



SPiR-Pack

Human Portable Radiation Detection and Identification System



Nuclear
Power



Healthcare



Homeland
Security
& Defense



Labs and
Education



Industrial and
Manufacturing

OVERVIEW

Mirion's **SPiR-Pack** is ideal for all applications requiring the efficient detection and identification of radiological and nuclear threats. Of primary importance, these applications include the protection of large public events, as well as providing superb capabilities for radiological/nuclear interdiction.

The **SPiR-Pack** is lightweight, comfortable to carry, and durable, with a long battery life for extended field operations. The **SPiR-Pack** system includes sensitive detectors that connect to a smartphone. Because it alarms only in presence of radioactive sources (not on background variations), the smartphone can simply stay in the user's pocket (or other carrying accessory) until vibration and/or audible alarm indicates the presence of a source. The full-featured smartphone app provides dose rate, nuclide identification and an innovative Radar screen to indicate the direction of radioactive sources arrival. Users also appreciate the fact that the **SPiR-Pack** uses the same app as the **SPiR-Ace**, greatly simplifying training and making it easy for users to use both instruments.

The **SPiR-Pack** also provides outstanding radiation mapping capabilities - for individual **SPiR-Packs** this is displayed via smartphone while a fleet of **SPiR-Packs** (and other instruments in the SPiR family) can be remotely monitored using the **SpirVIEW Mobile** supervision software for complete situational awareness.

KEY FEATURES

- Dynamic nuclide identification
- Discrete monitoring in public places and crowds
- Hands-free operation
- Identifies sources in shielded transportation containers
- Mapping
- Indicates the direction of a source in a crowded location
- Durable cable-free design
- Small, light, comfortable to carry
- Remote supervision and radiological mapping with SpirVIEW Mobile
- Reachback (email with picture, comments and spectrum), file transfer

RELATED PRODUCTS

- **SpirVIEW Mobile**
- **SPiR-Ident Mobile**
- **SPiR-Ace**

DETECTION AND IDENTIFICATION

• Detection

- NaI (TI) detector: 51 mm diameter x 102 mm length (2" diameter x 4" length)
- Energy compensated GM tube for accurate high gamma dose rate from multiple radionuclides
- Optional sensitive neutron detector: ¹⁰BZnS:Ag

• Energy range:

- 25 keV to 3 MeV (gamma)
- 0.0025 eV to 15 MeV (neutron)

• Gamma dose rate range: 0.001 μSv/h up 100 mSv/h (0.1 μR/hr to 10 R/hr)

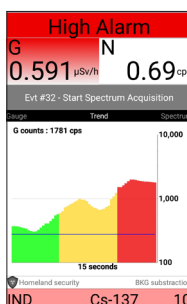
• Gamma sensitivity (Cs-137): 3500 (cps)/(μSv/h)

• Continuous real time nuclide identification

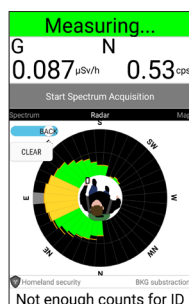
- Single, bare or shielded, and mixed isotopes
- 7 libraries containing 80 nuclides
- Identifies up to 8 nuclides simultaneously
- Continuous energy stabilization using ambient background (K, Ra, Th, usual contaminant)

SMARTPHONE FEATURES

- Rugged smartphone, readable in all lighting conditions
- Fast display update (every 0.25 s)
- Alarm indicators: vibration and sound, earphone (included)
- Personal radiation protection alarm
- GPS, Bluetooth, Wi-Fi, cellular communications
- Data available: real time measurements and alarms, using industry-standard file formats (spe, n42, csv)
- Robust (no-loss, prioritized) real time transmission to **SpirVIEW Mobile** or 3rd party software (FTP, n42 files)
- Share measurements by email



Search & dynamic nuclide identification: Cs-137



Directionality: the source is on the left



Dose rate map

- **Electrical**
 - Li-ion rechargeable, 5300 mAh, 3.7V, built-in charger
 - Backpack battery life:
 - G: 24 h
 - GN: 13 h
 - Charge time: 4 hours
- **Environment**
 - Operating temperature range: -20°C to +50°C (-4°F to 122°F)
 - Operating humidity: 93% at 40°C (104°F)
 - IP65 protection (even without backpack)
 - Electromagnetic compatibility according CE marking and ANSI N42.53 requirements (50 V/m immunity)
- **Standards compliance**
 - ANSI N42.53
 - ANSI N42.42 file format

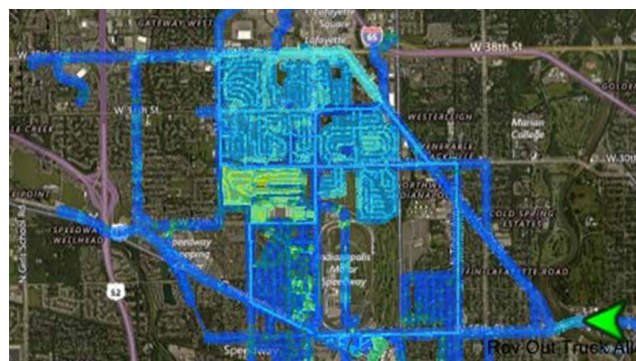
ACCESSORIES AND OPTIONS

• Included accessories

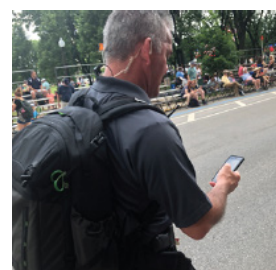
- AC power adapter, 2 USB outputs
- DC vehicle adapter, 2 USB outputs
- USB cable for the phone
- USB to jack cable for the backpack
- Bluetooth and wired earphones

• Options

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



Mapping with SpirVIEW Mobile software



Law enforcement search at large event



Discrete surveillance in an airport

CHARACTERISTICS

• Physical

- Weight:
 - G: 4.6 kg (10.14 lbs)
 - GN: 10.1 kg (22.26 lbs)
- Dimensions
 - G: 30.3 cm x 25 cm x 46 cm (11.9" x 10" x 18.1")
 - GN: 29 cm x 20 cm x 51.5 cm (11.4" x 7.9" x 20.3")

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