

Ascend™ Mobile Radio

700/800 MHz

The Ascend™ Mobile Radio is designed specifically to provide EFJohnson Multi-Net® customers a robust upgrade path to the industry-standard Project 25 Common Air Interface and beyond. This radio provides seamless interoperability among Multi-Net, P25 conventional and trunked, SMARTNET® II / SmartZone® trunked, and conventional analog systems. EFJohnson's Ascend series is the only communications radio available on the market supporting all of these protocols in the same radio. Further, all of these protocols can be installed simultaneously. Once programmed, switching systems is as simple as changing channels.



Project 25 Compliance

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



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 DES-OFB and DES. Ask about our free Single Key DES-OFB encryption for P25.



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

More Key Features and Benefits

Robust and Flexible

- 512 Channels / Talkgroups
- P25 Digital and Analog
- Supported Protocols Installed Simultaneously
- P25 Conventional & Trunked OTAR
- Supports Key Elements of MDC1200
- Compatible with Motorola Astro®
- Supports Motorola® System v6.5

Trunking

- EFJohnson's Multi-Net
- 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
- Trunk-Mount
- 2 Control Heads
- Hand-Held Controller
- Internal or External Speaker
- Fixed Control Stations
- Siren Option
- Motorcycle Configuration

Ascend™ Mobile Radio

Typical Performance Specifications Subject to Change

GENERAL 700/800 MHz 30/35 W

Frequency Range (band splits) 762–806 MHz

Channel Spacing
Analog 25, 12.5 kHz
P25 Digital 12.5 kHz

Maximum Frequency Separation Full Bandsplit

Display Backlit LCD. 10 alpha-numeric characters plus Zone, Ch, & Status. Electronically adjustable viewing angle

Power Output

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 2.7 A

Current at Max Rated Transmit Power 15 A

Temperature Range

Operating -30°C to +60°C

Storage -40°C to +85°C

Nominal Dimensions (W x H x D) 5.3 x 18.2 x 21.1 cm

exclusive of mounting, cables, knobs (2.1 x 7.2 x 8.3 in)

Nominal Weight 2.3 kg (5.5 lb)

FCC ID ATH2425371

Industry Canada Pending

TRANSMITTER

RF Output Power (variable) 10–30 W (762–806 MHz)
 10–35 W (806–870 MHz)

Transmitter Frequency Range 762–776, 792–806,
 806–825, 851–870 MHz

Maximum Frequency Separation Full Band Split

Frequency Accuracy* ±1.5 ppm
 (-30°C ~ +60°C, +25°C ref.)

Modulation Limiting
25 kHz channels ±5 kHz
12.5 kHz channels ±2.5 kHz

Modulation Fidelity <5%
 (C4FM, 12.5 KHz Digital)

Spurious Emissions -75 dBc

Audio

Analog Freq. Resp. (TIA 6dB/octave pre-emphasis) +1, -3 dB

FM Hum and Noise Ratio (25 kHz Analog) 40 dB

FM Hum and Noise Ratio (12.5 kHz Analog) 34 dB

Distortion 2%

FCC Emission Designators 8K10F1D, 8K10F1E, 14K0F3E,
 16K0F3E, 11KDF3E

RECEIVER

Receiver Frequency Ranges 762–776, 851–870 MHz

Maximum Frequency Separation Full Band Split

Sensitivity

Analog Mode: 12 dB SINAD, 25 & 12.5 kHz) 0.25 uV (-119 dBm)

Digital Mode: (5% BER)** 0.25 uV (-119 dBm)

Adjacent Channel Rejection
 (analog 25 kHz) 75 dB

Intermodulation 73 dB

Spurious Response Rejection 75 dB

Audio

Analog Freq. Resp. (TIA 6dB/octave pre-emphasis) +1, -3 dB

Output Power (3 Ω load) 12 W rms

Distortion (1 kHz, 60% Deviation) <3%

*FCC Part 90.213

**Measured in digital mode per TIA/EIA 102. CAAA and TIA 102.CAAB Standards.

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

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

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 Our Mission—Your Safety

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