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10 | 2010 Die technische Dimension von HiFi

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# stereoplay

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**Grandiose Klangfülle**
6 Amps von Pro-Ject im Taschenformat

**stereoplay music**
Fritz Wunderlich: Die große Jubiläums-Edition

Spezial: Lautsprecher mit Punktschallquelle

## Unerreichte Klangtreue

- Audium: modernste Breitbänder-Technik
- Manger: Kult-Biegewellenschwinger
- Piega: einzigartiges Bändchen-Koax
- TAD: größter Beryllium-Treiber der Welt

\+

Test: Blu-ray/CD/SACD-Player Ayre D[illegible]

Der beste[illegible]

## SPECIAL REPRINT
## Manger MSMc1

[illegible]-Reihe – Vol. 1

### Überragende Räumlichkeit

Perfekt aufgenommene Musik von Sting, Monty Alexander, Sara K. und vielen mehr ...


### Lyra übertrifft sich selbst

Das Kleos ist neue Tonabnehmer-Referenz

### Von allem im Überfluss

Wuchtige AV-Vorstufe McIntosh MX 150

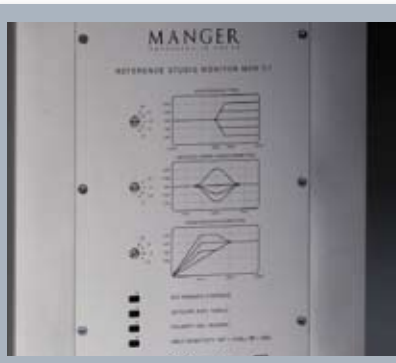
# Manger MSMc1

The star-shaped jagged damper on the edge of a flat and remarkably soft membrane is the distinctive mark of a transducer, which in this form and implementation is quite unique.

We are talking about the Manger transducer, designed and manufactured by the company of the same name located in Franconian Mellrichstadt/ Germany. This transducer has been available on the market for more than 25 years now.

Experts from the music scene and universities treasure the system for its outstanding transparency and dynamics, which allow for a completely relaxed listening experience. Hi-fi fans on the other hand have difficulties understanding the unusual functionality, which takes some time to get familiar with.

Closer study of this topic is worth it, however, as the principles of auditory physiology, which inspired the company's founder Josef Manger (born in 1929) to develop his transducer more than 30 years ago, are still valid today. For more information please refer to the download hint on the following page.

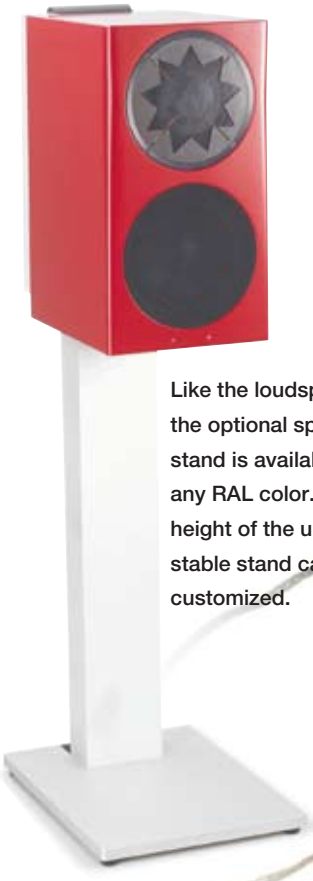



Bass, upper mids and highs can be precisely fine-tuned.

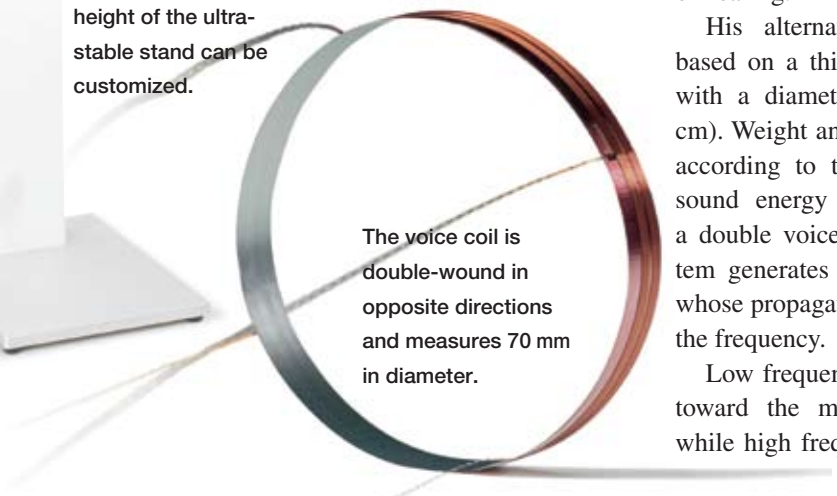
At an early stage his interdisciplinary work made the inventor discover the importance of ultra-short air pressure variations for the perception of all kinds of noises and sounds. The quintessence of his research: Conventional loudspeakers store energy in their membranes and suspensions. This results in soft transient noises which confuse our sense of hearing.

