

RELM's BK Radio KNG2 P25 Portable Radio



Public Safety Communications

The KNG2 Series Portable Radio offers exceptional performance in a lightweight form, incorporating industry leading RF and electrical specifications in a rugged, submersible housing.

- ✓ Large, Bright, Enhanced Color Display
- ✓ Enhanced Noise Cancellation
- ✓ 3 Side Programmable Buttons
- ✓ Loud, Crisp Audio
- ✓ P25 Trunking Option
- ✓ TDMA Phase II
- ✓ IP67 / IP68 Water and Dust Protection Ruggedized
- ✓ Internal GPS and Bluetooth Hardware
- ✓ USB PC Programmable
- ✓ NIST-Certified AES, FIPS 140-2 Level 2, DES-OFB/CFB/XL/ADP
- ✓ MIL-STD 810 C/D/E/F/G
- ✓ Advanced System Key
- ✓ Radio Authentication (LLA)



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KN**G2** P25 Portable Radio

Color Display	6 Line Bitmap Display 3 customizable display lines of 16 characters 2 Status Icons 1 soft key legend
Keypad	Backlight keypad with 4 customizable softkeys
Channel Capacity Memory	5000 64 MB Volatile 256 MB Non- Volatile (Flash)
VHF	KN G2 -P150
UHF Range 1	KN G2 -P400
UHF Range 2	KN G2 -P500
700/800 MHz	KN G2 -P800
Buttons and Switches	Oversized PTT, On/Off volume control, orange emergency button, 16 position rotary switch, 3 position concentric switch, two 2 position toggle switches, 3 programmable side buttons



Transmitter Certifications

700/800 MHz (FCC/IC)	K95KNG9800C / 2116A-KNGP800C
VHF (FCC/IC/JF-12/NTIA)	K95KNGP150 / 2116A-KNG-P150 / JF12-09552 / SPS-18031
UHF Range 1 (FCC/IC/JF-12/NTIA)	K95KNGP400 / 2116A-KNG-P400 / JF12-09552 / SPS-18031
UHF Range 2 (FCC/IC)	K95KNGP500 / 2116A-KNG-P500

FCC Emission Designators

FCC Emission Designators	11K0F3E, 16K0F3E, 8K10F1D, 8K10F1E, 8K10F1W, 20K0F1E
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Power Supply

Power Supply	Rechargeable Li-Ion or AA-Alkaline Battery Pack
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Some Key Benefits

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- **Exceptional Battery Life**
Up to 12 hours with standard capacity and 22 hours with high capacity battery.
- **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 with advanced noise.
- **Enhanced Noise Cancellation**
Dual Microphone noise canceling technology to improve communications in loud environments
- **6 Line Bitmap Display**
2 Status Icons, 3 customizable display lines of 16 characters and 1 soft key legend.
- **Environmental Reliability**
Designed and tested to MIL-STD-810 and IP-67 / IP68 Ruggedized 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.
- **Internal Bluetooth Hardware**
RELM Wireless Bluetooth is a programmable option for wireless accessory connectivity.
- **Scan Modes**
Dual priority scan, trunked priority scan, and dual mode scan
- **NIST FIPS-140-2 Certification Level 2**
The KNG Series radios employ a NIST Certified Cryptographic module.
- **Multi-key/Multi-Algorithm**
Multi-Key/Multi-Algorithm Encryption
- **Over-the-Air Rekey (OTAR)**
- **Encryption Key Fill**
TIA-102-AACD compliant and interoperable with commercially available keyfill 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 Series VHF, UHF, 700/800 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
- **Integrated GPS/Location Services**
P25 Location Services per TIA-102-BAJB are supported, Tier I Conventional, Tier II Trunking.
- **Room to Grow**
Currently uses less than 20% of available memory and processor cycles.

Portable 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.

