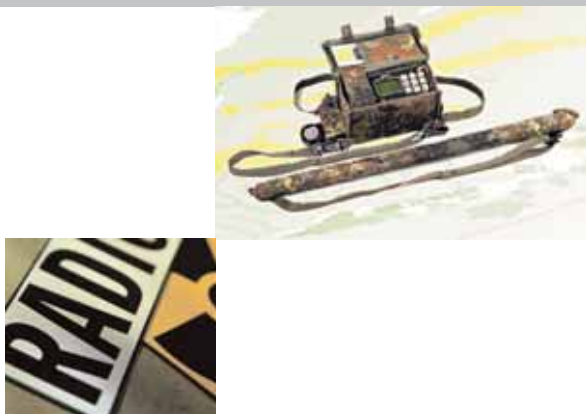


The SVG 2 Radiacmeter is a hand-held, battery powered ratemeter for gamma and neutron radiation measurement ruggedized to meet the demands of the military and first responders.

## SVG 2 Radiacmeter

NATO Stock Number 6665-12-358-1874



- Measures:
  - Gamma Dose Rate
  - Gamma & Neutron Dose
  - Alpha & Beta Contamination
- NATO Approved
- User-Friendly Display
- Data-Logging
- Ruggedized Kit
- Impervious to TREE, NEMP & EMV Interferences
- Interface to GPS & PC

The SVG 2 Radiacmeter incorporates the newest generation of hardened microprocessor technology to support battlefield radiological measurements for alpha, beta, gamma and neutron. This NATO approved system is designed to provide critical measurements for nuclear incidents and attacks.

The initial and residual dose rate from gamma and neutron radiation are detected by state-of-the-art semiconductor detection devices to provide the required sensitivity and durability necessary in hostile conditions. Contamination measurements for alpha and beta emitters are also supported in a unique external detector design.

This instrument is designed with ease of handling in mind and are supported by its low weight and power consumption. Both the current gamma dose rate and the integrated gamma dose may be displayed. Alarm thresholds for all detection modes are adjustable. The alarms are annunciated by an optically flashing red LED and acoustical signal via the earphone.

The measured dose and dose rate are stored internally in memory. Built-in function keys permit the stored values to be recalled and displayed or transmitted over a serial interface to a PC to facilitate further investigation or report generation.



### The SVG 2 kit is comprised of the following items:

- Radiac Survey Meter with internal detector
- Short Telescopic Handle for External Probe
- Two Carrying Bags
- External ABG Probe (Alpha/Beta/Gamma)
- Long Telescopic Handle for External Probe
- Earphone
- Detector Cable Set

### Specifications

#### Residual Gamma

|                  |                                                                              |
|------------------|------------------------------------------------------------------------------|
| Gamma Dose rate: | 0.01 uGy/h to 2.000 cGy/h (Gy/h switchable to Sv/h) (1 uR/h to 2000 Rad/hr). |
| Gamma Dose:      | 0.01 uGy to 2.000 cGy (Gy switchable to Sv) (1 Rad/hr to 2000 Rad/hr).       |
| Energy Range:    | 70 keV to 3 MeV.                                                             |

#### Initial Radiation

|                    |                                     |
|--------------------|-------------------------------------|
| Gamma Radiation:   | 1 cGy to 2,000 cGy (1-2000 Rad/hr). |
| Neutron Radiation: | 1 cGy to 2,000 cGy (1-2000 Rad/hr). |

#### Alpha-Beta-Gamma External Probe

|                                                      |                                                |
|------------------------------------------------------|------------------------------------------------|
| Alpha Measurement Range:                             | 0 to 300,000 cps.                              |
| Beta Measurement Range:                              | 0 to 300,000 cps.                              |
| Gamma Measurement Range:                             | 0.01 uGy/h to 50 cGy/h (1 uRAD/h to 50 RAD/h). |
| Efficiency: (pulse X cm <sup>2</sup> /beta particle) |                                                |
| <sup>14</sup> C:                                     | 0.047                                          |
| <sup>137</sup> Cs:                                   | 0.40                                           |
| <sup>204</sup> Tl:                                   | 0.39                                           |
| <sup>90</sup> Sr- <sup>90</sup> Y:                   | 0.57                                           |

