

Extract from the „StudioMagazin 02/02“

ME-Geithain outsmarts the physics

Musikelectronic Geithain (ME-Geithain), the producer and specialist of high-qualitative sophisticated active studio monitor loudspeakers in coaxial technology, is presenting his product range at the Prolight+Sound technical fair also in that year. On that occasion at the first time a new technology can be shown which was developed in its own house and which evidently is on the way to make a true sensation in the field of loudspeaker construction.

MEG is able now to optimize the low-frequent irradiation behavior of loudspeakers by ingeniously modified enclosures. By such a method a cardioid characteristic can be reached with attenuation of the backward radiated sound energy to a high amount. At first this could be realized with the larger models RL900 A and RL901.

In this way at one blow the well-known room-acoustical problems can be reduced drastically which normally arise by the nearly omnidirectional irradiation characteristic of conventional loudspeakers within the low-frequency range, just in rooms which have non-optimum acoustic conditions or with inappropriate positioning of the monitors.

Herewith ME speaks of a cardioid radiation characteristic of the modified loudspeakers within the frequency range between 30 and 250 Hz with backward attenuation larger than 10 dB (see polar diagram “Directional characteristic” above). By that low frequent room modes will be less excited and reflections reduced. The positioning location of a loudspeaker with regard to the wall becomes less critical, so that in smaller rooms the monitors can be positioned nearer to the wall.

The operation sound level curve of a cardioid loudspeaker in figure 2 (lower figure, comparison measurement of a room example) shows clearly a far less waviness compared with a non-modified closed monitor of the same type. The curves were measured at five measuring points around the listening position in a typical TV control room.

On the other side, with closed monitor box the depressions clearly can be seen within the low-frequency range, which are caused by the room-acoustical conditions in connection with the higher irradiated backward sound energy. Such depressions of the operation sound level curve cannot be equalized by electronic methods, because then at other positions outside the reference listening position excessive levels of the frequency response would occur.

In comparison with that, the frequency response of the new loudspeaker with cardioid radiation characteristic remains within the tolerance range of ± 3 dB also in an acoustically non-optimum room.

After all, this modification developed by MEG can be reconstructed subsequently also with loudspeakers which are already in the hands of the customers, the producer informed. At the time being Geithain lab-examines whether also the smaller models of the product range can be modified correspondingly.