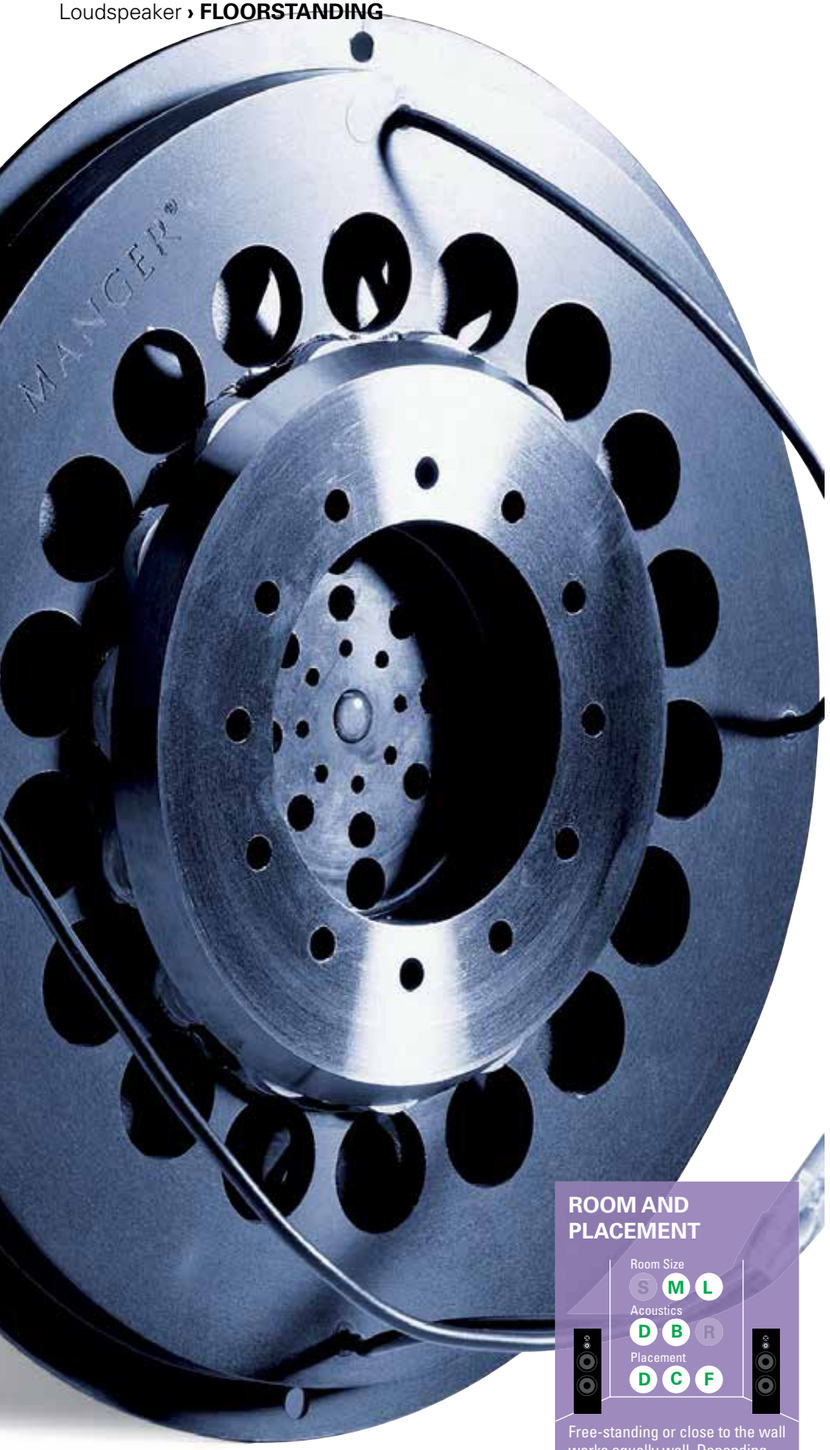
Loudspeaker › **FLOORSTANDING**

Star without Airs and Graces?

Thanks to its legendary star-shaped bending-wave transducer the reproduction of the passive Manger MSM p1 is supposed to be particularly time correct. Can this improve its ranking in the real hi-fi world or does it turn out to be a diva after all?

■ Test: Alexandros Mitropoulos

TEST
Floorstanding Loudspeaker with Bending-Wave Driver
MANGER MSM P1 **STARTING AT 7800**



SIDEREAL TIME 1990.0: In its present form the Manger transducer is being manufactured since 1990. Its drive uses multiple neodym magnets and a dual voice coil.

