

# 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
- ✓ OTAP, OTAR
- ✓ TDMA Phase II
- ✓ Internal GPS and Bluetooth Hardware
- ✓ USB PC Programmable
- ✓ AES256, AES128, DES-OFB/CFB
- ✓ MIL-STD 810 C/D/E/F/G
- ✓ Advanced System Key

# BKR 5000 P25 Portable Radio

<b>Color Display</b>	6-line display 3 customizable display lines of 16 characters 2 lines of status icons 1 line of soft-keys
<b>Keypad</b>	Back-lit with 4 customizable soft-keys
<b>Channel Capacity Memory</b>	5000
<b>VHF</b>	BKR 5000
<b>Buttons and Switches</b>	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

## FCC Emission Designators

**FCC Emission Designators**

11K0F3E, 8K10F1D, 8K10F1E, 8K10F1W

## Power Supply

**Power Supply**

Rechargeable Li-Ion or AA-Alkaline Battery Pack

## Key Benefits

- **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.
- **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 an optional feature for wireless accessory connectivity.
- **Dual-mode Bluetooth 4.1 BR/EDR and BLE (128-bit encryption).** Up to 7 BR/EDR active devices and 10 simultaneous BLE connections are supported.
- **Integrated GPS/Location Services**  
P25 Location Services per TIA-102-BAJB are supported, Tier I Conventional, Tier II Trunking.
- **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 encryption and is compatible with Motorola's ADP.
- **Multi-key/Multi-Algorithm**  
Multi-Key/Multi-Algorithm Encryption.
- **OTAR Project 25 Over-the-Air Rekey**  
Allows the encryption key to be changed wirelessly on P25 conventional and P25 trunking systems.
- **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 Trunking**  
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.

## 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.

<b>BKR0582</b>	OTAP, Trunking	<b>BKR0595</b>	Radio Authentication
<b>BKR0570</b>	OTAR (Trunking & Conventional)	<b>BKR0574</b>	DES & AES Encryption
<b>BKR0579</b>	P25 FDMA Trunking	<b>BKR0581</b>	Multi-cast Vote Scan Plus
<b>BKR0593</b>	P25 TDMA Trunking		

### 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%

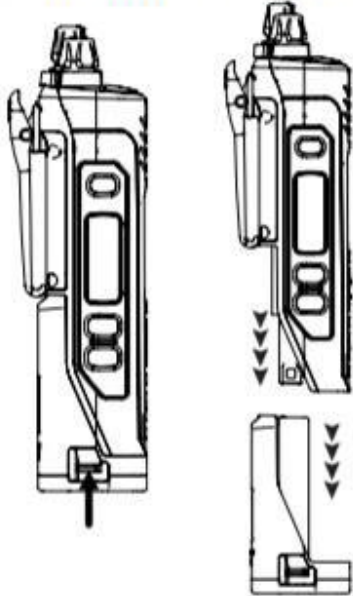
### Transmitter Minimum Performance Specifications

		VHF
Frequency Range		136-174 MHz
Channel Spacing		25/12.5 kHz
Max Frequency Separation		Full Band
Rated RF Output Power	Frequency Stability (-30°C to +60°C, +25°C Reference}	1-6 Watts $\pm$ 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



