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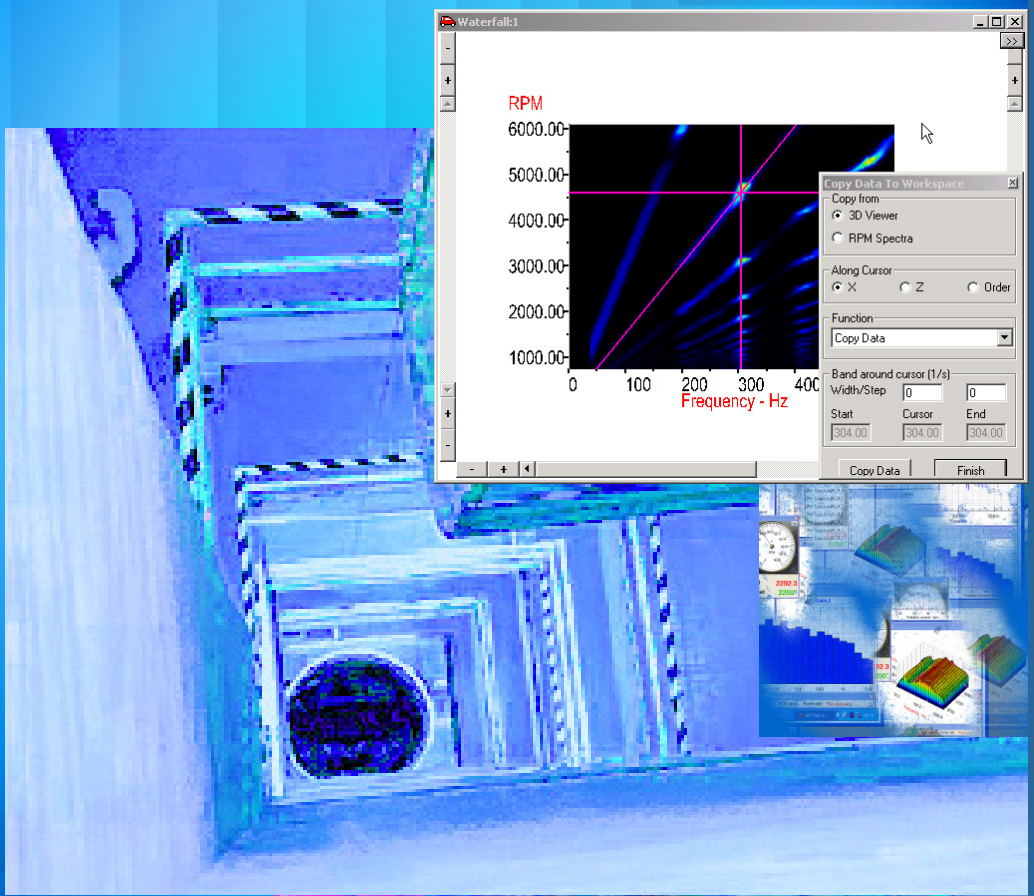
SO Analyzer
Revision 3.1

Update Note

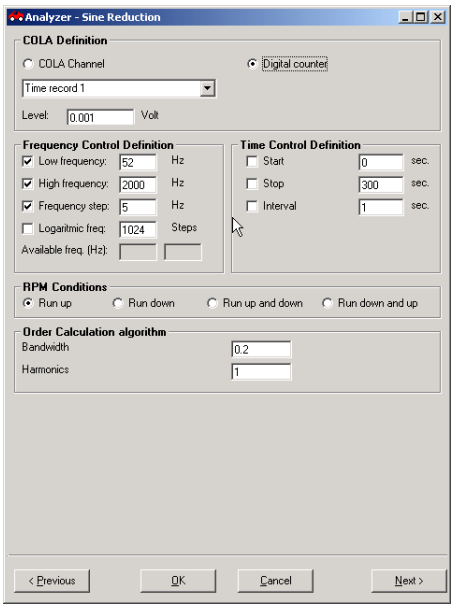
- Sine Reduction
- Advanced Rotate Tracking Filter
- New Source Modes
- 32-Bit Support of VT1432B VXI Card
- Support of VT2216 VXI Throughput Disc



Sine Reduction

The Sine Reduction function is most often used to add additional or independent monitoring channels to a shaker vibration test or resonance search. It is a perfect tool for both online and offline (post-processing) applications.

One input channel is normally fed with the COLA signal from the shaker controller which is used to calculate and track the swept sine source. A digital counter input can also be used. The measurement channels use a tracking filter to compute the amplitude and phase response on each channel and optionally FRFs between a reference channel and each other channel. This continuously variable tracking filter uses the same proven technique as m+p international's VibControl shaker controllers and can also be adjusted in bandwidth in the same way. RMS and harmonic analysis can also be performed in parallel.

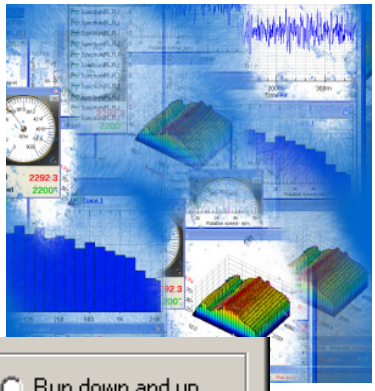


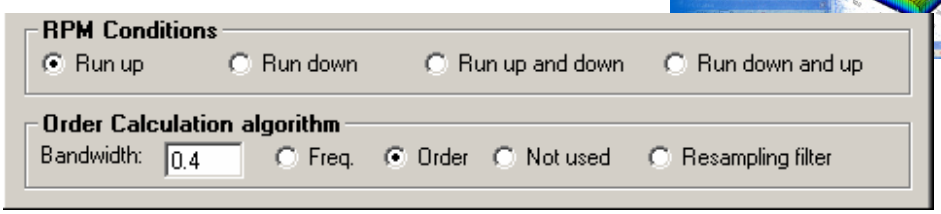
Using the built-in swept sine source (see below) SO Analyzer provides a complete solution for this type of structural test.

