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SMART SPEAKERS FOR EVERY ROOM

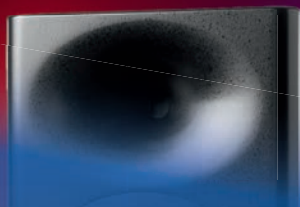
- Wireless All-in-one systems
- Far-field active speakers
- DSP & bass cardioid prevent booming

SPECIAL REPRINT

Musikelectronic Geithain

ML811K1

Audiophile transparency in XXL format



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Live in XXL

For the ultimate dynamics experience in large rooms, high-end fans so far used to fall back on horns. But now Geithain's ML811 offers audiophile resolution in XXL size as well.

As a listener of rock or harder musical styles, one can barely evade the dynamic thrill provided by fullrange horn speakers and PA-like systems – even if the sound is accompanied by noticeable restrictions including a loss of resolution and colourations. Now Jochen Kiesler hits the stage who has been active in the louds-



peaker business for almost 60 years, innately more a lover of classical music, but as a supplier for many studios and broadcasting stations, he also knows about the requests for loudspeakers without dynamic limitations and with the ability of achieving even in huge rooms a present and, particularly in the bass, enticing sound image.

He flatly dismisses horns and compression drivers, but for years he has been searching for a way to meet the high demands on decibels and room size also with the proprietary technologies.

The precision giant

The outcome is an XXL-sized active loudspeaker that looks traditional, not to say retro, but in truth features very advanced technologies.

Because high volume levels and a precisely defined directivity just won't do. Especially hybrid speakers with a narrow radiating midrange versus a classical radiating bass often tend to suffer from a perceptible timing "rift" between a spontaneous, swift vocal and overtone range and a comparatively sluggish or even slow bass. This is due to the fact that with low frequencies, all conventional speakers show an almost spherical radiation pattern, and the room acoustics with its

multitude of reflexions, standing waves and other effects slows down or even delays the transients.

To counter this, ME Geithain developed already years ago a number of loudspeaker series with a cardioid bass radiation where a rear passive delay line on different foam elements largely cancels the bass in backward direction and thus outwits

standing waves and wall resonances.

But whoever wanted to get a low-frequency big bang couldn't be really happy with this technology either, for a lot of power and cone excursion is "given away" here, and only very few such systems are able to produce rock concert levels and an accordingly rich low end. Therefore the ML811 uses

a 16-inch driver with a gigantic linear excursion and no less than 1,500 watts of nominal power handling.

