



Key Features and Benefits

Robust and Flexible

- ▶ Up to 864 Channels / Talkgroups
- ▶ P25 Digital and Analog
- ▶ Supports multiple protocols installed simultaneously
- ▶ DES, DES-OFB, & AES Encryption
- ▶ P25 Conventional & Trunked OTAR

Trunking

- ▶ SMARTNET II / SmartZone
- ▶ P25

Data and Control Interfaces

- ▶ Supports P25 Conventional IP Packet Data
- ▶ Supports GPS AVL Data
- ▶ Radio Control Available to 3rd Party Developers

Simplified Feature Updates and Option Selection

- ▶ Flexible Programming
- ▶ PC Configure™ Software Tool

Multiple Configuration Options

- ▶ Dash-Mount
- ▶ Remote-Mount
- ▶ 2 Control Heads
- ▶ Hand-Held Controller
- ▶ Internal or External Speaker
- ▶ Fixed Control Stations
- ▶ Siren Option

The 5300 Series Mobile Radio is a very capable and flexible tool designed for demanding public safety communications applications. The ability to seamlessly interoperate with analog and digital, wideband and narrowband, and a wide variety of trunking protocols – all installed simultaneously in the same radio – makes this mobile ideal for migrating critical systems to the latest open standards. This flexibility helps protect your investment in the future as well as maximizing interoperability among most installed systems.

▶ Project 25 Compliance

Supports Project 25 CAI (Common Air Interface), P25 Trunked and Conventional system protocols, and P25 Over-The-Air Rekeying (OTAR).

▶ Numerous Encryption Protocols

Supports industry standard encryption AES, DES-OFB, and DES.

▶ Industry's Only SMARTNET® II / SmartZone® Licensee

Industry's only supplier licensed to support both analog and digital SMARTNET II and SmartZone trunking protocols. Fully supports 800 MHz Rebanding signaling protocol as implemented via dual control and failsoft band plans.



EFJohnson is a leading provider of Project 25 compliant two-way radios and communication systems for law enforcement, fire fighters, EMS, and military.



5300 Series Mobile Radio 700/800 MHz 800 MHz

Typical Performance Specifications

GENERAL	700/800 MHz, 30/35 W	800 MHz, 35 w
Frequency Range (band splits)	762~870 MHz	806~870 MHz
Channel Spacing		
Analog	25, 12.5 kHz	25, 12.5 kHz
P25 Digital	12.5 kHz	12.5 kHz
Maximum Frequency Separation	Full Band Split	Full Band Split
Display	Backlit LCD. 10 alpha-numeric characters plus Zone, Ch, & Status. Electronically adjustable viewing angle	
Power Supply		
Nominal Voltage (negative ground)	13.6 VDC	13.6 VDC
Operating Supply Voltage Range	10.9 ~ 16.3 VDC	10.9 ~ 16.3 VDC
Standby Current (back-light off)	700 mA	700 mA
Receive Current at Rated Audio Power	2.7 A	2.7 A
Current at Max Rated Transmit Power	15 A	15 A
Temperature Range		
Operating	-30°C to +60°C	-30°C to +60°C
Storage	-40°C to +85°C	-40°C to +85°C
Nominal Dimensions (H x W x D)	5.3 x 18.2 x 21.1 cm (2.1 x 7.2 x 8.3 in)	5.3 x 18.2 x 21.1 cm (2.1 x 7.2 x 8.3 in)
Nominal Weight	2.3 kg (5.5 lb)	2.3 kg (5.5 lb)
FCC ID	ATH2425371	ATH2425371
Industry Canada	IC: 933B-2425371	IC: 933B-2425371

