

- Provides objective results
- Allows comparison across models & makes
- Ensures consistency & data integrity
- Automatic test reports

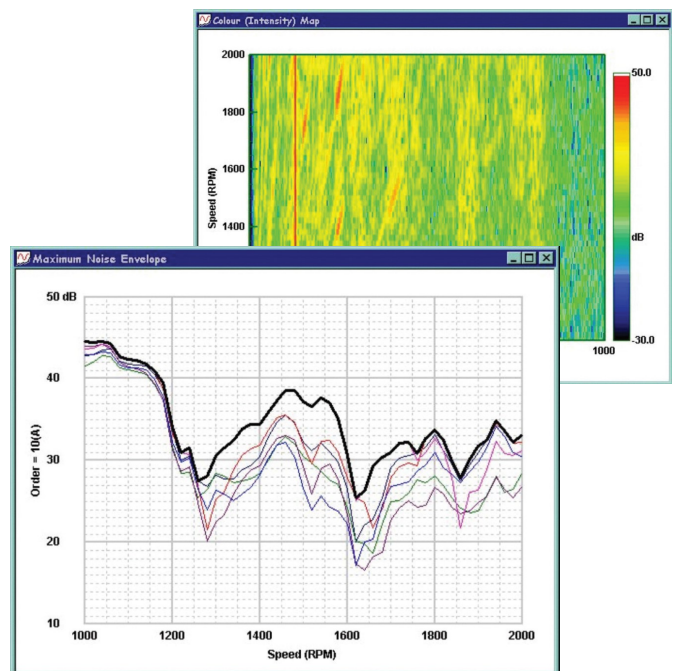
One of the most problematic noises to reduce to an acceptable level in a vehicle is that of the power steering pump. Prosig helped design new techniques to speed-up and ease the refining process.

A 'standard' test was needed for assessing the sound quality of power steering pumps in vehicles. Measurements needed to be objective so that the method could be used for different vehicles, models and pumps. From an end user point of view the assessment is simply how much will the driver or passengers hear the pump noise in relation to the vehicle background noise.

Steering pump noise is multi-tonal, has a lot of background masking and, is dependent on the engine speed.

Deadspots & interference made it clear that an array of microphones was required. The best configuration was found to be six microphones arranged in a sphere. To remove other anomalies, three measurements were taken per test and the results averaged.

Data is captured using Prosig's DATS-tetrad or DATS-hyper12 range or an older P8000 system. An analysis was developed as a "worksheet" in the DATS software. This averaged the runs and microphones before removing background noise. The duration over which key orders exceeded the background noise was then condensed to a single metric that could be used to compare pumps and modifications.



### About Prosig

Prosig is a UK company specialising in the testing and monitoring of complex machinery, vehicles and structures within the advanced engineering, automotive, aerospace, and industrial sectors. The company offers a wide range of system capabilities, experience and innovation, with a particular focus on advanced vibration and acoustic monitoring and analysis techniques. Prosig is part of Condition Monitoring Group Ltd, an international group, with headquarters in the UK and subsidiaries in three USA, Germany and Italy.

#### Prosig Ltd

Link House, High St  
Fareham, Hampshire  
PO16 7BQ, UK

UK: +44 (0) 1329 239925

[sales@prosig.com](mailto:sales@prosig.com)

USA: +1 847-228-0985

[prosigusa@prosig.com](mailto:prosigusa@prosig.com)

[www.prosig.com](http://www.prosig.com)