



## VHF AND UHF TRANSCEIVERS

# IC-F51V

(VHF Transceiver)

# IC-F61V

(UHF Transceiver)



128 ch/  
8 zones

2-Tone, 5-Tone  
BIIS-1200 compatible

5W RF  
700mW AF

IP67 Dust-tight  
and Waterproof

8-character  
LCD display

Voice  
recorder

Vibration  
alert



**Radio**



**Pager**



**VIBRATION ALERT**



**700 mW (typ.) AUDIO OUTPUT**



**VOICE STORAGE**



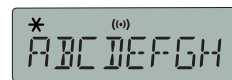
# Never miss in with loud audio, vibration

## Vibration alert function

When a pre-programmed 2-tone/5-tone code or call from a specific group user (BIIS mode) or a status message (BIIS mode) is received, the radio vibrates powerfully enough to be felt through heavy clothing.

## 8 minute voice recorder

When a pre-programmed 2-tone/5-tone code or a call from a specific group user (BIIS mode) is received, the voice recorder automatically starts recording the incoming message. You will not miss an important call even when you are temporarily away from the radio. You can manually start recording incoming calls and also your own message. It records up to a maximum of 8 minutes (Or up to 48 calls of 10 sec. recording time).



“ \* ” icon on the display shows you have a new message.

## 700mW audio output

The IC-F51V series delivers a loud 700mW\* audio output with the built-in BTL amp. The built-in audio compander provides clear, low noise communications. Improved bass characteristics also betters the audio quality. \* Typical with internal speaker.

## Lone worker function for remote check in

When the radio is not operated for a preset period (1 to 255 min.), the radio sounds a beep and requires you to push any button. If the radio is not operated for a preset time (1 to 255 sec.), an emergency signal automatically transmits and informs your co-worker or dispatcher that something may have happened to the individual worker.

## IP67, dust-tight and waterproof protection

The IC-F51V series has outstanding protection against dust and water that is equivalent to IP67. The IC-F51V series can withstand submersion in 1m depth of water for up to 30 minutes and has dust-tight construction that prevents the ingress of dust.



## Most popular signalings built-in

Use the built-in CTCSS, DTCS, 2-Tone, 5-Tone and BIIS signaling capabilities to set up your talk group or selective calling. The IC-F51V series can decode ten 2-Tone codes or eight 5-Tone codes on a channel. When a matched tone is received, the following actions are programmable for each code.

- Bell icon
- Answer back call
- Beep sound
- Auto transmit
- Radio Stun/Kill/Revive
- Voice recorder
- Vibration alert

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# Important calls alert and voice recorder!

## BIIS 1200 Compatible

The following selective calling and ANI features are available with the built-in BIIS signaling.

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

- 32 abbreviated call memories
- RS-232C interface
- 7 group IDs
- 24-status Messages
- Radio stun
- 8-character SDM (Short Data Message)
- Position data transmission with optional HM-170GP

## Mode dependent scan

In the mode dependent setting, the scanning setting is dependent on the operating channel. When you change the operating channel, the scanning list automatically changes to the operating channel setting. It is convenient when you move to a different operating area and change an operating channel, you don't have to change the scanning setting.

## Enhanced scanning

The Tx channel while scanning can be programmed per scanning list. The talk back function allows you to transmit on the channel detected after scanning resumes after a preset time, prior to the Tx channel setting. The nuisance delete function temporarily deletes a busy channel from the scanning list. Back-light at stop scan automatically turns on the LCD back-light when the scan stops.

## Compact body

56(W)×97(H)×36.4(D) mm compact body with durable, dependable construction, has been tested to MIL standard specifications.

## Li-Ion battery pack

The large capacity 1700mAh Lithium-Ion (Li-Ion) battery pack, BP-227 provides a practical 9–10 hours\* of operating time. With the new BC-190 charger, catch calls even during the night while charging the battery with the radio power on.

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

## Other features

- 128 memory channels with 8 zones
- Inversion type\*<sup>1</sup> voice scrambler built-in
- Optional VOX headsets available
- Optional GPS speaker-microphone
- Power ON password
- 8 DTMF autodial
- Normal and priority scans
- 2-step power saver and 2-step low battery beep
- MDC 1200 mode programmable
- BTL only version (no vibration alert and no voice recorder) and BTL/Vibration alert version (no voice recorder) available\*<sup>2</sup> and more...

\*<sup>1</sup> Inversion type voice scrambler is not compatible with UT-109/UT-110 voice scrambler. UT-109/UT-110 cannot be physically installed into the radio.

\*<sup>2</sup> Not available in some countries.

## OPTIONS

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



**BP-226** : AA (LR6)×5 BATTERY CASE  
BP-226 is water-resistant, equivalent to IPX4.  
**BP-227** : 7.2V/1700mAh Li-Ion BATTERY PACK  
Provides 9–10 hours operating time\* (approx.).  
Operating temp. range: -20°C to +60°C; -4°F to +140°F.  
\* Tx: Rx: standby=5:5:90.



