



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.

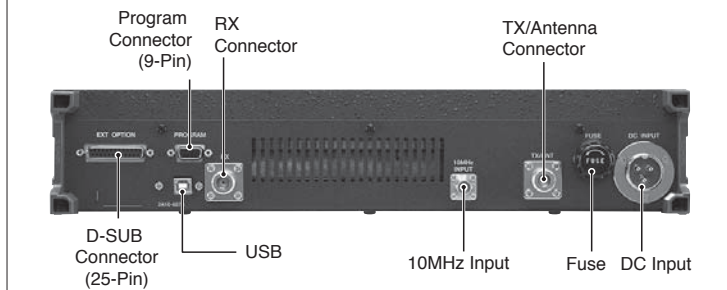
Other Features

- 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	16A (High)	18A (High)
(at 13.6V DC) RX	3A/280mA (Max. audio/Stand-by)	
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	

REAR VIEW



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)



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. Ask your dealer if you need 25kHz bandwidth.

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

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