HIFI STATEMENT
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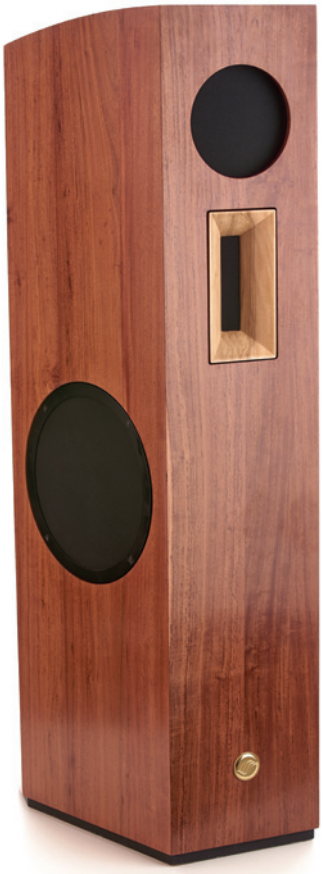
Soundspace Systems Pirol

22.05.2020 // DIRK SOMMER

As far as I remember, there has never been anything like it in Hifistatement: a loudspeaker system with a sensitivity of 97 decibels, a weight of over 200 kilograms and an amplifier power of 500 watts per speaker for the two twelve-inch woofers in each cabinet: Prepare yourself for a close encounter of the Soundspace Systems Pirol kind.

By the way, the Pirol is the entry-level model into the world of Soundspace Systems. For the first time a loudspeaker of this manufacturer appeared in our trade fair reports about the High End show in 2018, when the only model available at that time was presented: the Aidoni with a sensitivity of more than 100 decibels, an amplification of 1000 watts, a weight of more than 300 kilograms and a price starting at 300.000 euros. Although the Pirol is conceptually and also with regard to the built-in components strongly oriented towards the top model, a pair is already available as from 50,000 euros. But before we go into detail, I would like to briefly introduce Soundspace Systems' developer and owner: Dr. Michael Plessmann. As he acknowledges on record, he built his first pair of speakers almost 50 years ago, at that time just for fun, of course. He studied biophysics and, after completing his doctorate, started his career with the planning, design, construction and operation of biotech plants. Later he worked with a global consultancy firm. And after 25 years of management consulting, he needed to take on a new challenge.

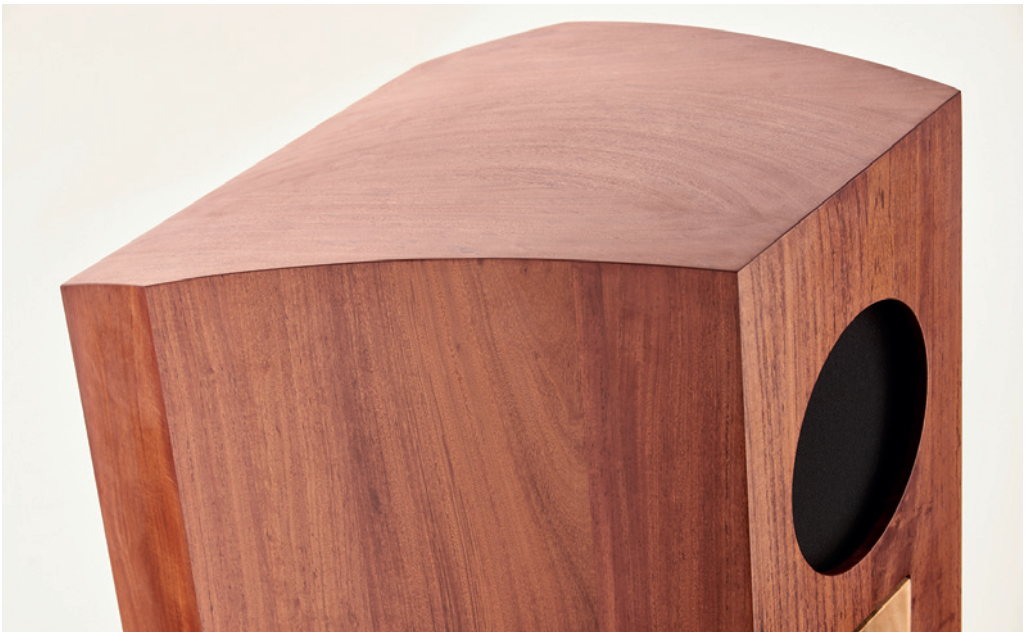
As he puts it, his passion for the world of music made him a nomad in search of the holy grail of hi-fi systems. It was the emotional divergence he experienced when listening to preserved and live music that always bothered him. This was followed by 20 years of trial and error, during which some achievements could certainly be made,