- **KZA0577** AES, FIPS-140-2 Level 2 Approved Hardware, DES OFB / DES-CFB / DES-XL / ADP Encryption P25
- **KZA0578** Over the Air-Rekey (OTAR)
- **KZA0579** P25 9600 Baud Trunking
- **KZA0581** Multi-Cast Vote Scan Plus
- **KZA0582** Over the Air Programming (OTAP)
- **KZA0593** P25 Phase II – 2 Slot TDMA Operation (Requires KZA0578)
- **KZA0595** P25 Radio Authentication LAA (Requires KZA0577)

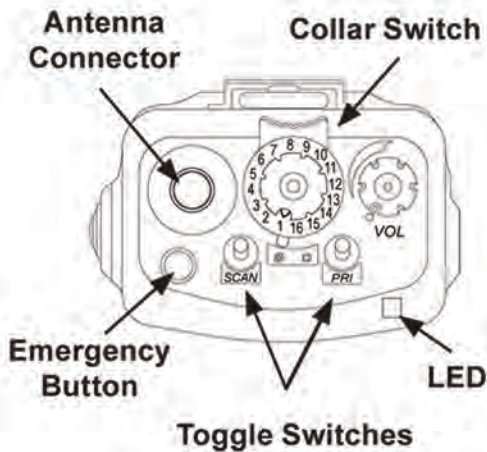
		700/800	VHF	UHF Range 1	UHF Range 2
Frequency Range/Bandsplits		763-776, 793-806 MHz 806-824,851-870 MHz	136-174 MHz	380-470 MHz	440-520 MHz
Channel Spacing		25/12.5 KHz	30/25/12.5 KHz	25/12.5 KHz	25/12.5 KHz
Max Frequency Separation		Full Band	Full Band	Full Band	Full Band
Audio Output Power		3 Watts	3 Watts	3 Watts	3 Watts
Analog Sensitivity	12dB SINAD	0.250 μ V	0.200 μ V	0.250 μ V	0.250 μ V
Digital Sensitivity	1% BER	0.333 μ V	0.277 μ V	0.307 μ V	0.307 μ V
	5% BER	0.250 μ V	0.200 μ V	0.250 μ V	0.250 μ V
Selectivity	25 KHz	≥ 74 dB	≥ 80 dB	≥ 77 dB	76 dB
	12.5 KHz	≥ 66 dB	≥ 70 dB	≥ 66 dB	66 dB
Intermodulation		≥ 75 dB	≥ 78 dB	≥ 75 dB	≥ 75 dB
Spurious Rejection		≥ 80 dB	≥ 80 dB	≥ 80 dB	≥ 80 dB
FM Hum and Noise	25 KHz	≥ 49 dB	≥ 50 dB	≥ 50 dB	≥ 50 dB
	12,5 KHz	≥ 43 dB	≥ 44 dB	≥ 44 dB	≥ 44 dB
Audio Distortion		1%	1%	1%	1%

Transmitter - Minimum Performance Specifications

		700/800	VHF	UHF Range 1	UHF Range 2
Frequency Range/Bandsplits		763-776, 793-806 MHz 806-824,851-870 MHz	136-174 MHz	380-470 MHz	440-520 MHz
Channel Spacing		25/12.5 KHz	30/25/12.5 KHz	25/12.5 KHz	25/12.5 KHz
Max Frequency Separation		Full Band	Full Band	Full Band	Full Band
Rated RF Output Power		1- 3 Watts	1- 6 Watts	1- 5 Watts	1- 5 Watts
Frequency Stability (-30°C to +60°C, +25°C Reference)		$\pm 0.00005\%$	$\pm 0.00005\%$	$\pm 0.00005\%$	$\pm 0.00005\%$
Modulation Limiting		$\pm 5/4/2.5$ KHz	$\pm 5/2.5$ KHz	$\pm 5/2.5$ KHz	$\pm 5/2.5$ KHz
Emissions (Conducted and Radiated)		≥ 75 DB	≥ 75 DB	≥ 75 DB	≥ 75 DB
Audio Response		+1,-3 dB	+1,-3 dB	+1,-3 dB	+1,-3 dB
FM Hum and Noise	25 KHz	≥ 49 dB	≥ 50 dB	≥ 50 dB	≥ 50 dB
	12,5 KHz	≥ 43 dB	≥ 44 dB	≥ 44 dB	≥ 44 dB
Audio Distortion		1.25%	1.25%	1.25%	1.25%

