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**TESTBERICHT** Seite 1/3

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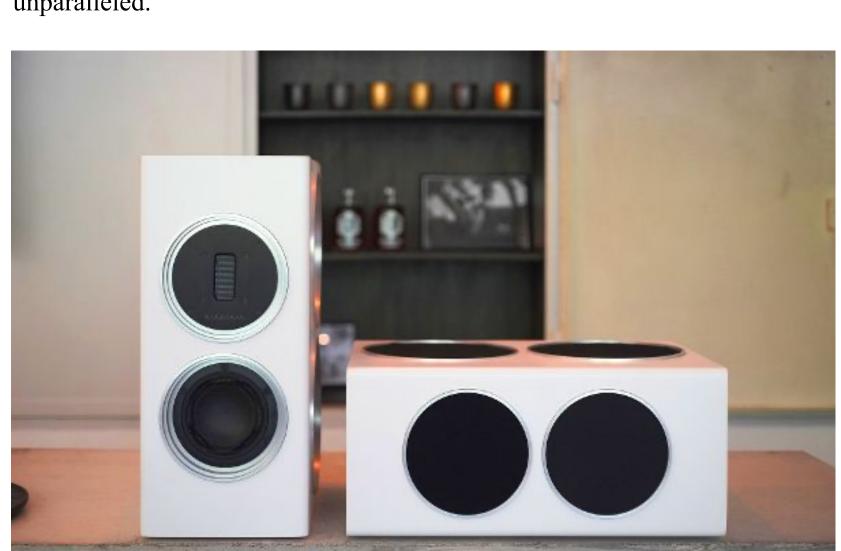
den Unterschied

### Precision and charm

PHILIPS

### Test active loudspeaker Airplain phli mini U

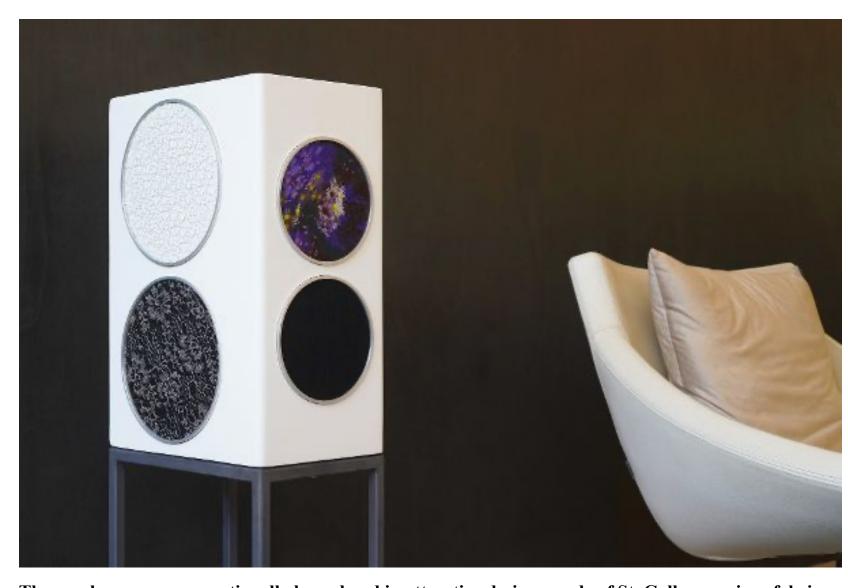
The future belongs to active speakers. This is exemplified by the phli mini U model from Airplain. It combines an unbelievable amount of high-tech in a small space and thus generates a fullness and definition of sound that is unparalleled.



- **ARTIKEL**
- Martin Freund 22. August 2022
- Aktivlautsprecher High End Audio | Swiss Audio
- Drucken
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avguide.ch has already reported on the young Swiss start-up Airplain. It's high time to take a closer look at the debut product in a detailed listening test. A pair of phli mini U costs CHF 27,800, which is a lot of money. Of course, you get an almost complete playback solution at the highest level. DAC and power amplifier are already integrated, so you only need a streamer or preamplifier to listen to music. Also included are delivery, setup, and speaker calibration for the room in question. Airplain is set up as a true manufacture. The phli mini U is also built to customer specifications in the desired version. The delivery time is currently about six weeks.

The buyer can freely choose the color finish. By default, the phli mini U comes painted black or white, but any desired RAL color can also be realized at no extra charge. Since the speaker is built as a solid stainless steel cabinet, the customer can also order a very attractive version galvanized in copper, brass or silver (price: CHF 29,200). And even wood, leather as well as fabric covered versions can be realized (price: CHF 30'800). In addition, the customer can also choose different speaker covers made of various St. Gallen noble fabrics (the available designs created by Jakob Schläpfer change from time to time). Sturdy speaker stands are available in either nitrided steel or solid wood from the well-known cabinetmaker Thomas Sutter.



The speaker covers can optionally be ordered in attractive designs made of St. Gallen precious fabrics.

Sustainability is very important to Airplain founder and electrical engineer Thomas Flammer. Thus, he grants a 10-year warranty on the transducers and 5 years on the electronics. Airplain loudspeakers are extremely service-friendly and designed so that existing models can benefit from any future developments. Especially in the field of digital audio formats, there will be a lot going on in the next few years, and the owner of an Airplain active speaker should not be left out.

With its dimensions of just 20 x 45 x 35 cm, the phli mini U could even pass for a bookshelf speaker. Within the gross approximately 30 liters of housing is an impressive wealth of the finest technical ingredients. In the bass and midrange, Airplain relies on loudspeaker drivers from the Scandinavian manufacturer Purifi, which are among the best (but also the most expensive) currently available on the world market.



