POLIMASTER®

Nuclear Protection Network

The most advanced radiation detection and isotope identification technology combined with the power of the Internet

- **Low Cost Detectors**
- **GPS Enabled Network**
- **Unified Command Center**
- **Remote Access and Management**

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NUCLEAR PROTECTION NETWORK

Nuclear Protection Network (NPNET)

The Nuclear Protection Network (NPNET) is a unique, two-tier system that introduces a new paradigm in radiation detection and safety. Scale able networking of radiation detection devices allows easy monitor ing of small, centralized locations such as a large building or city block, to large regional coverage such as metropolitan cities.
The end users have local capabilities to detect radiation and identify alarming events in real time. This local capability gives fast disposition of nuisance alarms, without allowing a real threat to be overlooked.
The management team, working from a unified command center (UCC), has realtime access to the location, intensity and isotopic character istics of all alarming events.
This situational awareness gives management and a layered reach back team the information to make decisions quickly.
In additional to event management, the expert team and command center utility provide unprecedented statistical collection and baseline mapping. With the ability to monitor users in the field, the network application provides users with average background readings over a large area. Anomalies to radiation activity can be identified.
Real time alarming protocols can be developed to give multi ple users immediate text messages or other notification in the event of a radiation alarm. Access to the network is protected through an encrypted management module allowing for multi ple levels of password protection. The network can validate isotopic classification issues, such as discerning medical isotopes from unusual, weapons-grade sources of radiation.
Finally, a network approach to radiation detection that empowers the law enforcement officer to make decisions based on expert reach back, in real time, without the need for advanced spectroscopic training.

FEATURES

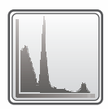
- Two-Way Communication
- Remote expert support
- Distr ibuted radiation network
- Designed for Non-Technical Operation
- 24/7 Data Feed with GPS

APPLICATIONS

- First Responders
- Customs and Border Patrol
- Police/Highway Patrol
- Public Event Venues
- HAZMAT teams
- Private Security
- Ordinary citizens

PM1703MB and PM1703GNB

The PM1703MB and the PM1703GNB are a unique family of spectroscopic personal radiation detectors (SPRD). Besides being conventional radiation detection pagers for detecting and locating radioactive and nuclear materials, the SPRDs offer new benefits to their users. They have the built-in capability to collect and archive spectroscopic data. This is done through a wireless Bluetooth connection with an iPAQ palm sized computer, a PC, or a notebook computer. Using the Bluetooth connection, the SPRD automatically transfers its stored data to the computer and uses the computer's software to identify the isotope, and to integrate that information into the Nuclear Protection Network system. The Command Center will be able to analyze the data from multiple sources, bring in experts, and manage the event to conclusion.



SPECIFICATIONS

Detectors: gamma CsI (Tl) and neutron LiI (Eu)
Energy range (gamma): 33keV to 3.0 MeV
Energy range (GNB)(neutron): from thermal to 14.0MeV
Time of measurement: 0.25 s
Range of photon exposure rate: 0 to 7000 μR/h (0 to 70 μSv/h)
Accuracy of exposure rate measurement: ±30%
Count time in background updating mode: 36 s
Count time in the search mode: 2 s
Radionuclide identification: Medical and Industrial radionuclide, Natural Occurring and Special Nuclear Materials.

FEATURES

- Meets demands for first responders and reachback support
- Highly sensitive scintillation detectors
- Easy-to-use, 2 button operation reduced training requirement
- USB, Bluetooth or IRDA communication
- Shockproof hermetic case
- Designed to minimize electro magnetic interference from portable radios, cell phones
- Integrated wireless transmission of critical data
- Integrated into the Nuclear Protection Network system

APPLICATIONS

- First Responders
- Customs and Border patrol
- Police and Fire-fighters
- Emergency teams
- HAZMAT teams
- Private Security, Military

GENERAL CHARACTERISTICS

- Power supply: One AA battery
- Battery life time, not less 1000 h
- Battery discharge warning
- Drop test on concrete floor: 4.9 ft (1.5 m)
- Weight: no more that 8.8 oz (250 g)
- Dimensions: 3.9" x 3.15" x 1.57"
- (99 x 80 x 40 mm)

Environmental:

- Temperature: -22°F to 122°F (-30°C to 50°C)
- Relative humidity at 95°F (35° C): up to 98%
- Pressure: from 10.2 to 15.5 psi (from 70 to 106.6 kPa)

Accessories

- Carrying case (holster)

Design and specifications of Models and Network Applications can be changed without further notice.

