



SPECIFICATION PACKET

FOR

**JESSAMINE COUNTY
CSEPP EQUIPMENT**

2020

NOTICE OF BID

The Jessamine County Fiscal Court will be accepting sealed bids on converting a current Nexedge radio digital system to P-25 digital and analog and adding P-25 to FCC designation, 21 mobile P-25 radios, and 56 portable P-25 radios, 3 repeaters, 1 microwave system, 56 speaker microphones for the portables and duplexers and antennas if needed. Sealed bids will be received until August 24, 2020 at 12:00 noon at the office of Jessamine County Judge/Executive David K. West, 101 North Main Street, Nicholasville, Ky 40356. Specifications can be picked up from the CSEPP Office at 117 South Main Street Suite 204 Nicholasville, KY 40356 or by calling 859-887-2922. Jessamine County Fiscal Court reserved the right to reject any or all bids.

Jessamine County Fiscal Court

Run: August 6, 2020

At a rate per linear inch, single column, solid nine point measure

Method of Award

Best Value – Ranking Approach

Jessamine County Fiscal Court intends to award a Contract to the Vendor, whose offer, conforming to the Solicitation, is the most advantageous on the basis of "best value" for all products, services, and requirements contained herein.

An evaluation committee, or a designated individual, will evaluate the information provided by the Vendor in response to the established measurable criteria contained in the Solicitation.

Measurable Criteria:

Price	95 Points
<u>Delivery</u>	<u>5 Points</u>

TOTAL POINTS 100 Points

Each Vendor is responsible for submitting all relevant, factual and correct information with their offer to enable the evaluator(s) to afford each Vendor the maximum score based on the available data submitted by the Vendor. VENDOR SHALL ENTER UNIT PRICE AND TOTAL PRICE ON THE BID SHEET. If adequate space is not available, the Vendor must attach additional information that clearly cross-references the appropriate location in the solicitation (i.e. page number, paragraph, subject, etc.).

Vendors responding with the minimum Best Value requirements in this Solicitation shall not be credited with Best Value points. Vendors responding with greater than the minimum requirements shall receive Best Value points. Failure to provide adequate information will impact the evaluated points awarded to the Vendor.

Price (95 points)

The bidder with the lowest Price receives the maximum score. The bidder with the next lowest Price receives points by dividing the lowest Price by the next lowest price and multiplying that percentage by the available points. For example, 95 points is allocated to the lowest Price criteria for this procurement, Bidder "A" bids \$3.00 as the lowest bidder and receives the maximum 95 points ($\$3.00 / \$3.00 = 1.00 \times 95 = 95$). Assume Bidder "B" is the next lowest bidder at \$4.00, then "B" receives 71.3 points ($\$3.00 / \$4.00 = .75 \times 95 = 71.25$).

Delivery (5 points)

The bidder with the best delivery time receives the maximum score. The bidder with the next best delivery time receives points by dividing the best delivery by the next best delivery and multiplying that percentage by the available points. For example, 5 points is allocated to the best delivery time for this procurement, Bidder "A" bids 10 days as the best delivery time and receives the maximum 5 points ($10 / 10 = 1.00 \times 5 = 5$). Assume Bidder "B" bids the next best delivery time 15 days, then "B" receives 3.33 points ($10 / 15 = .67 \times 5 = 3.33$).

Vendor shall enter best delivery time in working days: _____ DAYS ARO

The Vendor agrees that when delivery is not made within the contracted due date, one percent (1%) per day shall be deducted from the Vendor's invoice for each day the Vendor fails to meet the contracted delivery date.

Best Value scoring is subject to **Reciprocal preference for Kentucky resident bidders and Preferences for a Qualified Bidder or the Department of Corrections, Division of Prison Industries (KAR 200 5:410)**. *Vendors not claiming resident bidder or qualified bidder status **need not** submit the corresponding affidavit.

Reciprocal Preference for Kentucky Resident Bidders

KRS 45A.490 Definitions for KRS 45A.490 to 45A.494.

As used in KRS 45A.490 to 45A.494:

- (1) "Contract" means any agreement of a public agency, including grants and orders, for the purchase or disposal of supplies, services, construction, or any other item; and
- (2) "Public agency" has the same meaning as in KRS 61.805.

