

RAD-ID-TA and RAD-ID-TA-3  
with 3 Detector Holder

# Portable Isotope Identifier Search Tool / Sample Counting System

**Model: RAD-ID-TA and RAD-ID-TA-3**

The RAD-ID-TA is a complete portable Isotope Identifier sample counting system. This sensitive and versatile system has 2 instrument options: A single detector (RAD-ID-TA) and a 3 detector (RAD-ID-TA-3).

## Features

- High Gamma Sensitivity
- Multi-Channel Analyzer (MCA)
- Includes PGS-3L Gamma Probe (**RAD-ID-TA**)
- Includes Gamma, Alpha, and Neutron Probes (**RAD-ID-TA-3**)
- Works with Variety of Probes
- Radionuclide Library Tailored to Customer Request
- Simultaneously Measures; Displays; Alarms 1-3 Separate Detectors
- PC Included
- Computer Interface – USB or Ethernet (Easy Integration into SCADA System)
- Data Archive and Retrieval
- Dynamic Background Subtract
- Useful as Sample Counter, Search Tool, or as Isotope Identifier
- Set Up Parameters Can be Password-protected
- Lightweight, Complete Portable System Hand Carry; **Optional** Cart
- IP52

## General Description:

### Advantages

- Identifies principal nuclides in sample
- Identifies principal nuclides in the area
- Visual energy spectrum aids understanding of radiation environment.
- Identification aids in finding the source of radiation.
- Enhanced sensitivity
- Settable to areas of interest
- Radionuclide Library Tailored to Customer Request
- In cases of illegal dumping perpetrators can be inferred from isotope identifiers.

The **RAD-ID-TA** incorporates the Multi-Channel Analyzer (MCA) which provides analysis. **RAD-ID-TA** can be used as both a sample counting system and/or a search tool in addition for monitoring hood, glove box, packages or other hazardous situations. The **RAD-ID-TA** assures safety against radioactivity contamination with a real-time constant check.



## TECHNICAL ASSOCIATES OVERHOFF TECHNOLOGY

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## Search Tool / Sample Counting System

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### Process – For Example

**Search Tool:** Use the PGS-3L or other Scintillation Probe to identify radiation sources.

**Sample Counting System:** Place sample into Sample Drawer with the PGS-3L attached. (See diagram)

### Gamma Detection

Gamma emitter content is measured using a PGS-3L or other Scintillation detector with the MCA

(Multi Channel Analyzer) with greater than 1,024 channels with a user settable energy range and readout. For example, the MCA can be set to show Gamma peaks from 15 KeV to 3.5 MeV.

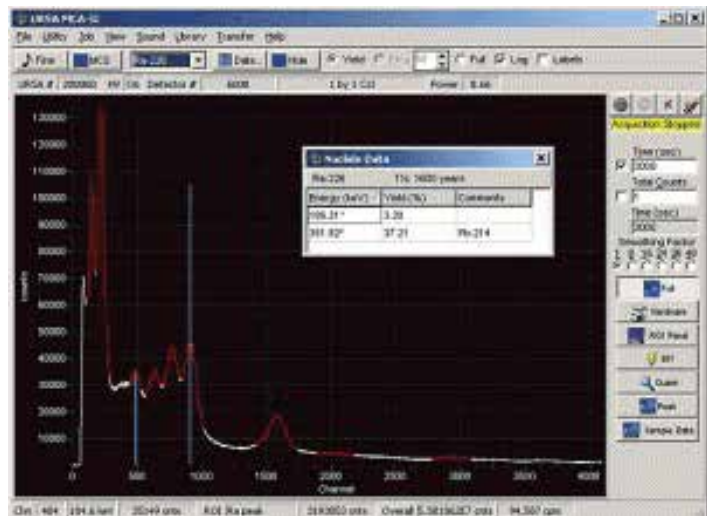
### Isotope Identification System – TA SMART-PEAK™

Software detects even low Gamma concentrations. The isotope identifier specifies and displays radioactive nuclides.

### Application

- Home and Security
- Emergency Response
- Medical – Nuclear Medicine / Imaging / Waste Management / Industrial Hygiene
- Environmental Monitoring
- Illegal Dumping of Medical or Industrial Waste
- Industrial Accident
- Roadside Chemical Spill
- Terrorist Action / Threat

**RAD-ID-use to search a car or scan suspicious objects or search for a cache of radioactive materials.**



### Description

The RAD-ID-TA is a continuous duty, high capacity, rugged, portable system. It is a 3-channel monitor for *Simultaneous* measurement of Gamma and Neutron emitting isotopes.

