

# BK TECHNOLOGIES KNG P25 MOBILE RADIO





## PUBLIC SAFETY COMMUNICATIONS

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.

- ✓ 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

# KNG SERIES MOBILE RADIO MODELS

<b>Display</b>		
	<b>KNG Mobile Radio</b>	<b>KNG Remote Control Head (KAA0660)</b>
	Alpha-numeric Touch Screen Display: The KNG Mobile's innovative color TFT 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.	
<b>Channel Capacity 5000</b>	Channel Capacity 5000	Channel Capacity 5000
<b>Memory 64 MB Volatile</b>	Memory 64 MB Volatile	Memory 64 MB Volatile
<b>256 MB Non-Volatile (Flash)</b>	256 MB Non-Volatile (Flash)	256 MB Non-Volatile (Flash)
<b>VHF KNG-M150 Compatible</b>	VHF KNG-M150 Compatible	VHF KNG-M150 Compatible
<b>UHF Range 1 KNG-M400 Compatible</b>	UHF Range 1 KNG-M400 Compatible	UHF Range 1 KNG-M400 Compatible
<b>KNG-M800 Compatible</b>	KNG-M800 Compatible	KNG-M800 Compatible

<b>Product Name</b>	<b>Product Description</b>
<b>KNG-M150LP</b>	Mobile, Dash Mount, P25, Digital/Analog, 136-174 MHz, 5000 channels, 50 W, Integrated GPS
<b>KNG-M150LP-RCP</b>	Mobile, Dash Mount, P25, Digital/Analog, 136-174 MHz, 5000 channels, 50 W, Integrated GPS, 2 RCP
<b>KNG-M150LPE</b>	Mobile, Dash Mount, P25, Digital/Analog, 136-174 MHz, 5000 channels, 50 W, with Encryption, Integrated GPS, 2 RCP
<b>KNG-M150LPR</b>	Mobile, Trunk Mount, P25, Digital/Analog, 136-174 MHz, 5000 channels, 50 W, Integrated GPS, 2 RCP
<b>KNG-M150LPRE</b>	Mobile, Trunk Mount, P25, Digital/Analog, 136-174 MHz, 5000 channels, 50 W, with Encryption, Integrated GPS, 2 RCP
<b>KNG-M150HP</b>	Mobile, Dash Mount, P25, Digital/Analog, 136-174 MHz, 5000 channels, 110 W, Integrated GPS, 2 RCP
<b>KNG-M150HPR</b>	Mobile, Trunk Mount, P25, Digital/Analog, 136-174 MHz, 5000 channels, 110 W, Integrated GPS, 2 RCP
<b>KNG-M150HPE</b>	Mobile, Dash Mount, P25, Digital/Analog, 136-174 MHz, 5000 channels, 110 W, with Encryption, Integrated GPS, 2 RCP
<b>KNG-M150HPRE</b>	Mobile, Trunk Mount, P25, Digital/Analog, 136-174 MHz, 5000 channels, 110 W, with Encryption, Integrated GPS, 2 RCP
<b>KNG-M400</b>	Mobile, Dash Mount, P25, Digital/Analog, 380-470 MHz, 5000 channels, 50 W, Integrated GPS, 2 RCP
<b>KNG-M400R</b>	Mobile, Trunk Mount, P25, Digital/Analog, 380-470 MHz, 5000 channels, 50 W, Integrated GPS, 2 RCP
<b>KNG-M800</b>	Mobile, Dash Mount, P25, Digital/Analog, 763-870 MHz, 5000 channels, 30/35 W, Integrated GPS, 2 RCP
<b>KNG-M800R</b>	Mobile, Trunk Mount, P25, Digital/Analog, 763-870 MHz, 5000 channels, 30/35 W, Integrated GPS, 2 RCP



# SOME KEY 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 V1.80) 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 and IP-54 rated.

## ➤ 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 and has been P25 Compliance Assessment Program (P25CAP) tested and proven interoperable.

