EFJohnson TECHNOLOGIES
We Respond.

5300 ES Series Mobile Radio 700/800 MHz UHF VHF

Key Features and Benefits

Robust and Flexible

- Up to 864 Channels / Talkgroups
- SMARTNET II®/SmartZone® P25 Digital and Analog
- All Supported Protocols Available Simultaneously
- DES, DES-OFB, & AES Encryption with 64 keys
- P25 Conventional & Trunked OTAR
- Conventional Vote Scan is Standard
- Supports Key Elements of MDC1200 and GE-Star
- Compatible with Motorola Astro®
- Supports Motorola® System v7.4
- Simplified cabling with a single multi-function accessory connection in the rear

Trunking

- SMARTNET II / SmartZone
- P25

Data and Control Interfaces

- Supports P25 Conventional IP Packet Data
- Supports GPS AVL Data

Simplified Feature Updates and Option Selection

- Over the Air Programming (OTAP) option enables you to program radios without connecting them to a computer
- Easy radio programming and feature updating using EFJohnson's PC Configure™ software for portable and mobile radios

Multiple Configuration Options

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

Extensive Accessory Suite

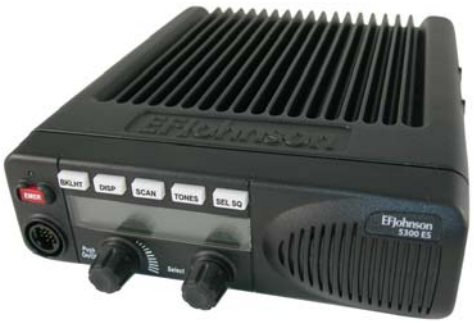
Complete line of accessories including microphones, speakers, and encryption keyloading devices. Visit our website for the *EFJohnson Subscriber Accessories Catalog*!

Rugged…Solid….Reliable.

Those are just a few words to describe the 5300 ES Series Mobile Radio from EFJohnson. The 5300 ES Mobile Radio is a very capable and flexible tool designed for the demanding needs of critical communications. Seamless interoperability with analog and digital, wideband and narrowband, and a wide variety of trunking protocols – all available simultaneously in the same radio – makes the 5300 ES 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. If you need a multi-protocol mobile radio that leads the industry in feature richness and system interoperability, then the 5300 ES Series Mobile Radio is the right choice.

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

- **Project 25 Compliance**
  Supports Project 25 CAI (Common Air Interface), Project 25 Trunked and Conventional system protocols, and Project 25 Over-The-Air Rekeying (OTAR) functionality.
- **Enhanced (AMBE+2) P25 Vocoder**
  Outstanding voice quality and noise reduction. EFJohnson is the only high tier radio vendor with a full implementation of this second generation Enhanced (AMBE+2) P25 preferred vocoder.



- **Industry's Only SMARTNET® II / SmartZone® Licensee**
  Industry's only supplier licensed to support both analog and digital SMARTNET II and SmartZone trunking protocols.
- **Numerous Encryption Protocols**
  Supports industry-standard encryption capabilities such as AES, DES-OFB and DES. Ask about our free Single Key DES-OFB encryption for P25.

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Typical Performance Specifications

