Medallion II

Vibration Control System

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www.vibrationresearch.com

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Vibration Solution

The Medallion II from Vibration Research is an economical solution that is great for basic vibration control, but has the ability to perform complex vibration testing and reporting found in any test lab environment.

The Medallion II control system is compatible with both Electrodynamic and Hydraulic shakers. This control system was designed as an easy to use platform and still provide the all the capability the end user might require to perform a broad range of testing requirements at an affordable price.

Superior Performance
Low noise design with a dedicated high speed RISC processor for signal processing. 24 bit resolution and a 120 dB dynamic range make this control system a perfect solution for almost any vibration test.

Dependable
The control system hardware is run through a complete set of diagnostic testing prior to shipment. The Medallion II control system has been designed to operate in lab conditions ranging from very hot and humid to very cold and dry. You can rely on this system to be there when you need it. All systems come with a one year factory warranty against manufacturing defect.

Versatile
Medallion II controllers can be combined to meet higher channel count requirements if necessary, up to 16 channels. Additional software can be enabled quickly on a permanent or rental basis as test requirements change.

Easy to Use
Medallion Software is easy to use and intuitive for the new user. The *Help* section of the software is context sensitive and can answer questions that are basic or complex. An unlimited number of windows are available to display all your data.

Models

VRMII-4
- 1 output channel
- 4 software modules
  - Sine
  - SRTD
  - Random
  - Shock
  - Cola

VRMII-8
- 1 output channel
- 4 software modules
  - Sine
  - SRTD
  - Random
  - Shock
  - Cola

*** Upgrade input channels to maximum 16**

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Hardware

All Vibration Research control systems easily integrate with your PC. Simply connect your PC to the controller, load the Medallion Software and you are ready to test. Medallion II controllers have configurable safety limits to protect your test article and your shaker. Users can configure acceleration limits, line limits and drive limits.
Each input channel has the ability to enable or disable tracking filters, allowing the user to remove harmonics and out-of-band noise from the measurements.

Scalable

- From 4 to 16 channels
- Uses 4 channel blocks, which can be easily rack mounted or stacked on a desk
- Each 4 channel module can be used independently on separate shakers or linked into a single stack for higher channel count. Additional outputs and software may be required to control more than one shaker.
- TEDS accel power

Hardware Features

- Front BNC connectors
- Rear digital I/O connector (optional)

Ethernet Connection

- Eliminates the 50/60 Hz noise common with USB connection
- Allows for easy placement of the controller up to 100 meters away from the PC
- Eliminates the need for long accelerometer and drive cables

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Calibration

Calibration assures you that your measurements are accurate within the specification limits. Every new Medallion II arrives freshly calibrated and adjusted, with a Certificate of Traceable Calibration to NIST. Annual calibration verification is your prescription for the continued health and performance of your controller.

Option 1 - Calibrate Yourself Using Software Written by Vibration Research

Perform calibration verification in your own lab using your own calibration instruments and Vibration Research's Automated Calibration Verification (VR95-CALxx) software license, written by Vibration Research to automate the verification process.

Option 2 - Send to Vibration Research

Factory Certified calibration. This is the most cost-effective option.

Option 3 - Send to a Third Party for ISO/IEC 17025 Certified Calibration

Vibration Research teams with select labs which provide ISO/IEC 17025 certified calibration on Medallion II controllers. Contact Vibration Research for the list of labs.

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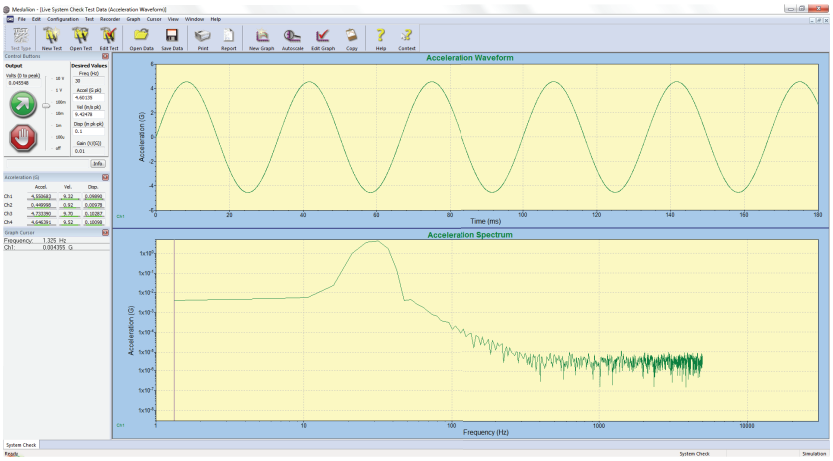

Standard Software & Specifications

Sine
- Large numerical readout
- Digital tracking filters
- Graph view of profile is updated as it is created
- Test maximum peak acceleration, peak velocity and peak-to-peak displacement values are displaced COLA output
- Duration can be entered as sweeps, cycles or time
- Breakpoints: Up to 1,000 amplitudes of A,V, or D, constant or slope changes as defined frequencies
- Linear sweep type, from 0 to 6,000 Hz per minute, or logarithimic from 0 to 100 octaves per minute
- Sweep rate can be changed when test is running
- Multi channel extramal control
- Includes COLA output
- Multi channel extremal control
- Notching

