

# **Derritron DVC-4 Vibration Controller**

- ✓ Swept Sine
- ✓ Random
- ✓ Classical Shock



## **Features:**

- ***Virtual Instrument Screen with Familiar Windows Functions***
- ***Lifetime Free Software Upgrades and Demo Software***
- ***Input Channels with Current Sources Standard***
- ***Established Reliability With 3-Year Warranty***
- ***Ideal for Production Test and Small Systems***
- ***Remote Control via Hardware or Software***
- ***Use With Any Windows PC with PCI Bus***
- ***Software Calibration, no Trimpots***
- ***Easy to Install and Use***

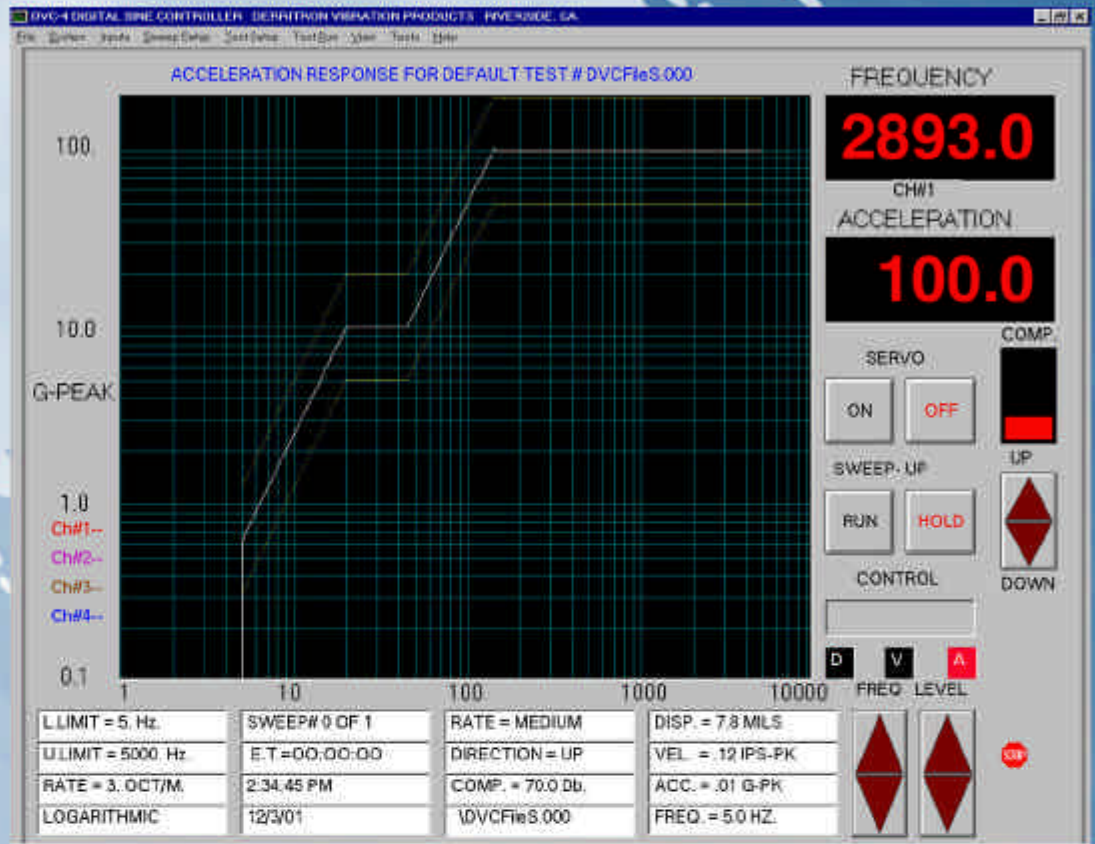


## DVC-4 Vibration Control System For Sine, Random and Classical Shock testing

The DVC-4 Vibration Control System was one of the first controllers to take advantage of the Windows Operating System, combining DSP hardware with the Windows interface. This has resulted in a vibration controller with unparalleled economics and ease-of-use. The DVC-4 is fully compatible with Windows 95/98/ME, and is available with any or all of the above control modes enabled.

### Established Reliability

As the logical successor to the ISA slot DSC/DRC controllers the DVC-4 has a ten-year history with DOS software and five with Windows; over 600 systems are in the field and it is backed with a 3-year warranty.



