sara

GeoBox

Technologies for seismology, engineering and geophysics

The digital seismograph GeoBox is a high-performance instrument especially suitable for recording signals for seismological and geophysical surveys such as the Horizontal/Vertical Spectral Ratio (HVSR).
The communication protocol is public, software plugins exist for SEISMOWIN, SEISLOG, SEISCOMP and EARTHWORM. The instrument's features include extreme ease of use, reliability and low power consumption.

◆The GeoBox is designed especially for recording ambient seismic noise, but it can also record earthquakes and artificial vibrations. Compact, reliable and simple, it is fully functional within minutes after deployment.

◆The unit is equipped with 2 serial ports, one for the GPS output and one for the digital seismic data stream; they respond to the RS232 standard. The USB-RS232 cable is supplied to connect it with new computers not equipped with comm ports.

◆Ultra low power consumption and a battery inside make the GeoBox suitable for working in the field without any external power supply. The battery provides up to 20 hours of working time.

◆Like all our instruments, the GeoBox can be equipped, on request, with a GPS unit for reliable and accurate UTC synchronization.

◆In our designs we always use a modular approach that make upgrades, repairs, and shipping easier.
This protects your investment as well as the environment.
We guarantee free lifetime firmware and software upgrades.

◆Our instruments are continuously being developed with the cooperation of experts in geophysics and seismology. Our extensive list of clients includes public and private institutions worldwide, such as: NORSAR (Norway), UNAM (Mexico), Geological Survey of Namibia (Namibia), with our instruments operating in: Chile, Argentina, South Africa, Iran, Jordan, Denmark, Tibet, Spain, Sudan, Nicaragua, Panama, Venezuela, and many other countries.

The GeoBox is managed by a software module of the GeoExplorer software suite: LOG-MT.
Thanks to LOG-MT, a standard PC becomes a powerful seismic station which allows the user to run vibration analyses (e.g. according to the UNI9916 and 9614 standards) as well seismic and geophysical surveys.

HVSR surveys can be run in real-time. This allows for real-time monitoring of a wide range of situations, with high efficiency and measurement reliability, and perform a quality check directly in the field.
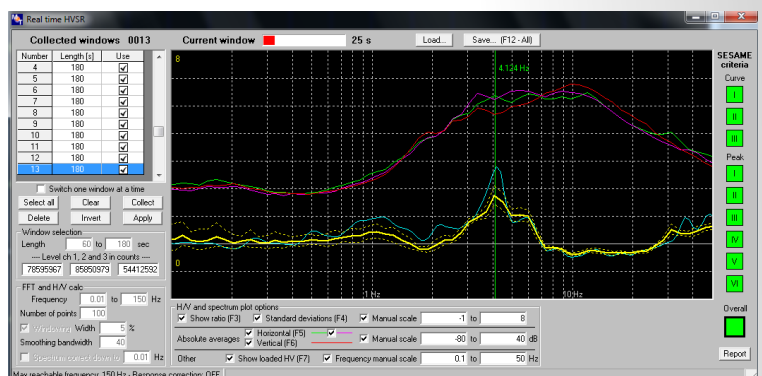
Also it is possible to check the Particle motion, that is a visualization of the horizontal motion to perform real-time quality checks in the field and check a real-time spectrum and octave bands analysis.
Data can be saved in standard formats (e.g. SAF / H-V / GSE), making the GeoBox compatible with any third party software.

