



SPIR-Ace™

Radio Isotope Identification Device (RIID)



FEATURES

- Ultra-fast and accurate compact identifier
- Superior performance in heavy shielded and unbalanced SNM masking scenarios
- Radiological performance exceeds current standards for RIIDs and RIDs
- Multiple usage scenarios: radiological security, nuclear accident, source assessment applications, etc.
- Automatic gain stabilization without the need for a source
- User-friendly interface
- Optional external alpha and beta contamination probes
- Internal mapping capability
- Live data transmission and reachback capability
- Remote display and control through web-enabled wireless devices

DESCRIPTION

The **SPIR-Ace** unit is a versatile Radio Isotope Identification Device (RIID) addressing all applications requiring efficient detection and identification of radiological threats in security applications, including civil defense, border security and customs. The **SPIR-Ace** device can be used in law enforcement, emergency response and other critical infrastructure applications. It also provides accurate assessment of nuclear materials for power plants, safeguard inspection, forensic laboratories and OSI/CTBTO agents.

The **SPIR-Ace** device offers identification performance beyond current standards for RIDs such as for heavily shielded isotopes, unbalanced mixtures of nuclides and Special Nuclear Material (SNM) masked by medicals or Naturally Occurring Radioactive Material (NORM) within a few seconds.

The **SPIR-Ace** unit offers user-friendly and state-of-the-art features such as easy localization with directional indication, geo-localization and remote data transfer to a command center.

SPIR-ACE™ | RADIO ISOTOPE IDENTIFICATION DEVICE (RIID)

NUCLEAR CHARACTERISTICS

Detectors

- NaI(Tl) version: dia 35 mm x 51 mm (1.4" dia x 2")
- LaBr₃(Ce) version: dia 25.4 mm x 34 mm (1" dia x 1.34")
- Energy compensated GM tube for high gamma dose rate
- Optional neutron detector: moderated ⁶LiZnS:Ag scintillator
- Optional external alpha/beta probe

Energy range

- 25 keV to 3 MeV (gamma)
- 0,025 eV to 15 MeV (neutron)

Gamma dose rate range

- 0.001 μSv/h to 100 mSv/h (0.1 μR/hr to 10 R/hr)

Identification

- Fast digital, MCA 1024 channels, throughput >100 000 cps
- Single, bare or shielded, and mixed isotopes
- 7 libraries containing 80 nuclides
- Identifies up to 8 nuclides simultaneously
- Detection and identification performance exceeds ANSI N42-34, IEC62327 and IAEA NSS 1
- Identifies the radionuclides in 5 to 15 seconds at a dose rate of 0.5 μSv/h (50 μR/h)

FUNCTIONAL FEATURES

Interface

- 4.3" color touch screen LCD
- LCD readable in all lighting conditions
- Fast display update (every 0.25 s)
- Alarm indicators: LEDs, vibrator and sound
- Touch screen and 2 buttons for gloves/Personal Protective Equipment (PPE) operation
- Earphone jack

Connectivity

- Internet connection by WiFi or cellular:
 - Send measurements by emails (includes .n42 files)
 - Remote supervision with SpirVIEW™ Mobile or other software using file transfer (FTP or HTTP/SSL)
- Remote display and control via web-enabled wireless devices (WiFi)
- Records the location of all measurements/events
- Micro USB connection
- Wireless:
 - Cellular UMTS/HSPA/HSPA+, global (800/850, 900, AWS1700, 1900, 2100 MHz)
 - Wi-Fi b/g/n
 - GNSS receiver (global GPS)

Measurements

- Wake-up on alarm

- Automated acquisition and identification upon alarm
- Manual measurement mode (start/stop/resume)

CHARACTERISTICS

Standards Compliance

- ANSI N42.34 / IEC62327 / CE

Environment

- Operating temperature range:
 - NaI: -20 °C to +55 °C (-4 °F to +131 °F)
 - LaBr₃: -20 °C to +50 °C (-4 °F to +122 °F)
- Humidity: 93% relative humidity at 40 °C
- Water and dust: IP65

Electrical

- Li-ion rechargeable, 6700 mAh, 3.6 V, built-in charger, replaceable
- Battery life: 8.5 hours
- Charge time: 5 hours using a standard micro USB charging cord

Physical

- Weight: maximum (NaI and LiZnS detectors) 1.45 kg (3.2 lb)
- Dimensions: 206 x 153 x 57 mm (8.1 x 6.2 x 2.2")

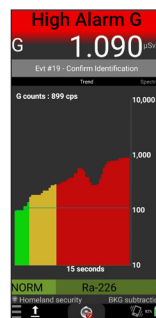
ACCESSORIES AND OPTIONS

Included accessories

- Transportation and storage case
- USB AC power adapter
- Micro USB cable/ Hand strap / Earphones

Options

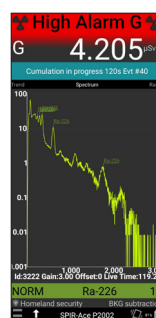
- SpirVIEW Mobile real-time supervision (licence for 1 device) includes SpirREPLAY: centralization, visualization and mapping



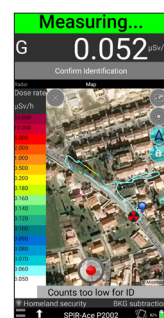
Source search



Direction to the source



Spectrum showing identified peaks (advanced/expert modes)



Mapping with hotspot localization