

# BKR 5000 P25 Portable Radio Specification Sheet



## Public Safety Communications

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

- ✓ Large, Bright, Color Display and Top Display
- ✓ Enhanced Noise Cancellation
- ✓ 3 Programmable Side Buttons
- ✓ Loud, Crisp Audio
- ✓ P25 Trunking Option
- ✓ TDMA Phase II
- ✓ IP68 Water and Dust Protection
- ✓ Internal GPS and Bluetooth Hardware
- ✓ USB PC Programmable
- ✓ AES256, AES128, DES-OFB/CFB/XL
- ✓ MIL-STD 810 C/D/E/F/G
- ✓ Advanced System Key

# BKR 5000 P25 Portable Radio

Color Display	6-line display 3 customizable display lines of 16 characters 2 lines of status icons 1 line of soft-keys
Keypad	Back-lit with 4 customizable soft-keys
Channel Capacity Memory	5000
VHF	BKR 5000-V
Buttons and Switches	Oversized PTT, On/Off Volume control, orange emergency button, 16 position rotary switch, 4 positions concentric zone switch, 3 programmable side buttons, programmable collar switch



## Transmitter Certifications

VHF (FCC/IC)	FCC ID: K95BKR5000-V, IC ID: 2116A-BKR5000V
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## FCC Emission Designators

FCC Emission Designators	11K0F3E, 8K10F1D, 8K10F1E, 8K10F1W
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## Power Supply

Power Supply	Rechargeable Li-Ion or AA-Alkaline Battery Pack
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- **Exceptional Battery Life**  
Up to 12 hours with standard capacity.
- **Enhanced Voice Quality**  
The BKR Series radio uses the Third Generation Enhanced IMBE P25 dual-rate Vocoder (AMBE+2 V1.80) for robust performance in noisy environments.
- **6 Line Display**  
2 Status Icons, 3 customizable display lines of 16 characters, and 1 line of soft-keys.
- **Environmental Reliability**  
Designed and tested to MIL-STD-810 and IP-68 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**  
BK Technologies Bluetooth is a programmable option for wireless accessory connectivity. (Release date TBD).
- **Scan Modes**  
Dual priority scan, trunked priority scan, dual-mode scan, channel, zone and vote scan.
- **Encryption**  
The BKR Series radios support AES256, AES128, DES-OFB/CFB/XL encryption and is compatible with Motorola's ADP.
- **Multi-key/Multi-Algorithm**  
Multi-Key/Multi-Algorithm Encryption.
- **Over-the-Air Rekey (OTAR)**
- **Encryption Key Fill**  
TIA-102AACD compliant and interoperable with commercially available key fill devices.
- **P25 9600 Baud Trunking**  
The BKR Series radio operates on 9600 baud P25 Compliant Trunking Systems and has been P25 Compliance Assessment Program (P25CAP) tested and proven interoperable.
- **OTAP**  
BKR Series radios support Over-the-Air Programming (OTAP) for operational efficiency.
- **TDMA Phase 2**  
BKR Series VHF is P25 Phase 2 (TDMA) capable 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.

## Portable Radio Features

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

- **BKR0582** OTAP, Trunking
- **BKR0570** OTAR (Trunking & Conventional)
- **BKR0579** P25 FDMA Trunking
- **BKR0593** P25 TDMA Trunking
- **BKR5780** Radio Authentication
- **BKR0574** DES & AES FIPS140-2 Level 2 Encryption w/ "tamper proof"
- **BKR0581** Multi-cast Vote Scan Plus

## Receiver Minimum Performance Specifications

		VHF
Frequency Range		136-174 MHz
Channel Spacing		25/12.5 kHz
Max Frequency Separation		Full Band
Rated Audio Output Power		3 Watts
Analog Sensitivity	12dB SINAD	0.2 $\mu$ V / -121.0 dBm
Digital Sensitivity	1%BER	0.277 $\mu$ V / -118.15 dBm
	5%BER	0.2 $\mu$ V / -121.0 dBm
Selectivity	25 kHz	$\geq 80$ dB
	12.5 kHz	$\geq 70$ dB
Intermodulation		$\geq 78$ dB
Spurious Rejection		$\geq 80$ dB
FM Hum and Noise	25 kHz	$\geq 50$ dB
	12.5 kHz	$\geq 44$ dB
Audio Distortion		2%

