

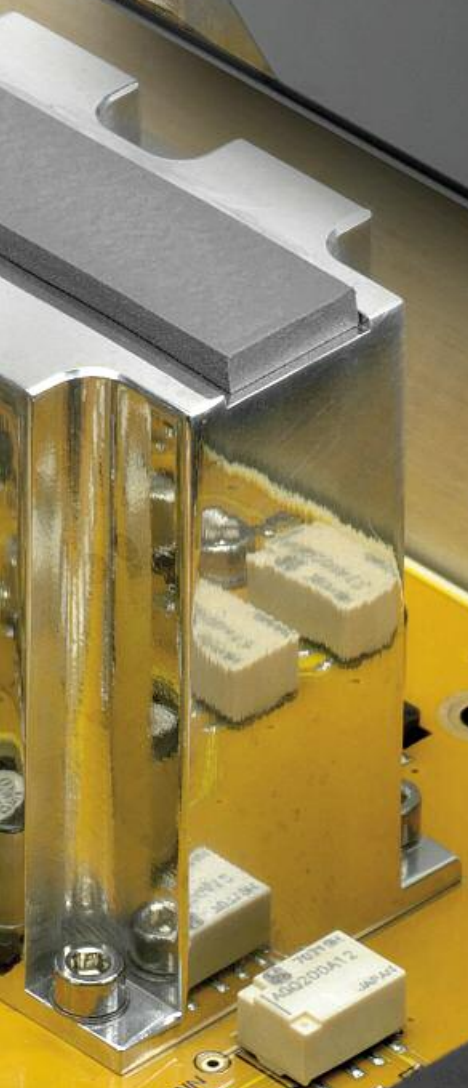
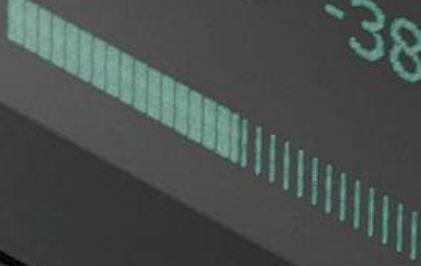
Synästec Audio

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Preamplifier Synästec Audio Fulcrum

Author: Andreas Wenderoth Photography: Rolf Winter

So far, Synästec is a name known only to the initiated. That could soon change, because anyone who is lucky enough to have heard an amplifier from this small prestige manufacturer will never forget it. Deeply shaken by such an auditory experience, he will be chasing his dreams from now on – his idea of what an amplifier can sound like will have changed forever.

The benchmark

He may not consider it lucky, because his aspiration will now be to want to own such an amplifier. Which, depending on the size of his bank account, could cause certain problems. But I am already anticipating the end of this story. Let's start from the beginning: I would by no means call myself hard-boiled, but it is relatively rare that I, as a tester, am filled with downright pride when a device arrives at my home. That's because I know that it won't usually stay with me for long. But when I am the very first to test a preamplifier that I assume will not have many competitors in this world, things are a little different.

I myself had heard the Fulcrum once before at a hi-fi friend's house, so I knew roughly what to expect. Still, I can't say I was sufficiently prepared for what came at me like a force of nature over the next two months. If you don't like too much effusive rapture, because you are against sentimentalism in principle and are a rather sober type, you should get out at this point, because I am about to ask of you rather a lot in this respect. This report springs from a persistent state of positive shock and should be



read with appropriate indulgence. Nevertheless, you are welcome to take my word for it. No drugs were consumed in the writing of this text apart from an occasional glass of red wine (in this case listening to music was enough). The author was not paid by the manufacturer and, despite a touch of melancholy, dutifully returned the device to the distributor. So much for the circumstances.

Now for the facts.

If it is true that the eye can listen along too, in the case of the Fulcrum you get your money's worth as soon as you unpack it: the preamplifier is delivered in a premium birch plywood flight case, tastefully branded with the company logo. When you open the lid, all you see is the remote control embedded in velvet. When you lift off this first layer of packaging, the matt black anodised amplifier itself is revealed. To call it dainty would be a lie in view of its

expansive depth and safe-like weight. But thanks to its simple elegance and exquisite design language, its creators have succeeded in giving it a design that is more than inviting. Instead of thin metal plates, the Fulcrum is made from several blocks of solid aluminium (from one production batch). It takes several hours of intricate CNC machining to produce a single case.

