



X-treme ART

With its biggest ensemble of omnidirectional speakers, the 101X-treme, MBL pushes the envelope of its unique transducer principal to its boundaries.

Is this a speaker of an objet d'art? In case of doubt, it is both. Each of the radial towers of the X-treme ensemble houses two three-way structures working as mirror-images, and combines them to a single omni-directional column that openly displays its high-tech charms



Author: Wolfgang Tunze

Now, would most young people raised in the age of fast food say, only to take a deep breath afterwards. All right - with that, they would have summed up the quintessence. The more mature feuilleton reader probably would react in a similar fashion. Except he might attempt to articulate his mixture of perplexity and admiration with more than just one syllable. He could, for instance, go on about how in his self-reflexion he automatically makes a connection with Jules Vernes' technical fantasies or with Fritz Langs' ingenious silent film „Metropolis“ set in an urban-industrial world permeated by steel and stone. Possibly even with the bizarre, yet beautiful air-castle designs of star architect Frank Lloyd Wright or the utopianly historicized design-chiffres of Gotham City. At any rate, he might ponder all of these manifestations of timeless and otherworldly aesthetics of machinery, which seem to prioritize the daring and audacious artistic design and to neglect functionality. And isn't this the exact impression conveyed by the 101X-treme, made by Berlin based high end manufacturer MBL?

There are two central aspects underlining the seeming absence of functional rationality: For one, the sheer power of overwhelming dimensions and physically noticeable mass, which conform to the idea of an intimate music room, but only to a certain extent. On the other hand there's a strong contrast to the normal level of expectations. Ever since the gramophone made its debut, we rightfully tend to expect an audio device to be funnel-shaped to a certain degree - or flat at times, but we'd never expect

it to even come close to being as flat as this, in spite of its enormous size, still a light and picturesque construct.

Despite that, every single screw serves its purpose and works for the greater good: To completely fill the room up with sound - as evenly as it can usually only be found in nature. For 30 years MBL has been devoting itself to this philosophy. For 30 years the afore mentioned transducer principal has existed, reduced to the common denominator of an omnidirectional speaker. Insiders are more than acquainted with the operating principle, we therefore won't elaborate on it all to much: The role of the diaphragm is executed by an ellipsoid-shaped object, put upright and consisting of single vertical commutator sections. A voicecoil is located on one end of the sound source, while the other end is connected to the remaining construction. The voicecoil, driven by the music

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Jürgen Reis, Chefentwickler

“The 101X-treme carries considerably further, without having to play much louder – a clear advantage in large auditoria with large numbers of listeners.”

signals, compresses and slackens the slim sonic ballon to the beat of the audio signal. That way the entire body can respirate and the sound is not just distributed horizontally in a span of 360 degrees. Part of the sound is also projected upwards and downwards - put still only a part, seeing that a perfect 4 pi source would hold the danger of a diffuse sound image.

The X-treme ensembles' mechanics



can be best understood by taking a look at the 101E Mk II, the manufacturers second most powerful sound transducer (tested in AUDIOphile 1/2011). This loudspeaker is endowed with three radial units: the „melon“, a spectacular low range driver, made of silvery commutator sections consisting of light metal. Furthermore a fist-sized midrange driver made of highly elastic carbon fibre sections and a dainty radial tweeter, whose diaphragm also consists of carbon fibre. Within the lower part of the speaker a bandpass with an 12" cone driver functions as a woofer.

With the 101X-treme Jürgen Reis, lead designer at MBL, has doubled the ingredients of the omnidirectional speaker: Two of the radial converter trios work on top of each other - the upper one on its head so to speak. This results in a layout, reminiscent of the style of d'Appolito - with a similar objective: „The 101X-treme simply carries out more without having to have the volume increased“, says Reis, after having undergone countless presentations. „This becomes especially apparent in bigger rooms, where a large number of listeners act as sound absorbers and consequently muffle the sound“. But many other sonic advantages can be already anticipated in theory: The already extraordinarily >

It's all a matter of the material: While lamellas made of an aluminium alloy oscillate in the low-frequency 'melons', the middle and high tone units stir the air via light carbon fibre segments.