Sine Resonance Track & Dwell (SRTD)
- Automatically create a table of the top ten resonances
- Select resonances from the table to test further
- Select resonances from detection table and automatically identify top 10 resonances
- Constant frequency or phase dwell

Random
- Input channels can be run individually or combined by minimum, maximum or average
- Clipping at any level between 1 to 10 sigma
- Scale entered profile by percentage level, by dB level or to an RMS acceleration level
- Graph view of profile is updated as it is created
- Automatic display of RMS acceleration and displacement values for profile
- 50 to 13,000 lines of resolution
- 120 dB typical input dynamic range
- 2 to 1,000 degrees of freedom
- 200 levels
- 4 to 32 single, averaging or extremal control channels

Shock
- Pre-pulse and post-pulse compensation is calculated
- Pulse can be easily inverted
- Configurable delay between pulses
- Pulse types include half-sine, haversine, initial and terminal peak sawtooth
- 1 ms to 60 second pulse duration, with user defined delay from 0 to 1,000 seconds
- Auto loop transfer calculation during pre-test or startup recall from disk

Additional Software Features
- Test sequencer
- Pasted trace overlays
- Drag-and-drop
- Multi-language
- Cursor functions
- Custom reporting

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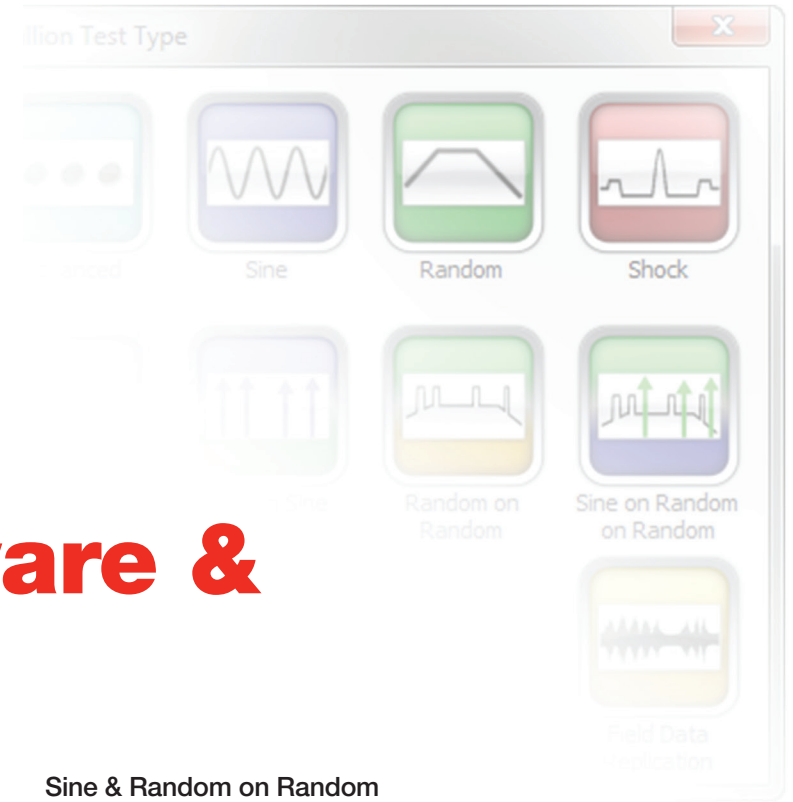

Optional Software & Specifications

Shock Response Spectrum (SRS)
- Run a shock pulse defined by a frequency versus peak table
- Supports many generation techniques including linear and exponential chirp, wavesyn, burst random, linear and exponential chirp on random, enveloped random, burst sine, or iterate from user waveform
- Manually adjust all the parameters fo the underlying wavelets or allow VibrationVIEW to automatically create and run without intervention
- Acceleration for primary (+) and primary (-), and Maxi-Maxi

Sine on Random
- 1 to 10 true floating point sine tones
- Up to 1,024 seperate frequency/amplitude breakpoints
- Standard 50 to 1,600 lines of control
- Profile updated in graph form as it is created
- 1 to 10 true floating point sine tones, and up to 50 sine breakpoints
- 50 to 1,600 lines with 4 to 32 input channels
- Multi channel averaging or extremal

Random on Random
- 1 to 10 narrow spectral bands can be superimposed on the background random spectrum
- User programmable amplitude, bandwidth and frequency sweep parameters
- 50 to 13,000 lines, with 4 to 32 input channels multi channel averaging or extremal

Sine & Random on Random
- Run random sweeping tones and real sine tones simultaneously on a random background

Field Data Replication (FDR)
- Import waveforms from data recorders using an analog input or input digital wave.uff, .rpc or text files
- Waveforms can be up to 45 hours long at a 26,000 Hz sampling rate or up to 1 year at a 100 Hz sampling rate
- Shaker/fixture/product response automaticlly equalized prior to running a test
- From 1 to 4 control loops can be run simultaneously to independently control up to 4 shakers with 4 separate waveforms

Digital Remote I/O
- Enables the rear terminal block TTL level inputs and outputs
- Each input can be configured to start, stop, and select tests
- Connect controller to operator station push buttons, or integrate the controller with your chamber
- Can be used for chamber interface and a variety of additional applications

Visit our YouTube channel for updated videos, tips & tricks

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