



DETEK, Inc.  
6805 Coolridge Drive  
Temple Hills, MD 20748-6940  
800-638-0554 FAX 301-449-7011  
www.detek.com sales@detek.com



# RA-500

RUGGED CAST ALUMINUM BELT WORN INSTRUMENT  
MEETS NRC 10 CFR 34.33 PERSONAL MONITORING



BELT LOOP  
OR CLIP  
AVAILABLE

OPTIONS: FOR USE IN HIGH NOISE AREAS, A SUN-BRIGHT 3,000 mcd LED IS INSTALLED ON TOP OF MONITOR. THE LED FLASHING LIGHT INTENSIFIES WITH RADIATION FIELD; AND/OR AN EARPHONE WITH EAR LOOP & 3 FT PLUG-IN CORD IS AVAILABLE. EXISTING MONITORS MAY BE RETROFITTED WITH THESE OPTIONS.



DETEK, Inc.  
 6805 Coolridge Drive  
 Temple Hills, MD 20748-6940  
 800-638-0554 FAX 301-449-7011  
 www.detek.com sales@detek.com

# RA-500

RUGGED CAST ALUMINUM BELT WORN INSTRUMENT  
 MEETS NRC 10 CFR 34.33 PERSONAL MONITORING

## FEATURES:

- DETECTS GAMMA AND X-RAY
- SYSTEM TEST INCLUDES BATTERY AND ALARM TEST
- ALARM OUTPUT IS 100 DECIBELS AT SIX INCHES
- RECESSED AND GUARD PROTECTED CONTROLS PROVIDE ADDITIONAL SAFETY MEASURES, PREVENTING ACCIDENTAL TURN-OFF WHEN IN USE AND PROVIDES DAMAGE PROTECTION
- EASY OPERATION, NO WARM UP TIME REQUIRED
- USES ONE 9 VOLT BATTERY
- EACH UNIT CALIBRATED AT FACTORY AND CERTIFIED FOR ONE YEAR
- OPTIONAL LED AND/OR EARPHONE FOR LOUD NOISE SITUATIONS

## SPECIFICATIONS

ENERGY RESPONSE.....GAMMA AND X-RAY FROM 80-1500 KeV, +/-20%

EXPOSURE RATE LIMIT.....IN EXCESS OF 1000 R/hr

ALARM OUTPUT.....SOLID STATE AUDIO-TONE TRANSDUCER EMITS 100 DB AT 6 INCHES.  
 AUDIO STARTS TO ACTIVATE AT 450 mR/hr EMITTING A LOUD CRACKLING SOUND. AS THE FIELD INTENSIFIES, THE ALARM BECOMES A SOLID TONE. ACCURACY IS +/- 20%

ENVIRONMENTAL EFFECTS.....HUMIDITY LIMITS: 0-99% NON-CONDENSING

TEMPERATURE LIMITS.....-30 DEGREES C to +50 DEGREES C (EXCLUDING BATTERY)

DETECTOR.....HALOGEN QUENCHED GEIGER MUELLER TUBE  
 EFFECTIVE LENGTH AND DIAMETER: 0.625 INCH x 0.194 INCH  
 WALL THICKNESS: 90 mg/cm SQUARED

CONTROLS.....ON/OFF SWITCH; BATTERY INDICATOR LIGHT;  
 AND BATTERY/AUDIO CHECK SWITCH

CALIBRATION CONTROLS.....A SINGLE 24 TURN POTENTIOMETER LOCATED NEAR BATTERY

CALIBRATION PRECISION.....WITHIN 10% WHEN CALIBRATED WITH Cs-137

BATTERY COMPLEMENT.....ONE 9 VOLT (NON-ALKALINE) EVEREADY OR EQUIVALENT INCLUDED

BATTERY LIFE.....APPROXIMATELY 6 MONTHS IN NORMAL USE. BATTERY LIFE IS SHORT-ENED WHEN ALARM IS ACTIVATED. FULL LOAD AT 500 mR/hr WITH CONSTANT ALARM, BATTERY LIFE IS 50 HOURS (ALKALINE).

DIMENSIONS.....2.5" WIDE x 4.25" LONG x 1.25" DEEP (EXCLUDING BELT LOOP)

WEIGHT.....8 OUNCES (INCLUDING BATTERY)



DETEK, Inc.  
6805 Coolridge Drive  
Temple Hills, MD 20748-6940  
800-638-0554 FAX 301-449-7011  
www.detek.com sales@detek.com

**ND-15**

**RUGGED CAST ALUMINUM BELT WORN INSTRUMENT  
DUAL-RANGE CONTINUOUS WARNING PERSONAL MONITOR**



**BELT LOOP  
OR CLIP  
AVAILABLE**

**OPTIONS: FOR USE IN HIGH NOISE AREAS, A SUN-BRIGHT 3,000 mcd LED IS INSTALLED ON TOP OF MONITOR. THE LED FLASHING LIGHT INTENSIFIES WITH RADIATION FIELD; AND/OR AN EARPHONE WITH EAR LOOP & 3 FT PLUG-IN CORD IS AVAILABLE. EXISTING MONITORS MAY BE RETROFITTED WITH THESE OPTIONS.**





DETEK, Inc.  
 6805 Coolridge Drive  
 Temple Hills, MD 20748-6940  
 800-638-0554 FAX 301-449-7011  
 www.detek.com sales@detek.com

**ND-15**

**RUGGED CAST ALUMINUM BELT WORN INSTRUMENT  
 DUAL-RANGE CONTINUOUS WARNING PERSONAL MONITOR**

**FEATURES:**

- DETECTS GAMMA AND X-RAY
- EMITS A SHORT CONSTANT-PITCH "CHIRP" WHICH VARIES FREQUENCY WHEN RADIATION INTENSIFIES
- DUAL-RANGE WITH HIGH/LOW SWITCH SETTINGS:  
 HIGH RANGE PRODUCES 60 CHIRPS PER MINUTE IN A 30 mR/hr FIELD, SOLID TONE @ 500 mR  
 LOW RANGE PRODUCES 60 CHIRPS PER MINUTE IN A 1 mR/hr FIELD, SOLID TONE @ 15 mR
- ALARM OUTPUT IS 100 DECIBLES AT SIX INCHES
- EASY OPERATION, NO WARM UP TIME REQUIRED
- USES ONE 9 VOLT BATTERY
- OPTIONAL LED AND/OR EARPHONE

**SPECIFICATIONS**

ENERGY RESPONSE.....GAMMA AND X-RAY FROM 80-1500 KeV, +/- 20%

EXPOSURE RATE LIMIT.....IN EXCESS OF 1000 R/hr

ALARM OUTPUT.....SOLID STATE AUDIO-TONE TRANSDUCER EMITS 100 DB AT 6 INCHES.  
 AUDIO EMITS A SHORT, CONSTANT CHIRPING NOISE WHICH BECOMES  
 A SOLID TONE AS RADIATION INTENSIFIES. ACCURACY IS +/- 20%

ENVIRONMENTAL EFFECTS.....HUMIDITY LIMITS: 0-99% NON-CONDENSING

TEMPERATURE LIMITS.....-30 DEGREES C to +50 DEGREES C (EXCLUDING BATTERY)

DETECTOR.....HALOGEN QUENCHED GEIGER MUELLER TUBE  
 EFFECTIVE LENGTH AND DIAMETER: 0.625 INCH x 0.194 INCH  
 WALL THICKNESS: 90 mg/cm SQUARED

CONTROLS.....ON/OFF AND HIGH/LOW SWITCHES  
 LOW RANGE: 60 CHIRPS PER MINUTE IN A 1 mR/hr FIELD  
 HIGH RANGE: 60 CHIRPS PER MINUTE IN A 30 mR/hr FIELD

CALIBRATION CONTROLS.....NONE, FACTORY SET

CALIBRATION PRECISION.....WITHIN 10% WHEN CALIBRATED WITH Cs-137

BATTERY COMPLEMENT.....ONE 9 VOLT (NON-ALKALINE) EVEREADY OR EQUIVALENT IS INCLUDED

BATTERY LIFE.....APPROXIMATELY 6 MONTHS IN NORMAL USE. BATTERY LIFE IS SHORT-  
 ENED WHEN ALARM IS ACTIVATED. FULL LOAD AT 500 mR/hr WITH  
 CONSTANT ALARM, BATTERY LIFE IS 50 HOURS (ALKALINE)

DIMENSIONS.....2.5" WIDE x 4.25" LONG x 1.25" DEEP (EXCLUDING BELT LOOP)

WEIGHT.....8.5 OUNCES/241 GRAMS (INCLUDING BATTERY)

# THE SENTRY EC

RADIATION ALERT® PERSONAL ALARMING  
RATE METER & DOSIMETER

y x



The Radiation Alert® Sentry EC is a Personal Alarming Dosimeter / Ratemeter designed to ensure the safety of personnel that work in occupations with potential x-ray or gamma exposure.

The pocket sized unit has an energy compensated tube for a linear response to gamma and built in memory for recording data points for tracking accumulated exposure. The SentryCom Software option enables you to generate incident reconstruction for analysis. The software also permits you to easily set the vibrating and audio alert to your desired levels for dose and dose rate.

