

Technology

# ALL EARS!



By  
Reiner Schloz

**Dieter Burmester** is known the world over for his extraordinary home audio systems. Together with engineers from Porsche, he designed the High-End Surround Sound System for the Panamera, which is celebrated by experts and customers alike. And now these rich tones from Berlin will resonate in the new Cayenne, as well.

Photos by  
Ernst Fesseler



### Mid-range speaker

Extremely stiff fiberglass diaphragm with exceptional interior damping.



### Woofers

Aluminum pressure-diecast boxes featuring unparalleled impulse playback with no magnetic scatter loss.



### Tweeters

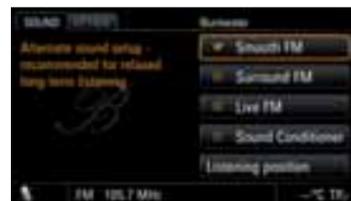
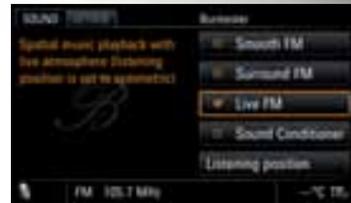
Air-motion transformer derived from the flagship Burmester B 100 loudspeaker; it features a specially folded membrane made of extremely thin polyimide/Kapton film.



### The sound system in the new Cayenne

- 1 Mid-range speaker
- 2 Tweeter
- 3 Mid-range speaker
- 4 Woofer
- 5 Tweeter
- 6 Mid-range speaker
- 7 Woofer
- 8 Subwoofer
- 9 Mid-range speaker
- 10 Amplifier

For every ambience: Preprogrammed sound sets can be selected on the touch screen



**Deep Purple rocks.** Ritchie Blackmore needs only three chords, and Ian Gillan only a despairing moan, for “Child in Time” to reveal the line between the good and the bad. Jon Lord’s keyboard swells in volume. Havoc is nigh. As Lord’s fingers glide over the keys, Blackmore’s fingertips glide over strings and chest cavities vibrate. Space seems to extend into infinity, as if only here to hold these tones. There’s no other way to listen to music. So clear, so pure, so near. No, the keyboardist for this seminal British hard-rock band is not hiding somewhere in the depths of the car. At the wheel of the Panamera is Mathias Renz, Porsche’s specialist in audio systems and acoustics. “You can turn the volume up or down as you please, and the very low and very high tones will remain crystal clear,” he says. “There’s not the slightest distortion. Can you hear that?” One hears everything. And a good deal more besides. Gillan’s moans have become wild screams.

This sound is addictive. Give me music, I’m all ears! Driving a Porsche (and just sitting in a Porsche) has been augmented in full sensory form by yet another pleasure one has to hear to believe—with the High-End Surround Sound System from Burmester as an optional treat. On hearing the first tones, buyers quickly opt for this opportunity to immerse themselves in extraordinary sound quality. Experts with a pre-natural sixth sense at the slightest touch of the volume regulator sing paens to the system’s clear tones. And the effects can be appreciated to the very marrow of one’s bones: the system’s 1,000 watts are as impressive to the ears as the car’s 500 horsepower is on the road. “The best roadworthy sound system that I’ve ever heard,” enthuses a columnist in the *Los Angeles Times*. The specialty journal *stereoplay* speaks of a “concert hall with 500 horsepower.” A columnist from *Hi-Fi News* even thinks a unit like Burmester’s can yield such spectacular sound only if “the car is built around the system.”

That’s not exactly what happened. “But Porsche granted us an incredible amount of liberty,” says acoustics aesthete Dieter Burmester. An engineer and amateur musician, Burmester proceeds not only on the basis of a high degree of technical expertise, but also and especially with a refreshing passion for absolutely pure tones. “When people listen to music, they have to forget that the sounds are coming from some sort of system. They should feel as if they’re in the middle of it all,” he says. His distinguished production site in the Schöneberg district of Berlin produces the *non plus ultra* of home sound systems. Crowned with countless prizes worldwide, his man-made systems are famous for their timeless, elegant design and their unbelievable sound. Enthusiasts pay between €25,000 and €150,000 for a single system. A Burmester home cinema facility with all the extras can cost up to €250,000. What you get is an absolutely unique auditory experience and sturdy, high-quality material. Burmester systems are serious.

Porsche wouldn’t settle for anything but the best in the Panamera. Back in the structural phase, the Gran Turismo’s body was designed to accommodate a super audio system of previously unknown dimensions, if desired. The acoustics experts led by Renz calculated and compiled their figures. “And then,” says Renz, “we ended up putting technology into practice that we wouldn’t have used without Burmester.” The result features 16 loudspeakers, including a 250-millimeter (10-inch) subwoofer and a 300-watt integrated class-D am-

plifier, some 1,000 watts of overall output, and a maximum continuous sound level (undistorted) of over 125 decibels, a frequency range of 30 hertz to 20 kilohertz, “best in class” sound performance—and the best system on the market with respect to measurement values. And a system that, at the insistence of Dieter Burmester, also uses analog technology to enhance the listening experience. Highlights include the AMT tweeters never before installed in a production vehicle. Derived directly from the flagship Burmester B 100 loudspeaker, these air-motion transformers feature a specially folded membrane made of extremely thin polyimide/Kapton film with a surface area approximately seven times greater than conventional tweeter systems. The total membrane surface area is about 2,400 square centimeters (372 square inches). As Renz notes, “The membrane surface area is like the engine capacity: the larger it is, the more commanding.” Yet the entire system adds fewer than 12 kilograms (26 pounds) to the scales, whereas comparable systems can weigh more than double that. Burmester admits that “we had to totally rethink our system, and we learned a lot from Porsche.”