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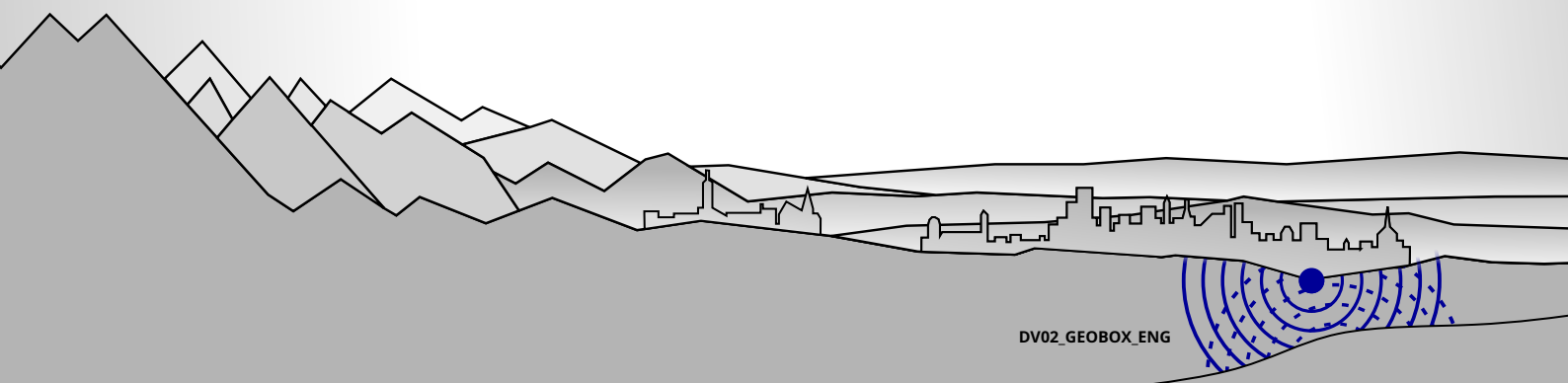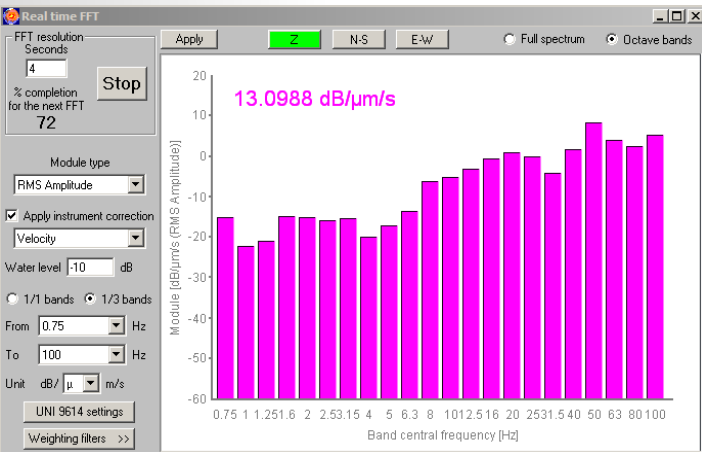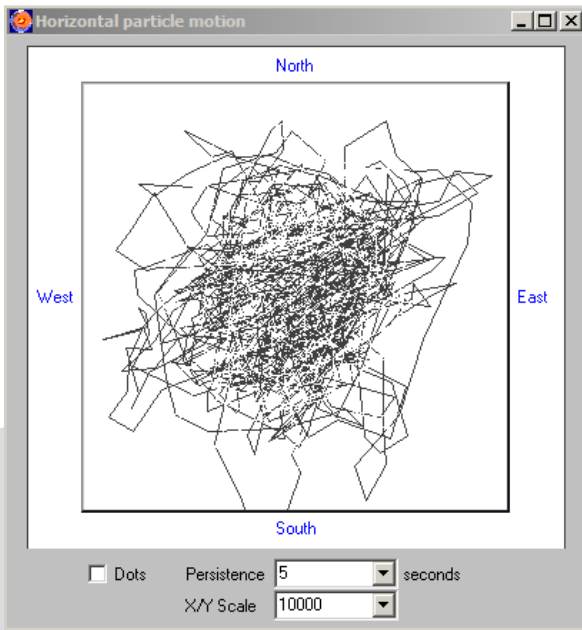
Specifications:

Power supply:	10-15Vdc, internal battery, power consumption less than 1 W
Number of channels:	3 with 24 bit A/D converter (SD)
Sensors:	4.5, 2, 1, 0.5, 0.2 and 0.1Hz
Dynamic range:	124dB (144dB, 24 bit of ENOB, between 0.1 and 10Hz)
Sensibility:	with 4.5Hz: < 1 nm/s per count
Sampling:	simultaneous on all three channel (1 A/D per channel)
Sampling rates:	from 10 to 1500 Hz
Real Time Clock:	+/-10ppm (-20/+50°C)
Sync R.Time Clock:	GPS based via PPS (on request)
Precision to UTC time:	+/- 10ppm between -02+50°C (+/-40ms UTC)
GPS antenna:	external with 10mt cable and BNC connector
Data interface:	RS232, USB cable supplied
Data format:	.SAF, .DRM, .GSE
Baud rate:	115200 and 230400 baud
GPS data interface:	RS232, MEA; 4800 baud, n,8,1
Case:	Solid block of aluminum with IP66 protection grade
Operating temp.:	-20/+60°C
Storage temp.:	
Dimensions:	155x140x110
Weight:	3.1 kg With 4.5Hz sensors, 4.4kg with 2Hz sensors
Certification:	CE

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