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video

# video



## TEST TOTAL

DIE BESTEN GERÄTE FÜRS HEIMKINO

6 DVD-Recorder ab 350 Euro



### OFFPRINT

### MUSIKELECTRONIC GEITHAIN

### RL 901 K/RL 903 K/BASIS 4 K



TEST: MOBILE VIDEO-PLAYER AB 350 EURO

Video im iPod-Style: Jetzt können Sie Ihre Filme mitnehmen!



TEST: DV-CAMCORDER

Perfekt Filmen bei wenig Licht – so geht's

HEFT IM HEFT & TREND-REPORT

Digital, mobil, extrascharf: Das bringt die TV-Zukunft

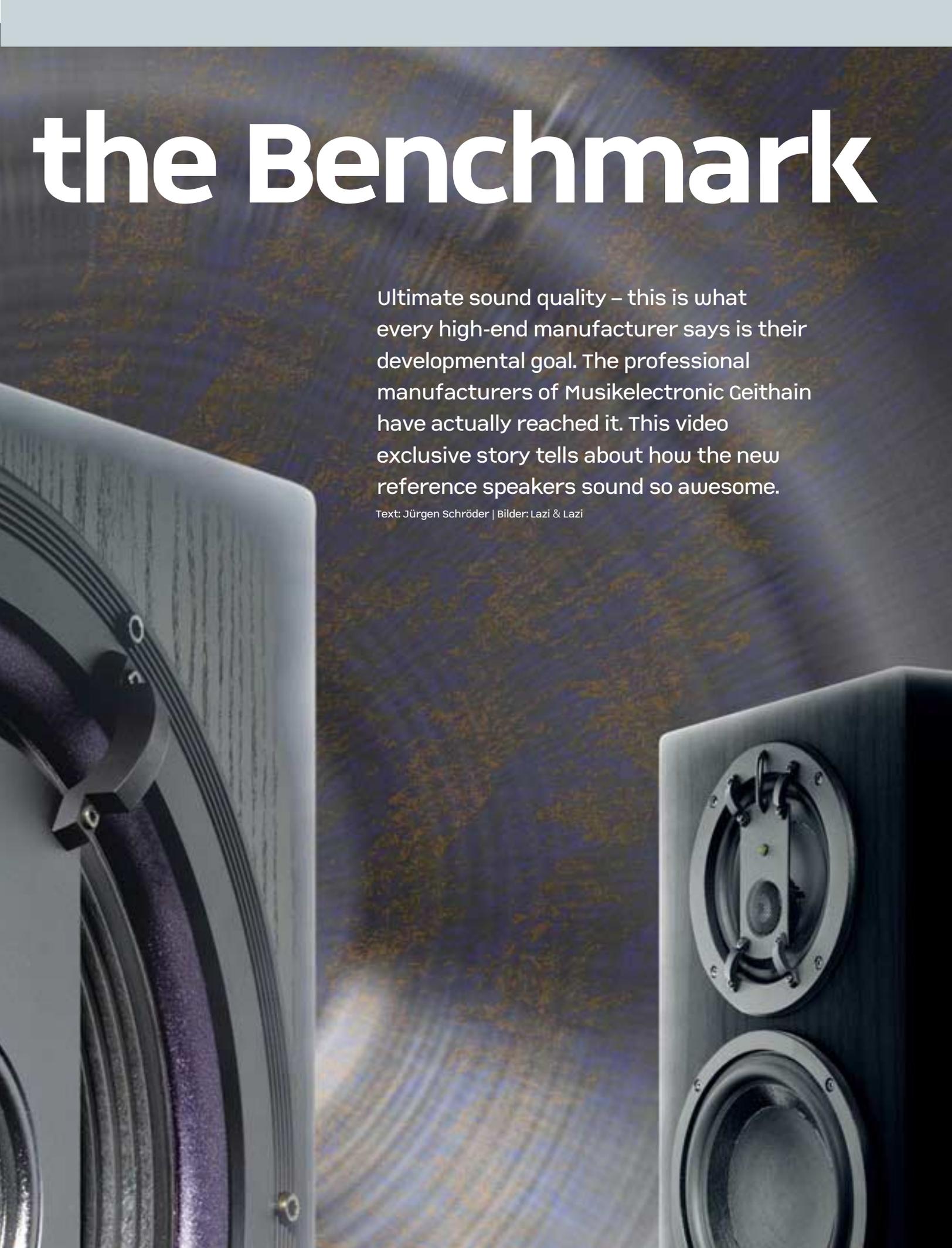


DIGITAL-TV PER ANTENNE ODER SAT: WAS IST BESSER ?

# Setting



# the Benchmark



Ultimate sound quality – this is what every high-end manufacturer says is their developmental goal. The professional manufacturers of Musikelectronic Geithain have actually reached it. This video exclusive story tells about how the new reference speakers sound so awesome.

Text: Jürgen Schröder | Bilder: Lazi & Lazi

**D**o you have high-end speakers that are also beautiful? Those who ask this question before buying a set of speakers, may have a soft spot for elegant acoustic furniture in the design of a slender organ pipe or with the soft rounded surface of a varnished piano, however, they have not yet witnessed the speaker set of professional supplier Musielektronik Geithain in action.

These speakers, priced at Euro 30,000, quickly became the inside tip of this year's high-end show in Munich. Even tough aesthetes had to re-sort their five senses after Sony's SACD multichannel presentation with the Geithain speakers. Eventually they simply had to state: „Finally there are speakers that do not hide their function behind fashionable gadgets.“

If you want to put this set in your living room, you need space; lots of space. The front speakers, mounted on floor bracket

stands, take up an area of at least 65 x 65 centimetres, rising up to a height of 1.7 meters. The centre speaker on its lower stand reaches 110 centimetres.

