S100
Wide Band Seismometer 10sec-98Hz

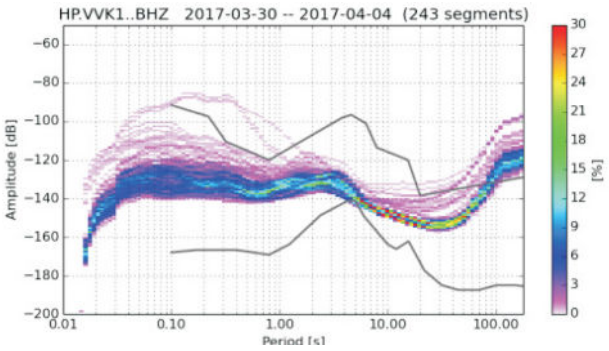
Monitoring the earth

- 3 axis velocity sensor
- Low power consumption
- Borehole or surface type
- Only 50mm diameter
- Up to 150m depth
- Smart elastic clamping
- Guiding wheels driver
- Wide input voltage range
- Build-in test line
- Wide response 10sec-98Hz
- High sensitivity 1500V/m/s
- Velocity feedback design
- Operation Range: -20 +70°C
- Local & regional seismicity monitoring

FEATURES

The S-100 is a three-component velocity output seismic sensor. The unit is recommended for local and regional seismicity and micro-seismicity monitoring. The design is based on the force-balance principle. Using three geophone elements and using electronics the bandwidth is extended to a lower frequency than the original geophone's natural frequency. Actually, three generations of the S-100 sensor have been manufactured. Several values of low and upper corner frequencies are provided through different senor configuration so 10s, 5s, 2s and 1s low frequency corner as well as 50, 80 and 98 Hz high frequency corner are available. The sensitivity is 1000V/m/sec for the Mk1 version and it has been increased to 1500V/m/sec for the newer Mk2 and Mk3 versions. Lower sensitivity is also available upon request.

The default cable length of the sensor is approximately 5 meters (BH) but it can be extended up to150 meters. The sensor electronics are housed inside the back box leaving the sensor body free of electronics. Any damage risk is dramatically minimized using this topology. Two sensor types are provided, one borehole type and one surface type. Both have similar characteristics. The borehole type is housed into an 50mm diameter casing while the surface type unit's dimensions are only 115x90x55 mm. No mass-lock or centering is required that makes easy the connection with the digitizer. The settling time of the unit is very short, only thirty seconds. A test line is also provided for calibration and testing. The sensor is ideal for local and regional earthquake seismology as well as human or induced micro-seismicity monitoring.



INSTRUMENT SPECIFICATIONS

GENERAL

Number of channels	3
Orientation	Triaxial Vertical, North-South, East-West
Geophone resistance	375 OHms
Power	+12Vdc/0.2W (9-18Vdc) +/-12Vdc/0.09W
Mounting	Borehole type/Surface type(BH/ST)

PHYSICAL

Cable length	Standard 5m(S100_BH), 3m(S100_ST)
Size (geophone enclosure)	180mm length, 50mm diameter(BH), 120mm height, 130mm diameter (ST)
Weight (geophone enclosure)	600g(BH), 1100g(ST)

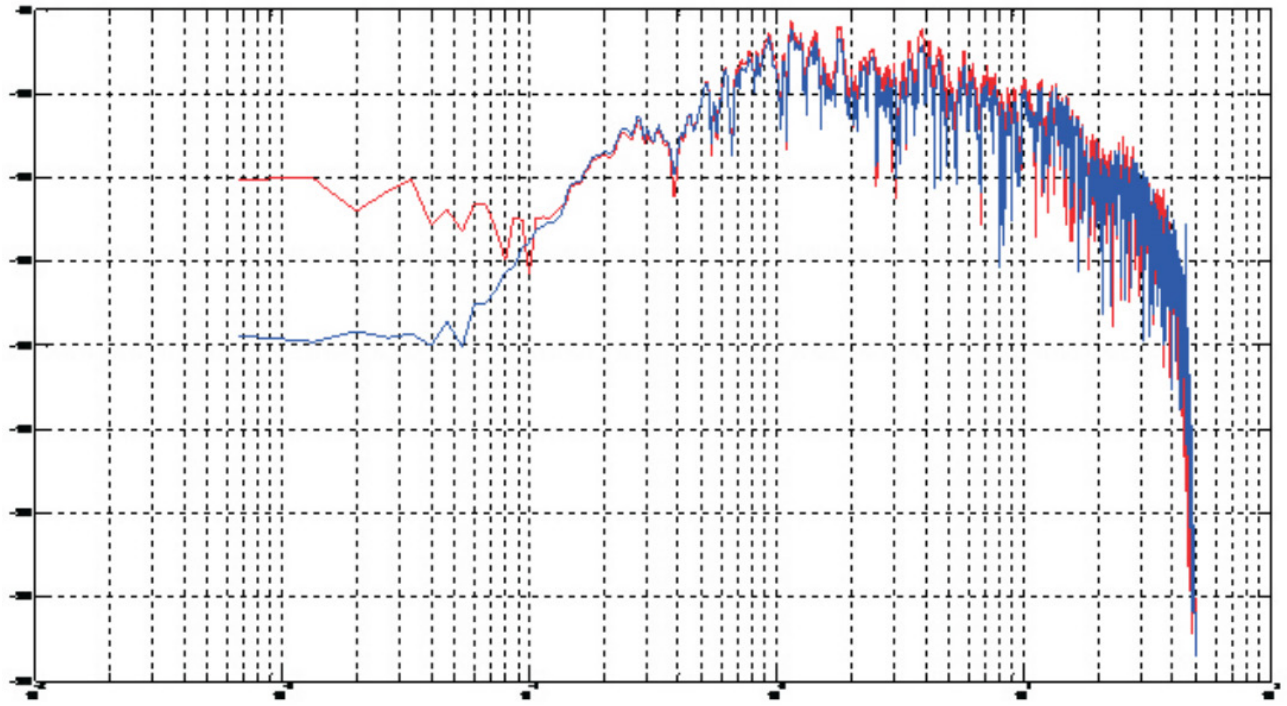
FORCE BALANCE ELECTRONICS

Sensitivity	1500 V/m/sec (optional different sensitivity can be set under request)
Noise Level	Below NLNM into recording band
Bandwidth	10sec to 98Hz (or 5s,2s 1s, 4.5Hz low cut)
Dynamic Range	>136dB

ENVIRONMENT

Temperature Range	-20 to +70°C
Humidity	100%, IP67 enclosure
Submersible	1000 meters (BH), 0.5m (ST)

Optional versions with period 1sec, 2sec, 5sec and 4.5Hz are available



C100 (red) vs Guralp3T (blue) PSD plot

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