

Seismic Geophone

GeoVista offer digital and analogue seismic geophone options with a motorised caliper clamping arm and three SM24 geophones arranged in an X-Y-Z pattern. The clamping arm ensures adequate coupling on a range of borehole diameters.

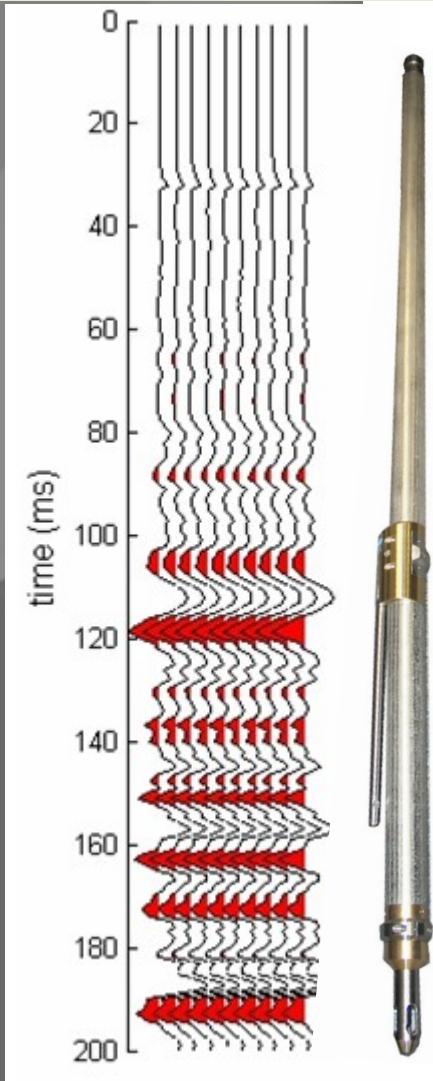
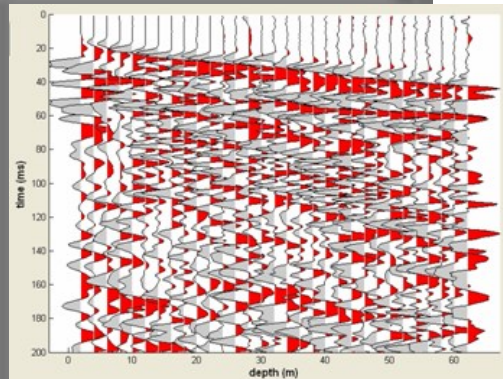
APPLICATIONS

- Seismic profiling
- Correlation with seismic surveys
- Soil dynamics
- Rock mechanics and elasticity

Digital: The GeoVista borehole geophone system includes a downhole digital sonde and a compact digital interface unit at the surface, with no requirement for a seismograph. The sonde runs on single conductor cable on a standard logging winch. The digital interface unit at the surface has inputs for the downhole sonde, three surface geophones and the trigger. Collected data are outputted to a PC via the USB port. The acquisition software allows for data viewing and stacking. The generated SEG2 files can then be imported into most commercial seismic processing software.

Analogue: The analogue version has the same geophone in the borehole, but sends analogue signals to the surface. This sonde must be run on 4-core or 7-core cable and a surface seismograph is required. This option allows the geophone to be run in deeper boreholes.

Monitoring Geophone: GeoVista can also supply an analogue monitoring geophone.



SPECIFICATIONS

	Digital Version	Analogue Version
Weight / Length / Diameter	15 kg / 1.69 m / 64 mm	15 kg / 1.69 m / 64 mm
Clamping	Motorised arm	Motorised arm
Downhole Sensors	3 geophones with simultaneous recording. X-Y-Z SM24	3 geophones with simultaneous recording. X-Y-Z SM24
Seismic Source	Not included	Not included
Trigger	From suitable source (e.g., surface geophone)	Depends on surface seismograph (not included)
Data Acquisition	Max 16 s record length / 16 bit resolution on a 500 μ s sample interval. No seismograph required. Surface box connects to PC with USB cable.	Requires surface seismograph (not included)
Output file format	Used with GV Seismic Software. Output SEG2	Depends on surface seismograph (not included)
Logging cable	1000 m 3/16 in mono or 4-core cable	2500 m 4-core or 7-core cable
Surface inputs	3 surface geophones	Depends on surface seismograph (not included)
Depth measurement	Depth reading real time with connection to winch encoder	Third party system to read in depth from winch encoder
Pressure/Temperature	20 MPa / 80 $^{\circ}$ C	20 MPa / 80 $^{\circ}$ C
Combinability	Not combinable	Not combinable
Borehole	Water, mud open hole	Water, mud open hole
Comments	Ideal for boreholes <1000m VSP measurements as part of a complete wireline logging suite. No need for seismograph. Depth input from winch.	Ideal for deeper VSP surveys and a vibroseis source. Requires use of third party seismograph and surface setup.