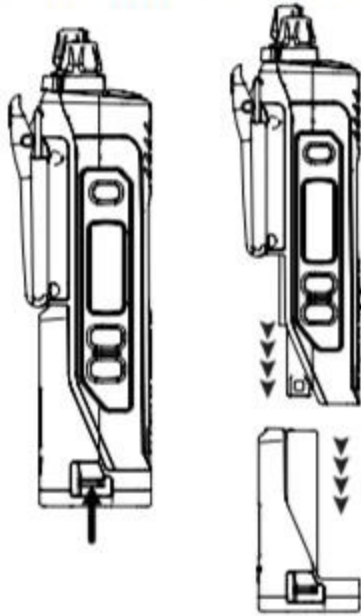
## Transmitter Minimum Performance Specifications

		VHF
Frequency Range		136-174 MHz
Channel Spacing		25/12.5 kHz
Max Frequency Separation		Full Band
Rated RF Output Power		1- 6 Watts
Frequency Stability (-30°C to +60°C, +25°C Reference)		$\pm 1$ ppm
Modulation Limiting		$\pm 5/2.5$ kHz
Emissions (Conducted and Radiated)		$\geq 75$ dB
Audio Response		+1, -3 dB
FM Hum and Noise	25 kHz	$\geq 50$ dB
	12.5 kHz	$\geq 44$ dB
Audio Distortion		3%

## BKR Series Batteries

Battery Capacity/Type	Dimensions (HxWxD)	Part Number	Capacity
Li-Ion Smart 4900 mAh	3.0 x 2.3 x 1.8	BKR0101	4900 mAh > 12 Hours
AA Clamshell	5.2 x 2.3 x 2.2	BKR0120	12 cells > 12 Hours

## Removing the Battery



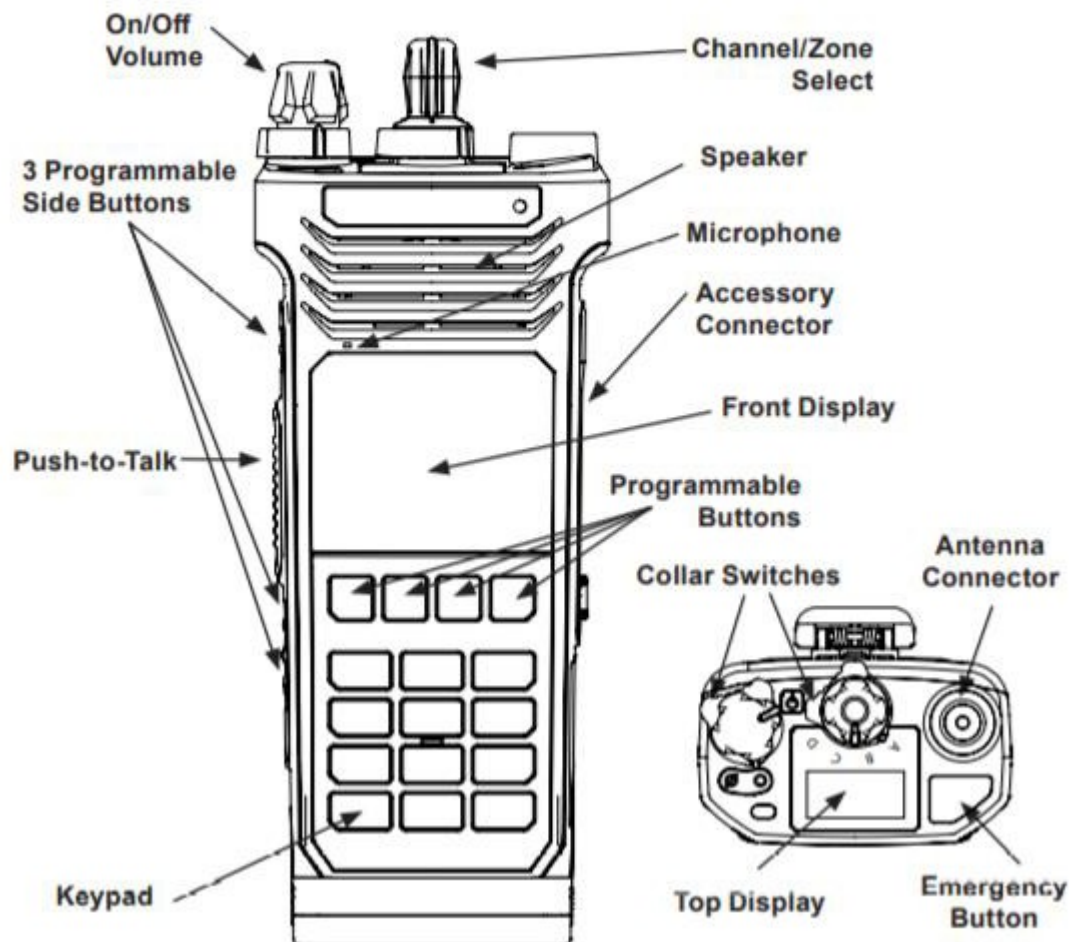
1. Push in the release tabs on each side of the battery.
2. Pull the battery downwards away from the radio.

