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Reprint

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Synästec Audio Bivium:

**First
Piece of Luck**



First Piece of Luck

Sound comparisons between loudspeakers are very popular because, among other things, the differences are so easy to discern. No doubt, differences can be heard and described easily. In most cases this is at least easier than e.g. with amplifiers. Of course, we can track sound differences in amplifiers of various price ranges quite easily, too, but it's none too easy in the champions league. Therefore it takes time to get a complete picture of an amplifier.

A lot of time which i-fidelity.net has spent with the Synästec Audio Bivium. This preamp costs 26,000 EUR and tips the scale at a hefty 16 kilograms. The power supply weighing six kilograms sits in separate housing. Now if you picture yourself a fatso pre, you're totally wrong. The Bivium is a pretty compact device whose huge weight can be explained by the choice of materials: The housing is milled from a low-tension, solid 32 kilogram aluminium block. Consequently the knocking test will no longer give an answer – this enclosure is as dead as a dodo.

It takes five hours alone until a five-way CNC milling machine has treated the alu block so that only the Bivium housing remains. After a whole day the threads will then be cleaned, the burrs removed and the housing degreased. After the assembly of the »inner workings« 300 minutes of technical tests are scheduled before a Bivium may leave the factory. Well, in the first place this whole effort is to create precondi-

Can a transparent high-end world with its best informed users still hold real surprises in store? Of course it can – go on reading the test review of the Bivium preamplifier from Synästec Audio, right here.

tions of a mechanical kind which such a super preamp requires. Still missing is the adequate electronics which, of course, must not come from a dabbler.

The shrewd heads behind it

At this point it's worthwhile taking a look behind the scenes. Who or what is actually Synästec Audio? Synästec Audio was founded in 2005 – a globally operating team of specialists from the IT and mechanical engineering sectors, which in the first place wanted to realise the audiophile dream of the perfect amplifier for themselves. After this goal has been reached, according to their own statement, there are certainly no more objections now against a manufacturing production and the sale, either. That's the scope of Stefan Stotz, the head of this hightech audio team, who rather excels himself by a cour-

The audiophile Synästec Audio Bivium preamp consists of two components. The power supply feeds the preamp via connection leads fitted with Lemo connectors.

teous degree of modesty instead of stupidly painting the town red.

Daily handling

The control concept of the Bivium and its features are characterised by an unmatched level of practicality. There are five inputs, three of them in a balanced and two in an unbalanced design. They are completed by two preamp outputs, one RCA and one XLR.

Via the external power supply the digital and the analogue amp sections are fed separately using two included connection lines which are equipped with Lemo connectors. Thus mutual interferences are reduced to a minimum, at least in theory. Of course, the Synästec Audio must still provide this evidence in the lab as well. What else can normally be found in many preamps, such as headphone outputs, RS232 interfaces and trigger circuits, is not present in the Bivium. This purism is a real winner!

We had already intimated that some team members know how to deal with software. But not yet that they are using it wisely. The Bivium has an elegant, self-explanatory menu structure. For instance, you can select a name for each input from a preset index. Therefore you haven't got to key through a letter salad until it drives you crazy – well done. In addition the input levels can be matched to eliminate annoying volume jumps when switching between the sources. The level indicator lets you choose if you'd rather prefer decibels or a linear volume. Furthermore, the control speed is also adjustable.

At this point the phasing for each input can be determined as well. It is indicated clearly and precisely on the display with its five brightness steps. A useful feature is indeed the varia-



bility of the Mute function. You can select between either »fully off« or an attenuation by 55 decibels. The latter has the advantage that the signal will not completely disappear, something that many listeners will perceive as more pleasant. All these settings can be made on the Bivium in a logical and simple way.

Operating pleasure

But it's still easier with the included remote control which is a true feast for the eyes. The solid instrument lies comfortably in your hand and has six buttons plus a rotary encoder wheel (!) to adjust the volume level. In times when more and more pre- and integrated amplifiers don't even have such a thing any more, sweetest praise is due for this. Especially since the volume on the Bivium can be controlled as precisely as with hardly any other preamp. Looking at its features and operability, we come to the conclusion: Everything which is needed is there – the rest has simply been dropped. Thumbs up!

