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
- ✓ IP68 Water and Dust Protection
- ✓ 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

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
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

FCC Emission Designators

FCC Emission Designators	11K0F3E, 8K10F1D, 8K10F1E, 8K10F1W

Power Supply

Power Supply	Rechargeable Li-Ion or AA-Alkaline Battery Pack

Some 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 VI.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 standard feature for wireless accessory connectivity.

➢ **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.

➢ **BKR0582** OTAP, Trunking

➢ **BKR0570** OTAR (Trunking & Conventional)

➢ **BKR0579** P25 FDMA Trunking

➢ **BKR0593** P25 TDMA Trunking

➢ **BKR5780** Radio Authentication

➢ **BKR0574** DES & AES Encryption

➢ **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 µV / -121.0 dBm
Digital Sensitivity	1%BER	0.277 µV / -118.15 dBm
	5%BER	0.2 µV / -121.0 dBm
Selectivity	25 kHz	≥80 dB
	12.5 kHz	≥70 dB
Intermodulation		≥78 dB
Spurious Rejection		≥80 dB
FM Hum and Noise	25 kHz	≥50 dB
	12.5 kHz	≥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}		± 1 ppm
Modulation Limiting		± 5/2.5 kHz
Emissions (Conducted and Radiated}		≥75 dB
Audio Response		+1, -3 dB
FM Hum and Noise	25 kHz	≥50 dB
	12.5 kHz	≥44 dB
Audio Distortion		3%

BKR Series Batteries

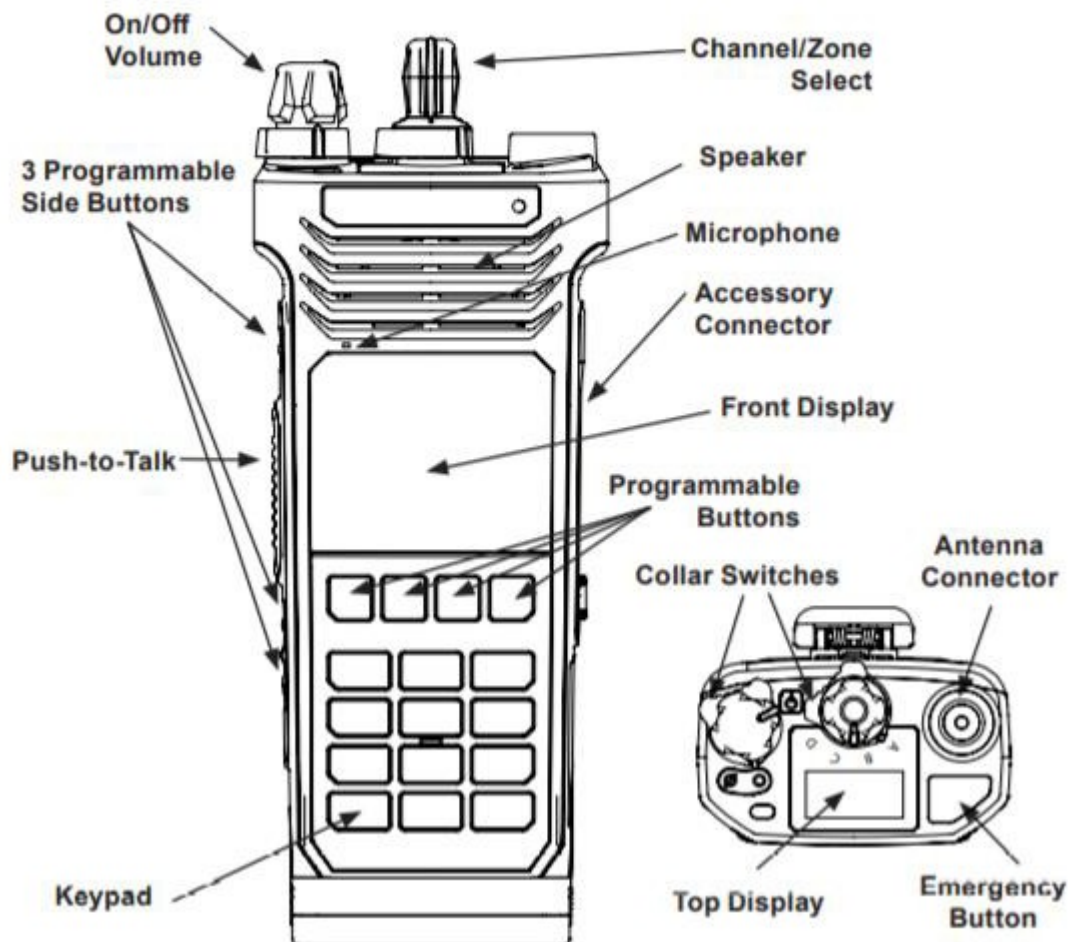| Battery Capacity/Type	Dimensions (HxWxD}	Part Number	Capacity
Li-Ion Smart 4900 mAh	3.0 x 2.3 x 1.8	BKR0101	4900 mAh > 12 Hours
AA Clamshell	5.2 x 2.3 x 2.2	BKR0120	12 cells > 12 Hours

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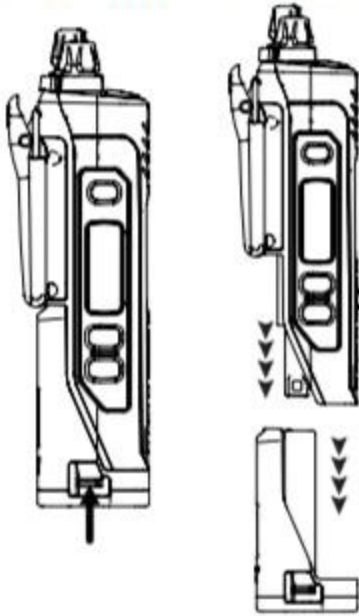
1. Push in the release tabs on each side of the battery.
2. Pull the battery downwards away from the radio.

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

On/Off Volume

Channel/Zone Select

3 Programmable Side Buttons

Speaker

Microphone

Accessory Connector

Front Display

Push-to-Talk

Programmable Buttons

Collar Switches

Antenna Connector

Keypad

Top Display

Emergency Button

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

Supported Algorithms	AES-256, AES-128, DES-OFB, DES-CFB, ADP
Encryption Keys	1024 Storage Location Number (SLN}/ Common Key Reference (CKR)
Frame Re-sync Interval	P25 Common Air Interface 360 mS
Keyloading	IAW TIA-102_AACD (KVL-3000/ 4000}
Synchronization	OFB- Output Feedback or CFB- Cyber Feedback
Type	Digital Encryption
Key Storage	Programmable Volatile / Non-Volatile
Key Erasure	Keyboard Command and KMF
Standards	FIPS 197

Dimensions with Battery

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

Other Certifications

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

KNG/BKR SERIES PORTABLE RADIO STANDARD FEATURES

STANDARD FEATURES	KNG2 PORTABLE	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	✔	✔
Bluetooth	✔	✔

KNG/BKR SERIES PORTABLE RADIO OPTIONS

AVAILABLE OPTIONS	KNG2 PORTABLE	BKR-5000
VHF (136-174MHz)	✓	✓
UHF (440-520MHz)	✓	
7/800 (763-870MHz)	✓	
Programmable Toggle Switches	✓	
Top LCD Display		✓
Four Position (A, B, C, D) Switch		✓