



EFJohnson's Viking® Solution portfolio offers products catering to mission critical communication systems. Viking P25 subscribers offer a broad set of capabilities to fully meet the communication needs of our customer networks with interoperability, reliability, and maximum flexibility.

# Viking® VM900 Multi-Band 700/800 MHz | VHF

Multi-Band interoperability - P25 Phase 2 and SMARTNET®/ SmartZone® mobile Multi-Band across multiple system types and multiple frequency bands.



Designed for outstanding mission critical performance, ruggedness, and reliability, the Viking VM900 is the next generation of EFJohnson's mobile radio. The Viking VM900 is a multiband and multi-system radio equipped with industry leading audio, color display, and advanced feature capabilities for police, fire, EMS, and other mission critical users.

## ROBUST & FLEXIBLE

- Compatible with Motorola® System v 7.x, Motorola Astro® and SMARTNET® II/SmartZone®
- All supported protocols (Phase 1 & 2, Motorola SMARTNET® II/SmartZone®, FM Analog) available simultaneously
- Advanced P25 features such as Authentication and Over-the-Air-Rekeying
- Industry-standard encryption capabilities: AES and DES-OFB
- ARC4™ software encryption; compatible with ADP™
- Conventional vote scan is standard
- Supports MDC-1200 and GE-Star signaling
- Up to 1024 channels
- Over-the-Air programming (OTAP) option enables you to program radios in the field
- Over-the-Intranet programming (OTIP) allows you to program radios through a wireless access point or Ethernet interface
- Enhanced radio security using software and hardware system keys
- Armada® programming software provides simple fleet management of radios with features including profile templates and sorting/filtering by function or agency

## OPTIONAL VIKING® CONTROL HEAD

- Full color display - supports 16M colors at 480x128 resolution
- Transmissive display provides exceptional direct-sunlight contrast with and without polarized sunglasses
- Wide viewing angle > 160°

## DATA & CONTROL INTERFACES

- Supports P25 IP packet data
- GPS AVL data (requires external GPS receiver)

## MULTIPLE CONFIGURATION OPTIONS

- Dash mount
- Remote mount
- Dash mount with remote control head
- Dual remote control heads
- Internal or external speaker
- Fixed control stations
- Complete line of accessories including microphones, speakers, and encryption keyloading devices



Viking® Control Head



Standard Control Head



GENERAL	VHF	700/800 MHz
Frequency Range (band splits)	136 - 174 MHz	762 - 805 MHz 806 - 869 MHz
Channel Spacing	Analog: 25 kHz, 12.5 kHz P25 Digital (Phase 1 and 2): 12.5 kHz; supports 2-slot Phase II TDMA	
Max Frequency Separation	Full Band Split	
Display	Backlit ELD, 10 alpha-numeric characters plus Zone, Channel, and Status Electronically adjustable viewing angle	
Power Supply	<i>Nominal Voltage (negative ground)</i> 13.6 VDC <i>Operating Supply Voltage Range</i> 10.9 - 16.3 VDC <i>Standby Current</i> 1.0 A <i>Receive Current at Rated Audio Power</i> 2.95 A <i>Current at Max Rated Transmit Power</i> 12.5 A	
Temperature Range	Operating: -30°C to +60°C Storage: -40°C to +85°C	
Nominal Dimensions (H x W x D) exclusive of mounting, cables, and knobs	2.1" x 7.2" x 8.3" (5.3 cm x 18.3 cm x 21.1 cm)	
Nominal Weight	6.5 lbs (2.3 kg)	
FCC ID:	ATH2425M80 (Pending)	
Industry Canada	IC:933B-2425M80 (Pending)	
Vocoder	AMBE+2 (version 1.6)	
Transmitter	700/800 MHz, 30/35 W VHF, 50 W	
Transmitter	VHF	700/800 MHz
RF Output Power (variable)	15 to 50 W	15 to 25 W (700 MHz) 15 to 35 W (800 MHz)
Transmitter Frequency Ranges	136 - 174 MHz	762 - 775 MHz, 792 - 805 MHz 806 - 824 MHz, 851 - 869 MHz
Maximum Frequency Separation	Full Band Split	
Frequency Accuracy (-30°C to +60°C, +25°C ref.)	±1.5 ppm	
Modulation Limiting	25 kHz Channels (Analog): ±5 kHz 12.5 kHz Channels (Analog): ±2.5 kHz	
Modulation Fidelity (Digital)	<5% C4FM (Phase I) <5% H-CPM (Phase 2)	
Spurious Emissions	75 dB	
Audio	<i>Analog Frequency Response</i> +1 dB, -3 dB (Per TIA-603-D) <i>FM Hum and Noise Ratio (25 kHz Analog)</i> 46 dB <i>FM Hum and Noise Ratio (12.5 kHz Analog)</i> 40 dB <i>Distortion</i> 2%	
FCC Emission Designators	8K10F1D, 8K10F1E, 8K10F7E, 11K0F3E, 14K0F3E, 16K0F3E	
Receiver	VHF	700/800 MHz
Receiver Frequency Ranges	136 - 174 MHz	792 - 805 MHz 851 - 870 MHz
Maximum Frequency Separation	Full Band Split	
Sensitivity	<i>Analog Mode: 12 dB SINAD</i> -119 dBm <i>Digital Phase I: (5% BER)</i> -119 dBm <i>Digital Phase 2: (5% BER)</i> -119 dBm	
Selectivity (Adjacent Channel Rejection)	<i>25 kHz Channels, Analog</i> 75 dBm <i>12.5 kHz Channels, Analog</i> 60 dBm <i>Digital Phase I</i> 60 dBm <i>Digital Phase 2</i> 60 dBm	
Intermodulation	80 dB	
Spurious Response Rejection	80 dB	
Audio	<i>Analog Frequency Response</i> +1 dB, -3 dB (per TIA-603-D) <i>Hum and Noise Ratio (25 kHz Analog)</i> 46dB <i>Hum and Noise Ratio (12.5 kHz Analog)</i> 40dB <i>Output Power (3Ω load)</i> 15 W <i>Distortion</i> <2%	

Environmental Specifications

Environment	Mil Spec	810G
	M	P
Low Pressure	500.5	II
High Temp.	501.5	I, II
Low Temp.	502.5	I, II
Temp. Shock	503.5	I (D)
Solar Radiation	505.5	I (A1)
Rain/Blown Rain	506.5	I, III
Humidity	507.5	II
Salt Fog	509.5	NA
Dust and Sand	510.5	I, II
Vibration	514.6	I (4), II
Shock	516.6	I, II, V, VI

M=Method, P=Procedure  
Also meets equivalent superseded C, D and E standards.



Encryption Options

Supported Encryption	AES, DES, DES-OFB, ARC4
Encryption Key/Radio	126 Common Key Reference (CKR), 126 Physical Identifier (PID), Compatible w/ 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
- Remote control heads
- External speakers
- Power supplies
- Control station components
- Tone remotes
- Encryption key management tools
- Radio programming tools
- Mounting hardware
- Siren control kit