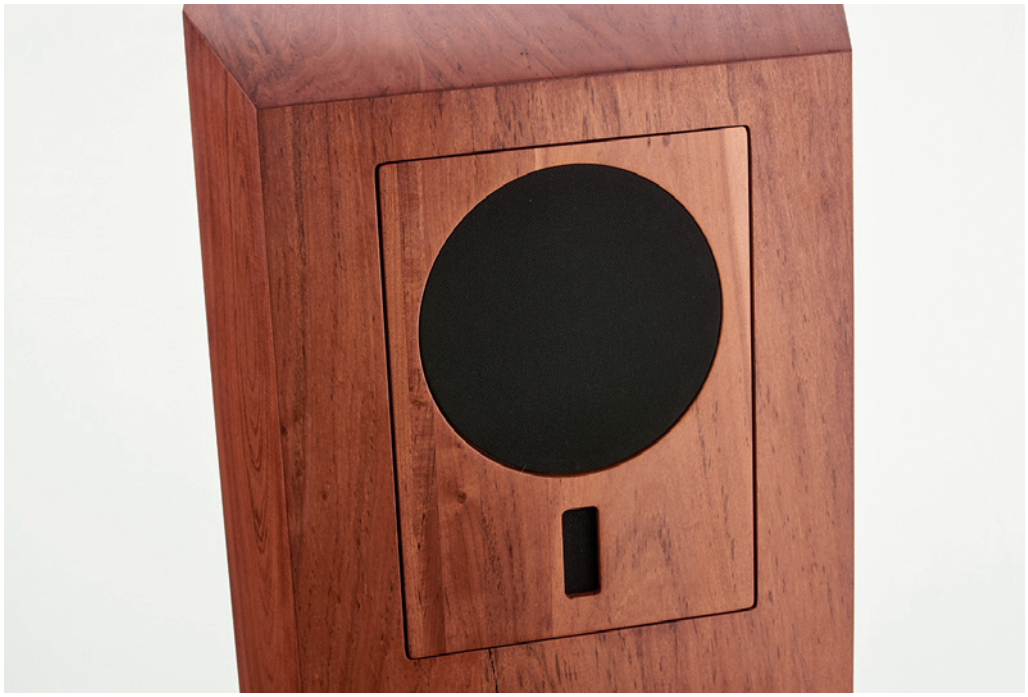
The price for a pair of Pirol starts at 50.000 euros. The enclosure is made of a three-layer composite material. The design of the outer shell in solid Rhodesian teak wood and the wooden horn are subject to additional surcharges, but are intended to also benefit the sound

but Michael Plessmann still found reproduced music to be somewhat grainy and blurred. Then, incidental rather than intentional, he came across a highly efficient speaker system of exceptional quality, whose timing he considered to be perfect. As he had just completed his professional career, he went out, inspired by the said speaker system, to create and build the best possible loudspeaker according to his personal taste. He managed to establish a network of technology partners, experts and gifted craftsmen – and Soundspace Systems was born.

After establishing initial contact by phone, I met the developer during the fair in Warsaw, where he demonstrated the Pirol in a rather small hotel room. While the speakers saw their woofers radiating to the side walls of the room and the walls standing too close anyway, the lows in the end sounded a bit too euphonic for my taste, making me doubt that the Pirol would ever feel comfortable in my listening room. And when I asked for their physical weight I felt that a review was beyond any means. But despite my objections, the developer remained thoroughly relaxed and explained to me that he was in possession of an electric stair lift for completing such

