

# RADPatrol

MOBILE RADIATION DETECTION SYSTEM



NUVIA Dynamics RADPatrol can be installed on fixwing, helicopter platform, or a vehicles. The standard system comprises NaI (TI) radiation detection modules with the effective detection volume of 16 Liters; High Dose Rate Gamma Module; mission navigation system integrated with Pilot Guidance Unit (PGU); Data Acquisition system, providing internal data synchronization and real-time calculation procedures; and precise positioning equipment (GPS and Altimeter). Optional detection modules include a Neutron detector and Geiger-Mueller Detector.

## Benefits

- Provides 2D map of contaminated area
- Identify potential radiological threat and direction
- Easy to install in most fixed wing and Rotary aircraft
- Can be installed quickly in most vehicles for ground surveys
- Modular design allows the user to add additional sensors at any time
- Detects both Gamma and Neutron
- No compressed gas
- The self-calibration is based on automate adjustments to natural radiation peaks: no source pad is required

## Key Figures

50 keV – 3 MeV  
 ↳ Gamma energy range

-30°C up to +55°C  
 ↳ Operation temperature

170 cps/nv  
 ↳ Neutron detector sensitivity

## Product Description

### DETECTION MODULE

A standard detection module consists of 2 sets 2 x 4 Liter NaI(Tl) scintillation crystals boxes. The detection module can be set according to aircraft parameters and surveillance tasks. Each crystal is equipped with an individual Multichannel Analyzer. Each box performs independent recoding of the raw data to internal memory. The system is self-calibrated and energy stabilized in real time.

### DATA ACQUISITION

Data Acquisition is set on a rugged laptop, allowing the operator to control surveillance parameters, including map-view navigation, real-time data acquisition and alarms, real-time spectra and other.

### PILOT NAVIGATION

The RADPATROL system is equipped with PGU (Pilot Guidance Unit) that provides the pilot with sufficient information about survey flight parameters, including cross-track information, distance to go to the next way point, guidance along survey lines.



## Product Specification

### GAMMA-RAY SPECTROSCOPY

- Detector: 2 x 4 Liter NaI(Tl) crystals
- Resolution: <8.5% for Cs<sup>137</sup> - 662keV
- Range: 20keV – 3MeV
- MCA Resolution: 256/512/1024/2048 channels (internal resolution 8196)
- Throughput: up to 250 000 cps

### NEUTRON DETECTION

- Detector: LiF6/ZnS 1.5 Liter (Solid State); integrated moderators
- Sensitivity: 170 cps/nv

### HIGH DOSE DETECTION

- Detector: Energy compensated GM-tube
- Range: 50keV – 1.3MeV; 300nGy/h - 10mGy/h

### SYSTEM CHARACTERISTICS

- Calibration: multi-peak self-calibration; no source needed
- Stabilization: System is automatically stabilized on natural peaks
- Identification: Isotopes libraries (Nuclear, Medical, Industrial, Customizable)
- Real-time Activity calculation for natural and selected man-made isotopes
- Comply with ANSI N42.43
- Temperature: -30°C up to +55°C
- Power: 6 – 40 VDC

## Product Application

The RADPatrol can be adjusted to pursue different radiation surveillance tasks:

- Area monitoring and background radiation mapping
- Search and recovery of uncontrolled radioactive source
- Detection or radionuclides and isotopes identification
- Radioactive plume tracking and air contamination
- Contaminated area and local accident investigation



*Portable version with a smaller detector volume (4" x 4" x 8").  
Neutron detector not included, sold separately.*