



VHF & UHF P25 CONVENTIONAL & TRUNKED TRANSCEIVERS

**IC-F9011T**

VHF transceiver with full keypad

**IC-F9011S**

VHF transceiver with simple keypad

**IC-F9011B**

VHF transceiver without LCD and front keypad

**IC-F9021T**

UHF transceiver with full keypad

**IC-F9021S**

UHF transceiver with simple 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

6W Output  
Power

IP57  
Dust & Waterproof

Full Dot-matrix  
LCD\*

4-way Cross  
Keypad\*

\*IC-F9011T/S only.



IP67



DIGITAL

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



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UHF transceiver without LCD and front keypad



# 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 available.

## 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 41.8 mm (1.65 in) thick, the IC-F9011 series is designed as a solid and ergonomic shape that will fit comfortably in your hand.

## 6 W RF output power

The IC-F9011T/S/B provides 6 W\* of high output power. The supplied 3040 mAh (typ.) Li-Ion battery pack, BP-254, provides 9 hours\* of operating time.

\* 5 W for IC-F9021T/S/B. Typical operation with Tx: Rx: standby=5:5:90.

## 1000 mW 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.

## IP67 dust-tight and waterproof protection

The IC-F9011 series has dust-tight and waterproof protection equivalent to IP67 and is tested to demanding MIL-STD 810 requirements. IP67 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
- 512 channels/128 zones
- Built-in audio compander\*<sup>1</sup>
- Built-in inversion type voice scrambler\*<sup>1</sup>
- VOX function for hands-free operation
- Optional waterproof speaker microphone, HM-184
- Talk around function
- CTCSS and DTCSS encoder and decoder\*<sup>1</sup>
- DTMF autodial\*<sup>1</sup>
- 2-Tone encoder and decoder\*<sup>1</sup> and MDC 1200 compatible\*<sup>1</sup>

\*<sup>1</sup> Analog mode only

## SPECIFICATIONS

	IC-F9011T/S/B	IC-F9021T/S/B
<b>GENERAL</b>		
Frequency coverage	136-174 MHz	380-470 MHz 400-470 MHz 450-520 MHz
Number of channels	Max. 512 channels/128 zones	
Type of emission	16K0F3E, 11K0F3E, 8K10F1E/F1D	
Channel spacing	12.5/15/30 kHz	12.5/25 kHz
Power supply requirement	7.2 V DC nominal	
Current drain (approx.)		
Tx High	2.2 A (at 6 W)	2.1 A (at 5 W)
Rx Max. audio	800 mA (Backlight off)	800 mA (Backlight off)
Stand-by	300 mA (Backlight off)	300 mA (Backlight off)
Antenna impedance	50 Ω	
Operating temperature range	-30 °C to +60 °C; -22 °F to +140 °F	
Dimensions (W × H × D) (Projections not included)	58.6 × 167 × 41.8 mm; 2.3 × 6.6 × 1.7 in (With BP-254)	
Weight (approx.)	533 g; 1.17 lb (With BP-254)	
<b>TRANSMITTER</b>		
Output power	6 W, 2 W, 1 W (Hi, L2, L1)	5 W, 2 W, 1 W (Hi, L2, L1)
Max. frequency deviation	±5.0/2.5 kHz (Wide/narrow)	
Maximum pattern	±2.85 kHz (Digital)	
Frequency stability	±1.0 ppm	
Spurious emissions	75 dB typ.	80 dB typ.
FM Hum and noise	45/40 dB typ. (Wide/narrow)	
Audio harmonic distortion	2% typ. (40% deviation)	
Ext. microphone connector	14-pin multi-connector/2.2 kΩ	
<b>RECEIVER</b>		
Sensitivity (Analog) (Digital)	0.25 μV typ. (at 12 dB SINAD) 0.30 μV typ. (at 5% BER)	
Adjacent channel selectivity (TIA/EIA603B) (TIA/EIA603) (digital)	75/48 dB typ. (W/N) 80/70 dB typ. (W/N) 60 dB typ.	75/50 dB typ. (W/N) 76/70 dB typ. (W/N) 60 dB typ.
Spurious response	80 dB typ.	
Intermodulation	75 dB typ.	
Hum and noise	50/45 dB typ. (W/N)	50/44 dB typ. (W/N)
Audio output power	1000 mW typ. (at 10% distortion with an 8 Ω load)	
Ext. speaker connector	14-pin multi-connector/8 Ω	

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.  
\* 25 kHz bandwidth is no longer available for FCC Part 90 licensees for USA versions. Ask your dealer if you need 25 kHz bandwidth.

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

Standard	MIL 810G	
	Method	Procedure
Low Pressure	500.5	I, II
High Temperature	501.5	I, II
Low Temperature	502.5	I, II
Temperature Shock	503.5	I-C
Solar Radiation	505.5	I
Rain Blowing/Drip	506.5	I, III
Humidity	507.5	II
Salt Fog	509.5	-
Dust Blowing	510.5	I
Immersion	512.5	I
Vibration	514.6	I
Shock	516.6	I, IV

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

Ingress Protection Standard (IC-F9011/F9021 and BP-254)	
Dust & Water	IP67 (Dust-protection and waterproof protection)

**Supplied accessories:** (May differ according to version)  
• Battery pack, BP-254      • Belt clip, MB-115      • 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

Battery packs and cases	Type	Capacity	Operating Time*
BP-254	Rechargeable Li-ion	2900 mAh (min.) 3040 mAh (typ.)	9 hours (approx.)
BP-237	LR6 (AA) batteries × 6		-

\* Tx: Rx: standby=5:5:90.  
BP-237 is IPX4 water resistant.