RadFlash™ PM1901

The RadFlash Portable Radiation Detector PM1901 represents a remarkable advance in the field of low cost nuclear radiation detection. When ON, the detector continuously monitors the environment for radiation and alerts the user with an audio alarm if a radiation source is detected. All operational history is stored in the device's non-volatile memory, protecting the data even when the battery is removed. Because of an ultra-rugged design, the device can be stored in a pocket, clipped on a belt or installed at fixed-point locations (facility entrances, baggage scanning, retail establishments, public storage, etc).
The RadFlash design is networked by plugging the device into a computer using the included USB interface. This networking of RadFlash creates a topographical maps of radiation levels over a large area. Additionally the RadFlash will download the spectroscopic properties of the radiation alarm, thereby allowing the network application to identify the isotope and provide direction to the end user.

APPLICATIONS

- Radiation Monitoring for non technical personnel
- Law Enforcement
- Building security and checkpoints

SPECIFICATIONS

- Detector type: CsI(Tl) gamma-ray detection
- Dimensions: 9.6 cm x 3.8 cm x 1.8 cm
- Weight: 100 g maximum
- Alarm type: Audible and visual
- Batteries: One Panasonic CR2032 or similar type
- Exposure rate range:
  - Indication mode: 1 µR/h to 40 mR/h (0.01 µSv/h to 0.4 mSv/h)
  - Measurement mode: 10 µR/h to 30 mR/h (0.1 µSv/h to 0.3 mSv/h)
- Energy range: Gamma radiation: 33 keV to 3.0 MeV
- Communication: With PC USB port
- Data collection: 1000 data points
- Measurement time: 0.25 seconds

Design and specifications of Models and Network Applications can be changed without further notice.

PM1710C Gamma and PM1710GNC Gamma-Neutron Monitor

The wall-mounted PM1710C Gamma and PM1710GNC Gamma-neutron monitors are highly sensitive instruments designed for radiation protection of a building. The detectors may be fixed near doorways and facility entrances to permanently monitor passing people and their luggage against radioactive sources presence. Both instruments have a radiation sensitivity that is comparable to the sensitivity of the much larger and significantly more expensive portal monitors. The PM1710C and PM1710GNC achieve this sensitivity through their large CsI(Tl)gamma radiation detectors and He-3 neutron detector. However, these units' small and compact ergonomic design allows professionals to use the instrument comfortably and easily whether standing stationary or moving around.
When the instrument detects radiation that exceeds the radiation threshold values,the alarms will begin to signal the danger through both the audible and visual alarms.
The radiation detectors are easily integrated to local network by RS485/USB interface connection to a PC that allows a user to display the detectors' readings on the PC screen and be immediately alerted in case of radiation alarms. The PM1710C and PM1710GNC may be also plugged Nuclear Protection Network (NPNET)with possibility of visualization of devices location and their readings on the building plan.

APPLICATIONS

- First Responders
- Customs and Border patrol
- Police and Fire-fighters
- Emergency teams
- HAZMAT teams
- Private Security, Military

GENERAL CHARACTERISTICS

- Power supply: One AA battery
- Battery life time, not less 1000 h
- Battery discharge warning
- Drop test on concrete floor: 4.9 ft (1.5 m)
- Weight: no more that 8.8 oz (250 g)
- Dimensions: 3.9" x 3.15" x 1.57"
- (99 x 80 x 40 mm)

Environmental:

- Temperature: -22°F to 122°F (-30°C to 50°C)
- Relative humidity at 95°F (35° C): up to 98%
- Pressure: from 10.2 to 15.5 psi (From 70 to 106.6 kPa)

Accessories

- Carrying case (holster)

PM1401MB PERSONAL RADIATION DETECTORS

Polimaster's PM1401MB Gamma and PM1401GNB Gamma-Neutron Spectroscopic Personal Radiation Detectors (SPRD) are designed to detect and locate radioactive and nuclear materials and identify gamma radiation sources.

The PM1401MB and PM1401GNB are equipped with a 1024-channel MCA allowing the accumulation of radioisotopic spectra. Both are Bluetooth enabled allowing real-time identification of radionuclides using a PDA or notebook computer containing an identification library. Thus they function as both personal radiation detectors and radionuclide identifiers. They can be easily integrated into the Nuclear Protection Network (NPNET), Polimaster's proprietary computer system allowing access to a unified command center.

The NPNET is controlled by a local entity i.e., the local police and fire & rescue services, and utilizes the normal chain of command to manage the situation, gain access to remote experts, and analyze radiological data from different locations. Both instruments are housed in shock proof aluminum cases and are designed for operations in severe and harsh environments.

