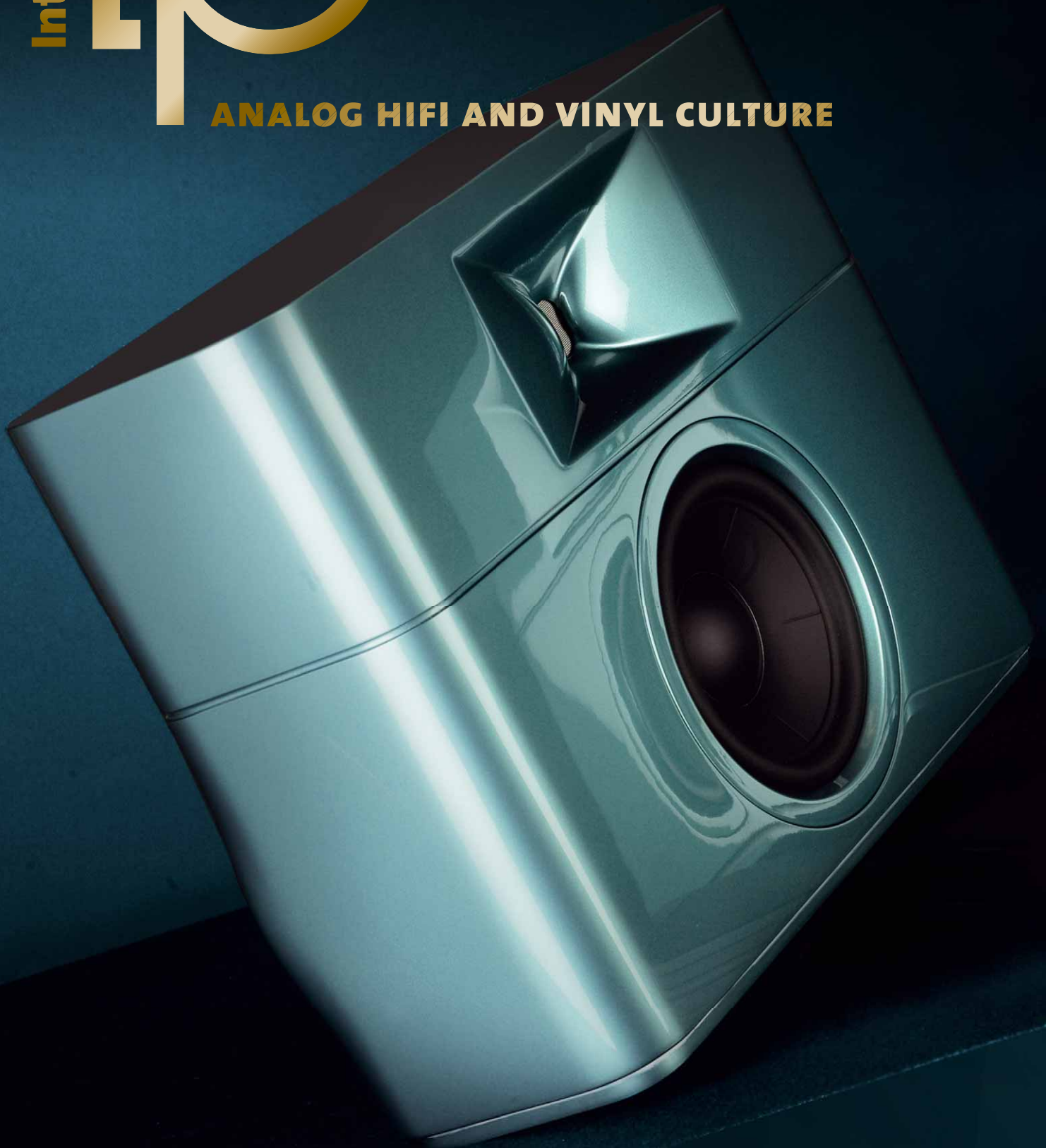


International



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ANALOG HI-FI AND VINYL CULTURE



EVERYTHING EXCEPT BLACK

I love specialist shops. Unfortunately, they are increasingly dying out, but they still exist: specialist retailers and manufacturers. Like Karlo Klein, who designed his transformer specifically for use with EMT cartridges.



