KNG Series P25 Mobile Radios Specifications

KNG Series P25 Mobile Radios

✔ **P25 Trunking Option**

✔ **TDMA Phase II Compatible**

✔ **IP54 Water and Dust Protection**

✔ **USB PC Programmable**

✔ **AES & DES/OFB/CFB**

✔ **MIL-STD 810 C/D/E/F/G**

✔ **Cloning to BKR, KNG & Legacy Series**

The KNG Series radio offers exceptional performance in a lightweight form. With industry-leading RF and electrical specifications in a rugged, submersible housing, the KNG Series platform provides the performance needed for the most demanding applications making this the perfect radio for all aspects of government, public safety and first responder missions.

Alpha-Numeric Touch Screen Display

The KNG Mobile's innovative color touch screen display solves many issues seen in existing mobile radio control heads. Day or night, get all the information you need right at your fingertips.

Channel Capacity 5000

Memory 64 MB Volatile

256 MB Non Volatile (Flash)

VHF KNG-M150 Compatible

UHF Range 1 KNG-M400 Compatible

KNG-M800 Compatible

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Product Descriptions

Product Name	Product Description
KNG-M150HP	Mobile, Dash Mount, P25, Digital/Analog, 136-174 MHz, 5000 Channels, 110 W, Integrated GPS, Includes Dual Remote Port
KNG-M150HPR	Mobile, Trunk Mount, P25, Digital/Analog, 136-174 MHz, 5000 Channels, 110 W, Integrated GPS, Includes Dual Remote Port
KNG-M150LPR	Mobile, Trunk Mount, P25, Digital/Analog, 136-174 MHz, 5000 Channels, 50 W, Integrated GPS, Includes Dual Remote Port
KNG-M150LP-RCP	KNG Series Mobile Radio, Dash Mount, P25, Digital/Analog, 136-174 MHz, 5000 Channels, 50 W, Integrated GPS, Includes Dual Remote Port
KNG-M400	Mobile, Dash Mount, P25, Digital/Analog, 380-470 MHz, 5000 Channels, 50 W, Integrated GPS, Includes Dual Remote Port
KNG-M400R	Mobile, Trunk Mount, P25, Digital/Analog, 380-470 MHz, 5000 Channels, 50 W, Integrated GPS, Includes Dual Remote Port GPS
KNG-M800	Mobile, Dash Mount, P25, Digital/Analog, 763-870 MHz, 5000 Channels, 30/35 W, Integrated GPS, Includes Dual Remote Port GPSGPS
KNG-M800R	Mobile, Trunk Mount, P25, Digital/Analog, 763-870 MHz, 5000 Channels, 30/35 W, Integrated GPS, Includes Dual Remote Port GPS

Mobile Radio Options

The KNG platform meets today's demanding mission critical voice requirements, is future ready, and able to expand with changing standards and mission requirements.

KAA0660
Remote Control Head

KAA0670
Handheld Control Head

KAA/KZA0569
P25 9600 Baud Trunking

KAA/KZA0576
DES-OFB/DES-CFB AES Encryption

KAA/KZA0580
P25 Over the Air Rekeying (OTAR)

KAA/KZA0583
Multi-Cast Vote Scan

KAA/KZA0592
Over the Air Programming

KAA/KZA0594
P25 Phase II - 2 Slot TDMA Operation

KAA/KZA0596
P25 Radio Authentication

BKR0261
External Speaker 110W, 4 Ohm

KAA0276S
Standard Handheld Microphone

KAA0290S
Handheld Programming Microphone

Benefits

Innovative Touch Screen Display
Touch screen display provides unparalleled level of end-user customizing, ease of use, and expansion as new technologies are released with P25 Standards.

Enhanced Voice Quality
The KNG Series radio uses the Third Generation Enhanced IMBE P25 dual rate Vocoder (AMBE+2 Vl.80) for robust performance in noisy environments. Software based noise cancellation preserves situational awareness lost with dual microphone systems.

5 Line Color Bitmap Display
Status Icons, three customizable display lines of 14 characters and soft key legends.

Environmental Reliability
Designed and tested to MIL-STD-810.

DHS P25 CAP Approved
DHS P25 Compliance Assessment Program Tested and Approved Public Safety Grade (TIA Class A).

Robust Receiver
Improved range and less susceptibility to interference.

Simulcast Operation
C4FM and CQPSK modes for robust performance in simulcast (including LSM) systems.

Conventional Signaling
Analog MDC-1200 and digital APCO P25 for conventional operation.

IP54
Water and dust protection.

Scan Modes
Dual priority scan, trunked priority scan, and dual mode scan.

Multi-Key/Multi-Algorithm
Multi-Key/Multi-Algorithm Encryption and Over-the-Air Rekey.

Encryption Key Fill
TIA-102-AACD compliant and interoperable with commercially available key fill devices.

P25 9600 Baud Trunking
The KNG Series radio operates on 9600 baud P25 Compliant Trunking Systems.

OTAP
KNG Series radios support Over-the-Air Programming (OTAP) for operational efficiency.