**Electronics** are microprocessor based with portable PC display.

**Detector** heads are self-contained allowing change or addition of functions as needed and allowing rapid repair by substitution in the field. The system is covered by TA's unique module exchange warranty, in addition to the full one-year warranty covering all TA products.

- System is extremely light and transportable.
- Comes complete with all cabling and connectors in place.
- Fully tested; ready to operate.
- **Optional:** Cart.
- System is 115V single phase; 220V **Optional:** 50/60 Hz.



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### Specifications

- Channels: Three
- Standard Activity Detected: Gamma, Alpha, Neutron.
- Optional Activity Detected: Beta, Beta-Gamma (High-Range), Positron

Standard Detection	Standard Detectors	Standard Detector Type	Alternative Detector Type
Gamma – Search Tool	PGS-3L	2" dia. Scintillation Nal(Tl)	BGO Scintillator
Alpha	P-15	2" dia. GM 2mg/cm <sup>2</sup> Model T-1190	Solid State Alpha Detector Alpha or Beta GM
Neutron	PNS-20	2" dia (Neutron Scintillator)	BF3, He3
<b>SURFACE OR SAMPLE WITH:</b>			
Gamma Sample Counter Drawer	STG-ID	STG-ID	Alpha or Beta GM Sample Counter
Optional Detection	Optional Detectors	Standard Detector Type	Alternative Detector Type
Beta	PBS-42	2" dia. Beta Scintillator	
Positron	Function of the PGS-3L	2" dia. Scintillation Nal(Tl)	Coincidence Sensor
Beta-Gamma (High-Range)	P-1219	1 3/8" dia GM 90 mg/ cm <sup>2</sup> Model P-1219	

### Optional Detector Styles

- 3" x 3" Nal (Tl) spectroscopic grade crystal.
- LaBr (Lanthanum Bromide)
- HPGe


- Energy Range:** Gamma - 15 KeV – 3.5 MeV
- Energy Resolution:** 7% Nominal
- Alarm:** Audio and Visual (On Screen)
- High Voltage:** Separately variable per detector from 0 to 1,500V (or 2,500V).
- Readout Screen:** Showing both real-time dose rate and accumulated doses for all channels.
- Status Lights:** "ON", "Alarm", "Fault".
- Accuracy:** ± 10% except for resolution loss and statistical variation.
- Alarms:** All alarms are easily set by user to any value within instrument range.
  - Alert Level Alarm:** Automatic Reset.
  - High Level Alarm:** High level alarm remains activated until RESET button is pushed.
  - 3 Separate Alarms:** 3 Channels (one for each detector)



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<b>Alarm Indication:</b>	PC Screen displays and sounds all alarms. MAL-Z Alarm module has lights and audio for each channel: Red-High level / Amber-Low Level. Audio: 1000Hz, greater than 80db and fail-safe and alarm relays for customer use.		
<b>Readout Units:</b>	User Selectable:	<b>Search Tool:</b>	mR/h; mRem/h; cps, mSv/h
		<b>Sample Counting System:</b>	µCi; Bq, cps
<b>Display Update:</b>	Count time is user settable from 1 to 120 seconds		
<b>Trend Display:</b>	Graphic Display: 30 minutes, 8 hours, 24 hours, 30 days, 90 days, 1 year.		
<b>Self-Tests:</b>	Automatic self-test at start-up Continuous self-tests and alarm for each detector.		
<b>Temperature:</b>	32° F to 113° F (0° C to 45° C); OPTIONAL: 14° F to 122° F (-10° C to +50° C)		
<b>Relative Humidity:</b>	0 to 95%		

### Electronic System Description: (Microprocessor based)

Electronics is high quality Windows PC including:

<b>Operating Software:</b>	TAcquire™ custom software plus Excel Spread Sheet
<b>Radionuclide Library:</b>	Radionuclide Library Tailored To Customer Request
<b>Data:</b>	Stores Data to MS ACCESS Database. Data Files are Importable into Excel
<b>CPU with Data Acquisition:</b>	High Resolution COLOR display, Audio
<b>Data Ports:</b>	USB and Ethernet
<b>USB-Flash Drive:</b>	For data storage – 10 years storage
<b>High Capacity hard drive:</b>	Stores programs and 20 YEAR'S of Detailed DATA plus alarm record. Room for new software functions in the future. Specialized TAcquire™ software.
<b>Power:</b>	110 VAC - 60 Hz, 220 VAC optional 50/60 Hz Internal Battery Backup, Fail Safe
<b>Battery Power:</b>	Built-in battery charger
<b>Special Safety Features:</b>	All circuits fused. Loss of signal alarms.
<b>Outputs:</b>	Alarm condition outputs: 1. Logic Level Signal - From PC 2. Contact closure or opening - From Optional MAL-Z alarm module.
<b>Hand Carry:</b>	System can be easily hand carried without cart.