SUT110



Premiere in black. Certainly not an eye-catcher, but that's not what Karlo Klein is interested in. For him, only the result counts

The idea of having a transformer for almost every conceivable pickup in the range is understandable, but questionable in practice. With transformers in particular, the transformation ratio should be tailored to the target pickups, which can be roughly divided into low-impedance and high-impedance models. And that's exactly



Admittedly, it's not exactly sexy. But the reliability of the connectors is crucial here

what Karlo Klein does with his SUT110 for high-impedance MCs. The transformer is so named because SUT stands for “step-up transformer” and it has a transmission ratio of 1:10. Now that we've cleared that up, Karlo Klein makes no secret of the fact that he particularly appreciates EMT systems, and his transformer is optimized for them. However, it can also be used for other high-impedance systems, such as the classic De-non DL-103, as a quick check confirmed.

Prelude

During a very pleasant conversation with Karlo Klein, I immediately understood why I like his transformer so much: the man is sensitive and interested in one thing above all else: good sound. He writes on his website:

“My most important tools are my musical memory and my hearing.” He also states that he is a “technician with heart and soul.” I might have written “craftsman,” but the direction is clear. He began his career as an automotive electrician, then moved on to the development and manufacture of complex medical devices (including ventilation equipment) at the University Medical Center Freiburg. But the virus, this incurable hi-fi virus, has accompanied him, as it has me, his entire life. Klein became known for drives for various manufacturers and then for his own stylish and very sophisticated drive. He also builds a good phono preamplifier and now also an MC transformer. A word about my title: until now, every color was available in the Klein Technik cosmos, as long as it was silver. The SUT110 is the first Klein Technik device in black.

Development

He has the transformers themselves wound in Germany by a studio technology specialist who used to build EMT transformers. Since Klein is an EMT fan, as mentioned, this was an easy decision. He discussed the key points of his transformer with his partner, optimized the shielding and grounding, and then tuned and finalized it by ear. He doesn't want to go into details such as wire thickness, core materials, or the like – fine by me. Just this much: it's a copper transformer and it doesn't have any toroidal cores.

Karlo Klein is not a fan of these, as he finds their frequent capacitive coupling annoying. There is a maximum short direct wiring to the optional silver WBT Nextgen sockets. However, he only recommends these if you do not have gold-plated plugs on the cable, otherwise the materials will clash and their advantage will be lost.

These sockets are indeed designed to provide a tonal accent, as Karlo Klein told me. The mid-high range in particular sounds more present and airy with them. I find this exciting, because I often experience this distinction, which is subtle but still audible, when listening to really good silver cables or transformers with silver windings.

It's cool that this seems to work, because based on my listening experience, the SUT110 has exactly these characteristics.

Listen?

I don't have an EMT at home, but my Allaerts ECO MKII fills the gap. It was once referred to as an EMT in a Sunday suit, as Allaerts used EMT generators, at least in the past. Since it still has a coil impedance of 22 ohms, this could still be the case. I usually listen to it with my Air Tight ATE 2005 phono preamplifier, specifically with its active preamplifier. It's a perfect match, both electrically and acoustically. The Klein Technik transformer really has to stretch itself here, especially since the Allaerts is quite critical when it comes to transformer quality. To achieve this, I play around with the matching resistors. Here's a little...

... digression

The calculations involved in matching MC cartridges to transformers are also academic. Yes, there are formulas that can be used to approximate the ideal, and the use of downstream cartridges should certainly be limited. It goes without saying that the basic parameters must be correct. But with

my Consolidated Audio transformer, matching resistors don't really make sense; they make it sound worse rather than better. Maybe it's because it's so transparent and any additional intervention means audible attenuation, I don't know. In any case, I can hear it. But what I can also hear, and here I agree with Karlo Klein, is that the Allaerts sounds better with an adjustment resistor on its transformer. I can't really say exactly why that is. My Allaerts is almost half as loud as a typical EMT, which means I have to do the math again: with a terminating resistor of 47 kOhm on my phono preamplifier and the 1:10 transmission ratio of the Klein Technik transformer (20db), the effective impedance is 470 Ohm, which is far too much for the Allaerts, because it would prefer 100 Ohm. However, if I went to 1:20, it would be a bit loud with its 0.6 mV output voltage. Now the Klein comes along and, bang, with a 130 ohm matching resistor, it sounds outstanding. Does that result in 100 ohms? No. So it turns out that pure calculation, just like pure measurement, is not the end of listening; it cannot be. This is because the interactions between the impedance and output voltage of the pickup, the transmission ratio of the transformer, and the parallel-connected matching resistor are complex. Let's leave it at that. I'm going to listen to music now before I lose interest in all the calculations and thinking. And the SUT110 couldn't do anything about that.

