

# HiFi

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Magazin für digitales HiFi

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**SERVICE**

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- Neue Funktionen und verbesserter Sound durch Updates
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## Special Print Manger w1

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**Aktivboxen der Referenzklasse**

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- Mini-Streamer für nur 500 Euro
- Quelle, DAC und Vorverstärker integriert *s.16*



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# Lifestyle and Technology

A few years have already gone by since the Manger c1 reference studio monitor made a deep impression on our editorial staff. Now a new model called w1 is available at the stores - the first wall-mountable Manger.

Peripherals:

- Lenovo ideapad U330p
- Audiodata Musikserver MS 1
- JE Audio IS250
- Accuphase CS-2420/Bryston 4BSST2

**W**ell-informed hi-fi fans know the Manger loudspeakers by now. People who have a chance to listen to one of the product models in a live situation often feel the same way as we did after testing the c1 studio monitor: They are overwhelmed and refuse to return to their normal hi-fi listening experience. It's the Manger sound transducer a.k.a. MSW or simply "The Manger" that makes the difference and forms the core of the system. The legendary transducer is the brain child of company founder Josef W. Manger, who not only protected his studies of a time-correct sound transducer by several patents in the 1960s and 70s but also managed to produce the first prototypes of the MSW. Since that time the transducer has been continuously developed further with the aid of Josef's daughter Daniela who is running the company by now. It is in the nature of things that such a unique loudspeaker cannot resort to third party components but has to be manufactured completely in-



house. So it comes as no surprise that the company headquarters in Mellrichstadt are equipped with milling machines, magnetizers and coil winding machines.

But what's so special about the Manger sound transducer? Simple enough: It works completely different and avoids the shortcomings of conventional loudspeakers. While the (cone-shaped) membrane of standard speakers makes a "piston-shaped movement" (back and forth), the Manger uses a bending

wave transducer. Its membrane consists of a circular, flat and angular flexible foil which is also excited by a voice coil and makes a back-and-forth movement. However, its waves propagate concentrically from the center to the edge, comparable to a stone dropping on a smooth water surface. The basic disadvantage of conventional piston loudspeakers is that they don't start working perfectly until their transient phase is finished. It's in the nature of things that their transient behavior cannot be perfect, as the voice coil has to put the membrane in motion first. And in this regard even 10 grams are a lot of mass, considering that it has to be moved 20,000 times per second. In the decay phase the mass-and-spring system would continue to vibrate with its natural frequency until all eternity if it wasn't for mechanical losses. Things are very different with the Manger: The voice coil has to excite only the membrane center, as the sound is radiated by the

bending waves around the voice coil. This way the Manger avoids the energy-storing force of the mass-and-spring system and the resulting time delay. Excellent transient behavior is one of the MSW's main features. The bending wave design is suitable for all frequencies, by the way, a division into high, mid and bass frequency loudspeakers is superfluous. The Manger is everything in one box, a true fullrange speaker. Only the bass range is limited because the transducer can only move a certain amount of air. Above 80 Hz it works almost perfectly, though, far beyond the listening range of 20 kHz. Manger's loudspeaker design normally combines the MSW with a woofer. This applies for our much valued c1 as well. The current wall-mountable w1 dispenses with a separate bass speaker. With its shallow sealed enclosure and a volume of only 5 liters it huddles unobtrusively against the wall. The inside has been carefully damped using



The wedge-shaped cabinets for wall-mounting are available in a number of stylings

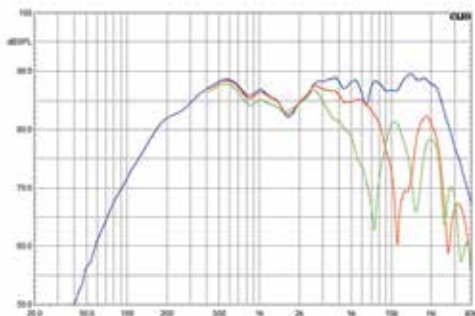


#### Audio Material:

- **Manger**  
Musik wie von einem anderen Stern  
(FLAC 44,1 kHz/16 Bit)
- **Albert King with Stevie Ray Vaughan**  
In Session  
(DSD64 2,8224 MHz/1 Bit)
- **Daft Punk**  
Random Access Memories  
(FLAC 44,1 kHz/16 Bit)
- **Leonard Cohen**  
Live in London  
(FLAC 48 kHz/24 Bit)
- **Jazz in the Pawnshop**  
(FLAC 44,1 kHz/16 Bit)
- **Pink Floyd**  
The Wall  
(FLAC 44,1 kHz/16 Bit)