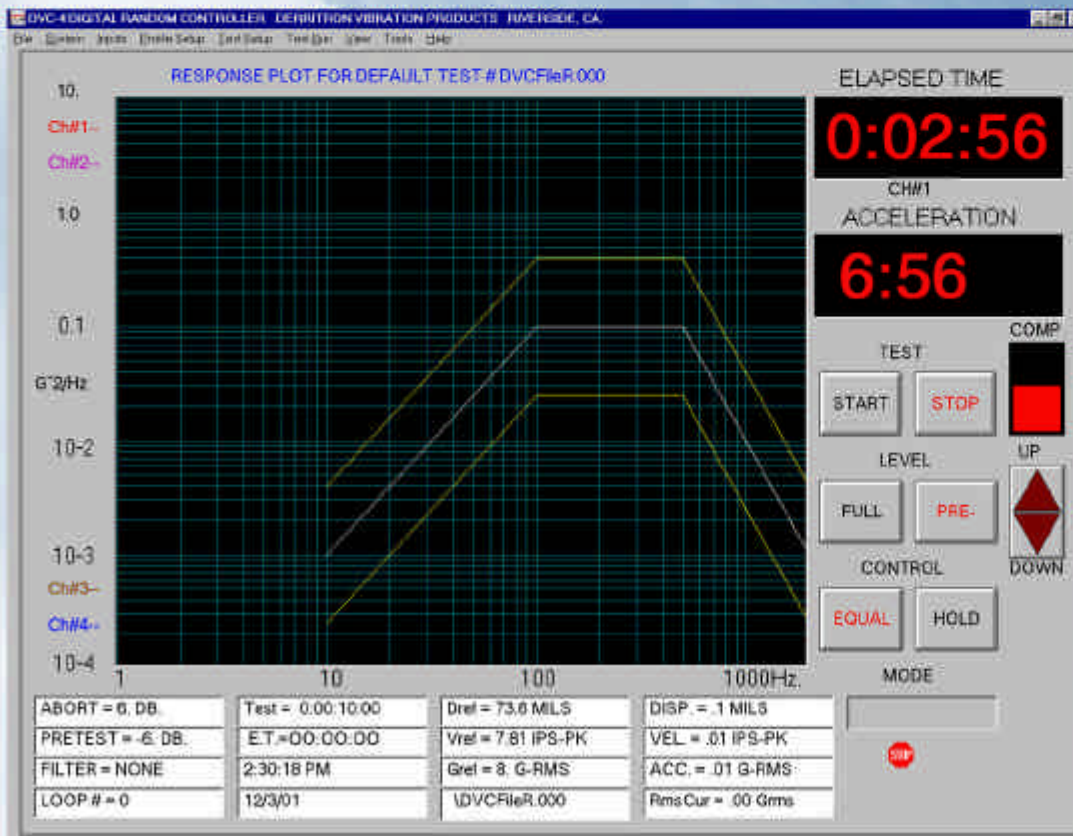
Sine Software

### Built-In Accelerometer Current Sources

Simply connect the inputs to integrated accelerometers, turn in the current sources in the Inputs Menu, and run the test. The added expense and trouble of external charge-amps and power supplies are a thing of the past.

### Virtual Instrument Screen

Your computer screen is turned into a "virtual instrument", with plotting, LED style readouts, control buttons and status indicators all arranged in an easy-to-read format. All of the setup details are hidden in drop-down menus. Common functions can be performed by either mouse, keyboard, or hardware or software remote control. In addition, the monitor status bar provides the user a view of all test parameters for the current test.



Random Software

## 4-Channel Input Standard

The sensitivity of each of the four input channels can be defined and a label may also be assigned along with a transducer serial number for future reference. The controller can be set to any combination of control or measurement channels.

## Menu Setup

All of the details of the test setup are managed in familiar Windows drop-down menus; users will appreciate the familiar menu arrangement and quickly master entering test parameters.

## Profile Setup

The Modify Profile screen defines the random PSD reference spectrum or sine D,V,A test schedule. Breakpoints can be defined in English or metric units and freely converted back and forth; up to 32 breakpoints can be defined for each test..

