

## Guardian Patriot Series

### Gamma Detection and Identification Backpack



**The Guardian Patriot backpack is a highly sensitive radiation detection system that can detect and identify a wide range of radioactive material, including industrial, medical, special nuclear material (SNM), and naturally occurring radioactive material (NORM).**

The Guardian Patriot can be deployed as a backpack worn by the operator or placed in a vehicle for greater area coverage. The backpack can wirelessly connect to a smartphone, tablet, or laptop, allowing mission-critical data to be monitored by a remote command center or reach-back facility.

The Guardian Patriot exceeds the strict detection requirements that military professionals, law enforcement, and emergency responders demand for today's complex missions. Common radionuclide and materials detected and identified include: 40K, 60Co, 57Co, 137Cs, 192Ir, 226Ra, 241Am, 232Th, and 201Tl.

#### STANDARD FEATURES

- Gamma spectroscopy
- Directionality (left vs. right)
- Display visible in direct sunlight
- One-button operation
- Remote monitoring capable
- Wireless communication capable
- Long battery life

#### OPTIONAL FEATURES

- Solid-state neutron detector (Patriot-GN only)
- Geiger-Müller probe
- Alpha/Beta (ZnS) probe
- Spare battery, 14 VDC rechargeable LiPo
- Software user interface: Mobile Mission or Mobile HQ
- Android Smartphone
- Android Tablet
- Laptop

# Guardian Patriot Series

## PHYSICAL SPECIFICATIONS

- Operating Configurations:  
*Patriot G backpack for gamma detection*  
*Patriot GN backpack for gamma and neutron detection*
- Enclosure: Waterproof aluminum box inside backpack
- Backpack External Dimensions: 23 in L x 13 in W x 6 in D (58 cm L x 33 cm W x 16 cm D)
- Number of Gamma Detectors: 2
- Gamma Detector Material: NaI(Tl) sodium iodide
- Gamma Detector Size: 2 in Dia. x 4 in L (5 cm Dia. x 10 cm L)
- Gamma Detector Volume: 1.65 liters (total)
- Backpack Weight: 7 lbs (3.2 kg)

## PERFORMANCE SPECIFICATIONS

- Gamma Radiation Detection: Meets ANSI N42.53
- Gamma False Alarm Rate: Less than 1 per hour

## ADDITIONAL SPECIFICATIONS FOR PATRIOT GN (ONLY)

- Backpack Weight: 19.4 lbs (8.8 kg)
- Number of Neutron Detectors: 1Neutron
- Detector Material: LiZnS-PMMA
- Neutron Detector Size: 14 in L x 6 in W x 2 in D (35 cm L x 15 W cm x 5 cm D)
- Neutron Detector Volume: 2.75 liters (total)
- Neutron Detection: Meets ANSI N42.53
- Neutron False Alarm Rate: Less than 1 per hour

## OPERATION

- Inspection Speed: 7 ft/s (2.2 m/s) nominal
- Radiation Alarms: Display on wrist display or phone
- Power: Rechargeable Battery 14VDC hot swappable
- Ports: Ethernet, USB, and bluetooth

## ENVIRONMENT/SAFETY

- Ports: Ethernet, USB, and Bluetooth
- Temperature: -4 °F to 140 °F (-20 °C to 60 °C )
- Humidity: 5 to 95% non-condensing
- Environmental Protection: IP65

