



# IC-F51 ATEX IC-F61 ATEX

(VHF Transceiver)

(UHF Transceiver)



# **INTRINSICALLY SAFE VERSION**





# **Superior Wat Supports De**

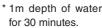
Firefighters, Police, Security challenges, but all have one Icom's IC-F51/F61 offers a co Rain or shine, this radio keep

#### **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.





#### **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

**VHF AND UHF TRANSCEIVERS** 

IC-F51 ATEX

VHF Transceiver

IC-F61 ATEX

**UHF** Transceiver

# terproof Protection manding Communication

and Public utilities. Each profession has its own unique thing in common: the need for reliable communications. Impact waterproof, MIL STD package, that's easy to use. The solutions is solution to be used to b

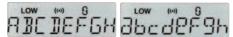


#### **Up to 7 Programmable Buttons**

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.

#### **Built-in Voice Scrambler**

The IC-F51/F61 has a built-in rolling type voice scrambler equivalent to the UT-110.

## 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.)

#### **Li-Ion Battery Pack**

The large capacity 1950mAh (typ.) Lithium-lon (Li-lon) battery pack, BP-227AXD provides a practical 10 hours\* of operating time. Li-lon batteries allow flexible charging and have almost no memory effect.

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

#### **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.

#### **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)

#### **Other Features**

• Built-in audio compander • 8 DTMF autodial memories • Normal and priority scans • 2 step power saver • Busy, repeater lockout functions • Power ON password, and more...



#### **ATEX Intrinsically Safe**

The IC-F51/F61 and designated options are certified to the ATEX Protection Class II 2 GD Ex ib IIA T3 Ex tD A21 T160°C IP67 as interpreted in the following table. It is suitable for use in hazardous areas where flammable gasses, liquids or combustible dusts are used.

#### **ATEX Gas Protection**

| Ш | 2 | G | D | Ex | ib | IIA | ТЗ                             | T3 = Device surface temperature will not exceed 200°C                |
|---|---|---|---|----|----|-----|--------------------------------|--|
|   |   |   |   |    |    |     |                                | IIA = Protection in GAS group  |
|   |   |   |   |    |    |     |                                | ib = Intrinsically safety according to EN60079-0                     |
|   |   |   |   |    |    |     | Ex = Explosion proof equipment |  |
|   |   |   |   |    |    |     |                                | D = Dusts  |
|   |   |   |   |    |    |     |                                | G = Gas, vapour and mist   |
|   |   |   |   |    |    |     |                                | 2 = High level protection for use in zone 1 (gas) and zone 21 (dust) |
|   |   |   |   |    |    |     |                                | II = Group II, other (non-mining) environments                       |

#### **ATEX Dust Protection**

| - |    |    |     |             |  |  |
|---|----|----|-----|-------------|--|--|
|   | Ex | tD | A21 | T160°C IP67 |  | IP67 = IP67 dust and water proof protection    |
|   |    |    |     |             |  | T160°C = Maximum temperature of device surface |
|   |    |    |     |             |  | A21 = For use in dust zone 21 environments     |
|   |    |    |     |             |  | tD = Enclosure protection                      |
|   |    |    |     |             |  | Ex = Explosion proof equipment                 |

#### **ATEX Gas Group Classification**

|     | T1: 450°C       | T2: 300°C       | T3: 200°C     |
|-----|-----------------|-----------------|---------------|
| I   | Methane         |                 |               |
|     | Acetone         | Ethyl alcohol   | Benzine       |
|     | Ethane          | I-amyl acetate  | Diesel fuel   |
|     | Ethyl acetate   | n-butane        | Aircraft fuel |
|     | Ammonia         | n-butyl alcohol | Heating oil   |
| IIA | Benzene (pure)  |                 | n-hexane      |
| IIA | Acetic acid     |                 |               |
|     | Carbon Monoxide |                 |               |
|     | Methanol        |                 |               |
|     | Propane         |                 |               |
|     | Toluene         |                 |               |

