

## m+p VibControl Revision 2.15



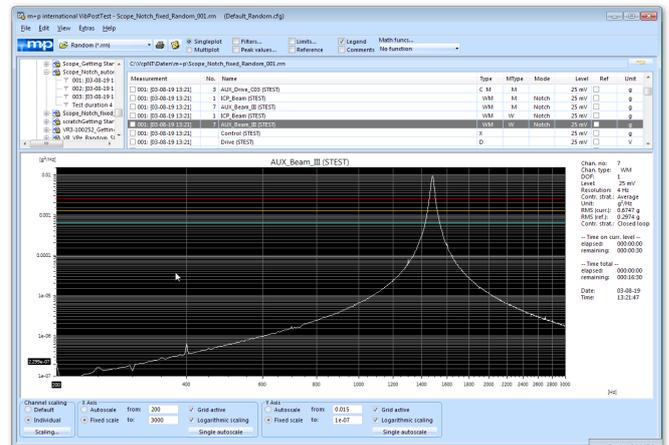
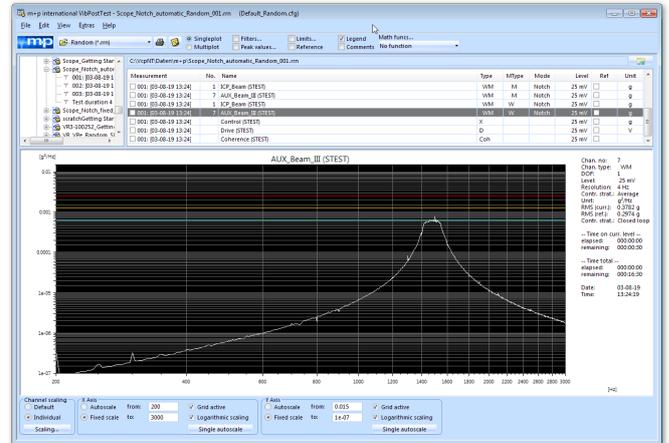
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## Limiter Mode in Selfcheck Runs

Use the selfcheck for verifying the test definition and the channel setup as well as recording a first structural response of the specimen. The standard selfcheck is done with a fixed output level, which is a very efficient way of determining the structural responses. If you want to reduce this output level in specific areas, this can only be done by a manual definition of a selfcheck reference spectrum.

The new *Limiter mode*, however, automatically reduces the output level at critical points of the spectrum, which are mostly distinct resonances with low damping. As the position and the intensity of these resonances are often not known previously, they are determined by the selfcheck at reduced level with simultaneous measurement of the transfer functions. The excitation level is gradually increased and, while considering the recently calculated transfer function, it will automatically be limited at critical points. This also reduces the structural response, similar to the notching feature in a controlled test run. The aim is finishing the selfcheck with a good signal-to-noise ratio and determining all required parameters while the specimen experiences only low to middle load. This process requires more time than a normal selfcheck does.

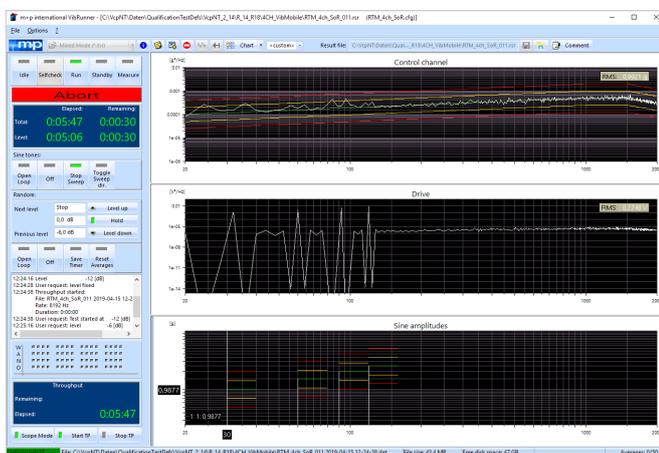
The screenshots show the effects of the level settings *Limiter mode* and *Fixed level mode* in a selfcheck test run.



