

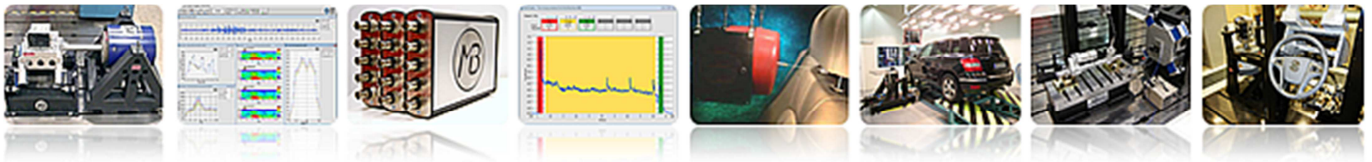
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MB Dynamics GmbH
Technology, Test Processes & Engineering Services

Newsletter

Edition 2/2015



[Squeak & Rattle](#)

[Test & Measurement](#)

[Modal Shaker](#)

[Steering Test Systems](#)

[Calibration Systems](#)

Dear Tobias Achten,

With our newsletter we would like to inform in a short form of new products and applications. For more detailed information please follow the respective link. You have questions or want to discuss your application in person with us? Then please send us your [request by E-mail](#) or contact us directly by phone. We look forward to your call.

Best Regards

Tobias Achten - MB Dynamics GmbH

Topics of this newsletter:

SMTS - Test & evaluate steering systems for noises and performance

Driver Simulator - Extreme quiet closed loop controlled rotary actuator

S&R Energizers - Since 20 years the quietest shakers in the world!

SMTS- Test & evaluate steering systems for rattles, functional noises and steering performance



The MB Dynamics Steering Module Test Simulator (SMTS) technologies are used in the test lab to test and evaluate steering systems for: road-excited column and rack rattles and functional noises; NVH issues; durability; and steering performance design verification by repeatably controlling customer driving maneuvers. These non-hydraulic SMTS technologies

Applications:

- Test for annoying running noises, Rattles, Squeaks and noises during customer-actuated driving maneuvers
- Verify steering performance
- Assess steering effort & feel
- Condition & wear gears in the lab
- Evaluate steering performance
- Benchmarking...

are quiet (acoustically & electrically) to help troubleshoot, identify, diagnose and resolve root causes of annoying noises and other such performance issues in EPS, EPHS, EPAS, MDPS and HPS steering technologies. SMTS technologies help to achieve objective NVH metrics and to characterize steering system sensitivity and performance. [Read more...](#)



Key Differentiators:

- Extreme quiet - No hydraulics, no oil!
- Simulates static and dynamic road and vehicles inputs
- Simulates driver functionality and driving maneuvers
- Closed-loop control system
- Enables objective evaluation of noise, vibration and tactile feedback

MB Driver Simulator - Extreme quiet closed-loop controlled rotary actuator

The MB Driver Simulator is used to simulate driver functionality by generating repeatable and precise steering maneuvers of position/angle, angular rate, or torque using imported time histories of measured drive files or user-customizable sine, triangle, sawtooth, square and trapezoid waveform. The slotless design avoids cogging or torque fluctuations and enables smooth motion without acoustic



Features:

- Continuous Torque up to 50Nm
- Peak Instantaneous Torque up to 125Nm
- Frequency response: DC-50Hz
- Analog outputs of position, rate, torque or current via BNC
- Digital servo controller with integral power supply
- CAN-communication...



disturbances or contamination of the waveform quality. Frictionless porous-media air bearings enable high accelerations and an extreme low operating background noise. The Driver Simulator can be used standalone, in conjunction with Rack Load Simulators or in other applications which require coordinated control of torque, position and acceleration. [Read more...](#)

Key Differentiators:

- Extreme low operating noise
- Smooth operation, no cogging related effects
- Low friction and low vibration
- Long rotary displacement, infinite revolutions
- Steering-specific software for simulation of typical driving maneuvers

S&R Energizers - Since 20 years the quietest shakers in the world

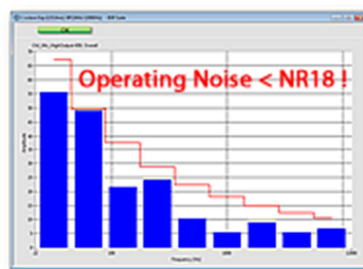


Since 20 years MB S&R Energizers are proven to be the quietest shakers in the world. The extreme low typical **operating background noise fulfills the requirements of Noise Rating Curve 18** and makes the MB Energizer shaker systems the worldwide most frequently used standard for Squeak & Rattle testing. Different test specifications ask for different objective Squeak & Rattle metrics and operating

Features:

- Forces up to 4450N SINE pk or 2900N RANDOM RMS
- Noiseless & friction-less suspension
- Max. stroke: up to 50mm pk-pk
- Max. velocity: up to 1,5m/s
- Frequency range: DC to 2000Hz
- Temperature & overtravel control
- Optional Horizontal Moving Table
- Optional active load support...

background noise limits. Unfortunately basic test parameters like the reference vibration level or reference microphone distance which have a huge impact on the resulting operating noise are oftentimes not defined. MB Dynamics provides detailed information on how we specify the operating background noise of our shaker systems. [Read more...](#)



Key Differentiators:

- Since 20 years proven to be the quietest shakers in the world!
- Worldwide most frequently used standard for Squeak & Rattle
- Turnkey test systems up to 6 DOF
- Fulfill requirements of NR18!
- Typical Operating Background Noise <28dB(A) or 0,2sone [Read more...](#)

Imprint:

MB Dynamics GmbH
Industriering Ost 66
D-47906 Kempen
Tel.: +49 (0) 2152 8946690
Fax: +49 (0) 2152 8946699

Managing Director: Dipl.-Ing. Tobias Achten
Commercial register: HRB 13223
District court Krefeld
VAT-Id.: DE274725352
www.mbdynamics.eu

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