Use the audio switch to choose between audible clicks with each count received or a discreet silent mode.

## Detector

Energy Compensated GM Tube

## Dose Rate Linearity

Better than  $\pm 15\%$  up to 15 R

## Energy Response

Down to 20 KeV

## Accuracy

Typically  $\pm 15\%$  of reading ( $\text{Cs}^{137}$ )

## Gamma Sensitivity

1.5 cps/mR/hr ( $\text{Co}^{60}$ )

## Switch Functions

Power, Vibrate & Audible Alert, Silent Vibrating Only Alert, and Audio Clicks On/Off

## Operating Range

Dose Rate: 0.1 - 15 R/hr

Accumulated Dose: 0.1 - 65 R

## Audible Alarms

Accumulated Dose & Dose Rate, 90db @ 1 ft.

## Alarm Thresholds

Default: Dose 500 mR/Rate 50 mR/hr

## Sievert Option:

Dose 5000  $\mu\text{Sv}$ /Rate 500  $\mu\text{Sv}$ /hr

Alarm and warning levels are user selectable with the optional SentryCom Software.

## Power Requirements

9-Volt Alkaline Battery. Approx. 1500 hrs. at normal background.

## Enclosure

Alodized Aluminum Housing w/ Metal Belt Clip

## Outputs

Mini-USB



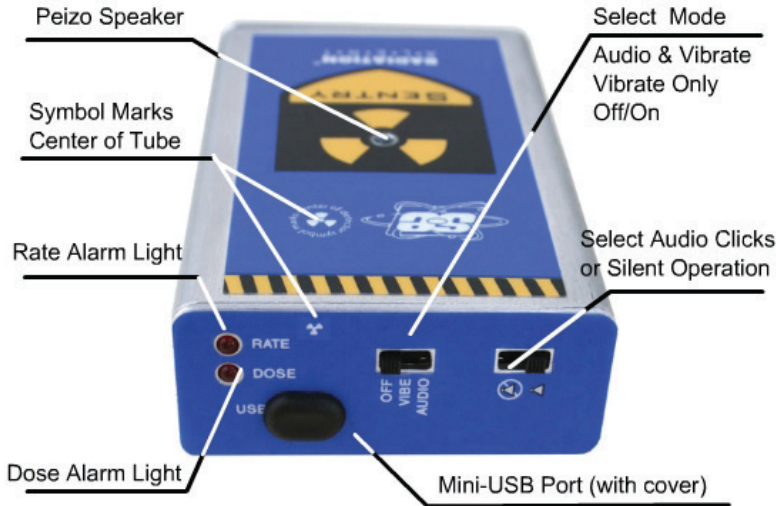
## DETEK, Inc.

6805 Coolridge Drive  
Temple Hills, MD 20748-6940

800-638-0554 FAX 301-449-7011  
www.detek.com sales@detek.com

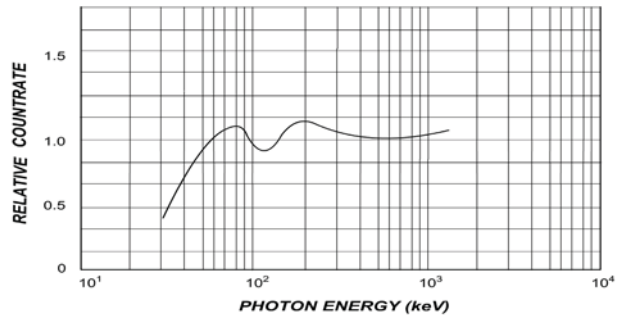
# THE SENTRY EC

RADIATION ALERT ® PERSONAL ALARMING RATE METER & DOSIMETER



The rugged Alodized Aluminum Housing protects the unit in tough industrial environments

Sentry USB Energy Compensated GM Energy Response



## Temperature Range

-20° - + 50°C (-4° - +122°F)

## Weight

228 g (8 oz)

## Size

106 x 67 x 28 mm (4.2 X 2.7 X 1.1 in)

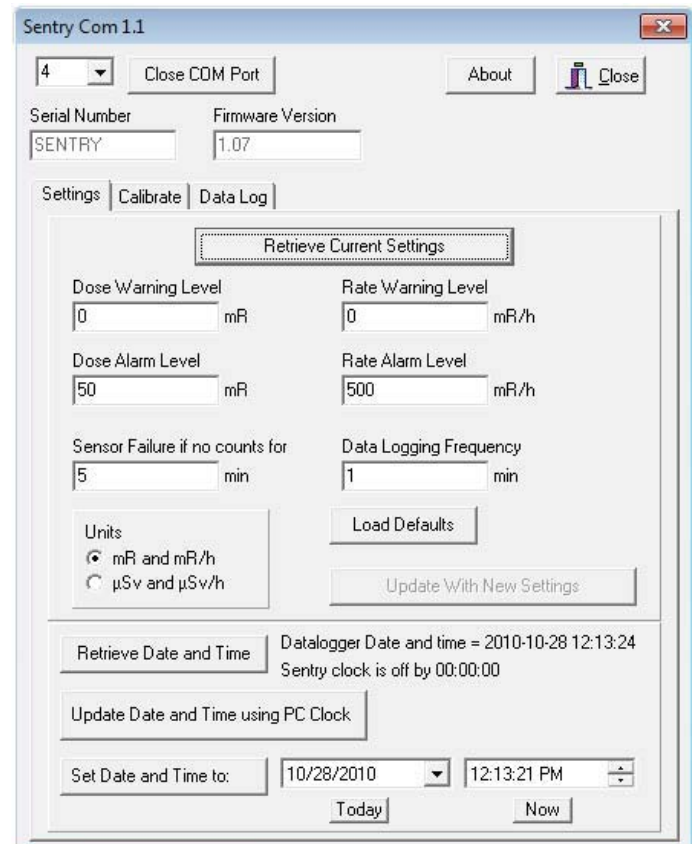
## Limited Warranty

1 year limited

## SentryCom Software

The optional SentryCom Software enables you to easily integrate The Sentry into your radiation safety program by allowing you to select the thresholds for dose and dose rate alarms/warnings. You can set the Cal Factor, and the data logging frequency, and download the accumulated dose data as a text file. The report includes a delimited time and date stamp, exposure, and power cycle identifiers for easy recording and incident analysis in most spreadsheet programs. Units of measurement can be changed between mR/hr and  $\mu$ Sv/hr to fit your application and reporting needs.

The SentryCom Software comes complete with mini-USB cable.



## DETEK, Inc.

6805 Coolridge Drive  
Temple Hills, MD 20748-6940

800-638-0554 FAX 301-449-7011  
www.detek.com sales@detek.com



# RAD-60

## Alarming Personal Dosimeter



The RADOS RAD-60 Personal Alarm Dosimeter is a precise and reliable instrument for ensuring the personal safety of the user. Ideally, the RAD-60 is used in everyday radiation monitoring, in stand-alone conditions. If your needs grow for a more sophisticated system, the RAD-60 can also be integrated into an Access Control System. The RAD-60 can be switched into System Mode, for the purpose of tracking Personnel Dose records and compliance reports.

### Detector

Energy compensated Si-Diode

### Button Functions

- change display (dose/dose rate)
- switch ON/OFF
- chirp ON/OFF
- reset integrated dose
- change alarm thresholds
- activate battery test

### Measurement Range

Dose: 1  $\mu$ Sv - 9.99 Sv or 0.1 mrem - 999 rem

### Energy Response

Hp(10), 60 keV - 3 MeV, better than + or - 25%, up to 6 MeV, better than + or - 35%

### Dose Rate

5  $\mu$ Sv/h - 3 Sv/h or 0.5 mrem/h - 300 rem/h

### Dose Rate Linearity

Better than + or - 15% up to 3 Sv/h (300 rem/h)

### Calibration

Better than + or - 5% (Cs-137, 662 keV at 2 mSv/h), Hp(10)

### Audible Alarms

Seven separate alarms, sound level typically better than 85 dBA at 30 cm

- integrated dose
- dose rate
- dose overflow
- dose rate overflow at 3 Sv/h or 300 rem/h
- low battery 1 and 2
- defect

### Alarm Thresholds

Six preset values each for integrated dose and dose rate-push button selection

### Connectors

Infrared communication via bottom of the dosimeter

### Power Requirements

One triple A alkaline cell, typical life is 1800 hours in background

### Temperature Range

-20 - + 50° C operational, humidity up to 90% RH, non-condensed

-20 - + 70° C storing

### Weight

80 g (including battery)

### Size

78 x 67 x 22 mm



## DETEK, Inc

6805 Coolridge Drive  
Temple Hills, MD 20748-6940

301-449-7300 FAX 301-449-7011

www.detek.com email: sales@detek.com



**RADIATION**  
**A•L•E•R•T**  
QUALITY HANDHELD DETECTORS

®

# Pen Dosimeters

$\gamma$  X 

*The advanced direct reading dosimeters are rugged, precision instruments. They are higher quality and have greater reliability than other dosimeters of this type. They measure and directly read, at any time, accumulated dose (quantity of gamma and x-ray exposure). PEN dosimeters are designed to satisfy military specifications for the RADIAC METER IM-264/PD and ANSI N 13.5 and N322 requirements. A sturdy metal clip attaches the dosimeter to a pocket or any object to monitor total radiation exposure. They are hermetically sealed and immersion proof.*



## Exposure Range (gamma and x-rays)

PEN200mR Scale increments of 10mR  
PEN500mR Scale increments of 20mR  
PEN2R increments of 100 mR  
PEN5R increments of 200mR  
PEN20R increments of 1R  
PEN2mSv increments of .1mSv  
PEN5mSv increments of .2mSv  
National Stock Numbers Available

## Energy Dependence

$\pm 10\%$  maximum change in sensitivity for x and gamma ray energies from 16 keV to 8 MeV.

