

Hifi Pig

Quarterly

APRIL 2019

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- Jon Myles, *HiFi World* 2015

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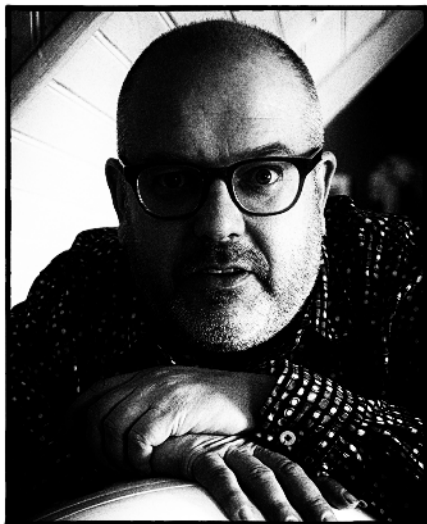
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As well as working on Hifi Pig the last quarter has seen myself putting little recording studio together for my own amusement and it's all coming along very nicely. It's amazing that I've gone from having a 16 channel desk to having the whole kit and caboodle on a laptop, only to decide that I actually prefer the hands on control a real desk and outboard gives you and have bought a little desk for my amusement - as Linette says, it keeps me out of shenanigans.

Speaking of shenanigans, one of the highlights of the year so far was the Bristol Hifi Show way back in February, where we had the opportunity to meet lots of clients as well as getting the chance to sit and have a few drinks and a laugh with some of our readers. You can read the coverage of the show [here](#) though you may need to scroll down the page a little as we are now adding lots of Munich news whose dedicated pages you will find [here](#).

Our ongoing April Fools spoof had Linette and myself setting off to walk and push all the way to the Munich show using a specially converted and liveried vehicle. We're still posting daily updates of our "progress" and you can follow where we are each day on our usual social media channels.

Welcome to the sceond quarter edition of Hifi Pig Quarterly - where has the time gone? The big news

from our perspective for this quarter is that we have secured the services of a certain Paul Messenger who will be writing a quarterly column for us and carrying out the odd review. We feel somewhat humbled to have such a legend as Paul on board with us.

This quarter's E-Magazine is packed with content that we're sure readers will enjoy and we've secured interviews in this edition with such industry luminaries as Dan D'Agostino, Nelson Pass and a host of others whose comments you will not want to miss - use our Click and Go Directory and you'll be taken right to the article you want.

We also have a chat with Kris who is the organiser of the North West Audio Show in the UK and ask him about the show and why he believes it has become so popular.

We are of course working our way up to Munich High-End in May but there's lots to do before then and we have a couple of very interesting trips planned - watch this space. Hifi Pig is already ranking very highly in Google for the Munich event - type in High End Munich 2019 News and see what you get.

Obviously as well as the industry interviews this edition also includes Readers Lives, an interesting My Musical Journey with a German recording artist, some fabulous photographs of the North East of England's Punk music scene courtesy of Will Binks and



We're also very excited about our new Find Your Local Dealer feature that we launched a couple of weeks ago and which is proving to be very popular. You can see the listings in this edition of the e-magazine or on the [interactive online dealer finder here](#).

We sincerely hope you enjoy Hifi Pig Quarterly and we welcome your feedback – you can join the discussion on our [Facebook page](#) or [contact us by email](#).

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INTERVIEW

DAN D'AGOSTINO OF DAN D'AGOSTINO MASTER AUDIO SYSTEMS



Dan D'Agostino needs little or no introduction being the legend that he is on the high-end audio scene. Dan D'Agostino was founder and chief engineer of Krell Industries through 2009 and he is perhaps the audio industry's most passionate promoter of high-quality, high-powered amplification. His current brand, Dan D'Agostino Master Audio Systems, is unmistakable in its appearance with every product carrying his signature.

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HP: Hi-fi is clearly a huge passion for you. How did you get into the industry and what drove you to make high-performance audio equipment, especially amplifiers?

DD: My dad got me started listening to music. I ended up working in the local hi-fi store and my passion for high end audio took off from there.

As for amplifiers, I'm an engineer, and as I looked at the current products of the day, I saw that I could design an amplifier that was different than anything else. This amplifier started Krell. It was very well received, and I have been pushing the envelope ever since.

HP: Krell is a name which audiophiles of all ages will be familiar with and you were CEO and founder of the company from 1980 to 2009. Why did you leave and how did Dan D'Agostino Master Audio Systems come about?

DD: I was forced out of my own company by a minority investor, who had no idea what he was doing. After I exhausted all of my legal options, I decided I needed to move forward. My passion has always been high-end audio, so I started Dan D'Agostino Master Audio Systems to focus on equipment delivering two-channel stereo performance of the highest order.

HP: Whilst at Krell you created some of the most iconic audio products ever, I certainly remember lusting after some of the big Krell amps in my teens and beyond, which are the products of this time that are standouts for you and why?

DD: The KRC-HR Preamplifier with phono stage and the KSA250 amplifier. Both were milestone products for Krell. They were sonic breakthroughs for my company and sold very well. Our company grew dramatically after the introduction of these models.

HP: What is your sonic philosophy – the core set of beliefs upon which you base your designs – and has it changed over time? How does it differ from that of other manufacturers of high-end amplification?

DD: My sonic philosophy hasn't changed over time but my approach to how I get there has changed significantly.

In the past, I was always searching for the latest and greatest technology in audio. Sometimes, that pursuit became more important than the end result.

With D'Agostino, I am only interested in the emotional connection that comes with listening to music.

Now, we are still an engineering driven company and use the finest components, manufacturing techniques, and circuitry we can find or develop. However, the paramount goal for D'Agostino Master Audio Systems' components is the emotional experience from the sound.

HP: You are an advocate of high-powered and high-current amplifiers, with your flagship Relentless amplifier delivering 1500 Watts into 8 Ohms. What do you feel are the advantages of such high-powered amplifiers and what do they bring to the table sonically and why?

DD: It is not difficult to build a high-powered amplifier but it is difficult to build one that sounds good. The Relentless is a marvel. We have achieved our highest power output and also our lowest distortion figures. Over the two-year development period, I designed a special drive circuitry that provides a perfect match for the positive and negative rails. Coupled to this is an output stage that is running almost 100W of Class A operation. This means that the majority of your listening is in the most accurate operating state for electronics – Class A.





This hyper- accurate Class A amplifier is ensconced in a massive power delivery package that delivers virtually unlimited power into any speaker load. I like to think of it as a velvet hammer. Unlike most high-powered amplifiers, ours sound great at lower volumes and are completely unstressed at higher ones.

HP: Relentless is your flagship product, do you think there is anywhere to go after producing a product such as this, or do you think that a product can always be bettered in some way?

DD: In my experience, at some point there will be an idea that elevates the existing designs to the next level. There are constant improvements in all aspects of our industry from components, manufacturing, source material, design software, etc. that we exploit at the right time. It is easy to make something different, the challenge is creating something better. My team of engineers and I are constantly discussing new ideas on how to improve what we produce.

HP: With the above question in mind, do you believe that an amplifier, or any bit of audio kit for that matter, that measures well will inherently sound better, or do you believe in a different approach?

DD: I think there is a disconnect between the measurements our industry is held to and how that relates to sound quality. Frankly, typical specifications don't represent real world situations in most cases. As I said, we are an engineering company and I hold our technical performance to a much higher standard than most. I don't believe good specifications guarantee good sound. However, a poorly measuring amplifier does not have a chance of delivering a recording intact to a listener.

HP: When designing a new product what do you initially seek to achieve with the design from a sonic standpoint and how do you go about achieving this?

DD: Typically, I am always listening for information retrieval, staging delivery, and dynamic impact. It is these three elements that are the hallmark of our products.

HP: The design of your products is unmistakable, and I think rather beautiful, does form follow function or are the fantastic looks there for another reason. If form follows function can you explain a little to readers what is going on with the outward appearance of your products and how this affects performance?

DD: In our case, form definitely follows function. A great example is the use of Copper as a heat sink. The original idea for the Momentum Mono was a high- powered amplifier in a relatively small package. We were not going to add fans or lessen the power supply technology to achieve these typically mutually exclusive design features. Instead, we investigated a materials-based solution.

Copper is considerably more thermally conductive than conventional Aluminum. The result is the small footprint we wanted, impressive power output, and a very striking aesthetic appeal.

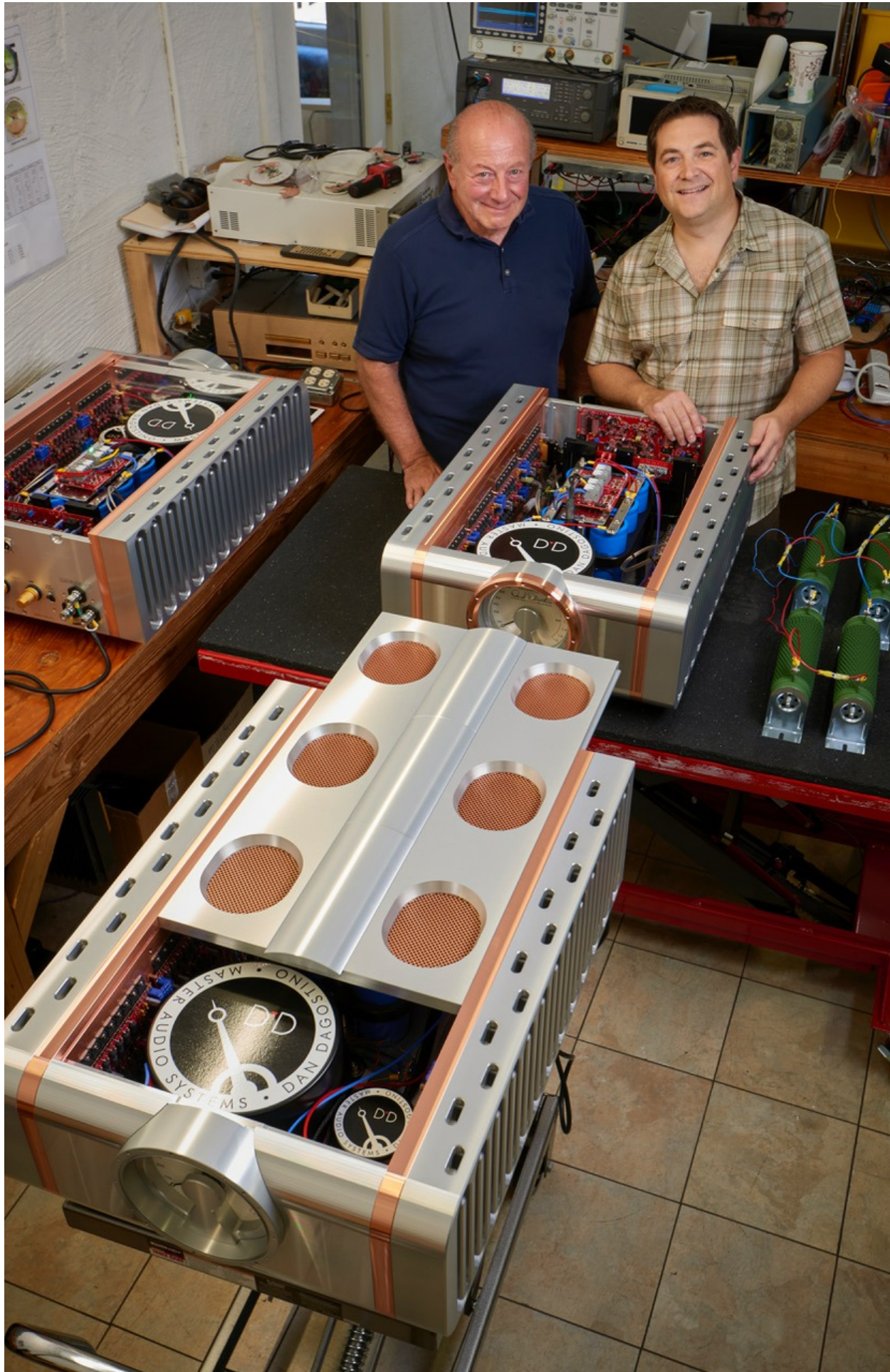
HP: Would you say your products are voiced a certain way or not? What are their sonic signatures, if they have any?

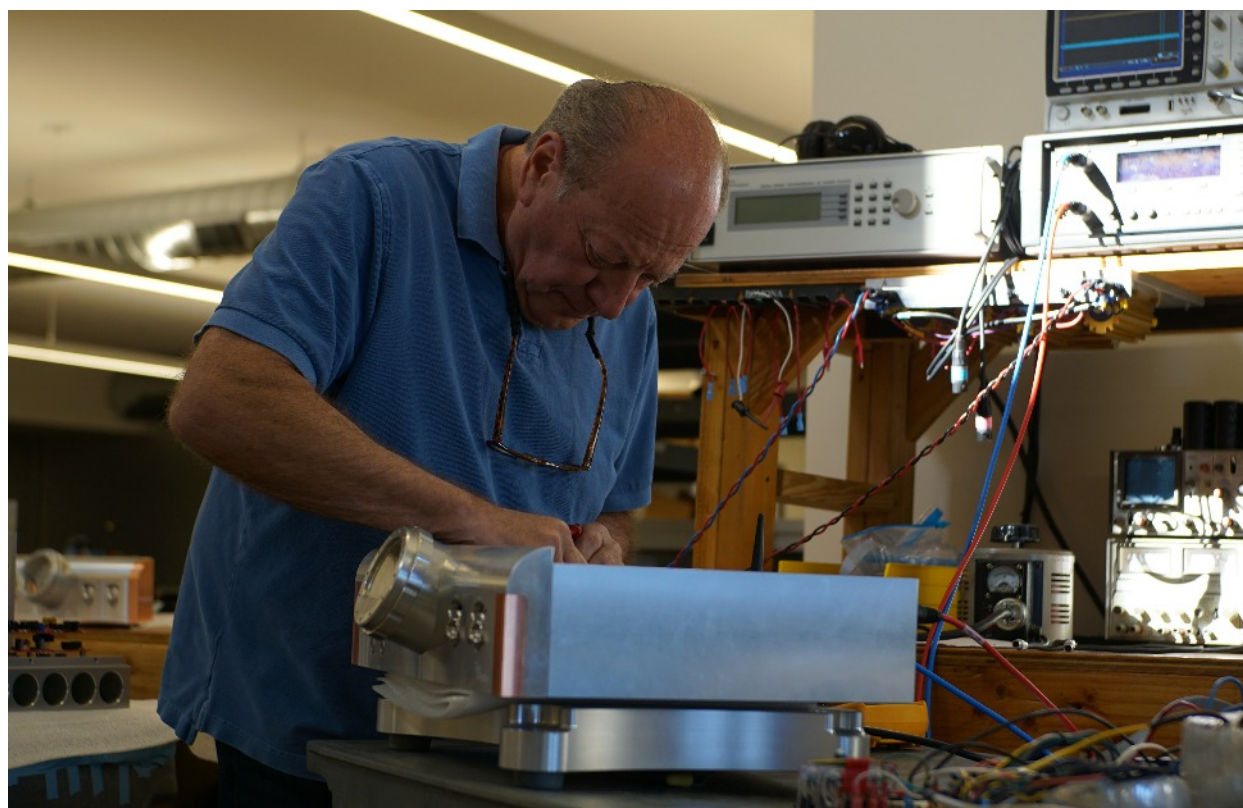
DD: Our products don't have sonic signatures. We strive very hard to deliver the recordings unchanged and then drive loudspeakers to their full capability.

