

# RADIATION SCANNER FOR CARGO CONTAINERS & TRUCKS

Model # RAD-7, -8, -9CANSCAN

## FEATURES:

- NON-INVASIVE - **EXTERNAL SCAN** GIVES DETAILED INTERNAL INFORMATION
- DETECTS - ALL RADIOACTIVE MATERIALS, SOURCES & CONTAMINATION
- MORE SENSITIVE and BETTER RESOLUTION THAN BIGGEST VEHICLE MONITORS
- CREATES MAP OF INTERIOR
- PIN-POINTS LOCATION OF RADIOACTIVE CONTRABAND
- ISOTOPE IDENTIFICATION OF 'HOT' SOURCES
- REQUIRES ACCESS TO ONLY ONE SIDE OF CONTAINER



Crane Mount

**BACKGROUND:** Large numbers of loaded shipping containers pass through and are stored at seaports around the world. We need to know which containers, if any, carry Radioactive Materials. Entering and doing a manual search of large numbers of containers is not feasible for many reasons. The **RAD-7,8,9CANSCAN** give highly detailed interior information from an external scan. Unlike the highly successful x-ray and gamma scanners, the **RAD-7,8,9CANSCAN** only require access to one side of each container, so it can even be used to scan stacked containers.



Truck Mount

**DESCRIPTION:** The **RAD-7,8CANSCAN** have two main elements, an 8ft tall by 1 ft wide mobile detector column and the computer analysis console. **RAD-9CANSCAN** has a third element which is a neutron generator and requires a license to own and operate. These elements are available for mounting.



Fixed Mount Vertical

1. On an inspection truck which rolls along side the container, close and very slow.
2. On a crane which slides the Detector Column along the side of the container, or across the top of the container. The detector Column is available with rubber bumpers.
3. As a fixed horizontal boom or vertical tower, so containers can be pulled by it very slowly.



## TECHNICAL ASSOCIATES

7051 ETON AVENUE \* CANOGA PARK, CA 91303 TELEPHONE (818) 883-7043 \* FAX(818) 883-6103

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\$Revision: 1.7 \$

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**SPECIFICATIONS:**

**Sensitive Length:** 8 ft (2.4 m)  
**Overall Dimensions:** 9 ft x 1 ft x 1.5ft

	RAD TYPE	SCINTILLATORS	RAD-7CANSCAN	RAD-8CANSCAN	RAD-9CANSCAN
<b>Detectors:</b>	Gamma:	30 ea 3" dia x 1" NaI(Tl) Scintillator	YES	YES	YES
	Neutron:	1 ea. 5" x 2" x 2" Neutron Scintillator	—	YES	YES
	Neutron Generator:	—	—	—	YES

**Neutron Generator:** In the **RAD-9CANSCAN** a Neutron Generator gives enhanced sensitivity to fissile materials.

**Shielding:** Shielding and Collimation is provided, but may be deleted for special light-weight version: **RAD-7LW**.

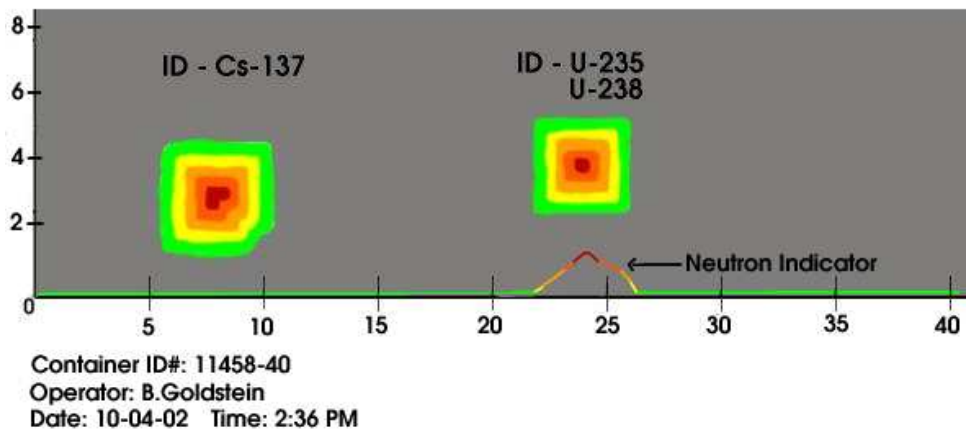
**Electronics:** Each detector has pre-amp and HV.