ALARM

Meets ANSI 42.32 and 42.33(1)and ITRAP Requirements

LOCATION

MEASUREMENT

PRODUCT FEATURES

- No expertise necessary
- Easy-to-use,two-button operation
- Audio and vibrating alarms
- Non-volatile memory
- Shockproof,hermetic case
- LCD screen with fl uorescent backlight
- Belt cli p
- Small and light-weight
- IRDA compatible

USERS

- First responders
- Customs and border protection
- Police offi cers
- Law enforcement
- HazMat teams
- Security guards

PM1401GNB PERSONAL RADIATION DETECTORS

ALARM

Meets ANSI 42.32 and 42.33(1)and ITRAP Requirements

LOCATION

MEASUREMENT

FUNCTIONS

- Detect,monitor,measure and locate the presence of gamma (M and G series)and neutron (GN series)radiation sources
- Alert user when gamma or neutron radiation thresholds have been exceeded
- Alert user when Alert user when Record and store data for up to 1000 events
- Communicate data with PCs

PRODUCT SPECIFICATIONS

PM1401M SPECIFICATIONS	
Weight (with battery)	11.3 oz
Dimensions	3 5/8" x 2 1/4" x 1 1/4"
Dose equivalent rate (DER) gamma	0.01-70 μSv/h
Battery lifetime (under normal conditions)	1000 hours
PM1401MA SPECIFICATIONS	
Weight (with battery)	11.3 oz
Dimensions	4 5/8" x 2 1/4" x 1 1/4"
Dose equivalent rate (DER) gamma	0.01-99.99 μSv/h
Battery lifetime (under normal conditions)	1000 hours
PM1401GN SPECIFICATIONS	
Neutron detector type	He-3
Neutron energy range from thermal to	14.0 MeV
Weight (with battery)	15.5 oz
Dimensions	7 5/16" x 2 1/4" x 1 1/4"
Dose equivalent rate (DER) gamma	0.01-70 μSv/h
Dose equivalent rate (DER) neutron	1 99 s-1
Battery lifetime (under normal conditions)	up to 1000 hours
PM1401GNA SPECIFICATIONS	
Neutron detector type	He-3
Neutron energy range from thermal to	14.0 MeV
Weight (with battery)	15.5 oz
Dimensions	7 3/16" x 2 1/4" x 1 1/4"
Dose equivalent rate (DER) gamma	0.01-99.99 μSv/h
Dose equivalent rate (DER) neutron	0.01-999 s-1
Battery lifetime (under normal conditions)	up to 1000 hours hours
PM1401M/MA & PM1401GN/GNA SPECIFICATIONS	
Gamma detector type	CsI(Tl)
Gamma energy range	0.033-3.0 MeV
Sensitivity for gamma radiation:	
for Cs-137,no less	1.0 cps/(μR/h)
for Am-241,no less	0.7 cps/(μR/h)
Protection class	IP65
Measurement time	0.25 s
Accuracy of dose equivalent rate	±30%
Memory record capacity	1000
Alarm type	audio,vibration
Power supply	one AA battery
Battery discharge warning	LCD indication
Drop test on concrete floor	4.9 ft
Operating conditions:	

PM1401K Multipurpose Radiation Monitor and Radionuclide Identifier

Polimaster's PM1401K is a multipurpose hand-held radiation monitor that can identify a large library of isotopes. Now the first-responder has the ability to not only locate a source of suspicious radiation but within a few seconds can identify that source as medical, industrial, or weapons grade plus it identifies the radioisotope. It is easily clipped to the users belt and is capable of detecting gamma, neutron, alpha, and beta radiation sources. It also measures radiation and surface contamination levels.

The PM1401K is IRDA-compatible and Bluetooth-enabled and provides the user with several options for communicating internally stored data to a PC and the Nuclear Protection Network: a Polimaster proprietary system. Its compact design, light weight, and ease of operation make the PM1401K the ideal choice for law enforcement, emergency services personnel, customs and border patrol officers, and other first-responders.

Designed to comply with ANSI 42.33 (2) and 42.34 and IEC 846 standards

PRODUCT FEATURES

- No expertise necessary
- Easy-to-use, two-button operation
- Audio and vibrating alarms
- Non-volatile memory
- Memory retains up to 99 gamma spectra and 500 event histories
- Shockproof, hermetic case
- LCD screen with fluorescent backlight
- Pocket clip
- Small and light-weight
- IRDA compatible and Bluetooth enabled for PC communication

FUNCTIONS

- Detects gamma, neutron, alpha and beta radiation
- Measures the photon dose and the surface contamination factor
- Searches for and locates radiation sources
- Identifies radionuclide compounds
- Communicates with PCs and hand-held devices

PRODUCT SPECIFICATIONS

PM1401K SPECIFICATIONS	
Detector types	CsI(Tl)
Gamma energy range	0.06 3.0 MeV
Protection class	IP65
Weight (with battery)	22.9 oz
Dimensions	9 1/2" x 2 1/4" x 2 1/4"
Dose equivalent rate (DER)	0.01 μSv/h-10.0 Sv/h
Power supply	One AA battery
Battery lifetime (under normal conditions)	600 h
Battery discharge warning	LCD indication
Operating conditions:	
- temperature	-22 °F up to +122 °F
- relative humidity	up to 95%

USERS

- Customs and border protection
- First responders
- Emergency services
- Special forces
- Radiological and isotope laboratories