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### Weight, Dimensions, and Shipping Information

Dimensions: Electronics: W 14.5" x H 10" x D 20".  
 Hand Carry Weight: 15.6 LBS (7 kg)  
 Consumables: System is shipped with planchettes and wipes.  
 Accessories: System is shipped with all necessary accessories included and tested with system including all cables, connectors, and manual.

### Options

- Different detector types Built in gain stabilizer for better utility in different temperatures.
- Cart, Carrying Case Wireless Remote Alarm
- MAL-Z alarm/relay module 4-20mA, RS-485
- Calibrated Radiation Standards: Cs-137 (Beta / Gamma) Ba-133 (Gamma) U-238 (Alpha)


FEATURES	TYPICAL (Open Market)	TECHNICAL ASSOCIATES RAD-ID-TA
Display	40 Characters	14" Color LCD Monitor
Dependable	NO	YES
Number of Simultaneous Measurement Channels	1	3
Microprocessor Speed	Various	2GHz
<b>Data Storage Capacity</b>		
Bytes	0.05 MB	High TB Storage
Years	83 days	20 Year Data
Precision: Data Storage Intervals	Every Hour	2x each minute
Removable Data Storage	NO	Flash Drive
Real Time Gamma Compensation	NO	10 $\mu$ R/h to 25 mR/h
<b>Data Archive &amp; Retrieval:</b>		
Any Day This Year	NO	YES
Any Month This Year	NO	YES
This Year to Date	NO	YES
Daily Average or Total	NO	YES
Monthly Average or Total	NO	YES
Full Year Average or Total	NO	YES
Ethernet & USB	NO	YES



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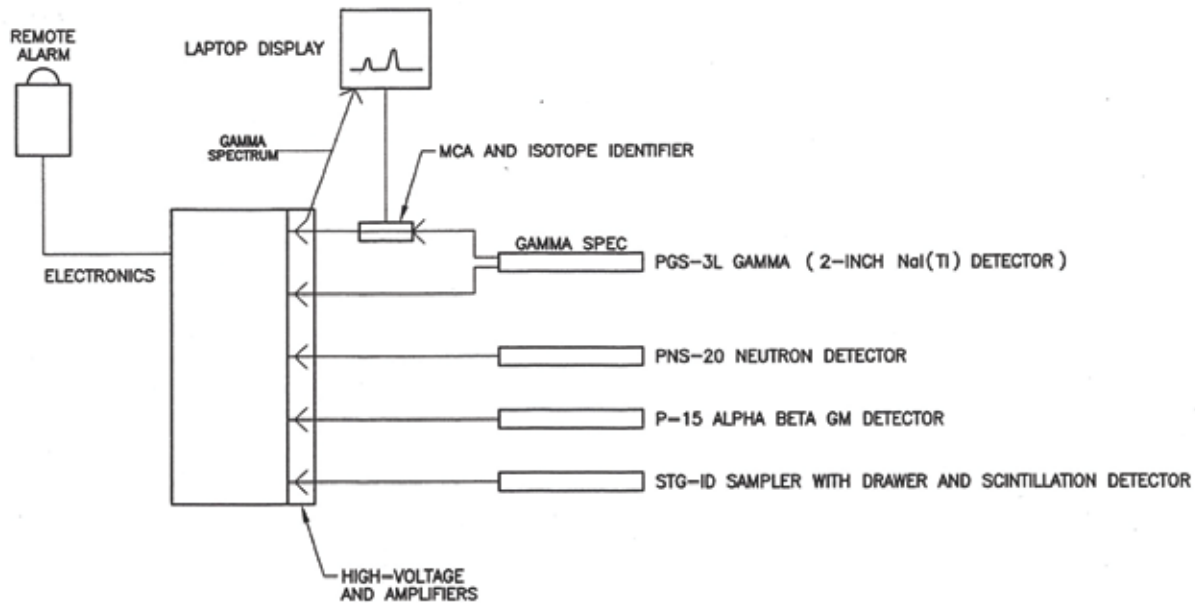
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**RAD-ID-TA System Layout Example**



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### Included:



Easy Hand Carry

Main Detector  
PGS-3L Scintillation Probe

STG-ID  
Sample Counter Drawer



PGS-3L  
Sample Counter Assembly



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