Seductive: no visible screws, the rounded edges run in such a way that you want to follow them with your hand. If I didn't have to put up with fetishist accusations afterwards, I would say: you just want to look at the thing. And to touch it – even though, thanks to the extremely stylish remote control, you don't need to. The lower right corner of the remote control is missing to make it easier to hold. Yet the upper right corner protrudes a little in deliberate asymmetry. Totally unusual, but carefully chosen:





the volume is controlled via a wheel that allows for the finest of adjustments.

In stand-by mode, the Synästec Audio lettering, which is lasered into the 1.5-centimetre-thick holographic glass front, glows red (a bit too much for my taste). As soon as you press the small silver triangle on the lower left side, which is not just a pretty design inspiration but also the on/off switch, it changes to white. The display to the right of it in a discreet turquoise green forms a felicitous counterpoint. A lot of space has been deliberately left on the back of the unit; unlike normal, the connections are not over-and-under one another each other but side-by-side. This saves all the annoying fumbling which is often necessary even with very expensive kit, especially with the XLR connectors. But it is also an external indication of the consistently double-balanced layout of this exceptional preamplifier.

Ask Sales Director Carsten Thiele about the philosophy behind the Fulcrum and surprisingly he replies, "There is no philosophy." Only one concern: Highest precision. In the production and transmission of music. Thiele, who has heard a lot in his hi-fi life, says: "There is nothing comparable!" Now, of course, one cannot expect the sales manager of a product to voluntarily claim the opposite. So you could dismiss it as PR bluster. At least until you listen to the Fulcrum for the first time.

For example, Daniel Hope's Spheres (Deutsche Grammophon 479 3599, D 2013, 2-LP). The first piece, called "Imitazione delle campane", is Sonata III from the Sonata for Solo Violin by Johann Paul von Westhoff, here arranged for violin and string orchestra. In essence: a violin unfolding over the foundation of a plucked double bass. The latter can easily sound a little bloated and contourless on poorer electronics. Or contoured, but less deep. And mostly without nuance. Quite different with the Fulcrum: the bass reaches down much deeper than with my own preamp, where I have not had the impression that it cuts off anything. The Fulcrum is more substantial, but at the same time much more controlled, a mighty foundation, as if cast in con-

crete. And it has so many shades that you're left in sheer amazement, because until now (and I'm happy to extend the circle to all the preamps I know) you've always heard essentially the same sound, albeit at different heights.

The violin, to change instruments, does in the upper and middle frequency spectrum what the bass does in the lower: it expands the bandwidth in an unexpected way. Without being even slightly annoying. Not because a frequency section has been cut off, but because it can play totally freely. Without any distortion. Even the following piece, which frankly I never liked (which may also be due to the fact that it is sandwiched between two extremely beautiful pieces), because it comes across as a bit too light, a touch too operetta-like, gains surprising depth through the Fulcrum. Suddenly, one witnesses a rollercoaster of emotions, an inner turmoil expressed by music. The stroke of the violin has become more real, the sensation of wood, the piano strike with its breathtaking dynamics. I am almost

Mitspieler Partnering equipment

Turntable: Artemis SA-1 **Tonearm:** Schröder No. 2 **Cartridges:** Lyra Scala, Soundsmith "Hyperion" **Pre-amplifier:** Audio Research LS 28 **Power amplifier:** Pass XA-30.5 **Phono pre:** Tom Evans The Groove 20th Anniversary MK II **Loudspeakers:** Sehring S 913 **Cables:** Harmonic Technology Fantasy III AC10, Harmonic Technology Amour (XLR cable); Harmonic Technology Amour (RCA); Gutwire Ultimate Ground (ground cable); Harmonic Technology Pro-9 Bi-Wire (speaker cable) **Power strip:** CT Audio Resonance Technology Mirage Bleu **Accessories:** Furutech FT-SWS NCF wall socket, GigaWatt G-C20A circuit breaker and LC-Y MK3 + 3X4 in-wall cable, Quadraspire Reference rack, CT Audio Resonance Technology - Steppness I + II, Doppio, Pace, Songer; Woopies, Acoustic System resonators, audiophile room resonators, Audiophil Schumann generator, Audio Magic Beeswax Ultimate fuse, Lyra SPT needle cleaner, Onzow ZeroDust, Acoustic Revive ECI-50 contact spray, Cardas Frequency Sweep and Burn-in Record

inexorably drawn into the music, although it has previously never appealed to me. And I can't help myself. It's a bit eerie.

