

# RS-230 Super GAMMA-RAY SPECTROMETER with Memory

*Providing Search, Assay and Scan Modes of Operation*

## ***RS-230 BGO – Ideal for Field Exploration***

The **RS-230 BGO** Spectrometer is the state-of-the art in portable hand-held radiation survey search devices for the geophysical industry. It offers an integrated design with a large detector, direct Assay data, data storage, full weather protection, ease of use and highest sensitivity in the market segment. In addition, it has **Bluetooth (BT) connectivity** providing for wireless connection to a Bluetooth equipped external GPS receiver, earphone or computer.

The RS-230 Gamma-Ray Spectrometers are used for a wide range of applications. They include Uranium and Rare Earth Element (REE) Exploration through their Uranium and Thorium Assay Modes respectively. The RS-230 **6.3 in<sup>3</sup> (103 cm<sup>3</sup>)** higher density Bismuth Germanate Oxide (BGO) detector makes it also an ideal portable instrument for Potassic Alteration measurements



## ***Features:***

- Large BGO (Bismuth Germanate Oxide) Detector, 6.3 in<sup>3</sup> (103 cm<sup>3</sup>)
- Extreme sensitivity (more than 2.5 times greater than NaI crystal of the same volume)
- Lightweight 4.5 lb (2.04 kg) including batteries
- Easy to use, single button
  - survey, scan, and assay modes of operation
- Assay mode readout in %K, ppm of U & Th
- Auto-Stabilizing on naturally occurring radio elements
- 5-digit LCD display with high count rate – 65,535 cps
  - scrolling histogram graph display of last 100 readings
- Fast audio output with adjustable audio threshold set point
  - BT earphone audio support for noisy area surveying
- Bluetooth and USB equipped with external GPS integrated into data stream via BT.
- Special rugged design to withstand typical field usage, full IP66 weatherproofing, short term water immersion, and fully dust protected
- Low Power (4 x AA Batteries)
  - Typical 8 – 12 hour battery life at 20°C
- No radioactive sources required for proper operation

This convenient, handheld instrument offers the equivalent performance of much larger, and more costly, portable units. For example, a 120 second measurement with the RS-230 BGO handheld provides comparable quality, as the same measurement using the much larger 21 in<sup>3</sup> NaI portable detector.



## ***Bismuth Germanate (BGO)***

The performance of the 6.3 in<sup>3</sup> (103 cm<sup>3</sup>) higher density Bismuth Germanate (BGO) detector is approximately **80% of a 21 in<sup>3</sup>** (390 cm<sup>3</sup>) Sodium Iodide (NaI) commonly used with larger portable units and approximately 50% more than the same size NaI crystal.

## ***Survey and Scan Modes***

Total Count readout at a 1x / sec. rate in the Survey Mode or variable (1 – 20 sec.) in the Scan Mode. When used with a GPS receiver, data can be stored and profiles produced. Ideal for both area survey and drill core scanning.

## ***Assay Mode***

The assay mode provides the concentrations of K, U and Th, as shown in the display. The user can select the desired sample time.



## ***RS-Analyst Software***

The RS-230 BGO is provided with utility software to download the data that is stored in memory. All data in memory is output via Bluetooth or USB to the RS-Analyst program on a PC. This may take the form 1024 channel spectra, data or Scan data + GPS. The program also gives graphical and numeric views of the data. The data can also be re-exported as a text file for further processing.



## ***Standard Accessories***

- RS-230 BGO Spectrometer with carrying handle
- Removable protective boot with shoulder strap
- Battery cartridge with 4 x AA rechargeable batteries & charger
- Spare battery holder cartridge
- RS-Analyst utility software
- USB cable
- User guide
- Delivered in hard case with foam insert

## Specifications



### Temperature Range

- -20°C to +50°C

### Control

- Single one button, thumb activated

### Alarm

- Audio via miniature speaker
- Variable audio threshold set point
- Audio proportional to count rate

### Weight:

- 4.5 lb (2.04 kg) including batteries

### Size & Package Style:

- 10.2" x 3.2" x 3.8" (259 mm x 81 mm x 96 mm)
- 1mm thick outer case
- In a flashlight configuration with side support strap, wrist strap and optional detachable handle

### Memory

- 4 MB
- Memory can be partitioned for desired storage  
Example:  
Scan Total Count only – 345,000 readings  
Scan + Assay – more than 4000 readings  
Assay only – more than 500 readings  
(plus full spectrum)

### Data Input/Output

- (Using supplied RS-Analyst Software)
- USB
- Bluetooth (BT)
- GPS link via BT

### Display:

- 128 x 64 pixels, 1 1/8 x 2 3/8"
- Graphic LCD display with white backlight and automatic dimming

### Readout

- Search Mode: Counts in CPS from 0 to 65,535 and Histogram chart
- Assay Mode: Display in %K, ppm of U & Th (ROIs per IAEA)

### Energy Response:

- 30 keV 3000 keV

### Internal Sampling:

- 20 / second

### Batteries:

- Internal battery pack module (4xAA) easily replaceable
- Rechargeable or Alkaline
- Life: 8+ hours at 20°C



Specifications subject to change without notice # 11/10