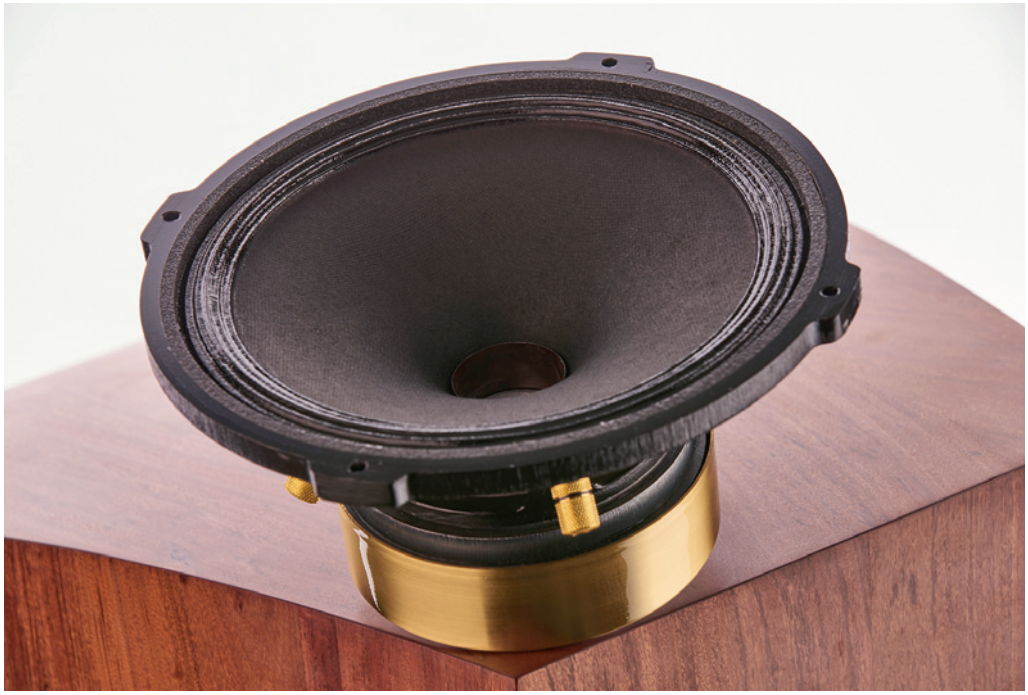


Vor dem Tiefmitteltöner befindet sich eine kleine Druckkammer

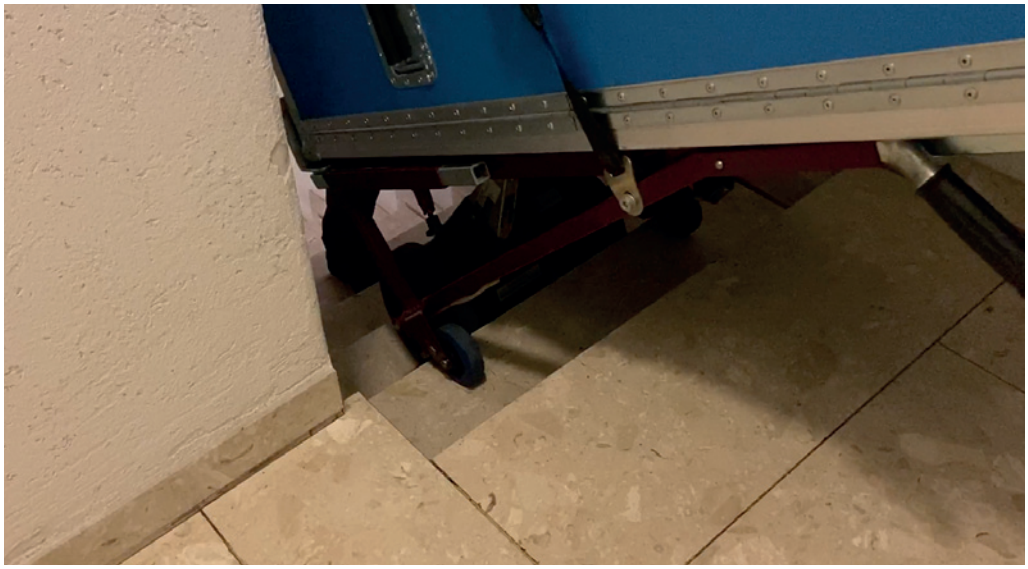


The mid-woofer operates on this opening on the rear side. Soundspace Systems refers to this as an open baffle. The adjustable ribbon tweeter is supposed to provide more airiness

transport activities, and also readily admitted that the level of the bass had been set a bit too lavishly, in order to still make enough impact even when giving the system only that cursory listening very common at trade fairs. Less than five minutes and some typing on trackpad and keyboard of his laptop computer later, the Pirol proved that, despite its opulent membrane surface and its placement close to the walls, it could perform very accurate, controlled and melodious in the low frequency ranges even in a rather small room: I therefore invited Michael Plessmann and his Pirol to my listening room.



Shown here is the Supravox mid-woofer without dust cover



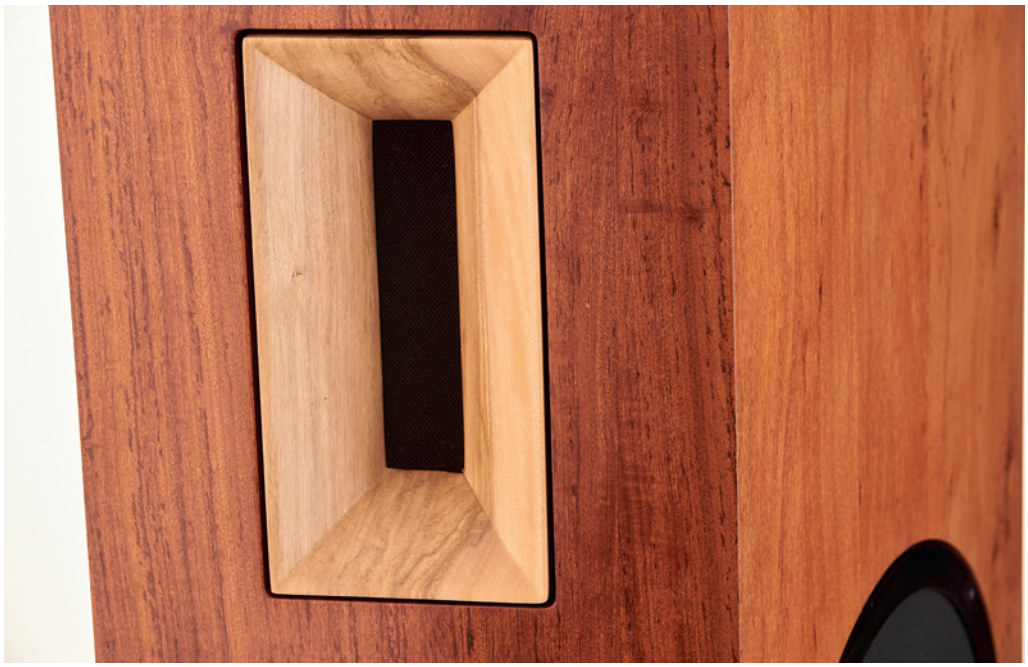
For all those who, like me, have never seen a heavy-load stair lift in operation before. The image is a screen-shot from a video that you can view on the website