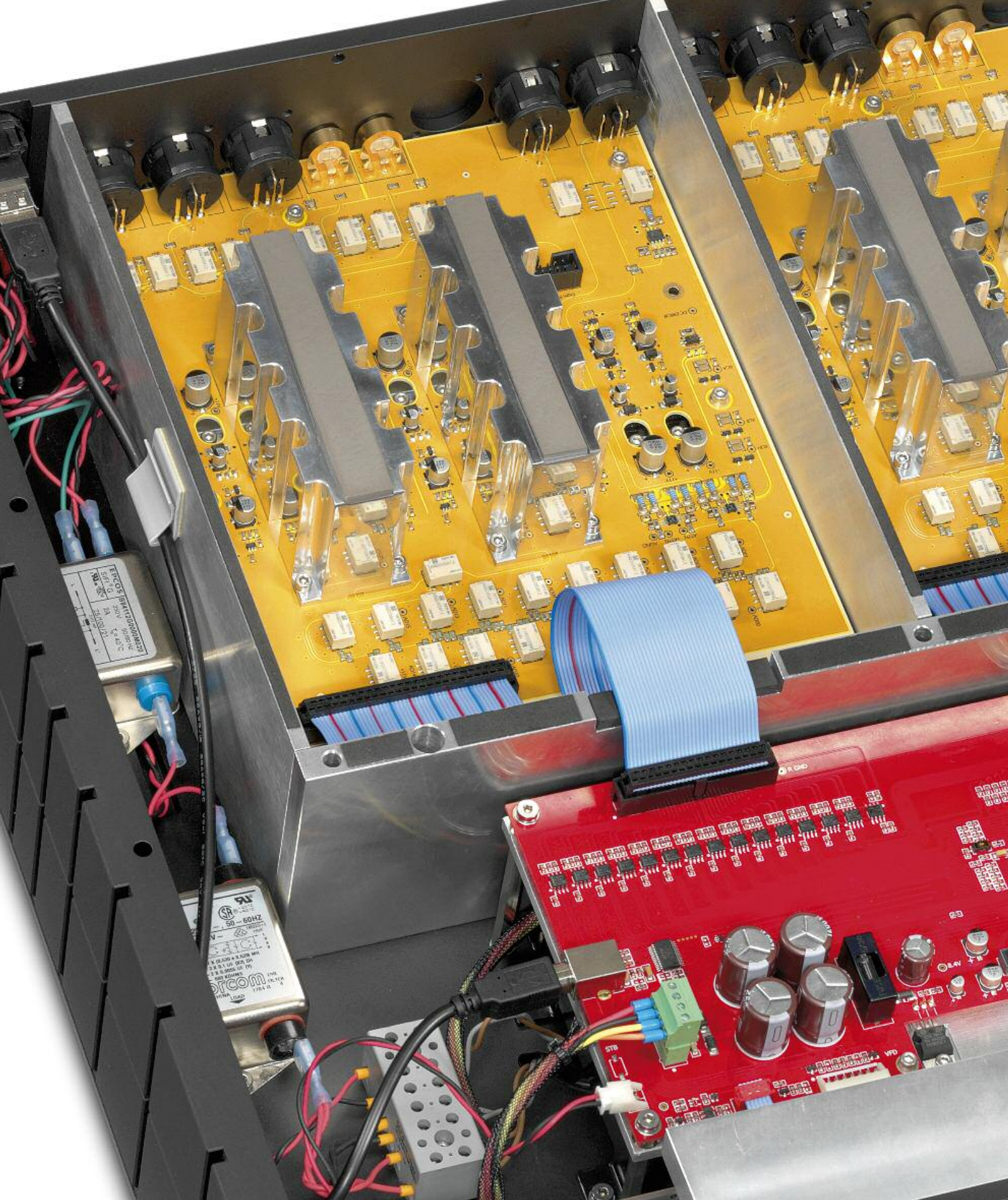
It is rightly said that a good loudspeaker should "disappear" as much as possible. In the context of preamplifiers, such an image is rather unusual. Although it is absolutely true with the Fulcrum. It lets the music be (and makes it possible). It contributes to its development in a wonderful way, without the urge to put its own stamp on it. Of course, it does this anyway, but in such a discreet and mediating way that it is never perceived as an intrusion. In connection with preamplifiers, there is sometimes talk of "pass-throughs", which doesn't quite hit the nail on the head, because how the signal is processed in a preamplifier is far too complex. Even the term preamplifier is basically misleading, because preamplifiers, despite their name, do not actually preamplify. They down-regulate the input signal coming from the source in order to regenerate it afterwards. The way the Fulcrum does this (with such authority and breathtaking naturalness) leaves you open-mouthed in amazement in your listening chair.