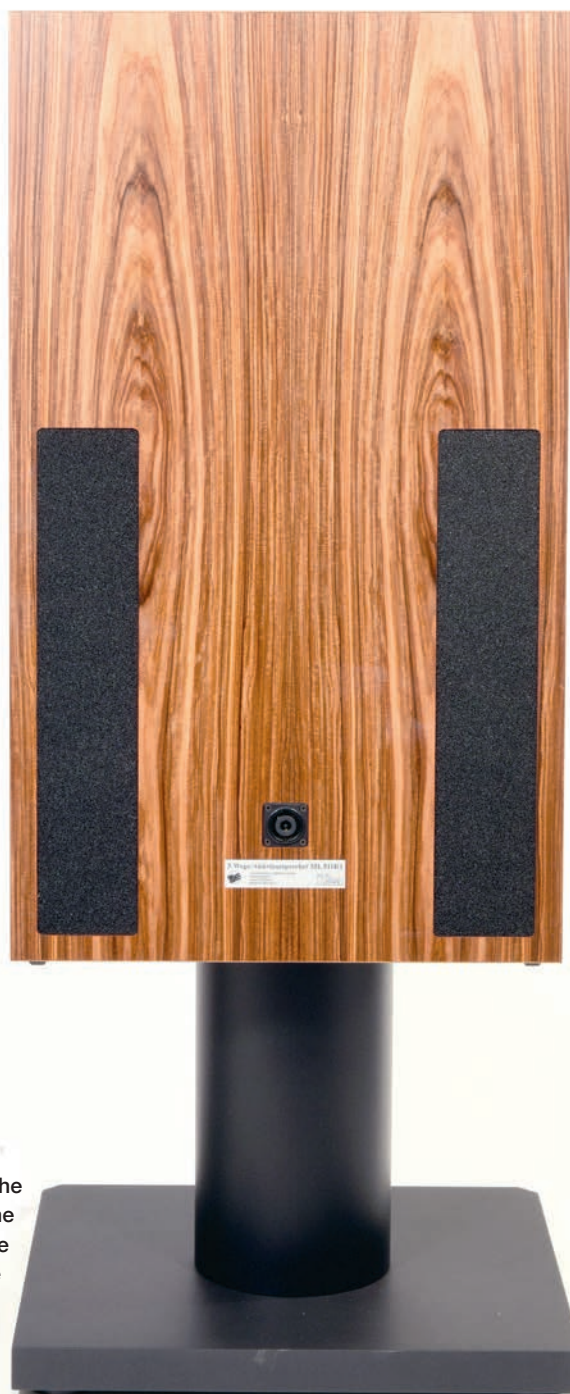
New amplification

In view of such tremendous output power ranges, the classically designed amplifier units used at MEG so far need to back down. In the 811 we therefore see the premiere of a new unit which sits in a detached professional looking enclosure: three amp channels in class-D technology are driving the woofer with 1500 watts and the mid- and highrange units with 800 watts each.

Additionally the 19-inch unit, custom-made exclusively for the ML811k, also holds the active crossover which provides the division into the three ways at 550 and 2100 Hz as well as several room acoustics adjustments. Via Speakon connector and a proprietary 6-wire cable this amp block is connected with the actual loudspeaker – hence it's basically an electronics plus speaker duo as it is customary in the fully active sector, save that here the two of them are housed in detached enclosures.

Mids and highs far out

The largest Geithain is designed both for greater listening distances in the home sector (between 3.3 and 33 ft.) as well as for mastering studios and very large control rooms in the studio business. To prevent the indirect high-mid sound from overpowering, a narrower directivity is needed which, without the use of any horn-loaded drivers, requires quite some acoustical tricks. For instance, the woofer is placed relatively up high within the 3-way system and provides an adequate degree of



From behind you only see the Speakon socket to dock the active amp unit and also the two openings for the cardioid low-frequency radiation – not to be confused with reflex ports!





With its rigid cardboard cone and a strong die-cast basket on the one hand, but also with its foam surround and a small voicecoil, the 16-inch woofer combines PA and hi-fi genes.

bundling already in the fundamental range. The midrange driver measures 10 inches in diameter and covers a tonal range of less than two octaves, where its large diaphragm gives it a clearly focused radiation angle without any further tricks.

In the high-frequency range a quad array of 1-inch dome tweeters is used which is mounted coaxially in front of the

cone driver and, because of its line-array-like vertical directivity alone, achieves a similar focusing as the midrange driver itself.

Ultimate dynamics

One thing, however, is now obvious: this XXL speaker is a true far-field specialist; after first checks in stereoplay's listening room a homogeneous

imaging came only at approximately 13 ft. of listening distance, in the nearfield the slightly crisp highs delivered goose bump shivers with Marillion's "Made Again", but also the awareness of standing too close by the PA system at the concert.

However, after shifting it around appropriately, the MEG was a revelation: it illuminated the room on "Children's March" (Reference Recordings) wonderfully naturally both in depth and width, unfolding the timbres of all instruments with the conscientious neutrality of a studio-monitor. Which should definitely not be interpreted as sobriety – quite the contrary. The utterly effortless transparency and the completely slag-free dynamics already conveyed a lot of listening pleasure, through which the ultimately deep and precise bass of the drum and tympani beats was ennobled with the audiophile crown.

The musical changeover in style to the intro of Dire Straits'



In front of the 10" cone a quadruple array of tweeters in coaxial position is providing a linesource-like vertical directivity pattern

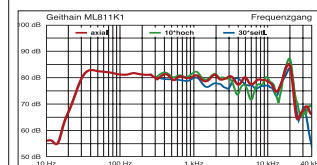
ME Geithain ML811k

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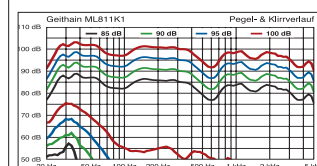
Vertrieb: ME Geithain
phone: +49 (0)34341 / 3110
www.me-geithain.de

Dimensions (W × H × D): 46 × 81 × 40 cm
Weight (speaker only): 51 kg (112.6 lbs.)