## Electrical Leakage

In the absence of radiation, the dosimeters leakage or self discharge is less than 0.5% of full scale in 24 hours at 50° C. At 20° C dosimeters will read background radiation. After gross over exposure totaling up to 2000 R the leakage is less than 5% of full scale in 48 hours at 20° C. Thereafter, the leakage will decrease to original values.

## Charging Voltage

Dosimeters are capable of being charged to "zero" with 140 to 195 volts.

## Accuracy

$\pm 10\%$  of true dose for Cs-137 or Co-60 gamma.

## Enclosure Material

Barrel - carbon fiber-filled, high-strength, electrically-conducting plastic with metal clip.

## Weight

Approx. 19 grams (0.7 oz.)

## Size

PEN- 200, 500, 2mSv, 5mSv Length: 11 cm (4.48 in)

Diameter: 1.5 cm (0.6 inches)

PEN- 2, 5, 20 Length: 11.5 cm (4.52 in)

Diameter: 1.5 cm (0.6 in)

## Options

Protective sapphire lens

## Warranty

2 yr limited warranty



Dosimeter  
Charger



**RADIATION**<sup>®</sup>  
**A · L · E · R · T**  
QUALITY HANDHELD DETECTORS



**DETEK, Inc**

6805 Coolridge Drive  
Temple Hills, MD 20748-6940

301-449-7300

FAX 301-449-7011

www.detek.com

email: sales@detek.co



# The Charger

**Piezo Powered Dosimeter Charger**



The patented, handheld Charger can charge a variety of direct-reading dosimeters by simply squeezing the lever of a generator. The Charger requires no batteries. By pulling a trigger, a dosimeter is easily placed in or removed from the charger. The clamping action holds the dosimeter for you. NSN# 6665-00-856-8813 - CD V-750 Model 6

## **Power**

15,000 volt piezoelectric generator.

## **Discharge Bulb**

Flashes to indicate the instrument is operational.

## **Clamping Mechanism**

Spring loaded, adjustable and self locking. All metal parts are stainless steel.

## **Temperature Range**

-20° to +50°C (-4° to +122°F).

## **Humidity Range**

0 to 90% Relative Humidity.

## **Weight**

243 g (8.6 oz.).

## **Size**

152 x 108 x 22 mm (6 x 4.2 x .87 in.)

## **Limited Warranty**

1 year limited warranty.



## **DETEK, Inc.**

6805 Coolridge Drive  
Temple Hills, MD 20748-6940

800-638-0554 FAX 301-449-7011  
www.detek.com sales@detek.com



DETEK, Inc.

6805 Coolridge Drive  
Temple Hills, MD 20748-6940

800-638-0554 FAX 301-449-7011  
www.detek.com sales@detek.com



# ND-100

## DIRECT READING DOSIMETER CHARGER





DETEK, Inc.  
 6805 Coolridge Drive  
 Temple Hills, MD 20748-6940  
 800-638-0554 FAX 301-449-7011  
 www.detek.com sales@detek.com

# ND-100L & ND-100

DIRECT READING DOSIMETER CHARGERS

## FEATURES:

- DURABLE DIE CAST ALUMINUM CASE WITH FOUR RUBBER FEET
- DOSIMETER CHARGERS HAVE A SAFETY SPRING IN CHARGING SOCKET PREVENTING DAMAGE TO DOSIMETER IF EXCESSIVE PRESSURE IS USED WHEN CHARGING
- THE ND-100 CHARGER USES A BRIGHT 2.47V BULB THEREBY ENABLING A BETTER VIEW OF THE DOSIMETER SCALE
- MODEL ND-100L OFFERS A BRIGHT L.E.D. SOURCE RATHER THAN THE ABOVE BULB. NEVER CHANGE A BULB AGAIN WITH A LIFE OVER 100,000 HOURS. THIS MODEL OPERATES ON ONLY 2 "AA" CELL 1.5V BATTERIES (ALK OR CARBON ZINC).
- DOSIMETER CHARGERS ARE COMPATIBLE WITH ALL DOSIMETERS MANUFACTURED.
- MODEL ND-100 USES 2 "C" CELL BATTERIES, ALKALINE ONLY.

## SPECIFICATIONS

- VOLTAGE.....100 to 300 VOLTS
- CONTROLS.....NO OFF/ON SWITCH; POWER ACTIVATED BY CONTACT WITH DOSIMETER. POWER CONTROL POTENTIOMETER ADJUSTS THE DOSIMETER HAIRLINE
- TEMPERATURE LIMITS.....-30 DEGREES C TO +50 DEGREES C (EXCLUDING BATTERIES)
- ENVIRONMENTAL EFFECTS.....HUMIDITY LIMITS: 0-99% NON-CONDENSING
- BATTERY COMPLEMENT.....2 "C" CELL 1.5V EVEREADY OR EQUIVALENT INCLUDED DO NOT USE ALKALINE BATTERIES
- BATTERY LIFE.....CAPABLE OF RECHARGING DOSIMETERS THOUSANDS OF TIMES BEFORE REPLACEMENT IS NECESSARY
- DIMENSIONS.....4.6 INCHES LONG x 3.6 INCHES WIDE x 3.4 INCHES HIGH (INCLUDES RUBBER FEET)
- WEIGHT.....1 POUNDS, 3 OUNCES/ 539 GRAMS (INCLUDING BATTERIES)



# Pressurized $\mu$ R Ion Chamber Survey Meter

Victoreen® Model 451P



## Introduction

The Model 451P state-of-the-art ion chamber survey meter is a hand-held battery operated unit designed for use in both rugged and normal environments. The Model 451P features a pressurized ionization chamber, providing enhanced sensitivity and improving energy response to measure gamma and x-ray radiation. The Model 451P employs microprocessor and LCD technology. The ergonomic handle, features a large diameter cushioned grip and is designed to reduce fatigue associated with extended use. The case is constructed of lightweight, high strength materials and is sealed against moisture. The user must specify R or Sv when ordering.

The display features an analog bar graph, 2.5 digit digital readout, low battery and freeze mode indicators. User controls consist of an ON/OFF button and a MODE button. The unit is auto-zeroing and auto-ranging. The display features circuitry that automatically activates the backlight in low ambient light conditions.

The RS-232 interface can be connected directly to a computer for use with the Excel add-in for Windows, enhancing the functionality of the instrument. The software allows for data retrieval, user parameter selection and provides a virtual instrument display with audible (requires sound card) and visual alarm indication. The software may be customized by the user for specific applications.

## Applications

The Model 451P is used in a wide range of medical and health physics applications. The Model 451P was designed to measure leakage and scatter around diagnostic x-ray and radiation therapy suites. Also, the Model 451P is ideal for site surveys and is regularly used by x-ray manufacturers, government agencies, state inspectors, research labs, biomedical technicians, and in airports for baggage inspection equipment maintenance.

RS

Radiation Safety

- High sensitivity  $\mu$ R measurements of exposure and exposure rate
- Available with dose equivalent energy response (SI units)
- Fast response to measure radiation from leakage, scatter beams and pinholes
- Ergonomic, anti-fatigue handle with replaceable grip and wrist strap
- Excel add-in for Windows® for data logging and selection of instrument operating parameters (optional)
- Low noise chamber bias supply for fast background reading
- Bright, highly visible colors
- Easy touch keys

## Features

- Ideal for a wide range of applications including NDT, x-ray, and environmental
- Battery operated
- Auto-ranging and auto-zeroing
- RS-232 communications interface
- Measures rate and dose simultaneously
- Tripod mount for stationary, area monitor applications
- Freeze mode indicates peak reading
- Programmable flashing display
- Automatic, ultra-bright LCD display
- Separate integrate mode
- Excel add-in for Windows (optional)



**DETEK, Inc**

6805 Coolridge Drive  
Temple Hills, MD 20748-6940  
301-449-7300 FAX 301-449-7011  
www.detek.com email: sales@detek.com

## Specifications

**Radiation detected** Beta above 1 MeV, Gamma and x-rays above 25 keV

### Operating ranges

0 to 500 µR/h	or	0 to 5 µSv/h
0 to 5 mR/h	or	0 to 50 µSv/h
0 to 50 mR/h	or	0 to 500 µSv/h
0 to 500 mR/h	or	0 to 5 mSv/h
0 to 5 R/h	or	0 to 50 mSv/h

