



einsnull

Das Magazin für digitalen Musikgenuss

Studio-Klang im Wohnzimmer

- D/A-Wandler/Kopfhörerverstärker Grace m903
Tonstudioteknik für zu Hause **s. 42**
- Manger MSM c1 Active Monitor
Gorgeous Sound and Compact Setup **page 32**
- Erleben Sie Studio-Master-Downloads
in Original-Qualität



■ Die aller-
neuesten
HiRes-Musik-
downloads
S. 79



Sooloos Media Core 200 **s. 10**

- Harddisk-Player von Meridian
- Bereit für Hochbit-Musik bis 192 kHz
- Perfekte iPad-Steuerung, klangliche Bestleistung
- Sooloos-Perfektion jetzt erschwinglicher

Der Streaming-Experte

- Toll bedienbarer High-End-Netzwerkplayer NAIM NDX
- Funktioniert mit jedem UPnP-fähigen NAS **s. 36**



Generationswechsel

- Die neuen Harddisk-Rekorder von Olive
- Design trifft Technik
- Drei Geräte – drei Anwendungen **s. 36**

Wohlklang am Schreibtisch

- Miniatur-HiFi mit Firestone Audio
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Computer-HiFi: Vorstufe/Kopfhörerpreamp DACmini von CEntrance **s. 24**

Preiswunder: Top-Klang für 200 Euro mit der Teufel Ultima 20 **s. 56**

The Perfect Wave!

My personal credo is that active monitors are a perfect fit for digital music. It is common practice in recording studios for years. And when you start looking for some inspiration in this high-end monitor sector there is one legend that always stands out.



Peripheral devices:

- Sources: Naim NDX, RipNAS Z500
Netbook Sony Vayo VPCW11S1E,
MediaMonkey,
Thesycon-USB-Class-2-drivers
- D/A converters: Grace m903
Electrocompaniet PD-1

The low frequencies are reproduced by a TIW200 from Visaton. Mounted in a closed cabinet the driver is electronically equalized and goes down to 30 Hz.



And this legend stems from Germany and goes by the name of Manger. Just in case you never heard of the transducers from Mellrichstadt: These systems work completely different than comparable products and exhibit so many sonic advantages, that their excellent reputation is constantly growing.

The history of the Manger transducer goes back to the 1960's when acoustic pioneer and company founder Josef W. Manger explored the time response of microphones and loudspeakers and developed among other things a measuring method for step responses. While he tried to avoid the shortcomings of conventional transducers he almost accidentally discovered his passion for speaker construction and started to design custom models. Manger was dissatisfied with the loudspeakers available at that time as their bandwidth was too small. For high frequencies you had to use small drivers which could not reproduce low frequencies. For low frequencies you had to use large drivers which had to move too much mass and were too inert. The custom Manger transducer avoids these flaws. Its 20 cm membrane does not move back and forth like a piston, but works according to the principle of bending

waves. A completely flat resonating plate is attached to a rim and excited by a voice coil. With high frequencies only small parts of the membrane are vibrating around its center. With lower frequencies the bending waves extend to the rim where they are meticulously attenuated to prevent any distracting reflections. This way the Manger transducer provides a working range of about 100 Hz to 25 kHz with a nearly point-shaped sound source. As was to be expected, its impulse response is another remarkable advantage as the system uses a high upper cut-off frequency and operates without a heavy cone that needs to be moved back and forth. This time correct behavior has established the transducer as a highlight among demanding audio aficionados. And it did not take long until sound studio professionals came to appreciate these advantages. Sound engineers are looking for a natural, high-definition, neutral sound reproduction and that's exactly what the MSW has to offer. The monitor is not absolutely linear – there are some ripples in the frequency response curve, but this is not the only criteria for natural music reproduction. It is rather, the perfect time correctness and response speed that conveys an accurate and

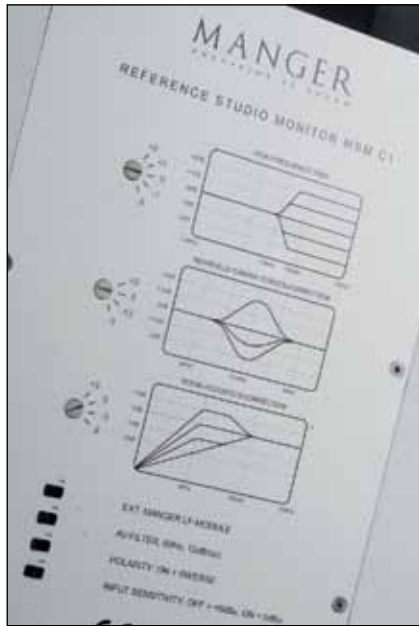


Audio material:

- **Various Artists**
Musik wie von einem anderen Stern
(FLAC, 44.1 kHz, 16 bit)
- **Arne Domnerus Group**
Jazz At The Pawnshop
(FLAC, 44.1 kHz, 16 bit)
- **Frits Landesbergen Big Band**
The Old Fashioned Way
(FLAC, 44.1 kHz, 16 bit)
- **Ella Fitzgerald & Louis Armstrong**
Ella & Louis
(FLAC, 96 kHz, 24 bit)
- **Malcolm Arnold & The LPO**
Arnold Overures
(FLAC, 176.4 kHz, 24 bit)
- **Johnny Cash**
American Recordings IV
(FLAC, 44.1 kHz, 16 bit)
- **Air**
10.000 Hz Legend
(FLAC, 44.1 kHz, 16 bit)



The active design of the Manger MSM c1 not only looks good but drives the monitor to its electronic limits.



