

LINE UP

Journal of the Institute of Broadcast Sound



ME GEITHAIN RL901K STUDIO MONITORS

Gerry Fursden reviews an unusual
large scale studio monitoring system.

Strictly Come Dancing

APT Enjoys Its Independence
No Lead in Your Pencil
Game for Sound?

monitoring

FEBRUARY/MARCH 2006

Gerry Fursden reviews an unusual large scale studio monitoring system.

MusikElectronic Geithain (usually shortened to ME Geithain) is a German loudspeaker manufacturer formed in the early 1960s but hidden from the West behind the Iron Curtain near Leipzig. Now trading on the open market, the company produces a broad range of professional studio monitors and PA speakers, and the subject of this review is the flagship RL901K monitor – a substantial three-way active system with some unusual features.

The speaker's MDF cabinet is almost cuboid at 500x550x430mm (whd), and it weighs a considerable 48kg making it a two-person lift. The review speakers were supplied with the optional matching stands which support the cabinets from a single bolt on either side. This arrangement makes it easy to tilt the speakers up or down if required, and the assembly seemed very stable despite its height and the weights involved.

A characteristic of the ME Geithain RL series monitors is the use of a pseudo-coaxial arrangement of mounting the drivers to approximate a point source speaker. In the case of the 901K the vast 400mm woofer dominates the front baffle but is partially obscured behind a secondary baffle plate suspended across the front of it. This plate is roughly the same size as the baffle of a typical nearfield speaker and supports a 125mm midrange driver and a 25mm soft dome tweeter, plus a green power LED. These two drivers are connected via a length of flat ribbon cable that runs from the bottom of the plate through a hole in the main baffle and back to the internal power amplifiers.

The amplifier chassis occupies the majority of the speaker's rear panel. It has a large vertical heatsink which gets warm but never hot. There are three discrete MOSFET power amps providing 180W for the bass driver and 100W each for the midrange and tweeter, with fixed crossover frequencies of 550Hz and 2.8kHz. Unusually, there are no room EQ facilities provided, just an input level control and a power on-off switch. The input connector is an electronically balanced XLR expecting a nominal level of +6dBu.

The 901K is claimed to be able to produce peak SPLs in excess of 116dB (at 1 metre) and has a bandwidth extending between 30Hz and 20kHz (± 3 dB). Self noise is specified as a very quiet 7dBA (at



ME GEITHAIN RL901K STUDIO MONITORS

1 metre) and harmonic distortion is below -44dB (measured between 80Hz and 10kHz at 96dB SPL).

Kardioid Response

The most unusual aspect of the 901K is signified by the 'K' in the title. The speaker has a cardioid polar response (kardioid in German), which the published charts suggest is almost perfect down to 80Hz. Below that the rear null softens a little, but is still a good 12dB down at 32Hz relative to the level at the front! Not surprisingly, then, walking around the speaker is an odd experience. With most big monitors the treble and midrange response falls off in level as you move around the sides to the back, but the low bass is almost always fairly omnidirectional and constant. Not so with the 901K – the entire spectrum falls off more or less linearly, including the level of the low frequencies. As a result, it is remarkably quiet at the rear of the speaker, even when it is working hard, as there is only really the reflected sound of the room left.

The idea of this cardioid dispersion is to minimise the low frequency energy directed to the rear of the speaker, and thus

reduce LF reflections from the back and side walls in the room which normally result in deep notches in the in-room frequency response. This makes 901Ks much less critical of boundary conditions and where they are located, helping them to provide a far more consistent LF output in the room.

The low frequency cardioid polar pattern is achieved through the use of two separate chambers inside the cabinet forming a unique acoustic delay line which produces a phase shift of about 160 degrees for signals below 300Hz. This phase-shifted output results in a high degree of cancellation with the signal from the front of the speaker, to provide the desired spatial directivity. The output of this line appears at a pair of ports running vertically up each side of the back panel.

Listening

The 901K is not the most aesthetic of designs to my eyes – and there is no provision for a grille to hide the drivers, but in a studio environment they don't look out of place and, more importantly, they sound as serious as they look. In fact, the 901Ks impressed enormously from the first

audition, exhibiting a beautifully judged bass extension delivering well controlled deep and powerful notes with accurate pitching. Fast transients were crisp and clear, revealing no hint of any cabinet or port resonances or ringing, and the midrange is stunningly transparent and neutral – as a true monitor should be.

The essential quality of this monitor is its faithfulness to the source – and not just in terms of its wide and flat frequency response. Dynamics are portrayed with effortless precision and accuracy too, there being no suggestion of any transient compression effects even when monitoring at fairly high volumes. Stereo imaging and spatial depth cues are delivered superbly well, with very solid and stable three-dimensional sound stages – presumably thanks to the relatively small centre baffle and the pseudo co-axial arrangement of drivers.

These speakers need a fair bit of space in front to deliver their best and you need to be about three metres (10 feet) away for the sound to really come together. However, the cardioid response allows them to be placed closer to rear and side walls than many designs, which is useful.

The 901K is a very impressive large format studio monitor, and I would definitely recommend auditioning it alongside the more familiar competition. Its unusual looks might not appeal to everyone but its sonic abilities definitely will, and its unique design features may give it an edge over more traditional designs in some control rooms.



Contact Details

First Sense Limited
Tel: +44 (0)117 980 3500
www.firstsense.net

KMR Audio
Tel: +44 (0)20 8445 2446
www.kmraudio.com

Prices

RL 901K in Black Ash	£3041.00
RL 901K in wood veneer	£3119.00
Stands in Black Ash	£265.00
Stands in matching veneer	£289.00
All prices exclude VAT	





musikelectronic geithain gmbh  since 1960

Your specialist for control room monitor loudspeakers and sound reinforcement

Coaxial Studio Reference monitors, providing compatible sound imaging from studio control room monitoring through to OB Van monitoring

Cardioid dispersal pattern in the low frequency range (30 - 250Hz) with rear attenuation > 10dB

RL 901K low frequency directional characteristic third octave centre frequency range, in free field

— 32 Hz

- - - 80 Hz

..... 125 Hz



musikelectronic geithain gmbh
Nikolaistrasse 7
04643 Geithain
Germany
Ph.: +49 34341 311-0 <http://www.me-geithain.de>
Fax: +49 34341 311-44 e-mail: sales@me-geithain.de



ibs