HP: Do you believe your amplifiers work best with a particular loudspeaker brand or type of loudspeaker?

DD: No, as I alluded to in the last question, we think we maximize the performance of any brand or type of loudspeaker. That doesn't mean that I don't have preferences, but our amplifiers are designed for any loudspeaker. It simply comes down to one's preference.

DAN D'AGOSTINO OF DAN D'AGOSTINO MASTER AUDIO SYSTEMS





HP: I see digital streaming devices in your portfolio which seems a whole new and very different ballgame to designing amplifiers, are you responsible for these designs and if not what is your input?

DD: In the past, we made some strong digital components so it is not as foreign as it might appear. Today, we work with some great digital software and hardware engineers to establish the core platform with our specifications. From there, it is our analog circuitry we bring to bear on this exciting category.

HP: Your products come with a hefty price-tag, do you have plans to make more affordable products or do you feel your target markets are adequately covered in your current portfolio?

DD: We do have plans to release more affordable products that borrow from our higher end models. We believe the perspective we have from designing and manufacturing reference level components will give our more affordable offerings a strong advantage over similarly priced competitors.

HP: Class D technology, your thoughts?

DD: Not interested.

HP: Do you attend a many live concerts and what is your favoured musical style – if you have one?

DD: I love Jazz, I go to live concerts whenever I can.

HP: What is the piece of music you put on to wind down and relax to and would it be streamed or played on a record player?

DD: Both, but mostly I like to put on some old jazz. Art Farmer was awesome to see live and I still play his tune, "Big Blues" from one of his old albums.

HP: What most irritates you about the industry, save annoying journos asking daft questions of you?

DD: I think the most annoying thing about our industry is that we don't band together as manufacturers and promote each others' achievements. Almost everybody loves music but unfortunately, most people don't know sound can be as good as we produce as an industry. Co-marketing or co-promotion campaigns would help us all get the word out.

HP: There is a perception that those of us involved in the audio industry live and breathe music, but what do you do for relaxation when you are away from the office and Hifi?

DD: I like driving my cars and cooking.



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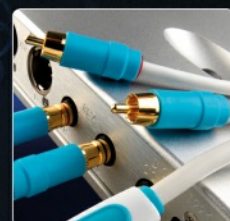
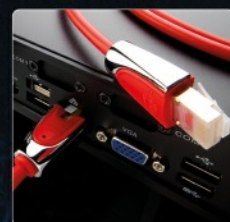
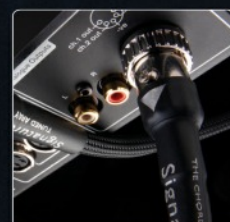
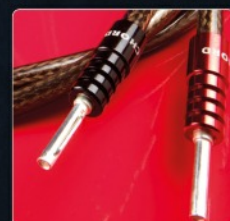


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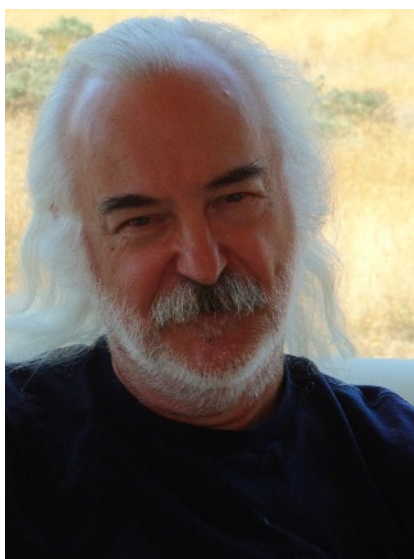
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INTERVIEW

NELSON PASS OF PASS LABS AND FIRST WATT

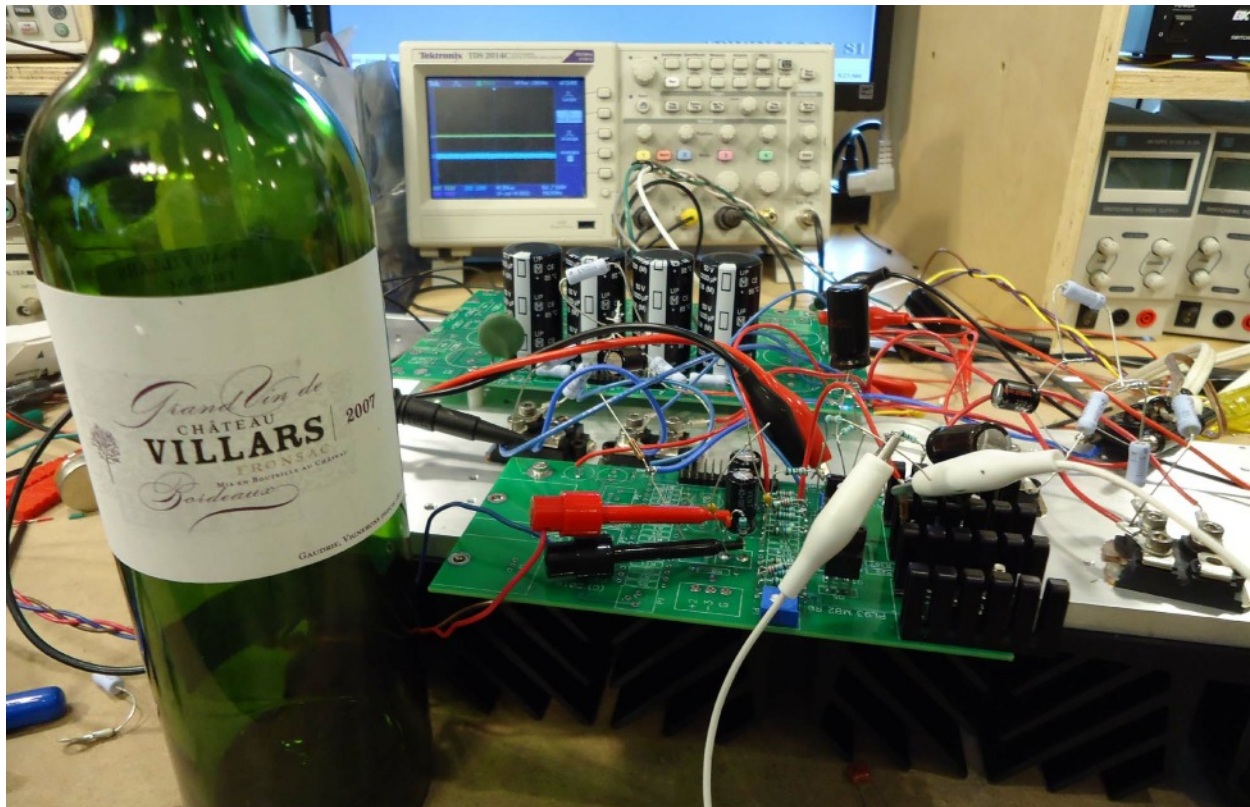


Nelson Pass is of course a very well-known and respected amplifier designer and has been for decades. He's also a major supporter of the DIY crowd, with the affectionate nickname of "Papa". But for those who really know Nelson, he is also a particularly "well-rounded" fellow, acknowledged for having his feet planted firmly on the ground.

Amongst his many accomplishments is having achieved a particularly gratifying life, where he leaves the running of the business side of his two companies: Pass Labs and First Watt, to long-term trusted associates (and shareholders), allowing him to spend all of his time "tinkering" in his beloved lab, surrounded by shelf after shelf of rare "bits & pieces" that he has adroitly stockpiled.

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NELSON PASS OF PASS LABS AND FIRST WATT



HP: Do you think that measurements alone are sufficient when building a great sounding amplifier, and if not why not?

I don't think that the measurements presented are adequate to describe whether an amplifier will sound great or not. And what do we mean by "great sounding amplifier" anyway? Sometimes amplifiers sound great, or not, depending on the rest of the system, which also includes the listener.

Considering the intended use for the amplifier, it is very appropriate that listening tests are part of the design. I like to use all the tools I have.

I am not mystical about this stuff. Things that we hear reliably are reflected in some objective measurement approach. The failure is one of interpretation, and that is to be expected since we are dealing with humans and their complicated neural networks and such.

HP: The "measurements are everything" brigade would possibly disagree with you and say that "if it measures well then it will sound good", what would you say to them to counter this argument?

If it measures well in thorough testing, then I will say that it is accurate. Whether it sounds "good" is a subjective judgment. I have no argument with anyone who wants to listen to accurate product. I spent the first 20 years of my career working to make amplifiers accurate, and that is still my goal.

Engineering being the science of compromise, we often trade one characteristic off for another. If I have the choice to make an amplifier with 0.01% distortion consisting of higher order harmonics or one with 0.1% of 2nd order, I will listen to them both and make a decision. Sometimes the result is that I offer both types.

HP: You are of course most famous for your amplifier designs, but you hold patents for loudspeakers too. Can you tell Hifi Pig readers about these designs?

I authored one acoustic patent #4899387, which for the "Shadow" active acoustic absorber. It was inspired by a story written by Arthur C. Clarke called "Silence Please" https://en.wikipedia.org/wiki/Silence_Please, found in the collection "Tales From the White Hart". The other patents were all for ways to make distortion lower in power amplifiers.

HP: Your first commercial amplifier was the Stasis (Threshold Electronics) can you tell readers about the design and history of this amplifier?

My first commercial amplifier was launched in 1975 and introduced the concept of dynamic bias applied to Class A amplifiers. By tracking the output bias against load current, the 800A stereo amplifier delivered 200 watts/ch into 8 ohms and idled at 200 watts per channel, which was half the idle consumption expected of a push-pull class A amplifier. It was also my first patent, #3995228.

The Stasis designs came several years later, and used a different design concept which reduced the distortion of transistors by lowering both the voltage and current variation in their load lines. It was patent #4107619.

The later Aleph design (Patent #5710522) was the first product from Pass Labs, and in 1995 it was followed by the SuperSymmetry design patent #5376899

(I mention these patents because you ask, but I stopped applying for patents 23 years ago)

NELSON PASS OF PASS LABS AND FIRST WATT



HP: When did you launch Pass Labs and what is the philosophy behind the brand and its designs?

I started Pass Labs in 1991 with the intent of going in a new direction which reflected my desire to create simpler, minimalist circuits that perform well without the need for lots of feedback or complicated mechanisms. I also stopped using Bipolar transistors as gain devices in favour of Field Effect Transistors. These two elements are seen in all the amplifiers of Pass Lab and First Watt.

HP: You have introduced a loudspeaker and have explored full-range speaker design. What do you feel are the benefits of full-range (wide-band) designs and what do they bring to the table that more complex loudspeakers cannot?

I find full range speakers charming, and it is fun to work with them to get the best possible sound. I like to explore minimalist approaches and they are an interesting challenge. I guess you could call speakers a hobby....

HP: You also run First Watt, how do the designs of First Watt differ from Pass Labs designs and why?

First Watt is an opportunity to explore interesting ideas and just play around with design. Many design approaches are not appropriate to the conservative commercial needs of Pass Labs, and this gives me an outlet for this activity without causing trouble.

It is structured to have many different designs, all with limited production, and all with low power, usually 10 to 25 watts. Occasionally bits of design from First Watt find their way into Pass Labs product, and that works out fine.

HP: Tell readers about your SIT designs and how you feel they resemble valve/tube amps.

Static Induction Transistors, a type of Jfet invented in Japan in the 50's, has a characteristic which resembles a Triode, which makes it particularly interesting for audio amplification. Your ordinary Fet has curves that look like Pentode tubes, but SIT characteristics show the Triode-like dependency of current both on input voltage and Plate/Cathode voltage. They have an advantage over tubes in that they don't require heaters and also operate at the kind of voltage and current appropriate to loudspeakers, not requiring output transformers.

HP: What are your thoughts on Class D technology?

I think that it's a miracle that anything works at all, especially Class D. To have it able to make a decent amplifier is just the cherry on top. I have worked with it in the past, but it's not what I want to do.

HP: You are of course very well known on the DIY scene and share many designs quite freely. How important do you feel the DIY community is to audio and why?

Very important. DIYers are the happiest audiophiles I know, and I think they are happy because they have greater involvement in audio than is experienced by consumers. Their enthusiasm is important to high end audio, and it encourages other audiophiles to explore and participate.

HP: You are involved in the annual Burning Amp festival; can you tell readers what this festival is about and how you came to be involved?

It started back in 2007 when Mark Cronander, Vladimir Simovich and Stewart Yaniger (as I recall) put it together and rented space at Ft. Mason in San Francisco. It is for "Do-It-Yourself" audio enthusiasts, and they arrived with numerous project displays and demonstrations.

NELSON PASS OF PASS LABS AND FIRST WATT



NELSON PASS OF PASS LABS AND FIRST WATT



I showed up with a truck load of parts, and when it came time to distribute them, they gave me a Santa Claus hat.

I have found ways to support the festival every year since. It's not a very big gathering, but the people who go to it are great to meet and talk to, and their projects are very interesting and well done. People come from around the world — even one fellow from Siberia!

HP: What do you do when you are not designing amps and speakers – for relaxation?

I answer emails, tend my little flock at diyaudio.com, listen to music, watch movies, read books, walk my dog Jack on the sea shore, dine out at good restaurants. What more could I want?

HP: What are your top five pieces of music/albums?

I don't know if I can really answer that. I have about 4000 CD's and maybe 1000 vinyl records, and I wander around that collection, still discovering things.

I particularly like Jazz and the "Lounge" music from the late 50's to present day Electronica. Any particularly good recording goes into rotation for evaluating equipment.



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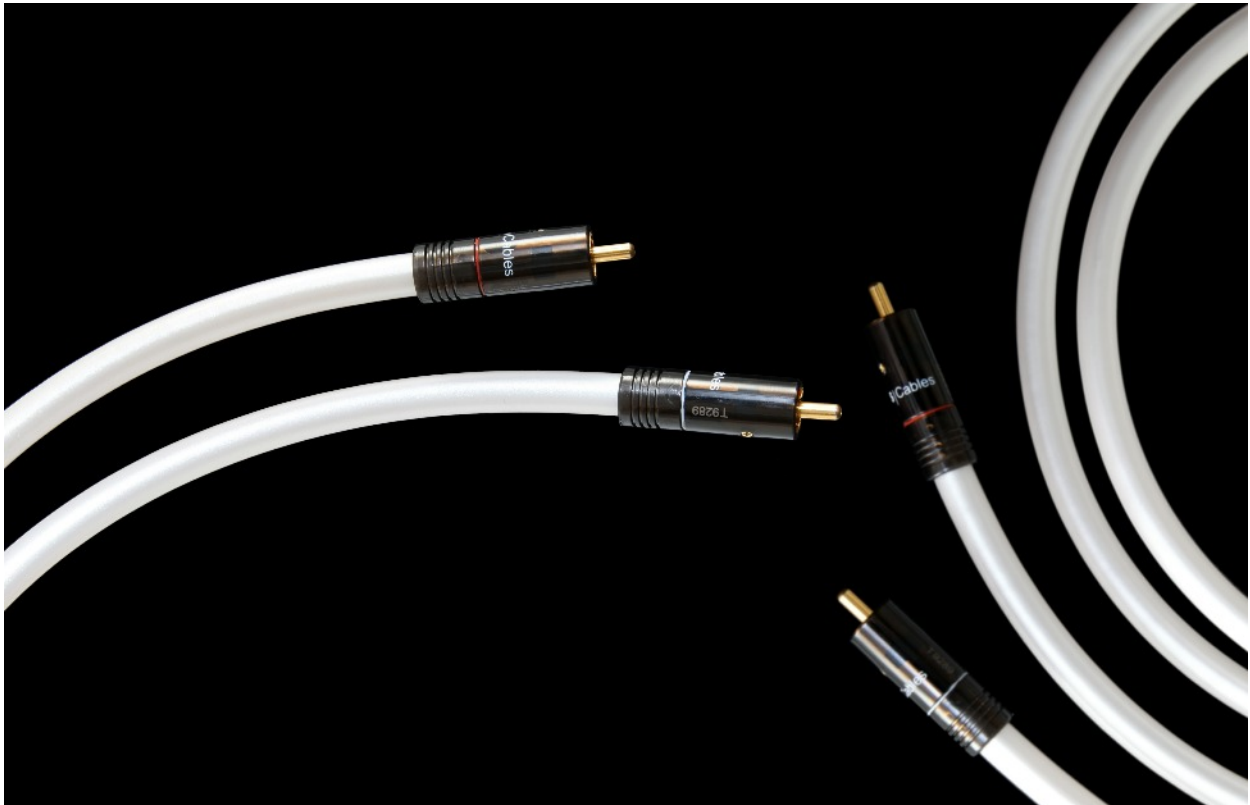
INTERVIEW

KEVIN KELLY OF ATLAS CABLES



Kevin Kelly is the Managing Director of Kilmarnock (Scotland) based cable manufacturer Atlas Cables. Here we visit their headquarters, take a tour, have a demonstration of their cable range and talk to Kevin about the history of the company, the company's design philosophy, a teensy bit of football and we avoid studiously the subject of Brexit.

KEVIN KELLY OF ATLAS CABLES



HP: When did Atlas launch and how did the launch come about?

KK: Atlas cables was originally conceived around the year 2000 as an own brand cable product for the UK specialist retailer buying group Mountain Snow. As Atlas expanded its reach in the UK and internationally the brand was purchased by a group of investors who helped provide the infrastructure and support that was needed to fuel the business growth into export markets. Atlas became more than just an in-house solution for Mountain snow but a brand in its own right supplying many more UK retailers and finding distribution around the world.

HP: Were you involved from the get-go and if not, who were the main players?

KK: I arrived relatively late to the party and purely by accident (2010). I had setup a small CI business but also kept my hand in with some electronic consultancy design work and during my research of local companies I came across Atlas. I had been in the Hi-Fi and AV business for 25 years and although Atlas was in my home town I had never heard of them. I called up Atlas and spoke to John Carrick who was a bit rude on the phone – I new immediately that this was something worth investigating!

John retired around four/five years ago and this left Jon Turner as the last of the original investors but certainly the most committed.

HP: You worked for various High Tech companies, in what capacity, for how long and how has this influenced how you go about business?

KK: I have been blessed to work with class leading companies all my life; Pilkington Defence systems, Linn, Phillips semiconductors, Loewe and Atlas.

During my career I have occupied the following positions: Electronics design engineer, Strategic design-in- Engineer, Sourcing manager, Head of Sales and Marketing and Managing Director. If you ask me what I enjoy most it's the engineering, it's the most challenging but most rewarding When you get it right!

I was lucky to be involved in Linn's original Digital Audio research that led to great products such as the Numerik studio mastering system, their first CD players the Karik and the Mimik as well as many other great products.

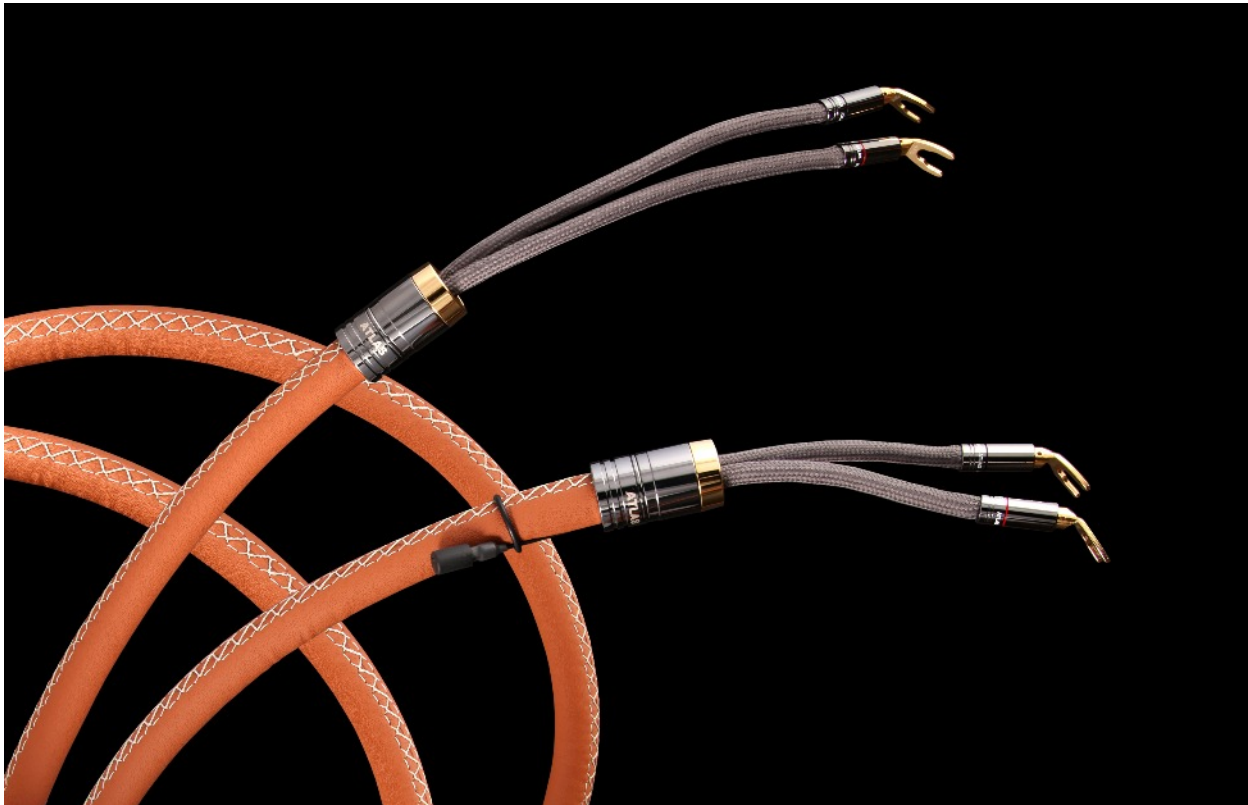
I have a strong team-based work ethic, single status, no one treated any different, all working in different roles but all pulling together in one direction.

HP: Atlas is based in Kilmarnock, Scotland, how important is this area to you and the company and would you ever consider moving out of the region?

KK: Kilmarnock was a proud industrial town; Massey Ferguson (tractors), Glazier Metals (bearings), BMK (carpets), Lace manufacturing and the home of the world-famous Johnnie Walker whisky. After 190 years in our town its heart was torn out by the closure of the Johnnie Walker factory, Johnnie Walker must have been turning in his grave. I am committed (despite the difficulties) to manufacturing Atlas products in Kilmarnock and to create opportunities for local people to have sustainable high-quality jobs available to them.

HP: Atlas recently bought the facility we visited, how important is this to the growth and future of the business?

KK: Part of our commitment to the staff and the town was our decision three years ago to invest in a bigger manufacturing facility within cycling distance of my house! We tripled our footprint and built new



demo rooms etc allowing us to grow significantly last year. We are a company that plan all our activities and our strategy for steady growth is bearing fruit with increased product quality, improved efficiency and better design processes.

HP: What would you say is the philosophy that underlies Atlas cables?

KK: We are an engineering and material science company that love music, we believe that whenever there is a sound quality difference between two products, we (Atlas) should be able to explain why that could be. We believe that all cables can be differentiated by the five following attributes;

- Conductor Quality
- Dielectric efficiency
- Plug Quality
- Manufacturing process
- Screening efficiency

HP: You mentioned that you don't use solder at all in your cables which is very unusual, what do you see as being the benefits of this process and how does it work?

KK: We don't believe soldering is necessarily bad, however when we originally chose our preferred conductor material to be OCC copper this necessitated the use of cold welding. The reason being that OCC as a material doesn't really like much "post processing" especially variable high temperatures (soldering or extrusion). As we didn't want to solder the conductor material this meant we had to design and manufacture all our own plugs. So, over the years this has developed into our brand defining manufacturing processes. We don't solder or silver plate any of our analogue cables and by not soldering we deliver very consistent products and have virtually no variability product to product.

HP: You've written a white paper on "velocity of propagation" which talks about the importance of the dielectric used. Can you explain to Hifi Pig readers the findings of the paper, what this means to the perceived sound of a cable and how you implemented your findings on your "High V" cables?

KK: We try as far as possible to be transparent and publish our cable specifications. We are often asked about how we go about designing cables and its pretty systematic. Generally, the wider the bandwidth of the cable the more natural and accurate the sound, therefore one measurement technique that gets you started is to measure/design to a Velocity of propagation figure. This is a ratio of the speed of light to the speed of an impulse travelling through any material (dielectric). This gives you a base performance level and then you can start looking at geometry, cable plug termination and delivered sound quality.

HP: The plugs and connectors Atlas use differ from product to product, explain the differences and the affects you feel the differences have on the performance of a cable.

KK: The clear benefit for us is the lack of solder in the junction between the conductor and the plug body. When you lose the non-essential material (solder) you improve the chances of maintaining signal integrity. We also change material in the plugs to match as best as possible the dielectric material in the cable. For example, we have one design for XLR plugs, however we have two sets of different pins on the plugs, OFC pins with Polyethylene dielectric for OFC cables and OCC pins with PTFE dielectric for OCC cables, same for our RCA cables.

HP: How do you carry out your R and D and who has final say with a new product?





KK: We try to design in performance with simple clear engineering methodology, then measurements and lastly plenty of testing. We have a listening panel and again the team needs to decide.

HP: Do you find that most users of Atlas cables dip their toe in the water with the lower end cables and then move up through the range? I suppose what I'm asking is "Once a customer buys into the Atlas brand do they stay loyal to the brand?"

KK: We were lucky to win the What Hi-Fi award 2011, 12 and 13 for our entry level analogue interconnect the Element Integra, which is remarkable for a small company such as us as we do compete with some big powerful companies. We talk to customers every day and many of those original Element customers have progressed through our range to Mavros and Asimi, its quite a journey.

HP: You recently launched the unashamedly high-end cable in the form of Asimi, how does this cable differ from its predecessor, what are the sonic benefits and is it aimed at a specific marketplace?

KK: Asimi OCC silver loudspeaker cables have been with us for many years however when the time came to rejuvenate the product line, we as you can imagine were a bit anxious. As always we decided to commit 100% however, we also took the unique step for us of working with a designer to improve the delivered quality" of the product. Whilst we worked on the Conductor design, improving the dielectric efficiency, implanting new RF screening techniques and developing the manufacturing process others worked on the customer experience. The result is the most advanced cable we have ever made, it's accurate, open natural and Beautiful.

Its unashamedly expensive as we used the best materials around but we also delivered a Bespoke design that can fit into the world best HiFi systems.

HP: We heard the benefits of Grun quite clearly, explain to readers what Grun is and what it brings to the table sonically.

KK: We could talk for days about Grun, suffice to say that it came about from years of continuous improvement to our products and manufacturing processes. The original idea launched with the Asimi Ultra RCA three/four years ago and that was to improve the RF performance of cables by eliminating inter-screen distortion introduced by the manufacturing process. We developed the "dual drain" technique to eliminate this issue and that provide a future pathway to providing the external Grun connection - this is the ability to connect the very important screen to an external grounding source thereby providing a direct pathway to eliminate all Rf distortion in the signal path.

HP: Let's talk digital cables. The naysayers will say that USB etc is a standard, believe me we have the discussion almost on a daily basis, and so there is no way cables with different make-up can make any difference, but our experience, both at Atlas and elsewhere, is that more often than not digital cables have the most profound effect, how would you go about explaining the effects of digital cables?

KK: Having spent years and years at a bench with a spectrum analyser I can tell you that the interconnections between product be that analogue or digital make a huge difference to the delivered audio quality in a system. As previously stated my initial profession was as a digital electronics engineer so I'm into "bits"12. In all systems the ability extract information from the data is critical, if you make the extraction of digital data easier for any receiver then there exists the potential for higher fidelity replay (audio and video) upstream. Back in 1987 I developed a technique called the sync link that was used on early Linn CD players and DAC's. The Sync link when connected steered the DAC to become the master and the CD player became the slave. This reduced time-based jitter at the critical digital to





analogue converters and resulted in better sound. Today advanced screening techniques e.g. Grun also help to reduce the RF system load and therefore again improve performance.

HP: Moving away from cables, you play in a brass band, what do you play, how often and what accolades has your band won?

KK: I started playing when I was 11 and now 47 years later, I love it even more. I play at rehearsals at least twice per week and of course I still do home practice. Playing music with your buddies is a privilege and every night I give thanks to my old dad who picked up on a comment and organised my first lesson. We are also a competitive bunch and regularly contest all over Scotland and occasionally play around the UK. We have had our share of success as Scottish champions in various grades but the enjoyment is playing well and heading to the pub having played some great music together.

HP: Do you think playing an instrument has helped you in putting cables together and what do you listen for in a cable?

KK: I certainly know the difference between noise and music, the later only happens when you pay attention to detail, when you allow the music to flow, when the cables and interconnection between products are transparent. Accuracy, openness and natural sounds are easier on the brain and stimulate the brain to enjoy and this is what we strive to do.

HP: At time of writing Kilmarnock FC are fourth in the SPFL, where are they going to be at the end of the season?

KK: Well at last onto important stuff I don't really care as I'm a supporter however if we get to third then Steve Clarke should be knighted!!!

HP: Finally, this interview will be published very shortly after the deadline for Brexit. What impact has the uncertainty around Brexit had on the business in terms of planning etc?

KK: Let's not talk about it!!!!

HIFI PIG VISITS ATLAS FACTORY

Hifi Pig visited the Scottish headquarters of Atlas in January of this year to gain an insight into the way they do things way up in the North. The weather was freezing but the welcome was warm and we thank Kevin and the team for taking the time out to spend with us.

What struck me first is that the production process is meticulous with higher-end products being made to order and with everything signed off along the production of each item.

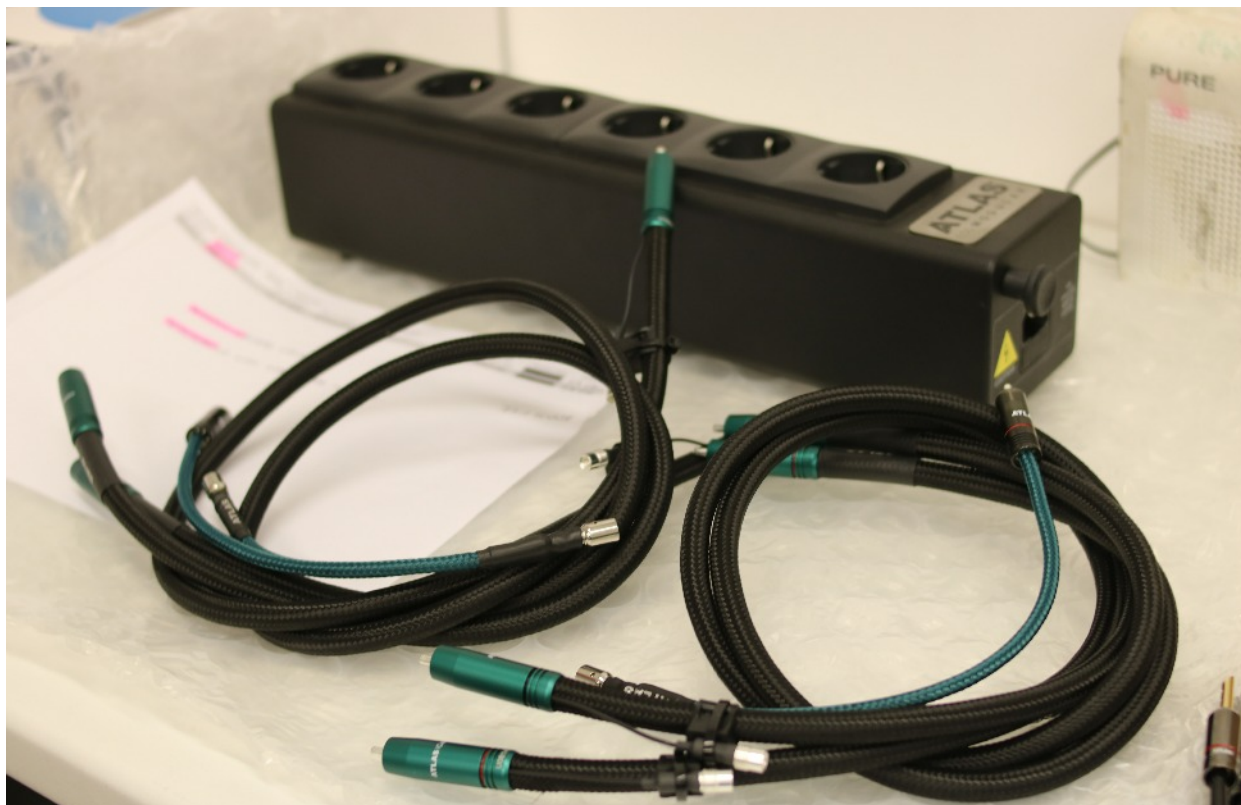
After a tour of the factory (see pictures) we went into the distribution area of the building and it is surprising to see just how big an operation Atlas really is, with racks and racks of product and this is encouraging to see. I was also encouraged to hear that the vast majority of design and manufacture of everything is done in Scotland wherever possible, with Kevin mentioning that having such control over manufacturing gave Atlas a consistency in the finished product and that all the products, having been designed by Atlas, were unique to Atlas.

One of the interesting things that Kevin was keen to talk about was not just the cable (wire) geometry used in their cables but also the dielectric and the actual plugs which Atlas see as being as big a part of the overall performance as anything else. Atlas don't use solder in their plugs and instead choose to use a technique known as a cold-weld which is essentially done by a special crimping tool.

KEVIN KELLY OF ATLAS CABLES



KEVIN KELLY OF ATLAS CABLES



We were also treated to a demonstration of the company's products by Martin McCue and Kevin, starting off with the company's entry level model, the Integra, of which there are three different models, and working through to the top of the range Mavros and Asimi cables.

The differences moving up the range are clear and whilst some people still eschew the idea of cables sounding different, I really do urge them to go take a demonstration such as this. One of the biggest surprises on the day was the improvements with the addition of better digital cables. You know, right, digital cables all have to sound the same because it's a standard that either works or not and it's zeros and ones? Not so on my experience and once again on a cable demonstration it was the digital cables that we perceived as having the biggest overall effect.

One of the more interesting things that Atlas have recently introduced is their Grun adapters that are available for Mavros Ultra and Asimi Ultra interconnects and Mavros speaker cables. Grun essentially, and I'm quoting their website on this on this: "One of the biggest obstacles to achieving the performance levels our equipment is capable of is noise. Low levels of RFI (radio frequency) and EMI (electro-magnetic interference) and noise on the signal ground all subtly modulate and degrade the overall noise levels of the system."

"Ironically, this is generally only noticeable when eliminated – even though much of this 'noise' is theoretically at frequencies beyond the range of our hearing. The main sources are noise in the mains supply and component ground connections – mobile phones, 'wallwart' chargers and wifi networks are major offenders – while a percentage is actually generated within the equipment itself. Generally things have got worse with the advent of computer audio."

"The Grun Coherent Earthing System addresses these issues by providing an 'independent' earth for users of Mavros and Asimi Ultra

interconnects and Mavros speaker cables* with the new Grun configuration."

Do I understand all that, well no I don't but the effects on what comes out of the speakers is clear and their point about "... generally only noticeable when eliminated" is absolutely true in this case.

Again thanks to Kevin and the team for the wonderful hospitality and we hope to see you all again really soon.

Are you serious about vinyl?



Having collaborated with such guest artists as The King's Singers, Judy Collins, Art Garfunkel, Mel Tormé, Ray Charles, Chet Atkins, Crystal Gayle, Lou Rawls and Roger Miller to name a few, Kory Katseane, Director of Orchestras in the BYU School of Music, knows how music is intended to sound and had this to say about the Graham Slee Accession phonostage -

"I hadn't noticed at first that the Accession was reproducing those acoustic environments more faithfully but gradually became more aware that in addition to it sounding more like real instruments, it was also sounding more like I was in great halls as well."



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INTERVIEW

JERRY BLOOMFIELD OF FALCON ACOUSTICS



Jerry Bloomfield runs Falcon Acoustics who many will know produce a licensed version of the famed BBC LS3/5A loudspeaker, much loved by audiophiles the world over. As well as producing the speakers to their original specifications from 1976 the company also produce a wide range of drivers etc for the replacement and DIY market. But it hasn't always been loudspeakers and audio, Jerry has a very interesting past that involved doing light-shows for some of the biggest names on the "underground" scene. Hifi Pig catches up with Jerry to chew the proverbial fat.

Hifi Pig
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JERRY BLOOMFIELD OF FALCON ACOUSTICS



HP: You studied Zoology but made your living as a student doing light shows for some big names in the 60s, how did this come about and can you tell readers some of the stories from those days...I'm sure there will be many.

JB: Well, it all came about because I'd always had an interest even when at school in stage lighting, audio and writing. Actually being a performer never interested me. Can't sing, can't play an instrument. I also used to run coach trips up to London from Sussex to go to concerts, Bob Dylan at the Albert Hall in 1965 and 1966 when he went electric (we were shocked) being good examples.

So, when I got to University in 1966, for fun I joined the student newspaper, and one of my first assignments in December because I knew about concerts in London was to go down to London and write an article about the "underground". For younger readers this was the name used for the '60's "counter-culture".. I was supposed to stay one day one day in London - and ended up spending 5 days in a bit of a haze. While I was there, I got taken to UFO in Tottenham Court Road to see Pink Floyd, I was absolutely blown away, and that was the first liquid light show I had ever seen. Again for those who are too young to know about these things, UFO was a weekend club in the basement of Barney's which was one of the "Irish" pubs on the Tottenham Court Road. Long gone.

And that's how it all started, I got together with some friends and after some practice we were up and running. It was hard work, not much time for sleeping, didn't go to many university lectures, to my immense surprise got a degree and most importantly had enormous fun.

Most of the stories of the '60's have been told, best recalled over a pint :-). I do remember (sometimes not very clearly) particular happenings like the 14 Hour Technicolour Dream at Ally Pally, and

performances from bands like Pink Floyd, Cream, Soft Machine, Jimi Hendrix, the Doors at the Roundhouse etc.

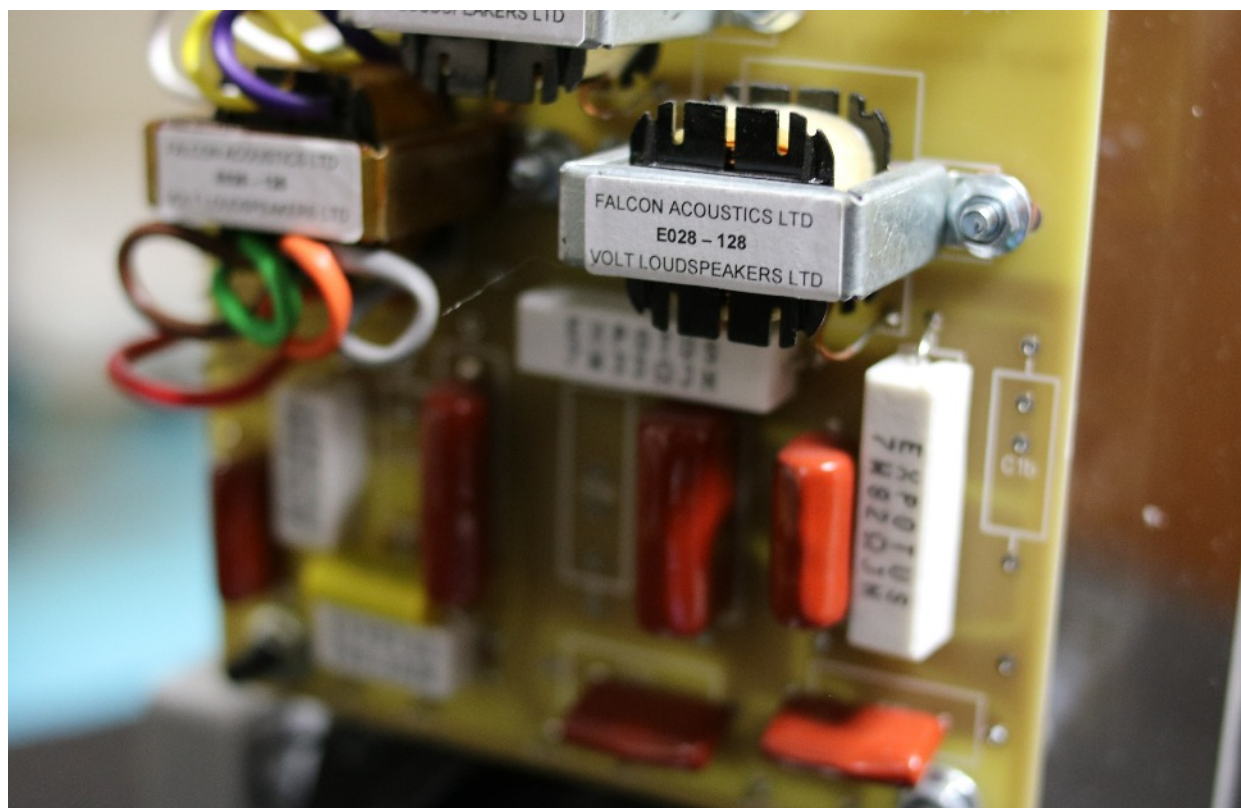
What I really remember is that it was time of enormous creativity. There was an explosion of colour, talent and opportunity, much of what was done is still with us, it ushered in great social changes in the UK, the start of environmental awareness, internationally it was the time of the Civil Rights movement, the Vietnam War and many of us felt very strongly about these and many other issues.

HP: After light shows you moved into audio and ended up developing property in Greece, that's quite a change in direction, how did it come about?

JB: There's about 35 years of work here. Firstly in the early 1970's I went into audio on the installation and then the retail side. Still have the back problems from lifting KEF Concerto's around! We used to sell lots of KEF, Goodmans, Wharfedale and Tannoys, Quad 33/303, Garrard, SME arms, Shure cartridges, Ferrographs, all mainly what we now call classic (mainly) British HiFi. Remember this was the time when British HiFi was in it's heyday, new ideas, developments and products by the bucket load. Fridays we usually changed the window display for amplifiers with more knobs and switches, graphic equalisers were a must, more knobs etc. on Saturdays equalled better sales.

Then I got married, and was told I needed to get a proper job :-). Nobody would employ someone with shoulder-length hair, but eventually I got a job in the City where to everyone's surprise I found a talent for commercial and residential property. The City gave me a superb business training, but it didn't have the social relevance I wanted in my work. Many years later during which time I'd remarried, professionally had worked mainly for Social Housing providers and eventually major developers, I'd set up my own property development company, sold my share out after a few years and stopped working.

JERRY BLOOMFIELD OF FALCON ACOUSTICS



However, I quickly found out that doing nothing much didn't agree with me.

We'd bought a house in Crete by then, we started having children quite late in life, and it was decided I was getting too restless and needed to do something. Greece started after a close friend and I started a small development company in Crete initially renovating traditional Cretan Stone houses. Wonderful country, wonderful people. It was very enjoyable creative work, and it went really well for some years until my friend became very ill and died. Our heart wasn't in it after that and although we carried on for a while we all decided it was time to stop.

HP: What was your first proper Hifi system?

JB: Oh goodness. I need time to think about that. We'll draw a veil over the 1959 Radio Rentals Dansette record player.

My first attempt at an audio system would have been in about 1962, maybe 1963. I had a second-hand Garrard 4HF Turntable, can't remember what cartridge, a Pamphonic 3001 (Tube) Amplifier, and a pair of speakers I'd built myself out of EMI and Goodmans drivers. Think I got most of it at Henry's Radio or it might have been RSC Components on the Edgware Road. In those days Edgware Road and Tottenham Court Road was the best places for valves, parts, hifi, kit parts, ex-Services gear, they were great places for anyone with an interest in electronics. Plus a quick dash to the public library to go through pages of adverts in the back of Wireless World each month.

For many years I had the usual Goldring GL75 with a Shure M75EJ, Leak then Technics amplifiers, and a pair of B&W DM4's which I bought being cleared out at Lasky's for about £30. I still have the DM4's, still enjoy them, they're a good little speaker.

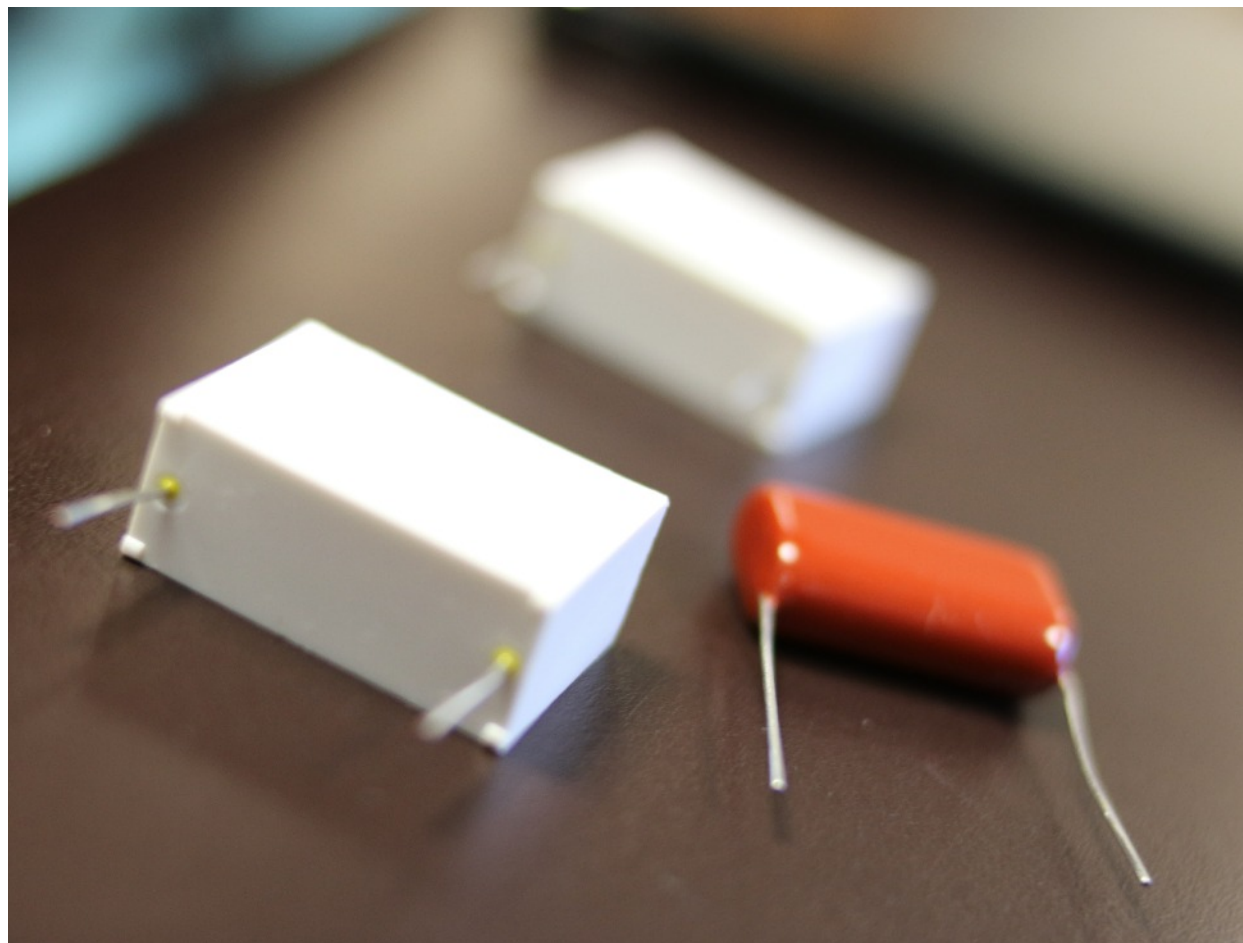
HP: There is an interesting story about how you came to be involved and owning Falcon Acoustics, can you tell it to Hifi Pig readers?

JB: Well, I had tried dying in 2009 from a serious heart attack. Thanks to the NHS who were and are frankly wonderful (and should be protected from politicians of all persuasions) I discovered that death is very over-rated and definitely best avoided if possible. Once I had started recovery which was a slow process it was very clear I couldn't carry on as before, so I thought I would maybe enjoy going back to audio and playing around with loudspeakers. Over time, Malcolm Jones and I reconnected, I started buying components from Falcon and gradually a small business started to develop. One day the phone rang, it was Malcolm.

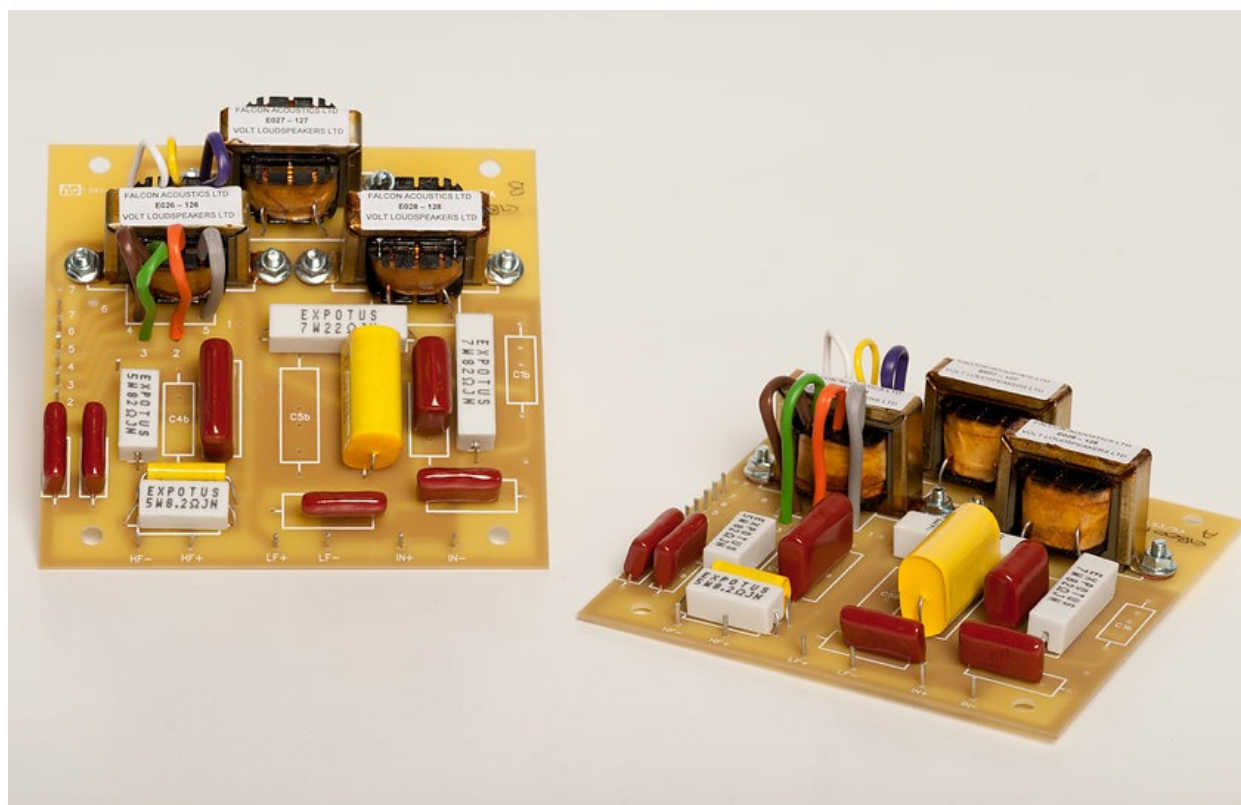
To give this part of Falcon's history context, Malcolm and his wife Valerie had started Falcon Acoustics back in 1972 when Malcolm was at KEF, and it became a full time business in 1974. Malcolm had developed the self-bonding inductor, he had quite correctly offered it as an idea first to KEF who weren't interested but were happy for him to develop it himself. So Falcon started supplying inductors to the UK Hifi Industry which at that time was thriving, Falcon grew so rapidly that Malcolm left KEF in 1974. From that point onwards, they worked incredibly hard, Falcon was responsible over many years for making and supplying about 80% of all audio inductors in the UK in addition to be a major components and drive unit supplier to the DIY market in the UK and abroad. Things began to slow down a from the late 1980's onwards as the British Hifi industry contracted under the increasing impact of Far East imports.

Valerie had very sadly died a few years before Malcolm called me, and he asked me if I was interested in taking over Falcon. Falcon had contracted more since Valerie's passing, and Malcolm wanted to finally retire. He said he couldn't think of anybody better, my natural reply was that he'd obviously run out of people to ask. We met up, I

JERRY BLOOMFIELD OF FALCON ACOUSTICS



JERRY BLOOMFIELD OF FALCON ACOUSTICS



looked at the enormous piles of boxes of stock, a lot of it looked old, and the inventory was in Malcolm's head. No idea how to proceed.

The deal we put together was that I bought Falcon for the equivalent cost of a family holiday for Malcolm at our house in Crete, with a promise to Malcolm to keep the Falcon name and if we did anything together a mutual promise to look after each other and our respective children and grandchildren. We shook hands, I now owned an enormous number of full boxes of indeterminate bits, we went for lunch, and that's how I ended up owning Falcon.

HP: Falcon are especially famous for their BBC licensed LS3/5a loudspeakers, why do you think that the LS3/5a has become such an iconic speaker and what do you think it brings to the table that other small monitor models miss?

JB: I think the simple answer is that the LS3/5a in its original 1976 Specification form with a B110 and a T27 is a classic design with patina and pedigree.

The Falcon is the only LS3/5a now made that 100% follows the original BBC Specification from 1976, and we're very proud of it, especially the fact that over 99% of the parts are UK/EU sourced, and it's all protected. A real LS3/5a has a B110, a T27 and a BBC FL6/23 crossover, all in a critically damped Baltic Ply cabinet.

Sadly the BBC no longer insists on the same rigid specification and performance for the LS3/5a as they used to, but we will carry on making them as they were meant to be made.

It's an extremely good loudspeaker, the BBC staff who designed it did a very good job on it, and it still manages to surprise people who encounter it for the first time now as we all know. The choice of components the BBC made was and is absolutely critical to the success of the LS3/5a, the selection, tolerancing and build quality is

key to its quality and longevity. They didn't compromise in 1976 and neither do we now.

It doesn't matter that the design is 45-50 years old, a genuine new LS3/5a built to the original 1976 BBC Specification using a genuine B110 and a genuine T27 (which Malcolm originally designed at KEF, designed again for Falcon and which we again we proudly and uniquely produce at Falcon) may be older technology, but it plays music and reproduces voice beautifully, and particularly has a midrange quality which still puts most modern small speakers to shame.

The Laws of Physics have not changed, nor have the ears we use to listen with. Despite new designs and materials for loudspeakers, the basics have not changed either and the reality is that there has not been a quantum leap in loudspeaker design since the 1970's, i.e. the times in which the LS3/5a was designed.

On a personal note, I'm not convinced that many of the current crop of small monitors will still be in production in 5 years time, never mind 50 years time, but I suspect the "original" LS3/5a with all its BBC heritage may well still be around. I hope so.

HP: Can you give Hifi Pig readers a bit of a history lesson with regards the LS3/5a; it's original purpose, design etc?

JB It's best to look at this as several interconnecting strands starting about 1962/63, when you have both the BBC and KEF looking at new materials particularly plastics for loudspeaker cones. This is the reason why Raymond Cooke set up KEF, and why Malcolm Jones with his industrial chemistry experience and interest in audio meant you had two people in the right place at the right time. KEF and the BBC met up frequently to compare notes, apparently enjoying some serious lunches at the BBC R&D Department. Eventually Malcolm designed the first B110 with a Bextrene cone in 1964/65, followed by

JERRY BLOOMFIELD OF FALCON ACOUSTICS



JERRY BLOOMFIELD OF FALCON ACOUSTICS

the T27. They were quickly put into production and became incredibly successful.

The BBC were also trying to develop a similar sized drive unit to the B110 which they intended to use in acoustic scale modelling for the improvements to the legendary Maida Vale Studio in London, but it was not a success, and in the end they abandoned it in favour of using KEF B110's.

Moving on to 1967/68, the rapidly expanding BBC local radio network meant there was a need for a small monitor that could also be used for Outside Broadcast work, primarily it had to be accurate for voice, it had to be highly consistent so that BBC staff who moved around knew what they were hearing was the same wherever they were, and also fit into the OB van equipment racks. That's why all LS3/5a's are supposed to sound the same and it is the size it is.

The BBC came down to see Malcolm, and were given a box of then current production B110's and a box of T27's. After a long development period, and having spent £100,000 (the equivalent of nearly £1.75m in today's money), the result was the LS3/5. It had cost so much there were questions about it in Parliament.

It used a 9mm ply critically damped cabinet, selected KEF B110's and T27's, and a complex crossover giving a nominal impedance of 15 ohms. Only about 20 were ever made, a few are anecdotally reported as actually used, but the rest were put on a shelf and forgotten about. We've made a pair to the correct original specification using the correct cabinet construction with original drive units that Malcolm kept back, from this it was possible to hear what the LS3/5 was supposed to sound like, they are simply extraordinary.

The LS3/5 was never produced commercially, and there's not many people left now who will have ever heard a real pair.

Malcolm remembers a key visit from the BBC Design Department to KEF in April 1972, they came down with a pair of LS3/5's, and they were compared over lunch to the KEF Cresta which was in commercial production. We at Falcon still have Malcolm's detailed measurements and notes about the LS3/5 from that meeting, possibly they are the only measurements that exist now. As an aside, our "new" LS3/5 measures very much the same, so we know we've got it right. The BBC had decided they wanted to dust the LS3/5 off as they needed a small monitor again.

Nobody at the BBC had realised that the B110 and T27 had been improved some years before and that 1972 production units were different to the 1967 units they had in the LS3/5 and which they now wanted again. The BBC hadn't asked, and KEF hadn't told them as the BBC hadn't seemed interested any longer. The original KEF production tooling had worn out, the BBC couldn't afford to pay for new tooling, and that's how it was left.

Samples of the new version drive units were provided to the BBC, it looks like some work carried on, but was given fresh impetus when Rogers approached the BBC in 1974 to possibly licence the LS3/5 for commercial sale. It's clear that the fact the project was effectively abandoned had not filtered through to the relevant departments, the LS3/5 got quite far down the line with Rogers who even went to the extent of printing publicity material and announcing the launch, only to discover the BBC couldn't actually produce the speaker and Rogers couldn't build it.

At this point we can reasonably assume that some heated discussions were going on, so the BBC Design Department took over. Making use of the original LS3/5 cabinets (we have two of these cabinets in our Reference section) and especially graded KEF B110's and T27's which Malcolm helped with, they rapidly pulled the project together and produced the first working LS3/5a systems.

I don't think anyone could reasonably claim there was a grand plan for the LS3/5a, but the fact is that the BBC ended up producing one of the great audio classics of all time.

In 1988 the 11 ohm version was introduced, the changes being necessary due to increasing tolerance/grading issues for KEF with the B110, the main reason being that KEF had problems with Bextrene consistency.

There have been several licencees over the years until production ceased in 1998/99 as the production of the KEF B110 and T27 stopped, for the classic 15 ohm version these were Rogers, AudioMaster, Chartwell, Goodmans and RAM, and for the 11 ohm version Rogers, Spendor, Harbeth and KEF.

It's only since Malcolm redesigned the original drive units which we make again and have used since late 2014 in the Falcon LS3/5a that it's been possible to hear a new real LS3/5a again.

HP: You have just finished working on an improvement of the original LS3/5a that will be limited to just 50 pairs, how does this model differ from the original and how do you think it improves on the design?

JB Improvement is the wrong word, realisation of what the BBC R&D team originally intended would be much nearer the position. We've called it the Kingswood Warren Limited Edition after the BBC R&D Department which was located in a rather fine Georgian building in Kingswood Warren Surrey.

We've used a 9mm Baltic ply thin wall cabinet with screwed back using original BBC LS3/5 cabinets as a reference, 100% accurately remanufactured the original BBC inductors with RadioMetal laminations, and also made a special run of Falcon Polycarbonate Film capacitors. Polycarbonate film hasn't been made for some 20+ years, and we were lucky enough to find enough for this edition. So the crossover in these is very special, seriously expensive to produce and won't have been heard since the BBC made them originally in 1974.

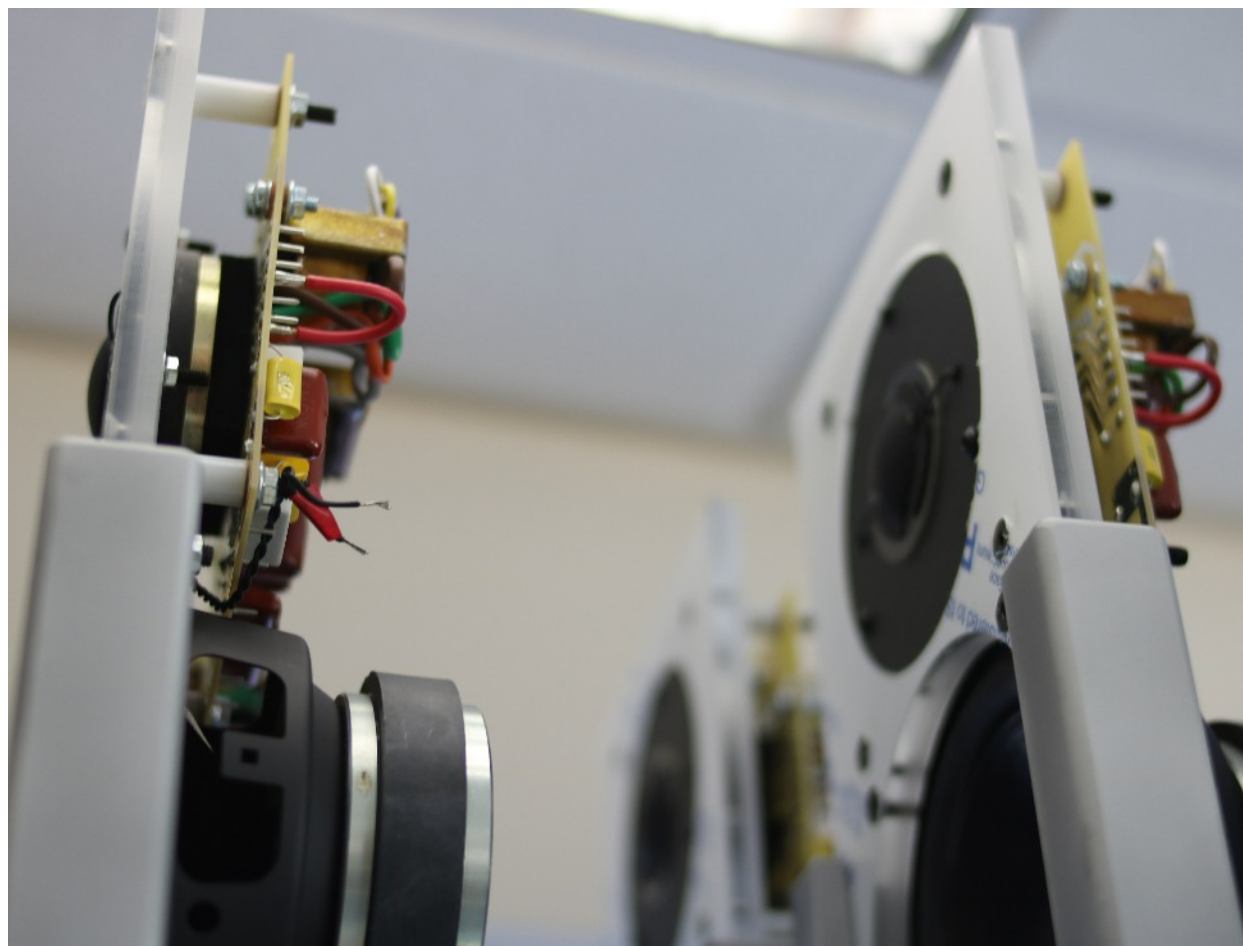
The sound quality, soundstage and imaging is quite remarkable, and well worth the 3 years of effort in getting it to production. This Limited Edition was fully reserved by Falcon Distributors in 8 days and is scheduled to be with dealers in April-May.

HP: What are your biggest geographical areas sales-wise and where do you see there being growth areas in the coming years?

JB: Where it comes to loudspeaker systems we have an increasingly diverse product range, and I don't think we have one sales area that predominates now. I guess traditionally LS3/5a's have always been reputed to sell more in Asia, but they are an international product these days. Equally, our DIY online store is completely international, there are very few countries we don't regularly ship to.

HP: Replacement drivers are a big part of Falcon's turnover and you make all your drivers in-house, what are the biggest sellers?

JERRY BLOOMFIELD OF FALCON ACOUSTICS



JERRY BLOOMFIELD OF FALCON ACOUSTICS

JB: Falcon presently makes the B110 SP1003 version, the T27 and the recently introduced B139. We have others that we plan to bring on stream during 2019/2020. They are all steady sellers, but we probably sell more B110's for the retro-fit market out of all of them, for certain due to this driver having the biggest original production/sales figures. We've been genuinely surprised by how well the B139 has done in its first few months of production, we've had much higher demand than expected.

The next models we're bringing out will complement our existing range.

HP: The DIY market seems to be having a bit of a resurgence, indeed Hifi Pig have recently added a DIY section to the quarterly e-magazine and site, how have you seen this market change over the years and how important do you think it is to have a healthy DIY sector in the market?

JB: For us at Falcon, of course it's vital. Falcon has been active in the DIY market for decades, it's a major international part of our business and we plan that it will remain so. I'm all for encouraging people to make their own audio equipment, both for enjoyment and satisfaction, but also to learn and acquire new skills and develop new ideas, and who knows, bring them to the market and set up a business.

Certainly the market shrunk over the past few years, part of that is demographic, and part of that is due to the lack of DIY projects easily available to people starting to be interested in audio. But yes, you're right, it does seem to be coming back a bit.

It's quite daunting to decide to build your own audio and then not have a clue where to start. Back in the 1970's and 1980's when DIY was at its peak, there were magazines that every month would start with the basics, provide both simple and more complex DIY designs, and it was perfectly possible to start with an easy build and then over a period of time start to be involved with quite complex projects. Maybe HiFi Pig could think about doing this again!

HP: You have just introduced the B139 driver which looks a lot like the passive radiators of days gone by but this is a active drive unit, what is the thinking behind this and where do you see the driver being used?

JB: The B139 always was an active driver, the passive radiator BD139 version was introduced a little later initially in the KEF Cadenza and then the KEF 104/104aB and Calinda, all excellent systems of their time. We were simply responding as before to customer requests for replacement drivers.

A small story for Hifi Pig readers. The reason the B139 was developed by Malcolm (Jones) was entirely due to tax. Before the introduction of VAT, all loudspeakers 10" or more in diameter were taxed through Purchase Tax, the percentage rate varied, typically on luxury goods it would be 25%. The B139 is technically under 10" wide, so it didn't carry Purchase Tax which gave KEF a huge sales advantage. Typical of a Yorkshireman to design a loudspeaker specifically to get round paying tax..

It's also good shape for modern floor standers with it's narrow aspect, as a result we're also looking at different uses and constructions using the same profile.

HP: You have recently introduced RAM speakers to the portfolio, what is the thinking behind the brand?

JB: RAM speakers are intended to be a range that give good sonic quality, good build, good cabinets and good design. Our brief was to be able to offer affordable speakers giving really good value for money. The original RAM speakers in the 1970's and 1980's did exactly that, so we are trying to carry on that ethos.

There are 3 speakers in the present range, all ported, the ST10 (2-way stand mount), the ST20 (larger 2-way stand mount) and the ST30, a 3 way twin-woofer floorstander with 2" dome midrange. All have Italian hand-wrapped cabinets and are made to the same quality as our BBC monitors.

We've been getting 5* reviews across the range and sales have been good, so it looks like we've achieved our objectives.

HP: The Falcon Reference Series looks like a bit of a departure from the more traditional designs, indeed it utilises Graphene in the drivers, what is the design thinking behind the design and what does Graphene bring to the table over and above more standard materials?

JB: Falcon has always been involved in speaker design, and given our pedigree its entirely logical that we should look at new materials as well. It's the other side of what we do, obviously very different from our BBC monitors, but you can see why we coined the phrase "Tradition and Technology" to describe what we do.

We'd been investigating and working with Graphene here for some time, and assessing it's properties, uses and benefits.

We've ended up producing a 6.5" diameter 300 micron cone with extraordinary stiffness and internal damping properties. We make these ourselves in-house, and we're now actively developing more applications. It gives us a bass driver with ultra-fast attack, superb transients and speed. More than that I don't want to talk about if you don't mind as it's commercially sensitive.

The cabinets have 25mm thick sections are constructed out of laminated 3mm MDF which is then tooled and moulded are again made in Italy as sadly non-one in the UK has the expertise to make what we want. Metalwork is from our usual engineers who are also working on Formula 1 cars so that gives you an idea of the quality thresholds we are going for here.

HP: Finally, do you think the audio industry is in good shape and where do you think trends are heading?

JB: Let me turn the question round. I had a long conversation recently with Marjorie Baumert when we met up at the last Warsaw Show which set me thinking. For those who don't know her, Marjorie is one of the nicest people I've met in our business, and runs the Rocky Mountain Audio Fest in Denver.

We were talking about the exact same question, and all us chaps around the table were talking about the current industry trends i.e. streaming, networks, active speakers etc., when she quietly said that in her opinion we were missing an essential point that women are conspicuously few in audio, be that either in manufacturing or on the retail side. Her question was that women make up 50% of the population, so how would this imbalance be addressed, because in

JERRY BLOOMFIELD OF FALCON ACOUSTICS



her opinion the audio industry could not develop or expand unless it becomes more accessible and welcoming to women.

It's true, our industry is almost exclusively male-orientated, we are gradually progressing into an "intelligent house" family living environment, and yet we all still seem to be working in the same way as the car industry was in the 1950's when "the husband" went off to buy the new family car while "the little woman/wife" stayed at home. Out of all audio show visitors, maybe 2% are women, the rest are guys often carrying their personal man cave (aka rucksack) on their back.

The truth is also that our present mostly male client group is probably gradually reducing in numbers as younger people don't encounter good audio in the same way as they did say 30 years ago, have never had that epiphany moment when you realise what good audio is capable of, and buy essentially disposable bits from supermarkets instead. So on that analysis our industry is more likely to contract than expand.

It's almost like high quality audio and finding out about it is made deliberately threatening unless you're a man. We're missing enormous opportunities with entrenched attitudes.

I'm not sure of the answers, some of this comes from the education system and the way choices are encouraged by gender (still), part stems from the way opportunities and training are developed in the manufacturing work-place, and the chances of being helped, audition or choose in a retail audio store other than by a man can probably be counted on a single hand.

I think it's a debate our industry has got to have, you can produce superb state of the art audio technology but if by accident or design we ignore half the population, we're shooting ourselves in the foot. I believe that we have to consciously broaden our approach and engagement, and ensure the products we make are not only good and relevant, but we have to broaden their appeal ,they have to be

wanted by and be capable of being acquired by the widest possible population. All of which includes and involves women. It seems to be a given in all industries these days, except ours.

HIFI PIG VISITS FALCON AUDIO FACTORY

After hearing the Falcon Ls3/5a at the Warsaw Audio Visual Show, where we thought it one of the sonic highlights, we were keen to take a look around the company and see what goes into producing these speakers. Jerry and Graham were great hosts and clearly very passionate about what they do, and on the day were very excited about the newly arrived oven that would help them in cone manufacture.

This is genuinely artisan production, but make no mistake, the loudspeakers are shipping in massive numbers, to the point that the limited run of 500 of their "super" LS3 5a had already sold out before full production had begun. This loudspeaker has a thicker cabinet and better toleranced and sourced components and the results are breathtaking.

We thought the LS3/5a was good on the end of the Sugden electronics, but the super just upped the ante a notch or three. The LS3/5a is open and pinpoint accurate in its imaging but the super is just more so and it is difficult not to have wished we'd put our names down for a pair when they were first announced - or when we first found out about them. Of course they are meant to be played and used, and their owners will get immense satisfaction from them I'm sure, but, given the prices of LS3/5a loudspeakers on the used market, I can only see this variant increasing in price over the years.

Thanks to Jerry and Graham for their wonderful hospitality and giving us the opportunity to hear what is bound to become a classic of a classic....

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INTERVIEW

FRED DAVIES OF AXJET



Fred Davies is the man behind the interesting and unusually designed Axjet loudspeakers. Hifi Pig takes the opportunity to chat with Fred about his background and the design and technology behind his loudspeakers.

Hifi Pig
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HP: What's your background in the audio industry and what got you interested in loudspeaker design?

FD: I was in bands as a teenager. I wasn't a great musician though but I had the WEM PA system and I have been involved with sound ever since. At that time, I had my first experience of HiFi ... Thorens/SME/Shure, Quad303/33, Wharfedale speakers playing Kind of Blue by Miles Davis

HP: Tell readers about the first loudspeakers you designed and built. Were they any good and what did you learn from the process?

FD: During the 1970s I made a few basic boxes using Goodmans 12" or 15" dual concentrics. We used to put baffles in old Belfast sinks stood up on end and stuff the back with pillows. I used old Navy announcement horns for HF with a capacitor for simple high pass. They sounded fine at the time but I was already researching proper horns in Prof. Jack Dinsdale's 1972 articles in Wireless World which were based on the work of Voigt, Roy Fountain, Paul Klipsch, and Rex Baldock (who I was lucky enough to talk to). In 1977 I got the opportunity to build my first design in concrete as under-floor compound horns with mouths beneath the windows of our lounge in a converted barn in West Wales. They really sounded fantastic with Lowther PM2 drivers, but as my understanding has broadened over the years, I can see some of their flaws now!

HP: Tell HiFi Pig readers about the origins of the shape of your loudspeakers as they are certainly a departure from the norm.

FD: The classic notion of form following function dictates that a compound horn (front and rear loading of the driver) must fold the large rear horn to face in the same direction as the smaller front horn. I folded it up like a saxophone and placed the driver at a suitable height for listening in a comfortable seated position. The whole back

of the speaker is really just a stylish cover for the concrete (GRC) horns with a connection plate at a reasonable height and a way of supporting the rear castor to allow the whole speaker to be well balanced yet easily movable.

HP: What drivers have you chosen in your speakers and why?

FD: AER, AER, AER! I have tried many full-range drivers and it is always difficult to achieve high sensitivity and flattish response over the full audio spectrum ... at least 40hz to 15khz. Fostex, Seas, old Wharfedales are amongst the many experimented with, but I focused first on Lowther which has a predominant mid (the Lowther shout!). I tried a number of Chinese made units ... Audio Nirvana (a bit American rock & roll ..heavy cone, woolly bass and poor HF) and Tang Band ... great, but not very refined. I tried the Voxativ (AER knock off's) and was a bit disappointed, but finally I met Filip Keller and tried his remarkable units. He has been repairing full range drivers for 30 odd years and designing his own units all the while. The first AXJET used the MD2B and our AXsuperjet uses AER BD4B. These drivers are like a Mercedes engine for our F1 car. Filip tunes each component like AMG do with Mercedes and he is based in Stuttgart! These drivers have an incredibly flat response, beautifully smooth mid and extended clean HF whilst still having enormous SPL and the "B" models have extended bass.

HP: What do you think are the benefits of very sensitive loudspeakers over and above less sensitive loudspeakers?

FD: In the context of horns, high sensitivity is very important. Not only does this enable us to get high sound pressure levels without needing the power station grunt of large amplifiers that many big speakers require my feeling is that the greater the electronic amplification of the signal, the greater chance of amplifying distortions in the signal path ... but an intense magnetic flux with highly sensitive coil gives the lightweight cone the opportunity to present a really clean powerful





wavefront to the throat of the horn. This means that there is little or no hangover (the inertia of heavier cones reversing direction makes for a blurry sound) and the very small x-max also means that the cone is just vibrating imperceptibly without pumping backwards and forwards inefficiently with associated distortion.

HP: There is a move towards loudspeaker manufacturers using DSP in their designs, what are your thoughts on DSP and have you used it in your designs at all?

FD: Our first versions of the new AXJET were lacking in bass. The initial reaction was to try and address that electronically. We used an AudioVolver to boost bass below 80hz and also tried a DEQX. Both are good DACs but DSP just reduces all the dynamic advantages of the AXJETS. After more years of experimentation with a radical redesign of the bass horn and compression chamber I finally found the answer to allow the AXJETS to perform as they were intended a full-range, flat response and very dynamic 3 way horn loading requiring just a few watts of power to produce huge real world sounds. I much prefer analogue from the DAC onwards with no corrections at all.

HP: You have recently taken on G-Point Audio as your UK distributor, what do you think the benefits of having distribution channels will be for Axjet?

FD: Greg Drygala at G-Point is an enthusiast, not just a salesman. He is actually our first Agent and will soon have the latest pair of AXsuperjets at his showroom at Heathfield in East Sussex. He is also representing AER in the UK with their amazing BBX panel exciters and will also be showing with us in Munich. We tend to concentrate on design and development then manufacture, Greg has a wider knowledge of a broader range of audio products that he can bring to the AXJET with appropriate amplifiers, cables etc.

HP: Since we last spoke you have added a new model to the existing AxJet, how does this new model differ and what does it bring that the older model didn't?

FD: The very first AXJETS in 1992 and then the redesigned versions from 2011 sounded great but lacked enough bass as is often the case with back horn designs. I had been working on an "afterburner" design (the annular insert at the front of the driver) to increase pressure loading to the front of the drive unit and aid transfer of more energy to the rear horn to both increase SPL and bass response. We started to get good results with levels but bass still eluded us. Control of the speaker diaphragm at high power levels was improved considerably with the afterburner but it was experimentation with different throat sizes and hyperbolic/exponential expansion rates that led to the dramatic bass improvement. We incorporated this into a modified AXJET which as Version 3 is the current standard AXJET. I still felt we had further to go in terms of cone control and we started really looking at ways of getting the most out of the rear compression or transfer chamber behind the driver. Happily, in late 2017 we found it and we worked for the next year tweaking our "afterburner" in parallel with Filip's development of the AER super driver BD4. The AX superjet was born and we have used OCC cables and Mundorf gold plated solid copper connectors cold crimped with no solder to complete the signal path for the purest sound. We have even better bass incredibly smooth response across the whole frequency range and if it is possible even better dynamics. The transient response is dramatic and we can achieve realistic concert hall or nightclub levels effortlessly.

HP: You are attending and exhibiting at Munich High-End in May for the first time, who are you exhibiting with and what do you hope to come away from the show with?

FD: Our long road of R&D has been costly so we cannot independently promote our products like the bigger well-heeled

FRED DAVIES OF AXJET



manufacturers. However, we have a very special product and to do it justice, it needs to be seen on a world stage. Munich High-End has come to be seen as one of, if not the leading, Hifi show worldwide and it is important for the AXJETs to be seen and heard there. So, we are co-operating with G-point to show in the JoSound room with Joe Jouhal under the AER banner with Filip Keller. We will share front end from G-Point and alternate demos between JoSound and AXJETs every 2 hours. It will be good to have journalists and videographers checking us out and letting their audience know that some of us have moved beyond "old man's hifi" and that it is not all about fancy electronics and software, but real sound in well made, beautiful objects is possible and now a reality with AXJETs. We look forward to meeting those fortunate few of the public who get to Munich and we may also encounter potential European agents for AXJETs. We are not isolationist Brexiters, we are global citizens... please come and see us in room E206 on Atrium 4.2 !

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INTERVIEW

LUKASZ FIKUS OF LAMPIZATOR



Lukasz Fikus was a cult figure on the audio scene long before the launch of his wildly successful commercial brand Lampizator. Previously he was known as THE guy that modified common or garden audio products and elevated them to giant-killing stature, now he makes what some believe to be the best audio available right now. Hifi Pig speaks to him.

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LUKASZ FIKUS OF LAMPIZATOR



HP: You gained quite a reputation, some would say cult-like status, with your modifications to common audio products, where did the idea to modify these products come from and where does the Lampizator name come from?

LF: Curiosity, itching fingers, dissatisfaction with status-quo, pursuit of perfection, poverty. All of the above factors led me to tinkering with the existing products and tubes proved to be the tool to make things better.

A person who does the above-mentioned activity can be called - with a grain of humor - the Lampizator – in the Polish language. Of course, a part of it is the play on words with Terminator the tough guy.

HP: What was the most successful of your mods and what made it stand out from the rest?

LF: The TDA1541A CD player with fully tubed conversion tube stage - this is a giant killer - the Lampizator – in the Polish language. Of course, a part of it is the play on words with Terminator the tough guy.

HP: Poland has a strong reputation for DIY in audio, where do you think this comes from?

LF: Poverty and high-education entwined.

HP: What was the spark that launched the business as a commercial concern? What was your first commercial product and how was it received?

LF: The so called spark was the meeting with one of the greatest audiophiles of all time - Mr. Carl Bernstein from New York who listened to my DAC S.N. #001 in his all Audionote system and said that I must be insane not to try and monetize successfully these toys of mine, and at the same time getting utterly sick of my employer - the multi-mega-matrix corporation.

HP: You designed a well-received open baffle DIY loudspeaker, do you have any plans to make this a commercially available product?

LF: The loudspeaker business - as a business - is extremely different from the electronics business and as in my opinion doesn't fit my business model. Before anything else I am a speaker specialist, I am really good at designing speakers, I understand drivers, I understand crossovers, I listened to all the world's greatest and less great speakers, I know how to make any type of speaker you want - but I am not gonna make them as Lampizator. Having said that I do offer P17 as the best speaker ever - that 6000 Euro can buy, with very limited success because my marketing efforts are 1% of what is needed to move that business forward. It could be made into an MBA case study why it is impossible for my business to successfully sell great speakers.

HP: The majority of your products use tubes (valves), what do you think valves bring to the table that solid-state cannot, and do you have a favourite valve and if so why?

LF: I am an electrician, which has nothing to do with electronics. I am great at understanding electricity and dynamics of the transformers and circuits - energy - power - voltage - current - signal - wave etc. I am very lousy at understanding transistors. Hence, I chose the easy path for me and that was the tube path. I know how to make tube sound great but not the transistor. There are specialised transistor people, but they know how to make them work but not how to make them sound great. The people who know how to make transistors sound great haven't been born yet, perhaps...

HP: Valves in DACs, for example, sounds little counter-intuitive, what do valves bring to the digital domain?

LF: Valves bring simplicity of the circuit. The nature of the beast (valve) is that it can do all that I need to do around the DAC chips and

The image shows the front panel of a Pacific Balanced DAC. The panel is black with gold-colored accents. At the top, several vacuum tubes are visible. The main panel features a 'HEATER SELECT' knob with '1010 2A3' and '300B' markings. Below this is a 'POWER SWITCH' with a red indicator light. To the right of the power switch is a 'GND' terminal with a white knob. The central part of the panel has the text 'PACIFIC BALANCED DAC' and 'Manufacturing date: 2018/02'. Below this is 'Warranty date: 2023/02'. To the right of the warranty date is a 'SERIAL NUMBER' field. Further right are several input/output jacks labeled 'LEFT', 'RIGHT', 'ANALOG', and 'DIGITAL'. The bottom of the panel has a small 'COPYRIGHT' notice and a 'TIA product' logo.



LUKASZ FIKUS OF LAMPIZATOR



LUKASZ FIKUS OF LAMPIZATOR



do it with grace, simplicity and utmost purity. The resulting sound is open, natural, spacious, vibrant, transparent and free of distortions. It has none of the grunge associated with op-amps and countless feedback loops of op-amped filters. These circuits - after exposure to tube converters - become unlistenable.

HP: What was your first proper Hifi system?

LF: Pioneer upside-down transport, Audio Note DAC2SE, VTL Mono Triode 120 monos and KEF DIY transmission lines. It was awesome after my regular technics rig.

HP: What aspect of the sound and the way your products are voiced is most important to you?

LF: Around the head type of cloud

HP: We use a Big 7 DAC as our reference in our main system, but since then you have introduced the Pacific DAC, can you tell Hifi Pig readers about its design and how you feel it sets itself apart from the competition?

LF: We took 3 quiet uninterrupted years of shipping out Golden Gate DAC in unchanged form, and in the background every day we tried to outdo ourselves, prototyping various kinds of incremental improvements. What was planned as Golden Gate 2 after 3 years of very intense research became a new product; all of its parts, right down to the smallest one, became improved and new and so instead of making it GG2 I opted for a frog leap into the new ocean. After spending a year of listening to gradual refinements of the Pacific prototypes - I KNEW for sure was onto something special - perhaps the ultimate DAC ever. (laughing...). So, I just HAD to make it the biggest ocean we have - The Pacific. I've kind of run out of oceans by now.