ROOM AND PLACEMENT

Room Size
S M L

Acoustics
D B R

Placement
D C F

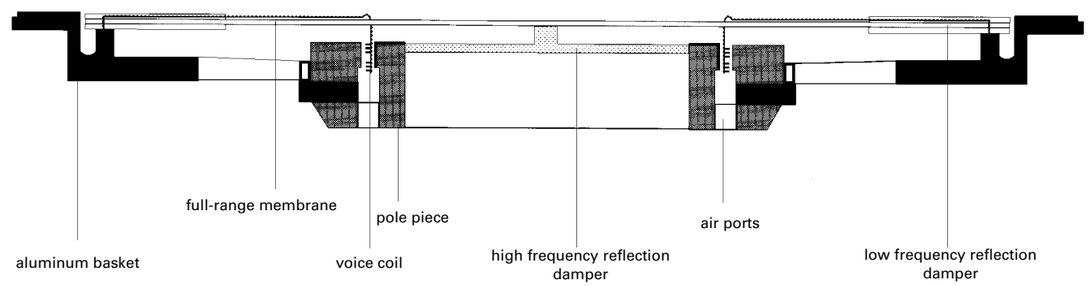
Free-standing or close to the wall works equally well. Depending on the listening distance the loudspeakers should be aligned at an angle of 40 – 65 degrees.

The legend of the symbols can be found on page 53.

Many readers will probably remember the "Active Loudspeaker Special Report" in the May 2013 issue. Besides several affordable models AUDIO also tested a number of high-end loudspeakers such as the Grimm LS1 with its fabulously precise reproduction. The development work of the Dutch company had not only been focused on linear frequency response (which could be easily realized – thanks to the use of DSP), but primarily on linear-phase reproduction. Especially the lightning-swift reproduction of the LS1 and the authentic and detailed spatial representation floored the AUDIO testers who are normally very discerning and eager to comment. However, a loudspeaker with widely time correct reproduction had been designed by someone else years ago. We are talking about Josef Manger, who recognized the importance of phase linearity early on. In 1969 he had already filed a patent application for his Manger Sound Transducer and is belonging to the Who-is-Who of the hi-fi scene ever since. Some years ago his daughter Daniela Manger took the helm of the company – but her dad Josef is still highly involved.

The latest creation of the loudspeaker manufacture from Mellrichstadt is called MSM p1 and also deploys the famous Manger driver, of course. In theory the driver would be able to reproduce bass frequencies as well, but in practice this fullrange approach would limit the power handling capacity of the Manger transducer too much. The solution: As with its active sister model MSM s1 the passive MSM p1 makes use of a conventional woofer, which relieves the mid/high frequency driver. In addition the crossover frequency (360 Hz), which has been slightly raised compared to older models, has a beneficial effect on efficiency and power handling.

The 8" woofer is being manufactured by the chassis supplier Scan-Speak according to Manger's exact specifications. The fine-tuning also takes into account the sealed cabinet design of the Manger transducer. As the design is not based on the common Thiele-Small parameters, it is entirely legitimate to reduce the depth



DIFFERENT ACTIONS: The two voice coils operating in parallel are wound in opposite directions and excite the soft membrane, which generates bending-waves on its surface. The star-shaped damper prevents reflections swashing back from the edge of the membrane.

of the enclosure to approximately 8.3". The interior of the loudspeaker is divided into three separate segments: The first floor contains the crossover, while the next floor accomodates the woofer. Last but not least: The third floor is reserved for the Manger transducer.

THE MANGER SOLUTION

To adequately describe the functionality of the transducer you must come to grips with Manger's design philosophy. When the inventor decided to build this sound transducer in the 1960s, he first studied the human sense of hearing. He found out that - due to evolution - human beings first detect the source and size of the sonic event before they discern its pitch. This led him to the conclusion that phase and time correct reproduction plays a vital role with loudspeakers and that linear frequency response is not enough. Moreover he was convinced that conventional chassis are the limiting factor of loudspeakers. During his metrological test series he noticed that conventional sound transducers, which

JOSEF MANGER FOCUSED ON TIME CORRECT REPRODUCTION

operate according to the mass-spring system, store energy in their membranes and suspensions. He also found out that the stored energy is generating soft transients which direct the listener's attention to the loudspeakers and their size. Manger's solution: He invented a bending-wave system with a soft membrane and a star-shaped damper, which exhibited almost no storage effects at all. And now for the icing on the cake: The higher the frequency the smaller the radiating area. Low frequency sounds are radiated by the entire membrane surface while high frequency sounds originate from the center. The advantage of this operating principle: As it is not necessary for the voice coil to continuously set into vibration the entire membrane, the system exhibits extremely fast transient times and responds at lightning speed to signal changes. By the way: The electrical signal is being converted into mechanical movements by means of a 2.75" (70 mm) dual voice coil which weighs only 0.4 grams (!) according to the spec sheet. To avoid undesired storage effects at this point as well, the two voice coils wound in opposite directions are operat-

ROOM AND PLACEMENT

Room Size
S = Small Room
M = Medium Room
L = Large Room

Acoustics
D = Dry Room
B = Balanced Room
R = Reverberant Room

Placement
D = Directly on the Wall
C = Close to the Wall
F = Free-standing

IN TIME: The phase linearity of the crossover design has also been optimized by means of premium components (such as Mundorf and Audyn).