Six driver, three storeys: only the diaphragms may tremble. Decoupled casings for each pair of cones help achieve this effect, and so does the push-push operation of the sound transducers arranged vis-à-vis: their mechanical coupling neutralises the forces acting on the cabinet.



large surface of the omnidirectional elements, which are bigger compared to conventional diaphragms, is now doubled in the X-Treme tower. De facto this means: Even for high sound pressure levels the commutator sections have to stimulate the air with only minor stroke, which improves the good preconditions for an exact and less distorted reproduction. Similar effects result out of the radical treatment Reis put the woofer unit through. For the reproduction of this frequency region two separate, active subwoofer tower units were added to the radial aggregates. Each one is equipped with six 12" drivers pointed sideways. The surface of diaphragm has increased sixfold compared to the 101E Mk II - with imaginable consequences for the acoustic performance. This constellation furthermore promises a decreased amount of wave propagation.

Structure-borne noise transmission, another phenomenon on every loudspeaker manufacturers' black list, is bound to be suppressed even further: The omnidirectional speaker columns are fixated on both ends using an enormous sandwich made of plates out of heavy brass and plywood. Four powerful stainless-steel pipes, in turn connected by two massive brass crosses, complete the ensemble and make for a rigid mechanical cycle. Reis implemented the subwoofer unit in a similar fashion. He split both of the columns into three separate, decoupled casings. The bass drivers located on both sides, which are working together in Push-Push mode and are coupled with each other through the cushioning material between their magnets, shouldn't be able to trans-

mit any unwanted vibrations or distortions.

The X-Treme ensemble could therefore very well exceed the resolution, which the 101E Mk II was already famous for. Because of that it only makes sense that Reis incorporated the subtle elements of fine tuning from the 101E Mk II: With every omnidirectional trio being set up with three contact bridges each, a wide variety of wiring material is now possible, as well as a choice between different coil cores for the midrange unit. The different signal pathways aren't enough to measure any discrepancy, but enough to slightly change the mood. The X-treme teams' subwoofer towers enable more than the ability to tune the acoustical phase, the low-pass filter frequency and the level in a subtle manner.

The acoustic results due to the aforementioned technical changes are at least as astounding as X-treme's physical appearance. What the general principle of omnidirectional speakers can achieve after three decades of evolution was already demonstrated by the 101E Mk II in a simply breathtaking way - the listener will recognize this when hearing the X-treme ensemble. This includes the art of easily shining a spotlight upon the emotional core of musical sensation. So it's not just a way of summarily reproducing the timbre, spatial dimensions and filigree details, but of reproducing the atmosphere which removes the listener from reality by integrating obvious details - and, on top of everything, makes it a delight to analyse the event by the criteria of technical sound reproduction. For test listeners, whose primary objective is not to find the ultimate pleasure whilst being totally oblivious to everything around them, this seductive offer might be close to dangerous - while being a strong indicator for an increased quality of life, which this loudspeaker can succeed in accomplishing in one's living room.

The X-treme tower nevertheless dictates very tangible criteria to every analyst present at the test, all of them underlining what makes this speaker exceptional. Homogeneity and bass re-



The XXL woofers work in bass reflex mode. Three controls allow fine adjusting: one defines phasing, the second the quality factor of the low-pass filter, and the third the level of the subwoofer tower (left).

production are key: The fact that this four headed team can master even the most abyssal sounding bass tones needs no mentioning. These tones being, almost casually, projected laconically dry or pitch dark, depending on the example, may not be the most interesting point of discussion either. But how smoothly the foundation blends into the remaining sonic event is indeed unexpected, because they are acoustically unidentifiable.

More keywords are resolution, fine dynamics and room ambience definition: Additionally, to their inclination to voluptuously illuminate and to fill the room with intensely coloured sounds comes an unmistakable quantum of accuracy due to the omnidirectional spea- >

kers. They help convey the location of single voices and instruments even more. Take, for example, the Symphonic Dances by Sergei Rachmaninow: It is surprising how the X-treme's voicecoils manage to define the highly complex orchestral sections, not only in terms of their location, but also in terms of their dynamic fine structure. Even here the smaller MBL products can not keep up.

An interesting side aspect: The Rachmaninow recording together with the Minnesota Orchestra lead by Eiji Oue was available to the test team in different digital qualities - the normal CD format as well as the HDCD decoded version with 20 Bit and the high-definition Version with 88,2 KHz / 24 Bit. The X-treme loudspeakers present the differences in terms of dynamics with unmistakable accuracy, one could think they secondarily serve in a studio.

But these luxury items are not meant to exist within the realms of minimum requirements. They are built for the sake of pure enjoyment - seductively attractive, highly talented and X-treme(ly) exclusive.