This is the link to the video in the test on hifistatement.net:
https://www.hifistatement.net/tests/item/2784-soundspace-systems-pirol?start=2

But when he arrived at my front door with his companion, the aforementioned electric stair lift and two huge flightcases, I wasn't so sure anymore whether the invitation had really been a good idea. But the closely-knit duo – or trio, if one may include the stair lift – managed the transport up to the third floor, though bridging the first two by an elevator, not particularly in style, but with routine and skill. Now that these whoppers arrived in my listening room, their active modules get their power from two Audioquest Tornado, while the two preamp outputs of the fantastic Audio Exklusiv R7 supply both the Einstein power amplifier and the bass electronics of the Pirol.

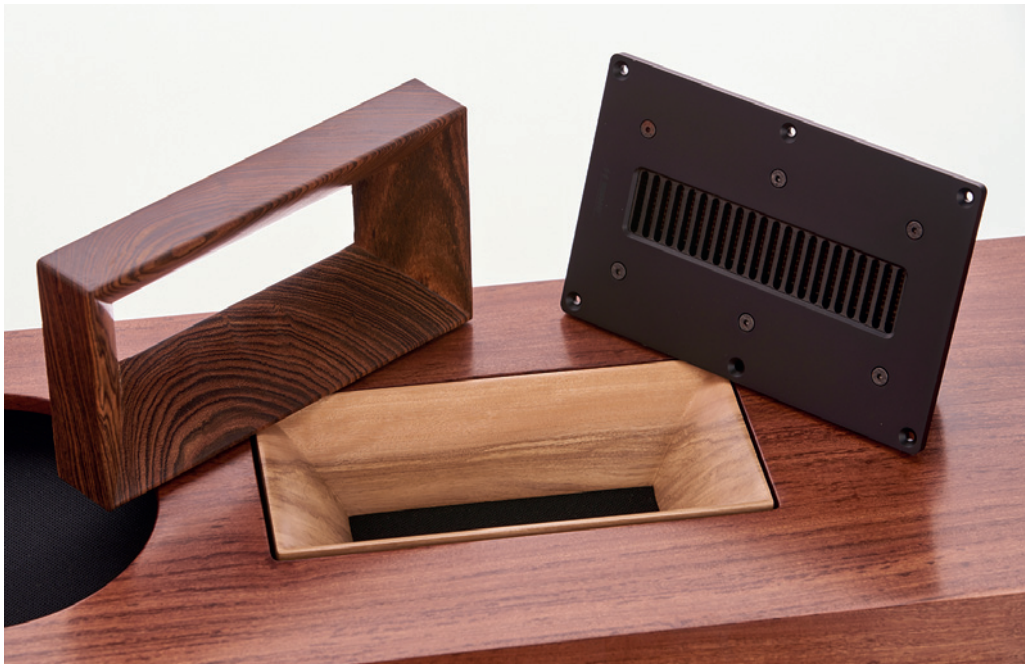
The moment, or better, minutes of truth are approaching: In the case of previously unknown components or components that have only been heard under trade fair conditions, the first few minutes decide whether testing them is an obligation or a pleasure. Regardless of conscientious fine-tuning, a familiar test track will quickly reveal if a transducer fits the room as well as your own preferences. After just a few tones the Pirol has won me over: There are no tonal anomalies and despite the pleasantly intense bass foundation the speakers play very lively and captivating. You are well aware of the phenomenon: If a speaker indulges you with a lot of low frequency energy, it often seems a bit sluggish and rhythmically less exciting. Not in the case of the Pirol: It performs extremely enthusiastic and doesn’t leave the listener indifferent. By now it's clear to me: Michael Plessmann must have thought through some matters extremely well. But that doesn't necessarily mean, that the Pirol wouldn't positively respond to some fine-tuning or even more profound modifications. But more on that later. At least I am sure that the further occupation with the Soundspace Systems will pan out to be the more sensual part of my work.