TDMA Phase 2
KNG-M150, 700/800 MHz platforms are P25 Phase 2 (TDMA) ready supporting double the voice capacity of Phase 1 trunking systems.

Radio Authentication
P25 Radio Authentication per TIA-102-AACE-A is supported.

GPS/Location Services
P25 Location Services per TIA-102-BAJB are supported.

Specifications

Receiver Typical Performance

Specification	700/800		VHF	UHF 1
Frequency Range/Bandsplits	763-776, 793-806 MHz 806-824,851-870 MHz		136-174 MHz	380-470 MHz
Channel Spacing	25/12.5 KHz		30/25/12.5 KHz	25/12.5 KHz
Maximum Frequency Separation	Full Band		Full Band	Full Band
Audio Output Power at Rated	500 mW		500 mW	500 mW
Frequency Stability (-30° C to +60° C, +25° C Reference)	±.00015 %		±.00015 %	±.00015 %
Analog Sensitivity	12dB SINAD	0.25 µV	0.20 µV	0.25 µV
Digital Sensitivity	1% BER 5% BER	0.32 µV 0.25 µV	0.27 µV 0.20 µV	0.32 µV 0.25 µV
Selectivity	25 KHz 12.5 KHz	75 dB 67 dB	80 dB 70 dB	78 dB 67 dB
Intermediation		-75 dB	-78 dB	-75 dB
Spurious Rejection		-75 dB	-80 dB	-80 dB
FM Hum and Noise	25 KHz 12.5 KHz	-50 dB -44 dB	-50 dB -44 dB	-50 dB -44 dB
Audio Distortion at 15 W		3 %	3 %	3 %

Transmitter Typical Performance

Specification	700/800	VHF	UHF 1
Frequency Range/Bandsplits	763-776, 793-806 MHz 806-824,851-870 MHz	136-174 MHz	380-470 MHz
Channel Spacing	25/12.5 KHz	30/25/12.5 KHz	25/12.5 KHz
Maximum Frequency Separation	Full Band	Full Band	Full Band
Rated RF Output Power	10-35 W	10-50 W 25-110 W	10-50 W
Frequency Stability (-30° C to +60° C, +25° C Reference)	±.00005 %	±.00005 %	±.00005 %
Modulation Limiting	± 5/4/2.5 KHz	± 5/2.5 KHz	± 5/2.5 KHz
Emissions (Conducted and Radiated)	-75 dB	-75 dB	-75 dB
Audio Response	+l, -3 dB	+l, -3 dB	+l, -3 dB
FM Hum and Noise	-45 dB	-45 dB	-45 dB
Audio Distortion	1.25 %	1.25 %	1.25 %
Emission Designators	11K0F3E, 16K0F3E, 8K10F1E, 8K10F1D, 8K10F1W		

GPS Specifications

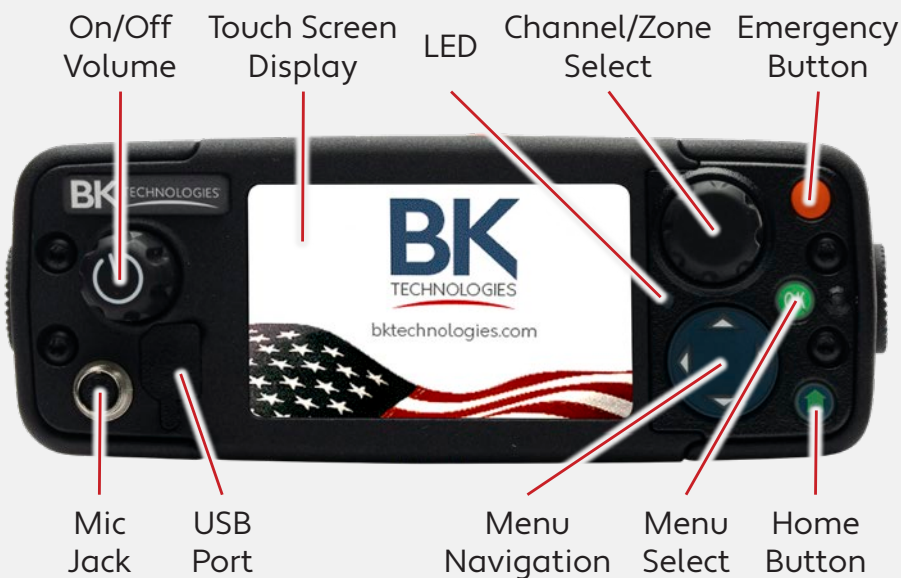|	
Channels	50
Tracking Sensitivity	<-155 dBm
Accuracy	<6 meters (95%)
Cold Start	<32 seconds (95%)
Hot Start	<1 second (95%)
Mode of Operation	Autonomous (Non-Assisted) GPS

Signaling

Signaling Rate	9.6Kbps (FDMA) / 12Kbps (TDMA) / l.2Kbps (MDC)
Digital ID Capacity	16,777,216(Conventional and Trunking)
Network Access Codes	4096 per TIA 102
P25 Talk Group IDs	65,535 (Conventional and Trunking)
Error Correction	Soft Decision, Golay, BCH, Reed-Solomon
Modulation	FM, C4FM, C-QPSK, H-CPM, H-DQPSK