#### General Specifications

|                    |                                                                                                 |
|--------------------|-------------------------------------------------------------------------------------------------|
| Battery Life:      | Approximately 130 hours.                                                                        |
| Temperature Range: | - 30 to 55° C (-22 to 131° F).                                                                  |
| TREE:              | 10 cGy/s neutron (10 RAD/s).                                                                    |
| NEMP:              | 75 kV/m, norm pulse slope 5 ns.                                                                 |
| EMV per VG95373:   | SA 02 G, protocol 1 and 2.<br>SA 04 G, protocol 5 and 6.<br>SA 03 G, protocol 7, 8, 9 and 10.   |
| Heat Flash:        | 2 s with 59 J/cm <sup>2</sup> .                                                                 |
| Salt Fog:          | 48 hours per MIL STD 810D.                                                                      |
| Protection Class:  | IP 67 per VG 95332, page 12, level 6.                                                           |
| Weight:            | 3.5 kg (7.6 lbs).                                                                               |
| Dimensions:        | SVG2: 160 x 90 x 78 mm (6.3" x 3.5" x 3.1").<br>w/Bag: 250 x 120 x 170 mm (9.8" x 4.7" x 6.7"). |

#### Available Accessories

- Spare Parts
- GPS Receiver
- PC program to acquire stored data
- Laptop or Desktop PC

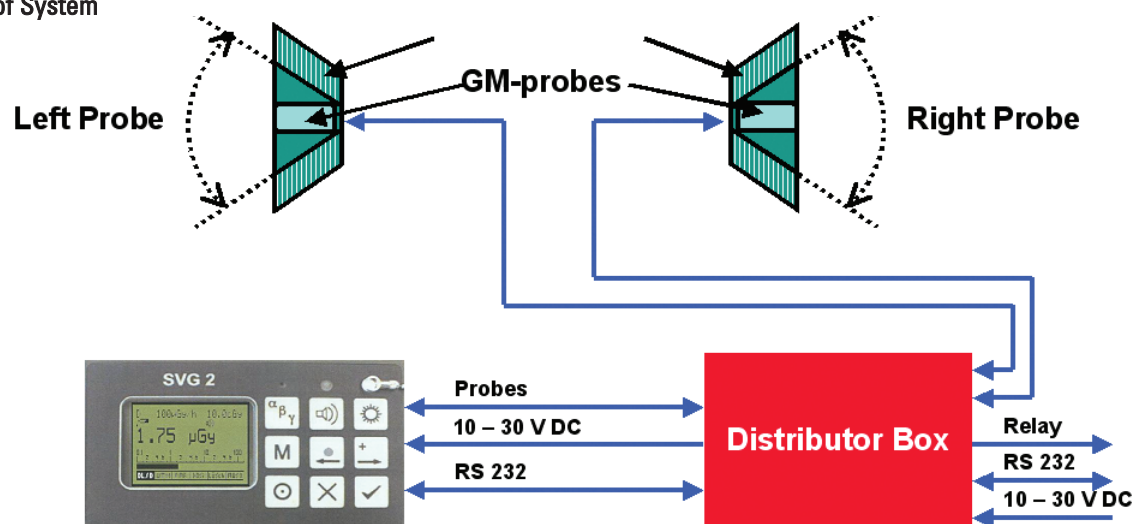
#### Additional Features

|          |                                                       |
|----------|-------------------------------------------------------|
| Display: | - Autoranging display with correct radiological units |
|          | - Displays status, mode & function                    |
|          | - Flashing symbols alert user to alarm conditions     |
|          | - Large, backlit LCD display                          |
|          | - Analog trend indication of dose rate                |
|          | - Digital display of radiological value               |
| Keypad:  | - Large area dedicated function keys                  |
|          | - Water tight                                         |
|          | - Illuminated keypad                                  |