Physics and physique

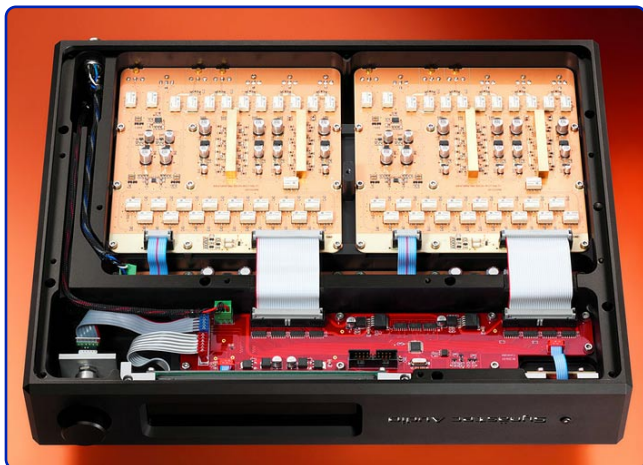
After revealing the inner workings of the Bivium, one can see that Synästec Audio has perfectly implemented some of the basic principles for the realisation of an audiophile preamp. The circuit boards for inputs and outputs are located physically separated in the housing. Therefore the rear connections don't lie closely side by side. The whole circuit offers a fully balanced layout. The Bivium has four linked preamp stages that work together in a tandem mode. This high driver power is to reduce noise and distortions to a minimum.

What strikes the eye is the careful approach to the power supply, which is decentralised to the greatest possible extent. Wherever energy is needed, we see a little power plant on the PC board. The core of the entire power supply are two toro-



The external power supply of the Synästec Audio Bivium contains two toroidal transformers. One feeds the digital and the other the analogue section of the 16-kilogram preamp.

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idal transformers that work under vibration-damping conditions in the external enclosure. The fact that the PCBs are mounted below the housing's topside, has not a sonic, but a constructive reason: Depending on the preamp's performance level, the individual power stages are activated. Of course, this is happening imperceptibly for the listener.

Ready to go

Joined by the Synästec Audio Volatus 200 mono blocks (the test review from i-fidelity.net is due to appear soon), we have a complete, four-piece amplifier which was allowed well over 14 days to warm up in the listening room. Despite a continuous operation the aluminium housings became only pleasantly hand-hot. As to the loudspeakers, we chose the Pio Sound »Falcon« electrostats, the Canton Reference 5.2 DC and the T+A CWT 500. The energy was alternately supplied by the Burmester Power Conditioner or the Audionet M10.

Take-off

Apparently the Synästec Audio combination is not of the shilly-shally sort. The first notes make it already utterly clear that this amplifier is one of a very special class. For the spatial dimensions are reproduced in a more three-dimensional, more stable way than with virtually any other amplifier. Furthermore, there is a new dimension looming in the lowest octaves. But first things first.

With »Piecetime Resistance« by the Kings Of Convenience many chains are quickly unable to cope. Whereas the majority can still deliver a decent image of acoustic guitars and picture the voices precisely, they fail to reveal the cello and the percussive, truly fine moments of this track. With absolutely exemplary precision the Synästec Audio amplifiers are shaping the most

delicate structures, their form as well as the right content. So far none of the reviewers has ever heard this piece with this sensational clarity.

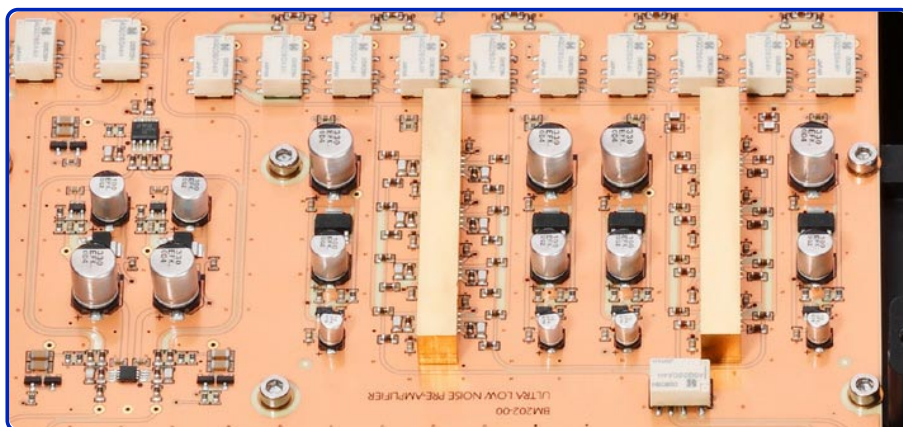
The next hurdle to overcome was put up by Laurie Anderson with »Transitory Life«. Here the bass has already a dimension that we have become accustomed to from reference amplifiers, but it is, to frame it correctly, filled with more life. You know the »foot tapping« effect, right? The musical emotion approaches the listener and he or she will instinctively transform it into physical energy – the foot is tapping in time with the music. But with the Bivium and Volatus 200 there is still another aspect: owing to their stupendous ability to let the music flow, doors will open to a high-class mental cinema.