Selfcheck test run in VibPosttest: *Limiter mode* compared to *Fixed level mode*

## Drive Signal with Sine Tones in Mixed Mode

In m+p VibControl Rev. 2.15 the mixed mode test mode displays the drive signal with sine tones included, so that voltage peaks are recognized immediately and the test spectrum can be set to a lower level, if necessary. The reference traces for the measurement, control and watchdog channels also show the signal with included sine tones. It is possible to switch to a pure sine tone display.



Drive signal with sine tones

The function can be applied to the following mixed mode types: multi-sine, sine-on-random, sine-on-random-on-random.

## Weighting of Control Channels (According to EN 60068-2-6)

| No. | Type | Name  | Model    | Serial | Filter | Sensitivity | Transducer | TP     | SysGain | Range       | Weighting | Av mode | Abort |
|-----|------|-------|----------|--------|--------|-------------|------------|--------|---------|-------------|-----------|---------|-------|
| 1   | M    | A001x | 72514-10 | 13552  | -      | 9.68 mV/g   | ICP        | AC FR  | OFF     | 1000 g      | -         | -       | -     |
| 2   | C    | A001y | 72514-10 | 13554  | F      | 10.01 mV/g  | ICP        | AC FR  | OFF     | 20 gV       | -         | -       | 8 g   |
| 3   | M    | A001z | 72514-10 | 13555  | -      | 10.21 mV/g  | ICP        | AC FR  | OFF     | 1000 g      | -         | -       | -     |
| 4   | M    | A002x | 72514-10 | 13545  | -      | 9.6 mV/g    | ICP        | AC FR  | OFF     | 1000 g      | -         | -       | -     |
| 5   | C    | A002y | 72514-10 | 13546  | F      | 9.94 mV/g   | ICP        | AC FR  | OFF     | 20 gV       | -         | 1       | 8 g   |
| 6   | M    | A002z | 72514-10 | 13547  | -      | 9.37 mV/g   | ICP        | AC FR  | OFF     | 1000 g      | -         | -       | -     |
| 7   | M    | A003x | 72514-10 | 14013  | -      | 9.21 mV/g   | ICP        | AC FR  | OFF     | 1000 g      | -         | -       | -     |
| 8   | C    | A003y | 72514-10 | 14014  | F      | 9.49 mV/g   | ICP        | AC FR  | OFF     | 20 gV       | -         | 1.5     | 8 g   |
| 9   | M    | A003z | 72514-10 | 14015  | -      | 9.25 mV/g   | ICP        | AC FR  | OFF     | 1000 g      | -         | -       | -     |
| 10  | M    | A004x | 72514-10 | 13558  | -      | 10.02 mV/g  | ICP        | AC FR  | OFF     | 1000 g      | -         | -       | -     |