**Accuracy** Within 10% of reading between 10% and 100% of full scale indication on any range, exclusive of energy response. Calibration source is <sup>137</sup>Cs

**Detector Chamber:** 300 cc volume pressurized air ionization chamber to 8 atmospheres or 125 psi

**Controls** ON/OFF and MODE

**Automatic features** Auto-zeroing, auto-ranging, and auto-backlight

**Response time** Analog response time from 10% to 90% of reading for a full scale step increase is dependent on operating range. Response time for a step increase in radiation exposure rate from background:

Step increase, background to	Time to reach 90% of final value
400 µR/h	4.8 sec
4 mR/h	3.3 sec
10 mR/h	4.3 sec
40 mR/h	4.5 sec
100 mR/h	2.7 sec
1 R/h	2 sec
4 R/h	2.7 sec

The following table shows time measured from 10% to 90% of final value for a step increase or decrease in exposure rate such that a range change does not occur. These values are the response times for the various ranges:

Range	10% to 90%
0 to 500 µR/h (5 µSv/h)	5 sec
0 to 5 mR/h (50 µSv/h)	2 sec
0 to 50 mR/h (500 µSv/h)	1.8 sec
0 to 500 mR/h (5 mSv/h)	1.8 sec
0 to 5 R/h (50 mSv/h)	1.8 sec

**Power requirements** Two 9 V alkaline, 200 hours operation

**Warm-up time** Less than two minutes for initial operation when the instrument is in equilibrium with ambient temperature

### Display LCD analog/digital with backlight

**Analog** 100 element bar graph 2.5 inch (6.4 cm) long. Bar graph is divided into five major segments, each labeled with the appropriate value for the range of the instrument

**Digital** 2.5 digit display is followed by a significant zero digit depending on the operating range of the instrument. The units of measurement are indicated on the display at all times. Digits are 0.25 inches (6.4 mm) high. Low battery and freeze indicators are also provided on the display

## Modes

**Integrate mode** Operates continuously 30 seconds after the instrument has been turned on. Integration is performed even if the instrument is displaying in mR/h or R/h

**Freeze mode** Will place a tick mark on the bar graph display to hold on the peak displayed value. The unit will continue to read and display current radiation values

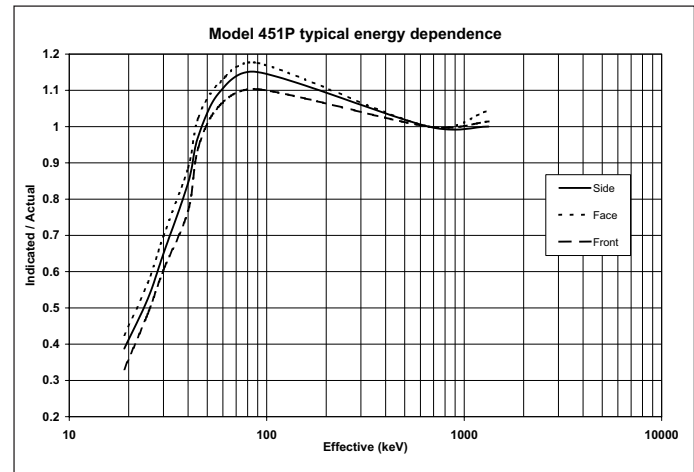
## Environmental

**Temperature range** - 4° to + 122°F (- 20° to + 50°C)

**Relative humidity** 0 to 100%

**Geotropism** Negligible

**Typical energy dependence** <sup>16</sup>Nitrogen gamma rays are 110% to 120% of indicated readings as determined at the University of Lowell



**Dimensions** 4 (w) x 8 (d) x 6 in (h) (10 x 20 x 15 cm)

**Weight** 2.4 lb (1.07 kg)

### Optional accessories

**451 Assistant for Excel** (Model 451EXL), includes RS-232 interface cable

**Single Unit Carrying Case** (Model 190HPS)

**Check Source, <sup>137</sup>Cs, 10 µCi. Flat disc, 1 inch diameter** (Model 62-103)

### Available model(s)

**451P-RYR** Pressurized µR Ion Chamber Survey Meter with standard chamber

**451P-DE-SI-RYR** Pressurized µR Ion Chamber Survey Meter with dose equivalent chamber

**CE Tested. Meets applicable standards.**

For more information, receive our full product catalog, or order online, contact **Radiation Management Services** business of **Fluke Biomedical**: 440.248.9300 or [www.flukebiomedical.com/rms](http://www.flukebiomedical.com/rms).

*Specifications are subject to change without notice.*

©2005 Fluke Biomedical. All rights reserved. Victoreen is a trademark of Fluke Corporation. Windows is a trademark of Microsoft Corporation. Printed in USA.  
451P-ds rev 5 15 jun 05



# DETEK, Inc

6805 Coolridge Drive  
Temple Hills, MD 20748-6940

301-449-7300 FAX 301-449-7011  
[www.detek.com](http://www.detek.com) email: [sales@detek.com](mailto:sales@detek.com)



DETEK, Inc.  
6805 Coolridge Drive  
Temple Hills, MD 20748-6940  
800-638-0554 FAX 301-449-7011  
www.detek.com sales@detek.com



# ND-2000

3 RANGE, 0-1000 MR/HR  
WATERPROOF RADIOGRAPHIC SURVEY METER







DETEK, Inc.  
 6805 Coolridge Drive  
 Temple Hills, MD 20748-6940  
 800-638-0554 FAX 301-449-7011  
 www.detek.com sales@detek.com

# ND-2000

3 RANGE, 0-1000 MR/HR  
 WATERPROOF RADIOGRAPHIC SURVEY METER

## FEATURES:

- DETECTS GAMMA AND X-RAY
- RUGGED, WATERPROOF, DUSTPROOF, NYLON REINFORCED FIBERGLASS CASE
- DROP TESTED FROM A DISTANCE OF 1 METER (ONTO CONCRETE) IN EXCESS OF 20 TIMES WITH NO DAMAGE OR FAILURES.
- BATTERY/HIGH VOLTAGE TEST POSITION ON RANGE SWITCH
- LARGE, RUGGEDIZED, METAL, 3.5 INCH METER INDICATOR
- USES 2 "D" CELL BATTERIES PROVIDING OVER 300 HRS OF CONTINUOUS USE (ALKALINE)
- FULLY TRANSISTORIZED
- REGULATED HIGH AND LOW VOLTAGE
- OPTIONAL AUDIBLE SPEAKER WITH OFF-ON SWITCH FOR AURAL MONITORING (ND-2000A)
- OPTIONAL GAMMA REMOTE PROBE WITH CABLE AVAILABLE (ND-2000P)

## SPECIFICATIONS

RANGES - DUAL SCALE.....	0 - 1000, 0 - 100, 0 - 10 mR/hr 0-10,000; 0-1,000; 0-100 uSv/hr
EFFICIENCY.....	WITHIN 10% OF FULL SCALE AT STANDARD TEMPERATURE OVER OPERATING RANGE
ENERGY RESPONSE.....	GAMMA AND X-RAY FROM 80-1500 KeV, +/- 20%
SATURATION.....	IN EXCESS OF 1000 R/HR WHEN CALIBRATED AND PROPERLY MAINTAINED
ENVIRONMENTAL EFFECTS.....	HUMIDITY LIMITS: 0-99% NON-CONDENSING
TEMPERATURE LIMITS.....	-30 DEGREES C to +50 DEGREES C (EXCLUDING BATTERIES)
DETECTOR.....	HALOGEN QUENCHED, ENERGY COMPENSATED GEIGER MUELLER TUBE EFFECTIVE LENGTH AND DIAMETER: 0.625 INCH x 0.194 INCH WALL THICKNESS: 90 mg/cm SQUARED
CONTROLS.....	5 POSITION ROTARY RANGE SWITCH: OFF; X-100; X-10; X-1; and BATTERY/HIGH VOLTAGE TEST
CALIBRATION CONTROLS.....	INDIVIDUAL POTENTIOMETERS FOR ADJUSTMENT OF EACH RANGE
CALIBRATION PRECISION.....	WITHIN 10% WHEN CALIBRATED WITH Cs-137
RESPONSE TIME.....	90% OF FINAL READING WITHIN 10 SECONDS
GEOTROPISIM.....	WITHIN 2% OF FULL SCALE IN ANY ORIENTATION
DIMENSIONS.....	4.4 INCHES WIDE x 7.75 INCHES LONG x 6.25 INCHES HIGH (INCLUDES HANDLE)
WEIGHT.....	3 POUNDS, 13 OUNCES/1.73 KILOGRAMS (INCLUDING BATTERIES)

# Monitor 4 & 4EC

OPTIONAL MINI-USB WITH OBSERVER SOFTWARE AVAILABLE

a  $\beta$  y x



The M4 and M4EC are compact, ergonomic, general purpose survey meters capable of detecting alpha, beta, gamma, and x-rays over 3 selectable ranges. A red count light flashes and a beep sounds with each event detected. The Monitor 4EC offers a more linear reading for gamma and x-rays (above 40 keV).