Two 17.6 cm drivers with special, irregularly shaped long-stroke surrounds are

used as woofers, allowing a maximum excursion of  $\pm 14.5$  mm. The conspicuous shape of the diaphragm suspension reduces nonlinear distortion caused by divergent inward and outward movements of the diaphragm. The two side-mounted drivers exclusively cover the bass range up to 120 Hz - the smallest wavelength is already so large that the cabinet is not a limiting factor in sound propagation in the listening room. Further advantages: No intermodulation between bass and midrange, and no cabinet resonances. Airplain specifies low frequency response down to 25 Hz. This, of course, is not

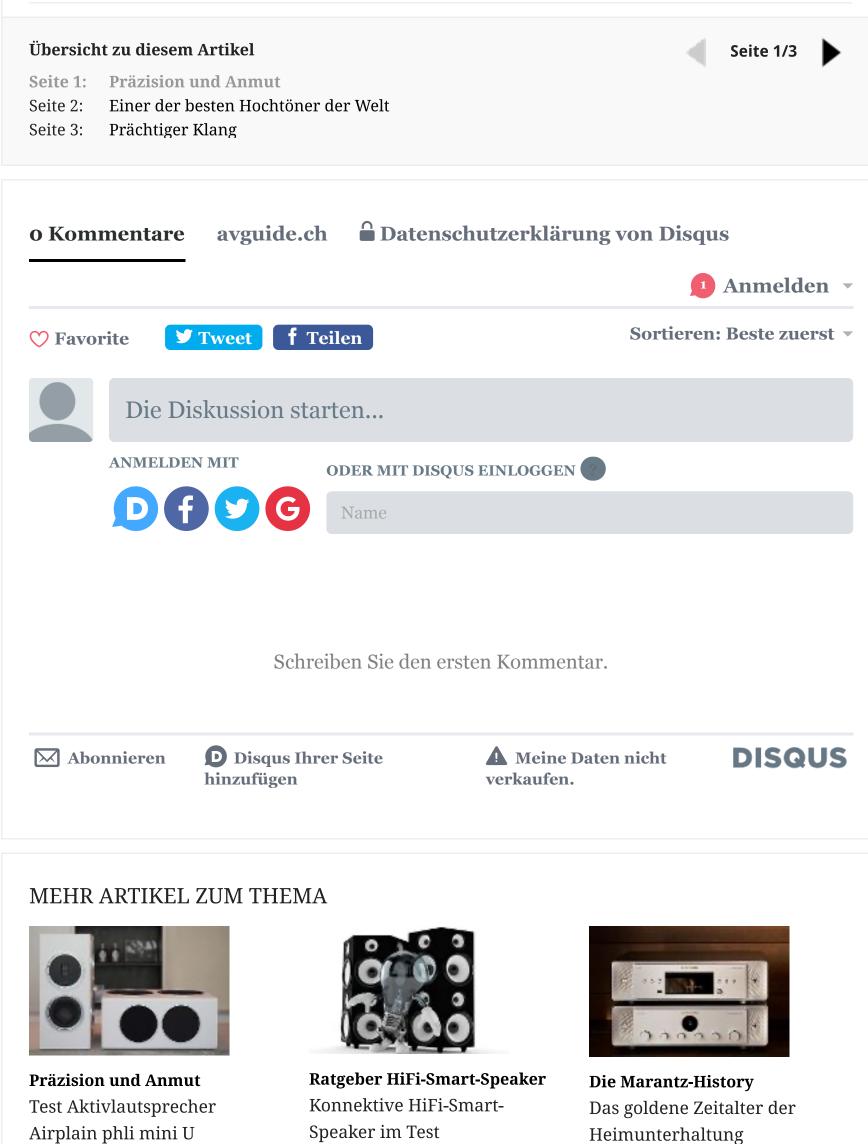
linear (which makes no sense at all in a typical listening room), but with the relatively gentle decay that naturally occurs in a closed woofer enclosure. The impulse behavior in the bass benefits from the closed design. For Thomas Flammer this was a decisive criterion, because he wanted to design the phli mini U with overall impulse dispersion and phase linearity. Such a transducer can only be realized with an active concept. This is because the

impulses in the midrange and bass typically lag behind the tweeter in a passive multi-way loudspeaker. Using an advanced active crossover with digital signal processing (DSP), however, it is possible to realize a loudspeaker that radiates in time and phase. This design is characterized by a particularly spatial and homogeneous music reproduction. Especially when it also includes a detailed frequency response calibration to the respective listening room, as with the phli mini U.



In the bass and midrange, a similar driver is used as in the bass (also from the

manufacturer Purifi), but with a 12.5 cm diaphragm. This covers the tonally important range from 120 to around 960 Hz, i.e. three octaves, and has no restrictions in the dispersion characteristics thanks to the low upper cutoff frequency. The narrow baffle is also no obstacle for sound propagation. The specially shaped surround is also found here. It avoids here the occurrence of a disturbing surround resonance, as it typically occurs with a cone loudspeaker below 1000 Hz. This speaker chassis is also extremely level stable - important, for example, when reproducing male or female voices.



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Ist HiFi noch richtig?

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Musikalität

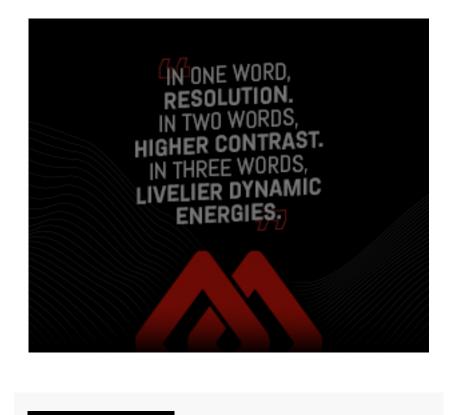
HiFi Studio Sulzer

Traditionell und ganz modern

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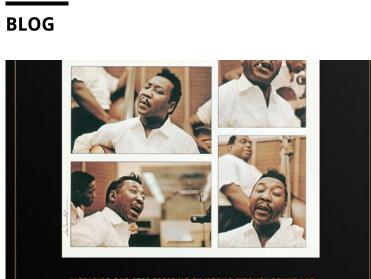


## **Die Marantz-History** Das goldene Zeitalter der Heimunterhaltung

Marantz ist ein Synonym für High Fidelity. Wir sahen uns die Marantz-History an und sprachen mit Marc Staubli von der B&W Group über die Pläne der Marke.

