

SignalStar[®] Vibration Control Systems



Scalar

Vector

Matrix

powered by
ABACUS[™]



SignalStar[®]

Vibration Control Systems



The SignalStar family of vibration control systems provides the complete solution for all of your vibration control needs. From the entry level Scalar to the high channel count multi shaker Matrix system, SignalStar control systems provide the highest level of vibration control performance. With three systems to choose from, Data Physics has the right shaker controller for your laboratory.

Systems Optimized for Vibration Control

With more than 25 years of experience, Data Physics has developed a reputation as an innovator in vibration control. Data Physics designs and builds signal processing hardware specifically to take advantage of its proprietary control algorithms.

SignalStar vibration control systems incorporate 24-bit ADC and DAC hardware to provide the dynamic range necessary to control highly resonant structures. The choice of single ended or differential inputs enables SignalStar controllers to operate in noisy environments where other controllers cannot. A wide variety of transducers are supported with AC or DC coupling, as well as ICP and TEDS Smart Sensors.

Powerful 32-bit floating point DSPs embedded on each input module provide the realtime signal processing speed required for safe and accurate vibration control. The distributed DSP architecture allows SignalStar control systems to be expanded to a large number of input channels, without sacrificing control performance. The SignalStar vibration controller family provides a broad range of single and multi shaker control applications:

● **Single Shaker Applications**

- Random
- Sine
- Resonance Search & Dwell
- Classical Shock & Transient Control
- SRS Synthesis
- Mixed Mode
- Time Data Replication

● **Multi Shaker Applications**

- Random
- Sine
- Classical Shock & Transient Control
- Mixed Mode
- SRS Synthesis
- Time Data Replication

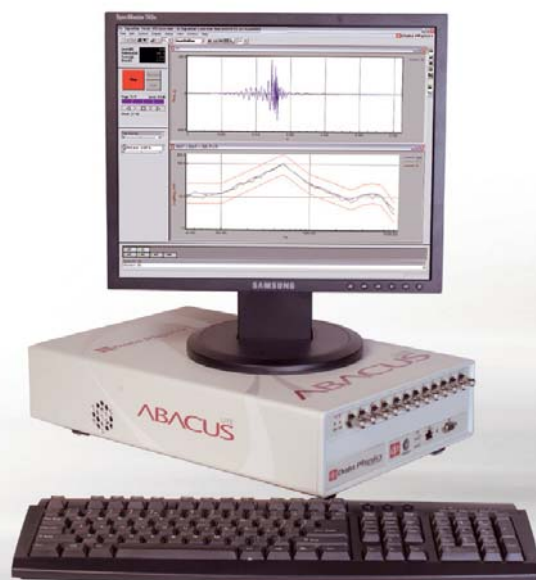
All SignalStar controllers combine Data Physics innovative control algorithms with Data Physics powerful distributed DSP hardware in an integrated solution. Software and hardware are specifically designed to work together to provide the fastest loop speeds and stable control on both electrodynamic and hydraulic shakers.

Scalar

SignalStar Scalar

SignalStar Scalar is an entry-level, single shaker, controller with high end control performance. Scalar is the ideal low cost controller for users who need only basic vibration control. No other controller compares with the combination of simplicity and powerful control in a package that costs so little. Scalar shares the same DSP based architecture and control algorithms with the Vector and Matrix, but with a reduced standard feature set to meet the typical entry level testing requirements. The reduced feature set makes Scalar even easier for the novice user. Scalars modular software structure allows you to configure your Scalar with only the features you need today. Your investment in Scalar is protected by the ability to expand its capabilities as your testing requirements grow.

- Entry level system
- Single shaker control
- 2 to 8 input channels
- Fully upgradeable

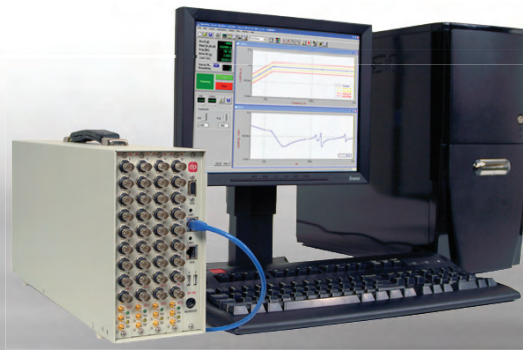


Vector

SignalStar Vector

SignalStar Vector is a high performance vibration control system designed to meet the most demanding shaker control tests. Vector provides single shaker control and analysis from 4 to 32 input channels. Additional input channels provide insight into the dynamic response of larger structures. Each input channel can be assigned its own limit profile to prevent overstressing of delicate test articles. The ABACUS DSPcentric signal analysis engine provides the realtime signal processing performance essential for higher channel count vibration control tests. Vector offers extensive online measurement and analysis features. For post test analysis, the throughput option provides simultaneous streaming of time data at up to 107 kHz on all 32 channels to a local disk in the ABACUS front end. Vector offers a comprehensive suite of control applications to meet all of your single shaker vibration control needs.

- High Performance
- Single shaker control
- Up to 32 input channels
- Optional local throughput disk



Matrix

SignalStar Matrix

SignalStar Matrix is a high performance controller capable of multi shaker control with up to 16 shakers and single shaker control with up to 1024 input channels. The ABACUS network architecture and distributed DSP provide the processing performance required for the demanding task of multi shaker control and large channel count shaker control. Multiple ABACUS chassis are combined using a Gigabit network switch to create a single large system. Synchronization between ABACUS chassis provides extraordinary, channel-to-channel phase match across the entire system. For multi shaker control each ABACUS chassis supports up to 8 output channels. ABACUS provides the additional benefit of modular hardware. Multiple smaller systems can be combined to form a large channel count system for occasional use in larger applications. Connections are made in seconds using standard network cable for communication and synchronization.

- High Performance
- Single shaker control - up to 1024 channels
- Multi shaker control - up to 16 shakers
- Optional local throughput disk





Discover more at www.dataphysics.com

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Data Physics has been supplying high performance test and measurement solutions for over 20 years. With the addition of a full line of electrodynamic shakers to complement its vibration controllers and dynamic signal analyzers, Data Physics is a total solution supplier for noise and vibration applications.

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