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Mathias Renz, audio and acoustics specialist

The converse is true as well. As Renz recalls, “There were times during the development process when we put all the measurement values aside for a moment, trusted our ears, and listened to Dieter Burmester.” In the literal sense of the word. They drove thousands of test miles to the tunes of Bach, Clapton, Tchaikovsky, Sting, and Graham Nash, covering rock, pop, classical music, and a lot of jazz—until their ears were veritably aglow. Then Burmester set to work on the final adjustments for the system, exactly like the engineers in Weisach bring the engine of a racing car to its final, superior form. The beneficiaries, of course, are the Porsche customers. There are preprogrammed sound sets for every taste. They can be selected on the car’s touch screen. It’s child’s play. New features include a function that enables auditory impressions to be optimized for the spatial conditions and tonal balance between the front and rear seats, and the “surround function” that generates an especially three-dimensional sound. In addition, the “sound conditioner” ensures that once adjusted, the sound remains the same under driving conditions, as well. ▶

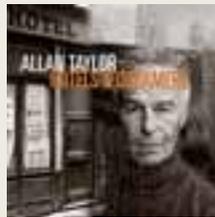
# MUSIC ON THE ROAD

CD TIPS FROM DIETER BURMESTER

**“FOR MANY PEOPLE THESE DAYS, THE BEST PLACE TO LISTEN TO MUSIC UNDISTURBED IS IN THEIR CARS,” SAYS DIETER BURMESTER—WHO IMMEDIATELY PROVIDES A FEW TIPS: FOUR CDS FOR FOUR DIFFERENT MUSICAL TASTES.**

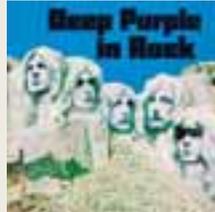
ALLAN TAYLOR: *HOTELS & DREAMERS*

“A singer and songwriter at his best! This artist’s lyrics recall the ‘68 era, and his voice resonates with a lifetime’s experience. The recordings are tonally perfect, like everything from the Stockfisch label. The bottomless bass in ‘The Beat Hotel’ is especially impressive.”



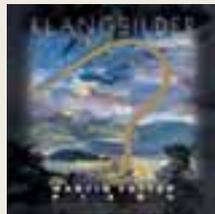
DEEP PURPLE: *IN ROCK*

“You’ve simply got to hear the ‘Child in Time’ track in a Panamera—preferably with the ‘live’ setting activated symmetrically, namely, in all four positions. The only comparable place to hear a Hammond organ is directly on stage.”



MARTIN VATTER: *KLANGBILDER – PIANO*

“If you’re looking for something calmer, these very expressive grand piano renditions could be the thing. The ideal music for five o’clock tea while raindrops patter on the windowpanes and flames crackle in the fireplace—or when you’re watching the landscape fleet by in a Panamera.”



MADELEINE PEYROUX: *CARELESS LOVE*

“Calm and cool jazz like that from the 1960s. A voice reminiscent of Ella Fitzgerald, and recording technology that needs no treble amplification or volume compressors. The Bob Dylan piece ‘You’re Gonna Make Me Lonesome When You Go’ is a very successful adaptation.”



A special Burmester feature is the “live function,” which creates an auditory experience of sitting among the musicians themselves as opposed to in the audience section. The Berlin team is especially proud of its “smooth function.” As Burmester notes, “For many people, an analog LP sounds better than a digital CD. And we’ve now succeeded in reproducing the analog auditory experience in digital form.” Burmester has patented this technological trick.

The success of this system has exceeded the highest expectations. Experts applaud, and customer demand is high. “Many people have realized that this is the best deal they’ll ever get for a Burmester system,” says Renz. The super sound is by no means the most expensive extra in the Panamera, and, according to Burmester, it is also “the most affordable system that we have ever developed.”

“WHEN PEOPLE LISTEN TO MUSIC, THEY HAVE TO FORGET THAT THE SOUNDS ARE COMING FROM SOME SORT OF SYSTEM. THEY SHOULD FEEL AS IF THEY’RE IN THE MIDDLE OF IT ALL.”

Dieter Burmester



Now, the new Cayenne has been designed to enable its buyers to enjoy this unique sound experience as well. With exactly the same system. Exactly? As Burmester explains, “The interior of the Cayenne is a little larger than that of the Panamera. But I never imagined that the final adjustments would take so long.” It was the same story—thousands of test miles with rock, pop, classical music, and jazz. Until the ears of the testers were veritably aglow. But the effort was worth it. Those who listen will take Gillan’s despairing cries to heart: at some point, Deep Purple’s singer took “Child in Time” out of the repertoire. He didn’t want to subject his voice to the sheer exertion any longer. ◀