

ERP-1 Digital Electrical Exploration System



Portable digital electrical exploration system ERP-1 is designed for geophysical survey performed by the following methods

- Electrical exploration by DC and AC resistivity method - vertical electric sounding (VES), electric profiling, signal generator, M3, as well as measuring of the full vector of an electric field: magnetomotive force, vector survey
- Natural electric field (self-potential, measuring of stray current field) method
- Induced polarization (IP) with INFAZ-VP version

APPLICATIONS

- ◆ geological mapping
- ◆ cryopedology
- ◆ search and exploration of mineral deposits
- ◆ geoecology
- ◆ archeology
- ◆ geological engineering
- ◆ applied geophysics
- ◆ hydrogeology

The system ERP-1 provides a combination of analog and digital signal processing. To ensure accumulation in the signal processing measuring unit there are synchronized filters furnished on switched capacitors

FEATURES

- the system ERP-1 provides a complex of electrical exploration methods that extends the range of solvable problems and improves the quality and accuracy of obtained results
- the system has high noise immunity (good quality of measuring unit narrow-band analogue filter is 18), that is required for urban development, sites near electricity transmission lines, railways, etc.
- survey results, including the number of profile, survey stake, span, measurement date and time, are stored in memory
- the system ERP-1 is provided with software for data transfer from measuring unit to PC and storage of measurement results in formats compatible with software package IPI2WIN (VES and VES-IP data processing and interpretation, developed by Moscow State University)
- "digital" area of signal processing contains an additional method of hardware noise reduction
- transmitter ERP-1 is supplied with two outputs, a switch tumbler for operation with different supply lines (i.e., for double-differential profiling)
- receiver ERP-1 is supplied with two inputs, a switch tumbler for operation with different receiving lines (i.e., vertical electric sounding with "collars")
- the system is developed using technical decisions aimed at cost minimization

ERP-1 is designed and developed as equipment with the state-of-art element base, available for a wide range of home consumers