

Easy and efficient NVH optimization

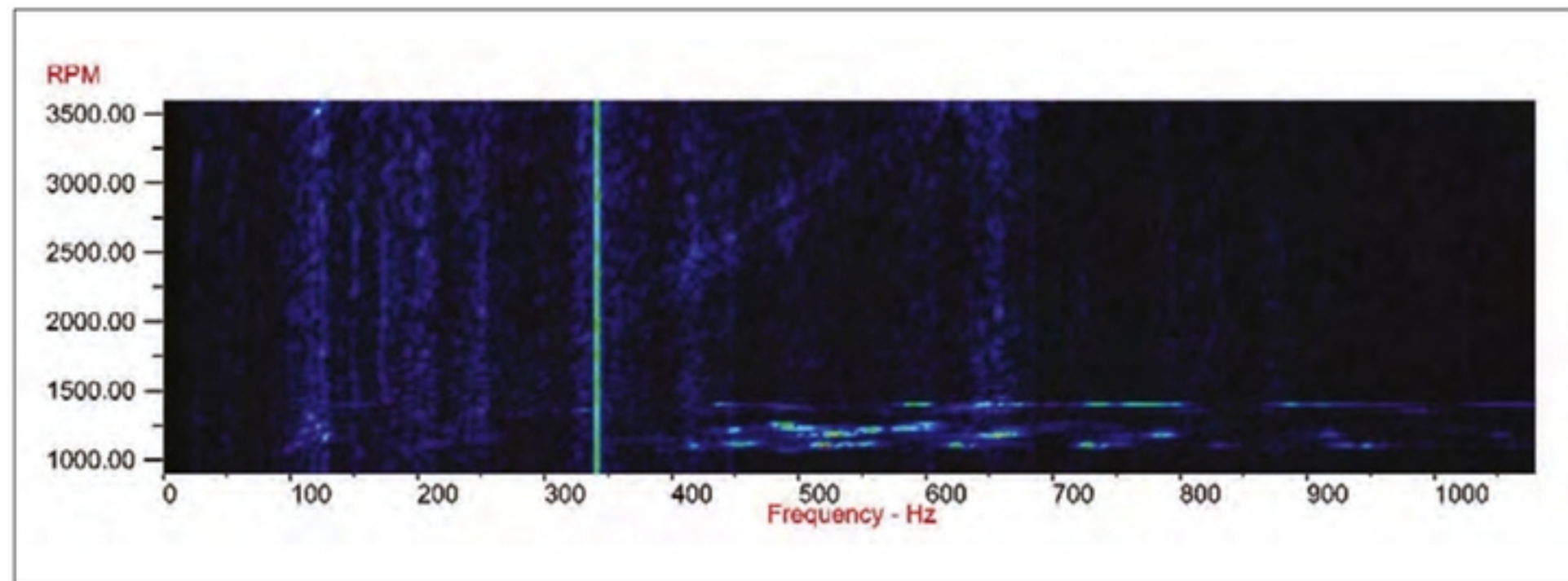
M+P International

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Engineers at Geely have been using an M+P Analyzer in the noise and vibration analysis of its black cabs in London

The London Taxi Company (LTC) has been designing and manufacturing London's famous black cab since 1948. The company became part of the Zhejiang Geely Holding Group, China's foremost automobile business, in February 2013. At its vehicle manufacturing facility in Coventry, UK, LTC has recently been using the M+P Analyzer from M+P International to further improve and refine the noise performance and passenger comfort of its iconic black cabs. The system is used during product development and in manufacturing for quality control.

Previously, engineers at LTC have employed specialist external consultants to investigate noise and vibration issues in the development of its vehicles, which can be costly and time-consuming. With the initial help of an M+P support engineer, LTC performed its own measurements in-house using microphones, a driveline speed signal, and an analog-to-digital converter (ADC) connected to M+P Analyzer software running on a laptop. The microphones and ADC were powered from the laptop, resulting in a self-contained, easily portable system. The analysis tool produced real-time color maps and order tracks of A-weighted noise versus driveline speed as the vehicle accelerated and decelerated.



The engineers were able to identify potential noise and vibration problems, test the effectiveness of prototype transmission components, and also monitor production vehicles to ensure they complied with the company's standards. The ease of use, portability (the system can be moved from taxi to taxi in minutes), and the ability to process and store results considerably reduced the

time required to perform measurements. An additional benefit was that LTC's engineers gained a greater insight into the factors that affect noise performance. The system has been used in the UK and China.

“Using M+P's system, we were able quickly to identify the issues and the effect of component modifications, which saved us time and money,” says Amit Satav, mechanical design engineer at LTC. “We are now looking to see how we can use the system to investigate other noise and vibration issues with a view to further improvements in design, including forthcoming electric vehicles.”

The M+P Analyzer offers a fully integrated solution for efficient noise and vibration testing, general dynamic signal applications, and all NVH requirements. Complete with advanced application wizards, the system makes light work of gathering data, displaying results, performing specialized analysis and generating reports. ◀

