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e-mail: lampizator@lampizator.eu

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In Poland, like in many other countries, there are “big fish” audio manufacturers. I mean those popular among audiophiles, whose products are often reviewed, who have been present on the market for many years. There is also the “second line” - smaller manufacturers, delivering limited quantities of their products; not so popular, only known to chosen audiophiles, the most interested ones. It does not mean that their products are not as good as the ones of “big players” - on the contrary, they are often even better, but since they are not sufficiently supported by proper marketing, they simply do not exist in the conscious minds of many potential customers.

There is also a third line of audio product makers - people with passion who usually create products for their own use and only after they achieve satisfying effects do they decide to share them with others. I call them “underground” manufacturers. Only very few people know them and their products, and it is often quite a challenge to somehow get a chance to listen to such products.

In our country the main problem of most manufacturers is the approach of the Polish customer who usually prefers to buy an even worse sounding product yet made by some well known brand (often from China) rather than a Polish made one. I'm not claiming that this is the approach of all Polish audiophiles, but unfortunately many think and do exactly this way. That leads to a situation where a Polish manufacturer who wants to make a living off his products must sell most of them abroad. Sure - that's what happens for most successful companies but the “right” way is to conquer the local market first and then go abroad and not the other way around. It is easy to point out some examples, like Amplifon - a company that made and sold good quality tube devices in Poland and reasonably priced but a very limited demand forced them to change their priorities. They turned to the German market, found a distributor there, doubled the price and... succeeded. Interestingly this success on the German market significantly raised interest also in Poland - obviously Polish customers decided that “if they buy it in Germany it must be good”. There are more similar examples - Polish manufacturers who wanted to make a living out of their production had to focus on foreign markets - Ancient Audio, Gigawatt, recently also Rogoż Audio, to name just a few. I can also mention the company JTL - a manufacturer of world class (yes, I don't hesitate to call them that!) audio stands, who did not turn to exports in time and disappeared from the market.



There is also a man (maybe there are more of them but I should focus on this one this time) who, in my opinion, does not fit any of those groups or fits all of them at the same time. On the one hand, most Polish audiophiles would probably count him as part of the “underground” group, on the other it seems that his products sell quite well, only ... not in Poland, but in many countries all over the world. The name Lukasz Fikus seems to be familiar to many DIY guys. Why? Because for them Fikus equals “lampizator” - he “lampized” (modified using tubes - tube=lampa in Polish) many CD players and described it on his web page. And since he described his experiences with details others could benefit from that and “lampize” their players by themselves.

On the Lampizator web page one might find the descriptions of many other projects as well, like amplifiers, loudspeakers, preamplifiers, or descriptions how to modify a very popular Squeezebox. But it is the modifying CD Players with

The user can deliver signal to the Transport only via Wi-Fi or LAN. That means you need a home network and a computer working in it (doesn't matter if that's a PC or MAC). You need to install proper software on the PC called Logitech Media Server, and then tell the software about exact location of your audio files. Again - it does not matter if they are stored on the same computer or on any other device (another computer, NAS, and so on) working in the same network.

You also need to allow a Duet remote to connect to your Wi-Fi and that's it. You might enjoy listening to all your audio files in your system using this remote, or a computer connected to home network to choose what exactly you want to listen to. Sounds simple, doesn't it? At least in theory.

In fact, it depends on how much computer/network skills you have. Mine are pretty basic so it took me some time to make it work, to find out why all the devices can't “see” each other in the network. There were a few reasons I had to discover - most of them probably obvious for anybody with more advanced skills, so I'm not going to deliberate on that but just in case I should name a few issues I had to face. Obviously one has to connect all devices to the home network (remember Wi-Fi passwords, MAC filters of your router and so on), proper ports have to be opened in the router's firewall, one should not use DHCP for devices involved in playing files because when the IP of any of them changes you want to be able to listen to your music (so you need a permanent IP addresses for computer storing music files, Transport and remote), and finally one has to register with Logitech oneself if on a PC (otherwise it won't work! - Mr. Fikus registered this Transport before himself at his home and until I registered again in my network it simply did not work regardless of all the resetting I did. If you have used any Squeezebox before you are familiar with all that and will not have any problems but if you use it for the first time you will have to deal with all that: fortunately only once (as with any device you would buy instead). Finally I managed to convince all the devices to “see” each other and to work together and I could start listening.