His alternative design is based on a thin flexible plate with a diameter of 7.5" (19 cm). Weight and stiffness vary according to the radius. The sound energy is induced by a double voice coil. The system generates bending waves whose propagation depends on the frequency.

Low frequencies are spread toward the membrane edge, while high frequencies mostly



Like the loudspeaker, the optional speaker stand is available in any RAL color. The height of the ultra-stable stand can be customized.

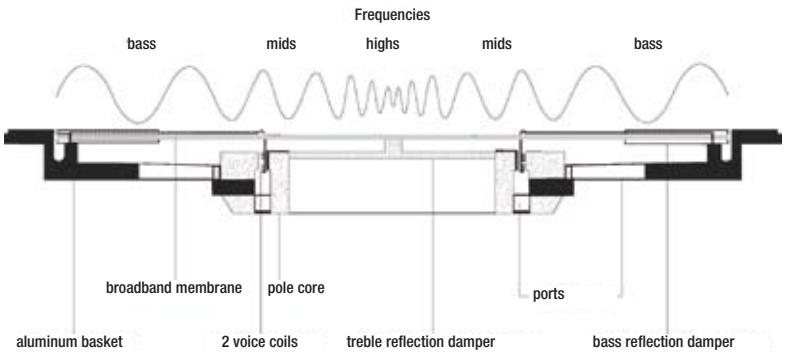


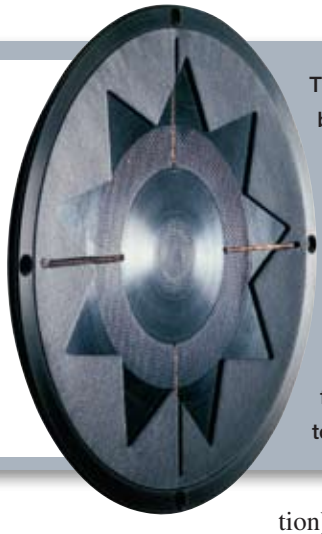
The voice coil is double-wound in opposite directions and measures 70 mm in diameter.

## Technical Details

### How the Manger Transducer Works

The signal provided by the amplifier is processed by the Manger transducer similar to conventional chassis: Current flows in a voice coil, which is exposed to a field of 15 neodymium magnets arranged in a circle. This voice coil converts the electrical signals into mechanical vibrations. The extremely big double-wound coil with a diameter of 70 mm and a weight of only 0.4 grams according to the manufacturer allows for extremly short rise times. While conventional membranes ideally behave as rigid pistons, Manger employs a soft membrane of varying thickness and consistency. Size and material are balanced in such a way that the circularly spreading bending waves cover an extremely large bandwidth from 80 up to 40 000 Hz – more than nine (!) octaves. No other broad-band speaker with the same excellent omni-directional propagation comes close to these specifications. The chemical composition of the membrane and other technical details are top secret. In this regard Daniela Manger, who runs the company now, remains as silent as her father in the past. This is understandable as the



The thin, flexible membrane is completely flat. The stiffness changes according to the radius and induces mechanical separation. The highest frequencies are radiated in the center while the mid and low frequencies are spread to the membrane edge.

stay in the center. As no energy is stored, even the subtlest pressure variations will stay free of distortion. The acoustic center is always located in the center of the membrane.

The speaker's functionality is inspired by the structure of the human inner ear. There you find an organ of Corti which sorts incoming sound waves according to their frequency and passes them on via hair cells and nerve fibers.

Basically the Manger transducer can radiate all frequencies, although the level of bass frequencies is clearly reduced. This must be compensated for by an additional woofer. In the MSMc1 powered studio monitor an 8" cone fulfils this function. It starts at 300 Hz and relieves the soft membrane noticeably. Its parameters are optimized for closed cabinets.

The electronics in the rear section and all the other components are „Made in Germany". Generously dimensioned heats sinks, balanced inputs and three room filters are a clear indication that this product is designed for professionals and aficionados.

## Rock-solid Electronics

The analog power amps can handle the full bandwidth and provide 430 watts of total power. They are assisted by limiters, which prevent the loudspeakers from being overloaded and ensure safe and gentle performance in all situations. The right LED on the front panel switches from green to red as soon as predefined thresholds are exceeded.

Compared to conventional loudspeakers with the same membrane dimensions these thresholds are set a bit lower for the Manger transducers, but most users will not notice the difference at all.

The Concord album „Top Drawer" mentioned earlier with George Shearing (piano), Mel Tormé (vocals) and an unknown bassist seemed to be predestinated for the Manger studio monitors. The male vocals had an overwhelming power, the bass was as easygoing as in real life and the occasional finger snapping was breathtakingly clear and realistic.

