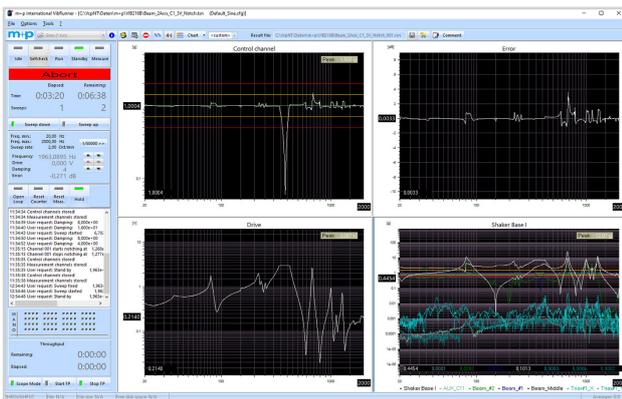


- Additional Overview** with Online Charts Showing up to 16 Traces
- Quick Comparisons of Different Test Runs** Channel-Wise Color Assignment in VibMultiplot Charts
- Everything at a Glance** Extended Legend in VibPosttest Multiplot
- Time-Saving Transducer Calibration** Using Fixed Sine Frequencies or a Random Signal
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- Quickly See if the Test Meets the Specifications** Online Threshold Checking for SRS Parameters in Classical Shock
- Displacement Optimization** of Existing Pulses in Classical Shock
- Improved Compensation** of Existing Pulses in Classical Shock
- Shock and Vibration Tests for Railway Applications (IEC 61373)** Linear PSD Slopes
- Sine Tests for Material Testing** with Specified Number of Sine Cycles

We are pleased to present the new revision 2.16 of our m+p VibControl vibration control software. Many of the new functions are based on your suggestions and wishes, because our ambition is to make your daily work as easy and efficient as possible.

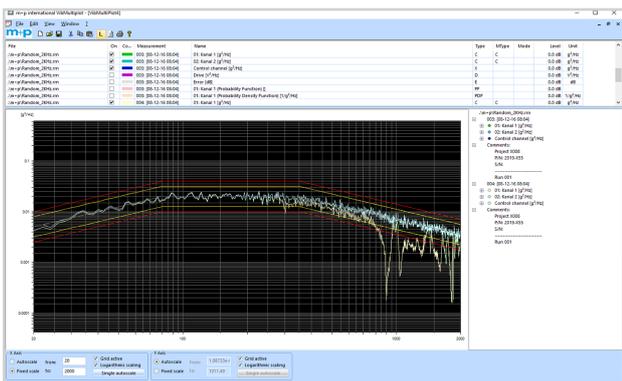
## Additional Overview with Online Charts Showing up to 16 Traces



Revision 2.16 offers you even clearer online test monitoring - up to 16 channels can be tracked in one chart. This allows you to display larger channel groups in one chart and thus, for example, compare all crosstalk channels of several triaxial accelerometers with the excitation signal.

Crosstalk channels of several triaxial accelerometers compared with the drive signal

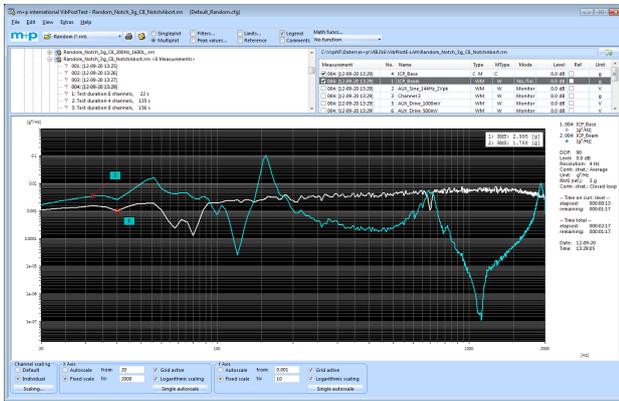
## Quick Comparisons of Different Test Runs: Channel-Wise Color Assignment in VibMultiplot Charts



VibMultiplot chart with color assignment column in the table

In VibMultiplot charts you compare a wide variety of test runs. You can now assign the colors of the individual traces directly and in a time-saving way in the table above the chart. These remain bound to the respective curve even when different channels are selected.

