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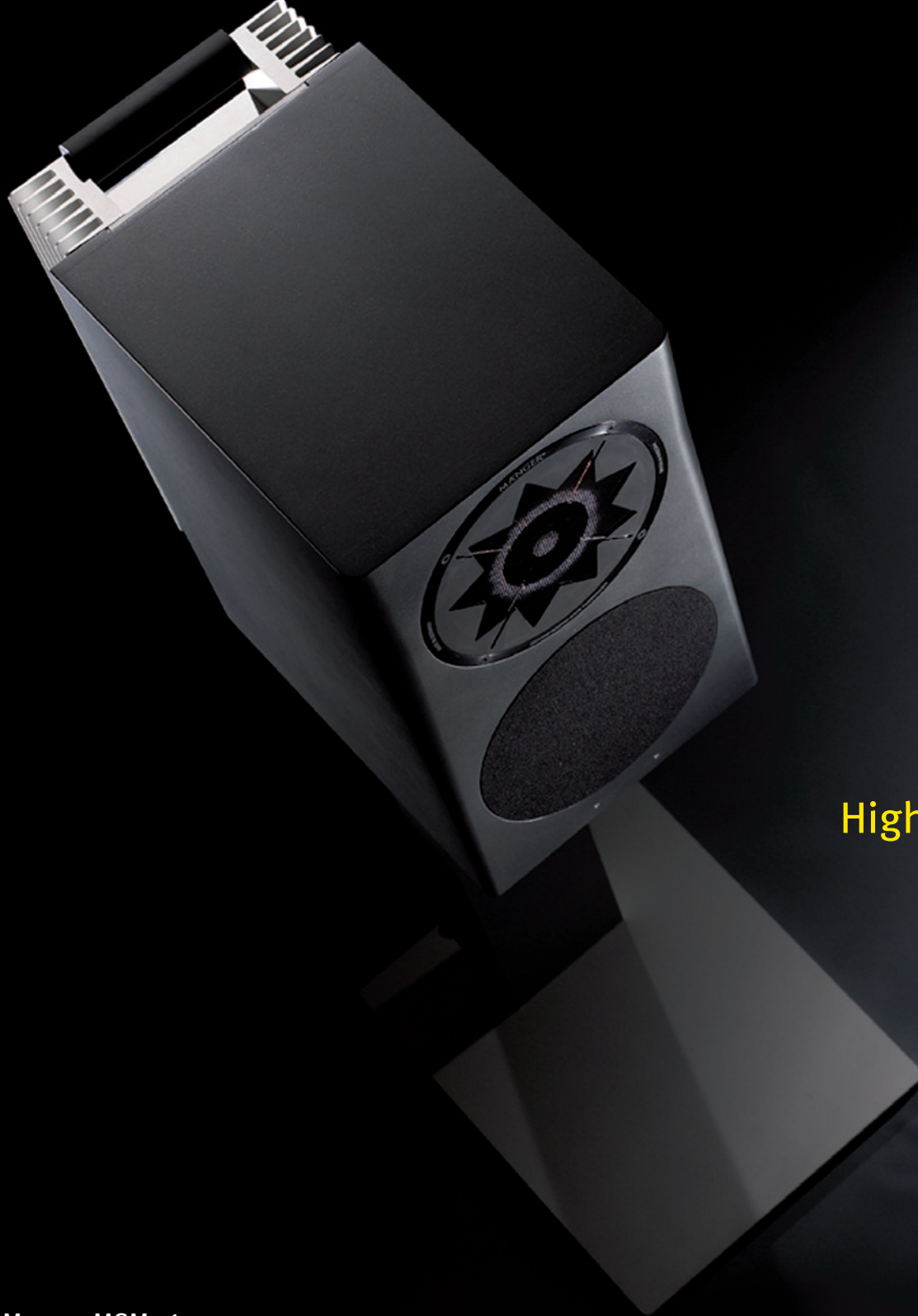
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**TEST: MANGER MSM C1**

**INTERVIEW: MASTERING MANSION MADRID**

**MESSEREPORT: 131. AES CONVENTION NEW YORK**



Highly Addictive!