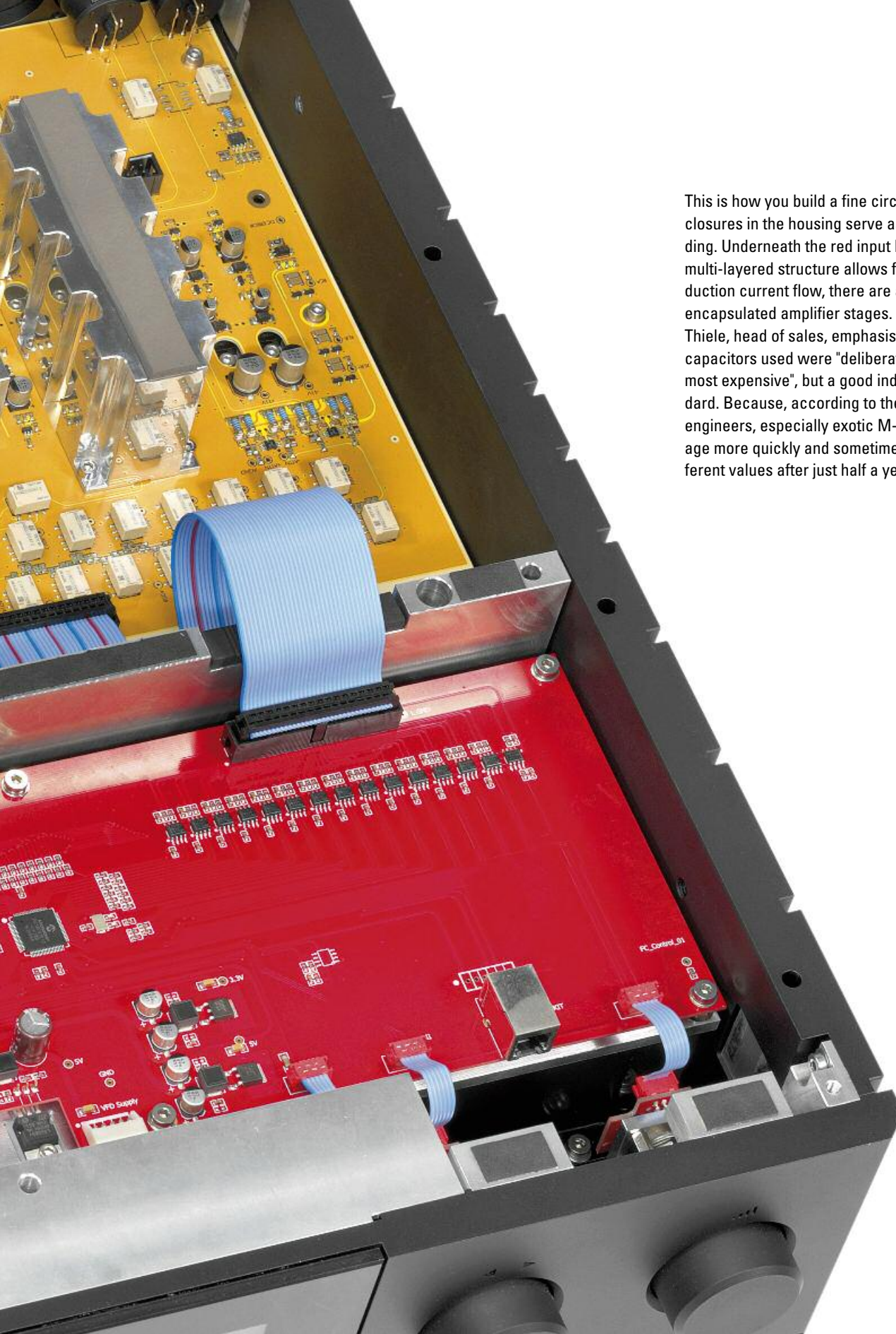
Fulcrum comes from Latin and means something like "support" or "pivot". Hardly any part of the chain is as outstandingly important as the preamp. However great the other components may be, if the

preamp doesn't set the rhythm, everything else falls apart. If you already have a preamp like the excellent Bivium in your product portfolio, it's not immediately easy to understand the need for a new, even better preamp. But if you spend some time with Synästec, you will soon realise that nothing happens out of necessity, but rather, always for the joy of development, to take something already outstanding one step further. Precisely because they can.