The speakers let you dive into the musical atmosphere like no other speakers before, including the many times more expensive TADs.

With more complex sound sources or at very high volume levels (a rather dispensable option) the stunning transparency slightly decreased, but stayed on a very high level nonetheless.

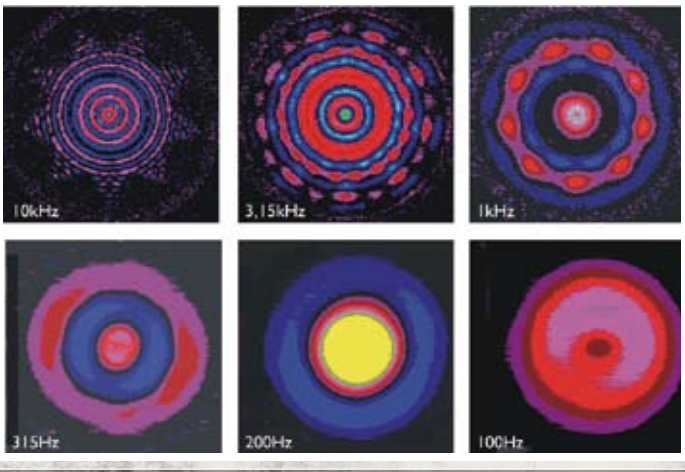
Congratulations – in a studio monitor this already legendary transducer sounds more neutral and pristine than ever before, which is also owed to the excellent electronics.

**i Download Hint**

On www.manger-msw.com the manufacturer provides numerous explanations and background information. The transducer has been described and tested by stereoplay several times, the first time in September 1979.

www.manger-msw.com
www.stereoplay.de

patents protecting against replicas have expired. The electronic filters integrated in the studio monitor correct the frequency response only slightly without affecting the outstanding impulse response. The transducer has matured over the years and sounds purer and more precise than ever in the powered monitor. The excellent limiters work smoothly, gently and unnoticeably.




Laser measurements clarify the frequency-selective principle of operation. The center processes mostly high frequencies (top left 10 kHz), while low frequencies (bottom right 100 Hz) excite the whole membrane.

stereoplay Highlight

## Manger MSMc1
**8640 euro (manufacturer info)**

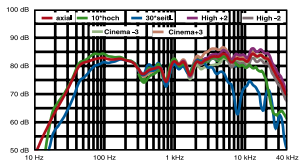
**Distributor:** Manger Products, Mellrichstadt, www.manger-msw.com
Phone: 09776/9816
Worldwide distributors can be found on the website.

**Dimensions:** W:10.6“xH:19.5“xD:16.7“
**Weight:** 66 lbs.

**Set-up hints:** on stands or close to wall, listening distance more than 7’, normally damped rooms up to 35m²

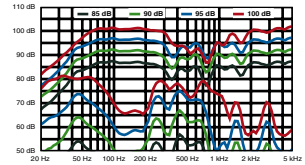
### Measurements

**Frequency response & impedance**




Slightly rippled behavior with restrained mids; numerous room filters

**Levels & THD** 85-100 dB SPL



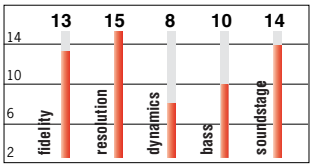

Relatively high distortion of mids with compression (at 100 dB only)

***stereoplay* profile**

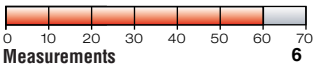
n/a – for powered monitor

**Lower cut-off freq.** -3/-6 dB 39/34 Hz
**Max. level** 88 dB
**Power cons.** standby/operation: -/28W

### Rating




**Sound** **60**




**Measurements** **6**

**Performance** **8**

**Quality** **8**

A still compact powered monitor with a unique bending wave transducer and separate bass speaker. Thanks to its outstanding intelligibility at moderate levels the monitor sounds very transparent and natural. Pretty hard to beat. Give it a listen!

### stereoplay test rating

| | |
|---|---|
| **Sound** | |
| **Absolute top class** | **60 points** |
| **Total Rating** | |
| **Excellent** | **82 points** |
| **Price/performance** | **outstanding** |

## Conclusion

**Wolfram Eifert**

Staff member of Test & Technik

Point-source drivers are more relevant than ever before. All localizable frequencies emanate from the same source and differences in sonic delays due to separate chassis are eliminated. The technology used for drive mechanisms or membranes is unimportant in this context. Even simple and small broad-band systems can offer a lot of fun as proved by the rating of the Audium. The Manger monitor is an exceptional product with sensational transparency. Everybody who is willing to get familiar with it, will deeply enjoy it. The spirited Piega perfectly combines all aspects. The high-flyer in this group is the TAD. In my opinion it represents the quintessence of perfection and vitality.