



**RADIATION
SOLUTIONS INC**



TECHNOLOGY EXPERTS
GLOBAL EXPERTS GROUP

RS-330
Portable Gamma-Ray
Spectrometer



✓ Accurate
✓ Precise

✓ Sensitive
✓ Quick

✓ Portable
✓ Rugged

✓ Multi-functional
✓ User friendly

APPLICATIONS



FEATURES

- Large 3" X 3" NaI(Tl) detector
- Powerful 1024 channel advanced gamma-ray FPGA spectrometer for high data throughput & essentially zero Dead-Time
- 4 modes of operation
 - Assay, NID, Survey, Core Logging
- In-situ and In-Vitro capability
- Auto and continuous stabilization without the need of radioactive sources
- High throughput
- Categorized NID:
 - SNM, MED, NORM, IND
- Locate and Identify Shielded Sources
- Energy Compensated Dose Rate
- Integrated microphone for adding user audio comments to the data stream as required, helpful in post mission analysis
- Sweep-mode audio
- Tactile audio and visual alarm
- Large storage capacity: 8GB
- REACHBACK via WiFi
- Built-in GPS
- Daylight-readable large color display with auto-contrast adjustment
- >10hrs operation on battery
- Wide temperature range operation, dust & water resistant casing
- Designed to meet ANSI 42.34
- Fully customizable for advanced user: Calibration, display units, measurement method, alarm level
- Integrated RS Analyst software compatible with other RSI RIID products



RS-330 Series Portable Gamma-Ray Spectrometer

The RS-330 portable gamma ray spectrometer is a new addition and advancement in RSI's lightweight eld spectrometers providing high sensitivity for radiological, geophysical, environmental and engineering applications. Customizable parameters allow advanced users to dene methods of measurements and alarm levels. Special features and options ensure users of quality results in the eld. Options are available to change parameters for various setups. Sweep mode audio enables a complete hands-free and eyes-free operation.



RADIATION SOLUTIONS RS-330

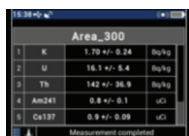


4 Modes of Operation

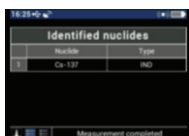
Toggle easily among Survey, Assay / Lab, Identify, Spectrum mode, accompanied with voice memo and GPS allows organized and maximized information retention.



Survey



Assay/Lab



Identify



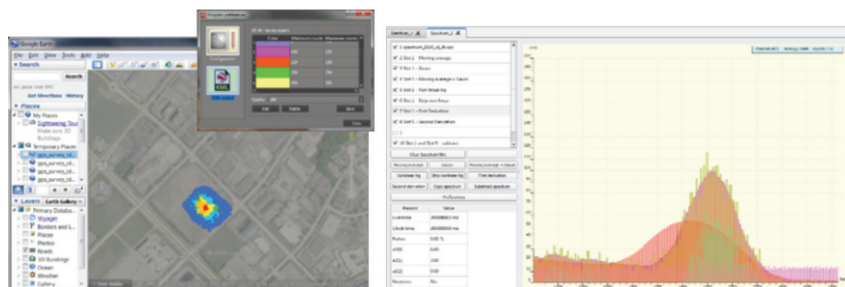
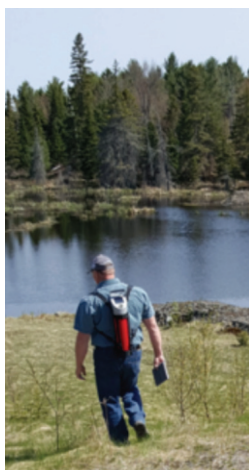
Spectrum

Field Survey and Assay

The RS-330 was calibrated by using IAEA approved Calibration Pads for K and eU and eTh in order to provide the most accurate result for real innite area geometry.

The integrated software allows post-processing on data analysis and in-depth spectroscopy analysis for advanced users.

