ICOM

VHF & UHF P25 CONVENTIONAL & TRUNKED TRANSCEIVERS

IC-F9011T
VHF transceiver with full keypad

IC-F9021T
UHF transceiver with full keypad

IC-F9011S
VHF transceiver with simple keypad

IC-F9021S
UHF transceiver with simple keypad

IC-F9011B
VHF transceiver without LCD and front keypad

IC-F9021B
UHF transceiver without LCD and front keypad

Featured for the First Responder!

- 512 Channels/ 128 Zones
- P25 Conventional & Trunking
- AES/DES Encryption (Option)
- Enhanced Vocoder Ready
- VHF 6W, UHF 5W Output
- IP57 Dust & Waterproof
- Full Dot-matrix LCD*
- 4-way Cross Keypad*

IC-F9011T/S and IC-F9021T/S only.

IP57   Rugged MIL-STD 810   AES/DES option   DIGITAL

P25 · DIGITAL WIRELESS · SANS FIL NUMÉRIQUE · INALÁMBRICO DIGITAL

Ready for: P25 conventional, P25 trunking and analog conventional. All in one radio!

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P25 Conventional & Trunking Features

P25 Conventional and Trunking
The IC-F9011 series has P25 conventional and trunking capabilities as standard. You can assign individual channels to analog conventional, P25 conventional or P25 trunking, all within one radio.

Interoperability
The IC-F9011 series conforms to the standard specifications for TIA/EIA TSB-102, CAAB, Digital C4FM Transceiver Performance Recommendations and provides interoperability with other brand P25 equipment for public safety applications.

Digital/Analog mixed mode operation
The mixed mode operation allows you to detect and receive both analog FM and P25 digital modes and to transmit either mode depending on programming.

Individual ID and talkgroup ID
The IC-F9011T/S and IC-F9021T/S have a 100 individual ID and 250 talkgroup ID memories. Use the display to visually select the person or group you're going to call.

Optional AES/DES encryption
The IC-F9011 series provides AES and/or DES encryption for secure conversation with the optional UT-125 AES/DES encryption unit or UT-128 DES encryption unit. Versions certified to FIPS 140-2 Level 1 for AES encryption are planned for future release.

Enhanced vocoder ready
Using the DVSI's AMBE+2™ vocoder, the IC-F9011 series is enhanced vocoder ready.

OTAR (Over-the-Air-Rekeying)
The IC-F9011 series supports P25 OTAR for changing encryption keys over the air.

4-way navigation cross keypad
The 4-way cross keypad* on the front panel provides an intuitive user interface.
* IC-F9011T/S and IC-F9021T/S only.

Encryption button and 3-position zone select switch
On the top of the radio, there is a toggle switch to turn the encryption on or off* and the 3 position switch allows you to quickly select an operating zone*.
* According to the programming setting.

Large dot-matrix display
The IC-F9011T/S and F9021T/S have a large dot-matrix display to show various operating status at a glance. At the bottom line of the display, the key indicator shows the assigned functions to the [I], [II] and [III] buttons for more efficient operation.

Internal clock setting example

Slim dimensions
At only 41.8mm ($1^{21}/_{32}$ in) thick, the IC-F9011 series is designed as a solid and ergonomic shape that will fit comfortably in your hand.

6W RF output power
The IC-F9011T/S/B provides 6W* of high output power. The supplied 3040mAh (typ.) Li-Ion battery pack, BP-254, provides 9 hours* of operating time.
* 5W for IC-F9021T/S/B. Typical operation with Tx: Rx: standby=5:5:90.

1000mW audio output power
The built-in BTL amplifier doubles the audio output power and delivers loud audio to receive all calls under noisy environments. In addition, even when using an optional speaker microphone, the BTL amplifier output is also available from the external accessory connector which increases the audio output via the microphone.

IP57 dust and waterproof protection
The IC-F9011 series has dust and waterproof protection equivalent to IP57 and is tested to demanding MIL-STD 810 requirements. IP57 waterproof protection means the IC-F9011 series can be submerged in 1 meter of water for 30 minutes. The radio can withstand rugged use even under harsh weather conditions.

14-pin accessory connector
The new 14-pin accessory connector enhances the IC-F9011 series performance and capabilities. It has reserved pins for programmable key inputs.

Tactical group function
The tactical group function allows you to copy memory channels to the tactical zone and temporarily regroup memory channels. Using the optional zone copy cable, memory channels in the tactical zone can be transferred from a master radio to other radios.

Abundant scanning settings
The dual priority scan monitors two primary channels alternately, while scanning other channels. The mode dependent scan function automatically changes the scan list according to the operating channel. The talk back function with timer beep, TX channel and cancel channel settings allow you to preset the transmission channel when you push the PTT button during scanning operation or cancel the scanning.

Optional Man Down unit
With the optional Man Down unit, UT-124R, the IC-F9011 series automatically sends an emergency signal when the radio is left in a horizontal position for a preset time.