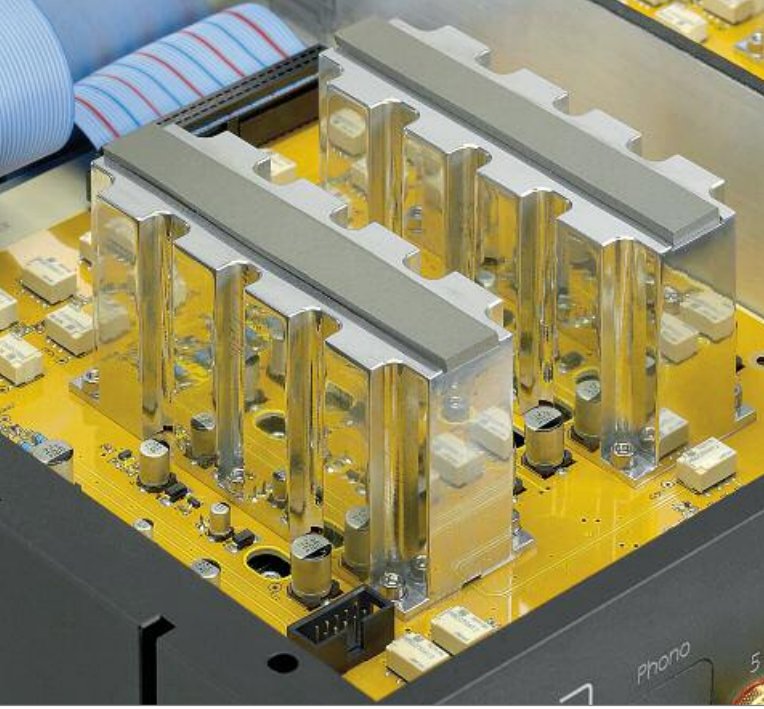
Thus, after two years of development work, this new flagship preamplifier was created, whose claim, according to managing director Stefan Stotz, can be summarised in three points: "Absolutely neutral sound, distortion in the non-measurable range and extraordinarily little background noise." Maybe let's start with the background noise: simply turn the volume control all the way up with the phono input selected. The result: silence, really almost nothing, I had better not subject my own amplifier to such a test. Extremely impressive, but of course only a nice side effect. But what is the effect of this silence when music is actually playing?

Allow me to amplify the effect I suspect (and a few other effects besides) by replacing my somewhat ageing Pass stereo power amplifier with the Synästec Volatus 200 monoblocks which the distributor has kindly made available to me – because it's a shame if





This is how you build a fine circuit: The enclosures in the housing serve as HF shielding. Underneath the red input board, whose multi-layered structure allows for a low-induction current flow, there are a total of 16 encapsulated amplifier stages. As Carsten Thiele, head of sales, emphasises, the oil-foil capacitors used were "deliberately not the most expensive", but a good industrial standard. Because, according to the Synästec engineers, especially exotic M-caps tend to age more quickly and sometimes exhibit different values after just half a year



High gloss: The total of four heat sinks are made from an aluminium compound and are surface-tempered. The material densification gives them mu-metal-like properties. The dark strips are thermoplastic elastomers and couple directly to the housing cover. This special heat dissipation design makes it possible to do without conventional cooling fins, which Synästec believes almost always lead to enclosure resonances

you have a preamplifier that provides a signal with which the power amplifier is out of its depth because it can't quite keep up in terms of resolution. It has to be said: to fully exploit the Fulcrum, the manufacturer actually intended the 130kg "Saxum" monoblocks to be used. In view of the fact that my flat is on the fourth floor with no lift, we refrained from doing so. Besides, the almost delicate (and beautiful) Volatus 200 – let me tell you this much – should also sound better than all the power amps that have ever stood in my listening room. So this is a choice that cannot be called a compromise. It is a power amplifier that (unlike my own, which at most hints at this) makes it clear what calibre of preamplifier is in the room.

