

## VM900

VHF · 700/800 MHz  
P25 Phase 1 & 2 · Viking16

Dual-band and multi-system radio equipped with industry leading audio, color display, public safety ergonomics, and advanced features including Over-the-Internet (OTIP) programming.

### Features

- Mixed protocol operation (P25 Phase 1 & 2 Trunking, P25 Conventional, Viking16, FM Analog)
- 2048 channels
- Mixed protocol zones
- P25 Authentication (Link Layer Authentication)
- P25 IP packet data
- GPS AVL data (requires external GPS receiver)
- MDC-1200 & GE-Star signaling
- Analog & P25 Conventional vote scan
- Dash mount
- Remote mount
- Dash mount with remote control head
- Dual control heads
- Fixed control station
- Encryption
  - ARC4™ software encryption; compatible w/Motorola ADP™
  - DES-OFB
  - AES-256 (FIPS 140-2) Single and Multi-Key
  - Over-the-Air-Rekeying (OTAR)
  - VK5000 or Motorola KVL3000/KVL4000 Keyloaders
- WiFi
- Instant Recording Replay (IRR)



### Viking Control Head

- Public safety knobs & ergonomics
- High contrast transmissive color display for direct sunlight & nighttime viewing; not compromised by polarized sunglasses
- Resolution of 480 x 128 pixels
- Viewing angle of 120°

### Compatible With P25 Systems

- ATLAS® P25 Phase 1 and Phase 2 System
- Motorola Astro® 25 - P25 Phase 1 & Phase 2
- Harris VIDA® - P25 Phase 1 & Phase 2
- Airbus (formerly Cassidian) VESTA™ Radio - P25 Phase 1 & Phase 2

### Accessories

Complete line of accessories including microphones, speakers & antennas.  
Download the accessory catalog at  
[www.efjohnson.com/products/accessories](http://www.efjohnson.com/products/accessories).

We combine P25 design expertise with recognized quality & reliability along with advanced technology to make KENWOOD Viking radios simple to use & maintain.



#### Perpetual Software Licensing

Adds greater value to your radios by extending the life of the software into your next hardware platform — you own the software option forever, and your licenses are simple to manage with our cloud-based tool — Vault™.



#### Armada® Fleet Management

Update your radios in a group rather than one at a time. One template programs both portables & mobiles. Supports either a direct computer connection, Over-the-Air Programming (OTAP), or Over-the-Internet Programming (OTIP).



#### TrueVoice™ Noise Cancellation

Software-based noise cancellation automatically filters out noise source frequencies and eliminates the need for extra configuration. Works in analog or digital mode and with any accessory.

# Viking VM900 Mobile Specifications

General	VHF	700/800 MHz
Frequency Range (band splits)	136 - 174 MHz	762 - 805 MHz 806 - 870 MHz
Channel Spacing	Analog: 25 kHz, 12.5 kHz P25 Digital (Phase 1 and 2): 12.5 kHz; supports 2-slot Phase 2 TDMA	
Max Frequency Separation	Full Band Split	
Display	Viking Control Head - transmissive color display, 16 display text characters plus Zone, Channel, and Status, blue illumination theme	
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: -22°F to +140°F (-30°C to +60°C) Storage: -40°F to +185°F (-40°C to +85°C)	
Nominal Dimensions (H x W x D) exclusive of mounting, cables, & knobs	2.1" x 7.2" x 8.3" (5.3 cm x 18.3 cm x 21.1cm)	
Nominal Weight	6.5 lbs (2.3 kg)	
FCC ID:	ATH2425M80	
Industry Canada	IC:933B-2425M80	
Vocoder	AMBE+2 (version 1.6)	
Transmitter	VHF	700/800 MHz
RF Output Power (variable)	15W/50W	15W/25W (700 MHz) 15W/35W (800 MHz)
Transmitter Frequency Ranges	136 - 174 MHz	762 - 776 MHz, 792 - 825 MHz, 851 - 870 MHz
Maximum Frequency Separation	Full Band Split	
Frequency Accuracy [-22°F to +140°F, +77°F ref. (-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 1) <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	762 - 776 MHz 851 - 870 MHz
Maximum Frequency Separation	Full Band Split	
Sensitivity	<i>Analog Mode: 12 dB SINAD</i> -119 dBm (0.25 µV) <i>Digital Phase 1: (5% BER)</i> -119 dBm (0.25 µV) <i>Digital Phase 2: (5% BER)</i> -119 dBm (0.25 µV)	
Selectivity (Adjacent Channel Rejection)	<i>25 kHz Channels, Analog</i> 75 dBm <i>12.5 kHz Channels, Analog</i> 60 dBm <i>Digital Phase 1</i> 60 dBm <i>Digital Phase 2</i> 60 dBm	
Intermodulation	75 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 (Internal Speaker)</i> 4 W <i>Output Power (3-Ω External Speaker)</i> 12 W <i>Distortion</i> <2%	

Environmental Specifications <span style="float: right;">I</span>		
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.

International Protection Standard	
Dust & Water	IP56 (Viking Control Head with VM900)

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



Viking® Control Head

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