

It's your day off!

A visit: Tuning and hi-fi gear from Audioplan



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Do you know this? You have a day off, and want to use it to once again leisurely indulge in the world's second-best thing – listening to music. So you turn your system on, perhaps let it warm up for half an hour (to the dismay of EU bureaucrats), and then get set to enjoy your favorite music. But instead of the pleasure you hoped for, what comes out of the speakers sounds dull and colorless. So you start looking for the problem. Maybe move the speakers around in the room. Perhaps they were not positioned exactly in the right spot after the last house-cleaning. Or check all the plugs, clean the record and the needle or even start trying to „demagnetize“ your CDs. Well, it is your day off – other people have to work. So it's off to the hi-fi dealer you trust.

The special cleaning fluid for the CD? Other speaker cables? Or do you even have to replace

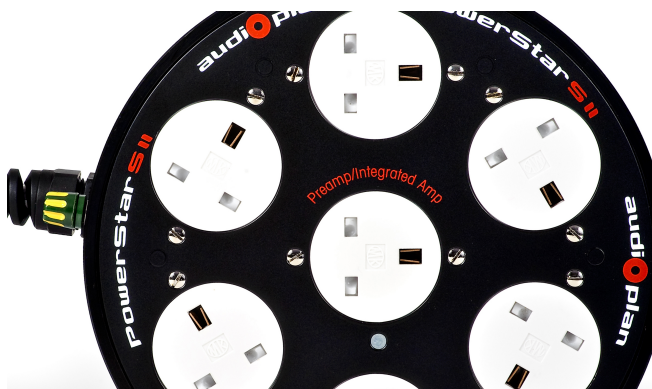


the amp, speakers, or pick-up? The day goes by faster than expected. By evening, you have given up. You decide to read and let the music play in the background. It is past 11:00 o'clock. You ponder what you would like to read (you have no burning desire to read a hi-fi magazine). Suddenly, the music in the background catches your attention. What is it? You suddenly sit upright in your favorite listening chair. Yes, that's exactly what you had missed the entire day; it's back again! Or is it just the glass of red wine? No, you are sure: The dynamics, the fine detail, the world is in order again.

The relationship of espresso and sound

More often than not; this is caused by the electricity. During the day, when all the computers are running, everyone is using their cell phone, wireless networks and countless other devices are transmitting at top speed, our environment is full of electromagnetic waves over all frequencies. Some devices – including hi-fi components, of course – pass their interference directly on to the mains. And each electrical conductor – which means each power cord as well, is an antenna that receives electromagnetic waves. The high-frequency radiation enters the hi-fi components through the electrical current. And depending on the device, this can reduce sound quality. It's finally time to deal with the issue of „clean power“.

Many manufacturers offer solutions for dirty power these days. These solutions range from passive filters, such as the ISOL-8 MiniSub 2, which was discussed at fairaudio, to elaborate active solutions that generate completely clean 50 Hz AC



current with an ideal sine wave. Of course, you can tackle the issue of electrical current at other points – if the technical objective differs from the one outlined above – for example at the wall socket. You might want to install a socket with especially secure contacts dedicated to hi-fi. And there are even opportunities for optimization in your fuse box or the microfuses in the equipment, although opinions on this topic are highly polarized – sense or nonsense?

Someone who has focused on „clean power“ for almost 30 years and therefore long before the topic came into fashion is Thomas Kühn from Audioplan (www.audioplan.de). There are probably few people in Germany who have grown up with hi-fi as has Thomas Kühn. The Audioplan company was founded in 1980 by Thomas Kühn's father, Gerd Volker Kühn. Thomas Kühn worked in his father's company even as a young boy; he took over the 2004. He also inherited from his father the experimental, subjective approach to hi-fi based on listening.

With an advanced degree in communications technology, he also has sound technical and scientific expertise. This is why he can explain in detail the reasons behind many of his developments and also demonstrate them with measurements. On the other hand, he has no problem admitting to the fact that much of what he has learned only came



from specific experiments or sometimes purely by chance. And he freely admits, there are things he cannot quite explain. He often has a concrete idea about relationships involved. The deciding factor for an Audioplan product has always been the practical effect. Does something improve the sound or does it not?

During a visit to Thomas Kühn, I was able to see, or hear rather, how he optimizes a system with the right products from the Audioplan catalog. The focus in this case is electrical current.