Finally some impressions of the sound of this set. I started slowly with Ben Webster's *Soulville*.

The sound of his saxophone was warm, rich, well saturated. The Lampizator DAC also delivered lots of details - the musician catching his breath, his fingers travelling on the instruments' keys and so on. This presentation sounded a lot like my vinyl rig, as I also have this recording on a vinyl record. I realize that analogue sound is not a very precise description but I don't have a better one. The sound was really palpable, sweet and soft (in a good way), no sign of this digital “tarnish” that is almost always present when playing sound from any digital device. Only some pricey CD players like Ayon CD-5s, or Metronome CD Tube Signature (I know these well as I reviewed them), somehow both with tubes on board, are capable of avoiding this digital tarnish/signature. The sound was also very open, with lots of air, flowing freely from the musician standing just a couple of meters away from me. The soundstage was big from left to right and from front to back, and very well defined with exact locations and 3D sizes of each phantom image: a very realistic presentation. I also truly enjoyed how nicely this set depicted the ambiance of small jazz clubs (namely in Jazz at the Pawnshop, or Live from New York to Tokyo). It felt like I was there surrounded with other fans, feeling this amazing ambiance of live performance. On the other hand with recordings like *Septem verba Christi in Cruce*, or *Antiphone blues* recorded in large churches I could see that huge space and feel reverberations wondering along great, empty walls.

A small digression to explain why I compared the Lampizator DAC to CD players and not some other types of players. As mentioned before, the Transport is based on Squeezebox Duet's motherboard and software, which is a device already a couple of years old and it plays files up to 48 kHz. From what I found out it is a software limitation but introduced by Logitech because of hardware limitations - because of its CPU and RAM it is not able to process hi-res files. I read somewhere that some people try to override this software limitation but I don't know how successful they are. There is a newest Squeezebox model called Touch, fully capable of dealing with 24/96 files but as Mr. Fikus told me it could not be modified - the manufacturer made sure of that.

So unless Mr. Fikus creates his own proprietary solution (which is unlikely) he has no choice and customers have to decide for themselves whether 16/48 is enough for them (then they should seriously consider Transport) or not (then they

tubes that was - and still is - the Mr Fikus' "thing".

Interestingly this web page is available only in English, but that allows people from the whole world to benefit from it – just check the forum on lampizator.eu and you will see for yourself. Even if you are not a DIY person, have a look – you will learn from this web page how much passion Łukasz Fikus has for what he does, and how many people share this passion.

As the man himself declares, he was a manager in a large international corporation who, as many before him, and many after, decided one day that he wanted to change his life and do more interesting things. Most of such people would buy a house in the middle of the Mazury woods, a stud farm somewhere in the country, or a hostel in the Bieszczady mountains, but Mr Fikus entered the audio world instead. As I understand, he started from learning audio bases, then gained experience modifying (mostly) CD Players, and finally started to design and make his own products. He learned from both successes and mistakes, but obviously none of these could change his mind and he stayed focused on his new passion.

His top achievement is a Lampizator DAC, currently sold mostly... abroad. Its price is not the sole reason for that. Other have already been described above – for some reason the Poles prefer to buy foreign products than local ones. Sure – some might say that nowadays customers simply prefer more versatile devices, with many different inputs (coax, Toslink, AES/EBU and a USB port is a must too). Here not only the customer (for quite a high price) gets the "basic" version with only two inputs (you need to pay extra if you want more inputs), not only there are "ancient" tubes inside, but there is also no USB in the "basic" version (available at additional charge). After I gave the Lampizator DAC and Transport a try I realized that they're devices that every audiophile should first listen to and only after that judge them, so I'm going to try to convince everyone to give those products a shot too. They are worth it! After all wouldn't it be nice to have product/s in your system that are designed and manufactured (literally) in Poland?

