

## RC4000

### Vehicle Radiation Detection Systems



#### Detect radioactive materials contained in a moving vehicle loaded with scrap material

The RC4000 Series of radiation detection systems have been specifically designed to detect radioactive materials contained in a moving vehicle loaded with scrap material. The system design is modular, flexible and customizable, offering multiple detector configurations to meet site specific applications. The RC4000 incorporates only the highest quality of components and software/hardware technology available today.

#### Easy to use, operator friendly

The system menus are based on a Windows environment allowing a clear and precise understanding of the RC4000 operations without having a background in physics. The software is extremely flexible; with touch-screen navigation it allows the user to configure general operations such as; setting passwords, adjusting detector parameters, pinpointing the location of a radioactive source when detected in a vehicle, storing and the retrieval of all vehicle information.

#### Supervisory control

The RC4000 can be controlled and monitored from virtually anywhere in the world, in real-time. Supervisory administration has full control of system access with password control features. The system is both network and intranet ready, with secured digital wireless and/or high-speed telephone network capabilities. All scans are stored in both graphic and text modes with full data-logging and central alarm storage viewing capabilities. The state-of-the-art design of the RC4000 incorporates 14 years of engineering and field application experience, which has provided the metals industry with the highest safety record to-date.

#### Prevent costly radioactive contamination of your scrap yard, equipment, plant, product and personnel with the RC4000 vehicle radiation detection system.

#### Innovative detection technology

- Improved sensitivity with the utilization of characterization methodology
- Highly accurate alarm analysis; discriminates positive, false-positive, false
- Customized electronic hardware designed specifically for high grade PVT scintillator signal processing
- Ability to recognize and ignore persistent false-positive alarms

#### User friendly

- Windows based
- Clear, simple touch screen navigation
- Multi-language, simple to use console
- Radiation free self-test capability

#### Better supervisory control

- Network ready with wireless and remote access capability
- Data-logging, complete files stored on all vehicles
- Traceability and accountability

#### Maintenance friendly

- Adjustments through remote access
- Easy to replace parts
- Dependable, responsive service and technical support

#### Excellent customer references

- Leader in scrap metal recycling
- Over 500 systems in successful operation worldwide

# RC4000

## Overview:

### The RC4000 consists of:

- Detector assemblies (0-7 panels)
- Windows based PC
- Large touch-screen monitor
- Power supply control unit
- Remote communications package (optional)



## Controller features

- Large touch-sensitive LCD display
- High speed pentium processing unit
- Windows based software for menu and data management
- Large storage capacity for system operational information and alarms
- Easy to follow menu outlines and descriptions
- Multi-level security password control
- Detailed alarm data storage
- Manual scanning for pinpointing source location in vehicle
- Multilingual menu selection
- Easy to set alarm configuration menu
- Telephone modem for remote service and monitoring
- Watchdog monitor for system lock-ups
- Radiation levels displayed in CPS (counts per second)
- Vehicle speed measurement in km/h and mph.
- Ambient temperature displayed in Celsius and Fahrenheit
- Detailed easy to follow detector and system configuration menu
- Adjustable 80 5 audio alarm
- Counter for number of scans in a 24 hour period and to-date
- Detailed alarm information displayed and stored after every alarm



## Detector features

The RC4000 series of radiation detector assemblies provide an extremely high degree of detection capability for a wide range of radioactive elements commonly associated with scrap metal. The detectors utilize large plastic scintillation panels that are sensitive to Ionizing radiation. The geometrical share of the detectors has been designed specifically for monitoring the wide range of vehicles that carry scrap metal.

- Large premium grade PVT scintillators
- 30 to 200 liter PVT volumes available
- Low density shield on face of detector panel
- Dual layer of thermal protection (-20°C to 50 °C)
- 95% humidity rating (non-condensing)
- High signal to noise ratio PMTs
- High speed micro-controller with programmable PLD technology for signal/alarm analyses
- Dual input high speed pulse processor
- Noise reduction hardware/software
- Background characterization for variable ambient background suppression
- Smart infrared vehicle presence with speed monitoring
- 8 output drivers (24Vdc @ 50mA) for remote indicators
- Internal non-radioactive test source for detailed and repeatable system checks
- 24 Vdc input voltage @ 1.5 A
- **Energy range:** 18KeV to 3.0MeV (incident)
- **Sensitivity:** Typical 0.08 counts/s/ cm<sup>3</sup>/nSv/h
- **Detection Capability:** Will detect a 100KBq (point source) at 1 meter from the face of the detector (the radiation exposure level is comparable to a 75mm 0 x 150mm 3.7GBq (100mCi) 137Cs lead sealed source buried in 0.7 g/cm<sup>3</sup>)

# RC4000 Specifications

## Overview *The RC4000 consists of:*

- Detector assemblies (1-7 panels)
- Windows based PC
- Large touch-screen monitor
- Power supply control unit
- Remote communications package (optional)

## Controller features

- Large touch-sensitive LCD display
- High speed pentium processing unit
- Windows based software for menu and data management
- Large storage capacity for system operational information and alarms
- Easy to follow menu outlines and descriptions
- Multi-level security password control
- Detailed alarm data storage
- Manual scanning for pinpointing source location in vehicle
- Multilingual menu selection
- Easy to set alarm configuration menu
- Telephone modem for remote service and monitoring
- Watchdog monitor for system lock-ups
- Radiation levels displayed in CPS (counts per second)
- Vehicle speed measurement in km/h and mph.
- Ambient temperature displayed in Celsius and Fahrenheit
- Detailed easy to follow detector and system configuration menu
- Adjustable 8Û 5 audio alarm
- Counter for number of scans in a 24 hour period and to-date
- Detailed alarm information displayed and stored after every alarm

## Detector features

- Large premium grade PVT scintillators
- 30 to 200 liter PVT volumes available
- Low density shield on face of detector panel
- Dual layer of thermal protection (-200C to 500C)
- 95% humidity rating (non-condensing)
- High signal to noise ratio PMTs
- High speed micro-controller with programmable PLD technology for signal/alarm analyses
- Dual input high speed pulse processor
- Noise reduction hardware/software
- Background characterization for variable ambient background suppression
- Smart infrared vehicle presence with speed monitoring
- 8 output drivers (24Vdc@ 50mA) for remote indicators
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