Advanced Order Tracking Filter Analysis (Rotating Machinery Analysis)

This add-on uses the same filter method as our new sine reduction module. It has been integrated as a user-selectable option to the online and offline order tracking analysis. The filter tracks RPM very accurately and handles noisy RPM changes such as found on typical automotive engine run-up applications. Filter bandwidth can be selected to suit user requirements.

Results provide amplitude and phase data for use in structural analysis etc.





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New Source Modes

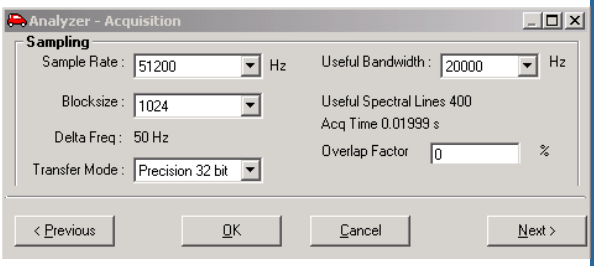
The following new source modes are available on both VXI Technology and National Instruments source hardware:

- Swept sine: Can be used with sine reduction for a complete resonance search test system or for general structural (modal) analysis.
- Chirp: A fast sine sweep within one FFT analysis block. Used for structural testing to reduce measurement time.
- Periodic Random: A short sequence random signal composed of phase randomised sine components on FFT analysis lines. This is used again for fast structural measurements that require a minimum of averaging.
- Arbitrary: Any .wav file can be selected and replayed through the source hardware in a continuous loop. Users can replay e.g. Road Load data or construct their own source signals.

Multiple sources are supported in each case e.g. for MIMO test applications.

32-Bit Transfer Support of VT1432B 24-Bit ADCs

Support for the VT1432B 24-bit ADCs from VXI Technology has been added. The user can choose between either 16- or 32-bit VXI data transfer modes which provide either the maximum throughput rate for larger channel count applications or the full 130 dB dynamic range as required.

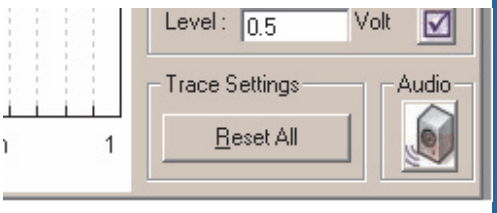


Support of VT2216 VXI Internal SCSI Throughput Disc

The VT2216 VXI option provides high speed time history recording in large channel count and high sampling frequency applications. The user can now choose between direct throughput recording to the PC hard drive or to use the VT2216 disc via the VXI internal local bus for maximum performance.

Sound Card Replay Tool

The 2D chart now includes a replay tool that plays the displayed time data to the sound card. This function is active for both online and post-processed data and of course includes all Analyzer processing options such as filtering and time slice selection in post-processing.



Uses include simple “what does it sound like” analysis to acoustic assessments of specific frequency bands or noise reduction using notching to eliminate specific tones.

New Analysis Menu in 3D Chart

A new data cut tool has been added to the 3D chart that creates data "cuts" along X, Z or Order cursor lines including band rms and peak centred on the cursors.

This has many uses including calculating OASPL and frequency band tracks against time and simple order analysis without the full Rotate package.

MATLAB 7 Compatibility and Export of Multiple Measurements

The import and export is now compatible with MATLAB 7 files and supports export of an entire workspace with multiple measurements in one .mat file.

The import user interface has also been extended and improved to more easily add necessary header information not available in MATLAB files.

New Filters including Notching & Bessel Filters

The online and post-processing filters have been improved and new options added. As well as the previously available Butterworth filters new options include Butterworth band-stop (notching) as well as Bessel low-pass, high-pass, band-pass and band-stop.

Other New Features

SO Analyzer Revision 3.1 provides many more upgrades, for example:

- Number of input channels increased to 1,536
- Measurement control from user programming and external ActiveX
- Enhanced pass-by-noise testing functionality
- Driver support for additional National Instruments CompactDAQ modules
- New graphical tools
- Added online weighting for octave analysis

This Update Note provides you with an overview of the most significant product enhancements of SO Analyzer Revision 3.1. There are other new functions that make the SO Analyzer even more powerful and user-friendly.

The new software revision has resulted primarily from the close and valuable cooperation with you, our customers. We optimize the SO Analyzer continuously. Therefore, if you have any suggestions that could further improve our product offering, please let us know.

SO Analyzer 3.1 is available now. Please do not hesitate to contact us.

Germany
m+p international Mess- und Rechnertechnik GmbH
Phone: (+49) (0)511-85603-0
Fax: (+49) (0)511-85603-10
sales.de@mpihome.com

Great Britain
m+p international (UK) Ltd
Phone: (+44) (0)1252 718822
Fax: (+44) (0)1252 718833
sales.uk@mpihome.com

Singapore
m+p international Representative Office
Phone: ++65-9010-6478
Fax: ++65-6456-6609
sales.sg@mpihome.com

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

France
m+p international Sarl
Phone: (+33) (0)130 157874
Fax: (+33) (0)130 157801
sales.fr@mpihome.com

China
Bei Jing 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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