Other features
- Wide frequency coverage
- FM wide/narrow channel spacing*[1]
- 512 channels/128 zones
- Built-in audio compander*[1]
- Built-in inversion type voice scrambler*[1]
- VOX function for hands-free operation
- Optional waterproof speaker microphone, HM-184
- Talk around function
- CTCSS and DTCS encoder and decoder*[1]
- DTMF autodial*[1]
- 2-Tone encoder and decoder*[1] and MDC 1200 compatible*[1]

*[1] Analog mode only

SPECIFICATIONS

GENERAL

- Frequency range :
  - IC-F9011T/S/B — 136–174MHz
  - IC-F9021T/S/B — 380–470, 450–520MHz
- Number of channels : Max. 512 channels/128 zones
- Type of emission : 16K0F3E, 11K0F3E, 8K10F1E/F1D (digital)
- Channel spacing :
  - Analog — 15/30kHz (VHF), 12.5/25kHz (UHF)
  - Digital — 12.5kHz
- PLL channel step : 2.5kHz, 3.125kHz
- Antenna impedance : 50Ω
- Operating Temp. range : −30˚C to +60˚C ; −22°F to +140°F
- Power supply requirement : 7.2V DC
- Current drain (at 7.2V DC; approx.):
  - Tx High (VHF/UHF) — 2.2A/2.1A (at 6W/5W)
  - Rx Max. audio — 800mA (Backlight off)
  - Stand-by — 300mA (Backlight off)
- Dimensions (W×H×D) : 58.6×167×41.8 mm; (projections are not included) $2^5/_{16} \times 6^9/_{16} \times 1^2 {}^1/_{32}$ in (with BP-254)
- Weight (approx.) : 533g; 1.17lb (with BP-254)

Measurements made in accordance with TIA/EIA-102 (Digital), TIA/EIA-603B (Wide/narrow). All stated specifications are subject to change without notice or obligation.

TRANSMITTER

- Output power VHF : 6W, 2W, 1W (High, L2, L1)
  - UHF : 5W, 2W, 1W (High, L2, L1)
- Max. frequency deviation : ±5.0/2.5kHz (Wide/narrow)
  - Maximum pattern ±2.85kHz (Digital)
- Frequency stability : ±1.0ppm
- Spurious emissions : 75/80dB typ. (VHF/UHF)
- FM hum and noise : 45/40dB typ. (Wide/narrow)
- Audio harmonic distortion : 2% typ. (40% deviation)
- Ext. microphone connector : 14-pin multi connector/2.2kΩ

Applicable U.S. Military Specifications & IP Rating

Standard	MIL 810 F	
	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	510.4	I
Immersion	512.4	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	IP57 (Dust-protection and waterproof protection)

RECEIVER

- Sensitivity :
  - Analog — 0.25μV typ. (at 12dB SINAD)
  - Digital — 0.30μV typ. (at 5% BER)
- Adjacent Ch. selectivity :
  - Analog (TIA/EIA603B) — 75/48dB typ. (VHF, W/N) / 75/50dB typ. (UHF, W/N)
  - (TIA/EIA603) — 80/70dB typ. (VHF, W/N) / 76/70dB typ. (UHF, W/N)
  - Digital — 60dB typ.
- Spurious response : 80dB typ.
- Intermodulation : 75dB typ.
- Hum and noise ratio : 50/45dB typ. (VHF, W/N) / 50/44dB typ. (UHF, W/N)
- Audio output power : 1.0W typ. (at 10% distortion with an 8Ω load)
- External speaker connector: 14-pin multi connector/8Ω

Supplied Accessories
- Belt clip, MB-115
- Battery pack, BP-254
- Antenna

OPTIONS

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

BATTERY PACK AND CASE

BP-254   BP-237

BP-254 7.4V/2900mAh (min.) 3040mAh (typ.) Li-Ion BATTERY PACK Provides 9 hours operating time* (approx.).
BP-237 BATTERY CASE AA (LR6)×6 alkaline cells. BP-237 is water resistant, equivalent to IPX4.
* Tx: Rx: standby=5:5:90.

DESKTOP CHARGER

BC-145SA   BC-119N+AD-110

BC-119N DESKTOP CHARGER + **AD-110** CHARGER ADAPTER + **BC-145SA** AC ADAPTER Charges the BP-254. Charging time: approx. 4 hours when BP-254 is attached.

MULTI-CHARGER

BC-157S

BC-121N+AD-110 (6 pcs.)

BC-121N MULTI-CHARGER + **AD-110** CHARGER ADAPTER + **BC-157S** AC ADAPTER Charges up to 6 battery packs (Six AD-110s are required). Charging time: approx. 4 hours when BP-254 is attached.

INTERNAL UNITS

UT-124R   MAN DOWN UNIT   UT-125   AES/DES ENCRYPTION UNIT   UT-128   DES ENCRYPTION UNIT

UT-124R : Provides a measure of safety when working in a hazardous environment, etc.
UT-125 : Provides AES and DES encryption capabilities.
UT-128 : Provides DES encryption capabilities.

Optional internal units should be installed by an authorized Icom service center only.

SPEAKER-MICROPHONE

HM-184

HM-184 Rugged type speaker-microphone. Equivalent to IP57.

HEADSETS & PTT/VOX UNIT

HS-94   HS-95   HS-97   VS-1MC

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-1MC : VOX/PTT CASE. Required when using these headsets with the transceiver.

POWER SUPPLY CABLES

CP-23L   OPC-515L

CP-23L : Cigarette lighter cable for use with BC-119N.
OPC-515L : Power supply cable for use with BC-119N.
OPC-656 : Power supply cable for use with BC-121N.

ANTENNAS
- **FA-S25V** : 136–148MHz
- **FA-S65V** : 148–160MHz
- **FA-S66V** : 160–174MHz
- **FA-S30U** : 380–430MHz
- **FA-S58U** : 430–470MHz
- **FA-S75U** : 470–520MHz

CUT ANTENNAS
- **FA-S67VC** : 136–174MHz
- **FA-S76UC** : 380–520MHz

ACC ADAPTER
- **AD-118** : Allows you to use third party accessories with 6-pin Hirose plug.

ZONE COPY CABLES
- **OPC-1870**: Handheld to handheld cable
- **OPC-1871**: Handheld to mobile cable

INTERFACE CABLE
- **OPC-1862** : PC (USB) interface cable.

BELT CLIP
- **MB-115** : Alligator type to fit up to 60mm (2⅜ in) width belt. Same as supplied.

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