When asked about what lets his loudspeaker stand out of the crowd, the developer proves to be surprisingly supportive: By copy and paste, I could enumerate the linear excursions of the individual drivers and the distortion values at certain levels – as well as provide the respective translation of this information, which I oddly received in English. However, in my opinion this all says little about the qualities of the loudspeaker. What I find much more exciting in this context is Michael Plessmann’s statement of having combined what he believes to be the best loudspeaker technologies for the three frequency ranges to create a full-range transducer that operates at a level of highest grade in the disciplines of dynamics, linearity, velocity, high efficiency, three-dimensional imaging, time coherence and low distortion. For him, these technologies comprise a horn-loaded tweeter, an open baffle in the midrange and a pulse-compensated, sealed woofer, combined with a crossover of first-order.



The tweeter has been placed beneath the mid-woofer

I have already mentioned that the Pirol offers a high degree of sensitivity. According to Michael Plessmann, it converts ten percent of electrical energy into acoustical energy, which is much more than most other loudspeakers are capable of. Conductive thoughts upon the subject of efficiency can be found in the respective article written by Jürgen Saile. Still the question remains as to what happens to the remaining 90 percent of the electrical energy generated within the Pirol. At Soundspace Systems they have intensively dealt with how to dissipate excess energy in a harmonic and trouble-free way, the developer remarks. The cabinet is manufactured from a rigid three-layer composite material with a core made from bamboo. The interior is a ceramic shell that ensures the elimination of unwanted resonances. The outer shell can be individually selected in piano black or other colours, as well as veneered or solid wood, which is referred to here as resonant wood. The



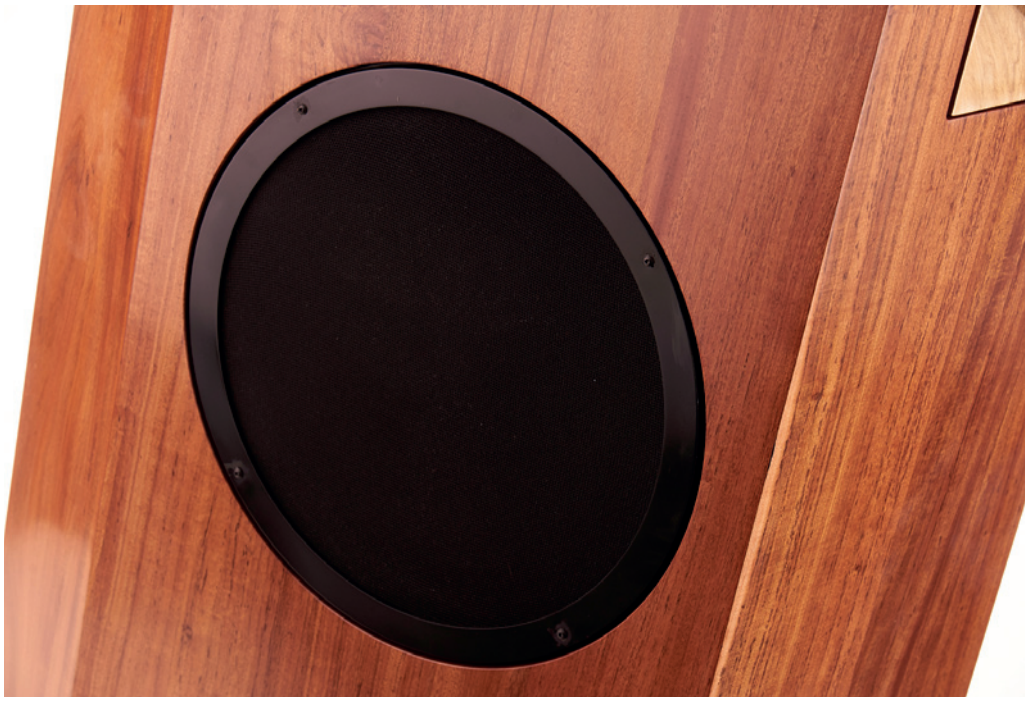
Here to be seen is an Air Motion Transformer from Mundorf and a Tractrix horn variant

shape of the cabinet is intended to prevent standing waves and strictly follows principles of Feng Shui and the golden ratio. The Pirol features three main and two supporting modules: the tweeter module with its Tractrix horn, the midrange module, which is executed as an opened baffle, the sealed woofer module, the passive crossover module and, finally, the bass management module, which accomodates for the DSP and the amplifier. All five modules are seamlessly integrated into the enclosure, but functionally autonomous.