One of the best-produced classical LPs I own is the beautifully-named Klangraumwelten. Extraordinary classical music from 4 centuries (Eternal Arts,

MDG 106 2106-1, D 2019, 2-LP). In Bach's motet "Komm, Jesu komm", recorded by the Bachchor and Bachorchester Würzburg under the direction of Christian Kabitz, it says: "Die Kraft verschwindt' ihm mehr und mehr." (His strength deserts him more and more). What is meant, however, is the believer and not the Synästec combination, which enjoys the best of health and in no way has a strength problem: flowing, swinging and hauntingly close. Or loosely based on Sinatra: "How did all these people get in my room?" The dynamics of the choir, appearing spatially large and widely fanned out, are fed by the absolute silence that the Fulcrum provides as a base. One can (which is anything but a matter of course) understand the words very well even if one does not know the piece. The quiet passages seem much quieter and the loud parts louder than with my own preamplifier. The flow is stronger, the music completely effortless. Even when I really crank up the volume. I don't like to torture my neighbours, but for a moment I want to know and turn the volume control (almost) all the way up: nothing here tips over into the harsh or even boomy; the music remains completely relaxed. If it weren't such a sacrilege, because you are witnessing an incomparable musical experience, you could theoretically even have a conversation while listening to it.

Who is Synästec? A young innovative high-end manufacturer founded in 2005 and based in Straßberg, Baden-Württemberg. A community of four engineers and two other employees with more than 20 years of experience in data communication and high-frequency technology. The name "Synästec" is borrowed from the word "synaesthesia", which, loosely translated, means something like: stimulation of the senses. Synaesthetes experience sounds on a different level, as colours, sometimes even as smells. They perceive music with significantly more senses than the ordinary music listener. This makes the sensation richer, deeper, unforgettable. Unfortunately, I myself am not endowed with the gift of synaesthesia, but the Fulcrum builds the bridge in-

to a world that cannot be grasped with conventional hi-fi evaluation criteria. Of course, you've heard music before, somehow anyway, but never so deep, so stable, so completely detached. We are not talking about effects here; about distortion that may seem pleasant to the ear, because the Fulcrum knows no distortion. It is as if it has been stripped of everything that disturbs it, as if all distractions have been lifted from it like a surfeit of cream from a slice of delicious strawberry tart.

Let's take Donald Fagen: *The Nightfly* (Warner Bros. Records BAN 923696, US 1982, LP). The third track on the B-side is called "The Goodbye Look". Hi-hat left, bass line, synth melody, filigree guitar chords that form a carpet of sound on which Fagen's voice is allowed to spread: "The surf was easy" is the first line of the song, which could also be read as a motto for the Fulcrum. The pre-amp goes about its work with such unbelievable ease that it makes you lose all sense of hearing and seeing – at least in the way you knew it up to now. The driving Latin groove is rendered with maximum nonchalance, not a sloppy nonchalance mind you, no, one that grows out of absolute control of a situation. There are no wandering instruments or critical spots, because every dynamic leap, every melodic ramification, every ultimate demand on the timing, is reproduced with complete ease. The bass is absolutely sure-footed, deep and just as high resolution as the high frequencies at the other end of the spectrum. It feels a bit like I've previously only ever heard a section and never the whole picture. The Fulcrum shows that control and openness are not opposites, but can complement each other wonderfully. Must, you will say, when after a while you have understood what you are hearing here.

I stumble across the timelessly beautiful sentence on the Synästec website: "The contribution from Johnson/Thermal noise is essentially zero." What is this trying to tell us? Very simplistically, that there is a whole range of complex noise in a preamplifier that you don't really want there. In electrical circuits, the thermal movement of conductors pro-



Exemplary CNC fabrication: On the back of the aluminium housing, which is milled from solid billet, the connections have been placed side-by-side to facilitate the connecting of high-quality signal cables. The covered inputs indicate an optionally available phono board. If you want to listen to phono at the highest level, you will probably prefer the Igniculus from the same manufacturer

duces a more or less strong, largely white noise, called thermal, Nyquist or also Johnson noise. It is precisely this, says Stotz, that has been reduced to a theoretical minimum in the Fulcrum.