Measured values



Frequency response and impedance curve
Extremely deep, neutral with a slightly dropping character, wide horizontal sound dispersion



Level & distortion charts 85-100 dBs SPL
Spotless curves without distortions, very slowly rising in the sub bass

Lower limit frequency -3/-6 dB 27/25 Hz
Maximum SPL 106 dBs
Power consumption (Standby/On) -/40 W
Wireless system -
Coding PCM 24/192 (AES/EBU version)
Equalizer 10-band fully parametric EQ, graphical user interface via software
Inputs analogue RCA/XLR -/•
Inputs digital USB/coax./XLR -/•
Remote control/app -/-

Practice and compatibility

Raumakustik und Aufstellung

Listening rather on coax axis, inhomogeneous at small distances, otherwise flexible

Listening dist. 1 m — 5 m
Wall clearance 0 m — 1.5 m
Reverb time 0.2 s — 0.8 s

Evaluation

Naturalness	14
Fine details	14
High-level dynamics	12
Bass quality	15
Imaging	13

The XXL speaker combines the immediateness and dynamics of a horn with audiophile clarity and natural, open timbres. Convinces by large, realistic rooms and probably the best bass in the world. Definitely worth checking out!

Measured values	Field test	Value
9	7	8

stereoplay test verdict

Sound absolute top class **68**

0 10 20 30 40 50 60 70

Overall score 92 points
Price/performance outstanding

“Money for Nothing“ let the chief editors of AUDIO and stereoplay get lost in thoughts about their own youth: no studio monitor can play with such an immediate punch and liveliness and on the other hand, no horn-loaded sound system without even a hint of compression or aggressiveness. But only when the bass drum and voice kicked in, the ML811 was playing in another galaxy: as bone dry and precise their transients came along with a rich and assertive bass, as clean and yet present were its tonal colours!

The feeling that the testers were probably listening to the best bass of all loudspeakers, was also imparted by Jacques Loussier’s “Little Fugue“: bass –drum and double bass had body and volume, but also faded so very naturally into the decay phase as if there were real instruments in the listening room. In view of this sublime performance only one question arose: who has got the room to make this masterpiece to resound? The live experience is definitely worthwhile.



Bass cardioid in theory and practice

Bass waves have considerable wavelengths (6.5 to 65 ft.) and are radiated almost spherically by all conventional loudspeakers. Even bass horns, unless they don’t measure several metres in length and diameter themselves, radiate LF waves broadly and thus produce a subjectively less precise bass with significantly longer decay times.

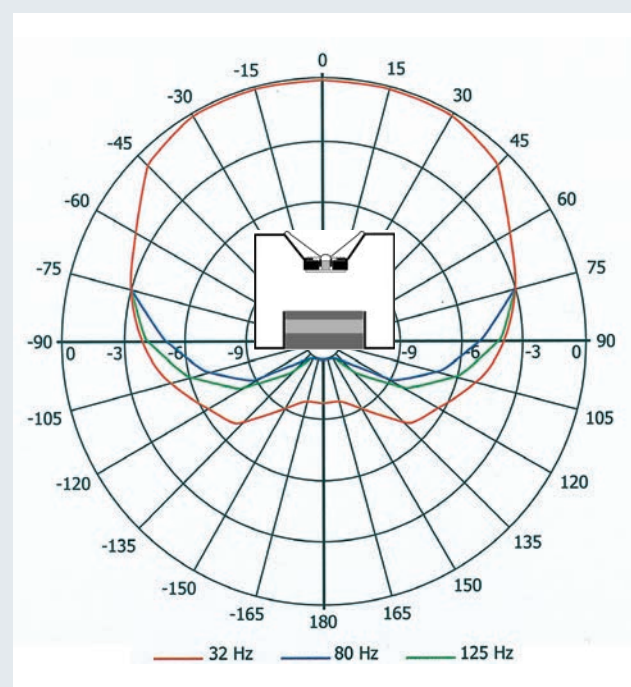
played by Geithain doesn’t use the backward sound proportion for a lateral cancellation, but delays it through a string of passive filter elements in its phase and thus maximises backward cancellation.

Cardioid in the room

The polar pattern of the ML811k (left) proves the success of this design which still achieves 10 dBs of backward damping even in the lowest operating range and 12 dBs above. The result is a considerably lesser room excitation and thus a subjectively more precise bass as well as a linearity that is to a great extent independent of the wall clearance. The 811k has a DSP with full EQ functionality, but because of its directivity alone, in most cases a calibration will hardly be necessary.

Dipole vs. cardioid

The only practical way to prevent this from happening is a directional cancellation. Dipoles, for example open baffle boards, achieve this by radiating bass waves in a phase-inverted way, thereby producing a lateral cancellation. This reduces the above problems, yet with regard to its rear side, it rather makes the speaker even more critical in terms of placement. The bass cardioid em-





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