**Isotope Identification:** A Multi-Channel Analyzer applies Background Subtraction and uses Sophisticated algorithms to compare the output from the highest counting detector to the extensive pre-loaded Spectrum Library to achieve accurate Isotope Identification.

**Location Mapping:** The computer uses the detector data to overlay a virtual 30 x 150 grid onto the shipping container, with grid lines spaced every three inches The visual display shows where the radiation emitting sources are Located on this grid.

**Data Storage:** All data is archived to the 100 Gig Hard Drive and automatically backed-up to CD.

**Image of Container Interior Created By RAD-CANSCAN**



**RAD-7,8,9CANSCAN:** 30 x 150 Grid Showing 2 Hot Spots, and identifying the isotopes, in this shipping container.

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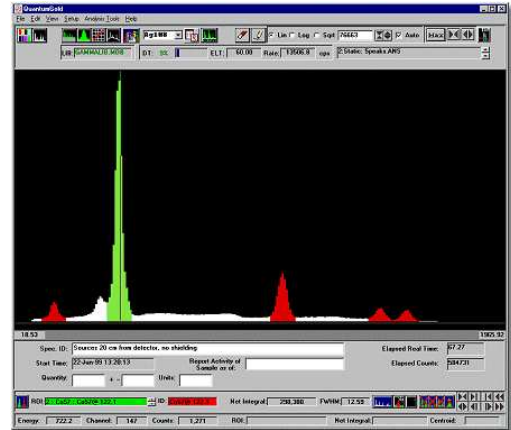
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# RADIATION SCANNER FOR CARGO CONTAINERS & TRUCKS

Model # RAD-7, -8, -9CANSKAN

## The Quantum Family of Software

Technical Associates has been a manufacturer of accurate, easy to use Radiation Detection Devices Since 1946. Now TA can also provide complete gamma spectroscopy systems including analytical software. The Quantum Software packages have been designed to allow the spectroscopist to decide how an analysis is performed. Power and flexibility are the watchwords for these packages, which represent our latest advance in the fields of pulse-height analysis and gamma spectroscopy. QuantumMCA provides support for a broad range of hardware with tools for qualitative analysis. QuantumGold adds full function quantitative analysis for nuclear spectroscopy to the features of Quantum MCA. QuantumGeD includes both qualitative and full quantitative analysis features for germanium detectors only (i.e., no NaI(Tl) detectors and no QCC mode). QuantumGe is the same, but without deconvolution analysis. QuantumNaID has both qualitative and quantitative analysis for NaI detectors only. while QuantumNaI does not include deconvolution analysis. Each version is a full 32-bit Microsoft Windows® application, and will operate under Windows 95, 98, and NT version 4.0.



QuantumMCA is the basic MCA analytical package and is supplied with all TA multichannel analyzer instruments that require computer control. For sodium iodide-based gamma spectroscopy, TA offers the patented Quadratic Compression Conversion (QCC) (patent no. 5,608,222). It is implemented in the MCA2100R and MCA2100 gamma spectrometers. This signal processing technique gives spectra with consistent peak resolution throughout the entire range of detection. This makes spectrum analysis fast and easy.

The following are just a few of the features:

- Spectrum memory control for controlling the display of up to 8 spectra.
- Tool Setup for entering analysis parameters.
- Device configuration for establishing device communication.
- Setting and identifying ROIs.
- Analysis tools.
- Nuclide libraries.
- Quantitative analysis.
- QScript tool for automation.
- Analysis methods.
- Resolution and efficiency calibration.
- Quadratic Compression Conversion.

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