## ➤ 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.

# 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.

- |   |                                  |                      |                                      |
|---|----------------------------------|----------------------|--------------------------------------|
| ➤ <b>CAA0660</b>                          | Remote Control Head              | ➤ <b>CAA/KZA0594</b> | P25 Phase II - 2 Slot TDMA Operation |
| ➤ <b>CAA/KZA0569</b>                      | P25 9600 Baud Trunking           | ➤ <b>CAA/KZA0596</b> | P25 Radio Authentication             |
| ➤ <b>CAA/KZA0576</b>                      | DES-OFB/DES-CFB AES Encryption   | ➤ <b>BKR0261</b>     | External Speaker 110W, 4 Ohm         |
| ➤ <i>available for KNG-M400, KNG-M800</i> |                                  |                      |                                      |
| ➤ <b>CAA/KZA0580</b>                      | P25 Over the Air Rekeying (OTAR) | ➤ <b>CAA0276S</b>    | Standard Handheld Microphone KNG-M   |
| ➤ <b>CAA/KZA0583</b>                      | Multi-Cast Vote Scan Plus        | ➤ <b>CAA0290S</b>    | Handheld Programming Microphone      |
| ➤ <b>CAA/KZA0592</b>                      | Over the Air Programming         |                      |                                      |

# RECEIVER TYPICAL PERFORMANCE SPECIFICATIONS

	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	0.32 µV	0.27 µV	0.32 µV
	5% BER	0.25 µV	0.20 µV	0.25 µV
Selectivity	25 KHz	75 dB	80 dB	78 dB
	12.5 KHz	67 dB	70 dB	67 dB
Intermediation	-75 dB		-78 dB	-75 dB
Spurious Rejection	-75 dB		-80 dB	-80 dB
FM Hum and Noise	25 KHz	-50 dB	-50 dB	-50 dB
	12.5 KHz	-44 dB	-44 dB	-44 dB
Audio Distortion at 15 W	3 %		3 %	3 %

# TRANSMITTER TYPICAL PERFORMANCE SPECIFICATIONS

	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	+1, -3 dB		+1, -3 dB	+1, -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

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

# SIGNALING

<b>Signaling Rate</b>	9.6Kbps (FDMA) / 12Kbps (TDMA) / 1.2Kbps (MDC)
<b>Digital ID Capacity</b>	16,777,216 (Conventional and Trunking)
<b>Network Access Codes</b>	4096 per TIA 102
<b>P25 Talk Group IDs</b>	65,535 (Conventional and Trunking)
<b>Error Correction</b>	Soft Decision, Golay, BCH, Reed-Solomon
<b>Modulation</b>	FM, C4FM, C-QPSK, H-CPM, H-DQPSK

# POWER AND CURRENT DRAIN

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

# KNG MOBILE BUTTONS AND FUNCTIONS



# 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, & 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.
<b>Low Pressure</b>	500.1	I	500.2	I	500.3	II	500.4	II	500.5	II
<b>High Temperature</b>	501.1	I, II	501.2	I/AI, II/AI	501.3	I/AI, II/AI	501.4	I/Hot, II/Hot	501.5	I, II
<b>Low Temperature</b>	502.1	I	502.2	I/C3, II/CI	502.3	I/C3, II/CI	502.4	I/C3, II/CI	502.5	I, II
<b>Temperature Shock</b>	503.1	-	503.2	I/A1C3	503.3	I/A1C3	503.4	I	503.5	I (D)
<b>Solar Radiation</b>	505.1	II	505.2	I	505.3	I	505.4	I	505.5	I (A1)
<b>Rain</b>	506.1	I, II	506.2	I, II	506.3	I, II	506.4	I, II	506.5	I, II
<b>Humidity</b>	507.1	II	507.2	II	507.3	II	507.4	-	507.5	-
<b>Salt Fog</b>	509.1	-	509.2	-	509.3	-	509.4	-	509.5	-
<b>Blowing Dust</b>	510.1	I	510.2	I	510.3	I	510.4	I	510.5	I, II
<b>Vibration</b>	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
<b>Shock</b>	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)
<b>Mid Power Transceiver</b>	2.5 X 6.5 X 8.5	63.5 X 165.1 X 215.9
<b>High Power Transceiver</b>	2.5 X 6.5 X 8.5	63.5 X 165.1 X 215.9
<b>Remote Control Head</b>	2.5 X 6.5 X 1.5	63.5 X 165.1 X 38.1
<b>Mid/High Power Transceiver Weight</b>	7.5 lbs.	3.4 kg

# ENCRYPTION

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

# TRANSMITTER CERTIFICATIONS

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

# OTHER CERTIFICATIONS

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

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