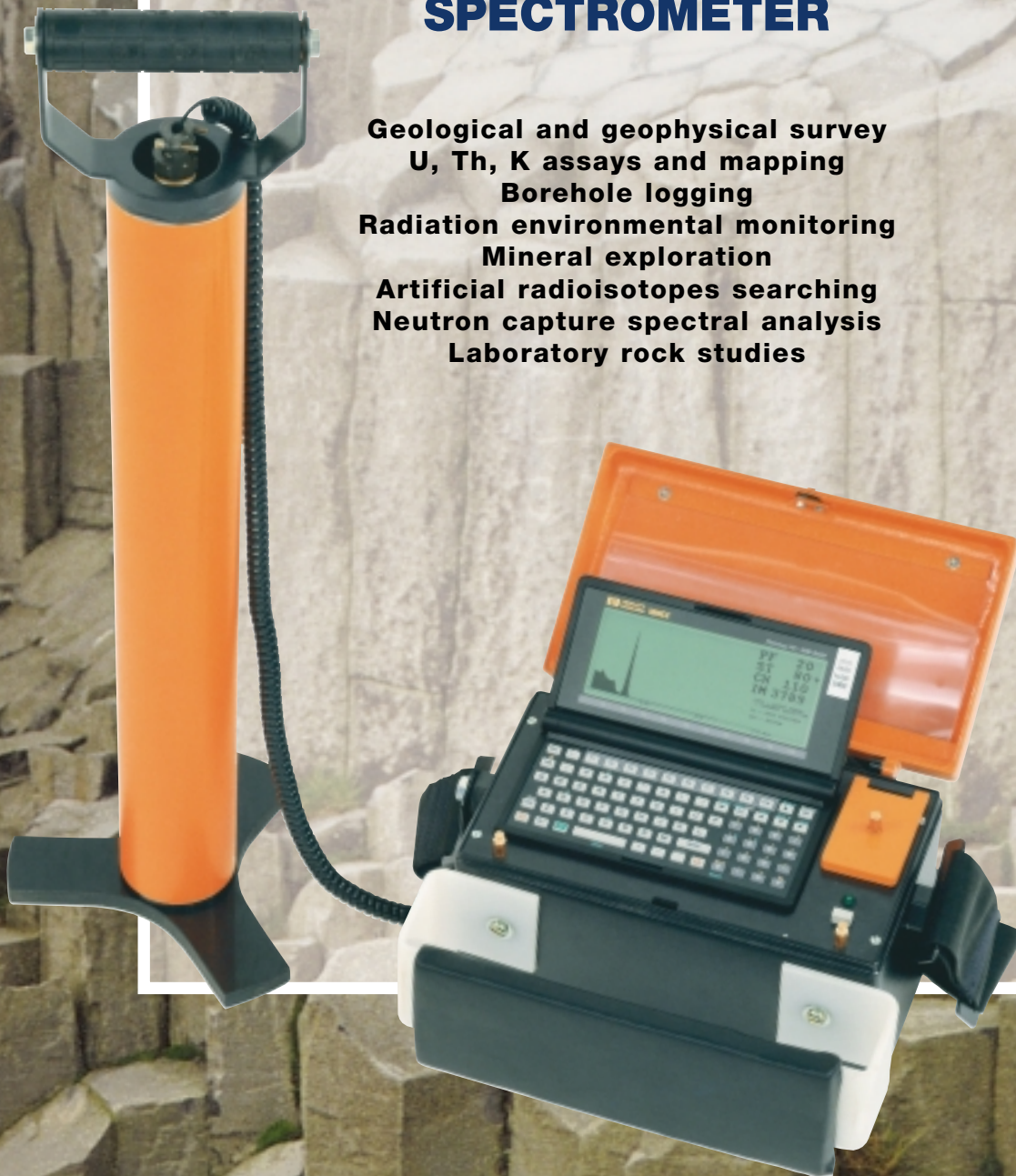




GRS-2000 MultiSpec

MULTIPURPOSE GAMMA-RAY SPECTROMETER

**Geological and geophysical survey
U, Th, K assays and mapping
Borehole logging
Radiation environmental monitoring
Mineral exploration
Artificial radioisotopes searching
Neutron capture spectral analysis
Laboratory rock studies**



The GRS-2000 MultiSpec is designed to solve exacting tasks of field, borehole and laboratory survey.