### HiFi Studio Sulzer

Traditionell und ganz modern Bei HiFi Studio Sulzer in Zürich findet man ein vielseitiges Sortiment an renommierten Marken, darunter auch Bowers & Wilkins sowie Classé.



**Mobile Fidelity - Vinylgate?** Die Praktiken von MoFi werfen Fragen auf. Am 14. Juli ging der Besitzer eines Vinyl-Stores in Phoenix mit einer explosiven Behauptung an die Öffentlichkeit: Mobile Fidelity verwende digitale Master.



Klangkugel

Alpha

Test Wireless-

Aktivlautsprecher Syng Cell

**TESTBERICHT** 

Precision and charm

One of the best tweeters in the world

The tweeter section of the phli mini U features a real treat: the Air Motion

Transformer from Ticino-based manufacturer Precide. More precisely, Thomas

Flammer obtains the folded "Heil A.M.T." diaphragms and inserts them into a high-

performance magnet system specially developed by Airplain. The original A.M.T.

occasions. There are few tweeters that offer such an effortless response with the

has already proven its exceptionally high quality of tweeter reproduction on several

Test active loudspeaker Airplain phli mini U

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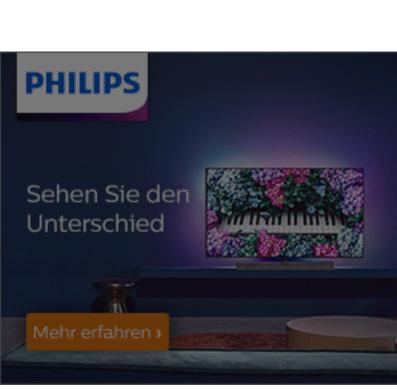
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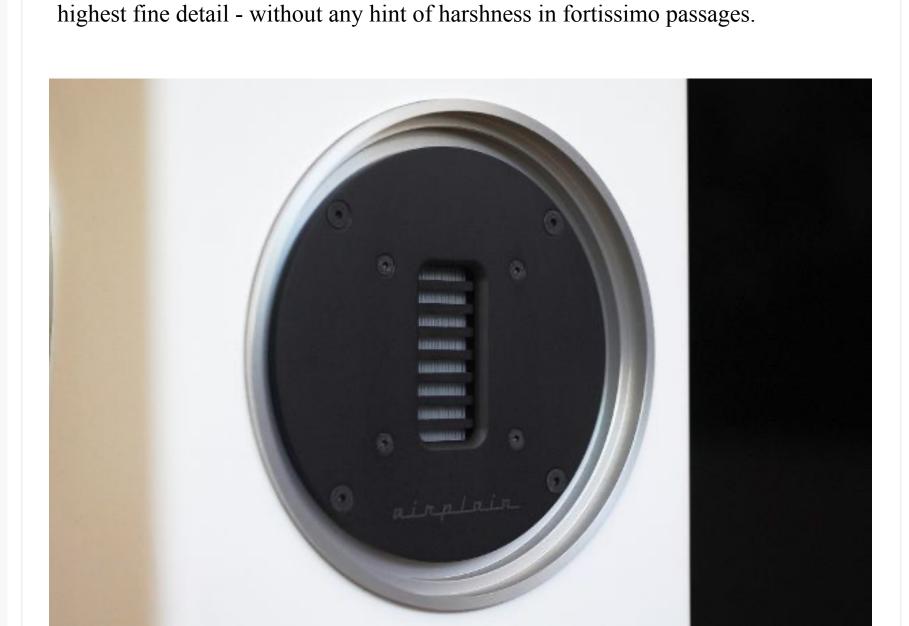


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### **BLOG**

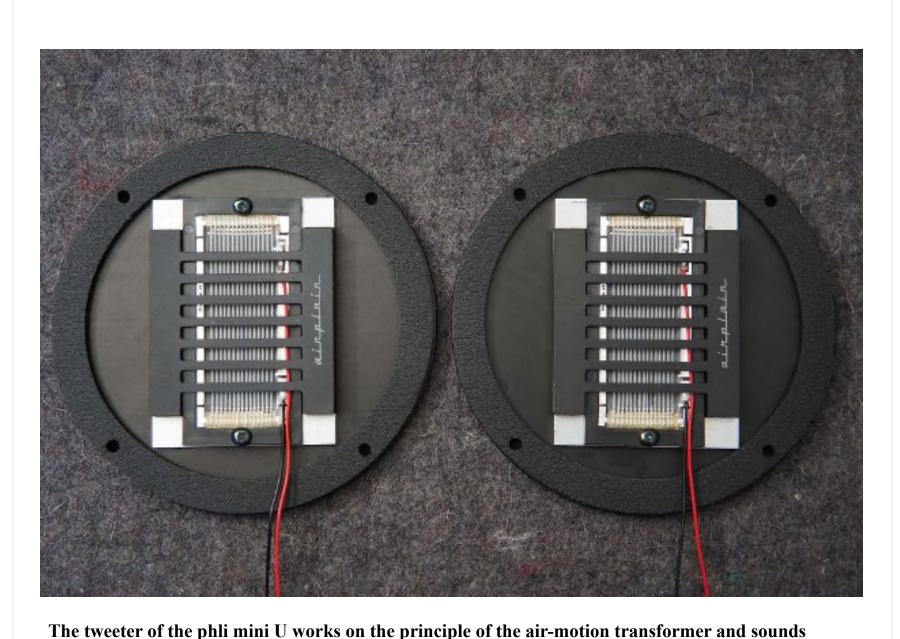


Die Praktiken von MoFi werfen Fragen auf. Am 14. Juli ging der Besitzer eines Vinyl-Stores in Öffentlichkeit: Mobile Fidelity verwende digitale Master.



