RADIATION SOLUTIONS INC

RS-350 Backpack
Human Portable Radiation Detector

RS-350 Backpack Radiation Detector

Compact and Lightweight for Security, Nuclear & Environmental Applications

The RS-350 Backpack Radiation Detector (BRD) is a Human Portable Radiation Detector (HPRD) carried in a Military grade backpack. It is a rugged, self-contained, fast deployable gamma and neutron radiation monitoring and detection system with radionuclide identification features.

Equipped with two spectroscopic scintillator detectors available in a variety of sizes and types, it provides instantaneous Left-Right directionality. For maximum neutron detection, it can accommodate up to four ^{3}He tubes or, alternatively, a ^{6}Li chamber.

For equivalent sensitivity, the RS-350 is the most compact and lightweight backpack system commercially available, weighing as little as 16lbs (7.3kg). It is the only backpack system with a 3"x3" NaI detector that, on its own, can accurately identify radioisotopes and report dose rates at a count rate of up to 100mR/h.

Its rugged design, modularity and flexibility in data communication provides adaptability in deployment. It can be used on land, marine and airborne platforms, as a stationary monitor, or on UAVs. Data can be streamed to a local PC, Smartphone, Smartwatch, or Tablet remotely through a relay server, or directly onto a federal or state network. The internal storage continuously and simultaneously saves the last 24 hours of data, providing operational redundancy.

APPLICATIONS

FEATURES

RSI Multi Channel Analyzer (MCA)

- Fast and accurate radiation detection, Nuclide ID, and Dose Rate
- Instantaneous Left-Right directional indication
- High throughput with essentially zero dead time
- 10/sec Search Mode

Flexible Configurations

- Selection of gamma and neutron detector sizes, quantities, and compositions
- Built-in GPS and external GPS support

Unique and Advanced Algorithm

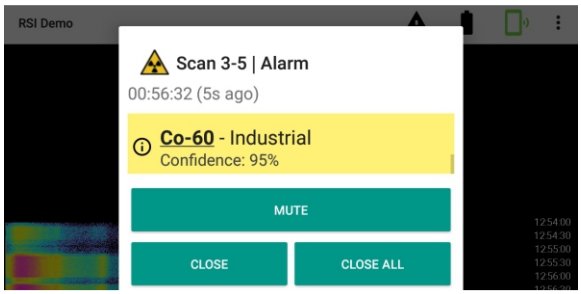
- Target location using multiple deployed systems to quickly pinpoint objects of interest
- Accurately locate and identify hidden and shielded sources with categorized NID (SNM, MED, NORM, IND)
- Anomaly detection with adaptable background techniques to maximize sensitivity and minimize false alarms

Ergonomic Design

- Rugged NaI(Tl) Detector
- Compact and lightweight
- Balanced weight for comfort of carrying

Modern Technology for Emergency Response

- Long operational time and hot-swappable batteries (up to 18h)
- REACHBACK
- Flexible data streaming to local, remote, and third party interface
- Audible, visual, and vibration alarms through Smartphone and Smartwatch
- Alarm through headphones for covert operation



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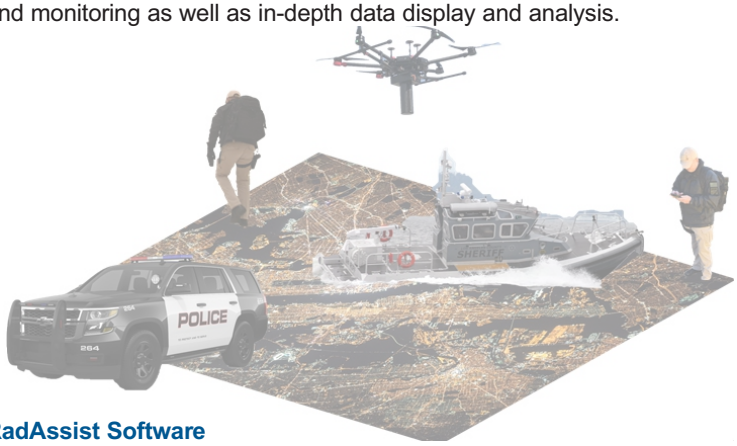
Advanced Software Suite

The RS-350 is interoperable with all other RSI mobile, marine, and airborne systems through PC software: RadAssist, RadView, and MapAssist, as well as the RadMobile Smartphone app. This suite of software allows centralized control and monitoring as well as in-depth data display and analysis.



RadAssist Software

The signature RSI spectroscopy software is a fully functional utility suite that allows full control of the system configuration, settings, and parameters. It also provides in-depth data and spectroscopy analysis including programming utilities.

RadView Software

A streamlined, single screen “user friendly” interface software with selectable modes of operation with alarm displays that guide the user through a typical work flow from initial encounter to reporting/REACHBACK.

MapAssist Software

Allows for central control to monitor all deployed RSI systems on the same map.

RadMobile (Smartphone App)

A Smartphone App used to search for radioactive isotopes, monitor a system, and watch for alarms. It also provides a quick overview of system status, count rate, dose rate, directionality, alarm, and detailed isotope information and category. GPS location is provided on a dynamic map.

SPECIFICATIONS

Gamma Crystal Types and Sizes

- Standard: 3" x 3" NaI
- On request - Type: CsI or LaBr
  Size: 1" x 4", 2" x 2" or 2" x 4" (diam. x length)

Energy Range

- 15keV - 3MeV

Energy Resolution

- typ 7.5% for NaI and CsI; <3.5% for LaBr

Multi Channel Analyzer (MCA) Channels

- 2048 / 4096

Neutron Detector Types and Sizes

- 2" dia. ^{3}He

Weight

- 16 - 18lbs (7.3 - 8.2kg)

Communication

- Wi-Fi, Cellular Adaptability, Ethernet, USB data storage, Wireless Connectivity

Internal Data Storage

- 8GB, 24 hours of data

Battery Type and Life

- LiFePo, > 12 hours

GPS

- Imbedded GPS receiver (12 channel)

Interface

- iOS, Android, MS Windows

Protection Rating

- IP67 with rugged case, IP55 with backpack

Operating Temperature

- -40°C to +50°C / -40°F to +122°F

Storage Temperature

- -50°C to +50°C / -58°F to +122°F

Operating/Storage Humidity

- 100% non-condensing

Standards

- ANSI N42.53 2013; ANSI N42.42 2012; CE, IEC/EN 60529

Radiation Solutions Inc.

Radiation Solutions Inc. (RSI) is a Canadian company specializing in nuclear instrumentation for the detection, measurement and analysis of low-level ionizing radiation from both naturally occurring and man-made sources.

RSI’s industry-leading radiation detection technology incorporates a fully digital system design, spectral analysis, and advanced data processing. RSI deploys this technology in stationary systems, airborne and mobile systems, portable and handheld spectrometers. This provides a level of quality previously only attainable in laboratory equipment.

RSI is committed to working closely withcustomers in all aspects of the product life cycle including product requirement, application, training, support, and product enhancement. Our comprehensive approach results in state-of-the-art hardware components, and software that produce outstanding results exceeding expectations.

RADIATION SOLUTIONS INC.

Corporate Head Office
5875 Whittle Road
Mississauga, ON, CANADA L4Z 2H4

+1 (905) 890-1111
+1 (905) 890-1964
sales@radiationsolutions.ca
radiationsolutions.com