Geometrics Knowledgebase

SmartSeis ST Basic Description

SmartSeis ST SMARTSEIS ST

Find bedrock, depth-to-water, faults; determine Vs for IBC site classification Ideal for engineering, construction, road building, and teaching Completely integrated and rugged system with built-in PC, daylight-visible color LCD, keypad, and printer Provides in-field answers for you and your client including bundled refraction data analysis software picks first arrivals and calculates final cross-section optional surface wave software picks dispersion curve and calculates shear-wave velocity Best value in a professional, all-around seismograph

Looking for a quick way to find depth to bedrock? Want to determine the shear-wave velocity (Vs) for IBC Vs30 site classification? Need an economically-priced integrated instrument? Look no further!

If you are a geoscientist doing teaching or research, or need a basic exploration seismograph to find bedrock or determine IBC Vs30 site class, the next generation SmartSeis ST is for you. The SmartSeis ST is an integrated seismic exploration system with a built-in ruggedized PC, daylight-visible LCD, keypad, and high-resolution plotter. Use the plotter to print and show your client or students results right in the field.

The SmartSeis ST system comes standard with the data analysis software you need to do comprehensive refraction surveys. As an option, you can add the capability to analyze surface wave data to determine Vs. Geometrics also offers special pricing for multiple licenses of data analysis software so field crews or students can have their own copies.

The SmartSeis ST is backed by Geometrics, now in our 40th year of prompt and knowledgeable customer support. Our seismographs and the SeisImager suite of software are also available for rent.

Specifications:

Configurations: 12, 16, or 24 channels configured as an integrated unit in weather-resistant container with built-in LCD, keypad, and ruggedized PC running Windows XP Home. System includes SmartSeis ST Operating Software (STOS) with optional software for self-triggering and continuous recording.

A/D Conversion: 24-bit result using Crystal Semiconductor sigma-delta converters and Geometrics proprietary over-sampling.

Dynamic Range: 144 dB (system); 110 dB (instantaneous, measured) at 2 ms, 24 dB.

Bandwidth: 1.75 Hz to 8 kHz.

Distortion: 0.005% @ 2 ms, 1.75 to 208 Hz.

Common Mode Rejection: >100dB at d 100 Hz, 36 dB.

Crosstalk: -125 dB at 23.5 Hz, 24 dB, 2 ms.

Noise Floor: 0.20 uV, RFI at 2 ms, 36 dB, 1.75 to 208 Hz.

Maximum Input Signal: 177 mV P-P, 24 dB.

Input Impedance: 20 kOhm, 0.02 uf.

Stacking Trigger Accuracy: 1/32 of selected sample interval.

Preamplifier Gains: 24 or 36 dB, software-selectable.

Anti-alias Filters: down 3 dB at 83% of Nyquist frequency; down 90 dB or more e Nyquist frequency.

Acquisition and Display (Butterworth) Filters:
Low Cut: OUT, 10, 15, 25, 35, 50, 70, 100, 140, 200, 280, 400 Hz, 24 or 48 dB/octave.
Notch: OUT, 50, 60, 150, 180 Hz, with the 50 dB rejection bandwidth 2% of center frequency.
High Cut: OUT, 32, 64, 125, 250, 500, 1000 Hz, 24 or 48 dB/octave.
Display filter value

http://support.geometrics.com/kb/questions.php?questionid=6