SPECIAL ORDER: The 8" woofer is manufactured by Danish chassis expert Scan-Speak. The crossover frequency to the Manger lies at 358 Hz.

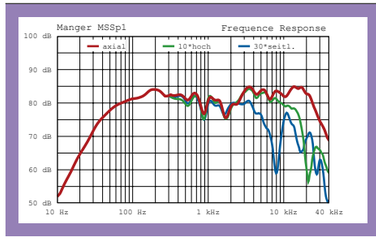
ed in parallel. The required power is provided by several super strong neodym magnets arranged in a circle. Compared to older versions with samarium cobalt magnets the new versions are supposed to further improve the maximum sound pressure of the Manger transducer by several decibels.

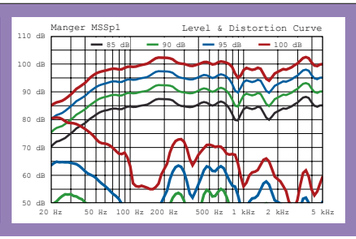
YOU MUST HAVE HEARD IT

But enough of measuring technique and theory. Much more important is the question whether all this is worth the effort. And so began the most pleasant part for the AUDIO testers: the listening test. After we inserted the CD into the player we were pretty puzzled by what we heard. The music sounded unusual, somehow more intense and explicitly more colorful. Comparable in a way to listening to HD music for the first time which results in the decision to never return to normal CD quality again. Especially during the first few minutes the Manger loudspeakers sounded so unique, because they were not perceived as loudspeakers – music and sounds apparently evolved out of nowhere. But as soon as you became accustomed to this phenomenon, there was no turning back. Notably the seemingly endless wealth of detail in the high frequency range enthused the testers. Even the most delicate room information and nuances deeply hidden in the recordings poured out of the MSM p1 in an entirely natural and airy manner. Of course, this impression was particularly intense with high-quality recordings as the Manger is definitely not a palliator, but depicts the music mercilessly and honestly. Poor recordings will sound just like that. Therefore it was quite a fluke that the marvelously atmospheric album "Down The Way" from Angus & Julia Stone found its way into the player. For example, with "Hold On" the gorgeously shimmering nuances of Ms. Stone's voice left a lasting impression: Sometimes sensually soulful but also stirringly dynamic, if necessary.

But in order to be able to enjoy this sound culture two more preconditions must be met (in addition to high-quality music material): In the first place the set-up angle of the Manger loudspeakers must be wider than the angle of conventional sound transducers. In the AUDIO listening room an angle of 60 degrees prooved to be perfect. Moreover the Manger MSM p1 needs a preferably powerful and neutral sounding amplifier. Thanks to another German manufacturer the AUDIO testers found the right amp pretty soon: The T+A PA 3000 HV reference amplifier (tested in the April 2013 issue of the AUDIO magazine) was the perfect match. And the Manger unfolded from an excellent loudspeaker to a breathtakingly precise high-end sound transducer. It didn't take long until the testers came to the conclusion: Paired with the right amplifier the Manger MSM p1 represents a serious alternative to the Grimm LS1.

MEASUREMENT LAB





Measured on-axis (red line) marginal ripples in the mid frequency range are noticeable (1). At 30 degrees (blue) an early decrease in the high frequency range sets in, which asserts high directivity. At higher levels the MSM p1 produces some harmonic distortion in the midrange, although this is negligible up to 95 dB. With an audio coefficient of 70 the loudspeaker will appreciate a powerful amplifier.

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SUMMARY

Alexandros Mitropoulos
AUDIO editor

In its current form the Manger Sound Transducer exists for more than 20 years. Obviously the manufacturers in Mellrichstadt are convinced that there is nothing left to improve. Well, they are right. The Grimm LS 1 already prooved, how important time correct reproduction for the sound of a loudspeaker actually is. Combined with the right amplifier the Manger MSM p1 can definitely keep up with the Dutch competition. The MSM p1 is able to reproduce music in an entirely detached and absolutely honest manner and should rank very high on the "Give a Listen" list of every high-end aficionado.

AUDIO EMPFEHLUNG AUDIOPHILER KLANG

PROFILE

	MANGER MSMP1
Distributor	Manger MSW +49 9776 98160
www.	manger-msw.de
List price	starting at 7800 EUR
Warranty period	3 years
Dimensions W x H x D	10.6 x 44.8 x 8.4"
Weight	92.5 lbs
Veneer/Foil/Lacquer	• / – / •
Colors	RAL-colors, high-gloss lacquer or veneer at a surcharge
Operating principles	2-way, closed
Room adaptation	–
Features	bending-wave transducer

AUDIOGRAM

⊕ authentic sound, huge imaging, tonally perfectly balanced, beautiful design, perfect workmanship

⊖ –

Neutrality (2x)	100
Attention to detail (2x)	105
Localization	100
Spatiality	100
Micro-dynamics	100
Max. SPL	90
Bass quality	100
Bass depth	95
Workmanship	outstanding

SOUND RATING 99 POINTS
PRICE/PERFORMANCE OUTSTANDING