Recordings used during the review (a selection):

- Eva Cassidy, *Eva by heart*, Blix Street 410047, FLAC.
- Cassandra Wilson, *New moon daughter*, Blue Note; CDP 7243 8 37183 2 0, FLAC.
- Pink Floyd, *Wish you were here*, EMI Records Japan, TOCP-53808, FLAC.
- Led Zeppelin, *Led Zeppelin*, Atlantic/Warner Music, WPCR-11611, FLAC.
- Dire Straits, *Communique*, Vertigo, 800 052-2, FLAC.
- Rodrigo y Gabriela, *11:11*, EMI Music Poland, 5651702, FLAC.
- Arne Domnerus, *Jazz at the Pawnshop*, FIM XRCD 012-013, FLAC.
- Arne Domnerus, *Antiphone blues*, Proprius, PRCD 7744, FLAC.
- Renaud Garcia-Fons, *Oriental bass*, Enja, B000005CD8, FLAC.
- Keith Jarrett, *The Köln Concert*, ECM/Universal Music Japan, UCCE-9011, FLAC.
- Kari Bremnes, *Svarta Bjorn*, Kirkelig Kulturverksted FXCD200, FLAC.
- Ella Fitzgerald & Louis Armstrong, *Ella and Louis*, Verve/Lasting Impression Music, LIM UHD 045, FLAC.

Japanese versions of recordings available [CD Japan](#)

Before I describe my experience with the reviewed devices I'd like to let Mr Łukasz Fikus explain why he created the Lampizator DAC in the first place:

"Where did the Lampizator DAC come from? A few years ago I made a hobby of buying "broken" CD players on eBay and fixing them, treating that as an exercise, a charade, a challenge for my own mind. After examining hundreds of different players I realized how they worked and realized that most of them were designed in a wrong way. I wondered why manufacturers hadn't done it in a way that I, as an amateur, would have done it. The difference of sound performance between those CD players in the stock form and after I applied my modifications and tube

have to find another solution). It's not like you have to throw away all you hi-res files - SQB will down sample them to 44.1 or 48 kHz (depending on input file) and play them. So calling truth what it is I have to say that the Transport Lampizator is a device for people who don't care much for hi-res files, who have huge collection of CDs and just want to use it in more comfortable way – playing same music from files. Today, comparing how much music is available in 16/44.1 and how much in hi-res we can still see that most is still available only in CD quality, so this Transport will do the job just fine. Maybe then in a couple of years it will change and the availability of hi-res files will increase significantly and you might think about some other player, but today Lampizator might be just fine. End of digression.

As usual I was interested most how acoustic instruments and voices sounded. I started with acoustic guitars (of course). I listened to the whole (I think) discography of Rodrigo y Gabriela. Don't be mistaken – these might be only two acoustic guitars but in the hands of this fantastic Mexican duet they change into extremely energetic, dynamic instruments. The Lampizator DAC did a great job delivering all the details, all the nuances of a single pluck, and the attack of the fast accord, and you hear the sound of strings but also importantly the sound input from the wood. Usually listening to this duet's performance is an exciting experience but this time it was even more special, irresistible – hence the session with each and every recording of Rodrigo y Gabriela I had (I listened to some of them more than once).

I also loved the bass in the skillful hands of Ray Brown, or Renaud Garcia-Fons, when it became a huge, powerful monster delivering amazingly well extended, powerful, energetic bass right to the lowest notes. I haven't heard too many devices before that were capable of showing how important in bass sound the wood is – that long, vibrant decay that is a must if the reproduction is to sound realistic.

I don't listen to the digital version of Keith Jarrett's Koeln Concert simply because it sounds so much worse than the vinyl that I prefer not to waste my time on it. But this time, since I already knew that the Lampizator DAC offers very "analogue" sound I decided to give it a try. So I listened not only to the sound of the piano and Jarrett's improvisation (by the way – when listening to this recording nobody doubts, I think, that Jarrett must have been Leszek Możdżer's idol, right?), but also how well this set delivers the ambiance, hall's acoustics, Jarrett's murmuring, tapping of his feet, and so on – all those details that in fact make this recording so special, but that usually are well hidden when played from CD. As for the piano itself – it sounded very powerful when needed, or very gently when the musician wandered off somewhere to the edges of the known universe, the sound was vibrant, smooth, with great sense of timing and rhythm – long story short – all the best this instrument can deliver that until this moment I thought was available only from a vinyl record.