KRS 45A.492 Legislative declarations.

The General Assembly declares:

- (1) A public purpose of the Commonwealth is served by providing preference to Kentucky residents in contracts by public agencies; and
- (2) Providing preference to Kentucky residents equalizes the competition with other states that provide preference to their residents.

KRS 45A.494 Reciprocal preference to be given by public agencies to resident bidders -- List of states -- Administrative regulations.

- (1) Prior to a contract being awarded to the lowest responsible and responsive bidder on a contract by a public agency, a resident bidder of the Commonwealth shall be given a preference against a nonresident bidder registered in any state that gives or requires a preference to bidders from that state. The preference shall be equal to the preference given or required by the state of the nonresident bidder.
- (2) A resident bidder is an individual, partnership, association, corporation, or other business entity that, on the date the contract is first advertised or announced as available for bidding:
 - (a) Is authorized to transact business in the Commonwealth; and
 - (b) Has for one (1) year prior to and through the date of the advertisement, filed Kentucky corporate income taxes, made payments to the Kentucky unemployment insurance fund established in KRS 341.490, and maintained a Kentucky workers' compensation policy in effect.
- (3) A nonresident bidder is an individual, partnership, association, corporation, or other business entity that does not meet the requirements of subsection (2) of this section.
- (4) If a procurement determination results in a tie between a resident bidder and a nonresident bidder, preference shall be given to the resident bidder.
- (5) This section shall apply to all contracts funded or controlled in whole or in part by a public agency.
- (6) The Finance and Administration Cabinet shall maintain a list of states that give to or require a preference for their own resident bidders, including details of the preference given to such bidders, to be used by public agencies in determining resident bidder preferences. The cabinet shall also promulgate administrative regulations in accordance with KRS Chapter 13A establishing the procedure by which the preferences required by this section shall be given.
- (7) The preference for resident bidders shall not be given if the preference conflicts with federal law.
- (8) Any public agency soliciting or advertising for bids for contracts shall make KRS 45A.490 to 45A.494 part of the solicitation or advertisement for bids.

The reciprocal preference as described in KRS 45A.490-494 above shall be applied in accordance with 200 KAR 5:400.

**REQUIRED AFFIDAVIT FOR BIDDERS, OFFERORS AND
CONTRACTORS CLAIMING
RESIDENT BIDDER STATUS**

FOR BIDS AND CONTRACTS IN GENERAL:

The bidder or offeror hereby swears and affirms under penalty of perjury that, in accordance with KRS 45A.494(2), the entity bidding is an individual, partnership, association, corporation, or other business entity that, on the date the contract is first advertised or announced as available for bidding:

1. Is authorized to transact business in the Commonwealth;
2. Has for one year prior to and through the date of advertisement
 - a. Filed Kentucky corporate income taxes;
 - b. Made payments to the Kentucky unemployment insurance fund established in KRS 341.49; and
 - c. Maintained a Kentucky workers' compensation policy in effect.

The BIDDING AGENCY reserves the right to request documentation supporting a bidder's claim of resident bidder status. Failure to provide such documentation upon request shall result in disqualification of the bidder or contract termination.

Signature

Printed Name

Title

Date

Company Name _____

Address _____

Subscribed and sworn to before me by

(Affiant)

(Title)

of _____ this ____ day of _____, 20 ____.
(Company Name)

Notary Public

[seal of notary]

My commission expires: _____

**REQUIRED AFFIDAVIT FOR BIDDERS, OFFERORS AND
CONTRACTORS CLAIMING
QUALIFIED BIDDER STATUS**

FOR BIDS AND CONTRACTS IN GENERAL:

I. The bidder or offeror swears and affirms under penalty of perjury that the entity bidding, and all subcontractors therein, meets the requirements to be considered a "qualified bidder" in accordance with 200 KAR 5:410(3); and will continue to comply with such requirements for the duration of any contract awarded. Please identify below the particular "qualified bidder" status claimed by the bidding entity.