## Detector

*Monitor 4:* Halogen-quenched uncompensated GM tube with thin mica window 1.5-2.0 mg/cm<sup>2</sup> thick.

*Monitor 4EC:* Halogen-quenched GM tube, energy compensated sidewall 2mm tin filter. Thin mica window 1.5-2.0 mg/cm<sup>2</sup> thick.

## Energy Sensitivity

1000 CPM/mR/hr (Cs<sup>137</sup>). 4EC is the same as M4 except the energy response for gamma and x-rays through the detector sidewall is flat within +61% or -26% over the range of 40 keV to 100 keV, and within +35% or -17% over the range of 100 keV to 1.3 MeV.

## Operating Range

0-.5, 0-5, 0-50 mR/hr

0-500, 0-5,000, 0-50,000 CPM or

0-5, 0-50, 0-500  $\mu$ Sv/hr (SI Scale Meter Option)

## Accuracy

Typically  $\pm$ 15% of reading (Cs<sup>137</sup>)

## Display

Analog Meter holds full scale in fields as high as 100X maximum reading. CPM & mR/hr scale. Optional SI Scale Meter Available



M4 with CPM & mR/hr meter scale



## DETEK, Inc.

6805 Coolridge Drive

Temple Hills, MD 20748-6940

800-638-0554 FAX 301-449-7011

www.detek.com sales@detek.com

# Monitor 4 & 4EC

OPTIONAL MINI-USB WITH OBSERVER  
SOFTWARE AVAILABLE

## Audio Indicator

Internally mounted beeper

## Power Requirements

9-volt alkaline approx. to 2,000 hrs at background

## Temperature Range

-20° to 55°C (-4° to 131°F).

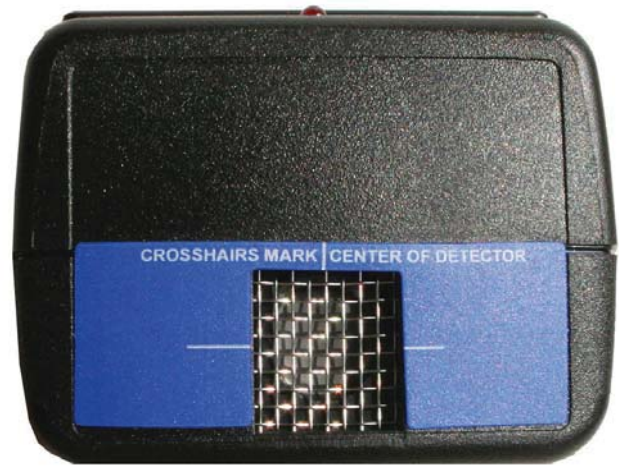
## Weight

M4: 200 g (7.1 oz)

M4EC: 224 g (7.9 oz)

## Outputs

Dual miniature jack drives CMOS or TTL devices: count to computer or datalogger. Submini jack input allows for electronic calibration. USB versions of the M4 and M4EC have a mini-USB jack for use with the USB Observer Software.



The end window of the M4 and M4EC

## Size

209 x 71 x 50 mm (8.2 x 2.8 x 1.9 in.)

## Includes

Carrying Case w/ Belt Clip

## Options

SI Meter Option, Observer Software, Mini-USB Option with USB Observer Software

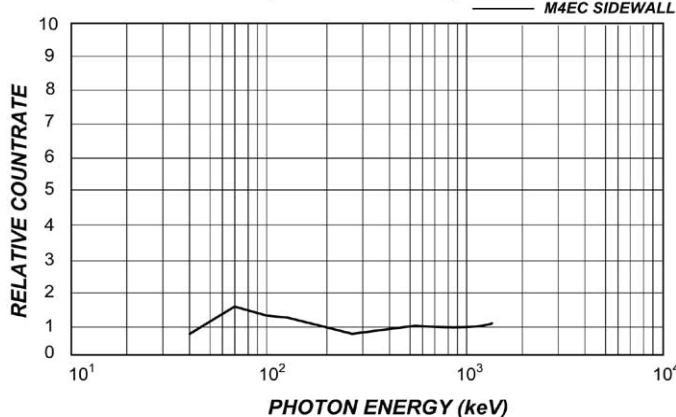
## Limited Warranty

1 year limited warranty

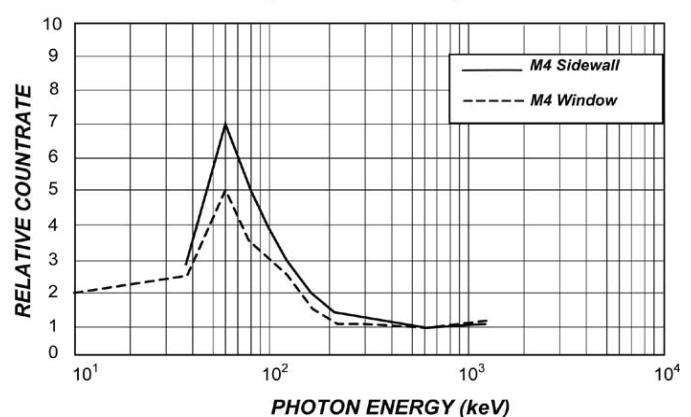


Optional SI Meter Scale: 0-500 µSv/hr & 0-50 mR/hr

ENERGY RESPONSE  
(Relative to Cs-137)



ENERGY RESPONSE  
(Relative to Cs-137)



DETEK, Inc.

6805 Coolridge Drive  
Temple Hills, MD 20748-6940

800-638-0554 FAX 301-449-7011  
www.detek.com sales@detek.com



# RADIATION ALERT™

# Monitor 200

a β γ x

FORMERLY THE  
**Digilert 200**



Formerly the Digilert 200, The Monitor 200 measures alpha, beta, gamma, and x-rays. Its digital display shows readings in your choice of CPM, CPS,  $\mu\text{Sv/hr}$ ,  $\text{mR/hr}$ , or in accumulated counts. It has a digital display, a red count light, and a beeper that sounds with each count detected. Other features include an adjustable timer, and selectable alert. With the free Observer USB Software Family, you can set computer alarms, calibrate your instrument, and download your collected data from the internal memory for easy reporting!

### Detector

Halogen-quenched GM tube with thin mica end window. Mica window density 1.5-2.0  $\text{mg/cm}^2$ . Effective window diameter is .360 inch. Side wall is .012 inch thick.

### Operating Range

$\text{mR/hr}$  - .001 ( $1\mu\text{R}$ ) to 200  $\text{mR/hr}$

$\mu\text{Sv/hr}$  - .01 to 2000

CPM - 0 to 214,000

CPS - 0 to 3575

Total/ Timer - 1 to 9,999,000 counts

### Accuracy

Typically  $\pm 15\%$  of reading.  $\pm 10\%$  typical (NIST)

### Alarm

Internally mounted beeper  
(can be switched off for silent operation)

### Count Light

Red LED flashes with each count.

### Outputs

USB for Observer USB Software Family

### Size

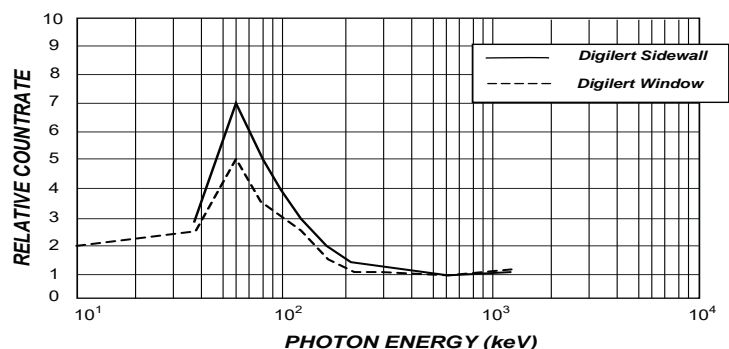
140 X 68 X 33 mm (3.5 X 2.7 X 1.3 in.)

### Energy Sensitivity

1070 CPM/ $\text{mR/hr}$  referenced to  $\text{Cs}^{137}$

- Detects alpha down to 2.5 MeV; typical detection efficiency at 3.6 MeV is greater than 80%.
- Detects beta at 50 keV with typical 35% detection efficiency.
- Detects beta at 150 keV with typical 75% detection efficiency.
- Detects gamma and x-rays down to 10 keV typical through the window, 40 keV minimum through the case.

ENERGY RESPONSE  
(Relative to  $\text{Cs}^{137}$ )



6805 COOLRIDGE DR ■ TEMPLE HILLS MD 20748  
301-449-7300 ■ 800-638-0554 ■ FAX 301-449-7011  
EMAIL: [sales@detek.com](mailto:sales@detek.com)

# RADIATION ALERT™ Monitor 200

## Display

Backlit Graphic LCD

## Audio Indicator

Sounds with each count (can be switched off for silent operation)

## Anti-Saturation

Readout will hold at full scale in radiation fields as high as 100 times the maximum reading.