Before going to work, however, we first take a break. We talk over espresso and cake. The conversation covers a variety of topics that are al-



ways related in some way to hi-fi. We start talking about espresso. We wonder about how people came across the idea to dry the seeds of the coffee plant, to clean and roast them, to grind them and finally, with the aid of specially constructed equipment and water at about 90° C at a pressure of 9 bar within 25 seconds to extract a drink that can make every food chemist grow gray hair – because the mix of ingredients and their effects are highly complex. Kühn sees an analogy to music reproduction. Once again, one cannot rely on scientific means alone. Many things evolve only by trial and error. And he says right away that he came across the idea of dealing with the power supply for hi-fi systems rather by chance. We also start talking about human hearing in and of itself. The processes that occur in the brain when we hear are still not fully understood. And even with all our technology, it is still impossible for a computer to scan the audio signal and tell us

who is playing in an orchestra and how it is arranged, but we can hear it based on the recording. Against this background, I think it is good and understandable that Mr. Kühn does not rely purely on technical aspects, but points to hearing as the most important measure for his work.

After the espresso, there is some carrying to do. Thomas Kühn's station wagon is packed to the ceiling with boxes. Seeing my startled reaction, he reassures me. He has just brought so much to be prepared for everything. We need not try out everything. And I myself was to blame for the biggest box – after all, I wanted to hear a massive integrated amplifier from Jadis, the DA 50 S.

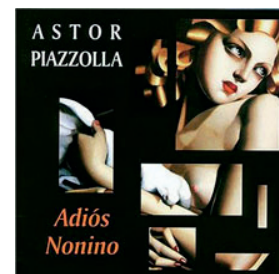
Because Mr. Kühn believes it would be easier to perform the promised demonstration on a system with which he is familiar, we rely on a familiar component, my amplifier, the Jadis Orchestra



Black Silver (2,700 Euro). Audioplan has been the German distributor of Jadis for 25 years. It should be noted that Audioplan sells no Jadis product that has not been customized to Kühn's special demands during production in France, or has not undergone at least one modification by Audioplan itself. In this respect, Mr. Kühn is truly familiar with Jadis products.

Even better, he knows speakers. Because this afternoon, we will be using the Audioplan Kantata, which he developed himself and which I still have in my possession since the test I conducted in July. Otherwise, my Logitech Transporter will initially serve as a source. First, Mr. Kühn's checks the current settings. All the devices are measured to ensure the phase is correct. And apparently, I had made a mistake with my Transporter. Once all devices were connected with the correct phase, we start listening. After a few numbers, we decide to conduct some further experiments primarily with

the piece „Libertango“ from the Astor Piazzolla CD, *Adiós Nonito*.



After looking over the components, Thomas Kühn suggests his „small solution“ to improve the power supply. This consists of the FineFilter S (520 Euro), the PowerStar S II (460 Euro) and a PowerPlant 100 S (520 Euro). All the connections are made with PowerCord S power cables (180 Euro / 1.5 m). Mr. Kühn has identified four possible sources of interference in essence. Interference from the mains, interference due to potential differences between the components, interference from mechanical influences and interference that is transmitted from individual components through the power cable to other components.

Thomas Kühn relies on components from his „S“ line for the demonstration. Components from the „G“ series are slightly less expensive. But according to Mr. Kühn, most customers select the „S“ class right away.

The following describes the entire setup in detail.

High fidelity troublemakers in detail

First, to the external interference, from the mains. Here, he mainly blames high-frequency interference for damaging effects to the sound. After all, most equipment is designed for processing and amplification of audio frequencies, i.e. frequencies between 20 and 20,000 cycles. Signals in the megahertz range entering the components from the mains overwhelm them and cause interference, which affect the audible range. It is important to protect all components in the hi-fi system from such high-frequency interference because the signals will otherwise be passed on from one device to another via the connection cables. Overly restrictive filtering can harm the vitality of the sound quality, but frequencies starting at 1 MHz should be filtered out with a steep cut-off.

Thomas Kühn does not think much of active solutions that rebuild the power frequency. After all, these are also amplifiers, which in turn are exposed to the exact same interference we want to combat. Kühn uses a passive FineFilter S as the appropriate antidote. It is connected directly to the wall outlet as the first filter and protects all connected equipment against high frequency interference.



