

### Features

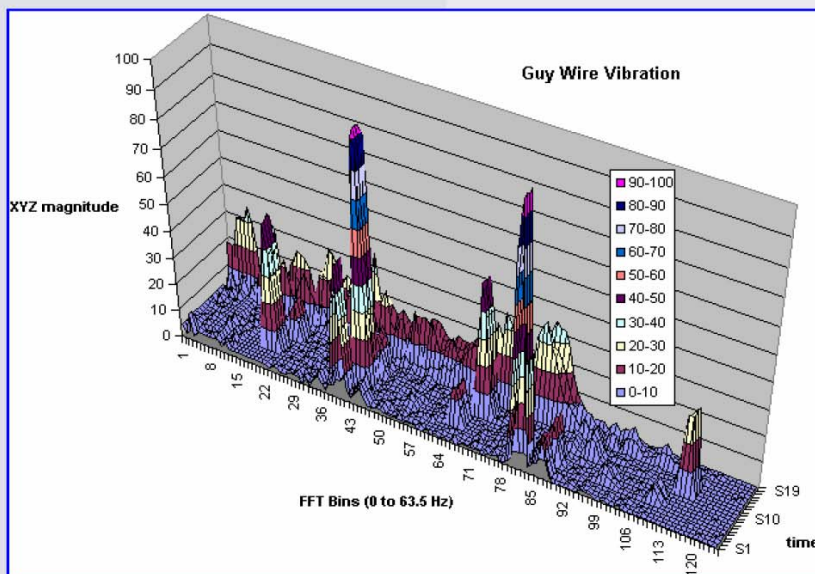
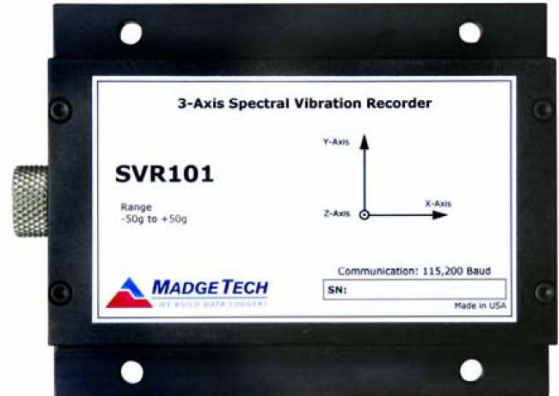
- Records vibration frequencies, peak acceleration, temperature
- Real-time FFT
- User settable trigger levels
- High speed download
- Programmable start time
- Built-in accelerometers

### Applications

- Transportation and shipping
- Machinery failure detection
- Detect mechanical resonances
- Endurance testing
- Wind resonance on structures and supports
- Vehicle vibration
- Race Car diagnostics
- Materials research

The Spectral Vibration Recorder (SVR) is a self-contained device engineered to record acceleration data for spectral analysis of vibration and peaks. This device will record and time tag 3-axis vibrations and peaks to provide a history of shock/vibration conditions. It also records temperature once every sample period. The SVR measures and computes real-time spectral data using an FFT (Fast Fourier Transform) from 0 to 63.5 Hertz. To make efficient use of memory, the SVR only takes data when the (user preset) trigger level is exceeded. The basic data window is 2 seconds but the XYZ magnitude data can be averaged over longer sample periods of up to 2 hours.

The SVR and the MadgeTech Data Recorder Software makes data retrieval quick and easy. Simply connect the SVR to an empty com port on the PC (via the IFC-110 interface cable). Once offloaded to a PC, the information can be graphed, analyzed and presented using the MadgeTech software or easily exported to a 3-D graph in Excel.



### MadgeTech Data Recorder Software

The guy wire vibration graph was exported to Excel® and made into a 3-D graph.

The Windows®-based software package allows the user to effortlessly collect, display and analyze data. A variety of powerful tools allow you to examine, export, and print professional looking data with just a click of the mouse.

Click [MadgeTech Software](#) for more information or to download the software.