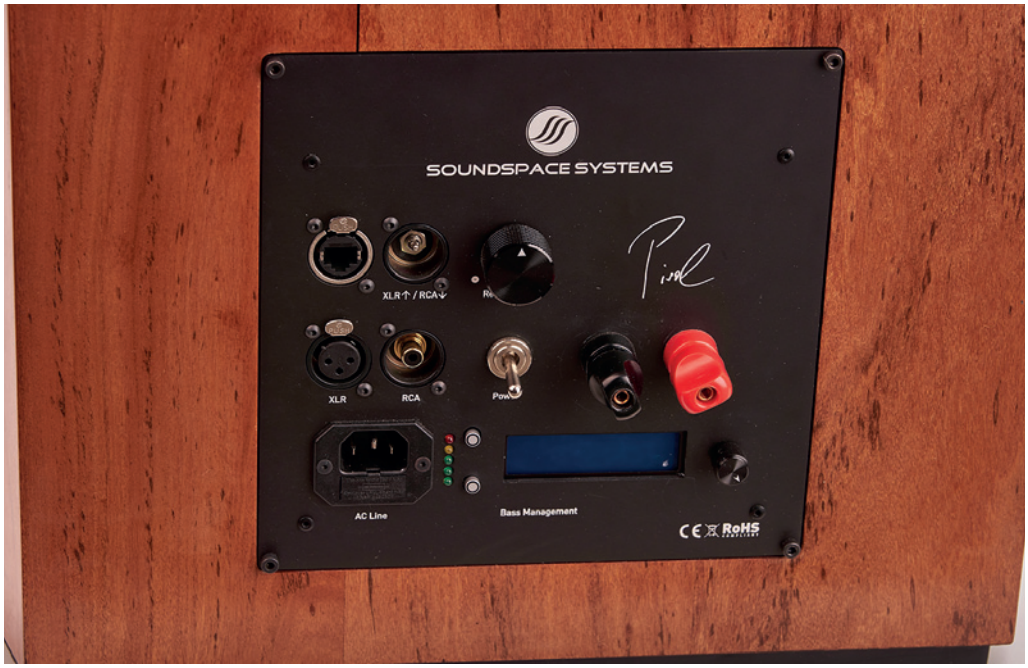
Michael Plessmann's penchant for unusual solutions is in particular evident in the mid-woofer unit. The Supravox has an exponentially shaped, lightweight paper cone, and is said to have a high sensitivity and low distortion. These ought to be further reduced by removing the dust cap. The small pressure chamber in front of the driver helps to improve linearity and also eliminates resonance and distortion, which is an unintentional by-product of the surround. An opening in the rear wall of the cabinet, which has approximately the same diameter as the driver, allows it to breathe freely, while its activity is not even restricted by a crossover. The designer wants to get by with as few components as possible in and around the signal path. That's why the Pirol gets away without any drain circuits and impedance linearisations.

The high frequencies are entrusted to an Air Motion Transformer from German specialist Mundorf, which is assisted by a Tractrix horn – in the test sample made of solid wood – that allows for a low lower crossover frequency. The crossover features a slew rate of six decibels and is built with Mundorf capacitors. Silver/gold and silver/gold-oil types are used. The required value is realised by a parallel connection. A ribbon tweeter is located on the rear, covering the frequency range from four to 22 kilohertz, in order to provide more airiness in the sonic image. Its level can be adjusted depending on individual tastes or room situations.

If the outward dimensions of the speaker have to be kept at a reasonable room friendly level without waiving the frequencies down to 30 Hertz by at the same time following up with the efficiency of 97 decibels specified by tweeter and mid-woofer, then an active solution taking care of the low frequency range is indispensable. Soundspace Systems settled on two side-radiating twelve-inch woofers with carbon fibre cones provenient from the professional sector. DSP technology is used for both linearising the frequency response of the drivers in their sealed enclosure below 100 hertz and implementing the low-pass filter for coupling the mid-woofer. The DSP operates at a sampling rate of 96 kilohertz and could also be used to defeat room modes. Following Michael Plessmann's purist approach, we admittedly dispensed with room calibration in my listening room. Notwithstanding the many adjustment possibilities offered by the DSP, the developer contented himself with



The two woofers, each mounted on a side wall, are tried-and-tested PA drivers



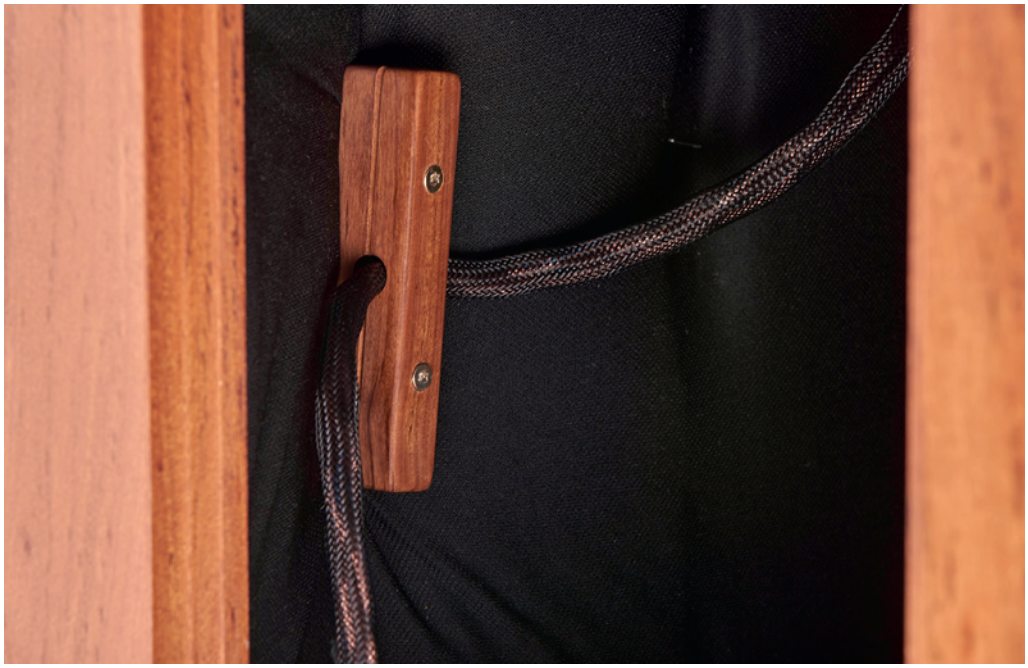
The rear side of the Pirol showing the active bass module: The bass level can be adjusted via the rotary knob at the bottom left. The ribbed knob further up determines to which extent the rear-radiating ribbon tweeter interferes with the sound