The tweeter of the phli mini U works on the principle of the air-motion transformer and sounds completely unstrained even during fortissimo passages.

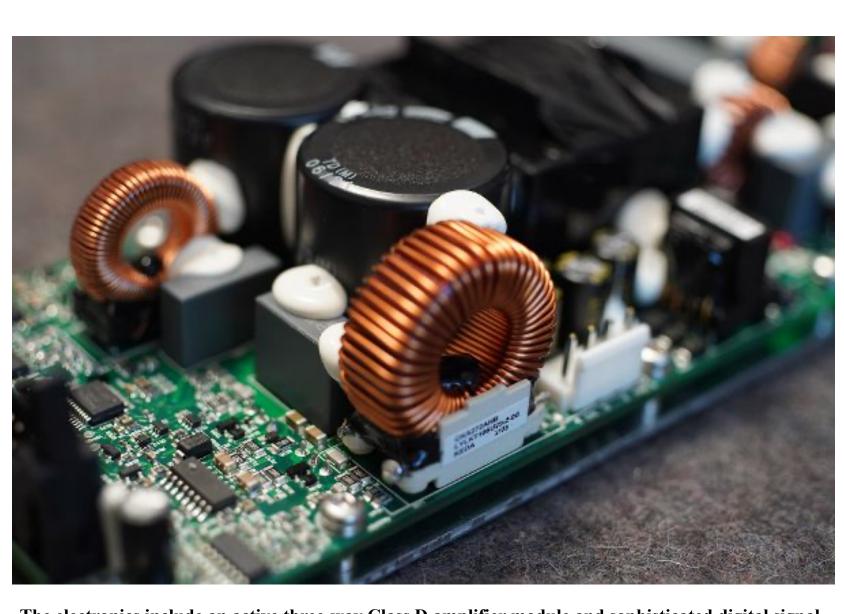
Martin Dürrenmatt from Precide has decades of experience in the manufacture of this transducer (more precisely: since 1990!): Its diaphragm is not flat, but corrugated like a curtain. The conductor paths run in the folds of the plastic foil and are permanently in a strong magnetic field. If a signal in the form of alternating current flows through the conductors, the folds are pressed together in time with the music when the signal is positive and apart again when the signal is negative. As a result, the electrical signal is very effectively converted into sound: The air is forced out of the folds at very high speed and "sucked" back in again, resulting in more than five times more efficient sound generation than with a flat film of the same basic crosssection. For this reason, this sound transducer is aptly named the "air-motion transformer.



completely unstrained even during fortissimo passages.

Another big advantage is that the fundamental resonance of the Heil A.M.T. is much lower than that of a comparably sized ribbon and is also more heavily damped. Thus, it is hardly noticeable acoustically, and the A.M.T. transmits down to 600 Hertz. For reasons of power handling, it is decoupled in the phli mini U just below 1000 hertz. Thus, however, more than four octaves are still transmitted homogeneously and free of acoustic phase rotation by a single driver.

The four drivers are driven by an active three-way amplifier module in power-saving Class D technology. A generous 500 watts are available for the two woofers, 250 and 150 watts for the midrange and tweeter, respectively. Of course, we're not talking about continuous power here. Rather, it's about converting impulse peaks into sound without limitation. An efficient switching power supply ensures that no current bottlenecks occur. Airplain specifies a sound pressure greater than 105 dB for the phli mini U. As the listening test showed, this compact speaker hardly knows any level limits in practice. More importantly, even when listening out loud, the phli mini U never sounds harsh or strained.

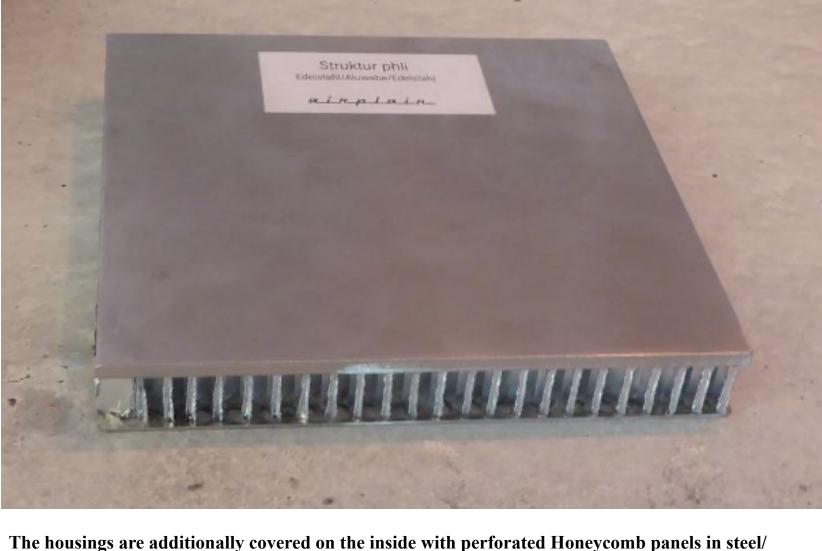


The electronics include an active three-way Class D amplifier module and sophisticated digital signal processing (DSP).