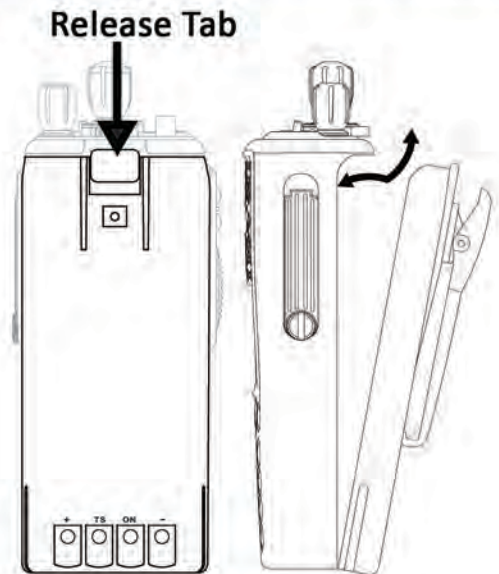
KNG Series Batteries

Battery Capacity/Type	Dimensions (HxWxD)	Part Number	Capacity
Li-Ion Smart 1950 mAh	5.2 x 2.3 x 0.68	KAA0100	1950 mAh- Up to 12 Hours
Li-Ion Smart 3600 mAh	5.2 x 2.3 x 0.88	KAA0100	3600 mAh- Up to 22 Hours
Li-Ion Smart 1950 mAh IS	5.2 x 2.3 x 0.68	KAA0100IS	1950 mAh- Up to 8 Hours
Li-Ion Smart 3600 mAh IS	5.2 x 2.3 x 0.88	KAA0101IS	3600 mAh- Up to 14 Hours
AA Clamshell	5.2 x 2.3 x 0.82	KAA0120	Depends on Alkaline MFG



LED Indicator

Receive (green)
 Busy Channel (flash green)
 Transmit (red)
 Flash Mode (blue)
 Low Battery (flash red)



The KN^{G2} display can be programmed for a variety of options and functionality. Check with your Sales Representative or communications officer for information on the programmed functions of your radio.

NOTE: The KN^{G2} display can be programmed to display different information when a trunking or conventional channel is selected.



	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	II	500.3	II	500.4	II	500.5	II
High temperature	501.1	I, II	501.2	I/A1, II/A1	501.3	I/A1, II/A1	501.4	I/Hot, II/Hot	501.5	II
Low Temperature	502.1	I	502.2	I/C3, II/C1	502.3	I/C3, II/C1	502.4	I/C3, II/C1	502.5	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
Rain/Blown Rain	506.1	I, II	506.2	I, II	506.3	I, II	506.4	I, III	506.5	I
Humidity	507.1	II	507.2	II	507.3	II	507.4	—	507.5	I
Salt Fog	509.1	—	509.2	—	509.3	—	509.4	—	509.5	NA
Dust and Sand	510.1	I	510.2	I	510.3	I	510.4	I	510.5	I
Immersion	512.1	I	512.2	I	512.3	I	512.4	I	512.5	I
Vibration	514.2	VIII/F, Curve-W	514.3	I/10, II/3	514.4	I/10, II/3	514.5	I/24	514.6	I
Shock	516.2	I, II	516.3	I, IV	516.4	I/IV	516.5	I, IV	516.6	VI, V

Encryption

KN^{G2} Portable 5000 Channel Encryption Capabilities

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 TIA-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-140-2 Level 2 FIPS 197

Dimensions with Battery

	Inches	Millimeters
Width	2.5	63.5
Depth	1.8	45.7
Height	5.5	139.7
Weight	Pounds	Grams
Weight (w/o battery)	0.6 lb	270 g

Other Certifications

P25 Compliance Assessment (P25CAP) Performance	Trunked and Conventional Performance Class A
P25 Compliance Assessment (P25CAP) Interoperability	Motorola, Harris, EF Johnson, Airbus, Daniels
Intrinsically Safe	Classes I, II, & III, Division 1, Groups D, F, & G & Non-incendive Class I, Division 2, Groups A-G