| 11  | C    | A004y | 72514-10 | 13559  | F      | 10.16 mV/g  | ICP        | AC FR  | OFF     | 20 gV       | -         | 1       | 8 g   |
| 12  | M    | A004z | 72514-10 | 13560  | -      | 9.43 mV/g   | ICP        | AC FR  | OFF     | 1000 g      | -         | -       | -     |
| 13  | WM   | A101y | 352 C 22 | 65109  | -      | 9.17 mV/g   | ICP        | AC FR  | OFF     | 20 gV       | -         | Notch   | -     |
| 14  | M    | A102y | 352 C 22 | 65111  | -      | 9.35 mV/g   | ICP        | AC FR  | OFF     | 1000 g      | -         | -       | -     |
| 15  | M    | A103x | 356 A 13 | 117581 | -      | 5.24 mV/g   | ICP        | AC FR  | OFF     | 1000 g      | -         | -       | -     |
| 16  | WM   | A103y | 356 A 13 | 117581 | -      | 5.18 mV/g   | ICP        | AC FR  | OFF     | 20 gV       | -         | Notch   | -     |
| 17  | M    | A103z | 356 A 13 | 117581 | -      | 4.86 mV/g   | ICP        | AC FR  | OFF     | 1000 g      | -         | -       | -     |
| 18  | M    | A201y | 352 C 22 | 65112  | -      | 9.28 mV/g   | ICP        | AC FR  | OFF     | 1000 g      | -         | -       | -     |
| 19  | M    | A202y | 352 C 22 | 65115  | -      | 9.15 mV/g   | ICP        | AC FR  | OFF     | 1000 g      | -         | -       | -     |
| 20  | M    | A203y | 352 C 22 | 65116  | -      | 9.09 mV/g   | ICP        | AC FR  | OFF     | 1000 g      | -         | -       | -     |
| 21  | M    | A201x | 356 A 13 | 117582 | -      | 5.07 mV/g   | ICP        | AC FR  | OFF     | 1000 g      | -         | -       | -     |
| 22  | WM   | A301y | 356 A 13 | 117583 | -      | 5.2 mV/g    | ICP        | AC FR  | OFF     | 20 gV       | -         | Notch   | -     |
| 23  | M    | A301z | 356 A 13 | 117582 | -      | 4.99 mV/g   | ICP        | AC FR  | OFF     | 1000 g      | -         | -       | -     |
| 24  | M    | A303y | 352 C 22 | 86611  | -      | 9.76 mV/g   | ICP        | AC FR  | OFF     | 1000 g      | -         | -       | -     |
| 25  | WM   | A303y | 352 C 22 | 86600  | -      | 9.7 mV/g    | ICP        | AC FR  | OFF     | 20 gV       | -         | Notch   | -     |
| 26  | WM   | S102a | -        | -      | -      | 1 mV/(µm/m) | Voltage    | AC Gnd | OFF     | 20 (µm/m)/V | -         | Notch   | -     |
| 27  | M    | S102b | -        | -      | -      | 1 mV/(µm/m) | Voltage    | AC Gnd | OFF     | 10000 ...   | -         | -       | -     |