TRANSMITTER		
RF Output Power (variable)	10~30 W (762~806 MHz) 10~35 W (806~870 MHz)	10~35 W (806~870 MHz)
Transmitter Frequency Range(s)	762~776, 792~806, 806~825, 851~870 MHz	806~825, 851~870 MHz
Maximum Frequency Separation	Full Band Split	Full Band Split
Frequency Accuracy* (-30°C ~ +60°C, +25°C ref.)	±1.5 ppm	±1.5 ppm
Modulation Limiting		
25 kHz channels	±5 kHz	±5 kHz
NPSAC	±4 kHz	±4 kHz
12.5 kHz channels	±2.5 kHz	±2.5 kHz
Spurious Emissions	-75 dB	-75 dB
Audio		
Analog Freq. Resp. (TIA 6dB/octave pre-emphasis)		
FM Hum and Noise Ratio (25 kHz Analog)	-40 dB	-40 dB
FM Hum and Noise Ratio (12.5 kHz Analog)	-34 dB	-34 dB
Distortion	2%	2%
FCC Emission Designators	8K10F1D, 8K10F1E, 11K0F3E, 16K0F3E	8K10F1D, 8K10F1E, 11K0F3E, 16K0F3E

RECEIVER		
Receiver Frequency Ranges	762~776, 851~870 MHz	851~870 MHz
Maximum Frequency Separation	Full Band Split	Full Band Split
Frequency Accuracy* (-30°C ~ +60°C, +25°C ref.)	±1.5 ppm	±1.5 ppm
Sensitivity		
Analog Mode: 12 dB SINAD (25 & 12.5 kHz)	0.25 mV (-119 dBm)	0.25 mV (-119 dBm)
Digital Mode: (5% BER)**	0.25 mV (-119 dBm)	0.25 mV (-119 dBm)
Selectivity		
25 kHz Channels	-80 dB	-80 dB
12.5 kHz Channels	-65 dB	-65 dB
Intermodulation	-80 dB	-80 dB
Spurious Rejection	-83 dB	-83 dB
Audio		
Analog Freq. Resp. (TIA 6dB/octave pre-emphasis)	+1, -3 dB	+1, -3 dB
Output Power (3 W load)	12 W rms	12 W rms
Distortion (1 kHz, 60% Deviation)	3%	3%

*FCC Part 90.213

ENVIRONMENTAL SPECIFICATIONS

Environmental Specifications

Environment	Mil Spec 810C		Mil Spec 810D		Mil Spec 810E		Mil Spec 810F	
	M	P	M	P	M	P	M	P
Low Pressure	500.1	I	500.2	II	500.3	II	500.4	II
High Temp.	501.1	I	501.2	I, II	501.3	I, II	501.4	I, II
Low Temp.	502.1	I	502.2	I, II	502.3	I, II	502.4	I, II
Temp. Shock	503.1	I	503.2	I	503.3	I	503.4	I
Solar Radiation	505.1	I	505.2	I	505.3	I	505.4	I
Rain/Blown Rain	506.1	I, II	506.2	II	506.3	I, II	506.4	I, II
Humidity	507.1	II	507.2	II, III	507.3	II, III		
Salt Fog	509.1	I	509.2	I	509.3	I		
Dust and Sand	510.1	I	510.2	I	510.3	I	510.4	I
Vibration	514.2	VII, VIII	514.3	I(8)	514.4	I(8)	514.5	I(24)
Shock	516.2	I, II, V	516.3	I, IV, VI	516.4	I, IV, VI	516.5	I, IV, VI

M=Method P=Procedure

ENCRYPTION OPTIONS

Supported Encryption Algorithms	DES, DES-OFB, AES
Encryption Keys/Radio	16 Common Key Reference (CKR) 16 Physical Identifier (PID) Compatible with Motorola Key Variable Loader
Encryption Frame Re-sync Interval	P25 CAI 360 msec
Encryption Keying	External Key Loader, OTAR
Synchronization	CFB – Cipher Feedback OFB – Output Feedback
Vector Generator	National Institute of Standards and Technology (NIST) approved random number generator
Encryption Type	Digital
Key Erasure	Keyboard Command
Code Key Initialization	Internal pseudorandom generator
Standards	FIPS 46-3, FIPS 81, FIPS 140-2, FIPS 197

ACCESSORIES

- ▶ Antennas
- ▶ Keypad Microphones
- ▶ Desk Microphones
- ▶ Hand-Held Controller
- ▶ Remote Control Heads
- ▶ External Speakers
- ▶ Power Supplies
- ▶ Control Station Components
- ▶ Tone Remotes
- ▶ Encryption Key Management Tools
- ▶ Radio Programming Tools
- ▶ Mounting Hardware
- ▶ Siren