Vocals – a pure pleasure to listen to. Ella and Louis took me to the crazy 50-ties.

output stage was enormous, which meant I knew that I was onto something. As I was, at the time, totally disappointed with my regular job, I decided to quit it and turn my full attention to CD technology in an attempt to make it my new way of making a living. I made a strategic decision not to deal with the almost obsolete CD transports and to focus on my own design of DAC – a digital device but without any moving parts. To focus on DACs was an obvious choice because I (unlike many other people) understood very well how they worked, but also because of the mobility of such a small device that could easily be sent to any place in the world. Such a device might be timeless – the technology involved does not change every five minutes with new developments available on the market and it does not require multimillion investments that only big corporations can afford. It does not matter which medium for music is “hip” at the moment – a decent DAC will always be needed. The DAC is the device in the music system where the music is actually re-created. The DAC is the most important part of the system. The DAC was my chance to compete even with the biggest players on the market, because I had plenty of time to try many possibilities, to hold many listening sessions, to create the best possible solution – and that’s something big corporations can’t afford to do. That’s how the Lampizator DAC came to life.

We started with the best DAC chip I knew and over a year of hard work and many experiments we developed a way to achieve even better sound, a performance that was in a new class of its own. After that we received many offers from chip manufacturers to test their newest products, often prototypes, and that gave us a chance to try out the technology of tomorrow. Working with manufacturers from the USA and Japan we had a chance to test products our competitors didn’t even know existed. That’s how the Lampizator DAC got an edge over competitors and achieved a performance level of the best DACs in the world. Another very important factor was that our Polish subcontractors shared our passion and did their very best to help us build what we believe is the best DAC in the world, and to do it in Poland.

We based our marketing on participating in many “best performance” contests organized by audiophiles around the world. Once we started to participate we won practically each and every contest we took part in. The first one took place in Boston, next in New York, California, Malaysia, Taiwan, Australia, South Africa, Holland and Italy. After that our business started to develop much quicker although we kept an eye on our competitors to keep our leading position.

Our key target group are “high resolution” freaks – they are real aficionados who require DACs equipped with the latest chips (capable of processing their high resolution files up to 32 bit / 384 kHz), as well as wonderfully transparent and dynamic sounding tubes. That’s exactly what we offer to them, together with a USB port, and WI-Fi and LAN operation capabilities. Using tubes in our devices is not a matter of some dogma or good old days nostalgia. In our opinion simply nothing sounds better than a triode. The biggest problem of other manufacturers as we see it is relying on op-amps as basic building blocks in their designs, which is a bottle neck preventing the achievement of a high quality sound. There are also some manufacturers who use tubes to make their devices sound “sweeter” or to “color” the sound which is a huge, unnecessary mistake, as tubes are fully capable of delivering clean, accurate sound.

Our DAC holds neither special secrets nor magic inside: it is simply very well built. We base our design on heavy, cumbersome elements like huge transformers, separate ones for all processes, iron chokes for filtration, large and high quality capacitors, silver wires in Teflon, perfectly designed PCBs and the best available chips. We also use the best tubes available to us that are pre-selected, tested and matched. After spending months on testing, measuring and selecting over 100 components that make the DAC we finally arrive at an all-or-nothing device that we want to sound better than any other. Yes, the recipe is so painfully simple. During the first two years of our company’s operation we made around 120 prototypes of our DAC. All of them were assessed and compared by 3 people over 3 days in each of their home audio systems. That’s exactly what Sony, Philips and Mark Levinson cannot do. It can only be done by dedicated aficionados who care only about the final result of their work.

That’s why the renowned audio magazine “Stereomojo” granted us a “Product of the Year” award for 2011.

I admit that we neglected a bit our own Polish market, because we were not able to keep our company running relying only on local demand. I hope it will change and the Lampizator DAC will appear in many Polish systems. I am really proud that our DAC is made in Poland, that 90% of its components are made locally and based on our ideas. I am also proud that the product is recognized and appreciated in England, Canada, India, USA, Singapore and RSA. This is proof that we chose the right path and that we should stay on it. Already today, in February, I can tell you that our whole production planned for 2012 is already sold according to our

The sweet, vibrant, and sexy voice of Ella and the amazing rough voice of Louis – fire and water, but so fantastic sounding, so real, so rich and moving. And man! These people knew how to sing and swing unlike most modern stars. Today you don’t need to know how to sing to sell your recording by the millions... Fortunately there are some great vocal recordings much more recent than Ella’s. Eva Cassidy, Cassandra Wilson or Kari Bremnes sounded via the Lampizator DAC set like they sound on vinyl. I felt the same listening to any good and well recorded vocal – it happens really seldom for me to spend so much time listening to such recordings when reviewing any digital player. Although I had a similar session recently with the Calyx 24/192 DAC (review [HERE](#)), but I played music from the computer via USB. I thought it was one of the best performing digital devices I had a chance to listen to but it sounded differently than the Lampizator DAC. The Korean DAC delivered a tad darker, though more analytical sound. The Lampizator DAC is even more musical, expresses all the non-verbal parts of recordings – emotions, ambiance, intention – also in a better, more convincing way. It’s a pity I did not have a chance to listen to the Lampizator DAC with a USB module as that would give me the best possible comparison with the Calyx.