## Everything at a Glance: Extended Legend in VibPosttest Multiplot

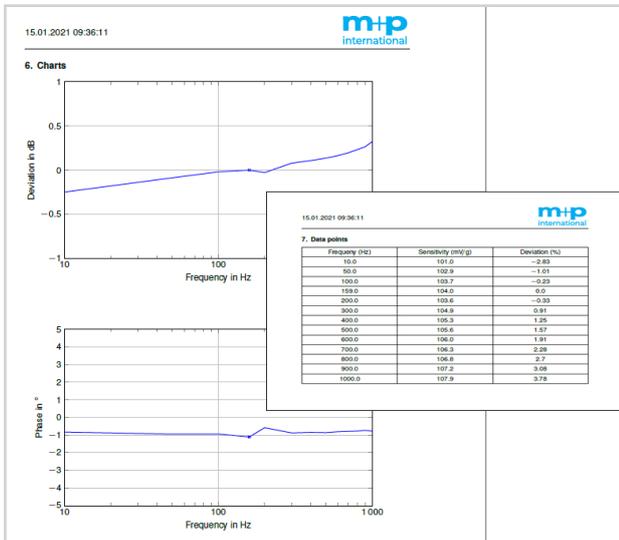


Multiplot chart with legend and RMS values displayed

If you select Multiplot for test evaluation, the legend now also shows all information that applies to all selected traces in addition to the color of the single traces. Similar to the Singleplot legend, this data can be shown or hidden individually.

In Random test mode it is also possible to activate the display of the RMS values.

## Time-Saving Transducer Calibration Using Fixed Sine Frequencies or Random Signals



Regular transducer calibration is an essential requirement for maintaining the accuracy, reliability and repeatability of the results obtained from a measurement system. Our m+p SensCal program provides a quick and simple process for calibrating accelerometers (piezo-electric with charge output or IEPE, piezo-resistive, capacitive), as well as velocity or displacement transducers right in your laboratory.

Acceleration transducer calibration using fixed sine frequencies

m+p SensCal offers new calibration modes which are significantly faster than the previous calibration via a sine sweep.

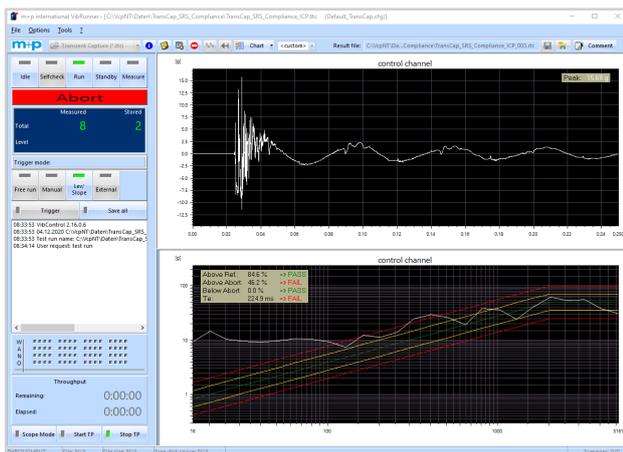
- Calibration with fixed sine frequencies: You specify a set of discrete sine frequencies. These are driven step by step and the transducer will be calibrated for exactly the frequencies required.
- Calibration using random signals: The transducer will be calibrated over a specific frequency range using a random excitation signal. As the entire frequency range is excited at once, the procedure is very effective.

## Enhanced Safety: Monitoring Vibration Control Tests

For the Random Reduction option, we have extended the functionality of the digital outputs to achieve additional safety for your test runs. For example, the violation of channel-specific notch limits can be reported externally via a digital output. This enables you to control and monitor external control systems.

Conversely, measurements of the Random Reduction option can also be controlled from external systems. They are started and stopped via a digital input signal. This allows you, for example, to acquire random signals in parallel with acoustic signals on two separate measurement systems.

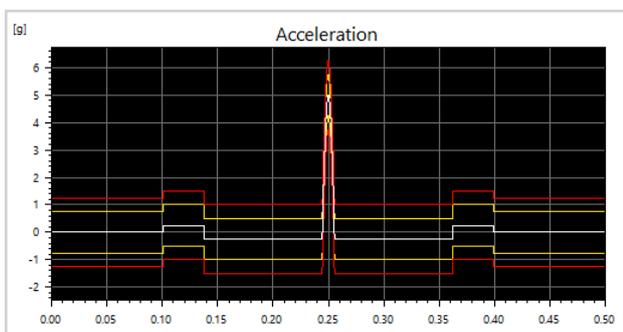
## Quickly See if the Test Meets the Specifications: Online Threshold Checking for SRS Parameters



For transient capture measurements, a threshold check for SRS parameters can be enabled. m+p VibControl checks the SRS spectrum online against the previously specified pass/fail criteria and shows directly whether they have been met or not. With this information, laboratory staff can save time by immediately deciding whether the load profile meets the specifications. For further evaluation, the information is also available offline in the results file.