_____ A nonprofit corporation that furthers the purposes of KRS Chapter 163

_____ Per KRS 45A.465(3), a "Qualified nonprofit agency for individuals with severe disabilities" means an organization that:

- (a) Is organized and operated in the interest of individuals with severe disabilities; and
- (b) Complies with any applicable occupational health and safety law of the United States and the Commonwealth; and
- (c) In the manufacture or provision of products or services listed or purchased under KRS 45A.470, during the fiscal year employs individuals with severe disabilities for not less than seventy-five percent (75%) of the man hours of direct labor required for the manufacture or provision of the products or services; and
- (d) Is registered and in good standing as a nonprofit organization with the Secretary of State.

The BIDDING AGENCY reserves the right to request documentation supporting a bidder's claim of qualified bidder status. Failure to provide such documentation upon request may result in disqualification of the bidder or contract termination.

Signature

Printed Name

Title

Date

Company Name

Address

BID SHEET

Company Name:

Contact:

Address:

Phone:

Email:

Price

REPEATERS

GENERAL SPECIFICATION

Mechanics Dimensions 3 RU compatible with 19-inch rack
mounts

Weight from 13 Kg (28.6 lbs)³

Supported Modulations FM/PM for analogue mode

4FSK/C4FM for digital mode with I&Q mo/
demodulator

Frequency Generation Synthesized

Channel Spacing 12.5 kHz / 20 kHz / 25 kHz¹

Mode of Operation Simplex / Half-Duplex / Duplex

Digital Data gross bit Rate 9600 bps with 4FSK/C4FM digital modulation In
12.5 kHz channel

Temperature Range -30° - +60°C (-22°F - + 140°F)

Power Supply 48 Vdc (galvanically insulated)

85-264 Vac (47-63 Hz) EU or US plug

Input Current (at 48 Vdc) Transmission² Standby²

UHF: 7A UHF: 0.9A

CTCSS (TX/RX split-tones) Yes. 67 – 254.1Hz (with 0.1Hz step)

DCSS (TX/RX split-tones) Yes

Backbone Interface from 4xE1 G.703/G704 (cross connect and dropinsert
functionality)

from 4x4W+E/M

1xLAN port 10/100 Base T (SoIP Link, remote

firmware upgrade and SNMP NMS)

I/O ports LAN, RS232, 4 digital inputs, 4 digital outputs, 2

analog inputs

Synchronization

RBS Main Clock OCXO (Oven Controlled Crystal Oscillator)

50 ppb temperature stability with programmable

zero-offset compensation

Simulcast Synchronization from Built-in GPS (1+1 option available on request)

from incoming IP GMC/BC/OC PTP IEEE 1588V2

from incoming E1 stream (2.048 MHz)

from 4W Out of Band tone (3400 Hz)

Tier II conventional / Analog FM Conventional

Configuration Mode Stand-Alone Repeater

Simulcast Configuration Radio Base Station: Macro-cell Master/ Subwide coverage Virtual Master/ Slave

repeater

Tier III trunking

Configuration Mode Radio Base Station with Embedded Trunking

Controller: Control Channel RBS/Traffic Channel

RBS

Simulcast Configuration Radio Base Station Macro-cell Master with wide coverage Virtual Embedded Trunking Controller /Macro-cell Master repeater for Traffic Channel/Sub-Master/Slave

TRANSMITTER

Frequency in MHz UHF

450-526

Output Impedance 50 Ohms

Output Power Programmable from 10W up to 110W (0.1dB step)

Maximum Deviation (RSD) $\pm 2.5/\pm 4/\pm 5$ kHz

12.5/20/25 kHz

Adjacent Channel Power < -60 dB@12.5 kHz / -70 dB@25 kHz

Intermodulation Attenuation >40 dB

Spurious and Harmonic VHF/UHF: < -36 dBm < 1 GHz < -30 dBm > 1 GHz

Emissions 800/900: < -36 dBm < 1 GHz < -26 dBm > 1 GHz

Audio Response $+1, -3$ dB; 300-3000 Hz

Audio Distortion $< 3\%$ @ 1000Hz; 60% RSD

S/N >45 dB (12.5 kHz)

>50 dB (25 kHz)