#### SPEAKERS FOR PROFESSIONALS

„Fully active main control room speaker for large audio, video and film studios.“ This is ME Geithain's sober description of the main and centre speaker RM 901K. It was designed for customers who need to know exactly how a recording really sounds. Coming along with its almost cubic cabinet of 55 x 50 x 45 centimetres, the 901 almost appears like a huge subwoofer – and indeed, it is exactly as big as the Basis 4K, the actual woofer in the Geithain team.

Due to its enormous bass driver of 40 centimetres, the RL 901 K makes the air burn even without the support of a subwoofer. As the TESTfactory determined,

at an ultra low 28 Hertz it provides an impressive maximum sound pressure level of 107 decibels, which can increase to 7 decibels more when going up to higher frequencies. This enables the RL 901 to generate genuine listening loudness levels in very large rooms and at listening distances of more than 3 meters.

The necessary amplification power is already onboard. Three amps for Woofer, midrange and tweeter chassis are in the back of the speaker. Control is realised via the high-level outputs of a mixer, pre-amplifier or AV processor. The rear speakers used in this test, RM 903K, operate on the same principle.

#### COAXIALITY ON PRINCIPLE

Next to excellent dynamics and perfect sound neutrality, company owner and chief developer Jochen Kiesler wanted the RL 901 also to render an absolutely preci-

Taking a stand: ME Geithain supply floor bracket stands of different heights. An alternative for the RL 901 K is a wooden stand. Displayed is the standard cabinet design – black ash tree veneer. Other wood veneers are available for a surcharge.





**Bass manager:** The Basis 4 K subwoofer fishes out bass parts from every surround channel separately – which is important for sound studios. Moreover, it has a classic LFE input.



**Having a blast:** The amplifier block of the RL 901 K unites three output stages with an overall nominal power of 400 watts.

se spatial imaging. Therefore, the loudspeaker uses the coaxial principle. Midrange and tweeter chassis are sitting on a small baffle, which is situated directly in front of the woofer.

