



VM8000

Multi-Band • Multi-Protocol • Mission Critical Mobile Radio

The KENWOOD Viking 8000 series Multi-Band, Multi-Protocol mobile is specifically designed for today's public safety agencies with advanced features to meet the first responder's mission critical operational needs.



Features

- Multi-Band operation (VHF, UHF, 700/800 MHz)
- Multi-Protocol:
 - P25 Phase 1 & 2 Trunking
 - P25 Conventional
 - DMR Tier II & Tier III
 - Viking16 (SmartNet/SmartZone™ Compatible)
 - FM Analog Conventional
- Mixed protocol zones (each channel in a zone can be from a different system)
- 1024 channels (2048 & 4096 options)
- P25 Authentication (Link Layer Authentication)
- P25 GPS data (built-in GPS)*
- MDC-1200 & GE-Star signaling
- Analog & P25 Conventional vote scan
- Mixed System Conventional Priority Scan (Analog, P25 Conventional, and DMR Tier II)
- Single or Dual Remote-Mount control heads (KCH-19VM, KCH-20RV, and KCH-21RVM) or Single Dash-Mount control head (KCH-19VM)
- Single-Deck Multi-Band operation or optional Multi-Deck operation (up to 4 RF Decks)
- Instant Recording Replay (IRR) and Voice Recording
- TrueVoice™ Noise Cancellation technology
- Wi-Fi® 2.4 & 5 GHz (802.11a/b/g/n/ac)
- Bluetooth® 5.0 & Bluetooth Low Energy
- 15-Watt audio output via external speaker
- High-speed programming using rear USB Type-C™ connector
- Encryption
 - ARC4™ (Motorola ADP™ compatible)
 - DES-OFB
 - AES-256 (FIPS 140-3) Single and Multi-Key
 - Over-the-Air-Rekeying (OTAR)
 - VK5000 or Motorola KVL4000/KVL5000 Keyloaders
 - Optional FIPS 140-3 Level 3 Encryption Module (KWD-AE40K) in compliance with federal and military requirements

*Refer to the Viking VM8000 operating manual for detailed requirements & conditions for proper GPS operation.

Enhanced Control Head

- Large display - 2.75" (36 x 60 mm)
- Resolution of 400 x 240 pixels
- Viewing angle of 140°
- Multi-color LCD + TX/RX (green/red/orange) LEDs
- D-Pad & more PF keys, dedicated emergency key and channel/volume control knobs
- Replaceable A/B/C button labels
- User selectable themes (8 themes available)
- Day & night display options
- Optionally, the KCH-21RVM Handheld Control Head (HHCH) or the KCH-19VM Control Head can be used with the VM8000.



Day - High Contrast



Night - High Contrast



KCH-19VM Control Head

Compatible With P25 Systems

- ATLAS® P25 Phase 1 and Phase 2 System
- Motorola Astro® 25 - P25 Phase 1 & Phase 2
- L3Harris VIDA® - P25 Phase 1 & Phase 2
- Airbus (formerly Cassidian) VESTA™ Radio - P25 Phase 1 & Phase 2
- All P25-standard systems

Accessories

Complete line of accessories including microphones, speakers & antennas. Download the accessory catalog at

<https://info.efjohnson.com/viking-accessory-catalog/>

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 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.

VM8000 Mobile Specifications

General		VHF	UHF	700/800 MHz
Frequency Ranges (FCC ID: K44520000)		136-174 MHz	380-520 MHz	RX: 763-776, 851-870 MHz TX: 763-776, 793-806, 806-825, 851-870 MHz
Max. Channels Per Radio		1024 (2048 and 4096 options)		
Number of Zones		255		
Max. Channels Per Zone		255		
Channel Spacing	Analog	12.5/15/20/25/30 ¹ kHz	12.5/25 ¹ kHz	12.5/25 kHz
	Digital	12.5 kHz		
Power Supply		13.6 V DC ±15 %		
Current Drain @ 13.6 V	Standby	0.45 A		
	RX @ rated audio power	3.2 A		
	TX @ rated TX power	13 A		
Operating Temperature		-22 °F to +140 °F (-30 °C to +60 °C)		
Storage Temperature		-40 °F to +185 °F (-40 °C to +85 °C)		
Frequency Stability		±1.0 ppm [-22 °F to +140 °F (-30 °C to +60 °C); +77 °F Ref. (+25 °C)]		
Electrostatic Discharge		IEC 61000-4-2 Level 4		
Dimensions ² (W x H x D): (RF Deck + KCH-19VM Control Head)		6.69 x 1.89 x 10.81 in. (170 x 48 x 274.7 mm)		
Weight: (RF Deck + KCH-19VM Control Head)		7.5 lbs (3.4 kg)		