Online check of pass/fail criteria

## Displacement Optimization in Classical Shock



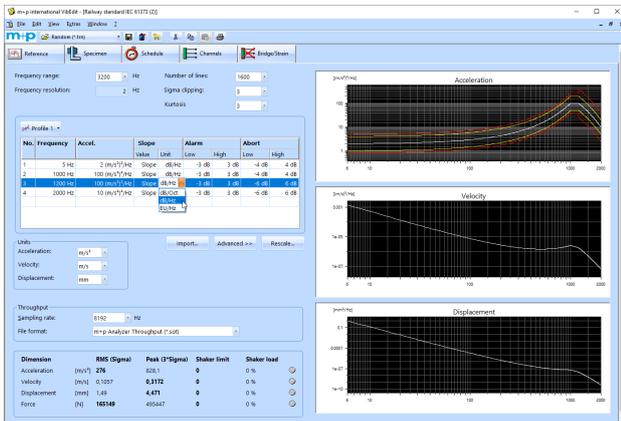
Half-sine pulse with optimal displacement compensation

The m+p VibControl Classical Shock test setup offers several compensation functions to optimize pulse form and displacement. With the new “Optimum displacement” compensation you minimize the required displacement by using rectangular waveforms for the pre- and post-pulses.

## Improved Compensation of Existing Pulses in Classical Shock

In the Classical Shock test mode, a “Minimum compensation frequency” can be set for the compensation of existing pulses. This excludes waveforms with low frequencies and amplitudes for the generation of the compensation pulse. These cannot be measured accurately with accelerometers, but small deviations have a great influence on the displacement. For this reason, we also improved the displacement monitoring when the amplitude level changes.

## Shock and Vibration Tests for Railway Applications (IEC 61373): Linear PSD Slopes

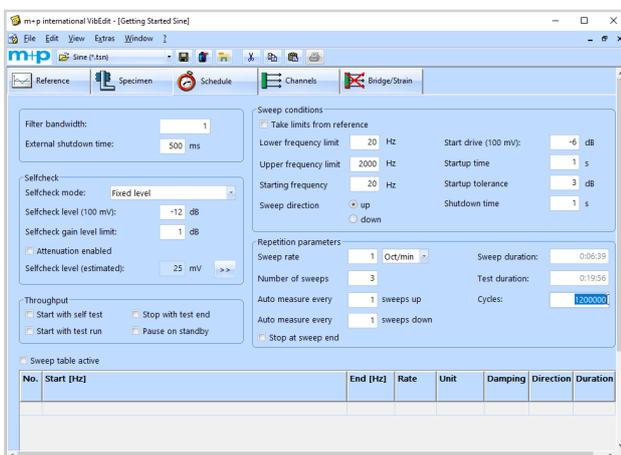


Defining linear PSD slopes between frequency points

Railway standard IEC 61373 defines shock and vibration tests for railway applications and rolling stock equipment. This and further standards require random tests with linear PSD slopes between the frequency points. These spectra can now be easily defined in the Reference tab of a Random test setup.

m+p VibControl always stays up to date with the latest standards.

## Sine Tests for Material Testing with Specified Number of Sine Cycles



Defining the number of sine sweeps depending on the number of cycles

The number of cycles is an important parameter for defining the stress level of the test specimen which can lead to fatigue damage. If you often run sine tests in your test lab based on the number of cycles, you now have the possibility to enter them directly. m+p VibControl then calculates the required number of sine sweeps.

## Other New Features

- Automated ICP settling time: m+p VibControl measures the input signal of the transducer and picks the perfectly settled state to start the selfcheck run.
- Scheduled random measurements
- Improved test status monitoring via digital IO
- Transducer list states calibration date
- Acoustic control:
  - Triggering of external measurement systems
  - Faster ramp-up to test level
  - Clear summary of the most important measurement values and parameters is available as Excel table.

**Important note:** In this software revision, the VXI measurement hardware (143x) is supported for the last time.  
The same applies to the Windows 7 operating system.

This Update Note provides you with an overview of the most significant product enhancements in m+p VibControl Revision 2.16. These together with other smaller improvements make m+p VibControl even more powerful and user-friendly.

The new software revision is primarily a result of close cooperation with you, our valued customers. We strive to continuously optimize our products. If you have any suggestions on how to further improve our product offering, please let us know.

**m+p VibControl 2.16 with its significantly expanded range of functions** is available now. Please do not hesitate to contact us for further information.



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