

SCINTREX BGS-1SL

Beta-Gamma Scintillation Counter

Function

The Scintrex BGS-1SL is a rugged lightweight, portable beta-gamma ray scintillometer designed for field use in prospecting for uranium, thorium and potassium, the naturally occurring radioactive materials.

The instrument is also useful for measuring background radiation levels in areas where these must be constantly monitored to guard against radioactive contamination. Such areas include hospitals, atomic power stations, laboratories and other locations where radioactive materials are in use.

Features

High sensitivity through the use of a 43 cm³ (1.5" x 1.5") crystal detector.

The internal NaI(Tl) crystal-photomultiplier tube is hermetically sealed, magnetically shielded and shock mounted.

Meter readout allows measurement of radiation in counts per second.

The audio alarm output produces a pitch change proportional to the radiation count. A control on the audio alarm allows the operator to adjust the count level at which the alarm is activated.

Small and lightweight.

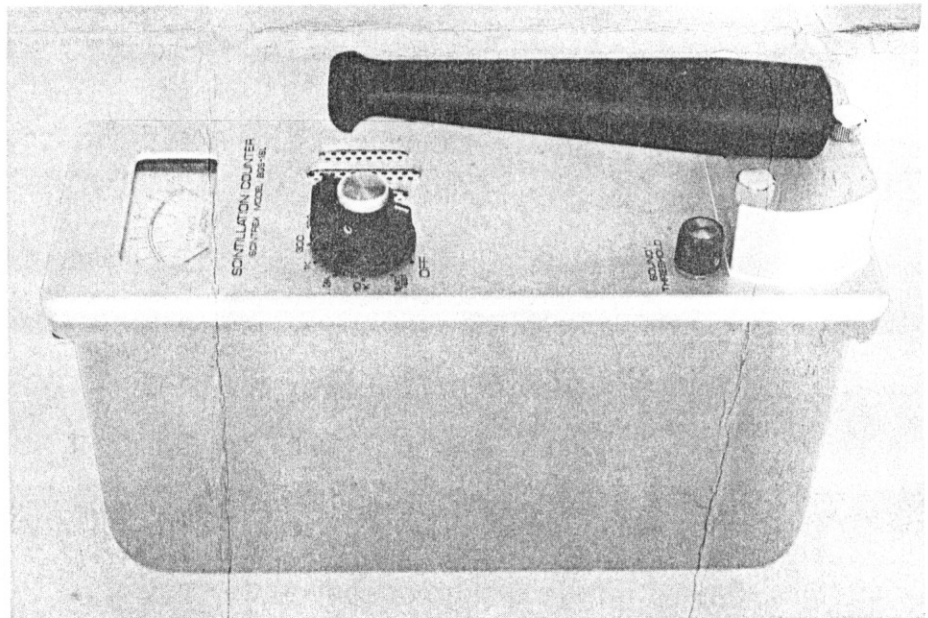
Enclosed in a rugged fibreglass and aluminum case.

Convenient carrying handle for hand-held operation and a carrying strap for hands-free operation. Alternatively, it can be carried in a pack sack using the audio alarm as an indicator of above background radiation.

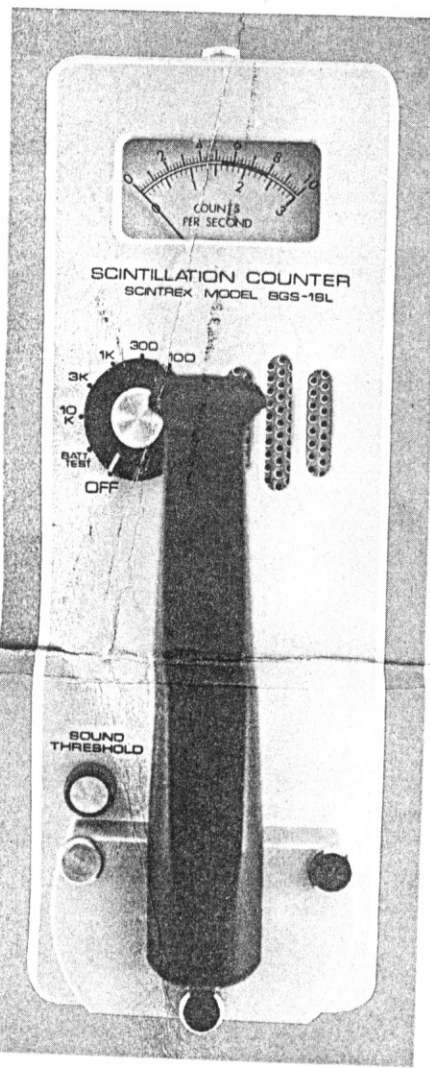
Easy to operate — thus can be used by unskilled personnel.

Low power consumption circuitry gives long battery life using standard "D" cell batteries.

Hundreds of Scintrex scintillometers in worldwide use are proving the usefulness and reliability of this instrument under a broad range of field conditions.



Technical Description of BGS-1SL Beta-Gamma Scintillation Counter



Detector	Thallium activated sodium iodide crystal and photomultiplier assembly, shock mounted in instrument housing.
Detector Volume	1.5" x 1.5" for 2.65 cu. ins. (43.5 cm ³)
High Voltage Supply	Generated by internal converter; nominally 1 kV
Energy Response	Broadband; all gamma energies above 0.1 MeV
Ratemeter Ranges	30, 100, 300, 1,000, 3,000, 10,000 cps. (1 cps = 2.5 × 10 ⁻⁴ mR/hr)
Accuracy	±5% of full scale
Meter Time Constant	Long time constant on 100 and 30 cps scales. Automatically switched to shorter time constant on upper scales.
Audio Alarm Output	Panel mounted speaker gives an aural indication on any range setting. The frequency of output is proportional to the count rate above the threshold value.
Alarm Threshold Setting	Continuously variable upwards from a few counts per second.
Temperature Range	-20°C to +55°C.
Power Supply	4 "D" cells, Eveready No. 1150 or equivalent. (For operation below 0°C or extended field use, 4 alkaline cells, Eveready No. E59 or equivalent)
Battery Life	Approximately 1 working month at 8 hours per day with standard "D" cells at normal ambient temperature
Dimensions	240 mm x 90 mm x 150 mm
Weight	2.2 kg including batteries
Carrying Mode	Shoulder strap or carrying handle
Housing	Fibreglass with aluminum top plate
Shipping Weight	Approximately 4 kg

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