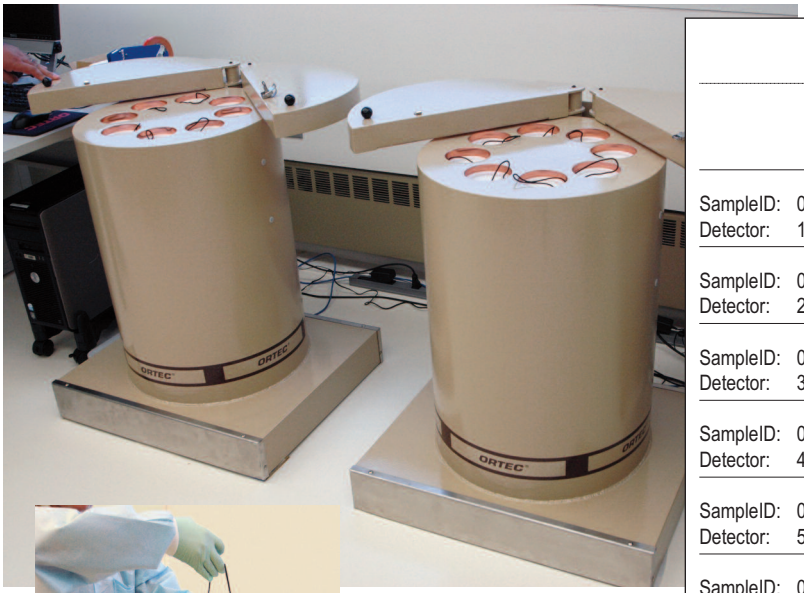
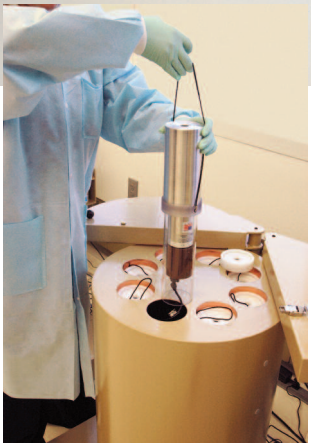
ORTEC®

GammaScreen-8™

8-Channel Rapid Analysis Screening of Multiple Gamma Emitting Radionuclides in Clinical Samples

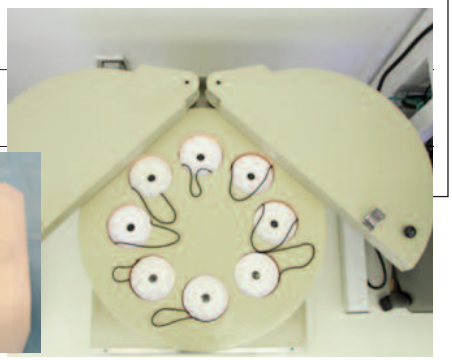




ORTEC Gross Gamma Counter Sample Evaluation
Counting System #1

Sample Date/Time: Friday, October 16 2009 11:13

		Actual (CPS)	Limit (CPS)	Evaluation
SampleID:	09-911-000064-1GG			
Detector:	1	6.36	4.05	FAILED
SampleID:	09-911-000065-1GG			
Detector:	2	3.87	3.98	PASSED
SampleID:	09-911-000066-1GG			
Detector:	3	3.43	3.80	PASSED
SampleID:	09-911-000067-1GG			
Detector:	4	3.54	3.84	PASSED
SampleID:	09-911-000068-1GG			
Detector:	5	6.44	3.82	FAILED
SampleID:	09-911-000069-1GG			
Detector:	6	3.43	3.68	PASSED
SampleID:	09-911-000070-1GG			
Detector:	7			
SampleID:	09-911-000071-1GG			
Detector:	8			



Easy to Use Rapid and Simple Gamma Radionuclide Screening

- A very compact solution for rapid screening of hundreds of samples/day for possible radioactive contamination.
- No sample processing: Pass/fail evaluations against analysis limits.
- 700 samples may be counted in 20 hrs of operation.
- MDA (LOD)[1] = 52 Bq/L, 300 second count.
- 8 samples (10 ml or 50 ml) counted simultaneously with automated data entry by bar code scanning (optional).
- 8 completely independent NaI(Tl) well detectors and count chains.
- Digitally stable electronics.
- Full spectral data retained for detailed analysis.

[1]Minimum Detectable Activity or Limit of Detection.

