

VibControl Revision 2.12

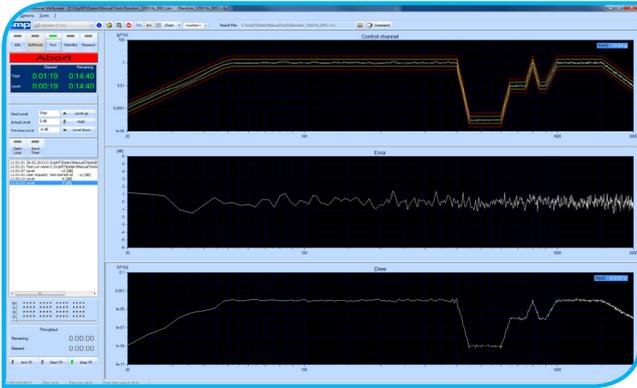


- Time History Recording to Throughput Disc Using m+p VibPilot and VibRunner
- Data Reduction (Sine/Random/Shock SRS) Using m+p VibPilot and VibRunner
- Remote Control of B&K NEXUS™ Conditioning Amplifiers
- Time-Saving Vibration Testing with Multi-Sine Excitation
- Online-Display of Filter, RMS and Peak Results in Sine and Sine Data Reduction

Time History Recording to Throughput Disc Using m+p VibPilot and VibRunner Frontends

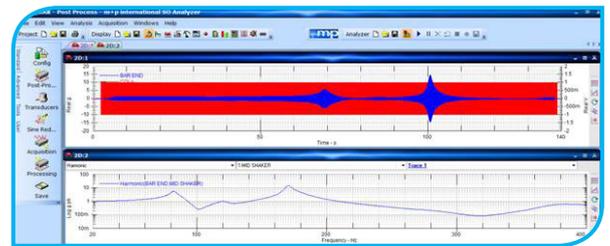
In VibControl Rev. 2.11 m+p international implemented the “time data online display” function which

enables the user to visualize time domain data during a vibration test similar to using an oscilloscope. Beyond this, Revision 2.12 offers a powerful and flexible function for continuous and gap-free time data recording to throughput disc. You can start the throughput function before the self-test is launched and stop it after the test run has ended. Also during the test run it can be manually paused and restarted. The sampling rate can also be defined independently from the frequency range of the on-going vibration test. All input channels or single input channels can be chosen for recording.



Random test with started throughput acquisition

One method which is still widely used consists of the time data recording of a vibration test to a second measurement acquisition system in parallel to the usual frequency data recording. This results in additional cost of hardware and more complex system operation. Using the throughput function simplifies the process and in addition you can easily post-process the recorded time data after the test run.



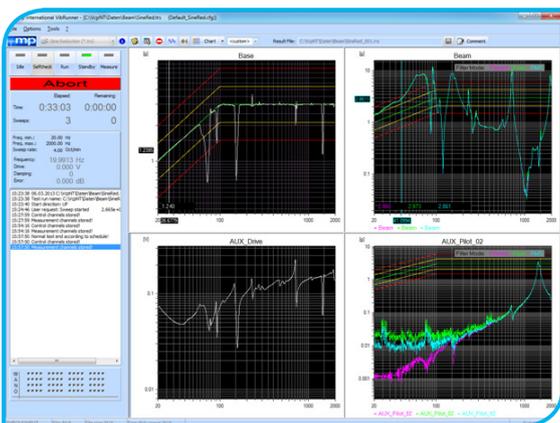
Data analysis in SO Analyzer

The m+p SO Analyzer data reduction software analyzes the saved time data and provides spectra of sine, random and shock SRS tests. Furthermore SO Analyzer offers a wide variety of analysis functions from FFT calculations to octave analysis of acoustic data. Measurement results can be exported to Universal File Format (UFF), MTS RPCIII™ (RSP), Matlab™ (MAT) or to other established formats.