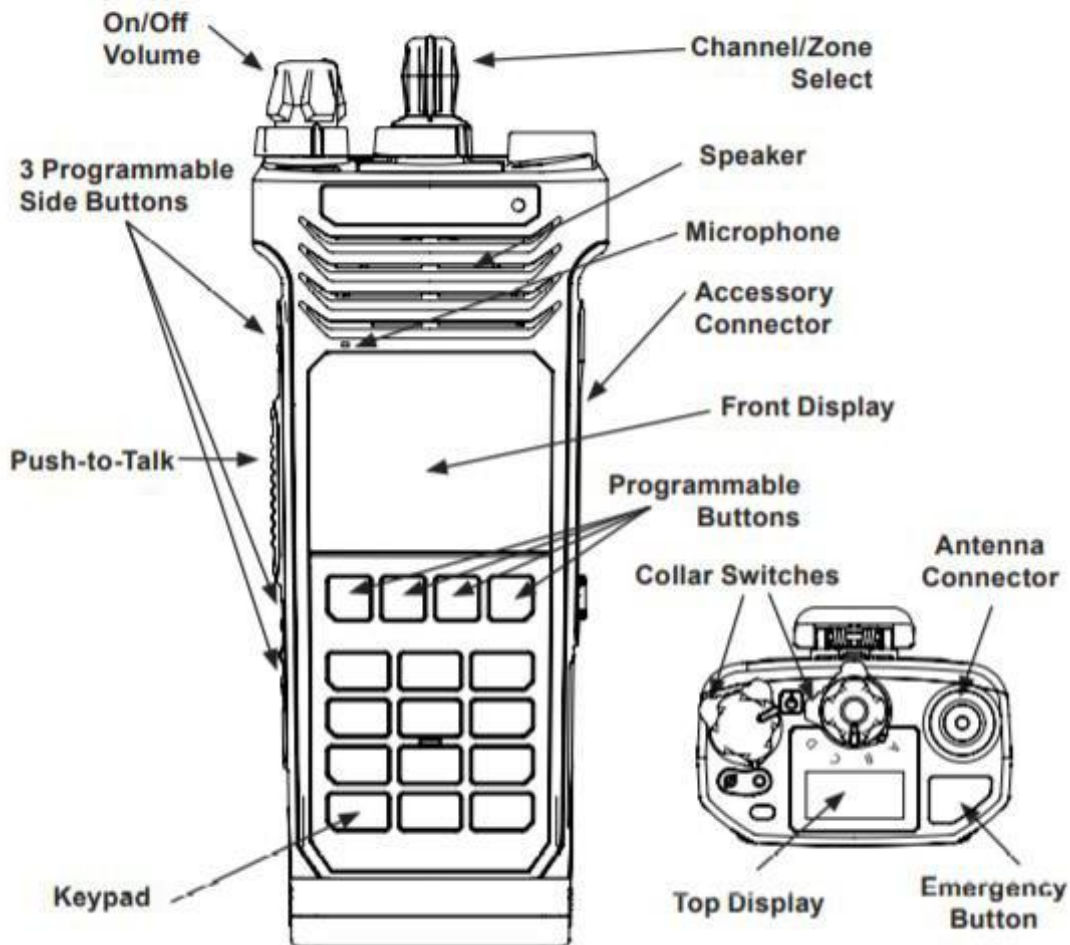
1. Push in the release tabs on each side of the battery.
2. Pull the battery downwards away from the radio.

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

## Wireless Connectivity

### Bluetooth

Dual-mode Bluetooth 4.1 BR/EDR and BLE (128-bit encryption). Up to 7 BR/EDR active devices and 10 simultaneous BLE connections are supported.

## 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 197

### Dimensions with Battery

	Imperial (in)	Metric (mm)
<b>Width</b>	2.3	59.6
<b>Depth</b>	1.8	45.7
<b>Height</b>	6.5	166.2
<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



BKR Series Portable Radio Standard Features	BKR 5000
Conventional Analog	✓
APCO P25 Digital	✓
5000 Channels	✓
Birdie Free	✓
Alphanumeric Keypad	✓
Tier 2 (No Keypad) Avail.	✓
Programmable Front Buttons	✓
3 Side Programmable Buttons	✓
Priority Scan	✓
Dual Mode Scan	✓
Channel Scan	✓
Group Scan	✓
Emergency Signaling	✓
MIL-SPEC C/D/E/F/G	✓
USB Programmable	✓
Talk Around	✓
Text Messaging	✓
Color LCD Display	✓
Dual Microphones	✓
Noise Cancellation	✓
OTAP	✓
OTAR	✓
Phase II TDMA	✓
DES/AES Encryption	✓
Multi-cast Vote Scan	✓
P25 Trunking	✓
Radio Authentication	✓
GPS	✓
VHF (136-174MHz)	✓
UHF (440-520MHz)	
7/800 (763-870MHz)	
Programmable Toggle Switches	
Top LCD Display	✓
Four Position (A, B, C, D) Switch	✓
Bluetooth	✓