## IC-F51 ATEX • IC-F61 ATEX

#### **SPECIFICATIONS**

|  | IC-F51 ATEX                                | IC-F61 ATEX<br>IC-F61-L ATEX           |  |
|--|--|--|--|
| GENERAL  |  |  |  |
| Frequency coverage   | 136-174MHz                                 | 400–470MHz<br>350–400MHz (Non-RTTE)    |  |
| Number of channels   | Max. 128 channels/ 8 zones                 |  |  |
| Type of emission   | 16K0F3E, 14K0F3E, 8K50F3E                  |  |  |
| Channel spacing  | 12.5/20/25kHz                              | 12.5/20/25kHz<br>12.5/25kHz (IC-F61-L) |  |
| PLL channel step   | 2.5/3.125kHz                               | 5/6.25kHz                              |  |
| Power supply requirement   | 7.2V D                                     | C nominal                              |  |
| Current drain (approx.)  Tx High (at 1W)  Rx Max. audio  Standby | 0.7A<br>300mA<br>85mA                      | 0.8A<br>300mA<br>85mA                  |  |
| Antenna impedance  | 50Ω (SMA type)                             |  |  |
| Operating temperature range                                      | -20°C to +55°C                             |  |  |
| Dimensions (W×H×D) (Projections not included)                    | 56×97×36.4mm (With BP-227AXD)              |  |  |
| Weight (approx.)   | 290g (With BP-227AXD)                      |  |  |
| TRANSMITTER  |  |  |  |
| Output power (at 7.2V DC)  | 1W   |  |  |
| Max. frequency deviation   | ±5.0kHz/±4.0kHz/±2.5kHz (W/M/N)            |  |  |
| Frequency stability  | ±2.5ppm                                    |  |  |
| Spurious emissions   | 0.25μV (≤1GHz)<br>1.0μV (>1GHz)            |  |  |
| Modulation limiting  | 60-100% of Max. deviation                  |  |  |
| Audio harmonic distortion  | 3% typ. (AF 1kHz 40% deviation)            |  |  |
| Ext. microphone connector  | 9-pin multi connector/2.2kΩ                |  |  |
| RECEIVER   |  |  |  |
| Sensitivity (at 20dB SINAD)                                      | -4dBµV typ. (emf)                          |  |  |
| Adjacent channel selectivity                                     | 75/73/65dB min. (W/M/N)                    |  |  |
| Spurious response  | 70dB                                       |  |  |
| Intermodulation rejection  | 67dB typ.                                  |  |  |
| Hum and noise  | 55/53/50dB typ. (W/M/N)                    |  |  |
| Audio output power   | 500mW typ. (at 5% distortion with 8Ω load) |  |  |
| Ext. speaker connector   | 9-pin multi connector/8Ω                   |  |  |

Measurements made in accordance with EN 300-086.

All stated specifications are subject to change without notice or obligation

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

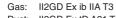
| Standard          | MIL 810 F |           |  |
|-------------------|-----------|-----------|--|
| Staridard         | Method    | Procedure |  |
| Low Pressure      | 500.4     | I, II     |  |
| High Temperature  | 501.4     | I, II     |  |
| Low Temperature   | 502.4     | I, II     |  |
| Temperature Shock | 503.4     | I         |  |
| Solar Radiation   | 505.4     | I         |  |
| Rain Blowing/Drip | 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

ction Standard Dust & Water IP67 (Dust-protection and waterproof protection)

#### ATEX INTRINSICALLY SAFE TYPE APPROVAL

The approved rating is



Dust: II2GD Ex tD A21 T160°C IP67

Special conditions for use: Must be used with BP-227AXD When the transceiver is used in hazardous areas, either the jack cover or HM-138 must be attached to the connector.

\* 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.

#### **OPTIONS**

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



1850mAh (min )



BATTERY CHARGER\*2

Charges the BP-227AXD in 9-10 hours. (approx.)







- BC-145SA/BC-147SA for 120V AC. SE for 230V AC. SV for 240V AC. BC-145SUK for 230V AC.
   These chargers are not approved as intrinsically safe. Do not charge the BP-227AXD in an explose





ANTENNAS FA-S24V: 136-150MHz (Blue ) FA-S59V: 150-174MHz (Red) FA-S27U: 400-470MHz (Green)

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

### Supplied accessories: (May differ according to version) • Antenna (Length may differ according to version)



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