

Radiation Solutions, Inc. - Mobile Radiation Detection and Monitoring System



GENERAL DESCRIPTION:

The RS-700 Series are self-contained gamma-ray and neutron (optional) radiation detection and monitoring systems. They can be used in land vehicles, helicopters or at a fixed site. The system has a built in GPS receiver to accurately locate each measurement. It is also supplied with the RadAssist survey program for user control, monitoring and recording. The system is flexible enough to permit real-time monitoring with a computer or operate in a stand-alone configuration with the data being recorded internally and later retrieved. Alternatively, the data can be transmitted to a central command point in real time stored and transmitted at a later time. The RS-700 utilizes advanced DSP /FPGA technology and software techniques that provide laboratory levels of spectral performance that were previously unachievable on mobile platforms. Despite its state-of-the-art technology, the RS-700 is extremely operator friendly and can be rapidly deployed. The system provides - full 1024 channel spectrum - navigation track with 'breadcrumb' trail - Mapping displays - nuclide identification - alarm capability.



TECHNICAL DESCRIPTION:

A basic RS-700 system uses a 256 or 128 cubic inch sodium iodide detector as its primary detector. Other types are optionally available. Up to five detectors can be placed on the system. The heart of the system is the Advanced Digital Spectrometer (ADS) module. Each individual NaI crystal detector has its own high speed analog to digital converter and a DSP /FPGA processor assembly. This module converts the analog signal from the detector to a digital spectrum with a 1,000,000 channel resolution. Using a unique detector energy calibration curve stored in the ADS assembly, the spectrum is linearized and compressed to the system's active 1024 channel resolution.

CONTACT INFORMATION

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COST

N/A

Tier Selection

Final tier assignment is based on overall product score.

- Top Tier ● Second Tier ○ Third Tier
- ◐ Fourth Tier ● Bottom Tier

RANKINGS

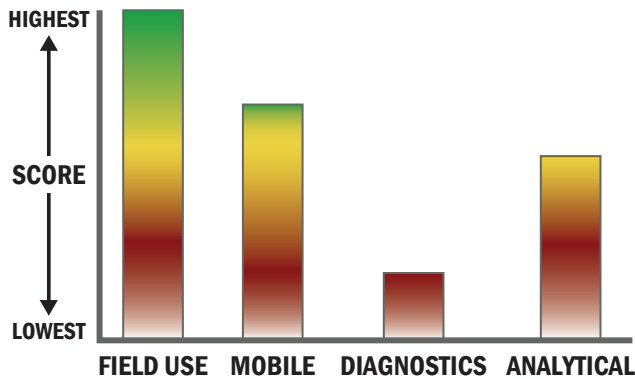
	Biological	Chemical	Radiological
FIELD USE System	N/A	N/A	●
MOBILE Laboratory	N/A	N/A	◐
DIAGNOSTIC Laboratory	N/A	N/A	◐
ANALYTICAL Laboratory	N/A	N/A	◐

Survey Source

Vendor and Internet Supplied Information

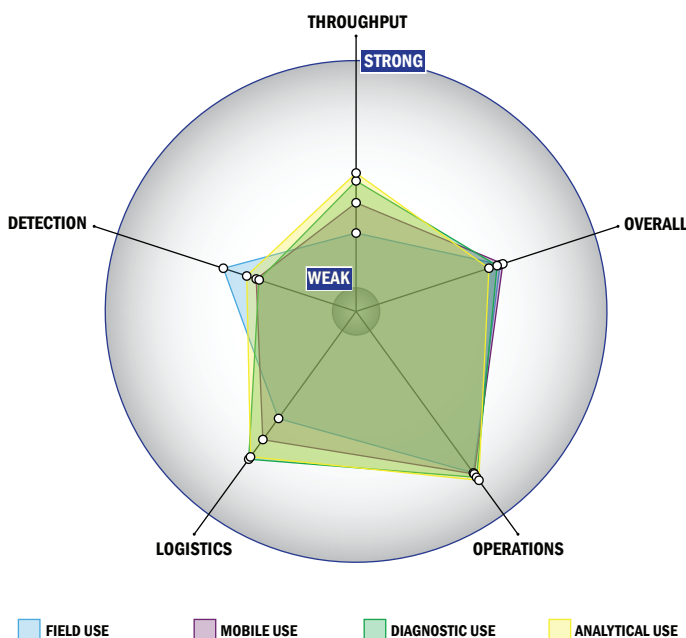
Scoring Analysis

System scores are compared across the four scenarios and ranked from highest to lowest.



Impact Chart

The Impact Chart is a spider graph representing specific categories and designed to give the reader a visual depiction of how a particular system is expected to operate across the four different scenarios. The score for each of the seven categories is presented as the percentage of the total possible score. Higher category scores extend the spokes of a graphic toward the outer edge of the chart. The area graphed for each of the four scenarios relates to how well the system performed in that scenario. Graphics for each of the four scenarios are super-imposed for ease of comparison.



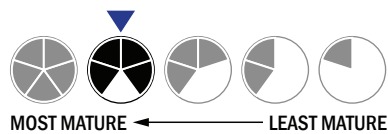
Evaluation Criteria

Throughput:

- 2 minutes or less for detection
- Multiple samples, single tests/sample per run
- System is continuous and provides real time analysis with no defined tests/samples
- Less than 5 minutes is required for set-up

Logistics:

- An afternoon of training and some technical skills required
- Approximately the size of a carry-on luggage suitcase
- Between 5 and 25 kg
- Wireless and wired connections are available
- 4-8 hours battery life



Operations:

- Can be used from -21°C to 42°C (All temperatures)
- Performance is not influenced by relative humidity
- Greater than 10 years expected life
- Results can be viewed in real-time
- The system could easily be adapted into a fully autonomous system
- The system software is closed and not available for modification
- The system hardware is closed and not available for modification

Detection:

- Total dose, dose rate and count rate with operator selection to show the display, may differentiate between types of radiation
- Down to background level radiation for dose rate
- Down to background level radiation for count rate
- System is used for area air sampling