## Remote Control

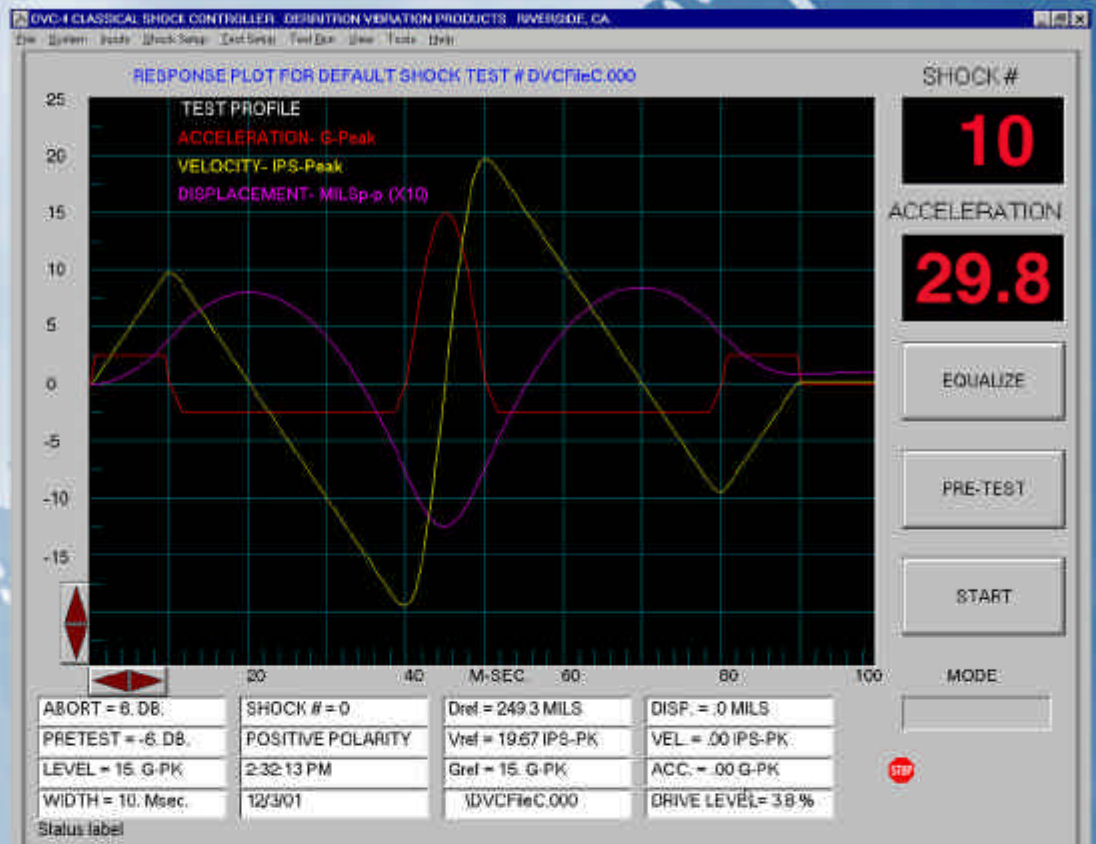
Common Start/Stop/Abort type functions can be controlled remotely by either logic signals or switch closures, or be software calls to the DLL, enabling the DVC-4 to be integrated into test chambers.

## Software Calibration

There are no trimpots or adjustments; calibration is done in software. The calibration procedure is included in the help file.

## Ease of Installation and Use

Operation of the DVC-4 controller can be mastered in minutes without enduring the lengthy training period competitors require. This makes the DVC-4 well suited for production stress screening and small shops where dedicated test labs and trained staff may not be present.



## Classical Shock Software

### Use With Any Computer

Why be locked into an obsolete computer? Use the DVC-4 with any available PC and upgrade as technology moves forward. The DVC-4 requires only one PCI card slot to interface with the control module. The software automatically resizes for use with any monitor. No ISA slots required!

### Free Software Upgrades

The software is typically updated twice a year, the upgrades are free and posted on our web site <http://www.derritron.com/dvc-4.htm> for downloading. Combined with the extended warranty and no service contracts the economical purchase price is the total cost except for a readily available computer.

### Manual Mode

All three software packages can be operated in a manual mode, simulating sine and shaped random signal generators, and waveform generator in shock.

### Demo Software

Demo software is available on disk or on-line for training and product evaluation purposes, visit the web at <http://www.derritron.com/dvc-4.htm> to download the demo or call us and we will mail you a CD. The working software can also be used in a demo mode for training purposes.



