



VHF AND UHF P25 REPEATERS

IC-FR9010

VHF Repeater (110W)

IC-FR9020

UHF Repeater (100W)



110W* Full Duty Cycle P25 Digital Repeater

* 110W for VHF, 100W for UHF.



110 W 100% Duty Cycle Operation

Employing a high performance power amplifier, together with the solid heatsink built into the chassis, the IC-FR9010 series provides a reliable 100% duty cycle operation at 110W* output.

* 110W for VHF, 100W for UHF.

P25 Conventional, Analog FM and Mixed Mode

The IC-FR9010 series is compatible with both analog FM mode and P25 digital mode. Program digital and/or analog FM modes per channel. The mixed mode operation allows you to receive both analog FM and P25 digital modes and to transmit either mode depending on the received signal.

500 Memory Channels Capacity

The 4x20-character display, 16 key buttons, 500 memory channels and internal speaker allow you to use the repeater as a simple base station or to check repeater activity. The bar graph display shows the S-meter level and output power level.

P25 Conventional Base Mode

As a P25 conventional base mode, the following P25 functions are programmable. (Conventional base mode only)

- Emergency
- Call alert
- Radio check
- Radio inhibit (Stun)
- Radio uninhibit (Revive)
- Status update
- Status request
- SBC log (Call log)

D-SUB 25-pin Accessory Connector

The IC-FR9010 series has a programmable D-SUB 25-pin accessory connector for connecting external remote control devices. Also, modulation/demodulation signals can be input/output from the D-SUB connector.

Programmable CTCSS, DTCS and NAC

The IC-FR9010 series decodes analog CTCSS and DTCS and digital NAC (Network Access Code) on a per channel basis and downlinks these with the received signal when required.

Other Features

- CW ID transmission
- High reliability, rugged construction
- ±1.5ppm frequency stability (Digital mode)
- Low standby current (280mA)
- P25 self-test mode and key test mode
- Automatic error detection
- 5 color LEDs
- 2U low profile for rack mount

SPECIFICATIONS

	IC-FR9010	IC-FR9020
GENERAL		
Frequency coverage	146–174MHz	440–475MHz
Number of channels	Max. 500 channels	
Channel spacing	12.5/20/25/30kHz*	
Type of emission	16K0F3E*, 11K0F3E, 8K10F1E/F1D	
Frequency stability	±2.5ppm (W/N) ±1.5ppm (Digital)	±1.5ppm (W/N) ±1.5ppm (Digital)
Antenna impedance	50Ω (Type-N)	
Operating temperature range	-30°C to +60°C; -22°F to +140°F	
Power supply voltage	13.6V DC nominal	
Current drain TX (at 13.6V DC) RX	16A (High) 3A/280mA (Max. audio/Stand-by)	18A (High)
Dimensions (W×H×D)	482×88×413 mm ; 18.98×3.46×16.26 in	
Weight	11.0kg ; 24.3lb (approximately)	
TRANSMITTER		
Output power	110W/50W (High/Low) 100% duty cycle	100W/50W (High/Low) 100% duty cycle
Max. frequency deviation	±5.0kHz/±2.5kHz (W/N)	
Spurious emissions	80dB min.	76dB min.
FM hum and noise	55/50dB min. (W/N)	
Audio harmonic distortion	3% typ. (60% deviation)	
Microphone impedance	600Ω (8-pin modular)	
RECEIVER		
Sensitivity 12dB SINAD 5% BER	0.30μV typ. 0.30μV typ.	
Adjacent channel selectivity	82/76dB min. (W/N) 55dB min. (Digital)	80/72dB min. (W/N) 55dB min. (Digital)
Spurious response	95dB min. (W/N) 83dB min. (Digital)	85dB min. (W/N) 83dB min. (Digital)
Intermodulation rejection	79dB min. (W/N) 79dB min. (Digital)	77dB min. (W/N) 77dB min. (Digital)
Hum and noise ratio	48dB min. (W/N)	
Audio output power	7.5W typ. at 5% distortion with 8Ω load	

Measurements made in accordance with EIA/TIA-603 (for FM) and TIA-102 (for Digital). All stated specifications are subject to change without notice or obligation.

*25kHz bandwidth is no longer available for FCC Part 90 licensees for USA versions. 25kHz repeaters require a waiver from the FCC.

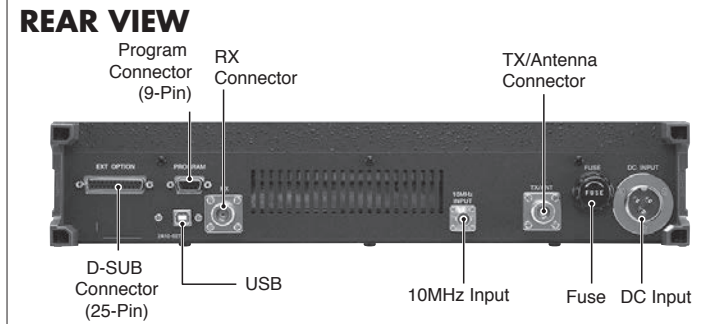
Applicable U.S. Military Specifications

Standard	MIL 810 G	
	Method	Procedure
High Temperature	501.5	I, II
Low Temperature	502.5	I, II
Vibration	514.6	I
Shock	516.6	I

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

Supplied Accessories

- DC power cable connector



A broad P25 product lineup

The IC-F9011 and IC-F9511 series are designed for the P25 terminal components with the following digital features.

- P25 conventional
- P25 trunking
- Individual, group and all calls
- Radio monitor
- Emergency call and alarm
- Call alert
- Short message
- Radio check
- Status
- Radio inhibit /uninhibit
- AES/DES encryption (option)
- OTAR (Over-the-Air-Rekeying)



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Icom Inc.

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

www.icom.co.jp/world

Count on us!

Icom America Inc.

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

Rua Itororó, 444 Padre Eustáquio
Belo Horizonte MG,
CEP: 30130-150, Brazil
Phone : +55 (31) 3582 8847
Fax : +55 (31) 3582 8987
E-mail : sales@icombrasil.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
URL : <http://www.icomeurope.com>

Icom Spain S.L.

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

Icom Polska Sp. z o.o.

80-286 Gdansk, Jaskowa Dolina St. 75, Poland
Phone : +48 (58) 551 0484
Fax : +48 (58) 551 4720
E-mail : icompolska@icompolska.com.pl
URL : <http://www.icompolska.com.pl>

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
URL : <http://www.icomuk.co.uk>

Icom France s.a.s.

Zac de la Plaine,
1 Rue Brindejunc 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
URL : <http://www.icom-france.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
URL : <http://www.icom.net.au>

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>

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>

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
URL : <http://www.bjicom.com>

Your local distributor/dealer: