RADIATION SCANNER FOR CARGO CONTAINERS & TRUCKS

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

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
- **IP64**

Mobile Crane Mount

Truck Mount

Fixed Mount Vertical

PROBLEM:

Large numbers of loaded shipping containers pass through & are stored at seaports around the world. We need to know which containers, if any, carry Radioactive Materials. Entering & doing a manual search of large numbers of containers is not feasible for many reasons.

SOLUTION:

The **RAD-7, 8, 9 CANSCAN** give highly detailed interior information from an external scan. Unlike other highly successful x-ray and gamma scanners, the **RAD-7, 8, 9 CANSCAN** only requires access to one side of each container; this provides the opportunity to be used to scan stacked containers.

DESCRIPTION:

The **RAD-7, 8, 9 CANSCAN** have two main elements: (1) an 8ft tall by 1 ft wide mobile detector column, (2) the computer analysis console. **RAD-9 CANSCAN** has a third element (3) a neutron generator requiring a license to own and operate.

MOUNTING OPTIONS:

1. On an inspection truck which rolls along the side of the container, closely & very slowly.
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.

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SPECIFICATIONS:

Sensitive Length: 8 ft (2.4 m)

Overall Dimensions: 9 ft x 1 ft x 1.5 ft

Detectors:

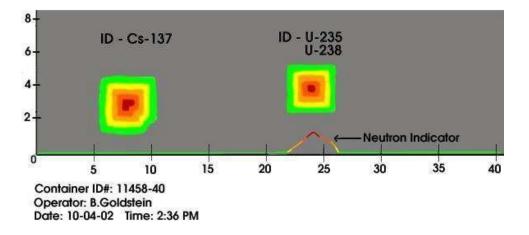| RAD TYPE	SCINTILLATORS	RAD-7CANSCAN	RAD-8CANSCAN	RAD-9CANSCAN
Gamma:	(30) ea 3" dia x 1" NaI(Tl) Scintillator	YES	YES	YES
Neutron:	(1) ea. 5" x 2" x 2" Neutron Scintillator	N/A	YES	YES
Neutron Generator:	N/A	N/A	N/A	YES

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

Shielding: Shielding & Collimation is provided, but may be deleted for a 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 a 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 Hard Drive and automatically backed-up to CD.

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Image of Container Interior
Created By RAD-CANSCAN

Container ID#: 11458-40
Operator: B.Goldstein
Date: 10-04-02   Time: 2:36 PM

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

The Quantum Family of Software

Technical Associates has been a manufacture of accurate, easy to use Radiation Detection Devices Since 1946.

TA provides a 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 & flexibility are the watchwords for these packages presenting the latest 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 de-convolution analysis.

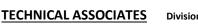**QuantumNaID** has both qualitative and quantitative analysis for NaI detectors only.

QuantumNaI does not include de-convolution analysis.

QuantumMCA is the basic MCA analytical package & 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.

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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.

TA **TECHNICAL ASSOCIATES**   Divisions of   US NUCLEAR CORP
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