

New Quality Standard for Measuring Car Hands-free Terminals

The demand for high-quality car hands-free terminals has risen considerably ever since their required use was passed into law. The German Association of the Automotive Industry (VDA) has reacted to the situation and established a new specification for ensuring good speech quality of hands-free terminals. The communication measurement experts at HEAD acoustics, who have already been involved in defining other German and international telecommunication standards, were asked by the VDA to co-develop this specification and it is now implemented into a new quality standard. Together with the communication analysis system ACQUA and the artificial head measurement system HMS this standard allows the analysis and optimization of hands-free terminals according to the VDA specification.

([PRWEB](#)) October 11, 2003 --For some time now, manufacturers have realized that mobile telephony is a feature reserved not only for luxury cars. More and more new car lines across all class divisions are offering integrated hands-free terminals as options. Customers regard them as an integral part of the car that now affects the overall impression of product quality.

However, the technical problems of ensuring satisfactory conversation quality of mobile hands-free terminals for both subscribers are enormous. A huge range of products with just as many promising quality features seems to offer a simple solution of the problem. Nevertheless, customer expectations are often disappointed soon after their purchase. Along with a weak sound in the car, the person at the other end of the line often experiences difficulties such as an unnatural driving noise, strong variations of volume or his/her own echo. Furthermore, if both people on the phone try to speak at the same time, the driver's voice often cannot be heard at all or is heavily distorted.

For the evaluation of these and other quality aspects the VDA specification comprises numerous standard values such as loudness rating, transfer function, idle channel noise in sending and receiving direction, cancellation of out-of-band signals, echo attenuation and minimum activation levels. In contrast to other standards commonly used up until now, the VDA specification additionally takes into account four other essential aspects:

- Â· Consideration of car type specific conditions by measuring the hands-free terminal in its original mounting state. For retrofit solutions: use of a car cabin with typical acoustic characteristics.
- Â· Tests "in tranquil state" as well as with realistic background noise; Acoustic driving simulation equalized to target car. Consideration of different speeds, engines and body styles.
- Â· Artificial head measurement system as the "user" of the hands-free terminal.
- Â· Primary focus is on conversation parameters such as quality during double talk and quality of background noise transmission.

Some of the tests are based on current standards for the third generation of mobile telephones such as 3GPP (3rd Generation Partnership Project), others on the results of auditory methods (another quality aspect of the VDA specification compared to commonly used standards).

Background information:

HEAD acoustics was founded in 1986 and has specialized from the beginning in noise and vibration, electroacoustics and communication testing. Based in Herzogenrath, Germany, with daughter companies in USA, France, Japan and a world-wide network of representatives, HEAD acoustics not only develops and produces measurement equipment and analysis software, but also provides the corresponding consulting



services. Moreover, HEAD acoustics is involved in national and international standardization committees and organizations concerning communication quality. In many partnership projects HEAD acoustics has contributed its competence and experience in conducting measurements and optimizing product quality in the above-mentioned application areas.

The German Association of the Automotive Industry (VDA) nationally and internationally promotes the interests of the entire German automotive industry in all fields of the motor transport sector, e.g. in economic, transport and environmental policy, technical legislation, standardization and quality assurance. In addition, the VDA organizes, under its own auspices, the IAA International Motor Show, which is held every year. The members of the association are companies that operate a plant in the Federal Republic of Germany for the industrial production of motor vehicles and their engines, trailers, special bodies and containers and vehicle parts and accessories. From these manufacturing sectors, about 510 companies with a total of 710,000 employees have joined the association. The head office of the association is in Frankfurt-am-Main. The VDA also has offices in Berlin and Brussels.

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