The integrated GPS associate each data point with a GPS coordinate. This information can be used to implement survey results into GIS software. Fully customizable parameter settings allow user-dened color scheme.



Water Sampling / Surveying

It has been a challenge using handheld instruments for in-situ measurements in water without extra waterproof gear or treatment. Therefore, water or any other liquid often had to be taken as samples for prolonged lab analysis. Not only is it a time consuming and labor intensive process, the result might not reect real life incidence.

The lower portion of the RS-330 is fully contained for taking prolonged readings while immersed underwater up to the water-proof line while mounted to the side of a oating device. RS-330 provides the most instantaneous and economical solution for water sampling and surveying.



In-Vitro Measurement

With the optional lead shield the RS-330 can be used for laboratory sample analysis. The built-in software gives accurate quantitative analysis for various isotopes (e.g. Am241, Co-60, Cs137 etc.) In this setting, the RS-330 achieves 10Bq/kg for Cs134 and Cs137 in just 300 seconds.

The system can be operated as a stand-alone desktop unit or connected to a local data network, which allows remote data access.



- Portable Lab Application
- Stack of 3" lead and steel rings for portable and easy assembly
- Steel coated lead exceeds safety and integrity standard
- Easy access for sample change
- Large sample space
- Adjustable sample holder height

System Specifications

Performance	
Type (typical)	Nal (LaBr and BGO available upon request)
Crystal size (typical)	3"x 3" Nal, 2"x 2" BGO
Dose Range	1 nGy/h - 0.1 mGy/h (0.1mR/h - 10mR/h)
Energy Range	15keV-3000keV
Stabilization	Automatic on natural isotopes
Calibration	Factory and user dened up to 6 methods
Resolution	≤ 7.8% FWHM at 662 keV at 20.0 °C ambient temperature
Number of Channels	1024
Nuclide Categories	SNM, MED, NORM, IND
Nuclide ID Library	SNM: U-233, Np-237, Pu-239, RGPu, LEU, HEU, MED: F-18, Cr-51m, Ga-67, Se-75, Kr-81m, Tc-99m, Mo-99, In-111, I-131, Sm-153, Tl-201, NORM (NAT): K-40, Th-232, U-238sh IND: Na-22, Co-57, Co-60, Zn-65, Ag-108m, Cd-109, Te-132, Ba-133, Ba-133sh, Xe-133, Cs-134, Cs-137, Eu-152, Ir-192, Ra-226, Am-241
GPS	2.5m CEP, higher resolution available upon request
Memory	8GB
Connections	USB2.0, WiFi 802.1
Interface software	RS Analyst

Physical	
Size (for 3"x3" Nal model)	12cm (diameter) x 49.5cm (length)
Weight (for 3"x3" Nal model)	4kg
Protection Rating	IP65
External Power	AC Adapter, 110/240VAC
Battery Type	Rechargeable Li-ion, 7.2V, 6600mAh
Battery life	>10 hours at 20°C
Operating Temperature Range	- 10°C ~ 50°C
Storage Temperature Range	- 20°C ~ 60°C
Relative Humidity	Operation 100%, Storage 80%, Non-Condensing
Housing Material	Aluminum Alloy
Display	Color, Sunlight Readable Trans-Reective, 360x240pixels, 72mm x 54mm
Light Sensor	Auto-Contrast correction
Applicable standards	ANSI, IEC 60846, CE

Accessories	
Collimator	For 2"x2" crystal
Harness	Adjustable length, single hand-carry, cross body, or backpack

Add-on and Variation	
External Shield	Size: Thickness=3" Max sample size: V=300ml, Ø=15cm, H=5cm
Available Detector type	Nal, BGO, LaBr
Available Detector size	3"x3", 2"x2"

Ordering information	
RS-330 3"x3" Nal(Tl) spectroscopy portable detector	
RS-332 2"x2" BGO collimated spectroscopy portable detector	
P-1896 Portable tabletop annular lead shield	

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