SEISMOSTACK seismic equipment boards and instruments series

SR04 - 24 BIT SEISMIC UNIT

The SR04 is a rugged and compact seismic digitizer designed to recording signals produced by a wide range of sensors from geophones to accelerometers.

It can be equipped with up to three 4.5Hz geophones.

Overview

The SR04 is an instrument with all the electronic components needed to digitize an analogue seismic signal in digital form to be recorded using a PC. It embeds a sigma-delta high speed and high precision analogue to digital converter, a GPS receiver for accurate timekeeping and sincronization and can embeds 1 or 3 compact 4.5Hz sensors.

The system is intended to be used with a personal computer running the proper data logging software. The native software for this unit is Seismowin and Seismowin-Pro. The unit is also supported by Seislog and Seiscomp.

Technical features

Analogue channels:	3
Anti alias filter:	1 poles 20Hz low-pass filter
Band-pass:	standard DC to 8.8Hz (customizable)
A/D converter:	24 bit sigma delta
Type:	Differential input
Gain:	fixed gain
Input range:	+/- 1V
Overvoltage protec.:	zener diode up to 1kV for few mS
Damping:	geophones internally damped, external sensor damping with external resistors
Input Impedance:	Typically >= 1 Mohm
Noise level:	typically < 2.5 counts at 100 SPS
Crosstalk rejection:	> 140dB
Skew time:	zero (simultaneously sampling on all 3 channel)
Dynamic range:	140dB at 25 SPS
Clock:	10ppm stability within -20/+50 °C temperature range
Precision:	better than 1ppm at 25 °C
Sincronization:	GPS receiver included
GPS Antenna:	Amplified antenna with 10mt of coaxial cable and BNC connector
Comunication:	1 RS232 port at 38400 baud
Protocol:	binary proprietary supported by SEISLOG and SEISMOWIN
Sample frequency:	10, 20, 25, 50, 100, 200 SPS
Power supply:	10-25Vdc - 4.5W
Operating temp.:	-20/+70 °C
Cabling:	RS232 and power cable provided with the unit
Weight:	1,5 Kg

Applications

- Seismic networks
- Seismic arrays
- Personal Seismograph
- Training

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