Weighting of control channels

For test modes allowing several control channels, the new software revision provides a weighting option. In previous revisions the control was done using the lowest or the highest control signal or the average signal of all channels. For the average signal it is now possible to give more weight to single signals so that they are included several times into the averaging process while others are only included once. Thus, difficult test situations can be controlled in an effective way.

## Screenshot at Test End

The VibRunner options offer two new functions: *Print screenshot at test end* and *Store screenshot at test end*. For convenient reporting, the entire VibRunner window including all of the graphs can be selected to print or save into a pre-determined image format (\*.jpg, \*.png, \*.bmp) upon closure of the application. Due to a test stop caused by a manual shutoff or the limits of the test being reached, the two options are executed to preserve the test information.

Menu function *Print screenshot at test end* and screenshot example

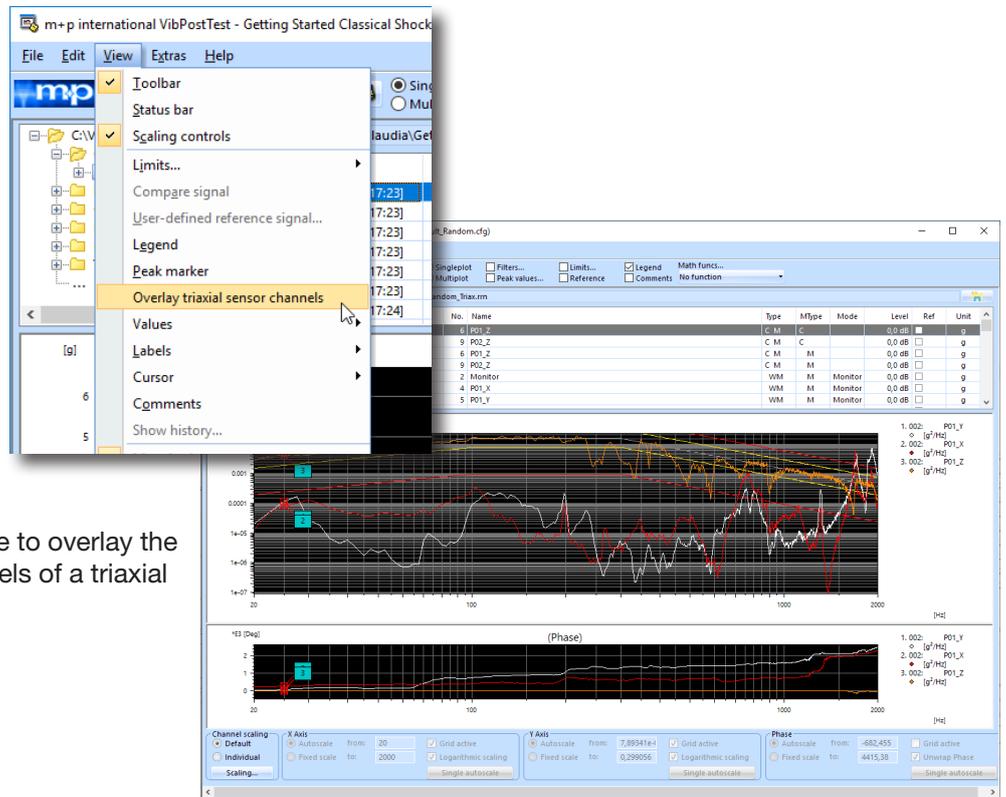
## Vector Add for Classical Shock and Road Load Simulation

m+p VibControl Rev. 2.15 features a *Vector add* function for the test modes classical shock and road load simulation. *Vector add* sums the time signals of the measurement channels while taking into account

their direction. The calculation is done via a virtual channel.

*Vector add* has already been available for sine and random test modes.

## VibPosttest: Triaxial Accelerometer Channel Overlay



In VibPosttest it is now possible to overlay the result graphs of all three channels of a triaxial accelerometer in one chart.

Channels of a triaxial accelerometer overlaid in VibPosttest

## Line Width Adjustable in VibPosttest Printout

For an enhanced quality of your VibPosttest printouts, m+p VibControl Rev. 2.15 offers the possibility to adjust the line width of measurement traces.

## 64-Bit Support

m+p VibControl Rev. 2.15 supports the current 64-bit Windows operating systems and has been adapted to it. Thus, the software is up to date with current Windows standards.

## Other New Features:

- Control on strain channels
- In acoustic test mode you can define measurement channels to only measure PSD, without calculating octaves
- Representation of vertical and horizontal cursors in printout
- Chart plots are also stored in \*.jpg format
- Subsequent change of the data format and the measurement unit in VibPosttest
- Improved peak value search in VibPosttest
- Display of the current amplitude value in sine dwell can be separated and enlarged
- In random test mode  $f_{\min}$  and  $f_{\max}$  values from the spectrum are automatically transferred to the advanced parameters' *line-by-line check* section as *lower/upper frequency limits*
- In multi-sine test mode, the frequency range sections per sine tone are calculated automatically. You only enter the minimum and the maximum frequency of the whole frequency range and the number of sine tones requested
- Sine tones representation for measurement channels
- In VibPosttest *MultiPlot mode*, sine tones of a mixed mode test run can be displayed together with the random signal
- Virtual channels can now be measurement channels
- Copy folders to *Compare mode*
- Digital I/O signal on limit violation in data reduction

This Update Note provides you with an overview of the most significant product enhancements in m+p VibControl Revision 2.15. 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 2.15** is available now. It will be sold as a dongle version exclusively. Please do not hesitate to contact us for further information.

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