



VHF AND UHF TRANSCEIVERS

IC-F51

(VHF Transceiver)

IC-F61

(UHF Transceiver)

Waterproof

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
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 waterproof** protection, equivalent to IP67. Reliable and dependable 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 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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Waterproof Protection Demanding Communication

Police and Public utilities. Each profession has its own requirements. They all have one thing in common: the need for reliable communication. Motorola 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.

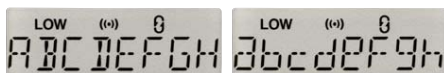
* Typical operation Tx:Rx:Stand-by=5:5:90

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-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 a GPS

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 or liquids are used.

* See specification page for applied classes.

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
- Optional waterproof peaker-microphone, HM-138
- Busy, repeater lockout functions
- Power ON password, and more...

OPTIONS

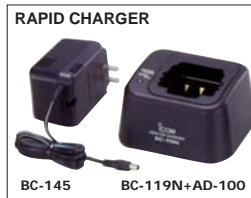
Some options may not be available in some countries. Please ask your dealer for details.



BP-226 BATTERY CASE: AA (LR6)×5 alkaline cells. BP-226 is water-resistant, equivalent to IPX4.
* BP-226 is **not approved** as intrinsically safe.
BP-227/AX Li-Ion BATTERY PACK, 7.2V/1700mAh Provides 10 hours operating time* (approx.). BP-227AX is for ATEX version.
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/E/V AC ADAPTER
Rapidly charges the BP-227 in 2.5–3 hours.



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 2.5–3 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-227AX in an explosive atmosphere.



HM-138: Full sized, waterproof construction corresponds to IPX 7. (1 m depth /30 min.). Approved as intrinsically safe.



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)

* These cables are **not approved** as intrinsically safe.



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)
* The FA-S56U is **not approved** as intrinsically safe.

STUBBY ANTENNAS

FA-S62VS: 150–162MHz (Red ring)
FA-S63VS: 160–174MHz (Green ring)
FA-S57US: 450–490MHz (Red ring)
* These stubby antennas are **not approved** as intrinsically safe.

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
• Dimensions (W × H × D)	: 56 × 97 × 36.4mm (projections not included)
• Weight (approx. :)	: 280g (With BP-227) 290g (With BP-227AX)

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)
• Residual modulation (With CCITT filter)	: 55dB typ. (wide) 53dB typ. (middle) 50dB typ. (narrow)
• External MIC impedance	: 9-pin multi connector/2.2kΩ

ATEX INTRINSICALLY SAFE TYPE APPROVAL



There are versions that conform to ATEX intrinsically safe. Ask your dealer for details.

The approved rating is II2G EEx ib IIA T3.
Special conditions for use: Must be used with BP-227AX
Approved accessories: Speaker-microphone HM-138

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 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	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)



▲ VHF antenna

▲ UHF antenna



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

Icom Inc. 1-1-32, Kamiminami, Hirano-ku, Osaka 547-0003, Japan Phone: +81 (06) 6793 5302 Fax: +81 (06) 6793 0013 URL: <http://www.icom.co.jp/world/index.html>

Count on us!

Icom America Inc.
2380 116th Avenue NE,
Bellevue, WA 98004, U.S.A.
Phone: +1 (425) 454-8155
Fax: +1 (425) 454-1509
E-mail: sales@icomamerica.com
URL: <http://www.icomamerica.com>

Icom New Zealand
146A Harris Road, East Tamaki,
Auckland, New Zealand
Phone: +64 (09) 274 4062
Fax: +64 (09) 274 4708
E-mail: inquiries@icom.co.nz
URL: <http://www.icom.co.nz>

Icom (UK) Ltd.
Unit 9, Sea St., Herne Bay,
Kent, CT6 8LD, U.K.
Phone: +44 (01227) 741741
Fax: +44 (01227) 741742
E-mail: info@icomuk.co.uk
URL: <http://www.icomuk.co.uk>

Asia Icom Inc.
6F No. 68, Sec. 1 Cheng-Teh Road,
Taipei, Taiwan, R.O.C.
Phone: +886 (02) 2559 1899
Fax: +886 (02) 2559 1874
E-mail: sales@asia-icom.com
URL: <http://www.asia-icom.com>

Icom Canada
Glenwood Centre #150-6165 Highway 17,
Delta, B.C., V4K 5B8, Canada
Phone: +1 (604) 952-4266
Fax: +1 (604) 952-0090
E-mail: info@icomcanada.com
URL: <http://www.icomcanada.com>

Icom (Europe) GmbH
Communication Equipment
Himmelgeister Str. 100,
D-40225 Düsseldorf, Germany
Phone: +49 (0211) 346047
Fax: +49 (0211) 333639
E-mail: info@icom-europe.com
URL: <http://www.icom-europe.com>

Icom France S.a
Zac de la Plaine, 1,
Rue Brindejonc des Moulinais BP 5804,
31505 Toulouse Cedex, France
Phone: +33 (5) 61 36 03 03
Fax: +33 (5) 61 36 03 00
E-mail: icom@icom-france.com
URL: <http://www.icom-france.com>

Beijing Icom Ltd.
10C07, Long Silver Mansion, No.88, Yong Ding
Road, Haidian District, Beijing, 100039, China
Phone: +86 (010) 5889 5391/5392/5393
Fax: +86 (010) 5889 5395
E-mail: bjicom@bjicom.com
URL: <http://www.bjicom.com>

Icom (Australia) Pty. Ltd.
A.B.N. 88 006 092 575
Unit 1 / 103 Garden Road,
Clayton VIC 3168 Australia
Phone: +61 (03) 9549 7500
Fax: +61 (03) 9549 7505
E-mail: sales@icom.net.au
URL: <http://www.icom.net.au>

Icom Spain S.L.
Crta. de Gracia a Manresa Km. 14,750
08190 Sant Cugat del Valles Barcelona, Spain
Phone: +34 (93) 590 26 70
Fax: +34 (93) 589 04 46
E-mail: icom@icomspain.com
URL: <http://www.icomspain.com>

Icom Polska
Sopot, 3 maja 54, Poland
Phone: +48 (58) 550 7135
Fax: +48 (58) 551 0484
E-mail: icompolkska@icompolkska.com.pl
URL: <http://www.icompolkska.com.pl>



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Your local distributor/dealer: