

# Model 4404-16 Geo-Exploration Monitor



Ludlum Measurements, Inc.

## FEATURES

- Large 2 x 4 x 16 in. NaI Scintillator Detector
- Multi-channel Analyzer
- Ruggedized PC with GPS Receiver
- Data Logging Program
- Google Earth Compatible Files



Part Number 48-3730

## INTRODUCTION

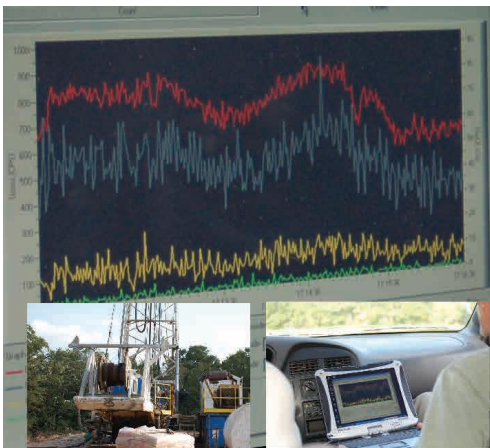
The Ludlum Model 4404-16 Geo-Exploration System provides radiation surface measurements to help discern the underlying geology. This instrument serves as an excellent oil exploration and ore prospecting tool. Its high sensitivity also facilitates large area surveys when looking for radioactive contamination.

This system is comprised of a large scintillation detector, multichannel electronics, and a waterproof enclosure. The software will display the radiation data just like a chart recorder and log the radiation data along with its corresponding GPS coordinates into a comma delimited file. The accompanying "KML Generator" software program converts the data files into files suitable for viewing in Google Earth or any other 3D earth browser implementing the KML encoding.

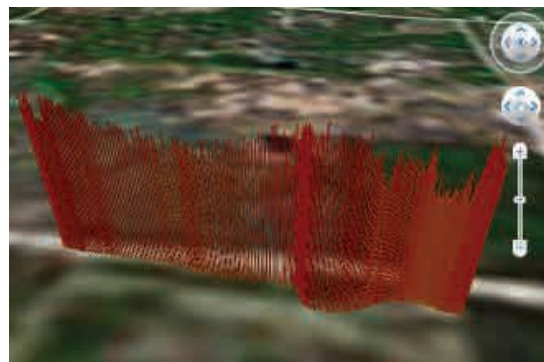
The Geo-Explorer is available in different versions to best suit your requirements. Some choices include with and without a laptop computer, with and without included GPS. Contact Ludlum Measurements for more information.

## The Model 4404-16 Geo-Explorer (PN 48-3730) Includes

- M4404 Geo-Exploration Software
- Serial Cable 3.6 m (12 ft)
- Transformer
- Cable (BNC - SMB)
- Vehicle Power Cable 4.5 m (15 ft)
- Check Source 0.25  $\mu\text{C}$  ( $^{137}\text{Cs}$ )



Data collection in the field



KML result on Google Earth

# Model 4404-16

## Geo-Exploration Monitor



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### SPECIFICATIONS

#### Detector

Scintillator: 5.1 x 10.2 x 40.6 cm (2 x 4 x 16 in.) (H x W x L) sodium iodide (NaI) with 8.9 cm (3.5 in.) photomultiplier tube (PMT), surrounded in protective foam to prevent mechanical and thermal shock

Enclosure: waterproof case, 17.8 x 43.2 x 101.6 cm (7 x 17 x 40 in.) (H x W x L) with wheels

Weight: approximately 18.1 kg (40 lb)

Electronics: four channels supplied, includes one gross channel plus three user-adjustable windows. Windows are software adjustable from 1 - 330 mV

High Voltage: adjustable from 0 - 2,000 Vdc

Amplifier Gain: adjustable from  $\times 1$  to  $\times 10$

Amplifier Range: 0 - 3.3 V

Power Input: 7.5 - 36 Vdc at 250 mA max. Power is received by the universal cigarette type power adaptor and cable connected to the detector system. A 12 Vdc output, AC wall adaptor is supplied.

#### Geo-Exploration Counter PC Software

##### Features:

- Real-time strip chart view of up to four detector channels
- Stores data from all four detector channels every second in csv format
- Stores accompanying GPS coordinates every second
- User starts and stops data recording controls with user-defined file names for collected data
- Calibration wizard for simplified onsite calibration
- User defined energy windows to optimize viewing the isotopes of interest
- KML file generator for viewing data on Google Earth or any other 3D earth browser (geobrowser) that supports the KML (Keyhole Markup Language) encoding

### OPTIONS

#### COMPUTER

Model 4404-15 & Model 4404-16-4 Toughbook Laptop (Part Number 2311792)

Model 4404-16 & Model 4404-16-4 Mobile Device Laptop (Part Number 2312462)

MIL-STD-810G certified tablet PC

Six-foot drop and IP65 certified

Full magnesium alloy case with hand strap

1000 nit sunlight viewable 26.4 cm (10.4) in LCD

Intel® Centrino® 2 with vPro™ processor technology with Intel® Core™ 2 Duo processor

Sealed all-weather design

160 GB shock-mounted, quick-release hard drive

Power: Lithium ion battery pack (10.65 V, 5700 mAh), battery operation approximately nine hours, battery charging time 4.5 hours off, 6.5 hours on, AC adapter - 100-240 Vac 50/60Hz, auto sensing/switching worldwide power supply

Size: approximately 4.8 x 27.2 x 21.6 cm (1.9 x 10.7 x 8.5 in.) (H x W x L)

Weight: approximately 2.3 kg (5.1 lb)

#### GPS

This GPS is an ultra compact unit powered through the same USB 1.5 m (60 in.) cable used to transfer data, so there is no need for batteries, external power source, or a separate data cable. Model 4404-16 & Model 4404-16-4 GPS (Part Number 2312074)

Voltage range 2.7-5 V

LNA 28 dB gain typical

Low noise figure 1.5 dB

Temperature Range: -40 to 85 °C (-40 to 185 °F)

Size: approximately 5.3 x 1.9 cm (2.1 x 0.8 in.) (H x W x D)

Weight: 0.06 kg (2.2 oz)