## Power Requirements

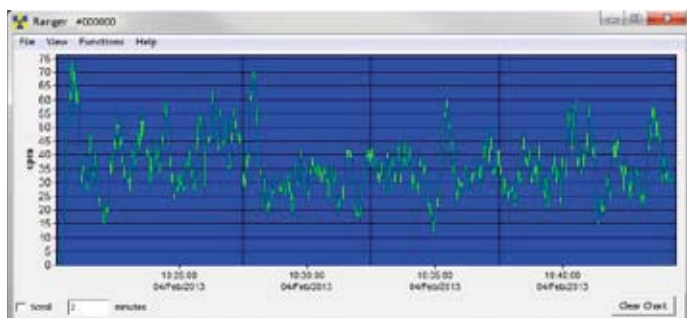
2 AA alkaline batteries

## Includes

Carrying Case, Xtreme Boot, Stand, Mini-USB Cable, Observer USB Software Download, Certificate of Conformance

## Limited Warranty

1 year limited warranty



USB Observer Software collects data stored in the internal memory of The Monitor 200



Ruggedized boot and Stand Included

		
	Monitor 200	Digilert 200
		
a B y x	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Alert	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Internal Memory	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Included Protective Boot	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Included Stand	<input checked="" type="checkbox"/>	<input type="checkbox"/>
GM Detector	Internal	Internal
mR/hr	.001(1µR) to 200	.001(1µR) to 200
µSv/hr	-.01 to 2000	-.01 to 2000
mSv/hr	n/a	n/a
Counts Per Minute	0 to 214,000	0 to 214,000
Counts per Second	0 to 3575	0 to 3575

6805 COOLRIDGE DR ■ TEMPLE HILLS MD 20748  
301-449-7300 ■ 800-638-0554 ■ FAX 301-449-7011  
EMAIL: sales@detek.com

# RADIATION ALERT™

# Ranger

a B y x

SEI FORMERLY THE usb Inspector



Formerly the SEI Inspector USB, The Ranger offers maximum performance in a lightweight, rugged solution for surveying at the facility or in the field. The Ranger has been designed for industrial environments, but it still has all of the features you've come to love in the lab. The Ranger is a small, handheld, microprocessor-based instrument which offers excellent sensitivity to low levels of alpha, beta, gamma, and x-rays and has built in efficiencies for common isotopes to calculate activity in Bq and DPM. It has a backlit digital display, a red count light, and a beeper that sounds with each count detected. Other features include selectable alert levels, an adjustable timer, and an optional wipe test plate for swipes. Internal memory and the free Observer USB Software that allows you to download your data, set computer alarms, and calibrate your instrument!

### Detector

Internal Halogen-quenched, uncompensated GM tube with thin mica window, 1.4-2.0 mg/cm<sup>2</sup> areal density. Effective diameter of window is 45 mm (1.77 in.). Radiation symbol on front label marks the center of the detector.

### Averaging Periods

Display will update every 3 seconds. At low background levels, the update is the moving average for the past 30-second time period. The timed period for the moving average decreases as the radiation level increases.

### Operating Range

mR/hr - .001 (1µR) to 100 CPM - 0 to 350,000  
 µSv/hr - .01 to 1000 CPS - 0 to 5000  
 Total/ Timer - 1 to 9,999,000 counts

### Accuracy

(Referenced to Cs137) Typically ±15% from factory, ±10% with NIST Source Calibration

### Size

140 X 68 X 33 mm (3.5 X 2.7 X 1.3 in.)

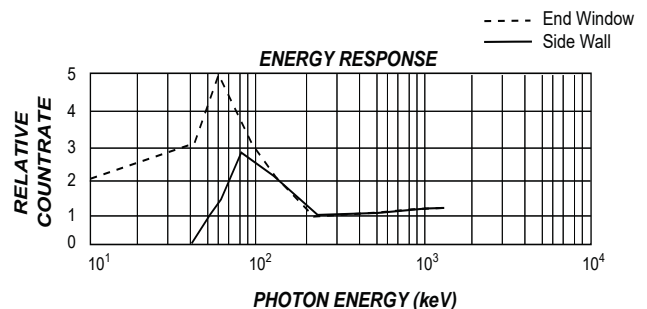
### Energy Sensitivity

3340 CPM/mR/hr referenced to Cs<sup>137</sup>

- Detects Alpha down to 2 MeV.
- Detects Beta down to .16 MeV; typical detection efficiency at 1 MeV is approx. 25%.
- Detects Gamma down to 10 KeV through the end window. Smallest detectable level for I<sup>125</sup> is .02 µCi at contact.

### Built-In Efficiencies

<sup>5</sup>Sulfur (S35), <sup>90</sup>Strontium (Sr/y90), <sup>137</sup>Cesium (Cs137), <sup>32</sup>Phosphorus (P32), <sup>14</sup>Carbon (C14), <sup>131</sup>Iodine (I131), <sup>60</sup>Cobalt (Co60), and Alpha



6805 COOLRIDGE DR ■ TEMPLE HILLS MD 20748  
 301-449-7300 ■ 800-638-0554 ■ FAX 301-449-7011  
 EMAIL: sales@detek.com



# RADIATION ALERT™ *Ranger*

## Display

Backlit Graphic LCD with Backlight

## Count Light

Red LED flashes with each radiation event.

## Alert Set Range

mR/hr .001 - 50 and CPM 1 - 160,000. 70db @ 1m.

## Alarm Indicator

Internally mounted beeper

(can be switched off for silent operation)

## Outputs

USB for use with Observer USB Software Family

## Anti-Saturation

Meter will hold at full scale in fields as high as 100 times the maximum reading.

## Power Requirements

Two AA alkaline batteries

## Includes

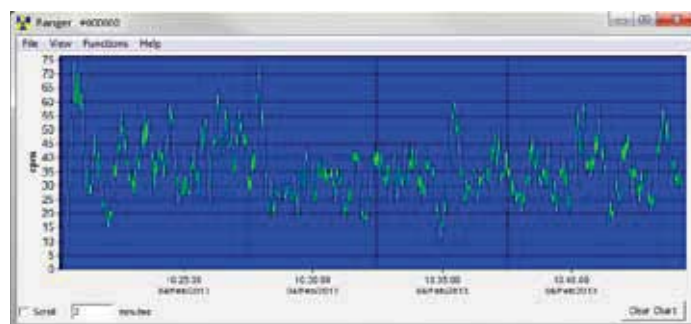
Carrying Case, Xtreme Boot, Stand, Mini-USB Cable, Observer USB Software Download, Certificate of Conformance

## Options

Wipe Test Plate, Swipes, NIST Calibration

## Limited Warranty

1 year limited



USB Observer Software collects data stored in the internal memory of The Radiation Alert Ranger



Ruggedized boot and Stand Included



View of Back



Wipe Test Plate

6805 COOLRIDGE DR ■ TEMPLE HILLS MD 20748  
301-449-7300 ■ 800-638-0554 ■ FAX 301-449-7011  
EMAIL: sales@detek.com

# RADIATION ALERT™

# Ranger EXP

a B y x

FORMERLY THE  
**SEI RADIATION ALERT**  
**Inspector EXP**



Formerly the SEI Inspector EXP, The Ranger EXP offers maximum performance in a lightweight, rugged solution for using your survey meter in the field. The Ranger EXP is designed specifically for individuals operating in tough environments. The small, handheld unit offers excellent sensitivity to low levels of alpha, beta, gamma, and x-rays. The digital readout is displayed with a red count light and a beeper sounds with each count detected. Other features include an adjustable timer, selectable alert, and with the free Observer USB Software Family, you can download your collected data, set alarms, and calibrate your meter!

### Detector

RAP-RS1 Probe - External Halogen-quenched, uncompensated GM tube with thin mica window, 1.4-2.0 mg/cm<sup>2</sup> areal density. Effective diameter of window is 45 mm (1.75 in.).

### Operating Range

mR/hr - .001 (1μR) to 100 CPM - 0 to 350,000  
 μSv/hr - .01 to 1000 CPS - 0 to 5000  
 Total/Timer - 1 to 9,999,000 counts

### Accuracy

(Referenced to Cs137) Typically ±15% from factory, ±10% with NIST Source Calibration

### Energy Sensitivity

3340 CPM/mR/hr referenced to Cs<sup>137</sup>

- Detects Alpha down to 2 MeV.
- Detects Beta down to .16 MeV; typical detection efficiency at 1 MeV is approx. 25%.
- Detects Gamma down to 10 KeV through the end window.
- Smallest detectable level for I<sup>125</sup> is .02 μCi at contact.

### Display

Graphic LCD with Backlight

### Alert Set Range

mR/hr .001 - 100 and CPM 1 - 350,000.  
 70db @ 1m.

### Count Light

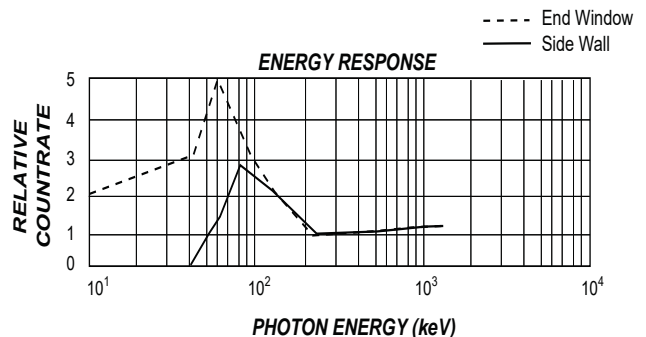
Red LED flashes with each radiation event.

