



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
- ▶ 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.



5300 ES Series Mobile Radio

700/800 MHz

Typical Performance Specifications

| GENERAL | | 7/800, 30/35W |
|--------------------------------------|---|------------------------------|
| Frequency Range (band splits) | | 762-870 MHz |
| Channel Spacing | | |
| Analog | | 25kHz, 12.5kHz |
| P25 Digital | | 12.5kHz |
| Maximum Frequency Separation | | 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 |
| Operating Supply Voltage Range | | 10.9 ~ 16.3 VDC |
| Standby Current (back-light off) | | 700 mA |
| Receive Current at Rated Audio Power | | 2.65A |
| Current at Max Rated Transmit Power | | 12.5A |
| Temperature Range | | |
| Operating | | -30°C to +60°C |
| Storage | | -40°C to +85°C |
| Nominal Dimensions (H x W x D) | | 2.1" x 7.2" x 8.3" |
| exclusive of mounting, cables, knobs | | (5.3 cm x 18.2 cm x 21.1 cm) |
| Nominal Weight | | 6.5 lbs (2.3 kg) |
| FCC ID | | ATH2425372 |
| Industry Canada | | IC: 933B-2425372 |

| TRANSMITTER | |
|--|--|
| RF Output Power (variable) | 15 ~ 30 W (762-806MHz) 15 ~ 35 W (806-870MHz) |
| Transmitter Frequency Range(s) | 762~776, 792~806, 806~825, 851~870 MHz |
| Maximum Frequency Separation | Full Band Split |
| Frequency Accuracy (-30°C ~ +80°C, +25°C ref.) | ±1.5 ppm |
| Modulation Limiting | |
| 25kHz channels | ±5 kHz |
| 12.5kHz channels | ±2.5 kHz |
| Modulation Fidelity (C4FM, 12.5kHz Digital) | < 5% |
| Spurious Emissions | -70 dBc |
| Audio | |
| Analog Frequency Response (TIA 6dB/octave pre-emphasis) | +1dB, -3dB |
| FM Hum and Noise Ratio (25kHz Analog) | 40 dB |
| FM Hum and Noise Ratio (12.5kHz Analog) | 34 dB |
| Distortion | 2% |
| FCC Emission Designators | 8K10F1D, 8K10F1E, 11K0F3E, 16K0F3E |

| RECEIVER | |
|--|----------------------|
| Receiver Frequency Ranges | 762~776, 851~870 MHz |
| Maximum Frequency Separation | Full Band Split |
| Sensitivity | |
| Analog Mode: 12dB SINAD (25 & 12.5kHz) | .25µV (-119 dBm) |
| Digital Mode: (5% BER) | .25µV (-119 dBm) |
| Selectivity (Adjacent Channel Rejection) | |
| 25kHz channels, Analog | > 80 dB |
| 12.5kHz channels | > 63 dB |
| Offset, Digital | < 9 dB / kHz |
| Intermodulation | -80 dB |
| Spurious Response Rejection | -83dB |
| Audio | |
| Analog Frequency Response (TIA 6dB/octave pre-emphasis) | +1dB, -3dB |
| Output Power (3Ω load) | 12W rms |
| Distortion (1kHz, 60% Deviation) | < 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