Teammates

Turntable:

- Takumi TT Level 2.1 DC

Tone arm:

- Takumi

Pickup cartridge:

- Allaerts MC1 Eco MKII
- Denon DL-103 GL

Preamplifier:

- Stax SR-12 (modifiziert)

Power amplifier:

- Eternal Arts OTL Mark III Commemorative Edition

Loudspeaker:

- Greenwall Ivy

Competitors

Phono preamplifier:

- Air Tight ATE-2005



The cartridges that make the music. You can't buy them; they are made for Karlo Klein, and that's a good thing



Okay, there's still room for improvement in terms of screen printing. But the silver WBT sockets really deliver in terms of sound quality



What we played

Johnny Cash
American IV:
The Man Comes Around

Bad Company
Bad Co

Play Bach
Jacques Loussier Trio

Modern Jazz Quartet
The Last Concert

Jeff Parker ETA IVtet
The Way Out of Easy

Adaptable

That's not true at all; the topic of adaptation isn't quite over yet. Unlike me, Karlo Klein is convinced that a transformer must be adaptable, otherwise its optimal function would be, as he says, "a matter of luck." His main argument for this is that he has had more than one phono preamplifier in his hands that had 56 kOhm or 39 kOhm instead of 47 kOhm. I admit, this is new to me, but after asking Christian Isenberg, it turned out that Lavardin phono stages have 56 kOhm.

So: keep your eyes open when it comes to adaptation. When developing the SUT110, Klein tried out a wide variety of options for designing adapter plugs and/or sockets. His decision to use 9-pin D-SUB sockets and plugs is quite surprising, because I've never seen that before. His argument is that they provide reliable contact and are not hyped despite their quality, as they do not have audiophile connotations. They are easily available, cost practically nothing, and provide very reliable contact – what's not to like? Incidentally, the matching resistors work secondarily, which is why the D-Sub socket is also placed below the output sockets for the shortest signal path. Three pieces are included in the scope of delivery, as requested by the customer. As mentioned,

the Allaerts finally clicks into place with a terminating resistor of 130 ohms: the divine Summertime version from the Modern Jazz Quartet's last live album floats in just the right measure, beautifully colorful, light, elegant, and authentic.

More music

Johnny Cash's incredible version of Desperado sounds soft, elegant as the finest thread, very touching, colorful, and authentic. I have to hear that again right away. And yes, I feel the same way the second time around. I haven't listened to Play Bach in a while, but I can't remember ever experiencing this music so wonderfully, so 3D-like. I find it truly incredible how delicately, almost softly, Pierre Michelot plucks his bass. The signature of the instrument always remains perfectly contoured and does not blur into the melodious sound. It seems to me that the Klein SUT110 complements my Allaerts perfectly. It brings out exactly what makes the system so distinctive: attack with style, so to speak. Like a Daimler Double Six (the luxury version of the Jaguar XJ12), its Fritz Gyger II stylus glides almost inaudibly through the groove, wonderfully smooth and always ready to spring into action – just like the car cat. And yes, I also tried an EMT with it, the JSD6 in our fabulous Thales Elegance. And, as expected, it also works excellently. Even with harder music, such as Bad Company's Can't Get Enough, I get attack, timbre, space, and emotion. It's all there in the music, but not everyone can bring it out.

Christian Bayer



The design is like its creator: no nonsense. Except for a thick aluminum plate, there are no extras, not even circuit boards

Klein Technik SUT110



- Price from 1,850 euros
(2,000 euros as tested)
- Distribution Klein Technik / Offenburg
- Phone +49 781 91933457
- Internet www.kleintechnik.de
- Warranty 2 years
- Dimensions (W x H x D) 106 x 55 x 164 mm
- Weight approx. 800 g



Klein Technik
SUT110

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» The SUT110 is a great transformer for EMT and other high-impedance MC cartridges. With its adjustability and silky smooth sound, it is one of the best of its kind.