# Handmade in Switzerland

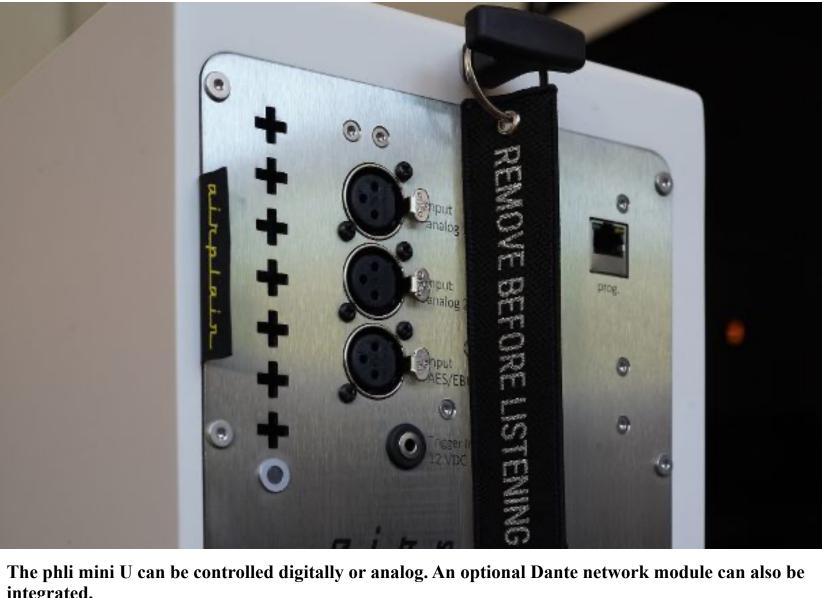
So much sound power from such compact dimensions requires an extremely lowvibration housing with a very low loss factor. Thus, Thomas Flammer uses elaborately handcrafted, completely welded stainless steel cabinets for his loudspeakers. In designing them, he was able to draw on his own professional past in metal construction and establish a unique collaboration with a company in the Zurich Oberland.

The housings are additionally insulated on the inside with special "honeycomb" panels - a sandwich structure of stainless steel and aluminum that is also used in aircraft construction. The two side enclosure walls are bolted together over six axes to withstand the massive sound pressure of the two woofers. The separate inner volumes for the midrange and tweeter are damped with sheep's wool (also of Swiss origin).



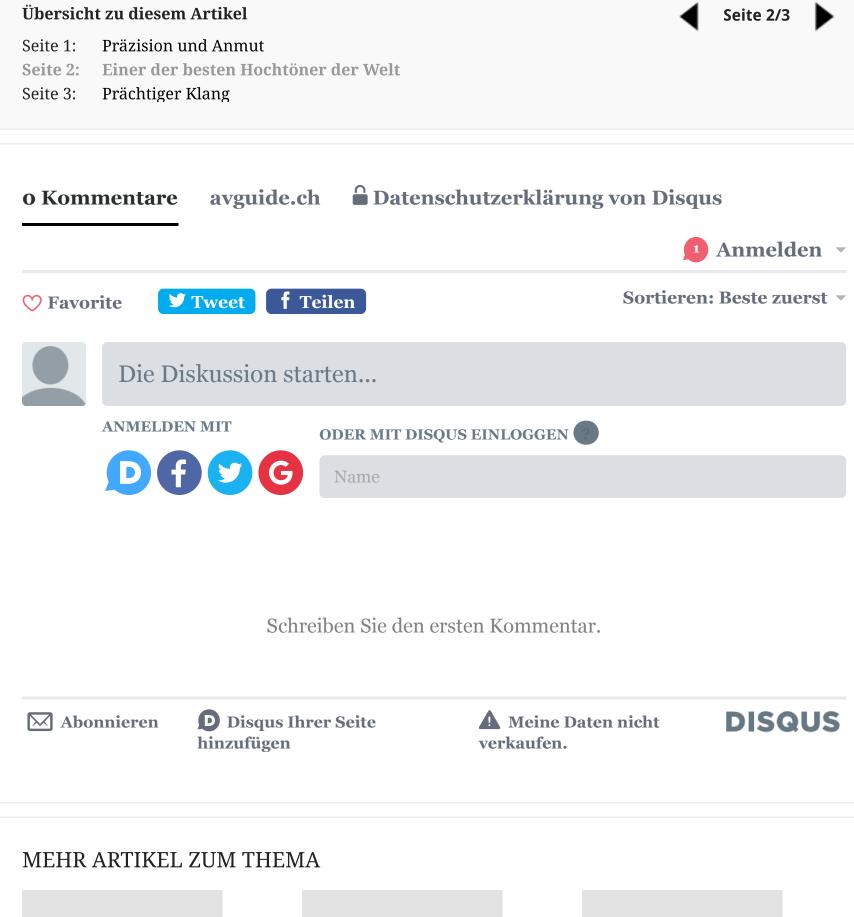
aluminum sandwich construction.

The DSP and amplifier board is installed at the rear. It sits separately (and therefore acoustically unaffected) in its own housing compartment. In terms of connectivity, the phli mini U offers both a digital and an analog input. Both are designed as XLR sockets. If you want to drive the speakers analog via RCA or digital coaxial, you can also do this with an adapter cable. The digital connection via AES/EBU has the advantage that cable lengths of more than 20 meters can be realized. On the other hand, you may need a splitter at the AES/EBU output of the streamer to be able to supply the left and right channels in parallel. A professional Dante network interface (24/96) is also available as an option, so that the source can also be located further away.



integrated. Digital control has the theoretical advantage of eliminating the need for analog-to-

digital conversion. The DSP unit in the phli mini U can also directly process HiRes signals in 24 bit/96 kHz. Since the active speaker does not offer its own volume control, this must then take place on the digital level at the source device. In our extensive listening test, a Roon Core was used as a music server in combination with a DSP501 from Weiss Engineering. The latter offers two AES/EBU outputs. The volume was adjusted within the Roon software. Alternatively, the phli mini U can be driven "normally" as an active loudspeaker via an analog preamplifier.









