## DiracResearch



Translation of parts of the text in the German article "Jazz Proof" in sportauto, no 10/2007, pages 20-23, by Stefan Schickedanz, comparing the Dirac sound in the new BMW M5 to the Bang & Olufsen sound in the new Audi R8.

(From the introduction, on the challenge:)

"Music and roaring motors fit together perfectly in movies. In reality, they fight an embittered battle... Sooner or later the art loses. The music capitulates against the roar of the motors and their merciless accomplices: the wind and tire noise. That should however not be taken as an argument for introducing speed limits."

(Short description of Dirac Live:)

"Count into that the capable Dirac Live processing corrections, in order to compensate run time differences of the individual loudspeakers and reflections of the large glass areas."

(A description of the test of the Dirac-based Individual High End Audio System in the BMW M5:)

"The (quality of the) CD sample by Naim Audio already exposed many shortcomings of (other) exorbitantly expensive home CD players, even when listened to under optimal listening conditions - in windowless acoustically damped rooms with thick walls. But what would remain of the exquisite violins, pianos and horn instruments after being confronted with the 507 horsepower sound of the M5 (without the usually built-in 250 km/h limiter software), in an acoustically unfriendly environment of glass, leather and synthetic materials? Unbelievable: Goose bumps by the steering-wheel from the chamber music, when a spinet piano with fine overtones joined the violins. At around 270 km/h.

The for car conditions purely astonishing, extremely stable, spatial image of the sound stage in front of the head of the driver remained unaltered, as was the transparent tonal balance. The capacity reserves of the nine channel digital amplifier were more than adequate for the requirements of the velocity-dependent volume and frequency response adjustment by the digital signal processing.

The sound quality offered by the BMW Individual High End System in a parked car is hard to surpass with respect to resolution and bass distinctness even with expensive home systems. It was obvious from the beginning that this quality level would not be reached at speed. However, what remained of this quality at 200 km/h was a surprise. And at the latest when the tachometer surpassed 300 km/h, (all three of) the motor, the chassis and the sound system seemed to go a little beyond the boundaries of physics. The first one still accelerated, as if angels pushed it. The last one played music completely unimpressed, and placed the star guitarists Meola, McLaughlin, and de Lucia widely spaced around the head-up display, which floated like a virtual Mercedes-star above the hood. And the chassis at last started to groove at speed 320 in a curve, thanks to an uneven pavement."

(On the comparison between the Audi R8 and the BMW M5 sound systems: The Audi is found to have a somewhat better adaptation to background noise colour. It uses a noise pickup microphone, while BMW uses only speed-dependent adjustment; Dirac has not been involved in the development of this adjustment mechanism.)

"Therefore, The (Audi) R8 at full speed regains a large part of the points it lost to the M5 at the parking lot with respect to sound balance, although a fully free M5 otherwise mercilessly shows it its tail lights.

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A systematic tendency of the comparison is that both sound systems follow the spirit of their host cars. While the Audi does not give a half-strong impression, it is by far not so serious and grown-up as the M5, which gives you a kick in the head, rather than only (bass) tinkles in your belly. The practical BMW offers its kind of euphoria as you leave the car: Man, this was high-end sound at Formula 1 speed, hard to believe. It feels like after a night at the opera."

## Epiloque:

The author concludes by recommending potential buyers of the M5 to take the special driver training required for purchasing an M5 without the built-in electronic 250 km/h speed limiter. Otherwise, the car won't show its full potential...

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