NOTE: All information programmed into the radio is maintained even when the battery pack is removed.

The **BKR 5000** 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 **BKR 5000** display can be programmed to display different information when a trunking or conventional channel is selected.

## Radio Controls



## BKR 5000 Portable Military Standards C,D,E, F, & G

	MIL-STD 810G	
	Method	Proc. / Cat .
Low Pressure	500.5	I, II
High temperature	501.5	I, II
Low Temperature	502.5	I, II
Temperature Shock	503.5	1-D
Contamination by Fluids	504.1	II
Solar Radiation	505.5	I
Rain/Blown Rain	506.5	I
Humidity	507.5	II
Salt Fog	509.5	I
Dust and Sand	510.5	I, II
Immersion	512.5	I
Vibration	514.6	I/4
Shock	516.6	I, IV, VI

## Encryption

**BKR 5000** Portable 5000 Channel Encryption Capabilities

<b>Supported Algorithms</b>	AES-256, AES-128, DES-OFB, DES-CFB, ADP
<b>Encryption Keys</b>	1024 Storage Location Number (SLN)/ Common Key Reference (CKR)
<b>Frame Re-sync Interval</b>	P25 Common Air Interface 360 mS
<b>Keyloading</b>	IAW TIA-102_AACD (KVL-3000/ 4000}
<b>Synchronization</b>	OFB- Output Feedback or CFB- Cyber Feedback
<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-140-2 Level 2 FIPS 197

## Dimensions with Battery

	Inches	Millimeters
<b>Width</b>	2.3	59.6
<b>Depth</b>	1.8	45.7
<b>Height</b>	6.5	166.2
<b>Weight</b>	<b>Pounds</b>	<b>Grams</b>
<b>Weight (with battery)</b>	1.34 lbs	608g
<b>Weight (w/o battery)</b>	0.89 lb	404g

## Other Certifications

<b>P25 Compliance Assessment (P25CAP) Performance</b>	Trunked and Conventional Performance Class A
<b>P25 Compliance Assessment (P25CAP) Interoperability</b>	Motorola, L3Harris, Tait/Zetron

# KNG/BKR SERIES PORTABLE RADIO STANDARD FEATURES



STANDARD FEATURES	KNG2 PORTABLE	BKR-5000
Conventional Analog	✓	✓
APCO P25 Digital	✓	✓
TDMA	✓	✓
VHF (136-174MHz)	✓	✓
UHF (440-520MHz)	✓	
7/800 (763-870MHz)	✓	
5000 Channels	✓	✓
Birdie Free	✓	✓
Alphanumeric Keypad	✓	✓
Tier 2 (No Keypad) Avail.	✓	✓
Programmable Front Buttons	✓	✓
3 Side Programmable Buttons	✓	✓
Programmable Toggle Switches	✓	
Priority Scan	✓	✓
Dual Mode Scan	✓	✓
Channel Scan	✓	✓
Group Scan	✓	✓
Emergency Signaling	✓	✓
NIST FIPS-140-2 Certified	✓	✓
MIL-SPEC C/D/E/F/G	✓	✓
USB Programmable	✓	✓
Talk Around	✓	✓
Text Messaging	✓	✓
Color LCD Display	✓	✓
Dual Microphones	✓	✓
Noise Cancellation	✓	✓
Top LCD Display		✓
Four Position (A, B, C, D) Switch		✓

# KNG/BKR SERIES PORTABLE RADIO OPTIONS



AVAILABLE OPTIONS	KNG2 PORTABLE	BKR-5000
OTAP	✓	✓
OTAR	✓	✓
Phase II TDMA	✓	✓
DES/AES Encryption	✓	✓
FIPS140 Level 2 Encryption	✓	✓
Multi-cast Vote Scan	✓	✓
P25 Trunking	✓	✓
Radio Authentication	✓	✓
Site Authentication	✓	✓
GPS	✓	✓