The FineFilter S has a variety of settings. For example, it features a switchable ground filter. This should be switched off when a digital source device is connected via a PowerPlant (more on that later). A wide or narrow-band filter can also be activated by means of another switch in addition to the actual filter (line filter). You should test the tonal effect of the additional filter. The FineFilter S has a capacity of 25 amps. That should be enough to supply the entire system with enough power. By comparison, electrical circuits in the home are usually protected with 16-amp circuit breakers. The FineFilter therefore has abundant reserves.



Mr. Kühn has identified potential differences that arise in conventional connectors as another cause of interference. In this case, the components connected in parallel to the mains one after the other. Depending on where the component draws its power from the power outlet strip, the potential differences add up, says Mr. Kühn. This is balanced out through the LF connections between the components. Potential differences are synonymous with voltage, so we are dealing with interference voltage between the components. The PowerStar S, the power outlet strip from Audioplan, is round. The outlets are arranged radially around a central outlet in the middle and wired in the same way.

Although „wired“ in this case is a bit of an understatement, due to the pure copper wires hard-soldered with silver. All contact resistances are minimized to prevent interference from arising due to different contacts. The star-shaped interconnection has the effect that potential differences do not add up, but rather run „parallel“ to the central outlet. This is why the central component, i.e. the integrated amplifier or preamplifier should be connected there, where all the LF connections meet. Sounds logical to me that you should design the power supply of the system to follow the path of the audio signal.

The second task of the PowerStar S is mechanical decoupling. Thomas Kühn believes mechanical vibrations have a significant impact on the sound. Adjacent conductors act like small motors according to his understanding. When electricity flows through a conductor, it creates a magnetic field.

Two conductors with current therefore create two magnetic fields. And since we are primarily dealing with alternating currents for audio applications, the magnetic fields fluctuate. The conductors attract or repel each other differently and mechanical movement thus arises – although usually only with a „homeopathic“ order of magnitude. When a conductor moves through the magnetic field of another conductor, current is also induced in turn.

If one considers only the complex interaction between current, magnetic fields and mechanical motion, it quickly becomes clear why the topic of cables is anything but trivial. The PowerStar S is constructed to prevent mechanical vibrations from creeping into the system through the mains. It is made largely from the same vibration-absorbing material as the well-known Audioplan AntiSpikes. To minimize vibration beyond this point, Thomas Kühn recommends the use of Audioplan PowerCord power cables to connect the components, which can also use them beyond this.

The individual components of the system themselves are the final source of electrical interference. Thomas Kühn is particularly suspicious of digital source components. For D/A conversion, they work with signals in the range of several thousand kilohertz. In order to prevent adverse effects on other components through the mains, Mr. Kühn recommends isolating each CD player, D/A converter, network player, etc. by inserting

a PowerPlant 100 S between the power supply and the other devices. But according to Mr. Kühn, sensitive non-digital devices, such as phono pre-amps, can also benefit from a PowerPlant in the power supply. The PowerPlant itself is an isolating transformer, which also creates galvanic decoupling. Digital devices that require grounding must be connected via a separate cable to the central grounding point of the Power Star. The Power Star is equipped with a corresponding terminal for this purpose.



When using the PowerPlant 100 S, it is important to note that it is only suitable for capacities up to 100 watts. Anyone who wants to connect power-hungry components to a PowerPlant should use the larger PowerPlant 1500 U (2,600 Euro). This module has a capacity of 1,500 watts and offers a few more features as well. For example, it compensates for varying ground potentials between the two components.

Which now brings us to the „big solution“ of Audioplan power filtering. This is achieved by supplying each component in the system with its own PowerPlant 1500 U and using this device to compensate for the varying ground potentials between the components. There is no need for the FineFilter in such a configuration. Anyone using this solution will not only put out a lot of money, he will also have an impressive collection of equipment near the system, which may steal the show from sophisticated hi-fi components in the worst case.





A word about the installation of Audioplan equipment: Since both mechanical vibrations and magnetic fields have an influence, FineFilter, Power Star, and (if needed) the multiple PowerPlant devices should stand on a solid surface. A distance of 20 centimeters between the Audioplan devices is recommended. The PowerCord cable should run loose to the components in a large arc. I wonder when there will be a separate rack for the power filters. Or even an attractive cabinet optimized for audiophiles.

