

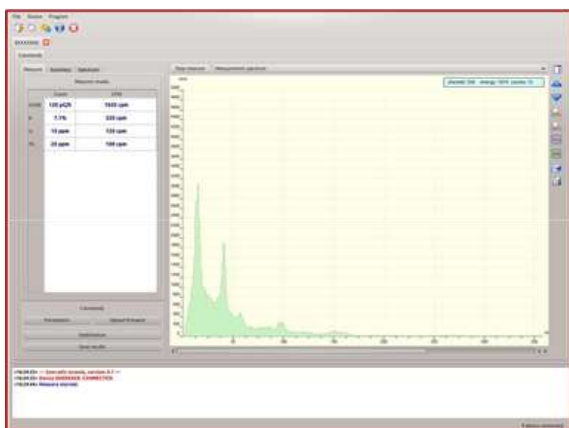
RT-60 “The Mole” Gamma Ray Well Logging System

The RT-60 “The Mole” is the best solution for borehole gamma-ray measurements and natural radioisotopes assay. The instrument is optimised for fast borehole scanning thanks to its large size gamma detector.

The main application for the RT-60 is spectral gamma logging and assaying in blast holes, which in most cases are less than 25 m deep. Other applications include exploration boreholes and wells. The standard reel holds up to 50 m cable. The depth capacity can be extended on special request to 200 m by using a longer cable and a different winch.

Typical users are geologists and geophysicists at mining and exploration companies, universities and geological surveys. The RT-60 also attracts environmental and geotechnical consultants, active with radon risk assessments or classifying rocks used for building purposes. Furthermore, RT-60 can be used to check for radioactive contamination, often Ra-226, in petrochemical piping, in water wells or in sewage systems such as those used in chemical waste dumps.

RT-60 utilises a 1024 channel gamma-ray spectrometer with built in continuous analysis. It also uses an advanced method of automatic stabilisation on natural background radiation throughout its operation. This unique stabilisation method eliminates the need for an additional radioactive check source.



A user interface is provided through any suitable PC or Laptop using the software package as provided with the instrument. This software ensures the on-line communication with the spectrometer, logs the data into the PC and assists the user to set-up the operational parameters.

RT-60 has an integrated BGO (Bismuth Germanium Oxide) gamma-ray detector with a dimension of 30 x 30 mm. In addition to this detector, the unit houses a complete 1024 channel gamma-ray spectrometer with self

contained power management. The detector and electronics are well protected by the RT-60 internal shielding and shock absorption. The rugged housing is made from 2,5 mm thick aluminium and allows the attachment of an extra hoist cable when required.

The built in electronics module is powered from a standard USB port. Data is transferred from the detector pod by a multi-core cable with stainless steel armoured mantle. The cable is wound on a special drum mounted on a robust tripod. With exception of the tripod, all components are delivered in a single suitcase for easy transport and storage.



Technical data

Probe:

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|------------------|--|
| Detector | BGO, 30 x 30 mm |
| Cable and reel | Standard system has 25 m cable (Reel capacity = 50 m). |
| Sensitivity | 80 cps/MBq at 1m for Cs-137 |
| ADC | 1024 channel, High Speed, Energy Linear |
| Energy Range | 30 - 3 000 keV |
| Interface | RS-485, Half Duplex |
| Power | 5 V / 100 mA, supplied from USB Port |
| Connection | 4-wire cable, heavy stainless steel armoured |
| Dimensions | Diameter 60 mm, length 600 mm, weight 1.9 kg |
| Max. Temperature | 60 °C |
| Max. Pressure | 0.5 MPa |

- High sensitivity using a BGO Detector
- 1024 Channel linear energy converter
- Automatic stabilization on natural background
- Standard 25 meter armoured cable
- USB connection to computer

Converter:

| | |
|-----------|-------------------------------------|
| Input | USB 2.0 Compatible |
| Output | RS-485, half duplex, up to 115k bps |
| Power | 80 mA, powered from the USB Port |
| Dimension | 90 x 55 x 25 mm, weight 90 grams |

Standard Configuration:

- Probe with 25 m armoured cable (Other lengths on request, max length 200 m)
- Manual reel with rotary connector
- Converter
- 1.5 m USB Cable
- 0.3 m Interface Cable
- Software Package

Optional Accessory:

- Heavy duty tripod

Calibration:

All RT-60 units are shipped pre-calibrated for U, K and Th, following IAEA directives, at the DIAMO calibration site.