two different materials. A crossover protects the transducer from bass frequencies below 150 Hz and an absorption circuit slightly corrects the frequency response. Apart from that the MSW performs in an exemplary manner.

As the cabinet is slightly wedge-shaped, the loudspeaker can be aligned to the listener. A mounted w1 stereo pair should be angled to the listening center. If you use them as center or rear speakers you can choose the appropriate alignment depending on the mounting height. Due to their superb integration into living spaces the concept of the w1 wall speakers is not only suited for hi-fi aficionados, but also for people who wish to dramatically enhance the sound of their home cinema system or TV set. Other options are sound reinforcement, all kinds of integration into modern living environments as well as music supplied by a sophisticated digital chain of servers and computers, which is one of our favorite topics. Speaking of integration into living environments: The w1 is available in a multitude of colors and finishes. Customers can choose from real wood veneer, high-gloss lacquer or unobtrusive silk-matt finishes in all the RAL colors. This comes at a price, of course, but if you consider the quality and elaborate manufacturing of the Manger transducer alone, things are put into perspective again.



The Manger transducer shines with excellent linearity in the mid/treble range and a high frequency cut-off of 25 kHz. The high-pass filter sets in at 180 Hz. Our frequency response measured in free-field improves in the bass range after wall-mounting the w1. The MSW's impulse response and waterfall graph are downright sensational: The membrane comes to a halt after only 0.75 ms and the waterfall graph above 800 Hz can cope with that of a very good tweeter. No other fullrange speaker comes close.

The MSW uses two stacked voice coils wired in parallel. The chassis and magnetic structure are of pristine quality.



In fact, it's a low-budget entry into the extraordinary Manger world of sound.

As a foretaste Manger compiled the sampler "Musik wie von einem anderen Stern" which contains well-known and oft-heard listening test classics such as Livingston Taylor's "Isn't She Lovely" or the wonderful Marla Glen who is always a pleasure to listen to. The vocal performances cause goosebumps instantly, because you rarely get a chance to hear music in such a direct, authentic, nuanced and natural way. In its purest form the transducer reproduces all the subtleties almost scarily realistic, the musicians have such a vivid and tangible presence that can only be compared to high-end fullrange systems. The saxophone sound on Yuri Honings' jazzy "Walking on the Moon" makes the listener feel like sitting in a jazz club and when the drums come in, the sudden dynamics out of nowhere leave you dumbfounded. Live recordings such as Leonard Cohen's incredible late work "Live in London" or

good old "Jazz in the Pawnshop" easily recreate the original concert atmosphere including the above mentioned goosebumps. The feeling of "being right there" is really phenomenal. The speakers are ultra precise down to the fundamental and wall-mounting further improves their bass reproduction, but let's face it, the integrated 150 Hz high-pass filter doesn't allow any subbasses. You can combine the w1 with a subwoofer which is indispensable for home theater applications anyway. For discerning audio fans who are looking for high-end loudspeakers to complement their TV set or unobtrusive digital stereo system the Manger is the perfect choice.

*Elmar Michels*

### Manger w1

- Distribution: Manger Audio, Mellrichstadt
- Telephone: +49 9776 9816
- Website: www.mangeraudio.com
- WxHxD: 18.2" x 10.4" x 0.28/5.35"
- Loudspeaker: 8" fullrange transducer (Manger Sound Transducer MSW)
- Finish: lacquer, silk-matt (all RAL colors), lacquer high-gloss, Nextel, real wood veneer

**HiFi**

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"Who would have guessed it? The legendary Manger transducer makes itself (almost) invisible and establishes itself as a high-end stereo and home theater system."

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