Data Reduction (Sine/Random/Shock SRS) Using m+p VibPilot and VibRunner Frontends

Online signal analysis can also be performed using the VibControl data reduction modes for sine, random and shock tests. Sine tests require a COLA signal for determining the exact frequency.

In these applications the “VibRecorder” system operates as a measurement acquisition system (and not as a vibration control system). VibControl test results can then be easily processed in VibPostTest like any other test result file providing common reporting formats. The channel count for a vibration test can be increased using the data reduction function and the m+p international frontends VibPilot (4-16 input channels) and VibRunner (8-256 or more input channels). The combination of the throughput software module and VibControl Rev. 2.12 is very powerful across the entire range of data reduction and data recording tasks.



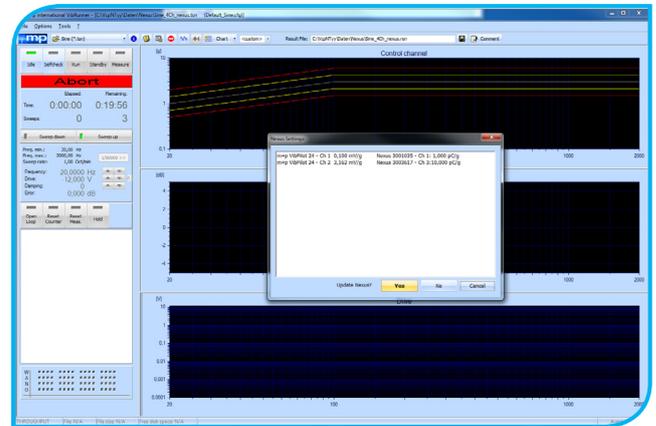
Sine data reduction

Remote Control of B&K NEXUS™ Conditioning Amplifiers

VibControl Revision 2.12 running with Windows 7 operating system (64-bit version) now enables parameterization and remote control of Brüel & Kjaer NEXUS™ conditioning amplifier type 2692 via RS232 interface. This conditioning amplifier supports up to four piezoelectric accelerometers.

The parameter definition is done in the VibControl channel set-up and will be downloaded to the instrument before the vibration test starts. Thus, the time-consuming manual programming of the amplifiers is superfluous and the test definition report confirms the accelerometers used.

You can freely configure the existing analog input channels of the VibControl hardware (m+p VibPilot or VibRunner) with the individual channels of one or several conditioning amplifiers and IEPE accelerometers without the need to follow a certain channel order.



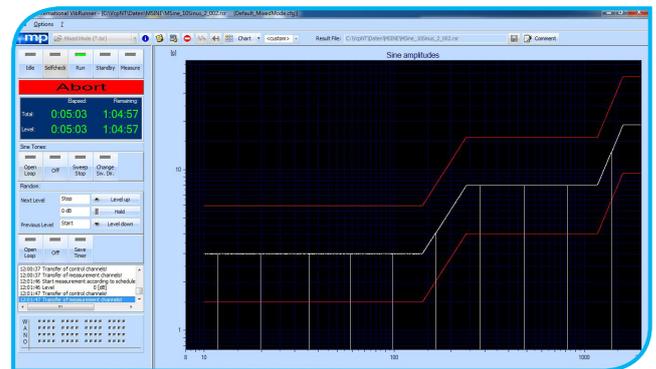
Dialog box before downloading the VibControl channel definition to the B&K NEXUS™ amplifier

Time-Saving Vibration Testing with Multi-Sine Excitation

Another new function is the multi-sine excitation also known as “no random option for mixed mode”. It enables you to simultaneously sweep up to 10 sine tones across the desired frequency range using different levels and profiles. The sine sweeps are running synchronously with a typical sweep rate of 1 octave/min. For further flexibility these independently defined sine sweeps can be switched on/off individually.

Multi-sine excitation is a new technique which has its seeds in the German automotive industry. It is also used in the defense sector where it is known as “no random option for mixed mode”.

