



## VHF AND UHF TRANSCEIVERS

# IC-F51

(VHF Transceiver)

# IC-F61

(UHF Transceiver)

**Waterproof**

1m depth for 30 minutes

Meets  
**MIL-STD 810**



**BIIS 1200  
Compatible**

Photo includes optional speaker-microphone, HM-138.

Icom Inc.

# Superior Waterproof Protection Supports Demanding Communication

Firefighters, Police, Security and Public utilities. Each profession has its own unique challenges, but all have one thing in common: the need for reliable communications. Icom's IC-F51/F61 offers a compact waterproof, MIL STD package, that's easy to use. Rain or shine, this radio keeps you in contact in nearly any environment.



## JIS Grade 7 Waterproof protection

The gasket sealed waterproof housing provides superior waterproof protection, equivalent to JIS Grade 7\*. Reliable and dependable use in harsh conditions such as rain, snow, sudden change in temperature, make the IC-F51/F61 the radio for all situations.



\* 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 8 5-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
- ID decode
- Emergency cancel

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## 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-F51/F61 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. Wide, middle and narrow (25/20/12.5kHz) channel bandwidth is programmable to each channel.

## Compact body

56(W)×97(H)×36.4(D) mm compact body with durable, dependable construction, meets MIL standard specifications. The compact design fits comfortably in your palm, and is easy to carry around.

## Built-in voice scrambler

The IC-F51/F61 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

## Waterproof microphone

An optional waterproof\* speaker-microphone, HM-138 provides reliable operation, even with the radio securely on your belt.

\* Equivalent to JIS Grade 7. (1m depth for 30 minutes.)

## Other features

- Built-in compander, compatible with the IC-F31G and IC-F510 series
- 8 DTMF autodial memories
- Powerful 5W output for IC-F51, 4W output for IC-F61
- Normal and priority scans
- 2 step power saver
- Optional AA alkaline battery case, BP-226
- Busy, repeater lockout functions
- Power ON password, and more...

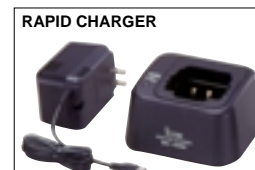
## OPTIONS



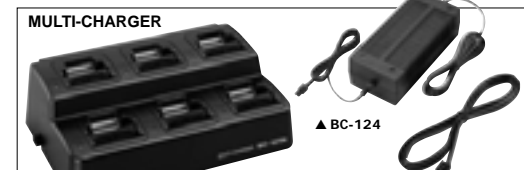
**BP-226 BATTERY CASE:** AA (R6)×5 alkaline cells. BP-226 is Water-resistant, equivalent to JIS Grade 4.  
**BP-227 Li-Ion BATTERY PACK,** 7.2V/1700mAh Provides 10 hours operating time\* (approx.). Operating temp. range: -20°C to +60°C; -4°F to +140°F. \* Tx: Rx: standby=5:5:90.



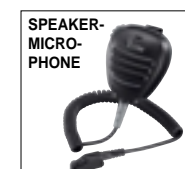
**BC-152 DESKTOP CHARGER + BC-147A/E AC ADAPTER** Regularly charges the BP-227 in 9–10 hours.



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



**BC-121N MULTI-CHARGER + AD-100 CHARGER ADAPTER + BC-124 AC ADAPTER** Rapidly 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 corresponds to JIS Grade 7. (1 m/30 min.)



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



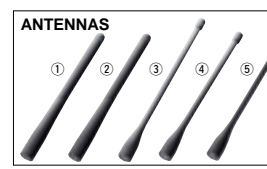
**MB-96F:** Leather belt hanger. For use with MB-98.



**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.



① **FA-S24V:** 136–150MHz (Blue ring)  
② **FA-S59V:** 150–174MHz (Red ring)  
③ **FA-S27U:** 400–470MHz (Green ring)  
④ **FA-S56U:** 450–520MHz (Red ring)  
⑤ **FA-S74U:** 490–520MHz (Blue ring)

## SPECIFICATIONS

## GENERAL

- Frequency range :
  - IC-F51 136–174MHz
  - IC-F61 400–470MHz
- Number of Channels : Max. 128 channels/ 8 banks
- Channel spacing : 12.5/20/25kHz
- Antenna impedance : 50Ω (SMA Type)
- PLL channel step :
  - IC-F51 2.5/3.125kHz
  - IC-F61 5/6.25kHz
- Power supply requirement : 7.2V DC
- Current drain (approx) :
  - Transmit at 5W 1.5A (IC-F51)
  - at 4W 1.5A (IC-F61)
  - at 1W 0.7A (IC-F51)
  - 0.8A (IC-F61)
  - Receive AF max. 300mA
  - Stand-by 85mA
- Operating temperature range : –25°C to +55°C
- Dimensions (W × H × D) : 56 × 97 × 36.4 mm  
(projections not included)
- Weight (approx.; With BP-227) : 280g

## TRANSMITTER

- Output power : IC-F51 5.0W  
IC-F61 4.0W
- Modulation system : Variable reactance frequency modulation
- Max. frequency deviation : ±5kHz (wide)  
±4kHz (middle)  
±2.5kHz (narrow)
- Frequency error : ±2.5ppm
- Spurious emissions : 0.25μW (and below 1GHz)  
1.0μW (above 1GHz)
- Modulation limiting : 60–100% of Max. deviation
- Audio harmonic distortion : 3% typ. (AF 1kHz, 40% deviation)
- Adjacent channel power : 70dB Min. (wide, middle)  
60dB Min. (narrow)
- Residual modulation : 55dB typ. (wide)  
(With CCITT filter) 53dB typ. (middle)  
50dB typ. (narrow)
- External MIC impedance : 9-pin multi connector/2.2kΩ

Measurements made in accordance with ETS 300-086.

All stated specifications are subject to change without notice or obligation.

## RECEIVER

- Sensitivity : –4dBμV typ. (emf, at 20dB SINAD)
- Squelch sensitivity : –4dBμV typ. (emf, at threshold)
- Adjacent channel selectivity : 75dB typ. (wide)  
65dB typ. (narrow, middle)
- Spurious response : 70dB
- Intermodulation : 67dB typ.
- Hum and noise : 55dB typ. (wide)  
(With CCITT filter) 53dB typ. (middle)  
50dB 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 meet MIL-STD requirements and strict environmental standards as follows.

Standard	MIL 810C		MIL 810D		MIL 810E		MIL 810F	
	Method	Proc.	Method	Proc.	Method	Proc.	Method	Proc.
Vibration	514.2	X	514.3	I	514.4	I	514.5	I
Shock	516.2	I, II, IV	516.3	I, IV	516.4	I, IV	516.5	I, IV

## Supplied accessories:

- Antenna (Length may differ according to version)



▲ VHF antenna

▲ UHF antenna



- Alligator-type belt clip, MB-98

- Battery pack, BP-227



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