# Software Package Specifications

## Sine Vibration Control Software Package

DSC

Frequency :	Range: 2 Hz to 10 KHz. Stability: $\pm 100$ ppm/ $^{\circ}$ C, crystal controlled. Distortion: $<0.50\%$ thd, 0.25% typical. Limits: sweeps between programmed lower and upper limits.
Sweep Mode: Sweep Rate:	Linear, Logarithmic or MIL-167 Incremental. Entered in Oct/min, Hz/sec, Hz/step 0.1-99.9 Oct/Min or 0.1-99.9 Hz/sec.
Control Method: Control Channel: Dynamic Range: Reference Profile:	Average, Extremal, or Manual. Any combination of channels may be used for control and/or measurement. Greater than 70 dB. Defined with any combination of Displacement, Velocity or Acceleration. Up to 32 breakpoints may be defined. Automatic crossover frequency calculation from Displacement, Velocity or Acceleration. Two dwells points can be programmed for a specified time at any desired frequency point. Automatic loop check for safety for open loop, low gain, over/under test and system limits.
Test Article Protection: Displays:	Interactive Windows displays, allowing for real time user display changes. Display types Include: Target Profile. Response of selected channel Alarm and abort limits.
Test Documentation:	Any of the above screens may be saved or printed out.
Display Monitor:	The monitor bar displays the setup conditions, test status, and reference and current displacement, velocity and acceleration values.

## Random Vibration Control Software Package

DRC

Frequency Ranges: Spectral Resolution: Control Method: Control Channel: Dynamic Range: Loop Time: Equalization: Reference PSD: (Profile) Random Signal: Sigma Clipping: Pre-test: Filtering: Analysis Windowing: Test Article Protection: Displays:	2.5-500, 5-1000, 10-2000 Hz. 400 lines. Average, Extremal, or Manual. Any combination of channels may be used for control and/or measurement. Greater than 60 dB. 500 msec @ 2,000 Hz and 400 lines of resolution. $\pm 1$ dB typical Defined by $G^2$ /Hz or $m^2$ /Hz with up to 32 breakpoints. Separate alarm/abort limits defined for each segment or overall setting. True random signal of gaussian amplitude distribution. User selectable from 1.0 to 4.0 sigma. Settable from 1 to 20 Db below full test level. 8-pole anti-alias filters on all signal inputs and drive output.. Rectangular, Hamming, Hanning or Blackman selectable. Automatic loop check for safety for open loop, low gain, spectral or over/under test and system limits. Interactive Windows displays, allowing for real time user display changes. Display types Include: Reference spectrum Response spectrum for each channel Drive output Alarm/abort limits Captured waveforms for each input channel
Test Documentation:	Any of the above screens may be saved or printed out.
Display Monitor:	The monitor bar displays the setup conditions, test status, and reference and current displacement, velocity and acceleration values.

## Classical Shock Vibration Control Software Package

DSC

Waveform:	Pre-defined waveforms: half sine, initial/terminal peak Saw tooth, triangular, quarter-sine, parabolic cusp & sine-burst.
Pulse Width:	0.1 to 100 msec for fixed waveform.
Analyzing Time:	100 msec to 1 sec.
Frequency Range:	0.1 Hz to 10 KHz
Equalization :	Low-level equalization on one channel (Remaining channels available for measurement).
Tolerance:	Alarm and abort, MIL 810, IEC + other standard limits.
Pulse Polarity:	$\pm$ , Selectable.
Pulse Modes:	Single or repetitive pulses, with settable pulse count and rep rate.
SRS Analysis:	1/1, 1/3, 1/6, 1/12 and 1/24 octave.
Pre/Post- Compensation:	Automatic optimization of pre- and post- shock pulses.
Parameters:	Acceleration, velocity & displacement in English or metric units.
Test Article Protection:	Automatic loop check for safety for open loop, low gain, over/under test and system limits.
Displays:	Interactive Windows displays, allowing for real time user display changes. Display types Include: Time Trace: Test Profile Accelerometer Response Drive Waveform Alarm/Abort limits Shock Response Spectrum
Test Documentation:	Any of the above screens may be saved or printed out.
Display Monitor	The monitor bar displays the setup conditions, test status, and reference and current displacement, velocity and acceleration values.

## Common Features

Input Channels:	4 channel configuration standard
Input Sensitivity:	Settable from 5 to 1000 mv/g, 20 Vp-p maximum input each channel (BNC connectors).
Current Sources:	Four, 4 MA each input, 18 VDC compliance, software selectable.
Output Channels:	1 Drive channel.
Output Level:	16 Vp-p or 5 Vrms maximum (BNC connector).
Units	English or Metric with auto-conversion of all setup parameters.
Operating System:	Microsoft Windows 95/98/ME compatible.
Display:	Re-sizes automatically for all common screen resolutions.
Hard Copy	Any printer supported by the Windows Operating System; color or black & white printouts.
Remote Control:	Remote Start/Stop/Abort with external logic signal, switch closure, or by DLL calls for software control.
Export of Data	Industry standard EXCEL file format or clipboard.
Computer Requirements:	Pentium 166 or better; uses 6 mb memory and 1 PCI card slot.
Size	1.5"H x 7.25"W x 15"D



all specifications are subject to change

