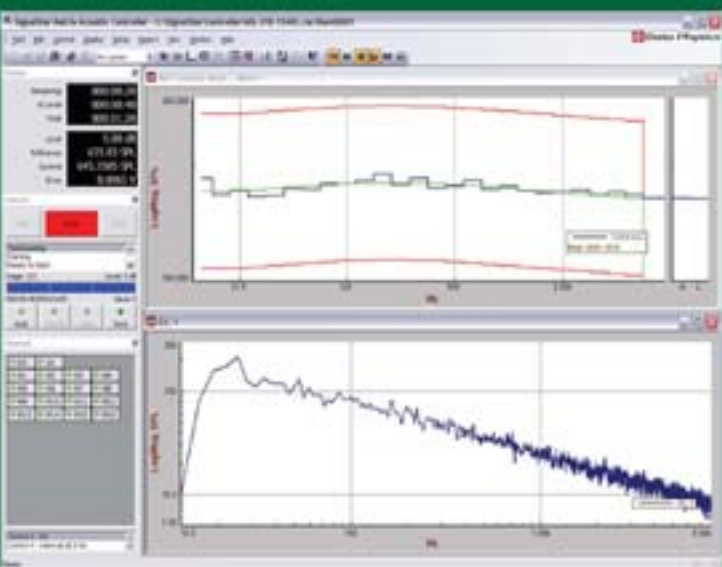




Acoustic Control

Engineered for SignalStar Vibration Controllers

- Scalar
- Vector
- Matrix



Random Acoustic Control

Random Acoustic Control software is designed to be used with reverberent chambers to simulate high intensity acoustic noise like that experienced during rocket launch. The Random Acoustic Control software runs on the Data Physics ABACUS system. ABACUS is ideal for acoustic testing with high dynamic range and excellent channel to channel phase match. Separate output channels can be used to drive acoustic exciters in different frequency ranges. Random Acoustic control supports 1/1 octave, 1/3 octave, and narrowband control. A local throughput disk in the ABACUS front end enables continuous throughput to disk of time history data for later post processing.

Closed Loop Acoustic Control

The SignalStar Matrix Random Acoustic Control software is designed to provide fast, accurate, safe, control of reverberent acoustic chambers. Tests profiles may be defined with 1/1 octave, 1/3 octave, or narrowband spectra. Safety parameters include the ability to define alarm and abort levels based on 1/1 octave, 1/3 octave, and narrowband profiles. Alarms and aborts may also be defined based on the overall SPL level.

The Random Acoustic Control software has extensive display and analysis capability during the test. The test operator may view time and frequency domain (narrowband or nth octave) from all active channels during the test. Control signals can be overlaid with reference and tolerance profiles.

During a test, the operator has to ability to switch to manual mode and modify the control parameters, including selecting open or closed loop control, enabling/disabling aborts and modifying the control loop sensitivity.

The Data Physics ABACUS front end is ideally suited for closed loop acoustic control. The 24 bit analog to digital converters and digital to analog converters provide greater than 120 dB of control dynamic range. This dynamic range is necessary for accurate control of reverberent acoustic chambers. ABACUS can be configured with up to 32 input channels and up to 8 output channels. Each output channel can be assigned to a different acoustic exciter with a different frequency range.

The local throughput disk in the ABACUS allows continuous streaming of the microphone data to disk during acoustic control. This data can be later post processed using Data Physics SignalStar Analyzer acoustic analysis software.