### Audio Indicator

Internally mounted beeper  
 (can be switched off for silent operation)

### Built-In Efficiencies

<sup>55</sup>Sulfur (S35), <sup>90</sup>Strontium (Sr/y90), <sup>137</sup>Cesium (Cs137), <sup>32</sup>Phosphorus (P32), <sup>14</sup>Carbon (C14), <sup>131</sup>Iodine (I131), <sup>60</sup>Cobalt (Co60), and Alpha



6805 COOLRIDGE DR ■ TEMPLE HILLS MD 20748  
 301-449-7300 ■ 800-638-0554 ■ FAX 301-449-7011  
 EMAIL: sales@detek.com

# RADIATIONALERT™ Ranger<sup>EXP</sup>

## Size

140 X 68 X 33 mm (3.5 X 2.7 X 1.3 in.)

Probe: 260 X 70 X 25 mm (10.25 X 2.75 X 1 in)

## Outputs

USB for use with Observer USB Software Family

## Anti-Saturation

Meter will hold at full scale in fields as high as 100 times the maximum reading.

## Power Requirements

Two AA alkaline batteries.

## Includes

Carrying Case, Xtreme Boot, Stand, Mini-USB Cable, Observer USB Software Download, Certificate of Conformance

## Limited Warranty

1 year limited warranty



						
	Monitor 200	Digilert 200	The Ranger	SEI Inspector USB	The Ranger EXP	SEI Inspector EXP
a B y x	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Alert	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Internal Memory	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Free Observer USB	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
GM Detector	Internal	Internal	Internal	Internal	External	External
Included Protective Boot	<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>	
mR/hr	.001(1µR) to 200	.001(1µR) to 200			.001(1µR) to 100	
µSv/hr	-.01 to 2000	-.01 to 2000			.01 to 1000	
mSv/hr	n/a	n/a			n/a	
Counts Per Minute	0 to 214,000	0 to 214,000			0 to 350,000	
Counts per Second	0 to 3575	0 to 3575			0 to 5000	

6805 COOLRIDGE DR ■ TEMPLE HILLS MD 20748  
 301-449-7300 ■ 800-638-0554 ■ FAX 301-449-7011  
 EMAIL: sales@detek.com





DETEK, Inc.  
 6805 Coolridge Drive  
 Temple Hills, MD 20748-6940  
 800-638-0554 FAX 301-449-7011  
 www.detek.com sales@detek.com



# ND-4000

ECONOMICAL AREA MONITOR  
 12V DC PORTABLE WITH BATTERY AND BATTERY CHARGER





DETEK, Inc.  
 6805 Coolridge Drive  
 Temple Hills, MD 20748-6940  
 800-638-0554 FAX 301-449-7011  
 www.detek.com sales@detek.com

# ND-4000

ECONOMICAL AREA MONITOR  
 12V DC PORTABLE WITH BATTERY AND BATTERY CHARGER

## FEATURES:

- DETECTS GAMMA AND X-RAY
- NON-ADJUSTABLE TRIP POINT: 2 mR/hr STANDARD, OTHER TRIP POINTS AVAILABLE
- AUDIO PIEZO ALERT
- LARGE RED STROBE WARNING LIGHT
- 17 AMP HOUR BATTERY HOUSED IN MONITOR ENCLOSURE
- UNIT MAY BE USED WHILE BATTERY CHARGER IS PLUGGED TO 120V AC

## SPECIFICATIONS

ENERGY RESPONSE.....GAMMA AND X-RAY FROM 80-2000 KeV, +/-20%

MAXIMUM INTENSITY OR SATURATION.....IN EXCESS OF 1000 R/hr

ENVIRONMENTAL EFFECTS.....HUMIDITY LIMITS: 0-99% NON-CONDENSING

TEMPERATURE LIMITS.....-30 DEGREES C to +50 DEGREES C (EXCLUDING BATTERY)

DETECTOR.....HALOGEN QUENCHED, ENERGY COMPENSATED GEIGER MUELLER TUBE  
 EFFECTIVE LENGTH AND DIAMETER: 1.100 INCHES x 0.482 INCH  
 WALL THICKNESS: 30 mg/cm SQUARED

SIGNALS.....ONE POWER ON/OFF GREEN INDICATOR LIGHT;  
 ONE ALARM TRIP RED BEACON LIGHT AND AUDIO ALERT

CONTROLS.....POWER ON-OFF SWITCH; AUDIBLE ON-OFF SWITCH

POWER.....12V DC BATTERY WIITH CHARGER

ENCLOSURE.....NEMA 3R STEEL. MEETS UL 50 TYPE 3R, IEC 529, IP 32.  
 12 INCHES TALL (INCLUDING BEACON) x 10.8 INCHES WIDE (INCLUDING HANDLES) x 8 INCHES DEEP





DETEK, Inc.  
 6805 Coolridge Drive  
 Temple Hills, MD 20748-6940  
 800-638-0554 FAX 301-449-7011  
 www.detek.com sales@detek.com



# ND-4000B

ECONOMICAL AREA MONITOR  
 120V AC HARD WIRED OR PLUG-IN VERSIONS



WARNING: FAILURE TO USE THIS PRODUCT IN ACCORDANCE WITH ALL APPLICABLE AND REGULATORY HAZARD CONTROL REGULATIONS, ESPECIALLY EMERGENCY EVACUATION AND THE MANUFACTURER'S OPERATING MANUAL, MAY RESULT IN PERSONAL ACCIDENTS OR DEATH.

POWER ON

RADIATION PRESENT  
 (SEE MANUAL)

ND-4000B  
 AREA MONITOR

NDS PRODUCTS

111 ANDERSON  
 PASADENA, TX 77506  
 TEL. 713/475-2886 FAX 713/477-6741

DANGER 120 VAC  
 UNPLUG POWER CORD  
 BEFORE REMOVING  
 COVER PLATE!

NDS PRODUCTS, INC.  
 TX LICENSE 100991  
 ENERGY: 0.662 RnU  
 CAL DATE: MAY-30-00  
 DUE DATE: MAY-30-01  
 S/N: 34974

MADE IN USA

SERIAL NR: 34974

120 VAC  
 ALARM

120 VAC  
 ALARM





DETEK, Inc.

6805 Coolridge Drive  
Temple Hills, MD 20748-6940

800-638-0554 FAX 301-449-7011  
www.detek.com sales@detek.com

# ND-4000B

ECONOMICAL AREA MONITOR  
120V AC HARD-WIRED OR PLUG-IN VERSIONS

## FEATURES:

- DETECTS GAMMA AND X-RAY
- NON-ADJUSTABLE TRIP POINT: 2 mR/hr STANDARD, OTHER TRIP POINTS AVAILABLE
- WILL ACTIVATE ANY 120V AC ALARM DEVICE SUCH AS:
  - WARNING LIGHTS
  - SIRENS
  - DOOR INTERLOCKS

## SPECIFICATIONS

ENERGY RESPONSE.....GAMMA AND X-RAY FROM 80-2000 KeV, +/-20%

MAXIMUM INTENSITY OR SATURATION.....IN EXCESS OF 1000 R/hr

ENVIRONMENTAL EFFECTS.....HUMIDITY LIMITS: 0-99% NON-CONDENSING

TEMPERATURE LIMITS.....-30 DEGREES C to +50 DEGREES C

DETECTOR.....HALOGEN QUENCHED, ENERGY COMPENSATED GEIGER MUELLER TUBE  
EFFECTIVE LENGTH AND DIAMETER: 1.100 INCHES x 0.482 INCH  
WALL THICKNESS: 30 mg/cm SQUARED

SIGNALS.....ONE AC POWER ON/OFF GREEN INDICATOR LIGHT;  
ONE ALARM TRIP RED INDICATOR LIGHT

POWER.....120V AC, 50 to 60 CYCLES

REMOTE ALARM OUTLETS.....TWO CONTACTS RATED AT 5 AMPS 120V AC

POWER AND ALARM FUSES (2).....5 AMPS AT 120V AC

ENCLOSURE.....NEMA 3R STEEL. MEETS UL 50 TYPE 3R, IEC 529, IP 32.  
8 INCHES x 8 INCHES x 4 INCHES DEEP

### STANDARD CONTROL UNITS:

ND-4000B: PLUG-IN UNIT WITH 6 FT POWER CORD AND TWO 120V OUTLETS  
 ND-4000B: HARD-WIRE READY WITH 1/2 INCH CONDUIT CONNECTIONS

### BUILT-IN OPTIONS:

ND-4000BL: WITH RED ROTATING WARNING LIGHT MOUNTED TO TOP OF UNIT  
 ND-4000BLA: WITH THE ABOVE LIGHT PLUS AN AUDIO ALARM