Frequency Stability ± 0.05 ppm

RECEIVER

Frequency in MHz UHF

450-526

RF Input Impedance 50 Ohms

Analog Sensitivity PM modulation: < -119 dBm @ 12 dB SINAD

Digital sensitivity C4FM: < -120 dBm @ BER = 5×10^{-2}

4FSK: < -120 dBm @ BER = 5×10^{-2}

Adjacent Channel >60 dB/ 70 dB/ 70 dB (ETSI)

Selectivity 12.5/20/25 kHz

Intermodulation Rejection >70 dB (ETSI)

12.5/20/25 kHz

P25 Digital (5%

BER) -119 dBm (0.25 μ V)

Analog (12 dB

SINAD) -119 dBm (0.25 μ V)

Selectivity

P25 Digital 60 dB

Analog @ 12.5 kHz 60 dB

Analog @ 25 kHz 75 dB

Intermodulation 80 dB

Spurious Rejection 85 dB

Audio Distortion 2%

Audio Output Power 4 W/4 Ω (Remote Control Head: 3 W/4 Ω)

RF Output Power 5W/50W 5W/45W – (Type 1: 450-485 MHz)

5W/40W – (Type 1: 485-520 MHz)

5W/40W – (Type 2: 380-470 MHz)

Spurious Emission -73 dB -75 dB

FM Hum &

Noise

Analog @ 12.5 kHz 45 dB

Analog @ 25 kHz 50 dB

Audio Distortion 2%

Emission Designator VM5730/5830: 16K0F3E, 11K0F3E, 8K10F1E, 8K10F1D, 8K10F1W

VM5930: 16K0F3E, 14K0F3E, 11K0F3E, 8K10F1E, 8K10F1D, 8K10F1W

MOBILE(s)

Type 1: 450-520 MHz

Max. Channels Per Radio 1024

Number of Zones 255

Max. Channels Per Zone 255

Channel

Spacing

Analog kHz 12.5/25

Digital 12.5 kHz 12.5 kHz 12.5 kHz

Power Supply 13.6 V DC $\pm 15\%$

Current

Drain

Standby 0.45 A

RX 2.3 A

TX 13 A

Operating Temperature -22°F to $+140^{\circ}\text{F}$ (-30°C to $+60^{\circ}\text{C}$)

Frequency Stability ± 1.5 ppm

Dimensions (W x H x D)

Radio w/Control Head, Projections

not Included

6.73 x 1.89 x 6.93 in.

(171 x 48 x 176 mm)

Weight (Radio w/Control Head) 3.53 lbs (1.6 kg)

Sensitivity

Portable(s)

Frequency Range Type 1: 450-520 MHz (FCC ID K44431500)

Max. Channels Per Radio 1024

Number of Zones 255

Max. Channels Per Zone 255

Channel

Spacing

Analog 12.5/25* kHz

Power Supply 7.5 V DC $\pm 20\%$

Operating Temperature -22 °F to +140 °F (-30 °C to +60 °C)

Frequency Stability ± 1.5 ppm

Dimensions

(W x H x D)

Projections

Not Included

KNB-L2 (2,600 mAh) 2.28 x 5.47 x 1.56 in. (58.0 x 138.9 x 39.5 mm)

KNB-L3 (3,400 mAh)

2.28 x 5.47 x 1.77 in. (58.0 x 138.9 x 44.9 mm)

Weight with

Battery

KNB-L2 (2,600 mAh) 14.3 oz (406 g)

KNB-L3 (3,400 mAh) 15.8 oz (449 g)

Sensitivity

P25 Digital (5% BER) -119 dBm (0.025 μ V)

Analog (12 dB

SINAD) -119 dBm (0.025 μ V)

Selectivity

P25 Digital 60 dB

Analog @ 12.5 kHz 65 dB

Analog @ 25 kHz 73 dB

Intermodulation 73 dB

Spurious Rejection 80 dB 75 dB

Audio Distortion 3%

Audio Output Power 500 mW/8 Ω (3% Distortion)/1,000 mW/8 Ω (5% Distortion)

RF Output Power 1W/5W

Spurious Emission -70 dB

FM Hum &

Noise

Analog @ 12.5 kHz 40 dB

Analog @ 25 kHz 45 dB

Audio Distortion 2%

Emission Designator 16K0F3E, 11K0F3E, 8K10F1E, 8K10F1D, 8K10F1W

KENWOOD

VIKING®
P25 Mission Critical

VP5000

VHF · UHF (High & Low) · 700/800 MHz

P25 Phase 1 & 2 · Viking16

At just under 5.5 inches tall (140 mm), these small KENWOOD Viking portable radios are packed with advanced features for today's public safety agencies.