GENERAL	7/800, 30/35W	UHF R1, 40W	VHF
Frequency Range (band splits)	762-870 MHz	380-470 MHz	136 - 174 MHz
Channel Spacing			
Analog	25kHz, 12.5kHz	25kHz, 12.5kH	25 kHz, 12.5 kHz
P25 Digital	12.5kHz	12.5kHz	12.5 kHz
Maximum Frequency Separation	Full Band Split	Full Band Split	Full Band Split
Display	Backlit LCD. 10 alpha-numeric characters plus Zone, Channel and Status. Electronically adjustable viewing angle		
Power Supply			
Nominal Voltage (negative ground)	13.6 VDC	13.6 VDC	13.6 VDC
Operating Supply Voltage Range	10.9 ~ 16.3 VDC	10.9 ~ 16.3 VDC	10.9 ~ 16.3 VDC
Standby Current (back-light off)	700 mA	400 mA	400 mA
Receive Current at Rated Audio Power	2.65A	2.65A	2.65A
Current at Max Rated Transmit Power	12.5A	10A	12.5A
Temperature Range			
Operating	-30°C to +60°C	-30°C to +60°C	-30°C to +60°C
Storage	-40°C to +85°C	-40°C to +85°C	-40°C to +85°C
Nominal Dimensions (H x W x D)	2.1" x 7.2" x 8.3"	2.1" x 7.2" x 8.3"	2.1" x 7.2" x 8.3"
exclusive of mounting, cables, knobs	(5.3 cm x 18.2 cm x 21.1 cm)	(5.3 cm x 18.2 cm x 21.1 cm)	(5.3 cm x 18.2 cm x 21.1 cm)
Nominal Weight	6.5 lbs (2.3 kg)	6.5 lbs (2.3 kg)	6.5 lbs (2.3 kg)
FCC ID	ATH2425372	ATH2425333	ATH2425313
Industry Canada	IC: 933B-2425372	IC: 933B-2425333	IC: 933B-2425313
TRANSMITTER			
RF Output Power (variable)	15 ~ 30 W (762-806MHz) 15 ~35 W (806-870MHz)	10W ~ 40 W	15W ~ 55 W
Transmitter Frequency Range(s)	762~776, 792~806, 806~825, 851~870 MHz	380 ~ 470 MHz	136 ~174 MHz
Maximum Frequency Separation	Full Band Split	Full Band Split	Full Band Split
Frequency Accuracy			
(-30°C ~ +80°C, +25°C ref.)	±1.5 ppm	±1.5 ppm	±1.5 ppm
Modulation Limiting			
25kHz channels	±5 kHz	±5 kHz	±5 kHz
12.5kHz channels	±2.5 kHz	±2.5 kHz	
Modulation Fidelity			
(C4FM, 12.5kHz Digital)	< 5%	< 5%	< 5%
Spurious Emissions	-75 dBc	-75 dBc	-75 dBc
Audio			
Analog Frequency Response			
(TIA 6dB/octive pre-emphasis)	+1dB, -3dB	+1dB, -3dB	+1dB, -3dB
FM Hum and Noise Ratio			
(25kHz Analog)	40 dB	45 dB	45 dB
FM Hum and Noise Ratio			
(12.5kHz Analog)	34 dB	39 dB	39 dB
Distortion	2%	2%	2%
FCC Emission Designators	8K10FID, 8K10F1E, 11K0F3E, 16K0F3E	8K10FID, 8K10F1E, 11K0F3E, 16K0F3E	
RECEIVER			
Receiver Frequency Ranges	762~776, 851~870 MHz	380 ~ 470 MHz	136 - 174 MHz
Maximum Frequency Separation	Full Band Split	Full Band Split	Full Band Split
Sensitivity			
Analog Mode: 12dB SINAD (25 & 12.5kHz)	.25µV (-119 dBm)	.35µV (-116 dBm)	.35µV (-116 dBm)
Digital Mode: (5% BER)	.25µV (-119 dBm)	.35µV (-116 dBm)	.35µV (-116 dBm)
Selectivity (Adjacent Channel Rejection)			
25kHz channels, Analog	> 80 dB	>75 dB	>75 dB
12.5kHz channels	> 63 dB	> 63 dB	> 63 dB
Offset, Digital	< 9 dB / kHz	< 9 dB / kHz	< 9 dB / kHz
Intermodulation	-80 dB	-75 dB	-75 dB
Spurious Response Rejection	-83dB	-75 dB	-75 dB
Audio			
Analog Frequency Response			
(TIA 6dB/octave pre-emphasis)	+1dB, -3dB	+1dB, -3dB	+1dB, -3dB
Output Power (3Ω load)	12W rms	12W rms	12W rms
Distortion (1kHz, 60% Deviation)	< 3%	< 3%	< 3%

ENVIRONMENTAL SPECIFICATIONS

Environment	Mil Spec M	810F P
Low Pressure	500.4	II
High Temp.	501.4	I, II
Low Temp.	502.4	I, II
Temp. Shock	503.4	I
Solar Radiation	505.4	I
Rain/Blown Rain	506.4	I, III
Humidity	507.4	--
Salt Fog	509.4	--
Dust	510.4	I
Vibration	514.5	I(24), II(5)
Shock	516.5	I, V, VI

M = Method P = Procedure

Also meets equivalent superseded C, D, and E standards

ENCRYPTION OPTIONS

Supported Encryption Algorithms	DES, DES-OFB, AES
Encryption Keys/Radio	64 Common Key Reference (CKR) 64 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 Control Kit

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Specifications subject to change without notice.

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