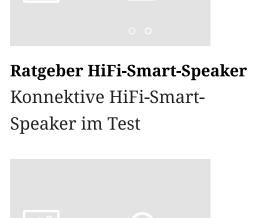
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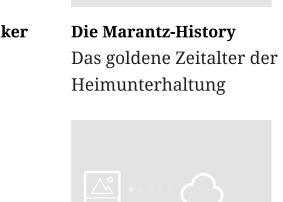
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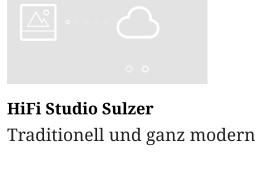
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Video

Heimkino

Digital Home





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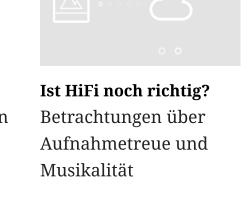
Digital Home

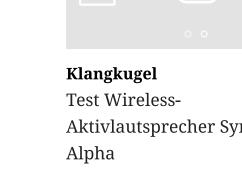
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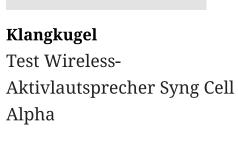
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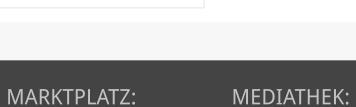


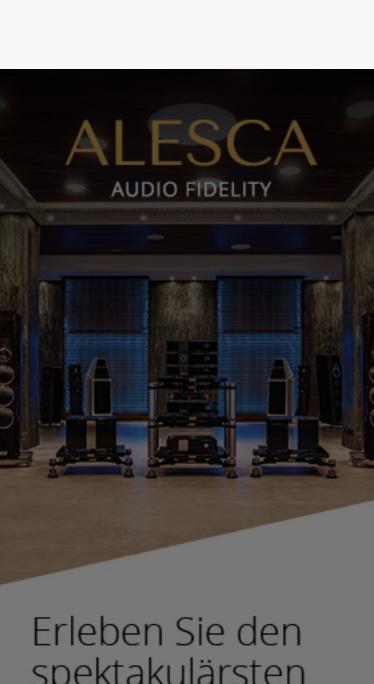




Übersicht

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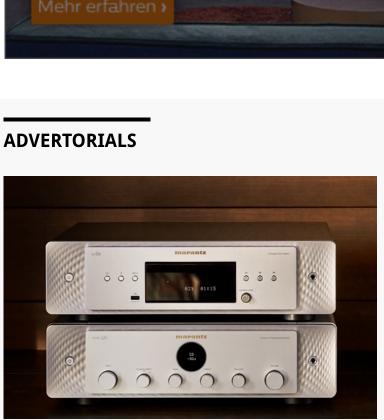




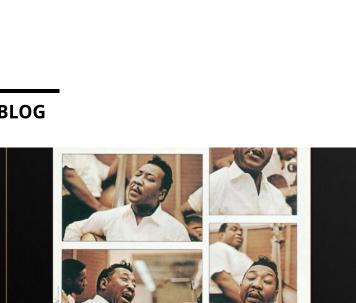
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mehr



**Die Marantz-History** Das goldene Zeitalter der Heimunterhaltung Marantz ist ein Synonym für High Fidelity. Wir sahen uns die Marantz-History an und sprachen mit Marc Staubli von der B&W Group über die Pläne der Marke.



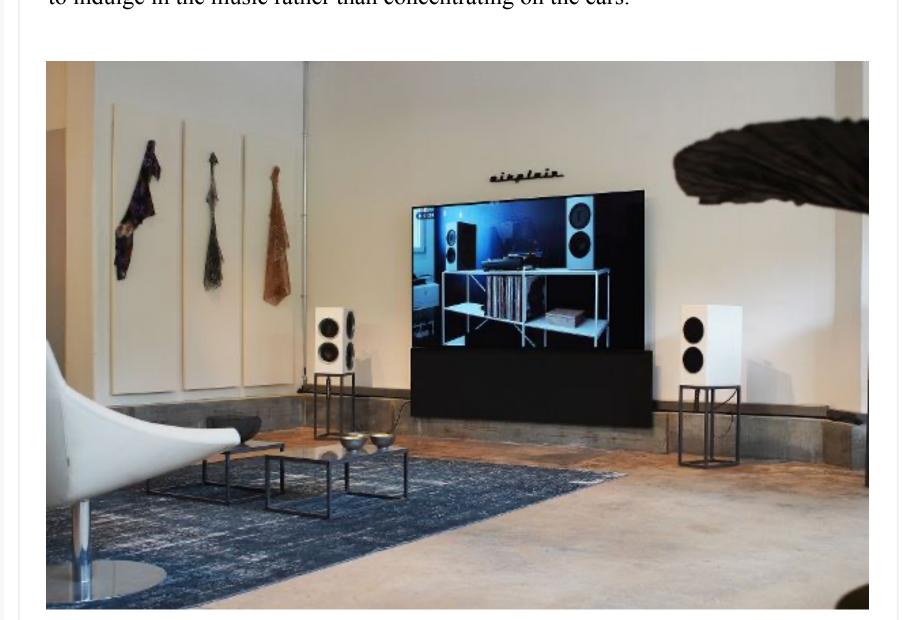
**Mobile Fidelity - Vinylgate?** Phoenix mit einer explosiven Behauptung an die

### **Precision and charm**

Test active loudspeaker Airplain phli mini U

**TESTBERICHT** 

Magnificent sound For the extensive listening test of the Airplain, two hours were actually scheduled. However, it turned out to be considerably more, because the phli mini U captivated the author with its fascinating sound splendor to such an extent that digressive thoughts of a lunch break did not even arise. This active loudspeaker clearly belongs to the category "technology in the service of music reproduction" and makes it difficult for the listener to assess the sound quality in an analytically detached manner. Even after a short listening time, the Airplain encourages the critical listener to indulge in the music rather than concentrating on the ears.



The detailed listening test took place at the Airplain Music Lounge in Kemptpark.

The phli mini U effortlessly sets its own standard for naturalness of reproduction, claiming, "This is how music should sound." A statement that is hard to disagree with. It sounds enormously broadband and does not act strained in any way, even at the upper and lower ends of the transmission range. If one is to attest to its sonic peculiarities, then it is precisely in the absence of any exaggeration. This is by no means only due to its tonal balance (due to the linear room measurement); rather, the way in which the high-quality transducers go about their work is also decisive.