Acoustic music is not the only genre the Lampizator DAC plays so well, as it doesn’t deliver typical “tube-like” sound with great midrange and both extremes rolled off. The treble is very clean, vibrant – it allowed me again to really appreciate how well all the cymbals on Krzysztof Herdzin’s trio recording were captured with this amazingly fast attack phase and then long decay.

Rock? Not a problem – I listened to Pink Floyd, Led Zeppelin and Dire Straits – there was not only vibrant treble but also dynamic, energetic, taut bass. OK, maybe not the most powerful one I ever heard (the Calyx did this part a little better), but still nicely differentiated, well extended and I loved how tuneful it was. A bit raw, harsh guitar – no problem, it sounded very realistic; strong pulse from bass guitar – great timing and power; drum solo – give it to me! Let’s rock’n’roll. I’d say that the older recordings (like Floyd’s or Zeppelin’s) sounded extremely well with the Lampizator DAC playing them. Back then, sound engineers tried to catch on tape how the instruments really sounded. Today they worry mostly about how to make the recording sound well on Ipod or mp3 player. So those “old” recordings might be perceived as less transparent, less detailed (which is not true but they might appear so), but still there is more music in them.

From my point of view the greatest advantage of this Lampizator DAC set was its musicality – that’s what gives it the edge over most competitors, and that’s what makes its sound as close to an analogue rig as a digital device might get. All you have to do is let the Lampizator DAC take you, suck you in to the world of live-like music. Once you’re in, you forget the world around you, you forget to analyze sound, and you just live the music and emotions hidden in it. Most audiophiles enjoy listening to the music, not to the sound, right? If so then the Lampizator devices can give them just that – the joy and fun of listening to the music, living music. That’s what I get when listening to my vinyl rig, but the Lampizator DAC came so close that I realized that maybe living without a turntable could be possible. Sure, that’s just a reproduction of music – it could never be anything else as that’s not live music, it’s only live-like. But the closer the illusion of participation in live performance, the better.

Obviously I don’t know many high-end DACs so I simply cannot claim that the Lampizator DAC is the best among them. But I don’t hesitate to call it a high-end device. Given the choice between (pretty good) dCS Debussy and the Lampizator DAC I would have taken the latter. Debussy offers a more precise, more detailed, more analytical sounding DAC which might suit many audiophiles needs, but I’d give it all up for this amazing musicality of the Lampizator DAC. And don’t forget that I only listened to the basic version of the level 4 DAC, so most likely more advanced versions sound even better, not to mention the level 5 (two-box device with a separate power supply).

The Transport Lampizator is another matter. If 48 kHz resolution is enough then this player is most likely one of the best you might buy. It is easy and comfortable to use (with the remote or controlled from computer), also Logitech’s software works flawlessly – I really enjoyed using it. When I finally had to return it I missed the ease of using it. Again – malcontents will say that paying THAT much for a modified Squeezebox is crazy. OK, one might choose to use an unmodified piece, the only question is – will it sound as good as the Lampizator?

Of course if your priority are hi-res files then you have to look elsewhere but still it might be a good idea to give the Lampizator DAC a try. It is one of the best DACs on the market and... it is made in Poland!

contracts with foreign sales partners.”



I can already “hear” malcontents complaining that it is easy to declare to make one of the best products in the world and that many manufacturers claim the same thing (which is true). But you can't assume a priori that none of them actually made the best product in the world – such an approach is also wrong. So first give it a try and then decide whether it was only marketing talk or maybe, in some cases, it was at least very close to the truth. I decided to check the bold statement of Łukasz Fikus myself – it took me just writing an email. His response was quick and positive – Lampizator offered DAC level 4 and also a Transport for review. All I had to do was to agree to this proposal.