The crucial question

With so much technology, the key question is, what does this substantial collection of equipment do to the sound? And I have to say – to my surprise – a lot! Thomas Kühn notes that some aspects of current-tuning are more or less noticeable over the long term. Many electrical components are virtually „charged“ with interference and each device may need time for everything to calmed down and normal, interference-free conditions can reign again. But I hear positive changes in the sound immediately.

With the FineFilter S and PowerStar S in the mains and PowerPlant 100 S in front of the Transporter, the music demonstrates a more clear or sharp sound.



This applies both to the individual notes and melodic lines of „Libertango.“ All the instruments sound discrete, precise and tangible. And the same can be said of the spatial presentation. The instruments are clearly delineated in space, they can be exactly located, have a clearer contour. That’s already a lot more than I expected. By contrast, the tonality and the overall sound stage has not changed. There is no gimmickry of any sort.

What I am still not satisfied with is the dynamics – which I had already criticized in the test of the Audioplan Kantata. Thomas Kühn admits I am right but thinks the Kantata can actually deliver this. With no intention of insulting my Transporter, he would like to connect a source that he knows. And forthwith he unpacks a Jadis Orphée 2 CD player. Since there’s not enough room in my rack for the big 15,000 Euro player, a Lovan rack is put to use, several shelves of which Thomas Kühn has brought along in foresight. The Transporter is disconnected, and the Orphée connected.

And I’m impressed for the second time. The rest of the system makes the advantages of the source clearly audible. Since this is not about the Jadis.



Orphée 2, I will skip a detailed description of the sound. In any case, it is fascinating to see what Orchestra Blacksilver and Kantata can do together. Nevertheless, I am not totally „blown away“ by what I hear. But now Thomas Kühn in his element. We exchange my speaker cables with Audioplan ULS 88A cables (running mono meter 400 Euro) and the LF cables are replaced by Audioplan UIC 88A (mono meter 370 Euro). Once again, each change is audible. The music always becomes a little more precise. Finally, my cover caps are employed for unused cinch inputs. In Kühn’s experi-

ence, it seems open inputs can sometimes also reduce the sound quality. The overall effect of the changes is a clean, beautiful, dynamic, finely drawn sound.

I'm really impressed when my wish to hear the Jadis DA 50 S (5,800 Euro) is fulfilled. A powerful tube amplifier, with four 6550 tubes in the Class A circuit that can deliver up to 30 watts. Thomas Kühn commences with the fine tuning using felt pads for the contact between the rack frame and shelves of the Lovan, on which the DA 50 S is placed. No, I've honestly never thought that such a measure can seriously affect the sound. Now I've experienced it. The tighter the felt pads are pushed together, the more „crisp“ the sound. If the distance increases, the music flows back to the quieter more relaxed sound. Whereby Thomas Kühn himself says that different components react very differently to different measures.

Something that has a big effect for one component may be of no relevance to another. But what is now standing in my listening room is exactly what Mr. Kühn himself uses at home to listen to music. And here he knows each parameter. I'm just astounded how much you can change the sound with



such means, if you know the setting. Within the Audioplan world, Mr. Kühn knows his way around, which screw he needs to turn in order to optimize the sound.

The afternoon passes into evening. Somehow, it is enough for one day. We pack up Mr. Kuhn's station wagon again. The „small“ solution can remain a while with me. In the next few weeks, I will experiment a little with FineFilter S, PowerStar S, PowerPlant 100 S and PowerCords. This time with my



own components; including the Geithain ME 150 he entrusted to me.

With the Geithain, I have the impression that especially the tweeters profit from the cleaner electricity. I've always thought my speakers made my system good in the upper frequency range, but not necessarily „airy“. With the line filters, I now feel that someone has wiped the dust from the tweeter's dome – in a figurative sense, of course. No, it is not that there is more treble, but it seems more detailed, more „airy“ so to speak. „Wow!“ The effect of another PowerPlant in front of the Lehmann Black Cube SE II phono preamp is audible, but rather marginal. Ultimately, you need to consider whether it makes sense to install a 500 Euro line filter in front of a 600 Euro component. But everyone has to decide that alone. I will continue to use the „small“ solution in any case. Because I think it is worth the investment. And because now I can enjoy music regardless of the time of day.

Please note the images of Audioplan power products in this article (Euro specification) have been substituted with UK specification products - not for on all images.

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