

Ground Penetrating Radar (GPR) is an ultra-wideband imaging technique used for subsurface exploration and monitoring. It is widely used for locating utility lines; monitoring pavement, runways, and walls for soundness and thickness; archaeology; forensic examinations; mining, ice sounding, detecting unexploded land mines and bombs; agricultural; groundwater studies; permafrost, void, cave and tunnel detection, location of sinkholes, karst, subsidence, and many other similar applications.



The beauty of GPR is that it is non-invasive, relatively inexpensive, and can be used in a variety of ways - there are hand-held units, downhole units, units that can be dragged behind vehicles, and even from aircraft and satellite. It has the highest resolution of any subsurface imaging method (sometimes with resolutions of one centimeter), and is far safer than x-ray technology.

The VIY-2-300 GPR

- Unique producing technique of sounding signal and electromagnetic field was utilized.
- Shielded directional antennas (TEM horns) are used.
- Unique technical characteristics:
 - Original (advanced) time sweep – arbitrary trace length in a sounding range. In this case stack number and sounding sensitivity are increased
 - Arbitrary TVGC (time varying gain control). Samples amplification is arbitrary adjusted from 0 to +40 dB.
 - Preprocessing. Trace stacking possibility. Maximum stack number depends on samples per trace and can reach 72 (or +36 dB) for built with 128 samples per trace.
- Wide range of operation temperature – from -20 °C to +40 °C.
- Basic software is free of charge. It allows making the VIY-2-300 GPR adjustment, field measurements, preprocessing and radar profile visualization.
- Low power consumption – at least 8 hours operation with built-in accumulator.
- Weak PC resources requirements. The GPR VIY-2-300 operates with Microsoft Windows 95 operational system or higher and based on PC via standard serial communication port.
- The VIY-2-300 GPR is arranged in waterproof case connected to PC by single connector.
- The VIY-2-300 GPR price is commensurable with similar commercially available devices. When you purchase several GPRs for different frequency range (sounding depth) discount scheme is available – total price of several GPRs and GPR with several antennas are the same. However in our case you are purchasing some complete GPRs VIY-2 series instead of a GPR with several antennas.
- A year warranty and after warranty service.
- Technical maintenance (software update, etc.).
- Short course of the GPR VIY-2-300 operation.

The VIY-2-300 GPR parameters:

Operation bandwidth – 250...500 MHz

Transmitted impulse (150 Ohm load) – 250...300 Volts

Receiver sensitivity – better than 10^{-4} Volts

Pulse repetition frequency – 20 kHz

Sounding range – from 50 to 700 ns

Samples per trace – from 2 to 1023 (programmable)

Maximum stack number – from 9 (1023 samples) to 156 (64 samples) (programmable)

TVGC dynamic range – 48 dB

TVGC shape – arbitrary

Sounding depth – up to 8 meters (depends on media properties)

Spatial resolution – better than 0.3 meter

Radar profile file size – up to 2000 Mbytes

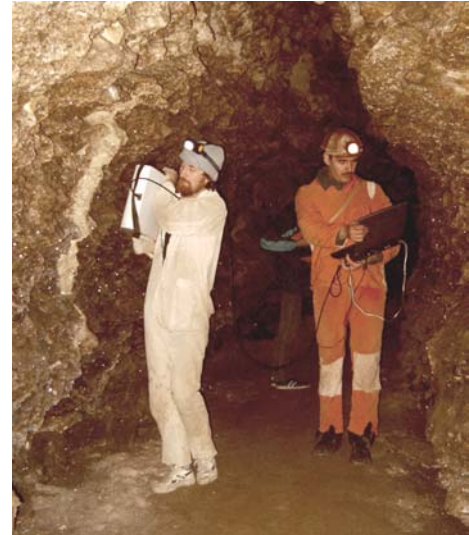
Interface – RS232

Data bit rate – 115200 bps

Continuous operation time – 8 hours and more

Dimensions (LxWxH) – 650 x 340 x 180 mm

Weight – 6 kg



Collaboration with persons and companies are invited.