Consequently, the acoustic centres of all three chassis are identical, generating a physically almost ideal point sound source. The baffle for the midrange and tweeter chassis inhibits sound reflection in the membrane horn and thus an unsteady free-field response. Furthermore, it pro-

duces a stable reference point for the vibrations of midrange and woofer.

Kiesler is so convinced of this mounting that he uses it for all ME monitors – rightly. In the TESTfactory, front and rear speakers produced free-field response images that are as straight as an arrow.

#### THE CARDIOID TRICK

Some time ago Jochen Kiesler baffled the experts anew. His „K“ models are clearly less sensitive to neighbouring acoustic

boundaries than conventional speakers, so the sound character of their woofers remains almost unaffected by stand position and room characteristics. The reason for this? While normal speakers radiate their bass all around, the K monitors emit low frequencies directionally – the K stands for cardioid (German: kardioid) radiation characteristics.

Kiesler’s trick is insulated cabinet openings on the rear of the speaker cabinet. These provide pressure compensation with the sound waves radiated to the front, effecting a controlled acoustic short. At the back, the speaker emits low sounds in a clearly softer manner.

There is another advantage to this specific architecture. By focussing the sound in this way, the K monitors radiate middle and high frequencies also in a cardioid way, rendering a widely nondirectional performance over the entire transmission range.

#### THE SOUND

The audio test with the Geithain pro team was a true revelation. No, there was no bombastic sound racket with infernal basses, ostensible midranges and displosive trebles. Instead the MEs, controlled by the currently best of all AV processors, the Accuphase VX-700 (see Test *video* 4/03), just served pure sound. ▶

#### LFE INPUT

Refers to a subwoofer signal input for direct feeding of the low frequency extension (LFE) channel. According to the Dolby directive, the LFE or .1 channel work only up to 150 Hertz. That’s why LFE inputs do not have lowpass filters.

#### ACOUSTIC BOUNDARIES

Floors, ceilings and walls, but also smaller objects like furniture form acoustic boundaries that reflect the sound. The larger the acoustic boundary is, the bigger the effect. Thus, the bass level of conventional boxes increases substantially when the speaker is placed near a wall or corner.

#### TECHNICAL INFO

## What Professionals listen with

Coaxial and fully active – speakers from Geithain.



Jochen Kiesler, Owner and Chief Developer; President/ C.E.O.

Since 1963, resourceful organ builder and engineer Jochen Kiesler and his fellow Saxons have been manufacturing high-quality amplifier electronics. A further milestone were the coaxial speakers for studio applications, as a result of which ME Geithain blossomed out to be a market leader in the field of professional broadcast monitors. All chassis are manufactured in-house – the perfect guarantee for optimal adjustment, consistent quality and long-term spare parts availability. No matter if big or small, all Geithain loudspeakers feature comparable sound characteristics. This enables sound engineers and

producers to enjoy identical working conditions, may it be in a cramped OB van or in a large central control room.

They played so naturally, that the jury sometimes was at a loss for words. This was the case with the legendary „I Can't Give You Anything But Love“ by Bert Kaempfert. Never before had the testers heard Fred Moch's trumpet sound so colourful, blaring and astonishingly authentic.

Even much more expensive high-end speakers may often sound a bit unpleasant in the extremely delicate middle frequencies, especially if the pieces have a wide dynamic range. Not so the big Geithains. Their ease and unadulteratedness sets benchmarks. No squeaks, no sawing, and even at original volumes beyond the 100 dB mark they played wonderfully airy and perfectly open music.

**A TOTALLY NEW DIMENSION**

The spatial representation of the Geithain team was in a league of its own, as well. On stereo rendition, the term „depth perspective“ experienced a totally new dimension. For instance, the quite carelessly played-in drums in the Fila-Brazillia-Remix of „Elevator“ rumbled exactly two meters behind the front speakers.