Test CD Martin Vatter: Klangbilder

Piano fantasies for an exhibition of landscapes by Lovis Corinth; played by the composer on a 1929 Steinway; outstanding recording by Jürgen Reis (www.martin-vatter.de).



The author Wolfgang Tunze

The path to hi-fi led via EL84: with these delicate pentodes he soldered his first amp in his youth – in mono. There is no testimonial of how it sounded. Well attested, however: Tunze subsequently joined AUDIO and became one of the most experienced hi-fi testers.

Energy politics: MBL recommend four power blocks 9011 in mono operation for driving the 101X-treme. This provides inexhaustible reserve capacities for each of the three-way units. The second-best solution: two 9011 blocks for the lower 'Radial-strahler', and two smaller mbl 9008 for the upper group



mbl 101X-treme

List price: 170,000 Euro
Warranty: 5 years
Dimensions of mid-high unit
WxHxD (cm): 49.6 x 185 x 64
Weight: 265 kgs (apiece)

Dimensions of active subwoofer
WxHxD (cm): 41 x 186 x 67.5
Weight: 226 kgs (apiece)

Cabinet design: black, white, individual finishes (face veneer, multi-layer piano lacquer, silk gloss finishes, leather surfaces in many different colours)

Connectivity options for mid-high unit: passive, one connection per three-way group

Connectivity options for subwoofer: active (cinch or XLR)

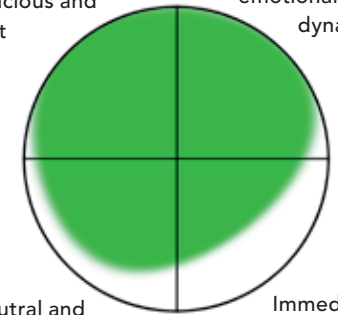
mbl 9011
List price: 36,000 euros (apiece)
Warranty: 5 years
Dimensions WxHxD (cm): 48 x 32 x 91
Weight: 90 kg (apiece)
Cabinet design: black, white
Stereo operation or mono bridged

Distribution:
Wert-Anlage
Exklusive Audiosysteme GmbH
Clayallee 299
D-14169 Berlin
Germany
Phone: 030 / 80 49 60 99
Internet: www.wert-anlage.de

AUDIOphile Character

Effortlessly spacious and soft

Grippingly emotional and dynamic



Neutral and authentic

Immediacy high resolution

AUDIOphile Potential



Recommendation

The 101X-treme needs breathing space in order to be able to show off to its fullest potential: the listening room should not be smaller than 50 square metres, and excessive dampening is not recommended.



Jürgen Reis (49), electrical engineer in the special field of electroacoustics, is MBL's chief designer.

AUDIOphile: Mister Reis, you affiliated the 'Radialstrahler' at a very early stage as your foster child. Was it love at first sight?

Reis: When I saw the Radialstrahler for the first time at the IFA during my study period, I was very taken by the 'crazy' acoustical principle, which I found extremely impressive. Then I made endless series of measurements with material analyses and the related arrangements in order to create a correlation between the measured data and the perceived aural impression.

AUDIOphile: Is it possible to measure a multiple-way Radialstrahler in such a way that you obtain applicable correlations?

Reis: Once you have understood the optimum ratio of direct sound and diffuse sound in the horizontal dimension, as well as the power range of different types of audio crossovers in the vertical plane, you can establish the optimum path of the sound pressure level and sound power for the multiple-way omnidirectional speaker – in a window weighted in the time range.

AUDIOphile: You are also an active musician and an experienced recording engineer. Does this have any influences on your speaker developmental work?

Reis: When making music, the most important thing for me is to express emotions and trigger the corresponding sensations in the listener. So,

when I calibrate the equipment, I take care that the music I hear moves me. This is the prime objective for me.

AUDIOphile: Do you use the Radialstrahler for monitoring your audio recordings?

Reis: No, for monitoring and mastering my recordings I use active nearfield-monitors in a mixing room designed for a 0.25 seconds reverberation time. Thus I only hear direct sound during mixing, an extremely analytical method that reveals any possible mistake in the recording. This way of listening is very strenuous and tiring. So, I prefer enjoying the final mix via the Radialstrahler, in a well-balanced living and listening room with a 0.45 seconds echo. Here I can enjoy the recordings for hours. I can 'bathe' in the abundance of sound without having to abandon any details that become subordinated to the overall sound.