



PRE-RELEASE INFORMATION

VHF AND UHF P25 REPEATERS AND CONTROLLER

IC-FR9110

VHF Repeater (110W)

IC-FC9100

Repeater Controller

IC-FR9120

UHF Repeater (100W)

110W* Full Duty Cycle P25 Repeater

* 110 W for VHF, 100 W for UHF.



110 W 100% Duty Cycle Operation

Employing a high performance power amplifier, together with the large, solid heatsink built into the chassis, the IC-FR9110 series provides a reliable 100% duty cycle operation at 110 W* output.

* 110 W for VHF, 100 W for UHF.

P25 Phase 1 Conventional Multi-site and Trunking

The IC-FC9100 can bind to control up to 8 channels per site and can be configured up to 255 conventional or trunked channel multi-site system* over an IP network. The trunked roaming function allows the user to move seamlessly over wide area.

* Repeater controller, IC-FC9100, controller server and software are required.

P25 Conventional Voting

The voting function* improves the talk back capability of terminal radios. Multiple receive-only sites (where the repeaters' transmission is inhibited) are distributed in the communication area. Each receiver receives a signal from a terminal radio and transfers it to the repeater site. Then the repeater relays the best signal or transfers it to the remote dispatch.

* License key upgrade required.

P25 Simulcast for Conventional and Trunking

The P25 simulcast system* uses the same set of radio channels with multiple sites and the transmit (downlink) signal is synchronized to all sites. Terminal users can expand coverage while seamlessly moving between sites. * License key upgrade and 1 pps reference signal input is required.

Fixed Station Interface (FSI)

The IC-FR9110 series provides the P25 Digital Fixed Station Interface (DFSI) to a third party IP-based dispatch console through the IP network. Optional Analog Fixed Station Interface (AFSI) unit provides interface to legacy analog dispatch equipment.

Other Features

- P25 conventional, analog FM and mixed mode
- Optional AES/DES encryption function
- Optional SIP phone and analog phone gateway function
- 1 pps reference input connector
- CW ID transmission
- 2U low profile for rack mount space saving efficiency
- CTCSS/DTCS signalling for analog mode

Maintenance Features

- Fall back mode
- Remote programming through the IP network
- High redundancy switchover option
- Remote monitor/diagnostics with SNMP

P25 compatible new product lineup

The IC-F7010 and IC-F7510 series are P25 conventional and trunking radios with the following features.

- P25 Phase 1 Conventional, Trunking* and Phase 2 Trunking* capable (* with license key upgrade)
- FIPS 140 Level 1 AES Encryption with OTAR (option)
- Menu-driven user interface
- High visibility and high readability color LCD
- Class-leading compact handheld
- IP68 dust-tight & waterproof (IC-F7010 series only)



IC-F7510 series

IC-F7010 series

SPECIFICATIONS

	IC-FR9110	IC-FR9120
GENERAL		
Frequency coverage	146–174 MHz	440–475 MHz
Number of channels	Max. 500 channels	
Type of emission	16K0F3E*, 11K0F3E, 8K10F1E/F1D	
Channel spacing	25 kHz*, 12.5 kHz	
Antenna impedance	50 Ω (Type-N)	
Operating temperature range	–30°C to +60°C; –22°F to +140°F	
Power supply voltage	13.6 V DC nominal	
Current drain TX (High)	16 A	18 A
(at 13.6V DC) RX	3 A/280 mA (Max. audio/Stand-by)	
Dimensions (WxHxD)	482 × 88 × 413 mm ; 19 × 3.5 × 16.3 in	
Weight	11.0 kg ; 24.3 lb (approximately)	
TRANSMITTER		
Output power	110 W/50 W (High/Low) 100% duty cycle	100 W/50 W (High/Low) 100% duty cycle
Frequency stability	±2.5 ppm (W/N) ±1.5 ppm (Digital)	±1.5 ppm (W/N) ±1.5 ppm (Digital)
Max. frequency deviation	±5.0/±2.5 kHz (W/N)	
Spurious emissions	80 dB min.	76 dB min.
FM hum and noise	55/50 dB typ. (W/N)	
Audio harmonic distortion	3% typ. (60% deviation)	
Microphone impedance	600 Ω (8-pin modular)	
RECEIVER		
Sensitivity	Analog Digital	0.30 μV typ. (at 12 dB SINAD) 0.30 μV typ. (at 5% BER)
Adjacent channel selectivity	Analog (W/N) Digital	80/54 dB min. (TIA-603B), 82/76 dB min. (TIA-603) 55 dB min. (TIA-102)
Spurious response	Analog Digital	85 dB min. (W/N) 83 dB min.
Intermodulation rejection	Analog Digital	79 dB min. (W/N) 79 dB min.
Hum and noise ratio	48 dB min. (W/N)	
Audio output power	7.5 W typ. (at 5% distortion with 8 Ω load)	
External speaker		
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.		
IC-FC9100		
GENERAL		
Operating temperature range	–30°C to +60°C; –22°F to +140°F	
Power supply voltage	13.6 V DC nominal	
Current drain	600 mA (approximately)	
Dimensions (WxHxD)	483 × 44 × 219 mm ; 19 × 1.7 × 8.6 in	
Weight	2.25 kg ; 24.3 lb (approximately)	
LAN	RJ-45 connector × 1 (10/100BASE-TX)	
LED	Power, Error, Status	

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