**DESKTOP CHARGER**



BC-123SA      BC-119NS

Charges the BP-254 in 4 hours (approx.).


**MULTI-CHARGER**



BC-121NS      BC-157S


Charges up to 6 battery packs.  
Charges the BP-254 in 4 hours (approx.).

**HEADSETS (VS-1MC or VS-4MC required)**



HS-94 Earhook type      HS-95 Behind-the-head type      HS-97 Throat type

**PTT/VOX UNIT PTT SWITCH CABLE**



VS-1MC VOX operation      VS-4MC Manual PTT

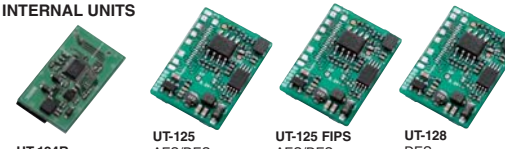
Either VS-1MC or VS-4MC is required when using any of these headsets

**SPEAKER-MICROPHONE**




HM-184/H Waterproof

**INTERNAL UNITS**



UT-124R MAN DOWN UNIT      UT-125 AES/DES ENCRYPTION UNIT      UT-125 FIPS AES/DES ENCRYPTION UNIT (FIPS version)      UT-128 DES ENCRYPTION UNIT

**ZONE COPY CABLES**



OPC-1870 Handheld to handheld cable      OPC-1871 Handheld to mobile cable

**ACC ADAPTER**



AD-118

- ANTENNAS**
- FA-S25V: 136-148 MHz
  - FA-S65V: 148-160 MHz
  - FA-S66V: 160-174 MHz
  - FA-S30U: 380-430 MHz
  - FA-S58U: 430-470 MHz
  - FA-S75U: 470-520 MHz
- CUT ANTENNAS**
- FA-S67VC: 136-174 MHz
  - FA-S76UC: 380-520 MHz
- BELT CLIP**
- MB-115: Alligator type. Same as supplied.
- INTERFACE CABLE**
- OPC-1862: PC (USB) interface cable.
- CHARGER ADAPTER**
- AD-110: AD-110 charger adapter is supplied with the BC-119NS or BC-121NS.

## Icom Inc.

1-1-32, Kamiminami, Hirano-Ku, Osaka 547-0003, Japan Phone: +81 (06) 6793 5302 Fax: +81 (06) 6793 0013

[www.icom.co.jp/world](http://www.icom.co.jp/world)

## Count on us!

### Icom America Inc.

12421 Willows Road NE,  
Kirkland, WA 98034, U.S.A.  
Phone: +1 (425) 454-8155  
Fax: +1 (425) 454-1509  
E-mail: [sales@icomamerica.com](mailto:sales@icomamerica.com)  
URL: <http://www.icomamerica.com>

### Icom (Europe) GmbH

Communication Equipment  
Auf der Krautweide 24  
65812 Bad Soden am Taunus, Germany  
Phone: +49 (6196) 76685-0  
Fax: +49 (6196) 76685-50  
E-mail: [info@icom-europe.com](mailto:info@icom-europe.com)  
URL: <http://www.icomeurope.com>

### Icom France s.a.s.

Zac de la Plaine,  
1 Rue Brindejonc des Moulinais, BP 45804,  
31505 Toulouse Cedex 5, France  
Phone: +33 (5) 61 36 03 03  
Fax: +33 (5) 61 36 03 00  
E-mail: [icom@icom-france.com](mailto:icom@icom-france.com)  
URL: <http://www.icom-france.com>

### Asia Icom Inc.

Unit 10, 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](mailto:sales@asia-icom.com)  
URL: <http://www.asia-icom.com>

Your local distributor/dealer:

### Icom Canada

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

### Icom Spain S.L.

Ctra. Rubi, No. 88 "Edificio Can Castanyer"  
Bajos A 08174, Sant Cugat del Valles,  
Barcelona, Spain  
Phone: +34 (93) 590 26 70  
Fax: +34 (93) 589 04 46  
E-mail: [icom@icomspain.com](mailto:icom@icomspain.com)  
URL: <http://www.icomspain.com>

### Icom (Australia) Pty. Ltd.

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](mailto:sales@icom.net.au)  
URL: <http://www.icom.net.au>

### Shanghai Icom Ltd.

No.101, Building 9, Caifuxingyuan Park,  
No.188 Maoting Road, Chedun Town,  
Songjiang District, Shanghai, 201611, China  
Phone: +86 (021) 6153 2768  
Fax: +86 (021) 5765 9987  
E-mail: [bjicom@bjicom.com](mailto:bjicom@bjicom.com)  
URL: <http://www.bjicom.com>

### Icom Brazil

Rua Itororó, 444 Padre Eustáquio  
Belo Horizonte MG,  
CEP: 30720-450, Brazil  
Phone: +55 (31) 3582 8847  
Fax: +55 (31) 3582 8987  
E-mail: [sales@icombrasil.com](mailto:sales@icombrasil.com)

### Icom (UK) Ltd.

Blacksole House, Altira Park,  
Herne Bay, Kent, CT6 6GZ, U.K.  
Phone: +44 (0) 1227 741741  
Fax: +44 (0) 1227 741742  
E-mail: [info@icomuk.co.uk](mailto:info@icomuk.co.uk)  
URL: <http://www.icomuk.co.uk>

### Icom New Zealand

39C Rennie Drive, Airport Oaks,  
Auckland, New Zealand  
Phone: +64 (09) 274 4062  
Fax: +64 (09) 274 4708  
E-mail: [inquiries@icom.co.nz](mailto:inquiries@icom.co.nz)  
URL: <http://www.icom.co.nz>