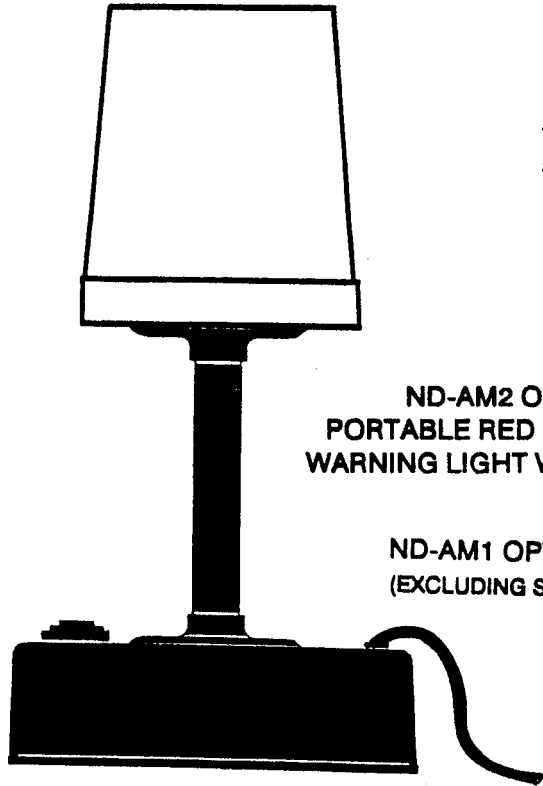
### ADD-ON OPTIONS AVAILABLE:

OPTION 1 ND-AM1: PORTABLE RED ROTATING WARNING LIGHT WITH STAND AND 25 FT POWER CORD  
 OPTION 2 ND-AM2: PORTABLE SIREN AND RED ROTATING LIGHT WITH STAND AND 25 FT POWER CORD



DETEK, Inc.  
 6805 Coolridge Drive  
 Temple Hills, MD 20748-6940  
 800-638-0554 FAX 301-449-7011  
 www.detek.com sales@detek.com

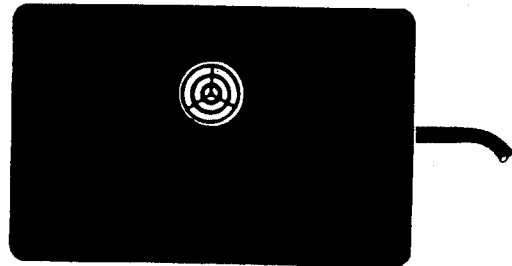
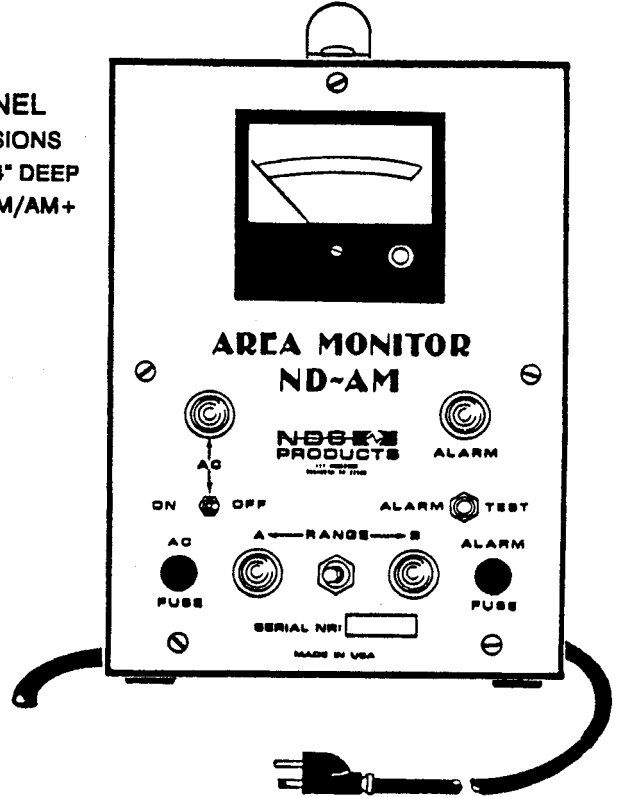
**ND-AM/AM+**  
 AREA MONITORS and OPTIONS



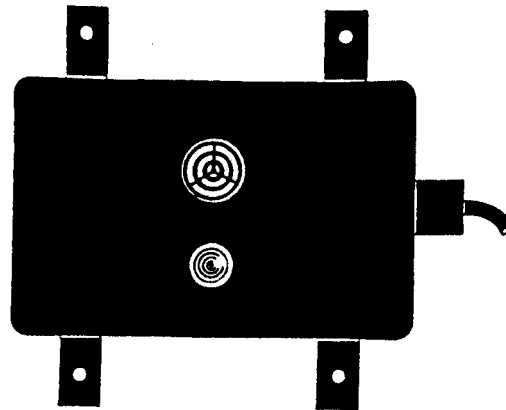
ND-AM2 OPTION  
 PORTABLE RED ROTATING  
 WARNING LIGHT WITH SIREN

ND-AM1 OPTION  
 (EXCLUDING SIREN)

CONTROL PANEL  
 ENCLOSURE DIMENSIONS  
 7" WIDE x 10" TALL x 9.4" DEEP  
 STANDARD WITH ND-AM/AM+



ND-AM3 OPTION  
 PORTABLE SIREN



REMOTE DETECTOR UNIT  
 WITH SIREN & INDICATOR LIGHT  
 DIMENSIONS: 4.7" TALL x 7.4" LONG x 2.25" DEEP  
 STANDARD WITH ND-AM+  
 SAME UNIT EXCLUDING SIREN FOR ND-AM



DETEK, Inc.  
 6805 Coolridge Drive  
 Temple Hills, MD 20748-6940  
 800-638-0554 FAX 301-449-7011  
 www.detek.com sales@detek.com

# ND-AM/AM+

AREA MONITORS and OPTIONS  
 120V AC, TWO SELECTABLE TRIP RANGES

## FEATURES:

- ENERGY RESPONSE: GAMMA AND X-RAY FROM 60-2000 KeV, +/- 20%
- SYSTEM INCLUDES A CONTROL PANEL UNIT AND A DETECTOR UNIT THAT CAN BE MOUNTED UP TO 1000 FEET FROM THE CONTROL PANEL. STANDARD MODEL SUPPLIED WITH 25 FEET OF CABLE
- DETECTOR UNIT CONTAINS AN INTERMITTENT TONE, FAST PULSE SIREN AND INDICATOR LIGHT
- DEPENDING UPON RANGES CHOSEN, THE ALARM TRIP LEVEL CAN BE SET FROM 3% TO 100% OF SCALE
- WILL ACTIVATE ANY 120V AC ALARM DEVICE SUCH AS: WARNING LIGHTS, ADDITIONAL SIRENS AND DOOR INTERLOCKS
- SYSTEM IS CONFIGURABLE TO YOUR REQUEST

## SPECIFICATIONS

RANGES: ISOTOPE RADIOGRAPHY STANDARD IS 0-50 and 0-500mR/hr  
 X-RAY STANDARD IS 0-5 and 0-50 mR/hr

OPTIONAL RANGES: 1) 0-10 and 0-100 mR/hr 3) 0-100 and 0-1000 mR/hr  
 2) 0-20 and 0-200 mR/hr 4) 0-10 and 0-100 R/hr

MAXIMUM INTENSITY OR SATURATION.....IN EXCESS OF 1000 R/hr

DETECTOR UNIT.....CONTAINS ENERGY COMPENSATED GM TUBE, SIREN  
 WITH OUTPUT OF 80-95 dB @ 2 FEET, AND RED INDICATOR LIGHT

TEMPERATURE/HUMIDITY LIMITS.....-30 DEGREES C to +50 DEGREES C;  
 0-99% NON-CONDENSING HUMIDITY

PANEL UNIT CONTROLS.....POWER OFF-ON SWITCH; ALARM TEST SWITCH; RANGE SWITCH

DISPLAY.....METER INDICATOR WITH ALARM TRIP POINT ADJUST;  
 AMBER POWER ON LIGHT; RED ALARM TRIP LIGHT; TWO YELLOW RANGE LIGHTS

POWER.....120V AC, 50 TO 60 CYCLES

REMOTE ALARM OUTLETS.....TWO CONTACTS RATED AT 5 AMPS 120V AC  
 LOCATED ON BACK OF CONTROL PANEL

POWER AND ALARM FUSES (2).....5 AMPS LOCATED ON FRONT OF CONTROL PANEL

### STANDARD CONTROL UNITS:

ND-AM: CONTROL PANEL, DETECTOR UNIT, 25 FT CABLE AND 6 FT POWER CORD

ND-AM+ : THE ABOVE MONITOR, DETECTOR UNIT/SIREN, 25 FT CABLE AND 6 FT POWER CORD

### ADD-ON OPTIONS AVAILABLE:

- OPTION 1 ND-AM1: PORTABLE RED ROTATING WARNING LIGHT AND 25 FOOT CABLE
- OPTION 2 ND-AM2: PORTABLE SIREN AND RED ROTATING LIGHT 25 FOOT CABLE
- OPTION 3 ND-AM3: PORTABLE SIREN WITH 25 FOOT CABLE