



# Shock VIEW VR 620 VR 621 VR 640

CLASSICAL SHOCK PULSE SOFTWARE

## Standard Pulse Shapes

Select from half-sine, haversine, initial-peak sawtooth, terminal-peak sawtooth, triangle, trapezoid and square pulse shapes.

## Control channels

The control signal can be a single input channel, or an average of from 2 to 16 different input channels.

## Test scheduling

Repeat a pulse from 1 to more than 2 billion times, with a configurable repetition rate. Tests can be configured to run pulses at different amplitude levels.

## Configurable safety limits

To protect your test article and shaker system, configurable acceleration and drive limits can be set by the user. The control input is also verified against shaker force, velocity, and displacement ratings.

## Equalization

The controller automatically equalizes the response of the shaker/fixture/product prior to running the test. This equalization can be memorized and stored with the test to quickly start a test at a full equalized level.

## Data Storage

All of the test data can be stored to the disk for later retrieval. Data storage can be done manually or programmed to automatically store at user-defined pulse intervals.

## Reference Output

The second output channel supplies a reference signal to indicate when a pulse is running. This can be used to trigger external measurement devices.

## User-defined transient (Optional) VR 621

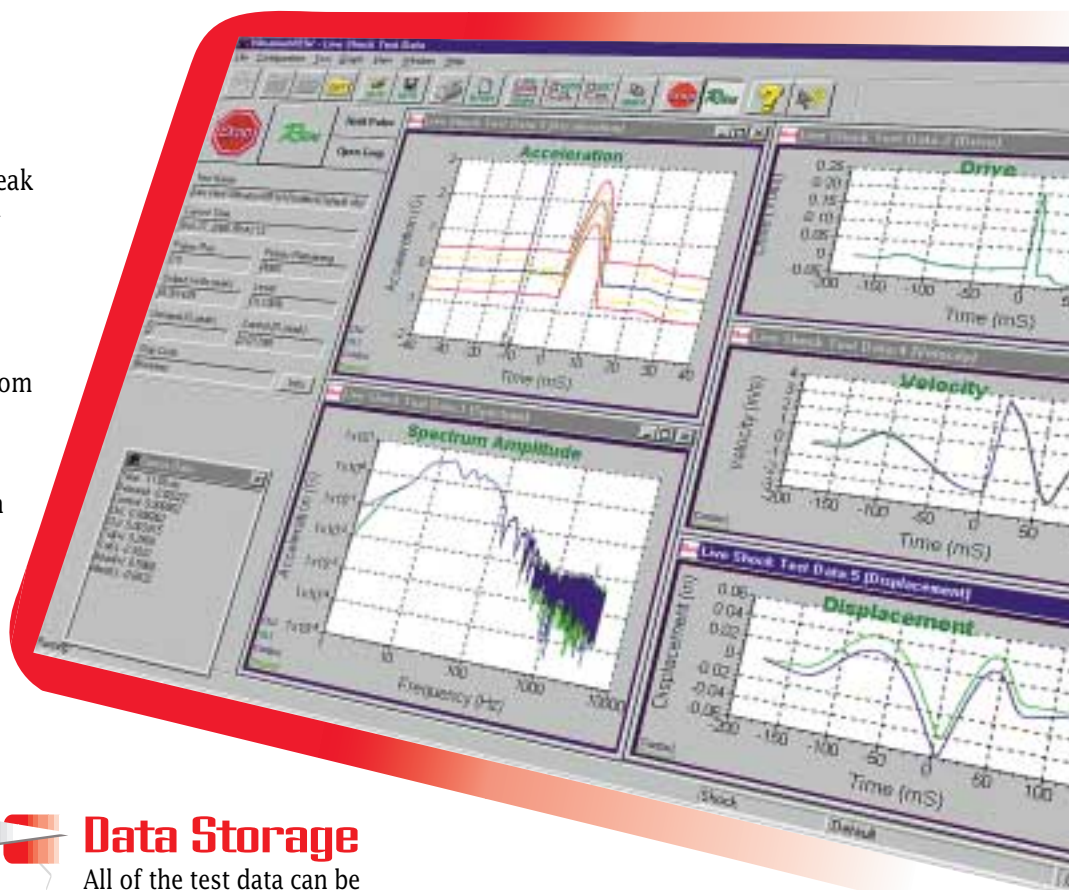
Used to import a time domain user specified transient. Typical use is the Belcore earthquake test.

## Data plots

Many graphical display options are available, including acceleration, velocity, displacement, output voltage, acceleration and drive spectra. Graphs can be easily auto-scaled or zoomed, and cursors displayed. Data and text annotations can be easily placed on the graphs, with data values updated live as the data changes.

## Shock Response Spectra Control – SRS – (Optional) VR 640

Used to generate a waveform to fit a spectrum requirement. Typical use is the Belcore earthquake test.



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# CLASSICAL SHOCK CONTROL

## 8500 TECHNICAL SPECIFICATIONS

Classical Shock performs closed loop control of transient waveforms. The entire transient period is sampled simultaneous and gap free. The needed drive is calculated between each pulse. All of the classical types are supported. There are several methods of optimizing the displacement requirements of a given pulse.

### PARAMETERS

**Sample Rate:** 10 Hz to 86 KHz

**Frame size:** 128 to 65536 points or automatically optimized.

**Loop transfer function:** Automatic calculation during pre-test or, for no pretest startup, recall a drive from disk.

**Filtering:** User specifies desired frequency for low pass filtering applied to the demand waveform, output drive signal, and input channels.

**Delay between pulses:** User set from 0 to 1000 seconds.

### CLASSICAL WAVEFORM

**Classical pulse types:** Half-sine, haversine, initial and terminal peak sawtooth, triangle, rectangle, and trapezoid.

**Inverting:** Pulses can be inverted in shape.

**Averaging:** Pulses can be averaged for the control.

**Pulse duration:** From 1mS to 60 seconds.

**Pulse compensation:** Both pre-pulse and post-pulse compensation is performed. Double sided for minimum displacement and full use of shaker stroke. Choice of half-sine or rectangular, compensation pulses. Pre-pulse and post-pulse amplitudes settings are a percentage of the demand peak acceleration.

**Abort limits:** Set to MIL-STD 810 requirements and/or a combination of customized percentage of demand waveform amplitude and percentage of pre-pulse and post-pulse demand waveform.

**Profile View:** Profile graphics shown and updated as profile is created. Automatic listing of RMS acceleration, and displacement values for profile. Profile operating levels are compared to the shaker parameter table.

**Engineering units:** English, SI, Metric, mixed, user defined.

### USER DEFINED WAVEFORM (optional)

**User Defined Pulse Types:** Input a desired acceleration wave shape via an ASCII file.

### SHOCK RESPONSE SPECTRUM WAVEFORM (optional)

**Shock Response Spectrum Pulse Types:** Generate a waveform by specifying the G levels in the frequency domain.

### LEVEL SCHEDULE

User defined schedule of levels that are automatically performed.

**Types:** % relative to the baseline level, dB relative to the baseline level, fixed peak acceleration level, Wait for operator intervention, level looping (with nested looping up to 10 levels).

### SAFETY FEATURES

**Control signal checks:** Rapid detection of loss of control signal, input overload, open loop, and Other situations requiring a shutdown.

**Shutdown:** Shutdown can be requested by operator or the program can shut the test down. Shutdown is at a smooth rate. Emergency stop is instantaneous.

*Subject to change without notice.*

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