GEOSYM

Shearwave Vibrator ElViS VII

Elektrodynamic-**Vi**brator **S**ystem

for horizontal and vertical application

WORKING SCHEME

SHEARWAVE VIBRATOR

Easy handling also in rough terrain.

horizontal application

WHEELBARROW TECHNIQUE

Very easy access of vibrator points using a wheelbarrow. The box obove the source contains the 12 V power supply. The control system is attached to the source.

vertical application

SIGNAL GENERATOR

Programmable signal generator with high-quality 16 Bit AD converter in order to generate the analog sweep signal as well as the trigger signal for the recording unit. A +/- switch allows to invert the sweep direction with respect to wavefield separation. Sweep duration and frequency range are variabel and can be individually set by means of an E-prom.

VIBRATION ATTENUATION

Shoc adsorbers attenuate the vibrations between source and wheelbarrow with power supply unit. The shoc adsorbers are controlled by a pressure gauge and can be individually inflated by an air pump.

SIGNAL CONTROLE

Trigger signal output voltage:
0.1 Vpp for Pilot

Sweep signal output voltage:
20 Vpp for Source

POWER SUPPLY

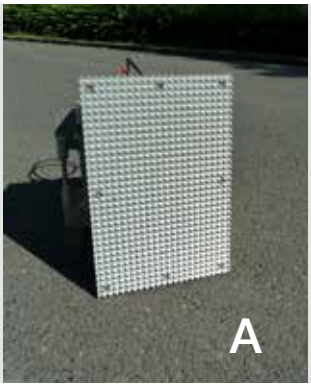
Vibrator:
lead-acid battery, 12 V / 85 Ah

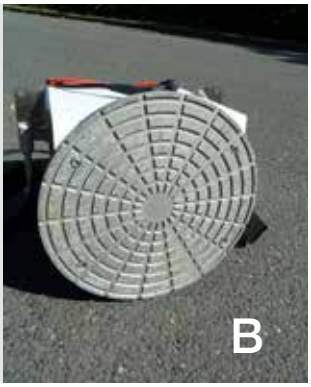
COUPLING SURFACE

The ground plate shows a waver structure and hence, optimizes the ground coupling.

A. Baseplate for **horizontal**

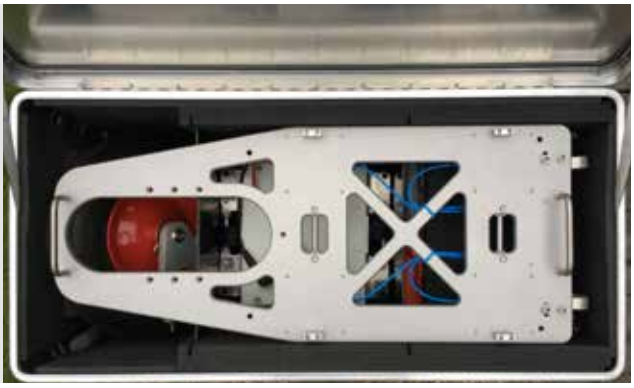
B. Baseplate for **vertical**





TRANSPORTATION

The shear-wave source and wheelbarrow can be disassem bled for transportation in a ZARGES K470.



ELECTRODYNAMIC SHEARWAVE VIBRATOR, PATENT GRANTED*

APPLICATION AREA

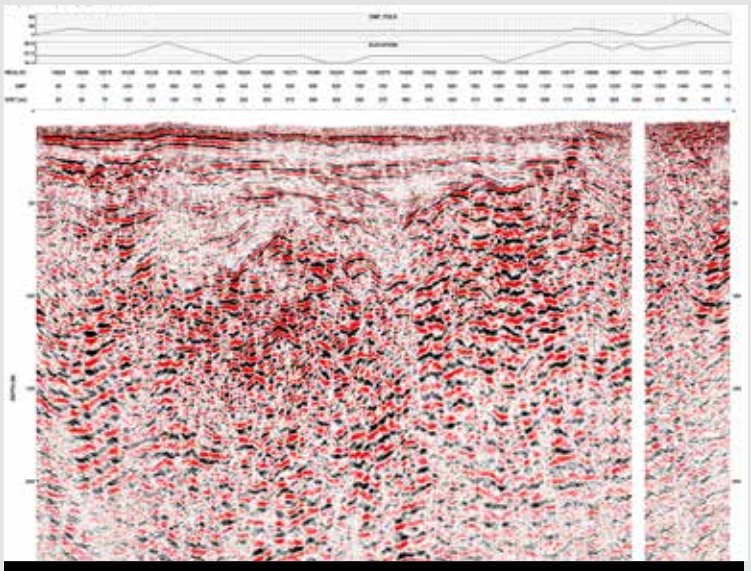
- Reflection seismic surveys
- VSP surveys
- Building ground investigations
- Shear wave studies

PARTICULARITIES

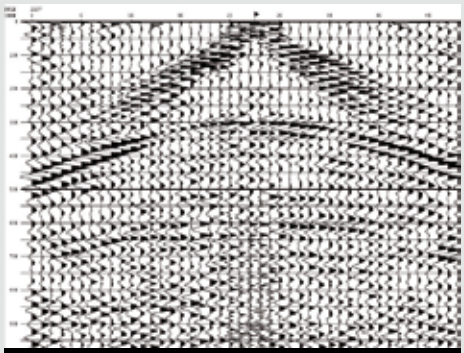
- Easy handling due to the wheelbarrow system
- Highly reproducible signals
- Integrated switch amplifier
- No ground damage
- Very low maintenance cost
- Very low noise emission

TECHNICAL DATA

- Drive system: cascaded linear motor
- Power supply: 12 V DC
- Peak force: about 1100 N
- Frequency range: 20 – 240 Hz
- Source weight: about 32 kg
- Total weight: about 130 kg
- Signal penetration depth: about 150 m (zero-offset VSP: about 200 m for S wave). For P > 500 m.



Example of a seismic reflection line recorded in Schleswig Holstein.



Single shot record

* Patent DE 10 2009 0107 58 B4 (13.02.2014), patent rights are hold by the Leibniz Institute for Applied Geophysics, Hannover.