ICOM

VHF AND UHF TRANSCEIVERS

IC-F51 (VHF Transceiver)
IC-F61 (UHF Transceiver)



Photo includes optional speaker-microphone, HM-138.

Icom Inc.





▼ IC-F51

▼ IC-F61

Superior Wa
Supports De

Firefighters, Police, Securi unique challenges, but all ha nications. Icom's IC-F51/F6 easy to use. Rain or shine, ment.

Dust and Waterproof protection equivalent to IP67*

The gasket sealed waterproof housing provides superior dust and water-proof** protection, equivalent to IP67. Reliable and de-pendable use in harsh conditions under water or dust, make the IC-F51 /IC-F61 the radio for all situations.



* The IC-F51/F61 is equivalent to IP67 of the corresponding 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 other groups are talking. You can also set up selective calls to individuals or control a repeater.

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 dis-trict 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

VHF AND UHF TRANSCEIVERS

IC-F51
VHF Transceiver

IC-F61
UHF Transceiver

terproof Protection
manding Communication



ty and Public utilities. Each profession has its own ave one thing in common: the need for reliable commu- 1 offers a compact waterproof, MIL STD package, that's this radio keeps you in contact in nearly any environ-

Li-Ion battery pack

The large capacity 1950mAh (typ.) 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 covers 136–174MHz and the IC-F61 covers 400–470MHz in one version. The 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* channel bandwidth is programmable to each channel.

(* Programmable 25/12.5kHz or 20/12.5kHz Ch.)

Compact body

56(W)×97(H)×36.4(D) mm compact body with durable, dependable construction, has been tested to 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 optional HM-170GP

ATEX Intrinsically safe version*

An intrinsically safe version conforming to the 94/9/EC ATEX Directive, is suitable for use in hazardous areas where flammable gasses, liquids or combustible dusts are used.

* See specification page for applied classes.

Other features

• Built-in audio compander • 8 DTMF autodial memories • Normal and priority scans • 2 step power saver • Optional AA alkaline battery case, BP-226 • Optional GPS speaker microphone, HM-170GP • 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
AA (LR6) batteries × 5

BP-227
BP-227AXD
Li-Ion 7.4V/ 1850mAh (min.) 1950mAh (typ.)



BP-226 BATTERY CASE: AA (LR6)×5 alkaline cells. BP-226 is water-resistant, equivalent to IPX4.
* BP-226 is **not approved** as intrinsically safe.
BP-227/BP-227AXD Li-Ion BATTERY PACK
Provides 10 hours operating time* (approx.).
BP-227AXD is for ATEX gas and dust approval version.
Operating temp. range: BP-227: –20°C to +60°C.
BP-227AXD: –20°C to +55°C. * Tx: Rx: standby=5:5:90.

BATTERY CHARGER



BC-147S BC-152

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

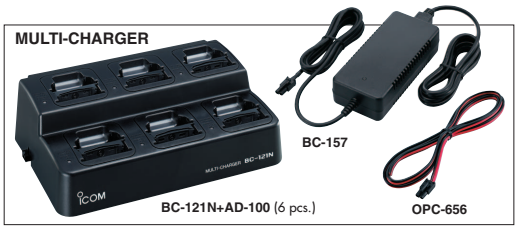
RAPID CHARGER



BC-145S BC-119N+AD-100

BC-119N DESKTOP CHARGER + **AD-100** CHARGER ADAPTER + **BC-145SA/SE/SV** AC ADAPTER
Rapidly charges the BP-227 in 2–3 hours.

MULTI-CHARGER



BC-121N+AD-100 (6 pcs.) OPC-656

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 2–2.5 hours.
OPC-656 DC POWER CABLE; For use with the BC-121N. (12–20V DC required).

These chargers are not approved as intrinsically safe. **Do not charge** the BP-227AXD in an explosive atmosphere.

SPEAKER-MICROPHONES



HM-168 HM-169 HM-170GP

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.
HM-138 : Full sized speaker-microphone. Equivalent to IPX7. HM-138 is approved as intrinsically safe.

BELT CLIPS AND LEATHER BELT HANGERS



MB-86 MB-96F

MB-86 : Swivel type belt clip.
MB-98 : Alligator type. Same as supplied.
MB-96N : Swivel type belt hanger.
MB-96F : Fixed type belt hanger.



CP-23L OPC-515L

CP-23L : CIGARETTE LIGHTER CABLE
OPC-515L : DC POWER CABLE
For use with the BC-152 or BC-119N. (12–16V DC required)
* These cables are **not approved** as intrinsically safe.

INTERFACE CABLE



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

ANTENNAS
FA-S24V: 136–150MHz (Blue ring)
FA-S59V: 150–174MHz (Red)
FA-S27U: 400–470MHz (Green)
FA-S56U: 450–520MHz (Red)
* The FA-S24V and FA-S56U are **not approved** as intrinsically safe.

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

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)
	at 1W	0.8A (IC-F61)
Receive	AF max.	300mA
	Stand-by	85mA

- Operating temperature range : –25˚C to +55˚C
  - ATEX version: –20˚C to +55˚C
- Dimensions (W × H × D) (projections not included) : 56 × 97 × 36.4mm
- Weight (approx.;) : 280g (With BP-227)
  290g (With BP-227AXD)

TRANSMITTER

- Output power : 5.0W/4.0W (IC-F51/F61)
  - ATEX version: 1.0W/1.0W (IC-F51/F61)
- 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)
- External MIC impedance : 9-pin multi connector/2.2kΩ

ATEX INTRINSICALLY SAFE TYPE APPROVAL

There are versions that conform to ATEX gas and dust (II2GD) approval. Ask your dealer for details.

The approved rating is
Gas: II2GD Ex ib IIA T3
Dust: II2GD Ex tD A21 T160˚C IP67
Special conditions for use: Must be used with **BP-227AXD**
Approved accessories: Speaker-microphone HM-138
Antenna FA-S59V, S27U, Stubby antenna FA-S62VS, S63VS, S27US
Belt clip MB-96, MB-86, Leather belt hanger MB-96F

* Note for IC-F51/F61 ATEX Non-Dust (II2G) version users, please use only the **BP-227AX** battery pack with the IC-F51/F61 ATEX Non-Dust version.

RECEIVER

- Sensitivity : –4dBμV typ. (emf, at 20dB SINAD)
- Squelch sensitivity : –4dBμV typ. (emf, at threshold)
- Adjacent channel selectivity : 75dB typ. (wide)
  73dB typ. (middle)
  65dB typ. (narrow)
- Spurious response : 70dB
- Intermodulation : 67dB typ.
- Hum and noise (With CCITT filter) : 55dB typ. (wide)
  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

Measurements made in accordance with ETS 300-086.
All stated specifications are subject to change without notice or obligation.

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 810F	
	Method	Procedure
Low Pressure	500.4	I, II
High Temperature	501.4	I, II
Low Temperature	502.4	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.

Supplied accessories: (May differ according to version)

- Antenna (Length may differ according to version)



▲ VHF antenna

▲ UHF antenna

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

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