When I did my research (on the Internet of course) the majority of Google hits (apart from Lampizator.eu) came from the USA and Australia. On Polish websites I mostly found information about “lampized” CD Players. There was also some information, coming from a couple of years ago, about debatable build and finish quality of the Lampizator DAC. When both devices finally arrived I started from checking how they looked, how they were finished, and found out that obviously a lot had changed, for the better. Build quality seemed quite good, devices were nicely finished too – in my eyes they could be placed in a rig next to other high end devices without really spoiling the visual effect. OK, there was nothing fancy about the Lampizators – the only special visual effect was the so called “Fikus eye”: have a look at any picture of the front panel and you will know what I mean. To be perfectly honest, if you checked the back of the device you would find that it surely could be finished more carefully, but most customers have to look at the back of their device only once in a long time so it should not be a problem, I think. Nevertheless it could be done better. There is no reason not to do it.

Both reviewed devices have almost identical front panels – I received (on purpose) the DAC in (almost) black finish, and Transport in Silver (aluminum) just for me (and you) to see both possible finishes. I personally preferred the black/graphite version, but that's just me. I received a basic version of the DAC level 4, which meant it was equipped with only 2 digital inputs: coaxial RCA and AES/EBU, and a pair of RCA analogue outputs. The customer might want to buy another version sporting USB module, balanced version, “V-capped” version, with volume control – it's possible, but of course costs more.

Two key features of this DAC are: using tubes in analogue output section and not using any oversampling. Usage of tubes was already explained by Mr. Fikus himself earlier. You could agree with him or not about tubes being the best possible solution but even if you don't agree you should give it a try first. Many people make a huge mistake by not giving some devices a chance only because it sports tubes/MOSFETs/oversampling/non-oversampling and so on – a huge mistake because sound is not only about technology itself but about how designers apply it. Mr. Fikus told me that he doesn't reveal information about what particular DAC chip he uses because he doesn't want people to make presumptions about the sound of the device. It is a simple policy – listen first, judge later. I totally understand and support him in this – if you are true music lover you should care about how it sounds and much less about how this particular sound was achieved.

The second device under review is a fruit of Mr Łukasz's fascination: the Squeezebox. Yes, The Transport Lampizator is a device based on the Squeezebox Duet. It uses the motherboard from the Duet and its software. Below you will find

I can't really write much about the parameters of these devices, what parts were used and so on, simply because of the manufacturers' approach I already mentioned. Mr. Fikus believes, and I agree, that devices should not be judged by how they are built or how they measure. It's the sound that really matters and to evaluate the sound one needs to listen to the device – that's the only way. I guess there will be some who will say that if the parameters are unavailable, or they don't know what DAC chip is used, they will not waste their time for a listening session. Well, it's their right to do so, but I would say it is their loss, as they miss their chance to meet really good sounding, Polish made devices (I mean the DAC first of all).

Both devices have very similar enclosures – the only difference is the writing on the front panel and the different sockets on the back. Both are nicely built and finished. There is a solid, thick aluminum front plate offered in two color versions (natural aluminum and graphite). The only “eye-catching” component on the front is a back-lit “eye” composed to the “O” letter in the Lampizator name.

For my review I received the basic version DAC level 4 that sports two digital inputs: coaxial S/PDIF, and AES/EBU, plus a pair of RCA analogue outputs. This version might be upgraded with a USB module (that accepts the signal up to 384/32), V-caps, or to the fully balanced version.

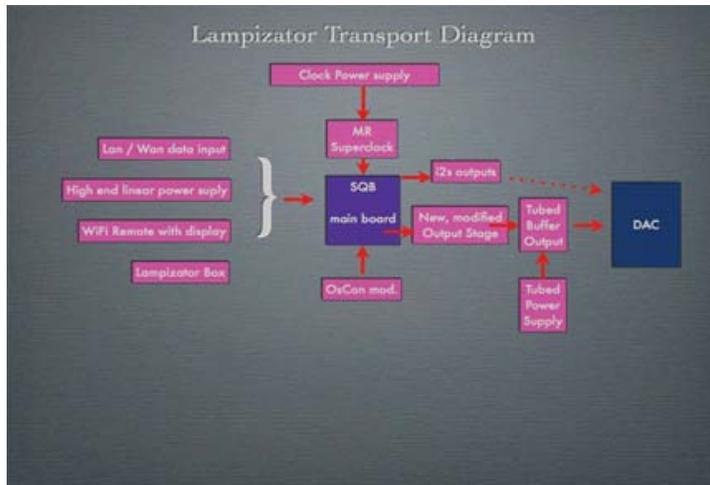
The Transport is in fact a heavily modified Squeezebox Duet – audio files player. Lampizator used its motherboard, software and remote (that is in fact a kind of a small computer itself). The motherboard received a new power supply, MR superclock, LAN/WAN input data input, and modified output stage with tubed buffer. There are also two external antennas for Wi-Fi, and LAN socket allowing also a cable connection. During the review I mostly used the latter as the more reliable one. Digital signal is sent out via coaxial S/PDIF connector.