Features

Mixed protocol operation (P25 Phase 1 & 2 Trunking, P25 Conventional, Viking16, FM Analog)

Mixed protocol zones (each channel in a zone can be from a different system)

1024 channels

1 Watt audio output for high noise environments

Voice annunciation & custom announcement creation

Fully ruggedized - IP67 & MIL-STD-810 C/D/E/F/G

Full key models (w/numeric keypad) & standard key models (w/o numeric keypad)

Built-in GPS receiver/antenna for enhanced awareness!

MDC-1200 & GE-Star signaling

P25 Authentication

Bluetooth®

Man Down

Instant Recording Replay (IRR)

Voice Recording

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 Keyloader

Accessories

Complete line of accessories including microphones, speakers & antennas. Download the accessory catalog at www.ejohanson.com/products/accessories.



User Selectable Color Themes

Multi-line text

Multiple visual indicators including battery health & signal strength

Day & night user selectable display options (8 themes available)



Day - High Contrast



Night - High Contrast

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

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 radios in a group rather than one at a time. One template programs both portables & mobiles. Supports either direct computer connection or Over-the-Air Programming (OTAP). Elite battery management enables wireless tracking of battery fleet.



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.

VP5230/5330/5430 Portable Specifications

General		VP5230	VP5330	VP5430
Frequency Range		136-174 MHz (FCC ID K44431400)	Type 1: 450-520 MHz (FCC ID K44431500) Type 2: 380-470 MHz (FCC ID K44431601)	RX: 763-778, 851-870 MHz TX: 763-778, 793-806, 806-825, 851-870 MHz (FCC ID ALH442000)
Max. Channels Per Radio		1024		
Number of Zones		255		
Max. Channels Per Zone		255		
Channel Spacing	Analog	12.5/16/20/25*/30* kHz	12.5/25* kHz	12.5/25 kHz
	Digital	12.5 kHz	12.5 kHz	12.5 kHz
Power Supply		7.5 V DC $\pm 20\%$		
Operating Temperature		-22 °F to +140 °F (-30 °C to +60 °C)		
Frequency Stability		± 1.5 ppm	± 1.5 ppm	± 1.5 ppm
Dimensions (W x H x D) Projections Not Included	KNB-L2 (2,600 mAh)	2.28 x 5.47 x 1.66 in. (58.0 x 138.9 x 39.5 mm)		
	KNB-L3 (3,400 mAh)	2.28 x 5.47 x 1.77 in. (58.0 x 138.9 x 44.9 mm)		
Weight with Battery	KNB-L2 (2,600 mAh)	14.3 oz (406 g)		
	KNB-L3 (3,400 mAh)	15.8 oz (449 g)		
Receiver		VP5230	VP5330	VP5430
Sensitivity	P25 Digital (6% BER)	-119 dBm (0.025 μ V)		
	Analog (12 dB SINAD)	-119 dBm (0.025 μ V)		
Selectivity	P25 Digital	60 dB		
	Analog @ 12.5 kHz	65 dB		
	Analog @ 25 kHz	73 dB		
Intermodulation		73 dB		75 dB
Spurious Rejection		80 dB	75 dB	
Audio Distortion		3%		
Audio Output Power		500 mW/8 Ω (3% Distortion)/1,000 mW/8 Ω (5% Distortion)		
Transmitter		VP5230	VP5330	VP5430
RF Output Power		1W/6W	1W/5W	1W/3W
Spurious Emission		-70 dB		
FM Hum & Noise	Analog @ 12.5 kHz	40 dB		
	Analog @ 25 kHz	45 dB		
Audio Distortion		2%		
Emission Designator		16K0F3E, 11K0F3E, 8K10F1E, 8K10F1D, 8K10F1W		16K0F3E, 14K0F3E, 11K0F3E, 8K10F1E, 8K10F1D, 8K10F1W

