smiths detection
bringing technology to life

RadSeeker™

HANDHELD RADIOISOTOPE IDENTIFIER

Feature Highlights

- **Advanced spectrum processing and identification algorithms for superior identification accuracy**
- **Continuous automatic stabilization, no field calibration required**
- **Fully ruggedized to survive 3ft drop, extreme operating temperatures and water spray**
- **Simplified user interface takes the guesswork out of spectral interpretation**
- **Designed to meet/exceed all ANSI N42.34 (2006) requirements**

The RadSeeker is a handheld, portable, rugged and highly accurate radioisotope detector and identifier. The RadSeeker was specifically designed to meet the Department of Homeland Security (DHS) mission requirements for a next-generation system capable of detecting and identifying nuclear threat materials.

The RadSeeker offers superior identification capabilities that are based on Symetrica's Discovery Technology™. This technology couples advanced spectrum processing and identification algorithms with a choice of highly sensitive 1.5" x 1.5" Lanthanum Bromide ($LaBr_3$) or 2" x 2" Sodium Iodide (NaI) detectors resulting in superior accuracy which is unique and exclusive to Smiths Detection. This sophisticated detector system is capable of resolving complex masking scenarios and exceeds all ANSI N42.34 (2006) requirements for the identification of bare, shielded and multiple isotopes.

The RadSeeker is easy to use while supplying the operator with quick, simple, specific information for threat assessment. Applications include Customs inspection, border protection, emergency response, and radiological facilities/personnel monitoring.

RadSeeker and Cargo Inspection

The RadSeeker can be used during a search or screening scenario in order to detect radioactive sources and then clearly identify whether the radioactive material uncovered is harmless naturally occurring radiation or a more dangerous source, such as special nuclear materials or those consistent with a "dirty bomb". For each source identified the RadSeeker provides a risk assessment describing the source as innocent or a threat, removing all the guess work from the operator.

Continued overleaf

RadSeeker

RadSeeker and Emergency Response
In an emergency situation, radiological response teams can quickly and accurately determine whether or not a source is present and the level of threat it represents. The built-in wireless capabilities which include both WiFi 802.11 and satellite phone interface provide those in a remote command center easy access to information such as the threat identified, source spectra and the location of the device/operator.

In a situation that is deemed unsafe to send a responder down range the RadSeeker can be placed mechanically while monitoring and controlling the device from a safe distance.

Technical Data

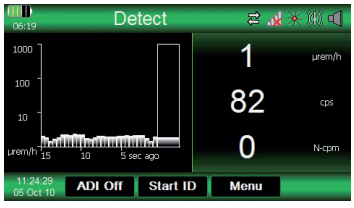
General Specifications

Radiation detection	High sensitivity detection alarms/alerts indicate gamma or neutron radiation above background; user-adjustable thresholds. Performance exceeds ANSI N42.34 (2006) requirements
Identification performance	Exceeds all ANSI N42.34 (2006) requirements for bare, shielded, multiple and masked isotopes. Active background updates improve identification performance
Library	Easily extensible library with 41 radionuclide's classified according to ANSI N42.34 (2006)
Stabilization	Automatic energy stabilization (eliminates the need for field calibration)
Energy range	25 keV – 3MeV (Gamma)
Alarm indications	Audio, visual, earphone, vibrator, discrete ultra-bright LEDs for alarm indication on rear of system
Battery	Smart lithium ion battery (UL Approved); 8+ hours (normal operating conditions with 150+ IDs). Battery rechargeable in unit or desktop charger
Environmental and safety	Operating temperature range: -32°C (-25°F) after warm-up to 50°C (122°F); shock and vibration: ANSI N42.34 (2006); drop: 91.44 cm (3 ft) onto 5.1 cm (2") plywood covered concrete; safety: UL 61010-1; EMC: ANSI N42.34 (2006), humidity: 3-98% relative humidity, non-condensing at 35°C (95°F)
Protection	Fresh water resistant, splash proof, dust and sand proof, IP65 (ANSI/IEC 60529)
Dimensions (WxLxH)	17.8 x 30.5 x 11.4cm (7" x 12" x 4.5") – small bumpers
Weight	CS 2.4 kg (5.2 lbs), CL 2.2kg (4.8 lbs)
Connectivity	Wireless 802.11b/g/n, serial USB, ethernet and satellite phone connectivity available via RF modem
Display	High contrast, high resolution (428 x 272 pixels) color Organic Light Emitting Diode (OLED)
Locator	Global Positioning System (GPS) – provides the longitude and latitude of the system throughout the screening process and at time identification was made
Accessories included	Transportation case, sling with strap, additional battery pack, AC power adapter, 12v DC car adapter, desktop battery charger, USB cables, USB headphone adapter, SAT phone adaptor, set of large bumpers, screwdriver (for changing bumpers), manuals, PC software installation CD

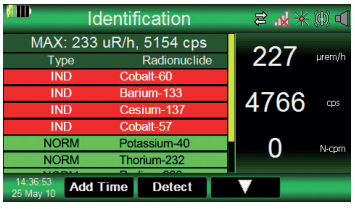
Configurations

	RadSeeker CS (Commercial Sodium Iodide)	RadSeeker CL (Commercial Lanthanum Bromide)
Radiation detection technologies	2" x 2" Sodium Iodide (gamma spectrometer) Moderated ^{3}He (neutron detector)	1.5" x 1.5" Lanthanum Bromide (gamma spectrometer) Moderated ^{3}He (neutron detector)
Dose rate range	1urem/hr to 12mrem/hr (Cs-137)	1urem/hr to 20 mrem/hr (Cs-137)

Utilizing Symetrica's Discovery Technology, licensed exclusively to Smiths Detection



The display provides a historical graph of the intensity of the source. To the right of the history the real-time count rate and dose rate are shown constantly on every screen providing the much needed info to the user at all times.



This Identification screen displays a list of alarms. In the case where multiple radionuclides are identified, they are listed by priority. The isotope category is further provided as well as a threat assessment, Green for Innocent and Red for a Threat.

symetrica Discovery Technology™

For product information, sales or service, please go to www.smithsdetection.com/locations

Smiths Detection, 21 Commerce Drive, Danbury, CT 06810

smiths detection