



SPIR-Pack

Human Portable Radiation Detection and Identification System



Nuclear
Power



Healthcare



Homeland
Security
& Defense



Labs and
Education



Industrial and
Manufacturing

OVERVIEW

SPIR-Pack is a backpack based radiation detection system which provides an intermediate sensitivity between the handheld SpiR-ID (RIID) and the SPIR-Ident Mobile system (vehicle/ vessel/ aircraft detection and identification system).

The **SPIR-Pack** can discreetly identify radioactive sources in a large perimeter. The **SPIR-Pack** can also pinpoint areas that are crowded or hard to cross with a vehicle (stadiums, train stations, airports, buildings, etc.). It is well-suited to source search operations.

A specifically designed algorithm ensures state-of-the-art detection and identification starting from very poor spectra as acquired when passing by. It provides SNM identification capabilities including heavy shielding and masking conditions.

The Smartphone application provides a convenient real-time display for measurement, identification and map. The headset or the smartphone's vibrator ensures discreet monitoring.

The **SPIR-Pack** is a compact and human portable system suited for special forces, large scale event security organizations and environmental agencies.

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KEY FEATURES

- Human portable radiation detection and identification system
- Discrete monitoring in densely populated areas or crowds during events
- Hand-free operation
- Instant identification of complex scenarios of masking and/or shielding
- Direct confirmation of the detection and the nature of the threat
- Real-time mapping
- Long life operation
- Connected instrument, easy data reachback
- Remote supervision with **SpirVIEW Mobile** or any other installed supervision system

RELATED PRODUCTS

- **SpirVIEW Mobile**
- **SPIR-Ace**

SPiR-Pack | Human Portable Radiation Detection and Identification System

NUCLEAR CHARACTERISTICS

- Detection
 - NaI (TI): 2" diam x 4"
 - Neutron detector:
 - optional light detector
 - optional highly sensitive detector
 - Gamma high range: Geiger Muller tube
- Energy range :
 - Gamma: 20 keV to 3 MeV
 - Neutrons: 0,025 keV to 15 MeV
- Sensitivity:
 - Gamma (¹³⁷Cs): typ. 3500 (cps) / (μSv/h)
- Dose rate range :
 - Gamma dose rate range (by NaI): 0,01 to 50 μSv/h (1 μR/hr to 5000 μR/hr) (¹³⁷Cs)
 - Extended dose rate range (by GM): 50 to 99 999 μSv/h (0,5 mR/hr to 9 999 mR/hr)
 - Neutron: 0,0 to 999,9 cps
- Identification
 - fast digital MCA, 1024 channels
 - throughput > 100 000 cps
- Continuous stabilization and acquisition of spectra, no field calibration needed

FUNCTIONAL FEATURES

- Rugged Tablet or Smartphone with sun readable screen
- Autonomy (backpack) : 40 hours
- SpirIDENT Suite software
- Alarms
 - Smartphone : visual, audible and vibration alarms with release
 - Bluetooth headset : audible message
 - Danger alarm
- GPS, Bluetooth, WiFi, cellular communications
- data export

MECHANICAL FEATURES

- Dimensions :
 - SPiR-Pack G : 30,3 x 25 x 46 cm
 - SPiR-Pack GN : 30 x 32,5 x 51 cm or 30,3 x 25 x 46 cm (depending on type of neutron detector)
- Weight for :
 - SPiR-Pack G : < 4,5 kg
 - SPiR-Pack GN : < 8.5 kg

ENVIRONMENTAL CHARACTERISTICS

- Temperature range :
 - operating temperature : -20 °C to +50 °C (-4 °F to 122 °F)
- IP65 protection
- Electromagnetic compatibility : CE compliant (susceptibility: 10V/m), according ANSI & IEC requirements

IDENTPRO/SIA IDENTIFICATION ALGORITHM

- Identification of approximately 90 radionuclides
- Up to 8 mixed radionuclides
- Masking and highly shielded scenarios exceeding current standards
- Confidence level indication, radionuclides and its categorization
- Radionuclide libraries :
 - Homeland Security
 - Nuclear Power Plant and radioactive waste
 - Nuclear accident
 - Fuel cycle
 - CTBTO/ OSI
 - Laboratories and miscellaneous

ACCESSORIES

- Power supply, cable, earphone
- Smartphone: power supply cable

OPTIONS

- **SpirREPLAY** software for post-analysis and post-processing
- **SMI** software for spectrum analysis



SPiR-Pack in operation within an airport and a parking

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