The objective of car manufacturers was to significantly reduce the costs and time of durability tests: For example, if you need 100 hours for a standard sine sweep test, the test duration can be reduced to about 20 hours with five sine tones performed in parallel (depending on the specimen).



Multi-sine: 10 sine sweeps in parallel

Online-Display of Filter, RMS and Peak Results in Sine and Sine Data Reduction

Nr.	Typ	Name	Model	Serial	Filter	Nexus	Channel	Sensitivity	Einh.
1	-	-	-	-	-	-	-	-	-
2	-	-	-	-	-	-	-	-	-
3	-	-	-	-	-	-	-	-	-
4	C	control channel	-	-	F	-	unused	-	-
5	-	-	-	-	-	-	-	-	-
7	-	-	-	-	Filter	-	-	-	-
8	-	-	-	-	Peak	-	-	-	-
9	-	-	-	-	RMS	-	-	-	-
10	-	-	-	-	Average	-	-	-	-
11	-	-	-	-	Filtered+Peak	-	-	-	-
12	-	-	-	-	Filtered+RMS	-	-	-	-
13	-	-	-	-	Filtered+Averaged	-	-	-	-
14	-	-	-	-	Peak+RMS	-	-	-	-
15	-	-	-	-	Peak+Averaged	-	-	-	-
16	-	-	-	-	RMS+Averaged	-	-	-	-
17	-	-	-	-	Filtered+Peak+RMS	-	-	-	-
18	-	-	-	-	Filtered+Peak+Averaged	-	-	-	-
19	-	-	-	-	Filtered+RMS+Averaged	-	-	-	-
20	-	-	-	-	Peak+RMS+Averaged	-	-	-	-
21	-	-	-	-	Filtered+Peak+RMS+Averaged	-	-	-	-

Sine filter selection

In the channel definition of sine and sine data reduction test modes you can select different filters and combinations of filters for each measurement channel. Choose Filter, RMS, Peak or Average or combinations thereof and the test results will be recorded accordingly.

Thus, up to four result files will be recorded for each measurement channel and are available for comparisons after the test run. During the run you have the possibility to select either one filter type or all filter types to be displayed online.

Other New Features

VibControl Revision 2.12 provides a lot more enhancements, for example:

- Transient capture and other shock test modes now with a sampling rate of 32 ksamples/s
- Phase and frequency against time display for sine dwell test mode
- RMS level against time display for random test mode
- License independent from PC:
VibControl licensing can now be offered using a USB dongle and therefore is independent from the PC/laptop in use
- Frontend-specific parameter entry:
Parameters which are not supported by the hardware in use (e.g. frequency ranges, sampling rates) are set inactive to avoid errors in test definitions
- The system gain function for self-tests can be disabled



VibControl licensing using a USB dongle

This Update Note provides you with an overview of the most significant product enhancements of VibControl Revision 2.12. There are other new functions that make VibControl even more powerful and user-friendly.

The new software revision has resulted primarily from the close cooperation with you, our valued customers. We continuously optimize our products, therefore if you have any suggestions on how to further improve our product offering, please let us know.

VibControl 2.12 is available now. Please do not hesitate to contact us.

Germany
**m+p international Mess- und
Rechnertechnik GmbH**
Phone: (+49) (0)511 856030
Fax: (+49) (0)511 8560310
sales.de@mpihome.com

USA
m+p international, inc.
Phone: (+1) 973 239 3005
Fax: (+1) 973 239 2858
sales.na@mpihome.com

United Kingdom
m+p international (UK) Ltd
Phone: (+44) (0)1420 521222
Fax: (+44) (0)1420 521223
sales.uk@mpihome.com

France
m+p international Sarl
Phone: (+33) (0)130 157874
Fax: (+33) (0)139 769627
sales.fr@mpihome.com

China
**Beijing Representative Office
of m+p international**
Phone: (+86) 10 8283 8698
Fax: (+86) 10 8283 8998
sales.cn@mpihome.com

www.mpihome.com

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