



# RS-300 RADIATION PORTAL MONITORING SYSTEM

## System Specifications

### CONTROLLER

- Size = 14.7"H x 14.5"W x 3.9"D (373 x 368 x 99mm)  
115/220V AC operation 25 lb (11.5 Kg)
- CPU = high power custom designed Industrial embedded system gives high reliability over a wide temperature range
- NO SYSTEM HARD-DRIVE = all memory storage on solid state memory (8GB)
- OPERATING SYSTEM = the system runs Windows CE this is a specially developed operating system for industrial systems and unlike standard Windows it permits real-time operation
- IP66 rated enclosure with internal heat sinking and no system fan for safe operation even in high dust areas
- CONNECTIVITY = Ethernet, USB, VGA and Serial connections for user interfaces

### SYSTEM

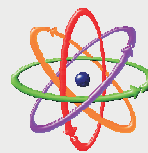
- Advanced alarm analysis of full spectrum data utilizing very advanced mathematical NASVD techniques
- Spectral analysis permits rejection of the majority of false, rain and void alarms prevalent in most systems without reducing system sensitivity
- Many nuisance alarms can be removed from the system by identifying unique spectral shapes
- 10/sec data sampling of full spectral data
- 1/sec Error reporting to RSI service computer via the Internet enables fast fault diagnosis
- Full Ethernet connectivity to local plant network
- RSO overview of all system alarms via plant network
- Internet connectivity via the plant network to RSI service and permits multi-plant connectivity
- RSI overview (via Internet) for alarm validation and reporting
- 24/7 tech support for fast responsive support from technical people
- Touch screen VGA display for local alarm response
- Variety of printer options to suit local logistics
- System sensitivity analysis and auto correction to minimize signal loss with no radioactive sources required to test system performance
- RFID TAGS = the system supports "Radio-Frequency Identification" tags that permit absolute vehicle identification in a very cost effective manner.

### MODELS AVAILABLE

- RS-300/6000 = 2 detector system
- RS-300/9000 = 3 detector system
- RS-300/12000 = 4 detector system
- RS-300/15000 = 5 detector system
- RS-300/18000 = 6 detector system
- Max 16 detectors for special applications

### DETECTORS

- VOLUME = 3000 cu in/detector  
(3024 cu in actual volume)
- SIZE = 31"W x 60"H x 7.2"D (787 x 1524 x 183mm)  
- approx 195 lb (89 Kg)
- Fully DIGITAL system design for high performance and hi reliability
- PHOTO-TUBES (PMT) = 3 PMTs with low noise buffer amplifiers for improved performance over older 2PMT technology
- COINCIDENCE COUNTING = very advanced digital FPGA design for fast coincidence on all 3 PMTs simultaneously giving very high noise rejection, high throughput and good spectral shape
- SPECTROMETER = 128 channel spectrometer on each PMT permits accurate spectral analysis. This digital FPGA based spectrometer gives full spectrum 10/sec data sampling for analysis
- HVPS = individual High Voltage Power Supply on each PMT improves reliability
- VEHICLE PRESENCE MODULE = separate FPGA based module uses 4 optical sensors with fast 500Hz resolution to permit accurate determination of vehicle speed and presence
- MODULAR = fully modular system design, 3 easy to change modules contain all system electronics and if any are changed it is "plug-and-play" with automatic parameter adjustment - no user adjustments
- EASY OPEN BOX = specially designed one-button-open detector box assembly for easy access including auto lock hinges to hold the door open for service
- SHOCK MOUNTS = each scintillator is specially shock mounted to minimize shock and vibration effects that shorten system life



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