Mil Standard	MIL-STD-883C
Low Pressure	500.5/ I, II
High Temperature	501.5/ I, II
Low Temperature	502.5/ I, II
Temp. Shock	503.5/ I
Solar Radiation	505.5/ I
Rain	506.5/ I, III
Humidity	507.5/ II
Salt Fog	509.5
Dust	610.5/ I
Vibration	514.6/ I
Immersion	612.5/ I
Shock	516.6/ I, IV

Encryption Options	
Supported Encryption	AES, DES-OFB, ARC4
Encryption Key/ Radio	128 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
Mode	OFB-Output Feedback
Encryption Type	Digital
Key Erasure	Keyboard Command
Standards	FIPS 46-3, FIPS 81, FIPS 140-2, FIPS 197

Hazardous Location Certification	
Certification Lab	CSA Group
Standard Applied	ANSI/TIA 4950-A-2014, UL913 5th Edition & ANSI/ISA-12.12.01-2011
Classification Rating	Intrinsically Safe: Classes I, II, III, Division 1, Groups D, E, F, G Non-Incendive: Class 1, Division 2, Groups A, B, C, D
Approved Battery	KNB-LS7
Approved Speaker Microphones	KMC-54WDM
International Protection Standard	
Dust & Water	IP54, IP65
Immersion	IP67**/68***

*Refer to the Viking VP5000 operating manual for detailed requirements & conditions for proper GPS operation.

* 25/30 kHz in VHF/UHF Bands (except T-Band) are not included in the models sold in the USA or US territories.

** IP67/68 - Must have the Speaker Mic Universal Connector or Universal Connector Protector connected.

*** IP68=1m/2H Specifications shown are typical and subject to change without notice Please check the website for the latest version. V.02.25.19

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EF Johnson Technologies, Inc.

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KENWOOD

VIKING®
P25 Mission Critical

VM5000

VHF • UHF (High & Low) • 700/800 MHz
P25 Phase 1 & 2 • Viking16

With uncompromised quality and performance, the VM5000 has built-in speakers to take the complexities out of mission-critical communications.

Features

- Mixed protocol operation (P25 Phase 1 & 2 Trunking, P25 Conventional, Viking16, FM Analog)
- 1024 channels
- Mixed protocol zones
- P25 Authentication (Link Layer Authentication)
- P25 IP packet data
- GPS AVL data (built in GPS)
- MDC-1200 & GE-Star signaling
- Analog & P25 Conventional vote scan
- Dash mount (KCH-19 control head only)
- Remote mount
- Dual control heads
- Internal or external speaker
- Fixed control station
- WiFi (remote mount configuration only)
- Bluetooth (Future)
- Instant Recording Replay (IRR)
- Voice Recording
- 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 Keyloader

Refer to the Viking VM5000 operating manual for detailed requirements & conditions for proper GPS operation.

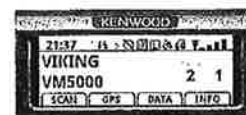
Accessories

Complete line of accessories including microphones, speakers & antennas.
Download the accessory catalog at
www.ejohanson.com/products/accessories.



Basic Control Head

- Resolution of 422 x 154 pixel
- Viewing angle of 140°
- User selectable themes (8 themes available)
- Day & night display options



Day - High Contrast



Night - High Contrast

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

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 (OITP).



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.

VM5730/5830/5930 Mobile Specifications

General		VM5730	VM5830	VM5930
Frequency Range		136-174 MHz	Type 1: 450-520 MHz Type 2: 380-470 MHz	RX: 762-776, 851-870 MHz TX: 762-776, 792-806, 806-825, 851-870 MHz
Max. Channels Per Radio		1024		
Number of Zones		255		
Max. Channels Per Zone		255		
Channel Spacing	Analog	12.5/15/20/25*/30* kHz	12.5/25* kHz	12.5/25 kHz
	Digital	12.5 kHz	12.5 kHz	12.5 kHz
Power Supply		13.6 V DC $\pm 15\%$		
Current Drain	Standby	0.45 A		
	RX	2.3 A		
	TX	13 A		
Operating Temperature		-22 °F to +140 °F (-30 °C to +60 °C)		
Frequency Stability		± 1.5 ppm		
Dimensions (W x H x D) Radio w/Control Head, Projections not Included		6.73 x 1.89 x 6.93 in. (171 x 48 x 176 mm)		6.73x1.89x7.72 in. (171.0 x 48.0 x 196 mm)
Weight (Radio w/Control Head)		3.53 lbs (1.6 kg)		3.75 lbs (1.7kg)