Manger MSM c1

Fritz Fey, Photos: Manger

In the early 90s I was introduced to the Manger loudspeaker and its inventor Josef W. Manger for the first time. Compared to the development status of all the other studio monitors the listening experience opened up a new dimension for me, as though a “veil” had been lifted from my ears. Never before had I heard anything similar. Within the last twenty years the implementation of the bending-wave principle via planar membrane fullrange drivers has been optimized constantly so it was high time to delve into the topic again. While Josef Manger is still active in the realm of research and development he has handed over management of the company to his daughter Daniela Manger years ago. After completing her studies in electrical engineering Daniela now expertly and successfully continues her father’s lifework. According to company history the first membrane prototypes were manufactured from “Nur Die” full-fashioned stockings with Chinchillan. This pretty erotic aspect is easily transferable to the exciting listening experience, although nowadays the membrane uses a sandwich construction whose basic concept goes back to the late 70s. But let’s return to the present: For more than two years Daniela and I have been trying to make provisions for a contemporary review of the Manger loudspeaker in Studio Magazin. So finally in November she found the time to visit our editorial department and brought along two heavy flightcases which could hardly be lifted ...

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The “Manger design” is based on an extensive scientific foundation whose details go far beyond the scope of a conventional listening test. You should know, however, that the Manger sound transducer is as time-sensitive as the human ear. This is very important as almost all the information of a sonic event is packed into the first milliseconds of its onset. The transients contain all the criteria your ears need for evaluation: direction, size and distance. With a rise time of 13 microseconds and a bandwidth of 80 Hz to 40 kHz the sound transducer is able to depict even the most complex signal structures from a single center. Insofar the Manger design comes closer to the ideal of a loudspeaker and resembles a microphone to a greater extent than all the other design concepts. The same extremely high requirements must be met by the electronics of the power amplifiers, of course.

## Overview

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The MSM c1 features a Manger W05/1 sound transducer with a neodymium magnet and a long-throw 8” low frequency driver with a fiberglass/polyester sandwich membrane. Each system is housed in its own closed chassis. The enclosure consists of MDF of varying densities and is extensively damped on the inside. Rounded edges in the area of the fullrange systems reduce diffractions to a minimum. The crossover splits the frequency range at 330 Hz using a 24 dB low-pass filter and a 12 dB high-pass filter. This results in a wide frequency range of 30 Hz to 40 kHz. An optional woofer module can be mounted on top of the MSM c1 to increase the available 110 dB sound pressure by another 6 dB. The analog power amplifier for the fullrange sound transducer provides a bandwidth of 250 kHz and a rise time of 55 volts/second. The low frequency transducer is driven by a separate analog power amplifier with a very high damping factor. The back panel is equipped with various switches and controls for adjusting the input sensitivity, listening environment, acoustics, filters for subwoofer operation and polarity. An integrated switchable limiter with optocoupler protects the system against overloading. Analog input signals are connected via balanced XLR jacks. The enclosure of the optional woofer module – which increases the sound pressure without expanding the low frequency range – is mounted on top of the main unit and connected via special cable. It fea-



tures the same rounded edges as the MSM c1. Options also include fixed and hydraulically adjustable speaker stands. The input sensitivity can be switched from 1.55 to 0.75 volts and fine-tuned in steps of 0.5 dB using a separate control. A shelving EQ allows adjustments in 3 dB steps from -6 dB to +3 dB to adapt the MSM c1 to different rooms and locations. The additional bell filter starts at 3.5 kHz and should be activated when the loudspeaker is positioned behind standard cinema screens to compensate for the loss of high frequencies. It can also be used to set up a corrected hearing sensitivity curve of -1.5 or -3 dB in the same range. The treble range of the loudspeaker can be adapted to heavily or poorly damped rooms using a shelving EQ with a control range of +2 to -2 dB. This filter also allows you to tweak the frequency response of the MSM c1 to your personal taste.