The Air Motion Transformer effortlessly meets the highest expectations for the quality of the high-frequency reproduction: It reproduces impulses so effortlessly and naturally that very high levels are no problem even for sensitive ears. In any case, the author knows of no other loudspeaker that makes listening out loud so much fun even at relatively short listening distances (caution: continuous listening out loud damages your health!). But even if you only want to listen to a violin concerto in its original volume, you will reach the limits with average speakers.



Mozart's violin concertos.

An example: Mozart's Violin Concerto No.3 in G major in a HiRes recording with Isabelle Faust and the Giardino Armonico makes very high dynamic demands on the tweeter. The strings can quickly become unpleasantly noticeable. Heard through the phli mini U, the whole thing sounds beguilingly graceful and yet very vital. The typical timbre of the instruments comes across perfectly. The lack of any harsh coating is not bought by an underexposed high frequency range. The transparency is excellent, but without an analytical aftertaste.

What is immediately noticeable about the phli mini U is the excellent definition and speed of the low frequency reproduction. The drum intro by Joe Morello on the track "Take Five" (album: "Morello Standard Time"), for example, has it all. The fast whirl of the timpani beats mercilessly reveals the weaknesses of a loudspeaker in the bass range when heard out loud. The Airplain presents this track with an impressive ease even at an enormously high listening level, but it also creates a noticeable foundation in the bass even at low volumes.



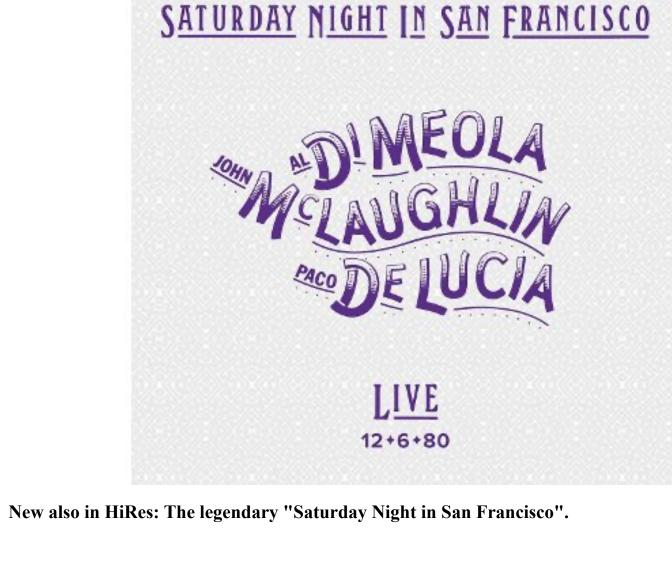
### Great "Take Five" interpretation by drummer Joe Morello. Whoever thinks that a pulse-optimized low-frequency reproduction is mainly

important for pop and jazz should listen to Charpentier's "Marche de Timbales" in the "Te Deum" recording by Les Arts Florissants. The "classical" timpani roll makes just as high demands on the loudspeaker here and additionally highlights the great acoustics of the recording room (cathedral).

The superior impulse reproduction in the bass is even visible to the eye with the phli

mini U: the two cones of the woofers (visible after removing the fabric coverings) make almost unbelievable excursion, but come to rest subito after the impulse has faded away. The dainty bass-midrange driver cuts a similarly good figure: female and male voices are reproduced with authentic timbre, the latter with a convincing chest tone. In symphonic music, the Airplain is wonderfully dynamic. It has no problems

whatsoever to accurately break down complex musical passages, but is always connected to the overall musical impression. The harmonious cooperation of the musicians in the ensemble is more important to it than analytical dissection into individual parts.

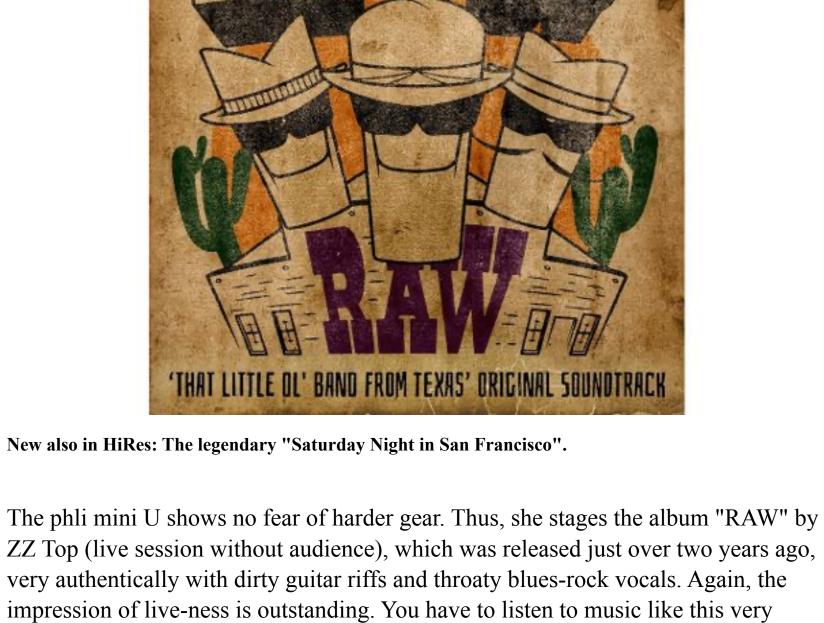


In terms of spatial imaging, no wishes remain unfulfilled. The phli mini U draws enormously spacious and unfolds the musical events detached from the speakers. It

manages the feat of placing soloists and individual instruments vividly in the listening room without exaggerated, superficial localization. The depth dimension of the recording space is always comprehensible. A sweet spot with a limited listening angle is not discernible; even vertically (when standing up from the seat) the tonal balance hardly changes. The Airplain proves to be absolutely uncritical in terms of placement in the listening room. Thanks to its closed design, it can be placed close to a wall without thickening the bass reproduction. The fact that the phli mini U places great emphasis on the fun factor when listening to music is also demonstrated by good jazz and pop recordings. Even old audiophile

downloading in HiRes) come to life. Diana Krall's mainstream jazz album "Turn Up The Quiet" sounds as tasteful and charming as one rarely experiences elsewhere.

