

RELEASE NOTES

Sound and Vibration Toolkit for LabVIEW™

Version 3.1

These release notes provide information about system requirements, installation instructions, and new functionality with version 3.1 of Sound and Vibration Toolkit.

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System Requirements

Your system must meet the following minimum requirements to run Sound and Vibration Toolkit 3.1:

- Windows 2000/NT/XP/Me/98
- 200 MB of free hard disk space
- LabVIEW 7.0 or later Full Development System or Professional Development System
- NI-DAQ 7.2 or later required for NI-DAQmx support



Note Refer to the *LabVIEW Release Notes* for the required system configuration for LabVIEW.

Installation



Note You must uninstall any beta versions of Sound and Vibration Toolkit and close any open applications on your computer before installing Sound and Vibration Toolkit 3.1.

Windows



Note Some virus detection programs interfere with the installer. Disable any automatic virus detection programs before you install. After installation, check your hard disk for viruses and enable any virus detection programs you disabled.

(Windows 2000/NT/XP) Complete the following steps to install Sound and Vibration Toolkit.

1. Log on as an administrator or as a user with administrator privileges.
2. Insert the Sound and Vibration Toolkit 3.1 installation CD into the CD-ROM drive and follow the instructions that appear on the screen. If the startup screen does not appear, select **Start»Run**, navigate to the `SETUP` folder on the Sound and Vibration Toolkit 3.1 installation CD, and double-click `SETUP.exe`.

(Windows Me/98) Insert the Sound and Vibration Toolkit 3.1 installation CD and follow the instructions that appear on the screen. If the startup screen does not appear, select **Start»Run**, navigate to the `SETUP` folder on the Sound and Vibration Toolkit 3.1 installation CD, and double-click `SETUP.exe`.

New Functionality

This section briefly summarizes the new functionality found in Sound and Vibration Toolkit 3.1. Refer to the *Sound and Vibration Toolkit Help* for information about a particular virtual instrument (VI) or group of VIs.

NI-DAQmx Support

The addition of NI-DAQmx support allows you to use the latest data acquisition and dynamic signal analysis devices. Use new Sound and Vibration Toolkit calibration VIs, swept-sine VIs, and examples to take full advantage of NI-DAQmx. All functions and features available in Sound and Vibration Toolkit 3.0 still support Traditional NI-DAQ. Each Traditional NI-DAQ example has a parallel NI-DAQmx example to demonstrate sound and vibration measurement analyses with both drivers.

Weighting Filters

Use the new weighting filters to apply psophometric weighting to time-domain signals at fixed sample rates. You can use the weighting VIs to apply the following weighting filters:

- A-, B-, or C-weighting
- Radiocommunications: ITU-R 468-4 and Dolby
- Telecommunications: C-message and CCITT

Standards Compliance

Applicable weighting VIs are tested to ensure compatibility with relevant standards, recommendations, and references including ISO 61672. Table 1 lists the weighting filters and the standards, recommendations, or references with which they comply.

Table 1. Filter Compliance

Weighting Filter	Standard or Reference
A, B, C	ANSI S1.4 Standard
ITU-R 468.4, Dolby	ITU-R Recommendation 468-4
C-message, CCITT	ITU-T O.41 Standard and Bell System Technical Reference 41009

Additional Engineering Units

Table 2 lists the engineering units supported in Sound and Vibration Toolkit 3.1.

Table 2. Supported Engineering Units

Engineering Unit	SVT 3.0	SVT 3.1
Volts	Yes	Yes
Amperes	—	Yes
Pascals	Yes	Yes
Newtons	—	Yes
g	Yes	Yes
m, m/s, m/s ²	Yes	Yes
mm, mm/s	—	Yes

Table 2. Supported Engineering Units (Continued)

Engineering Unit	SVT 3.0	SVT 3.1
microns, microns/s	—	Yes
in, in/s, in/s ²	Yes	Yes
mils, mils/s	—	Yes
rad, rad/s, rad/s ²	—	Yes
strain	—	Yes

Specify the units for the input signal with the **channel info** parameter on the SVL Scale Voltage to EU VI. All supported units are either maintained or appropriately modified in every Sound and Vibration Toolkit VI.

Shock Response Spectrum

Use the SVT Shock Response Spectrum VI to compute the shock response spectrum (SRS) for your shock data. You can use this VI to perform the following shock response measurements:

- Maximax
- Initial positive
- Initial negative
- Initial absolute
- Residual positive
- Residual negative
- Residual absolute

Additional Extended Measurements for Frequency Spectra

You can use the new extended measurements VIs to perform a number of operations on the frequency spectrum output of the frequency analysis VIs. Use the SVT Unit Conversion VI to convert complex spectra produced by audio measurements to magnitude and phase spectra you can input to additional extended measurements, or wire directly to a waveform graph. You can apply common audio filters directly to the frequency spectrum with one of the weighting VIs in the **Extended Measurements** palette. There are also two new utilities that allow you to get the spectrum value at a particular frequency or extract a subset of the spectrum in a specific frequency range.

Additions to Swept Sine

An additional configuration VI sets integrated electronic piezoelectric (IEPE) excitation on device input channels for NI-DAQmx swept-sine measurements. An optional configuration VI extracts the NI-DAQmx tasks and channels to provide flexibility when configuring the NI-DAQmx devices used to perform swept-sine measurements.

Known Issues with Sound and Vibration Toolkit 3.1

Refer to the `README.txt` file on the Sound and Vibration Toolkit installation CD for information about known issues with Sound and Vibration Toolkit 3.1.

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