

Efforts to reduce noise pollution from cars are not limited to optimizing engines, silencers and tires. Car generators with their high rotation speed are coming more and more into the focus of measurement engineers. Especially on high-speed roads, sound emission plays a crucial role. There's no question that BOSCH, one of the world leading producers of car components, invests all its know-how into the development of quiet car generators.



A BOSCH car dynamo test stand and a tested dynamo

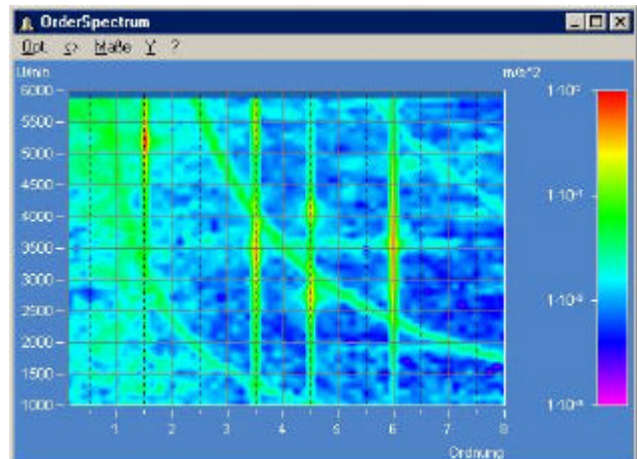
To test such generators, BOSCH has chosen the imc measurement μ -MUSYCS to create a sound and vibration test stand.

With the help of the test rig, accelerometer signals, microphone signals and RPM signals can be measured at the same time under different load and speed conditions. Due to its online calculation capabilities the PC connected with the measurement system can display directly the real-time results.

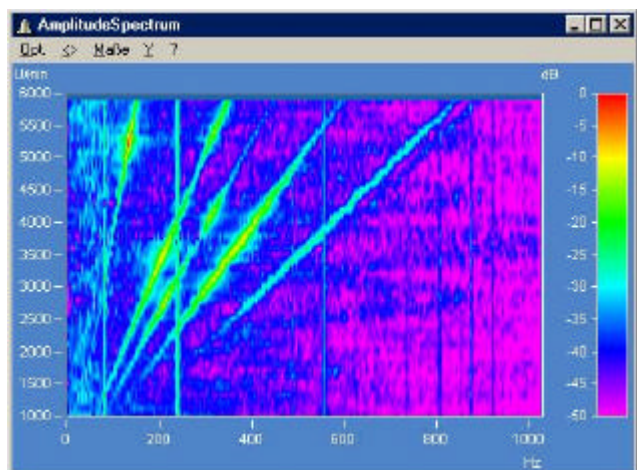
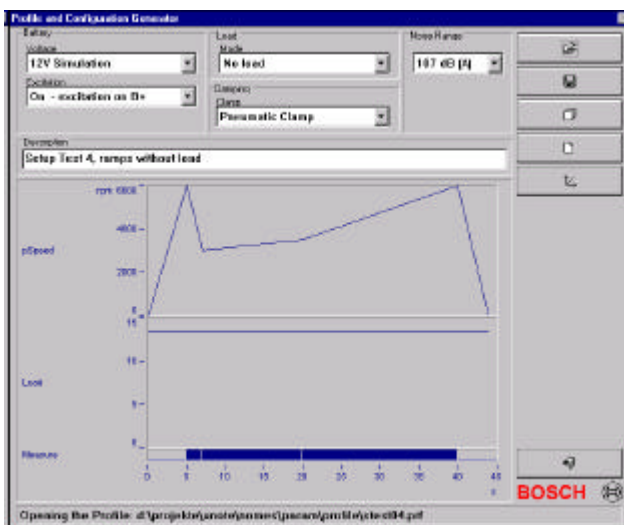
Sound level and sound intensity calculations can also be performed as Order-spectra, Fast-Fourier Transformations or digital filters. In conjunction with this test bench, which can produce every possible operating point, the real behavior of the generator can be observed and examined.

To standardize the results of the tests, a BOSCH internal database can be used to verify the results with current standards or internal BOSCH quality requirements.

Results of measurement or online calculations can be transferred to FAMOS. A BOSCH company license of the imc offline analysis and evaluation program provides every engineer and technician with the performance which that program offers.



A sound signal order spectrum in conjunction with the RPM signal



A amplitude spectrum of the same signal as above