Receiver		VHF	UHF	700/800 MHz
Sensitivity	P25 Digital (5% BER)	-121.5 dBm (0.188 µV)	-120.5 dBm (0.211 µV)	-121.5 dBm (0.188 µV)
	Analog (12 dB SINAD) @ 12.5 kHz	-121.5 dBm (0.188 µV)	-120.5 dBm (0.211 µV)	-121.5 dBm (0.188 µV)
	Analog (12 dB SINAD) @ 25 kHz	-121.5 dBm (0.188 µV)	-120.5 dBm (0.211 µV)	-121.5 dBm (0.188 µV)
Selectivity	P25 Digital	60 dB		
	Analog @ 12.5 kHz ³	76 dB	71 dB	70 dB
	Analog @ 25 kHz ³	84 dB	81 dB	78 dB
Intermodulation		83 dB	82 dB	83 dB
Spurious Rejection		85 dB	90 dB	87 dB
Audio Distortion ⁴		1.25% @ rated audio power (4W/15W)		
Audio Output Power ⁴		4W (4Ω) / 15W (4Ω) @ 1.25% Distortion		
Modulation		FM, C4FM, H-DQPSK		

Transmitter		VHF	UHF	700/800 MHz
RF Output Power		5W/50W	5W/45W	2W/30W (700 MHz), 2W/35W (800 MHz)
Spurious Emission		80 dB	75 dB	
FM Hum & Noise	Analog @ 12.5 kHz	45 dB		40 dB
	Analog @ 25 kHz	50 dB		45 dB
Audio Distortion		1.5%		
Emission Designator		16K0F3E, 14K0F3E ⁵ , 11K0F3E, 8K10F1E, 8K10F1D, 8K10F1W, 7K60FXE, 7K60FXD, 7K60F1E, 7K60F1D, 7K60F1W, 7K60FXW		
Modulation		FM, C4FM, H-CPM		

MIL-STD	810C	810D	810E	810F	810G	810H	MIL-STD	810C	810D	810E	810F	810G	810H	Encryption Options
Low Pressure	5001/ I	5002/ I, II	5003/ I, II	5004/ I, II	5005/ I, II	5006/ I, II	Rain*	5061/ I, II	5062/ I, II	5063/ I, II	5064/ I, III	5065/ I, III	5066/ I, III	Encryption Options Supported Encryption AES, DES-OFB, ARC4 (ADP compatible) Encryption Keys per Radio Capable of storing 1024 keys. Programmable for 252 Common Key Reference (CKR). Compatible w/ Motorola Key Variable Loader. Encryption Frame Re-sync Interval P25 CAI 360 MSEC Encryption Keying External Key Loader, OTAR Mode OFB-Output Feedback Encryption Type Digital Key Erasure Keyboard Command, OTAR Zeroize, Tamper Detection Standards FIPS 140-3 Level 1 & Level 3, FIPS 197 Encryption Module Optional FIPS 140-3 Level 3 Encryption Module (KWD-AE40K) FIPS 140-3 Inside #4699
High Temperature	5011/ I, II	5012/ I, II	5013/ I, II	5014/ I, II	5015/ I, II	5017/ I, II	Humidity	5071/ I, II	5072/ I, III	5073/ I, III	5074	5075/ II	5076/ II	
Low Temperature	5021/ I	5022/ I, II	5023/ I, II	5024/ I, II	5025/ I, II	5027/ I, II	Salt Fog	5091/ I	5092/ I	5093/ I	5094	5095	5097	
Temperature Shock	5031/ I	5032/ I, II	5033/ I, II	5034/ I, II	5035/ I, II	5037/ I, II	Dust	5101/ I	5102/ I	5103/ I	5104/ I, III	5105/ I	5107/ I	
Solar Radiation	5051/ I	5052/ I	5053/ I	5054/ I	5055/ I	5057/ I	Vibration	5142/ VIII, X	5143/ I	5144/ I	5145/ I	5146/ I	5148/ I	
							Shock	5162/ I, II, III, V	5163/ I, IV, V	5164/ I, IV, V	5165/ I, IV, V	5166/ I, IV, V	5168/ I, IV, V, VI	

¹ 25/30 kHz in VHF/UHF Bands are not included in the models sold in the USA or US territories.
² Dash mount configuration. Projections are not included.
³ Measured using the TIA-603 single-tone method.
⁴ External audio output.
⁵ 700/800 MHz Band operation only.

International Protection Standard
 Dust & Water IP54**, IP55** (IEC 60529)
 **IP54: RF Deck with attached remote control head kit adapter or RF Deck with attached dash-mount control head; IP55: Remote-mount control head with attached interface kit adapter only. All interfaces must be fully sealed with appropriate covers, unless they are connected to a genuine accessory.

Analog measurements made per TIA 603E and specifications shown are typical. P25 Digital measurements made per TIA 102CAAA and specifications shown are typical. This document contains preliminary information which may include features still under development. There may be changes to the specifications and features prior to the release. The Bluetooth® word mark and logos are registered trademarks owned by Bluetooth SIG, Inc. All other trademarks are the property of their respective owners.
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