



## Ascend™ Series Portable Radio 700/800 900

EFJohnson's Ascend™ Series Portable Radio is rugged, lightweight, and versatile and is primarily designed for Multi-Net® LMR applications. A significant additional benefit of this radio is that it is also a multi-protocol device, which means that the radio can operate on conventional and trunking infrastructures, and in both analog and digital applications. It provides a seamless evolution to next generation networks while offering investment protection for your present communications system; all in a powerful software-controlled device that is easy on your mind and your budget. If you need a Multi-Net portable radio that leads the industry in feature richness, multi-protocol capability, and system interoperability, then the Ascend Series Portable Radio is your clear product choice.



**Project 25 Compliance**  
Supports Project 25 CAI (Common Air Interface), Project 25 Trunked and Conventional system protocols.

**Multi-Net Compatibility**  
Provides a next generation product that supports the Multi-Net Trunked system protocol.

**Industry's only SMARTNET® II / SmartZone® Licensee**  
Industry's only supplier licensed to support both analog and digital SMARTNET II and SmartZone trunking protocols.



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

#### Multiple Configuration Offerings

Includes a Model II (display, basic keypad) and a Model III (display, DTMF keypad) version that features an enhanced backlit display and backlit keypad for easier viewing and usage.

#### Significant Product Flexibility

Enables programming of up to 512 channel/talkgroups, supports both narrowband (12.5 kHz) and wideband (25 kHz) channel spacing, and multiple system protocols.

#### Simplified Feature Modifications and Updates

Easy radio programming and feature updating using EFJohnson's PC Configure™ application.

#### Extensive Accessory Suite

Complete line of accessory products including speaker microphones, headsets, surveillance kits, batteries, chargers, carrying apparatus, and encryption "keyloading" devices.

#### Enhanced Product Robustness

Meets applicable Mil Standard 810C, D, E, and F specifications, as well as approved by Factory Mutual as intrinsically safe for use in hazardous environments.

# Ascend™ Series Portable Radio

## Typical Performance Specifications

GENERAL	700/800	900*
Frequency Range	762–806 MHz 806–870 MHz	896–940 MHz
Channel Spacing	12.5 kHz, 25 kHz	12.5 kHz
Maximum Frequency Separation	Full Bandsplit	Full Bandsplit
FCC Type Acceptance Certification	ATH2425171	ATH2425191
Industry Canada Type Certification	IC: 933B-2425171	
FCC Emissions Designators	11K0F3E, 16K0F3E, 14K0F3E, 8K10F1E, 8K10F1D	11K0F3E, 8K10F1E, 8K10F1D
Input Voltage	7.2 V	
Dimensions (w/o antenna) (HxWxD)	6.7" x 2.52" x 1.9" (6.4 cm x 17.0 cm x 4.8 cm)	
Weight (with standard battery)	24 oz. (675 g)	
Case	Polycarbonate—black, yellow, orange	
Temperature Range	–30°C to +60°C	

TRANSMITTER		
RF Power Output	2.5/1 W (700 MHz), 3/1 W (800 MHz)	2.5/1 W
Frequency Stability (–30°C to +60°C)	±1.5 ppm	±1.5 ppm
Modulation Limiting		
25 kHz channels	±5 kHz	
12.5 kHz channels	±2.5 kHz	±2.5 kHz
Emissions (Conducted/Radiated)	–75 dBc	–70 dBc
Audio Response	+1, –3dB	+1, –3dB
FM Hum and Noise		
25 kHz channels	–40 dB	
12.5 kHz channels	–35 dB	–35 dB
Audio Distortion	2%	2%

RECEIVER		
Audio Output Power	500 mW	500 mW
Frequency Stability (–30°C to +60°C)	±1.5 ppm	±1.5 ppm
Sensitivity		
Analog Mode: 12 dB SINAD	0.25 uV (–119 dBm)	0.25 uV (–119 dBm)
Digital Mode: 5% BER	0.25 uV (–119 dBm)	0.25 uV (–119 dBm)
Selectivity		
25 kHz channels	–75 dB	
12.5 kHz channels	–63 dB	–63 dB
Intermodulation	–75 dB	–75 dB
Spurious & Image Rejection	–75 dB	–75 dB
FM Hum and Noise		
25 kHz channels	–40 dB	
12.5 kHz channels	–35 dB	–35 dB
Audio Distortion	2%	2%

All specifications are measured per TIA 102.CAAA, TIA 102.CAAB and per TIA 603 standards.

BATTERIES			
Battery Type	Dimensions (HxWxD)	Weight	Aprox. Life (5/5/90) (With Encryption/Without Encryption)
Extra-High Capacity NiMH	6.0" x 2.3" x 0.85"	0.81 lbs	12 hrs/13 hrs
Extra-High Capacity NiMH, IS	6.0" x 2.3" x 0.85"	0.81 lbs	12 hrs/13 hrs
Alkaline Battery Clamshell	7.2" x 2.6" x 2.0"	0.98 lbs (w/12 AA batt.)	14-16 hrs/16-18 hrs

\*900 MHz option only supports Multi-Net Analog operation.

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## 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	IV, VI	516.4	I, IV, VI	516.5	I, IV, VI

M=Method P=Procedure

## FACTORY MUTUAL APPROVALS

### Intrinsically Safe

Class I	Division 1 An area where there is or could be an explosive atmosphere most of the time in normal conditions.	C Ethylene D Propane and Methane E Conductive metal F Carbonaceous material coal, coke dust G Grain dust and flour
Class II		
Class III	Division 1 Location in which easily ignitable fibers or materials producing combustible flyings are handled, manufactured, or used.	Ignitable fibers or flyings

### Non-Incendive

Class I	Division 2 An area where an explosive atmosphere exists only as a result of a fault.	A Acetylene B Hydrogen C Ethylene D Propane and Methane
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**EFJohnson**  
Our Mission—Your Safety

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