Below you will find a short description I received from Mr. Fikus (quoting as received it even though some information were already posted above):

“The Lampizator DAC is always equipped with two basic modules: S/PDIF receiver and DAC. Both are sophisticated, expensive solutions. The DAC is a 32-bit chip, and the receiver works from 44 to 192 kHz with jitter reduction implemented. Since, as of today, there is no receiver available on the market that could process more than 192 kHz/24 bit – also the whole Lampizator DAC is limited to this resolution. When the signal is delivered via USB that is capable of accepting signal up to 384/32, the SPDIF receiver is bypassed so it does not limit the USB's module capabilities. There are always 3 different power transformers implemented in the DAC: a separate one for the digital stage, another to supply tubes anodes, and the third one, toroidal, for filament circuit. For anode power supply section (high voltage) we use a tube type double diode rectifier. The rectifier feeds a huge choke, followed by capacitors and chokes again. They form a so called CLCLC filter. We use heavy duty iron core chokes with ultra thin steel, values 40, 30 or 20 Henry. In the Level 4 the chokes are of very high specs of cores and they are configured in dual mono. We do not use electrolytes in the Level 4 and 5 DACs, we choose polypropylene foil caps instead. Such energy storage is by a whole magnitude faster, although huge, heavy and costly. In the power supply of the digital section we use Shottky rectifiers and circuits without integrated regulators. Every energy consumer point has a separate line off supply and filtering. In the Level 4 DAC it means eight parallel power supplies to the digital section.

We use tubes with huge power headroom and only minimum signal amplification. As we know exactly how tubes work we can achieve the same effects regardless of which particular type of tube we use – we can “force” each tube to play the required role in our DAC. We used best Soviet or Western tubes, sometimes we use pentodes working in triode mode, sometimes double triodes working in the so called SRPP mode. In the top versions of our DACs on Level 4 and 5 can be found VT-99, E182CC, 6N6P, E80F or EF80 tubes. Per request we even do 300B and 2A3 tubes. We use only around 20% our tubes power capacity which allows them typically to work flawlessly for 20-30 years without change.

a diagram of the Transport Lampizator.



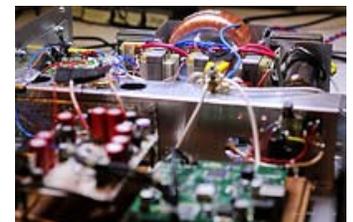
All connections are made with silver wire in Teflon. Some people tell us that our layout seems a bit messy, which is not true. We simply avoid connections that are: a) too long – so we always try to achieve as short connection as possible, even if it doesn't look “nice”, and b) we don't bundle wires together, which might look better but causes crosstalk in cables running very close to each other. So we prefer to run each cable separately which indeed may look messy but it works and sounds better. We like this kind of “mess”. The DAC is not to look good on the inside but to sound good. In output we use best decoupling capacitors – soviet MBM and MBGO, or Jensen Copper PIO (Denmark), or American CuTF V-Cap. It is the customer who usually chooses his “preferred” capacitors.”

