

# SpiR-ID

## Advanced Handheld Detection and Identification



*detection  
monitoring  
identification*

**radiation**



### OVERVIEW

The SpiR-ID LT is an advanced Radiometric Identifier (RIID); its “on-the-fly” identification capability makes it the fastest and most effective handheld instrument on the market for interdiction and inspection missions.

The SpiR-ID LTs performance exceeds all current RIID standards (ANSI N42.34 and IEC 62327) for criteria such as identifying heavily shielded sources, unbalanced mixtures of nuclides, and Special Nuclear Material (SNM) that’s masked using medical or Naturally Occurring Radioactive Materials (NORM).

It is suited for all applications that require efficient detection, search and identification of radiological threats (Radiological Dispersal Devices or RDD), including civil defense, customs & border protection (illicit trafficking of radioactive materials) and emergency response situations.

The SpiR-ID LT can be used as well for mobile surveys or for secondary screening after a primary detection by a radiation portal monitor (RPM).

#### RELATED PRODUCTS

- SpiR-ID LT NaI 2” X 2”
- SpiR-ID LT LaBr 1.5” X 1.5”

### FEATURES

- Real-time continuous identification
- Superior performance in heavy shielded and unbalanced SNM masking scenarios
- Homeland Security and Nuclear Accident libraries
- Accurate nuclide identification regardless of temperature and other environmental conditions
- Continuous operation under severe environmental conditions such as extreme temperature shocks
- Light and weight balanced case
- User-friendly interface with different alarm options (visual, vibration, sound and voice)
- Embedded GPS, mapping software provided
- Live data transmission and reachback capability

# SPECIFICATIONS

## NUCLEAR CHARACTERISTICS

- **Detectors**
  - SpiR-ID LT NaI (TI): 2" x 2"
  - SpiR-ID LT LaBr 3 (Ce) : 1.5" x 1.5"
  - energy compensated GM tube for high gamma dose rate
  - moderated 6LiZnS:Ag neutron detector
  - optional external alpha/beta contamination probe
- **Energy range**
  - 25 keV to 3 MeV (gamma)
  - 0.025 eV to 15 MeV (neutron)
- **Dose Rate measuring range**
  - 1µR/hr to 1 R/hr (0.001 µSv/h to 10 mSv/h)
- **Spectroscopy**
  - Fast digital MCA 1024 channels
  - Throughput >100 000 cps
  - continuous spectra acquisition
  - True dose rate calculation by spectra weighting

## FUNCTIONAL FEATURES

- **Large TFT 3.5" VGA (640 x 480) sun readable display**
  - Intuitive user interface
  - Application oriented screens



- **4 large and well separated buttons for use with large gloves and Personal Protective Equipment (PPE)**
- **Multiple Alarm indications**
  - Sound, voice, vibration
  - 4 LEDs for threat categorization (NORM, Medical, Industrial, SNM)
  - alarm indicators depend on the threat level (nuclide identification and dose rate)
  - earphone via Bluetooth (earphone not included)
- **Routine mode / Expert mode**
- **Data storage: SD card**

## CONNECTIVITY

- **Internet connection by WiFi or cellular:**
  - send measurements by emails (includes .n42 files) remote supervision with SpirVIEW or other software using file transfer (FTP or HTTP/SSL)
- **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)

## IDENTPRO/SIA IDENTIFICATION ALGORITHM

- Provides reliable identification of even the most challenging spectra
- Identifies "on-the-fly" at a dose rate of 0.5 µSv/h (50µR/h)
- Properly identifies up to 8 isotopes simultaneously
- See through radionuclide «masking»
- Correctly identifies even heavily shielded radionuclides
- Categorizes radionuclides (medical, natural, industrial, etc.) and indicates the confidence level of the identification

## Common to all libraries

<b>NORM</b>	K-40, Ra-226, Th-232 and daughters
<b>SNM</b>	DU (Depleted), U, HEU (Highly Enriched), Pu, WGPu (Weapon Grade), RGPu (Reactor Grade)
<b>SNM expert</b>	U-233, U-235, U-238, Pu-239, Pu-241, Np-237
<b>Other</b>	Neutron, H(n,g), Bremsstrahlung (ie Beta emitter), Unknown

## Source search library

<b>Medical</b>	F-18 (511keV), Cr-51, Ga-67, Mo-99, Tc-99m, Pd-103, In111, I-123, I-125, I-131, Xe-133, Sm-153, Lu-177, Tl-201
<b>Industrial</b>	Na-22, Mn-54, Co-57, Co-60, Se-75, Brem.(Sr-90), Ba-133, Cs-137, La-138, Eu-152, Eu-154, Ir-192, Bi-207, Th-228/U-232, Am-241

## Nuclear accident library

Kr-85 (511keV), Zr-95, Nb-95, Ru-103, Ru/Rh-106, I-131, Cs-134, Cs-136, Cs-137, Ba/La-140, Ce-141, Ce/Pr-144

## Additional available radionuclides

Na-24, Ar-41, Co-58, Fe-59, Co-60, Zn-65, Kr-85m, Kr-87, Kr-88, Y-88, Cd-109, Zr-95, Nb-95, Ag-110m, Sb-122, Sb-124, Te/I-132, I-133, I-135, Xe-135, Ho-166m, Yb-169, Tm-170, Lu-176, Po-210

## ENVIRONMENTAL, ELECTRICAL, MECHANICAL CHARACTERISTICS

- **Temperature range:** -4°F to 140°F (-20°C to 50°C)
- Humidity: up to 95%
- Metalized polyurethane case
- Shock, vibration and drop resistant
- Water and dust ingress IP54
- **Electrical**
  - Li-ion rechargeable, built-in charger
  - autonomy: typical 10 hours
- Dimensions: 12.59 x 5.82 x 5.94 in (320 X 148 X 151 mm)
- Weight: NaI version 7.65 lb (3.47 kg), LaBr version 6.5 lb (2.95 kg)

## ACCESSORIES

- Wheeled IP67 carrying case
- Shoulder strap
- External AC/DC adapter power supply, vehicle DC power cable
- Waterproof micro USB cable\SpiR-ID Companion software



SpiR-ID Companion software

## OPTIONS

- GMP-25 alpha/beta pancake probe
- SpirVIEW Mobile: real-time supervision, includes SpirREPLAY



GMP-25 probe