## SVR101 SPECIFICATIONS\*

**Acceleration Sensor:** MEMS Semiconductor  
**Acceleration Range:**  $\pm 50g$   
**Acceleration Resolution:** 0.1g (12-bit)  
**Calibrated Accuracy:**  $\pm 1g$   
**Trigger Range:** 0 to 50g (XYZ magnitude)  
**Sampling Rate:** 256Hz (decimated to 128Hz)  
**FFT Range:** 0 to 63.5Hz in 128  $\frac{1}{2}$ Hz bins  
 (significant math errors occur at 0-1.5Hz)  
**FFT Window Period:** 2 seconds  
**FFT Sample Period:** 2 seconds to 7,200 seconds (2 hrs)  
**Memory:** 16Mbit FLASH (7,595 samples)  
**Reading Rate:** 3,800 readings per channel  
 (509,200 total readings)  
**Temperature Sensor:** Internal Semiconductor  
**Range:** -20 to +60°C  
**Resolution:** 0.1°C  
**Calibrated Accuracy:**  $\pm 0.5^\circ C$   
**Start Time:** Software programmable start time  
 and date, up to 7 days in advance

**Real Time Recording:** May be used with PC to monitor and record  
 instantaneous acceleration in real time  
**Calibration:** Digital calibration through software  
**Calibration Date:** Automatically recorded within device  
**Power:** 9V battery and/or 6 to 12VDC external power  
**User Replaceable Battery:** 48 hours typical with 9V lithium battery  
**Power Consumption:** 25mA (average) recording, <40 $\mu$ A idle @ 25°C  
**Data Format:** Time stamped frequency bins, peak acceleration,  
 average and peak vector sum, temperature  
**Time Accuracy:**  $\pm 1$  minute/month (at 20°C, RS232 port not in use)  
**Computer Interface:** PC serial or USB, 115,200 baud  
**Software:** Windows 95/98/ME/NT/2000/XP based software  
**Operating Environment:** -20 to +60 °C, 0 to 95 %RH non-condensing  
**Dimensions:** 1.0" x 3.5" x 4.4" (26mm x 89mm x 112mm)  
**Weight:** 12 oz (340 g)  
**Materials:** Anodized Aluminum  
**Approvals:** CE

BATTERY WARNING: DISCARD USED BATTERY PROMPTLY. KEEP OUT OF REACH OF CHILDREN. DO NOT DISPOSE OF IN FIRE, RECHARGE, PUT IN BACKWARDS, DISASSEMBLE, OR MIX WITH OTHER BATTERY TYPES. MAY EXPLODE, FLAME OR LEAK AND CAUSE PERSONAL INJURY.

## SOFTWARE FEATURES

<p><b>Multiple Graphs:</b> Simultaneously analyze data from several units or deployments; easily switch to a single data series</p> <p><b>Real-Time Recording:</b> Collect and display data in real-time while continuing to log</p> <p><b>Graphical Cursor:</b> One click displays readings by time, value, parameter or sample number</p> <p><b>Data Table:</b> Instantly access tabular view for detailed dates, times, values, and annotations</p> <p><b>Scaling Options:</b> Autoscale function fits data to the screen, or allows user to manually enter their own values</p> <p><b>Formatting Options:</b> Change colors, line styles, plotting options, show or hide channels quickly</p>	<p><b>Statistics:</b> Calculate averages, min, max, standard deviation, and mean kinetic temperature with the touch of a button</p> <p><b>Export Data:</b> Export data in a variety of common formats, or switch to Excel® with a single click</p> <p><b>Calibration:</b> Automatically calculate and store calibration parameters</p> <p><b>Logger Configuration:</b> Easy set up and launch of data loggers with immediate or delayed start, preferred sample rate, and device ID</p> <p><b>Communications:</b> Automatically sets up communications port, or lets user select configuration</p> <p><b>Printing:</b> Automatically print graphical or tabular data</p>
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\*SPECIFICATIONS ARE SUBJECT TO CHANGE WITHOUT NOTICE. SPECIFIC WARRANTY AND REMEDY LIMITATIONS APPLY. CALL 1-603-456-2011 OR GO TO WWW.MADGETECH.COM FOR DETAILS.

## ORDERING INFORMATION

Model	Description
SVR101	Spectral Vibration Recorder
IFC110	Software, manual and RS232 interface cable
IFC200	Software, manual and USB interface cable
NIST	N.I.S.T. Calibration Certificate
U9VL-J	Replacement battery for SVR101

### ASK ABOUT OUR OTHER DATA RECORDERS

Temperature	Pulse/Event/State
Humidity	Low Level Current
Pressure	Low Level Voltage
pH	RF Transmitters
Level	Intrinsically Safe
Shock	Spectral Vibration

Distributor: Pacific Sensor Technologies, 145 Wallace Rd, Wantirna South, Vic, 3152  
[sales@pacificsensortech.com.au](mailto:sales@pacificsensortech.com.au) [www.pacificsensortech.com.au](http://www.pacificsensortech.com.au)