a filter of first-order for the lows as well. With a slope of only six decibels, the two woofers still radiate energy far into the fundamental range – a truly unconventional solution. As already mentioned before, the bass range is managed by a 500 watts Class D amplifier originating from the PA sector. So, there is absolutely no need to worry about control respectively damping factor and reliability.

Soundspace Systems manufactures the internal cabling, which is individually adapted to each driver, by hand. The standard version features solid wiring made of cryogenically treated copper, while a silver version is also available as an extra-cost option. Solid wood is used for routing the cables. Even though I probably may have given a lecture on only less than half of the information provided to me on the Pirol so far, it should have become clear that there is almost no detail that Michael Plessmann hasn't pondered about – and that in some areas he has chosen solutions way beyond from the mainstream.

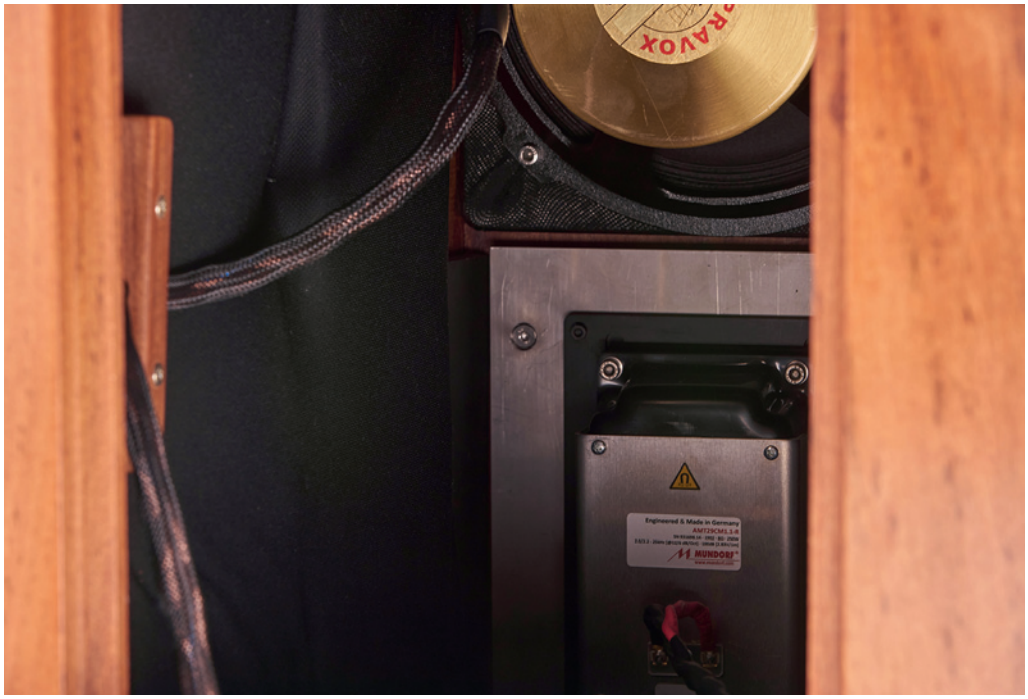
After the Pirol had made its very first, very positive impression, we got a start on the fine tuning. As already mentioned, there wasn't any need to worry about tonality and dynamics. However, as the Kawero Classic and the Goebel entry-level model Epoque Aeon Fine had previously indulged me with a much deeper soundstage, I asked Michael Plessmann to tease somewhat more out of his creations in this regard. Giving the speakers a more precise alignment, he was able to achieve marginal improvements. But, however, after connecting his laptop to the active electronics of the two speakers one by one and shifting the frequency at which the first-order filter stepped in from a surprisingly low 50 hertz to an even more surprising 27 hertz, the sound immediately isolated itself entirely from the cabinets and the imaginary soundstage enlarged a good deal further into the deep. This would have left me happy all around – if the DSPs would have been capable of saving these settings. But to achieve this, Michael Plessmann had to first commission a software update from his German DSP supplier.