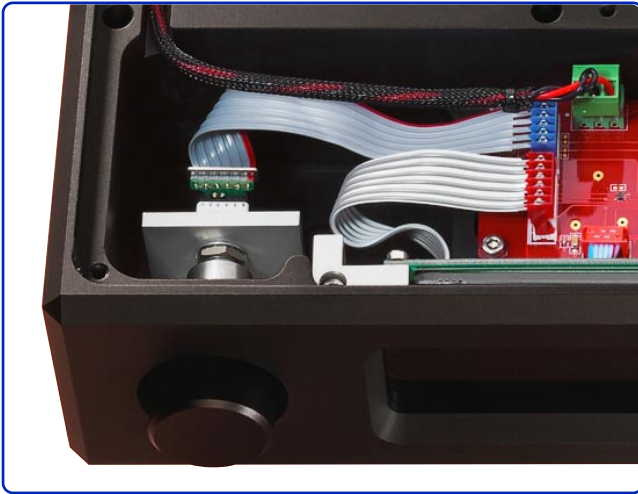
Soundwise the Bivium's XLR inputs should be given preference.

Music as a form of expression

Even up-to-date audio diet served by Adele or Unheilig will not become useless because of their mediocre recording quality. Of course you can hear that the ladies and gentlemen, who were sitting at the console during the recordings, didn't have the demanding music listener in mind. However, the emotional content of the songs still hits home. The brutal entry of the electric guitar on »Herzwerk« doesn't put high requirements on an amplifier, hence it is all the more surprising that the Synästecs even manage to force their message out of those songs in a way that's absolutely worth listening.



The high-class mechanical and technical construction of the Synästec Audio Bivium is reflected in its outstanding sound quality and similar measured data.



The solid rotary control of the Bivium serves both as a pushbutton for the menu settings and for switching the input channels.

With the Hilliard Ensemble we were exploring the different connection variants. On the Audionet VIP G3, i-fidelity.net's reference player, the signal can both be tapped via RCA and XLR. If you adjust the higher level of the balanced connection, it is still way ahead of the unbalanced connection with regard to the sound quality. So it would be ideal if the Bivium was already fed with a balanced input signal. When the signors then strike up the »Messa Pro Defunctis«, a new leaf is turned over in the book of reproduction. It is not just the sheer dimensions of the spatial rendition, but also the naturalness which know how to please. And because nothing seems contrived, we as listeners immerse ourselves very deeply in the music.

If you grab Supertramp's »Crime Of The Century« album off the shelf to listen to »Bloody Well Right« for once over the Synästec Audio, it's hard to get back to normal afterwards. For the soft keystrokes at the beginning are embedded more expressively, with more information, into a perfectly harmonic flow. Compared to other reference amplifiers, such pieces don't simply fail because they don't »sound« as a result of their recording date. Hence ultimate sound quality is possible with the Synästec Audio amplifiers without limitations – and this is a sensation which can hardly be fully captured in the sound quality verdict »superb«.

Test result

The Bivium preamp from Synästec Audio is puristically equipped, but really doesn't lack anything. Owing to a clear and variable menu structure, the user can perfectly configure his personal device. This is also possible via the unique remote control which even boasts a rotary encoder wheel. As to the sound quality the Bivium lines up seamlessly and with an almost outrageous easiness into the definitive top-level category which comprises not even a handful of contenders. The massive preamp achieves this sublime sound evaluation in connection with its mono block partners, the Volatus 200. With the Bivium, Synästec Audio has indeed served up a whopping, highly audiophile and musical surprise! *Olaf Sturm ifn*