classics like "Saturday Night in San Francisco" (now also available for listening and



loudly; the Airplain doesn't let anything go to waste and "nails a really hard board". **Conclusion** The sophisticated, technically cutting-edge active concept from Airplain Acoustics

Übersicht zu diesem Artikel

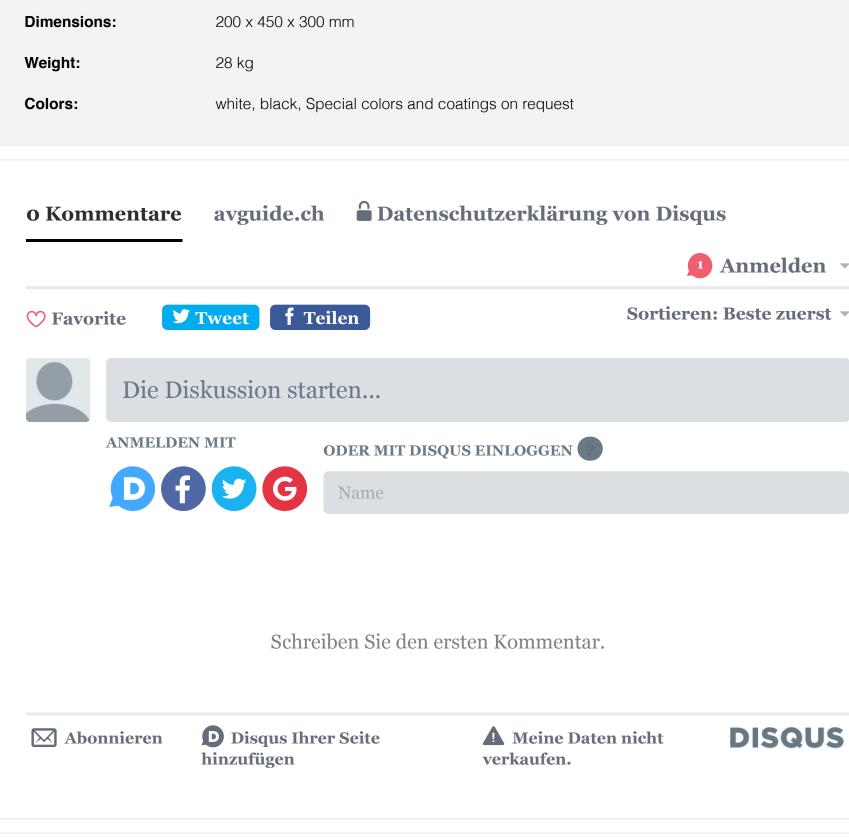
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promises top sound quality. And the phli mini U does not disappoint: It is completely in the service of authentic music reproduction and stages any kind of music so natural and unadulterated, as it is very rare to hear. For a high price, the customer gets a high-precision, handcrafted speaker of the noble class from Swiss manufacture.

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Seite 3: Prächtiger Klang	
BRIEF DESCRIPTION	
Model:	phli mini u
Profile:	High-tech active speaker of the top class from Swiss manufacture. The phli mini U from Airplain combines the very best technical ingredients and creates a work of sound art that is equally convincing for all types of music. The special feature of the phli mini U is its phase-linear and true-to-pulse reproduction, which gives the music a holistic quality.
Pro:	Sounds as if from a single mold. Convincing spatial reproduction. Sounds completely unstrained even at very high listening levels. Linear room calibration included. Very high sonority from compact dimensions. Outstanding Swissmade workmanship.
Contra:	Unfortunately, unaffordable for most music lovers.
Price:	CHF 27'800 (pair)
Manufacturer:	airplain acoustics ltd. (Switzerland)
Vintage:	2022
Dimensions:	200 x 450 x 300 mm
Weight:	28 kg
Colors:	white, black, Special colors and coatings on request
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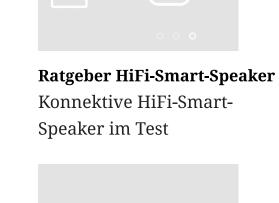
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HiFi Studio Sulzer

Traditionell und ganz modern

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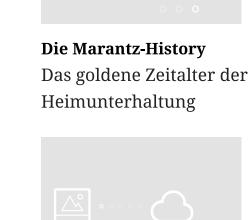


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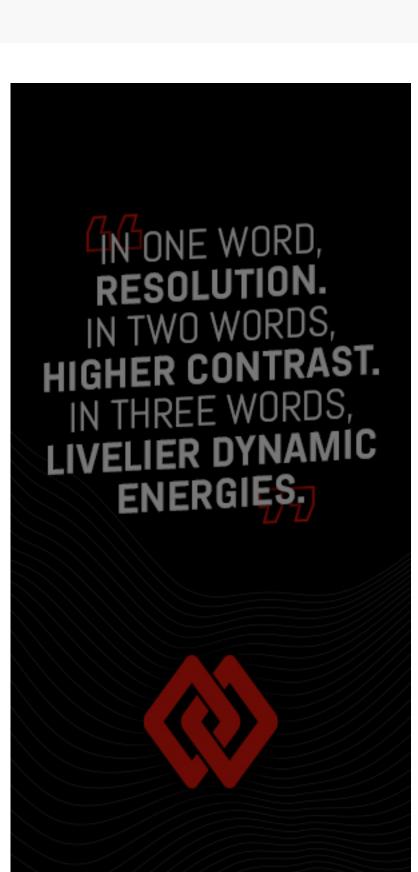


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