**BC-121N MULTI-CHARGER + AD-100 CHARGER ADAPTER + BC-157 AC ADAPTER**  
Rapidly charges up to 6 battery packs (Six AD-100s are required) in 2–2.5 hrs.



**BC-190 DESKTOP CHARGER + BC-145L AC ADAPTER**  
Rapidly charges the BP-227. Charge the radio, even when the radio power is on.



**BC-119N DESKTOP CHARGER + AD-100 CHARGER ADAPTER + BC-145 AC ADAPTER**  
Rapidly charges the BP-227 in 2–2.5 hrs.



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



**HS-94** : Earhook headset with flexible boom microphone.  
**HS-95** : Behind-the-head headset with flexible boom microphone.  
**HS-97** : Throat microphone fits around your neck and picks up speech vibration.  
**VS-15C** : VOX/PTT CASE. Required when using these headsets with the transceiver. These headsets and VS-15C are water-resistant, equivalent to IPX4.



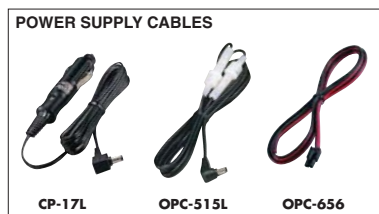
**HM-138** : Full sized speaker-microphone. Equivalent to IPX7.  
**HM-168** : Compact type speaker-microphone. Equivalent to IPX7.  
**HM-169** : Rugged type speaker-microphone. Equivalent to IP57.  
**HM-170GP** : GPS speaker-microphone for BIIS mode. Equivalent to IP57.



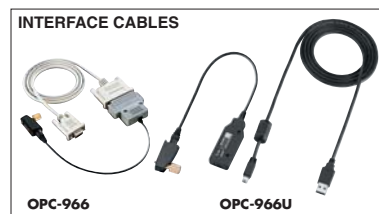
**MB-86** : Swivel type. Prevents accidental dropping from your belt.  
**MB-98** : Alligator type. Same as supplied.  
**MB-96F** : Fixed type belt hanger for use with MB-98.  
**MB-96N** : Swivel type belt hanger.



**FA-S24V** : 136–150MHz (Blue ring)  
**FA-S59V** : 150–174MHz (Red ring)  
**FA-S62VS** : 150–162MHz (90mm stubby type, red)  
**FA-S63VS** : 160–174MHz (90mm stubby type, green)



**CP-17L** : 12V cigarette lighter cable for BC-119N or BC-152.  
**OPC-515L** : DC power cable for BC-119N or BC-152.  
**OPC-656** : DC power cable for BC-121N.



**OPC-966** : RS-232C interface cable for connection with a PC.  
**OPC-966U** : USB interface cable for connection with a PC.

## SPECIFICATIONS

## GENERAL

- Frequency range :
  - IC-F51V 136–174MHz
  - IC-F61V 400–470MHz
- Number of Channels : Max. 128 channels/ 8 zones
- Channel spacing : 12.5/20/25kHz
- PLL channel step : 2.5/3.125kHz
- Antenna impedance : 50Ω (SMA Type)
- Power supply requirement : 7.2V DC
- Current drain (approx.) :
  - Transmit High 1.8A (5W/4W)
  - Receive AF max. 500mA (Internal speaker)
  - 300mA typ. (External speaker)
  - Stand-by 85mA
- Operating temperature range : –25°C to +55°C
- Dimensions (W×H×D) : 56 × 97 × 36.4mm (projections not included)
- Weight (approx.) VHF : 280g (With BP-227)
- UHF : 284g (With BP-227)

## TRANSMITTER

- Output power IC-F51V : 5.0W
- IC-F61V : 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 (≤ 1GHz)
- 1.0μW (> 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)
- 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, middle)
- 65dB typ. (narrow)
- Spurious response : 70dB
- Intermodulation : 67dB typ.
- Hum and noise : 55dB typ. (wide)
- 53dB typ. (middle)
- 50dB typ. (narrow)
- Audio output power : 0.7W typ. (Internal speaker)
- 0.5W typ. (External speaker)
- at 5% distortion with an 8Ω load
- External SP connector : 9-pin multi connector/8Ω

## Applicable U.S. Military Specifications &amp; IP Rating

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

Standard	MIL 810F	
	Method	Procedure
Low Pressure	500.4	I, II
High Temperature	501.4	I, II
Low Temperature	502.4-3	I, II
Temperature Shock	503.4	I
Solar Radiation	505.4	I
Rain	506.4	I, III
Humidity	507.4	–
Salt Fog	509.4	–
Dust Blowing	510.4	I
Vibration	514.5	I
Shock	516.5	I, IV

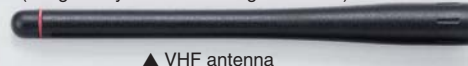
Also meets equivalent MIL-STD-810-C, -D and -E.

## Ingress Protection Standard

Dust & Water	IP67 (Dust-tight and waterproof protection)
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## 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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