## The Holoprofil

This mechanical attachment for the Manger sound transducer has been mathematically and geometrically computed and requires some detailed explanation: During his experiments Mr. Manger discovered that it takes only half of the transducer's membrane surface to reproduce all of the signal. The other half of the membrane surface generates an identical copy of the signal. The larger the listening distance becomes the more difficult it gets to keep both signals congruent. This results in a lack of definition in the treble

range and spatial imaging. So the Holoprofil is used to mechanically cover the "second" signal. It comes with precise instructions, a template and fastening material and has to be mounted directly in front of the chassis. This way the imaging definition at larger distances is once again increased while at the same time all of the membrane surface is available for generating sound pressure. Although the Holoprofil expanded the listening sweet spot it seemed to slightly decrease near-field plasticity. In my opinion this feature is dispensable in normal listening situations.

## The Listening Test

In my control room I set up the pair of Manger MSM c1 adjacent to my own monitor system and correctly aligned them. The test conditions were identical for both systems except that the base width of the Manger loudspeakers was slightly larger. You probably know from your own listening experience that this will result in a more spectacular stereo imaging. From the first notes it became obvious that the MSM c1 is playing in a different league. The spatial imaging of these loudspeakers is so far removed from any conventional listening experience that you cannot believe your ears. I was able to hear each detail, each level of spatiality and the slightest changes in dynamics with amazing ease. The same goes for the localization. The phantom center is sharply defined and everything in its close vicinity can be easily localized and distin-

guished. Due to monitor placement the bass range had been boosted by the available 3 dB. It sounded extremely contoured and tight thanks to the closed design of the enclosure and the high damping factor of the woofer. Switching back to my normal monitor system was pretty sobering, although I own high-end models that have been equipped with a Trinnov-Optimizer for group delay distortion correction. In comparison with the MSM c1 conventional loudspeakers sound strained, cramped, shallow, one-dimensional and lazy. The difference is as extreme as I describe it and if you don't own a Manger system you will never enjoy such a fantastic sound impression again. This fact is polarising, however. Some listeners cannot handle this kind of transparency and precision and shy away from it. And some listeners simply refuse to work without it in the future. Based on the rather short listening session I don't know yet which group to join. Tools like the MSM c1 must be applied in practice over longer periods. It remains to be seen, if mixing with Manger loudspeakers makes you more negligent as far as spatiality is concerned and if the results sound disappointing on other systems. In my opinion, however, you can never get too much detail and precision out of a monitor and high fidelity can never be detrimental to your work and judgement. Fact is that the MSM c1 neither adds anything which is not contained in the signal nor conceals anything. My mandatory "reversed" listening

test using poorly mixed and bad sounding audio material proved that the imaging of the Manger monitor was relentlessly honest in this case, too. When you listen to the authenticity and plasticity with which the MSM c1 reproduces excellent orchestral recordings you will agree that its precise and dynamic imaging of the time domain is simply unique.

## Summary

The modern technology of the Manger sound transducer provides you with a monitoring solution of the highest dynamic and tonal quality. The imaging in the time domain is intriguingly precise and miles ahead of the competition. And as I said at the beginning of this review: You simply enter a new dimension and start to hear details which have previously been hidden – at least with my studio environment. And when you consider the price/performance ratio, a gross price of EUR 8,640 a pair is almost a bargain. If I could afford it, I would swap systems immediately. What more can I say without getting too enthusiastic or losing my credibility? The MSM c1 reveals sonic details that can be perceived on other systems, too. But it reveals them more clearly and with amazing naturalness. Although the imaging of spatiality is spectacular in the beginning you get used to it pretty soon and take it for granted until you switch to a different system and start to miss it painfully. So give the MSM c1 a try, but beware – it's highly addictive!