In addition to a high-pass filter and input level control several trim pots correct the acoustics of the room.

pleasant sound impression. And these are the great virtues of the MSW. In the MSM c1 the transducer actively covers all frequencies from about 300 Hz upward, while the bass range is handed over to the tried and tested TIW200 from Visaton. Its membrane consists of sandwiched layers of fiberglass and polyester fabric – an extremely rigid combination which exhibits very little resonance. And its set of parameters allows a rather compact enclosure of 20 liters with pretty deep basses. The closed cabinet goes down to 45 Hz and up to 25 kHz – with a little help from the electronics. The result is a powerful bass range with

all the advantages that come with a closed housing. Of course, the active electronics come from Germany too. A suitable partner had to be chosen carefully as the electronics were not allowed to limit the cabinet's abilities in any way. And Manger made the right choice: Instead of Class-D amplifiers only high-quality and efficient Class-A/B power amps are used. Which means 250 watts for the bass driver and 180 watts for the bending wave transducer. They not only provide lots of power but also precious headroom. So there are perfect broadband transducers, exceptional woofers and powerful amps combined in an active design. And the whole is more than the sum of its parts. It simply has to result in one of the very best monitors on the market – and it surely does. The active design works amazingly well. Voices are reproduced stunningly realistic and spatially precise. Instruments – and really all of them – unfold their full dynamics, what a treat! And if you think the mid/treble transducer is lacking resolution because of its large surface area, you should remember its functional principle. This will convince you that the MSW effortlessly succeeds in depicting even the finest details. Of course, my dear workmates wanted to hear the MSM c1 perform too. So all of them listened to the „Jazz Variations“ on the Manger CD. And

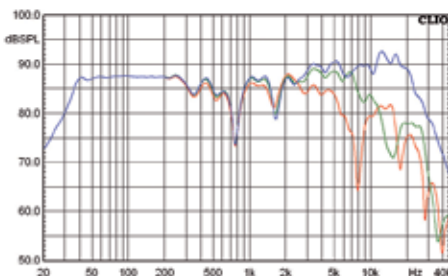


The legendary Manger transducer is based on a completely different functional principle as conventional loudspeakers.

all of them agreed: The plasticity and authenticity of the loudspeaker is phenomenal. Just one more thing: The bass response of the monitor is gorgeous! The MSM c1 performs way down low, bone-dry and stable. This is one of the best bass sounds I have heard for a long time. You can even double the bass power per side by adding two optional LF-Module bass cabinets. They contain the same



The beautiful speaker stands are also available from Manger. Their height can be customized at no additional cost.



The frequency response of the MSM c1 is not completely linear, but very balanced on average. Its bandwidth is quite impressive: It goes beyond 20 kHz without any restrictions, except for a certain amount of directionality. But measurements confirm its extraordinary time response which is the true basis for great sound. Efficiency is undeterminable due to the active design. Distortion is also difficult to determine as it is very small and hardly measurable. Congratulations!



Daniela Manger uses a laser pointer to exactly adjust the MSM c1. This way she creates a perfect stereo triangle and maximizes our listening environment.

driver as the monitor and send the already excellent low frequency range with extra punch and precision into the listening room. The bass component of the MSM c1 co-operates seamlessly with the MSW and both units complement each other in a very harmonious way. Considering that two high-quality power amps are included in the package this pair of monitors is worth every single cent of the initial cost.

Christian Rechenbach/Elmar Michels



Active to the max: High-capacity Class-A/B power amplifiers drive the speakers and deliver excellent sound quality.

Manger MSM c1

Price: circa 8,640 euro (pair)
 LF-module: circa 810 euro (apiece)
 Stand: circa 770 euro (apiece)
 Distributor: Manger, Mellrichstadt
 Telephone: 09776 9816
 Internet: www.manger-msw.de

Connectors: 1 x analog XLR
 LF: 250 watts @ 8 ohms
 400 watts @ 4 ohms (with optional LF-module)
 HF: 180 watts @ 8 ohms
 High-shelf filter
 (10 kHz/+2 dB, +1 dB, 0 dB, -1 dB, -2 dB)
 Bell filter (mid boost)
 at 3.25 kHz (+3 dB, 0 dB, -1.5 dB, -3 dB)
 High-pass filter
 at 80 Hz (+3 dB, 0 dB, -3 dB, -6 dB)
 High-pass at 100 Hz
 Input trim switch:
 11 positions (-2.5 dB to 2.5dB)

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„The MSM c1 enables you to set up the shortest possible signal chain and – what’s even more important – to achieve the best sounding audio system.“

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The cabinet's finish is available in many different colors. The subdued matte black finish of our test model looks really stylish.