Power and Current Drain

Power Supply	13.8 V DC ± 20% Negative Ground
Transient Protection	Per EIA-374-A
Standby Current at 13.8 V	0.15A all models
Receive Current Rated Audio at 13.8 V	2.5A all models
Transmit Current at Rated Power	VHF (50 W) 15A, VHF (110 W) 22A, UHF (50 W) 15A, 700/800 MHz 10 A

KNG Mobile Radios Buttons and Functions

KAA0660 Control Head

KAA0290S
Handheld Programming
Smart Microphone

On/Off Volume · Touch Screen Display · LED · Channel/Zone Select · Emergency Button · Mic Jack · USB Port · Menu Navigation · Menu Select · Home Button · Touch Screen Display · Menu Navigation

KAA0670 Handheld Control Head

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Standard Control Head

- Full color touch screen.
- 5 Line display: status Icons, three customized display lines of 14 characters, 4 programmable touch keys and menu touch key.
- 3" x 4" keypad microphone with navigation keys and 3 programmable function keys Dash and Remote Mount configurations.
- Multiple Control Heads supported: single, dual and triple allow full control of the transceiver from multiple positions.
- Dual 15 watt external speak outputs per control head.

KNG Mobile Military Standards C, D, E, F, and G

	MIL-STD 810C		MIL-STD 810D		MIL-STD 810E		MIL-STD 810F		MIL-STD 810G	
	Method	Proc. / Cat.	Method	Proc. / Cat.	Method	Proc. / Cat.	Method	Proc. / Cat.	Method	Proc. / Cat.
Low Pressure	500.1	I	500.2	I	500.3	II	500.4	II	500.5	II
High Temperature	501.1	I, II	501.2	I/Al, II/Al	501.3	I/Al, II/Al	501.4	I/Hot, II/Hot	501.5	I, II
Low Temperature	502.1	I	502.2	I/C3, II/Cl	502.3	I/C3, II/Cl	502.4	I/C3, II/Cl	502.5	I, II
Temperature Shock	503.1	-	503.2	I/A1C3	503.3	I/A1C3	503.4	I	503.5	I (D)
Solar Radiation	505.1	II	505.2	I	505.3	I	505.4	I	505.5	I (A1)
Rain	506.1	I, II	506.2	I, II	506.3	I, II	506.4	I, II	506.5	I, II
Humidity	507.1	II	507.2	II	507.3	II	507.4	-	507.5	-
Salt Fog	509.1	-	509.2	-	509.3	-	509.4	-	509.5	-
Blowing Dust	510.1	I	510.2	I	510.3	I	510.4	I	510.5	I, II
Vibration	514.2	VIII/F, Curve-V	514.3	1/10, 11/3	514.4	1/10, 11/3	514.5	I/24	514.6	I (4), II
Shock	516.2	I, II	516.3	I, IV	516.4	I/IV	516.5	I, IV	516.6	I, II, V, VI

Dimensions

	Inches (H x W x D)	Millimeters (H x W x D)
Mid Power Transceiver	2.5 X 6.5 X 8.5	63.5 X 165.1 X 215.9
High Power Transceiver	2.5 X 6.5 X 8.5	63.5 X 165.1 X 215.9
Remote Control Head	2.5 X 6.5 X 1.5	63.5 X 165.1 X 38.1
Mid/High Power Transceiver Weight	7.5 lbs.	3.4 kg

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Encryption

Supported Algorithms	AES-256, AES 128, DES OFB, DES CFB, ADP
Algorithm Capacity	Unlimited
Encryption Keys	1024 Storage Location Number (SLN)/Common Key Reference (CKR)
Frame Re-sync Interval	P25 Common Air Interface 300 mS
Keyloading	IAW T IA 102_AACD (KVL 3000/4000)
Synchronization	OFB - Output Feedback or CFB - Cyber Feedback
Vector Generator	National Institutes of Standards
Type	Digital Encryption
Key Storage	Programmable Volatile / Non-Volatile
Key Erasure	Keyboard Command and KMF
Standards	FIPS 197

Transmitter Certifications

700/800 MHz (FCC/IC)	K95KNGM800C / 2116A-KNGM800C
VHF High Power (FCC/IC/JF-12/NTIA)	K95KNGM150 / 2116A-KNGM150 / JF-12-10289 / SPS-18988/1
VHF FCC Low Power	K95KNGM150LP-2 / 2116A-KNGM150LP2
UHF 1 (FCC/IC/JF-12/NTIA)	K95KNGM400 / 2116A-KNGM400 / JF-12-10289 / SPS-18988/1

Other Certifications

P25 Compliance Assessment (P25CAP) Performance	Trunked and Conventional Performance Class A
P25 Compliance Assessment (P25CAP) Interoperability	Motorola, Harris, EF Johnson, Airbus, Daniels