AMETEK®

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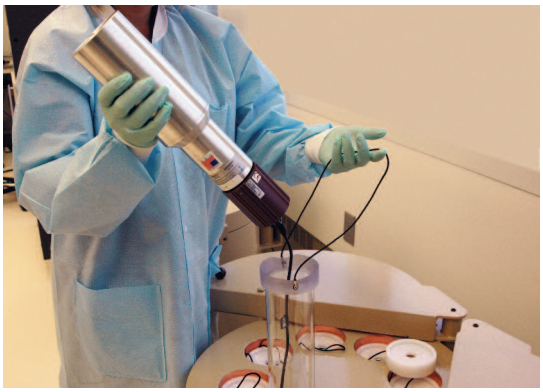
8-Channel Rapid Analysis Screening of Multiple Gamma Emitting Radionuclides in Clinical Samples

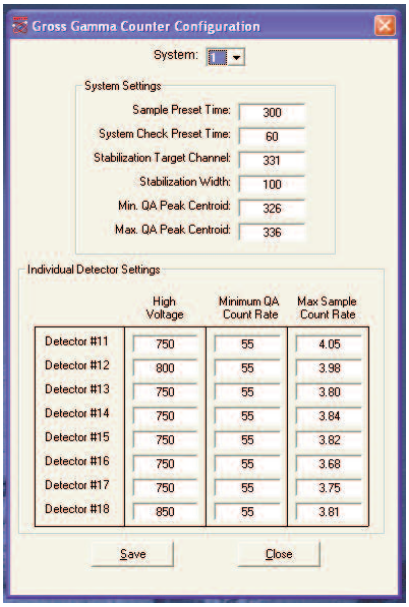
The post 9-11 world differs drastically from previous nuclear age history. The possibility of a large accidental release of radioactivity affecting a civilian population is now added to by the possibility of an intentional exposure as a result of a terrorist attack involving a radioactive dispersal device or RDD. Following an exposure event or environmental release of radioactive material, large numbers of people may require or demand internal monitoring. Failure to respond quickly can increase the level of public anxiety. Even when the risk is slight, large numbers of subjects may be required to be screened rapidly to reduce public anxiety.

The ORTEC GAMMASCREEN-8 multi-sample screening system has been developed as a simple-to-use tool for this first step screening operation. GAMMASCREEN-8 is a turn-key system based on ORTEC digital signal processing spectroscopy technology.



Eight sodium iodide (NaI (Tl)) "well" detectors, each with individual "digiBASE" all-in-one digital spectrometer-photomultiplier bases[2] are placed within a common and compact lead shield in an arrangement designed to reduce sample cross-talk to a minimum.

Small sample vials may be counted within the well or 50 ml pots may be placed on top of the detectors.

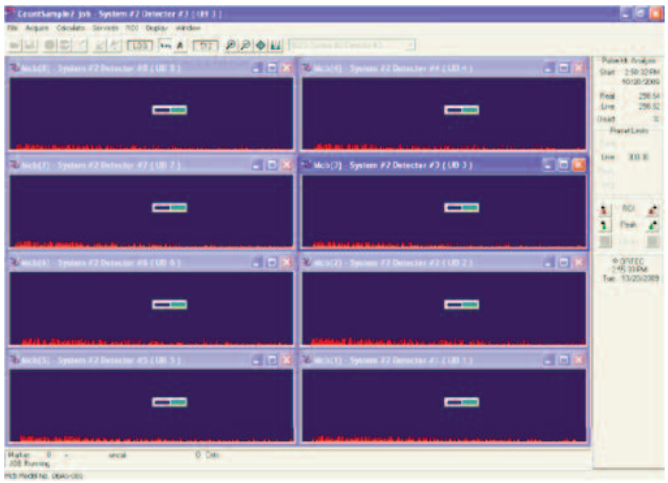


The sample screening software application manages the system ensuring reliable and simple operation. Set-up is very simple; a single parameter entry screen sets the 8 detector bias settings, the stabilization and threshold limits and a common acquisition preset for the sample batches to be screened.

An optional bar code reader can be used to simplify sample ID data entry.

In screening operation, sample gross count-rates are compared to a threshold giving a simple-to-interpret pass-fail criterion. (See example report on previous page).

ORTEC MAESTRO MCA software may be used to scrutinise the detailed spectra of questionable samples; a complete sample load of 8 spectra may be displayed simultaneously, with live spectral display during counting.



"Failed" samples may be investigated further with an HPGe spectrometer, or the sample could be counted longer in-situ for more positive nuclide ID and quantitative analysis using the optional A66SV-BW Quantitative Analysis software.

The ORTEC GAMMASCREEN-8 multi-sample screening system is available as a customized solution to individual requirements.

System Specifications

Lead Shield, floor mounted

Weight 1780 lbs (810 kg)

Dimensions (HxWxL) 34.5 x 24 x 28 in (87.6 x 61.0 x 71.1 cm)

Width with top open 38.54 in (97.9 cm)

Minimum thickness between detectors 1 in (2.54 cm)

NaI Detectors (8)

Crystal size 3" diameter x 5" long

Sample well 0.67" diameter x 3.9" deep

Sample Tubes (not included but supplied at extra cost if required)

Maximum dimensions 17 mm diameter x 120 mm length with nominal 15 ml volume.

ORTEC digiBase Spectrometer (8)

All-in-one high performance NaI Spectrometer in an integrated photomultiplier base

USB connectivity

Highly stable Digital Signal Processing

Built-in HV supply 0–1200 V

Highly reliable

Low power consumption

100% computer controlled

Included Application Software

GS8-B32 GAMMASCREEN-8 Eight Detector Sample Screening software

A65-BW MAESTRO MCA Emulation software

Ordering Information

Model	Description
GAMMASCREEN-8	Complete 8 detector system including all detectors, electronics, PC hardware and software.

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Specifications subject to change
080317

ORTEC®

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