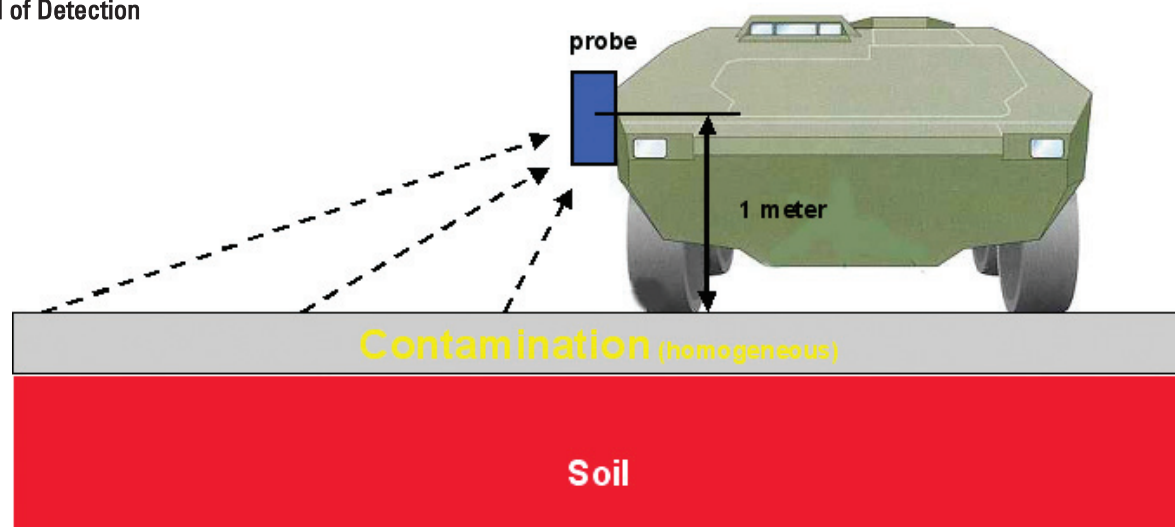
## SVG2 System - for armed vehicles

Tactical and LLR Gamma Reconnaissance System  
for NATO Strike Forces

### Principal of System



### Principal of Detection



## Technical Data

### Radiological Data

|                                                                                    |                                              |
|------------------------------------------------------------------------------------|----------------------------------------------|
| External Dose Rate (EXT DR)                                                        | 0,1 µGy/h ... 10 Gy/h<br>80 keV ... 3 MeV    |
| Detection Time (more than 400 CPS)                                                 | < 2 s DR > 100 µGy/h<br>< 10 s DR > 20 µGy/h |
| Operation Temperature                                                              | -30°C ... +70°C                              |
| The probes are calibrated for DR to be detected 1 meter above a contaminated soil. |                                              |

### General Data

SVG 2 basic device to be used without any modification  
 Distributor Box can be designed according to special requirements of a vehicle  
 SVG 2 detects in parallel the External and Internal Dose Rate, Internal Dose and the Initial Dose (Neutron+Gamma)  
 SVG 2 recalculates automatically to values of H+1 or H+t, respectively.

## Time Function of the Gamma-Dose Rate of Fallout

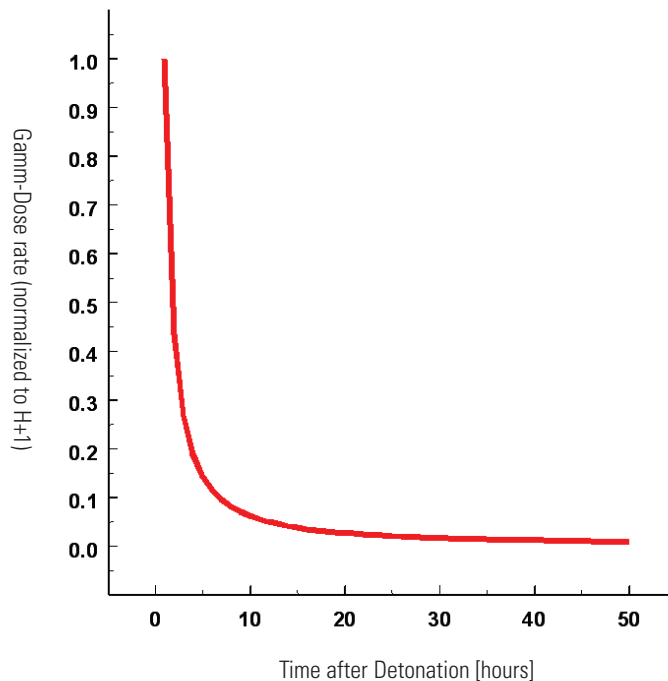
$$\dot{D}(t) = \dot{D}_{H+1} \cdot t^{-1,2}$$

Time in h

H, t = 0: Detonation

H+1: 1 hour after Detonation

$\dot{D}_{H+1}$ : Gamma-Dose Rate, 1 hour after Detonation



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