For example, through the design of the amplifier stages. Since the quad-collaborative amplifier already worked so well in the predecessor model, the Bivium, they have now taken this innovative technology to the extreme and simply doubled up the amplifiers. Stotz: "A quadruple amplifier circuit, symmetrically connected like an organic tree network, enables an extremely low noise level and – despite a relatively high current flow – an extremely low output impedance." You have to visualise this: So there are eight individual amplifiers for the positive phase and eight for the negative phase. Normally, the use of so many amplifiers is by no means automatically conducive to good sound, if only because an increase in the number of amplifiers normally entails the risk of both higher noise and interference. Both have been avoided through significant improvements in the company's Octa-Drive technology. "The internal voltage management has made it possible to virtually eliminate noise," says Carsten Thiele, Head of Sales.

The power supply unit, which plays a critical role in this, is subject to extreme regulation: a whole 30 power supply control stages are at work here. In

contrast to the predecessor model, this is integrated to eliminate the danger of picking up hum loops and magnetic noise via the connecting cable. The developers consider a separate power supply with an extremely short connecting cable to be the best solution. And despite appearances, this is realised in the Fulcrum. The complete power supply is housed in a separate five-millimetre-thick aluminium casing. The three toroidal transformers, on the other hand, are in their own low-carbon steel housing for magnetic insulation. There are multiple layers of HF shielding and mechanical insulation. All sound-relevant elements are additionally encapsulated to achieve a particularly low noise floor. This is the secret of the Fulcrum and its highest maxim.

The design of the volume control also contributes to this: This is a so-called shunt-mode control, which is regulated with very low loss via a resistor network that allows an inherent resistance of less than 100 ohms. At sound-relevant points, the Fulcrum uses almost exclusively components of the highest precision: 25 ppm thin film resistors, audiophile polypropylene capacitors, ultra-low impedance power supply capacitors. A special feature: the audio signal in the Fulcrum is not routed through any internal wiring (contact resistance!). Instead: directly from the input connector to the

circuit board and then via gold-plated copper tracks to the output connector.

While the audio industry still largely works with double-layer PCBs, Synästec works with special multi-layer PCBs – in the middle there is a resonance-optimised layer. Managing Director Stotz speaks of the art of preventing signals from jumping between the layers and from board to board. He does not want to reveal exactly how this is done, but he hints that very careful planning and knowledge of eddy currents and thermal aspects are necessary in the early design stage for an optimal audio signal path.

The board material used in the Fulcrum was developed for Synästec by one of the world's leading American manufacturers of low-resonance boards. According to Managing Director Stotz, it is a "special military-grade hydrocarbon" that has the great advantage over the commonly used epoxy circuit boards of having extremely low loss values and high dimensional stability.

With this knowledge, let's listen again carefully. Finally, a bit of jazz from an album I only pull out for special occasions: Misty by the Yamamoto Tsuyoshi Trio (TBM 30, Japan 1974, LP). The first track on the B-side is called "Honey Suckle Rose" and begins with a few piano chords thrown in by the bandleader, the hi-hat kicks in, a figured bass. Drums to the left, grand piano and bass to the right. How compellingly this exceptional trio plays together in space is revealed by the Fulcrum, which congenially reveals the inner tension of this music. It cleans up the room as if a small bookshelf speaker were replaced by a full-sized floorstander. It opens up and lets you participate in the action with wonderful openness. It takes part in every dynamic leap as if it were anticipating it. Which makes me realise that the bass player is playing many more notes (wonderfully creaky and physical) than I have previously had the pleasure (and opportunity) to hear. Because the bass registers suddenly play with such differentiation that no detail is swallowed up in meek mush. No, complete openness. Calmness, stability. Tonally un-

impeachable, a place to kneel. And a decay of notes, right to the very end. The Fulcrum lays it all bare, we lie at its feet and applaud. Every other preamplifier will have to measure itself against it in the future. □

Preamplifier Synästec Audio Fulcrum

Special features: Fully balanced design, extremely wideband and distortion-free, low-noise Octa-Drive technology with high current storage capacity **Distortion factor:** < 0.0005% (10 Hz - 20 kHz) **Signal-to-noise ratio:** >118 dBA **Frequency response:** 10 Hz –185 kHz (+ 0/-0.5 dB) **Inputs:** 2 x RCA (unbalanced), 3 x XLR (balanced) **Outputs:** 1 x RCA, 1 x XLR **Dimensions (W/H/D):** 48.5/14.4/48.5 cm **Weight:** 28 kg **Warranty:** 5 years **Price:** 35700 euros (with optional phono unit 42840 euros)

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