While waiting for the update to arrive, I had enough time to gain initial experience with the Pirol. As long as a loudspeaker isn't as demanding on power amplifiers as the "previous", somewhat amplifier-killing Goebel Epoque Fine, I am not necessarily interested in the efficiency of a transducer. Be that as it may, the representatives from Soundspace Systems made it obvious that after all I ought to somehow think about it: Even when listening to the most familiar records, there suddenly was fine detail to be more clearly audible than with transducers whose efficiency lies around 90 decibels. Although this will not have the effect of me ordering the one or other



The internal cabling is individually hand-tailored by Soundspace Systems to the connected drivers and fixed with cable ducts made of (resonant) wood

low power amplifier for reviewing right away, it makes me better understand the preferences of my colleagues Saile and Bussler. Efficiency is something that's not to be sneezed at – even when the power amps in play then have power in abundance. Actually, I could get used to the active bass of the Pirol in the long run. Even if the bass level is clearly set to joyful listening, the lows of the Pirol remain rhythmically thrilling, resilient, nimble, fast and outlined. And such a constellation is a very difficult thing to achieve with pure passive concepts. One usually has to decide between the earmarks just described or immersing in pleasant low bass waves.



Midwoofer and tweeter were positioned as close to each other as possible to allow for rather small listening distances

As already mentioned in the review about the Melco switch, I rapidly became familiar with the Pirol suchlike that I ventured to make use of it to evaluate other components as well: A speaker doesn't have to be analytical to the highest degree to enable reliable statements about reviewed components. Even a somewhat more forgiving set-up is suitable to clearly carve out differences. The Pirol skilfully combines enlightment with enjoyment. Of course, this assessment proves only fully true after Michael Plessmann from afar Berlin having used Teamviewer to install the new DSP software for the bass modules and set the frequency for the bass roll-off to 27 hertz. After that I was given the choice to adjust the low frequency range in steps of one decibel according to my taste. However, there is no need anymore for the help of the developers or a laptop to perform these adjustments. Turning the knob on the module itself is now sufficient to adapt the bass to the mood of the day. With every day, I like the solution with the active bass increasingly better. Needless to say, that I decided to opt for the more enjoyable variant – one decibel too much rather than too little.

Of course, I couldn't avoid myself comparing the Pirol with the much more expensive Epoque Aeon Fine: Even after having implemented the update of the Pirol, the Epoque still offers a touch of more depth on the imaginary stage, and focuses singers and musicians somewhat sharper. Certainly, this works out as the more accurate tool for the evaluation of components. But tell me, which music lover needs tools to wallow in melodies and rhythms?

STATEMENT

Thanks to equally exceptional and autonomous solutions, Michael Plessmann has succeeded in creating a genuine full-range transducer with high sensitivity, which combines playfulness, resolution, dynamics and – if desired – comforting bass in the finest of ways. But don't let the efficiency mislead you: The Pirol plays much too coherent and thrilling to be left solely to lovers of small power amplifiers. A discovery!

LISTENED WITH

Turntable	Brinkmann LaGrange with tube power supply
Tonearm	Thales Simplicity, Einstein The Tonearm 12
Cartridge	Lyra Olympos SL, Transrotor Tamino
Phono amp	Einstein The Turntable‘s Choice (bal)
Tape recorder	Studer A80
NAS	Melco N1Z H60/2, WDMyCloud
Streaming Bridge	Auralic G1
Up-sampler	Chord Electronics Hugo M-Scaler with Poweradd
D/A converter	Chord Electronics DAVE
LAN switch	SOtM sNH-10G i with Keces P8, Melco S100 with SBooster
10 MHz clock	SOtM SCLK-OCX10 with Keces P8
Pre amp	Audio Exklusiv R7
Power amp	Einstein The Poweramp
Loudspeaker	Göbel Epoque Aeon Fine
Cables	Goebel High End Lacorde Statement, Audioquest Dragon HC, Tornado (HC) and NRG-Z3, SOtM dCBL-BNC
Accessoires	AHP sound module IV G, Audioquest Niagara 5000 and 1000, Synergistic Research Active Ground Block SE, HMS wall sockets, Blockaudio C-Lock Lite, Acapella bases, SSC Big Magic Base, Acoustic System feet and Resonators, Artesania Audio Exoteryc, Harmonix Real Focus and Room Tuning Disks, Audio Exklusiv Silentplugs

MANUFACTURER'S SPECIFICATIONS

Soundspace Systems Pirol

Principle	3-way
Power handling	100/ 300 W
Frequency range	20 - 35.000 Hz
Impedance	8 ohms nominal, 4 ohms minimum
Sensitivity	97 dB/W/m
Max. SPL	115 dB
Dimensions (H/W/D)	124/44/48 cm
Weight	240 kg per speaker
Price per pair	as from 50,000 euros, 82,000 euros incl. enclosure in solid Rhodesian Teak wood and wood horn

MANUFACTURER

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