However, the spatial representation remained unaffected by the sound character of individual instruments. No matter if

timbals, vocals, strings or horns, even in works with large orchestras like the excellent 5.1 live recording of Vangelis' „Mythodea“, each instrument section adamantly stuck to their original place and did not push itself unnaturally to the foreground.

Furthermore the ME set does away with a certain prejudice. Although it mercilessly unmasked bad recordings with all the tricks of the trade, it did not clink or sound irritating or even annoying, like many so-called top speakers do – a clear evidence for perfectly balanced tuning.

However, the real potential of the Geithain speakers was revealed in excellently recorded movie scenes as in the action thriller „Infernal Affairs“ (see DVD MOVIE on page 5). On the roof of a high-rise building in the middle of Hong Kong's pulsating urban soundscape, inspector Wong's golf club hits the ball with a delicate, but sharply dynamic „click“. Also absolutely phenomenal was the fight between werewolves and vampires in the subway labyrinth in „Underworld“ (see DVD MOVIE on page 2). With what the opulent Geithain cubes outrightly prove: Beauty is not only in the eye of the beholder, but first and foremost, in the ear of the listener. ■



Free air: For achieving the purest sound, the midrange is free-air mounted into the baffle – a ring on the back with adjusted muffle inhibits an acoustic short.

**CONCLUSION**

The ME Geithain professional set bestows a gigantic sound experience. Those who have listened once with it will always instantly make out sound discolourations and unbalanced radiation characteristics of conventional speakers. For sure there are speakers that sound louder or more spectacular than the Saxons from Geithain. But looking at the total features, the large ME ensemble is presently unbeatable. This will be the new benchmark for future video tests of speaker sets. Admittedly, at the price of 30,000 Euros, they really are not cheap, but they are worth every single Euro.



BY JÜRGEN SCHRÖDER  
Technical Director video

**TEST RESULTS**



<b>Manufacturer:</b>	<b>MUSIKELECTRONIC GEITHAIN</b>
<b>Type</b>	<b>RL 901 K/RL 903 K/Basis 4 K</b>
<b>Price:</b>	30 000 Euro
<b>Telephone</b>	034341/311-0
<b>Website</b>	<b>www.</b> me-geithain.de
<b>Guarantee</b>	Amplifier-Electronics: 2 years Speakers: 2 years
<b>Dimensions in centimetres (w x h x d)</b>	<b>Front/Center:</b> 55 x 50 x 45 <b>Rear:</b> 48 x 29 x 36 <b>Subwoofer:</b> 55 x 50 x 45

<b>MEASURING LAB</b>	max. 10 Points	<b>EXCELLENT</b>	<b>10</b>
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<b>VALUES MEASURED</b>			
Sensitivity for 90 dBspl (depending on impedance)	30%	n/a, as fully active	–
Threshold Frequency of system	30%	26 Hz	<b>excellent</b>
Maximum SPL (Sub/Sat)	40%	114/114 dBspl	<b>excellent</b>

<b>LAB Report</b>	Very linear free-field responses. Cardioid directionality over entire frequency range. Constant directivity index, gradually rising towards high frequencies.
■ Speaker Type 1 = 8 Ohm	
■ Speaker Type 2 = 4 Ohm	
■ Speaker Type 3 = 2 Ohm	

<b>VOLTAGE PROFILE</b>	
Front-Speakers	
Center-Speakers	
Rear/Surround	
Values in volts for 104 dBspl/1 m	0 10 20 30 40 50 60

<b>NEUTRALITY</b>	max. 50 Points	<b>EXCELLENT</b>	<b>47</b>
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<b>DYNAMICS</b>	max. 30 Points	<b>EXCELLENT</b>	<b>30</b>
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<b>SPATIAL IMPRESSION</b>	max. 10 Points	<b>EXCELLENT</b>	<b>9</b>
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<b>video OPINION</b>	max. 100 Points	<b>EXCELLENT</b>	<b>96</b>
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<b>PRICE/PERFORMANCE</b>	<b>VERY GOOD</b>
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