

## GT-40, GT-40-S Geophysical / Environmental Gamma- Ray Analyser

The GT-40 represents a major advance in portable gamma-ray spectrometers, offering many new features for geophysical and environmental applications. The compact, one hand unit with integrated GPS gives user very pleasant field operation. The high sensitivity detector combined with sophisticated mathematical method provides accurate and reliable results at real time.

The GT-40 and GT-40-S are identical except type of detector. The GT-40 has 3x3" NaI(Tl) detector and with high sensitivity and good resolution can be used at most field application. The GT-40-S has 2x2" BGO detector with built-in lead shielding and should be used for focused measurement of cores or at stratigraphy measurements.

### Application

- Mineral Exploration
- Oil and Gas Exploration
- Geological Survey
- Geophysical Mapping
- U, Th and K (+137Cs) Assay
- Uranium Prospecting
- Core Logging
- Environmental Monitoring

The GT-40 can compute concentration of K, U and Th. Assay can be extended for another contaminants ( $^{137}\text{Cs}$ ,  $^{134}\text{Cs}$  or other gamma emitting radionuclides). Sensible also for radioactive gases from nuclear power plants. Different calibration modes can be switched: infinite flat area, bore hole, water monitoring or any custom tailored calibration possible. Low dose rate monitoring is available with selectable units. Results are displayed immediately after end of measurements. Data can be stored in the instrument and/or sent to appropriate external device via Bluetooth or Wi-Fi. High sensitive integrated GPS receiver can automatically record the position and store it with each measurement. Measurements can be stamped also by voice notes. Stored voice messages can be replicated by built in speaker. Remote operation / Base station mode is possible via USB or wireless.

### Features

- High Sensitivity using 3"x 3" NaI(Tl) or 2"x 2" Shielded BGO Detector
- Advanced DSP Spectrometer
- Automatic Stabilization on Natural Background
- Large Sun Readable Colour Display
- User Intuitive Navigation Joystick
- Wireless communication via Wi-Fi or Bluetooth
- Real Time Result stamped by Integrated GPS and Voice Recorder
- All in rugged One Hand Unit

The GT-40 utilises advanced 1024 channel linear energy DSP spectrometer and pile-up rejector with build in continuous analysis. It also uses an advanced method of automatic stabilization based on the presence of natural radionuclides, thus there is no need for an additional radioactive check source. Can be used even in the man made contaminated area. Stabilization rules are selectable.

The GT-40 has user friendly navigation joystick and sun readable colour display. Brightness is automatically controlled according external lighting.



The GT-40 is powered by a high energy rechargeable lithium pack with built-in charger. This permits operation with the true time measurement up to 15 hours. The versatile GeoView

software package provides all necessary data download to PC, calendar based survey result, spectrum view, data presentation and export survey to e.g. Google Earth.

## Technical data

### Detector

GT-40: NaI(Tl), volume 345 cm<sup>3</sup>, dia. 76 x 76 mm (3" x 3"), with bi-alkali PMT

GT-40-S: BGO, volume 104 cm<sup>3</sup>, dia. 51 x 51 mm (2" x 2"), with bi-alkali PMT, shielded with 25 mm (1") of lead

Spectrometer 1024 channel, 40 MHz DSP, Linear Energy corrected  
Pile-up Rejector, 200 ns Resolution

Display Colour, Transreflective, 360 x 240 dots, 72 x 54 mm (3.5"), Sun readable

Control Illuminated Navigation Joystick, 5 positions

Acoustic Speaker, dia. 28 mm + Built-in Microphone

Data Storage min. 2000 Samples with full Spectra, Data Position and Voice Message

GPS navigate down to -162 dBm and -148 dBm coldstart

Communication Data Transfer, Remote Control and Diagnostic by:

USB 2.0

Bluetooth 1.2 Class 2

Wi-Fi 802.11n

Power Rechargeable Li-ion 7.2 V / 6600 mAh (Panasonic CGR18650CG/2S3P) –  
min. 10 hours of measurement

External AC adapter (12 V / 1 A) for charging or measurement

Size dia. 120 mm x 415 mm

### Weight

GT-40: 4 kg (8.8 lb)

GT-40-S: 9 kg (19.8 lb)

Environmental Operation Temperature Range -10 °C to +50 °C  
Protection IP-65, Dust and Water resistant  
RFI/EMF Shielding complies with FCC  
(47 CFR part 15) for Class A CE Certification

### Standard Package:

GT-40 (GT-40-S) Spectrometer

User Guide

AC Net Power adapter

1.5 m USB Cable

Geoview Software Package (CD)

Rugged Pelican Storage and Transportation Case

