ;  
(projections not included) 2<sup>7</sup>/<sub>32</sub> × 3<sup>13</sup>/<sub>16</sub> × 1<sup>7</sup>/<sub>16</sub> in.
- Weight (approx.; With BP-227) : 280g; 9.9oz

**TRANSMITTER**

- Output power : IC-F50 5.0W  
IC-F60 4.0W
- Modulation system : Variable reactance frequency modulation
- Max. frequency deviation : ±5kHz (wide)  
±2.5kHz (narrow)
- Modulation limiting : 60–100% of Max. deviation
- Audio harmonic distortion : 3% typ. (AF 1kHz, 40% deviation)
- Spurious emissions : 70dB Min.
- Adjacent channel power : 70dB Min. (wide)  
60dB Min. (narrow)
- FM Hum and Noise : 46dB typ. (wide)  
40dB typ. (narrow)
- External MIC impedance : 9-pin multi connector/2.2kΩ

Measurements made in accordance with EIA-152C/204D, TIA-603.  
All stated specifications are subject to change without notice or obligation.

**INTRINSICALLY SAFE TYPE APPROVAL**



There are versions that conform to intrinsically safe rating of the FMRC (Factory Mutual Research Corporation). Ask your dealer for details.  
Intrinsically safe : Class I, II and III, Division 1, Groups C, D, E, F, and G ;  
Nonincendive : Class I, Division 2, Groups A, B, C and D hazardous locations  
when used with Icom BP-227FM battery pack. "Max. Temp. T3C at 40°C"  
Approved accessories: Speaker-microphone, HM-138

**RECEIVER**

- Sensitivity : 0.25μV typ. (at 12dB SINAD)
- Squelch sensitivity : 0.25μV typ. (at threshold)
- Adjacent channel selectivity : 75dB typ. (wide)  
65dB typ. (narrow)
- Spurious response : 70dB
- Intermodulation : 74dB typ.
- Hum and noise : 45dB typ. (wide)  
40dB typ. (narrow)
- Audio output power : 0.5W typ. at 5% distortion with an 8Ω load
- External SP connector : 9-pin multi connector/8Ω

**Applicable U.S. Military Specifications**

Icom makes rugged products that have been tested to and passed the following MIL-STD requirements and strict environmental standards.

Standard	MIL 810C		MIL 810D		MIL 810E		MIL 810F	
	Method	Proc.	Method	Proc.	Method	Proc.	Method	Proc.
Low Pressure	500.1	I	500.2	I, II	500.3	I, II	500.4	I, II
High Temp.	501.1	I	501.2	I, II	501.3	I, II	501.4	I, II
Low Temp.	502.1	I	502.2	I, II	502.3	I, II	502.4-3	I, II
Temp. Shock	503.1	I	503.2	I	503.3	I	503.4	I
Solar Radiation	505.1	I	505.2	I	505.3	I	505.4	I
Rain Blowing/Drip	506.1	I, II	506.2	I, II	506.3	I, II	506.4	I, III
Humidity	507.1	I, II	507.2	II, III	507.3	II, III	507.4	–
Salt Fog	509.1	I	509.2	I	509.3	I	509.4	–
Dust Blowing	510.1	I	510.2	I	510.3	I	510.4	I
Vibration	514.2	VIII, X	514.3	I	514.4	I	514.5	I
Shock	516.2	I, II, V	516.3	I, IV	516.4	I, IV	516.5	I, IV

**Supplied accessories:**

- Antenna (Length may differ according to version)



- Alligator-type belt clip, MB-98
- Battery pack, BP-227

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