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Highlight

Sound quality

superb

Laboratory

outstanding

Features

very good

Workmanship

excellent

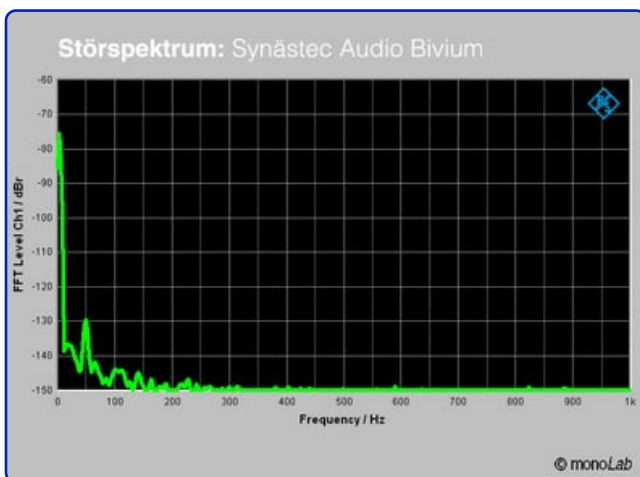
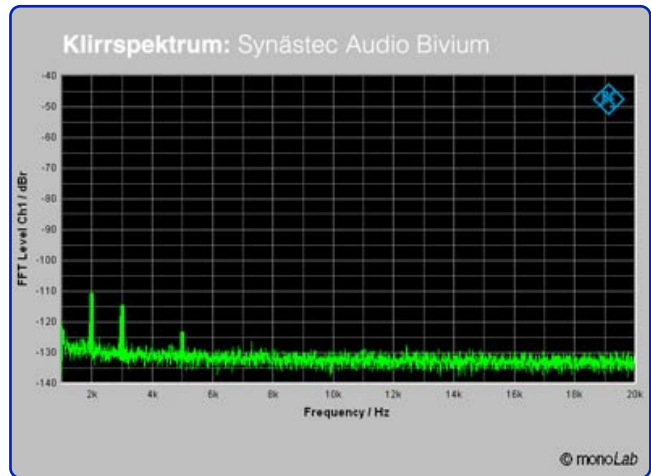
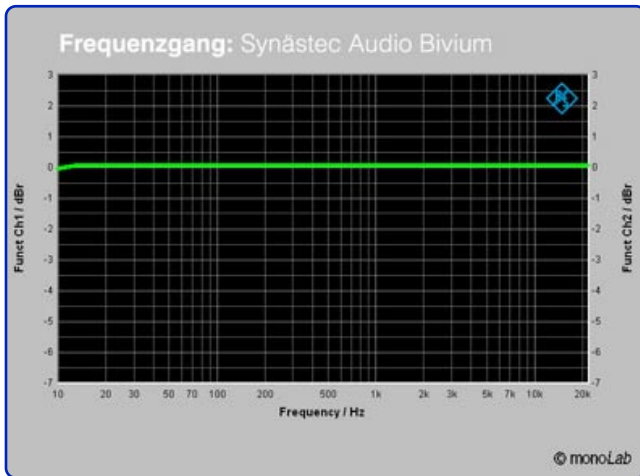
Overall score

superb

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Synästec Audio Bivium
Test verdict: superb

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Lab comment

With extremely low distortions, excellent SNRs and perfect channel equality, the Synästec Bivium counts among the best preamplifiers we have ever measured. In the total sum of its properties it can even barely top our reference, the Souldution 720. From zero right into the ranks of the world's elite – this is a masterly performance.

Features

Synästec Audio Bivium

Category: Dual-channel preamplifier

Inputs: 3 x balanced, 2 x unbalanced

Outputs: 1 x balanced, 1 x unbalanced

Special features: Remote control with rotary encoder, external power supply with separate supplies for analogue and digital sections, housing milled from solid aluminium

Versions: black (other colour variants available on request)

Dimensions (W x H x D): 40 x 9 x 31 cm (15.75 x 3.5 x 12.3 in.)

Weight: 16 kg (35.3 lbs.) Bivium, 6 kg (13.2 lbs.) power supply

Price: 26,000 EUR

Warranty: 3 years

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Lab Report

Gain:

Gain factor: 8.8 dB / 2.76 x

Max. output voltage: 5.5 V

Distortions:

Distortion factor (THD+N): 0.0003 %

IM distortions (SMPTE): 0.0006 %

IM distortions (CCIF): 0.0003 %

Signal-to-noise ratios:

External voltage (- 20 kHz): -108.9 dB

External voltage (- 250 kHz): -82.6 dB

Noise voltage (A-weighted): -111.5 dB

Other:

Upper frequency limit: > 185 kHz

Channel deviation: 0.008 dB

Input impedance (unbalanced): 36.9 kohms

Output impedance (unbalanced): 199 ohms

DC output offset: < 0.5 mV

Power consumption:

Off: 0 W

Keep warm mode: 21 W

Idle state: ca. 30 W