MULTIPURPOSE GAMMA-RAY SPECTROMETER

GRS-2000 MultiSpec



The GRS-2000 MultiSpec is an up-to-date gamma-ray spectrometer ready to solve a variety of tasks of surface and borehole survey. The compact, water and pressure proof spectrometric probe equipped with either NaI(Tl) or BGO scintillation units coupled with the sophisticated mathematic method of spectral analysis provides a wide range of high sensitive and accurate measuring applications.

The GRS-2000 enables 512 channels spectral analysis, the quantitative assays of U, Th, K concentrations (using precise calibration on artificial etalons) and radiometric measurements. The ability of BGO unit to detect the high energy gamma quanta makes the method of neutron capture spectral analysis possible (e.g. assays of H, S, Fe, Ti, Mn, Cl, Hg with additional support).

The GRS-2000 is designed to be useful for geophysical and environmental survey, geological prospection, industrial monitoring of radioactivity and laboratory sample analysis. The full PC control of the instrument allows the user-friendly operation done via either built-in palmtop or external computer unit. The measurement can be organized either as a single one or as line measurements for the map construction (using standard mapping software). The profile curves are shown on the graphic screen currently.

The GRS-2000 can be powered either from internal NiCd batteries or from the net supply. The instrument can be easily connected to a carborne borehole logging set equipped with a standard cable. The full accessories for shallow borehole logging measurement (till about 30 m) are included in the standard GRS-2000 logging set.



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REPRESENTED BY:

Technical Specifications

Self-contained, water and pressure proof spectrometric probe with control and supply unit.

AVAILABLE IN 6 VERSIONS ACCORDING TO THE TYPE OF DETECTOR AND ACCESSORIES.

MEASURING MODES:

- spectral analyzer
- U, Th, K assays
- dose rate meter
- profile measurement

DETECTOR:

- NaI(Tl) 3" x 3", NaI(Tl) 2" x 2", BGO 2" x 2" with photomultiplier and magnetic shield

GAMMA ENERGY RANGE:

- to 3 MeV or to 10 MeV

REFERENCE GAMMA SOURCE:

- ¹³⁷Cs (16 kBq)

SPECTRAL ANALYZER:

- 512 channels
- conversion rate up to 70.000 imp./s
- statistic method of multicomponent spectral analysis used for U, Th, K assays

CONTROL UNIT:

- PC palmtop with 10 MB data memory

PC INTERFACE:

- RS 232 C

POWER SUPPLY:

- rechargeable 4.5 Ah NiCd cells (14 pcs)

DIMENSIONS & WEIGHT:

Probe 2"x 2"/3"x 3"

- surface assembly: 70/100 x 640 mm, 3.0/5.5 kg
- borehole assembly: 70/100 x 730 mm, 4.0/6.0 kg

Control & supply unit

- 260 x 220 x 180 mm, 5.0 kg

SHIPPING DIMENSIONS/WEIGHT:

- 73 x 44 x 29 cm/20 - 30 kg (according to version)

OPERATING TEMPERATURE RANGE:

- -10 to + 60 °C

PROBE WORKING CONDITIONS:

- water submersible till the depth of 500 m



Standard Logging Accessories:

- short, coiled probe cable
- 33 m long, length marked borehole cable with holder and safety stop
- borehole probe tip, small probe top
- manipulation wrenches
- battery charger
- PC connecting cable & software
- operating manual
- transport case

Optional Accessories & Support:

- net supplied interface for direct PC control of the probe
- user's borehole cable connection
- neutron activation analysis support (H, S, Fe, Ti, Mn, Cl, Hg and other assays)
- 12 V battery charger

With reservations for changes