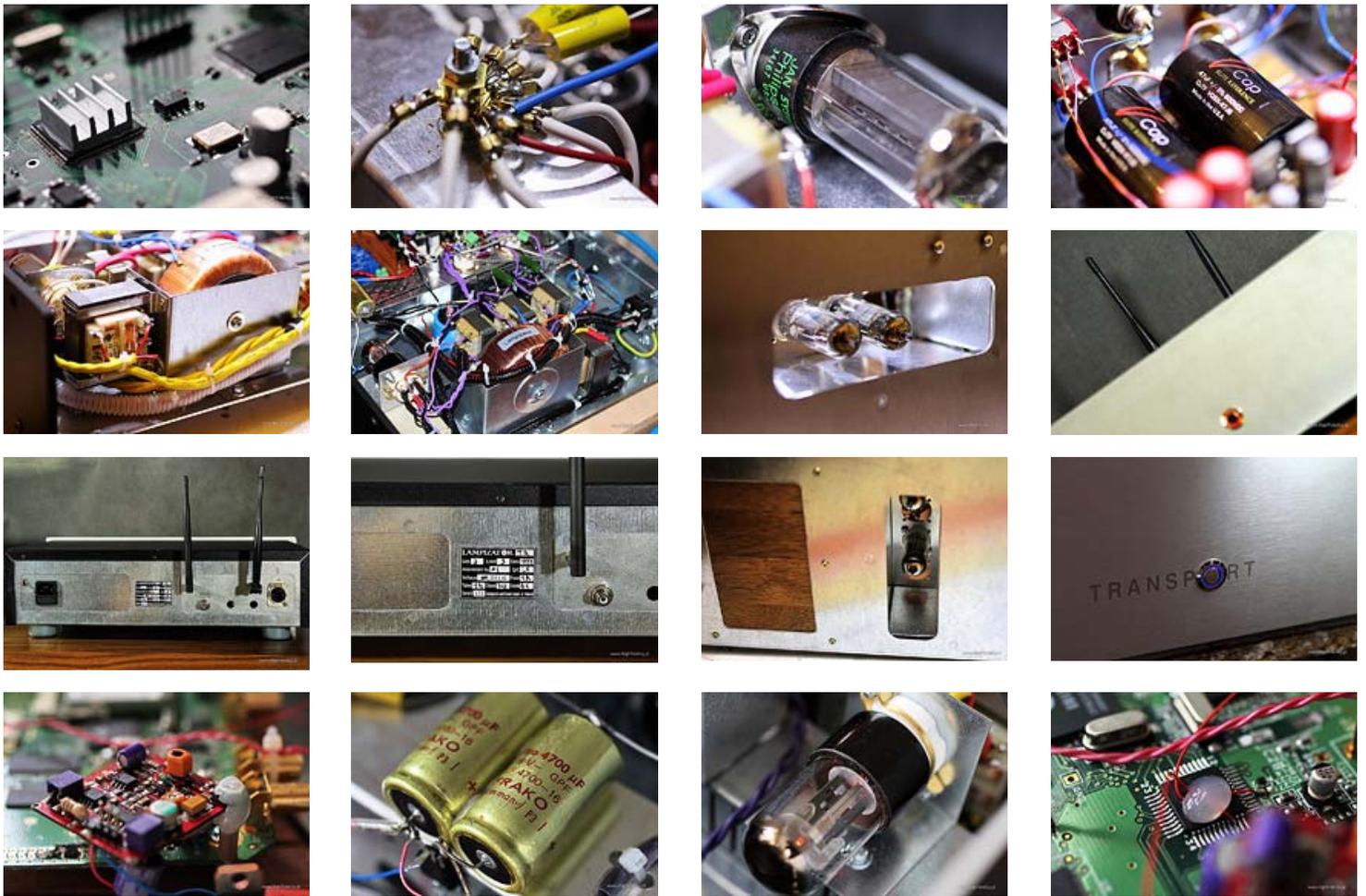
As you can see the mainboard got a new power supply, MR superclock, LAN/WAN input data input, and modified output stage with tubed buffer. Yes, the latter component might surprise you most but according to Mr. Fikus it simply sounds better with tubes than without them – he sells the product so he wants it to sound best; no reason not to believe him.



Galeria

Gallery





Reference system

- CD player **CEC 51XR**
- Integrated amplifier **ArtAudio Symphony II**
- Turntable **Michell Gyro SE**
- Tonearm **Technoarm**
- Cartridge **AT33PTG**
- RIAA preamplifier **ESE Labs Nibiru**
- Loudspeakers – modified project Jerycho with **FSAC-2B**
- Interconnects – Gabriel Gold Extreme mk2, Binaural focus monolith Ag
- Loudspeaker cable – Gabriel Gold Revelation mk 1
- Power cabling – DIY Acrolink 6N-PC4300