Receiver		VM5730	VM5830	VM5930
Sensitivity	P25 Digital (5% BER)	-119 dBm (0.25 μ V)		
	Analog (12 dB SINAD)	-119 dBm (0.25 μ V)		
Selectivity	P25 Digital	60 dB		
	Analog @ 12.5 kHz	60 dB		
	Analog @ 25 kHz	75 dB		75 dB
Intermodulation		80 dB		
Spurious Rejection		85 dB		87 dB
Audio Distortion		2%		
Audio Output Power		4 W/4 Ω (Remote Control Head: 3 W/4 Ω)		
Transmitter		VM5730	VM5830	VM5930
RF Output Power		5W/50W	5W/45W - (Type 1: 450-485 MHz) 5W/40W - (Type 1: 485-520 MHz) 5W/40W - (Type 2: 380-470 MHz)	2W/30W (700 MHz) 2W/35W (800 MHz)
Spurious Emission		-73 dB	-75 dB	-80 dB
FM Hum & Noise	Analog @ 12.5 kHz	45 dB		40 dB
	Analog @ 25 kHz	50 dB		45 dB
Audio Distortion		2%		
Emission Designator		VM5730/5830: 16K0F3E, 11K0F3E, 8K10F1E, 8K10F1D, 8K10F1W VM5930: 16K0F3E, 14K0F3E, 11K0F3E, 8K10F1E, 8K10F1D, 8K10F1W		

Std Standard	500C	510D	519E	510F	510G	Std Standard	510C	510D	519E	510F	510G
Low Pressure	500A/ I	500.2/ I, II	500.3/ I, II	500.4/ I, II	500.5/ I, II	Humidity	507A/ I, II	507.2/ I, II, III	507.3/ I, II, III	507.4	507.5/ II
High Temperature	501A/ I, II	501.2/ I, II	501.3/ I, II	501.4/ I, II	501.5/ I, II	Salt Fog	508A/ I	508.2/ I	508.3/ I	508.4	508.5
Low Temperature	502A/ I	502.2/ I, II	502.3/ I, II	502.4/ I, II	502.5/ I, II	Dust	510A/ I	510.2/ I	510.3/ I	510.4/ I, II, III	510.5/ I
Temp. Shock	503A/ I	503.2/ I	503.3/ I	503.4/ I, II	503.5/ I	Vibration	514A/ VIII, X	514.3/ I	514.4/ I	514.5/ I	514.6/ I
Solar Radiation	505A/ I	505.2/ I	505.3/ I	505.4/ I	505.5/ I	Shock	516A/ I, V	516.3/ I, V	516.4/ I, V	516.5/ I, V	516.6/ I, V
Rein	508A/ I, II	508.2/ I, II	508.3/ I, II	508.4/ I, III	508.5/ I, III	INTERNATIONAL PROTECTION STANDARD					
						Dust & Water	IP54, IP55 ¹				

¹IP5: R= Deck of the mobile radio; IP55: Remote Control Head for the mobile radio.

Encryption Options	
Supported Encryption	AES, DES-OFB, ARC4
Encryption Key/ Radio	128 Common Key Reference (CKR), 128 Physical Identifier (PID), 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
Standards	FIPS 40-3, FIPS 81, FIPS 140-2, FIPS 197

*25/30 kHz in VHF/UHF Bands are not included in the models sold in the USA or US territories.
Analog measurements made per TIA 603 and specifications shown are typical. Digital measurements made per TIA 102CAAA and specifications shown are typical. All specifications are subject to change without notice. Please check the website for the latest version.
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