HP: You now make amplifiers, streamers and a whole host of products, which product is your favourite and why?

LF: My best ever and favourite product is literally unknown because it doesn't look cool on pictures, specs look like nothing at all and it is not well known at all - this is the power DAC or Daco-Amp - a special DAC plus AMP in one circuit. I insist - not in one box but in one circuit. It is so shockingly good that people don't know what to say and don't buy it. It is called The Amber Amp. We sold only 5 of them and this is criminal.

HP: What products do you see in Lampizator's future?

LF: I will always want to have one product on top of the world's shopping list, like the current Pacific is. What I care most though is a superb product for the regular folks like us - the middle class - in the 3000 - 5000 Euro range. This is my "home base" of the DAC for the people, and If we can bring more great amplifiers to the affordable price range then I will be happy. So, my next mid-term plan for 2019 is a stereo amplifier that people actually can afford. I want to trickle down from the monumental investment in the Pacific range of DACs and Amps - as much as possible without hurting the Pacific itself. The future looks very bright for us. And The most immediate plan - as always - is to organise an audiophile sailing week in the Adriatic with friends, customers, dealers, reviewers and Hifi Pig of course (*We have booked for this and are very excited - Ed*). If only more people wanted to sail...



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INTERVIEW

JANUSZ SIKORA OF J. SIKORA



Based in Poland Janusz Sikora is the head of J. Sikora and has used his knowledge of metals and the way they interact with each other to construct rather splendid looking turntables. Here Hifi Pig catches up with Janusz and ask him about his past and how he came to design such creations.

Hifi Pig
www.hifipig.com



HP. You were initially involved in the metallurgy industry in Poland, how did you come from that kind of engineering background to be involved in the manufacture of high-end turntables and tonearms?

JS: First of all for more than 40 years now I am an audiophile. This is my passion and the metallic trade was always simply a source of income to me. Experience and knowledge of materials in the field of non-ferrous metals allowed me to build my first turntables. Tonearms is a consistent next step in the development of J.Sikora's brand.

HP. Last time in Hifi Pig Quarterly we published an article on the Polish DIY sector, why do you think DIY is so big in Poland?

JS: This will, of course, be a pretty general diagnosis, but despite the thirty years since the fall of socialism, the differences in the prosperity of Polish and Western society, in general, are still significant. Poles have always been famous for their ability to cope alone in difficult, unfavorable conditions. In my opinion, the strong DIY sector is a great example of our national character which was somehow shaped by our history.

HP. Tell us about some of the first DIY projects you built.

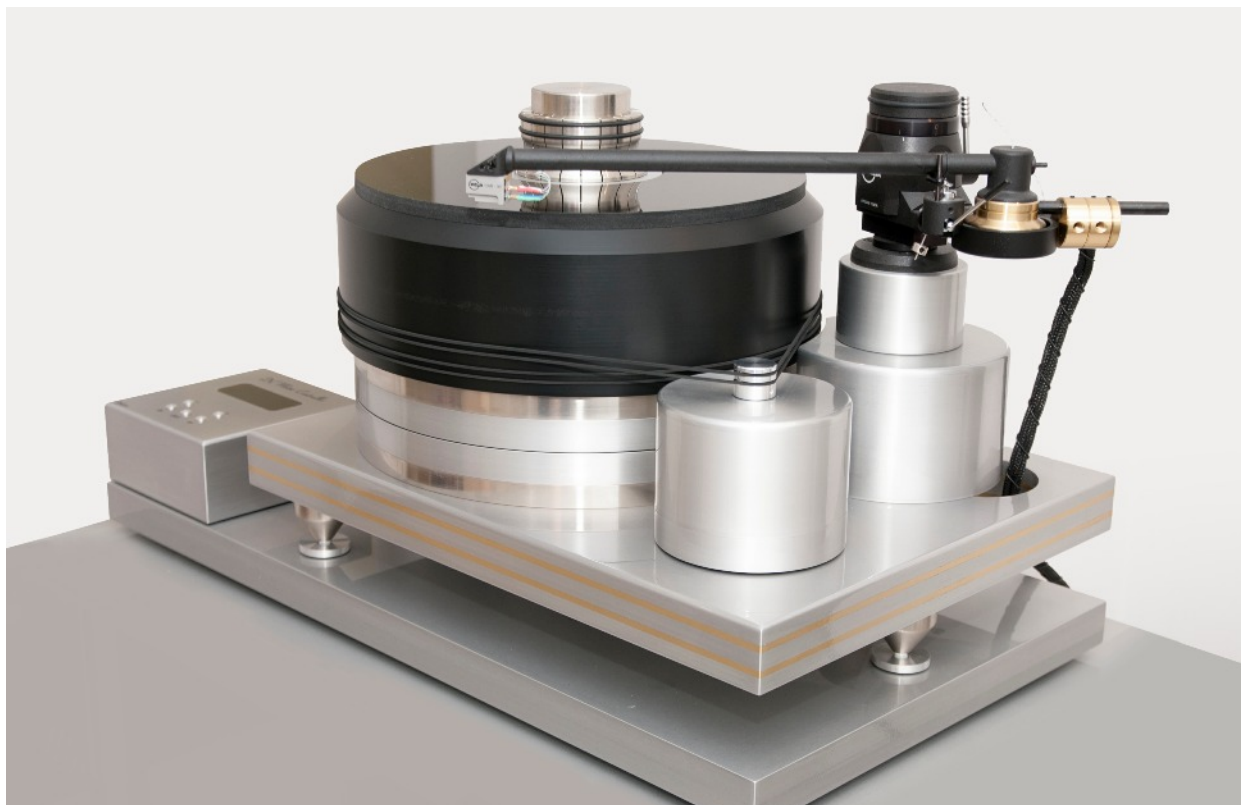
JS. I used to play the guitar when I was young and my father was building stage amplifiers. I do not need to add that it was impossible to buy such stuff just like that in the store in those days. It was obviously DIY, and most importantly those were tube amps of course. It is a source of my passion for tubes, which in the future became the basis for my own creation of my first tube amplifiers.

HP. After the fall of the "IronCurtain" life in Poland must have seemed very different with lots of new possibilities and opportunities, how did this affect you and the metal business you were running?

JS. Of course, this was of great importance. Access to all kinds of machines, devices and the possibility of buying them created unlimited possibilities. Add to that increased internal demand for goods and services. These factors meant that most of the companies in Poland at that time made a quantum leap forward. The business we were running was a part of it too.

HP. In 1994 you met up with Ukrainian, Oleg Burdjak and began building tube amplifiers based on Soviet tubes, tell Hifi Pig readers about the designs and how they were received by the public.

JS. I met Oleg in one of the Lublin's audio stores. He had a family in our city and I remember that he had a Polish father and tried to get Polish citizenship. In Ukraine, Burdjak was a musician and a friend of Vladimir Sushurin, later known to all the audio world for Lamm Industries. A long time ago two gentlemen cooperated in building electronics in Ukraine. Because of my fascination with tubes, we have made a closer acquaintance with Oleg and decided to produce tube amplifiers in Poland together. By the way, if it is about tubes, during this period, the solutions behind the Iron Curtain were very innovative compared to the rest of the world. And so, in 1995, we made our first balanced tube amplifier on 6C33C-B tubes. Of course, the high quality chassis were not a problem for us as I was still running the metal business. The brand Burdjak & Sikora entered the Polish market collecting very good reviews and making their appearance at the Warsaw Audio Video Show 1997 with a big bang by running the Focal Utopia on its premiere there. The future was very promising but our cooperation did not last too long. Without going into details, our paths diverged. This was the end of my adventure with the production of tube amplifiers, but definitely not the end of my adventure with audio. In fact, in retrospect, it was just the beginning



HP. Where did the idea for building your own turntables come from?

JS. It's a kind of funny story behind it. Funny when I am talking about it now, but back then I was completely crashed. I remember one of my big dreams coming true once I got myself my first hi-end turntable. It was a product from a worldwide well-known brand. Til that moment I was a CD listener and I was quite satisfied with my audio system. Buying such high-quality turntable, I expected a significant sound quality progression compared to what I had to deal with so far. It turned out that was not the case and I did not experience the revelation I was hoping for and there was no sonic progress at all. It was not a cheap turntable and like I said before I was truly crashed with this conclusion. Despite constant attempts to improve the sound quality and continuous work on my entire system, in order to get the hidden potential out of this turntable, it was impossible to make a miracle. I began to wonder if there was any potential at all in this particular device. Resigned, I decided to check it personally and take apart the device. Only then it dawned on me that maybe using such and not other materials this turntable simply cannot play better. Then it came to me that I was able to make a turntable myself, eliminating all the things that in my opinion are responsible for this one's failure and replacing them with materials that I know well and which, in my opinion, are much more suited to it. I burnt the plywood elements in the fireplace and decided to use something different instead. Material that will never get old and will always be constant in the way it affects the sound. I decided to use metal. The rest is history. A history of hundreds of experiments with different types of metals and the way they affect the sound and each other in different compositions and proportions. When I finally finished my first own turntable, audiophile friends were delighted with its performance and sound capabilities. The first orders from them appeared. Then other orders from their friends. And that's how it actually began.

HP: You use primarily metals in the construction of your turntables, can you explain this philosophy to Hifi Pig readers?

JS. As I mentioned earlier, the first thing that affected my decision to use metals was that I knew a lot about them because of the industry in which I worked. The second thing is the consequence of the mentioned failed experiment with the first turntable I bought. The idea was to build a device from materials that will never grow old, do not grow dry, and their affect on the sound will never change and will be exactly the same as I intended it to be at the moment of designing the device. And will stay like this forever.

HP. You mentioned that different kinds of metals and different combinations of metals and alloys has an affect on the sonic propertes of a turntable, can you expand on this and explain your thoughts on why?

JS. Of course. For example let's take a turntable clamp. The J.Sikora clamp weighs 2 kg and is made of brass and bronze, both nickel plated so you will not spot the difference by eyes alone. If you use hard bronze for it you'll light up the sound. If you will use too soft one you will suppress and extinguish high tones. So, everything is a matter of choosing the right materials, using their properties, combining them and creating a new composition. Until you are fully satisfied. In the case of our J.Sikora clamp, only the combination of the appropriate brass and bronze grades gave the expected final result. Of course, there is no simple recipe for the proportions and species of these materials. Everything is a matter of long-lasting, arduous experiments with sound. The story behind the rest of the metal and alloy made elements of our turntables is the same as the one behind a clamp.

HP. When experimenting with different layers of metals, do you have an idea of what will be achieved sonically before you carry out the experiment?

JANUSZ SIKORA OF J. SIKORA



JS. Yes, that is what we are talking about, we know what to expect. I know it because I have been in contact with these metals for 37 years and I have an awareness of how each of them can affect the sound. But "can" is the key word in this case. Therefore, in J.Sikora, we never assume anything in advance, and experiments are a permanent part of our work and development.

HP. You have three different lines of turntables in your portfolio (Initial, Standard and Reference), how do they differ in philosophy and execution and what are their pricepoints?

JS. The main philosophy behind our tables is to make a combination of a different types of metals, layers which are losing the resonances from the bottom to the top one by one. Our highest model, priced 23,800 EUR Reference Line, is a radical development of our philosophy. The use of suitable bronze alloys, brass, aluminum, cast iron and stainless steel makes it weigh 108 kg. Lack of compromise on any stage of this turntable's building process makes the Reference a definite construction in every aspect. We achieved full control over rotation stability by four DC motors and our special controller software with a quartz generator. The lower level is the Standard model. For a price of 12,770 EUR, the customer receives an 80kg turntable with two DC motors. The materials used for the production are aluminum and brass in this case. In relation to the higher model, there is no bronze, cast iron and stainless steel being used. On the other hand there is the massive derlin and cast iron platter together with the bearing and the DC motor controller which remain unchanged.

The 28 kg Initial model is entirely made of aluminum, has one DC motor and smaller than its older brothers' platter made of derlin. The price is 6.000 EUR. This is the only model in which, due to the costs, we resigned from the loss of resonance through the metal layers. In this particular case, we used special cutouts in its base. I will add that their shapes are definitely not a coincidence. These are the result of many hours of sonic experiments too. As you see in the case of our Initial line we were also faithful to our philosophy. To stay at this price level we have only chosen a different way to achieve our goal.

Summarizing: despite some differences, all our constructions are massloaders, and the nature of their sound is a derivative of the use of metals and alloys as well as the use of the same high-quality bearings, motors and drivers in all three models.

HP. Your slogan is Uncompromising and Extreme Audio Solutions; your Reference Line is a pretty extreme, do you see anything beyond this line in the future, or do you think you have taken it as far as possible?

JS. If it is about the construction itself there can be absolutely nothing more beyond the Reference for this moment. We can only talk about developing the design itself. There are some exotic markets that expects this turntable to be even more luxurious and use for example some precious metals. But I can not say anything more about this potential special project now. We will see what future brings

HP. Tell readers about your recently introduced Kevlar tonearm and what sets it apart, in your opinion, from the competition?

JS. The first and most important thing that distinguishes this tonearm among the competition is that, to our knowledge J.Sikora KV12 " is the first ever tonearm in the world in which the conical tube

is made of Kevlar. Why aramid fibers? And why not! Since their properties are after all ideal for such a purpose. Light weight, stiff and energy absorbing. What can be better for tonearms than the material used for the production of bulletproof vests. OK, so why if it is so obvious has nobody done that before us? Well, problems I think appear in the technological process of creating such a tube. How did we manage to overcome those challenges? Let it be our sweet secret, but you have to take my word for it, that it is definitely more difficult to make than to cut off the finished aluminum or carbon tube and just use that instead. But I think this is all about that too. Not to take shortcuts and to make something not only new, but special too. There are many fantastic tonearms on the market that my ambition was not only to make another great sounding one, but to make it unique. Suitable resins, proper firing temperature and special foam are components of this 15 g, extremely rigid and perfectly damped tube. The rest of the construction is our well-known philosophy: combination of aluminum, bronze and cast iron. They consist of a unipivot arm with oil damping in a housing resembling our characteristic turntable clamp. Finally, last but not least: the one-of-a-kind monocrystalline silver cabling, made exclusively for us by our friends from Albedo.

HP. Your initial exploits in the audio field come from a love of music, what music do you enjoy and if you were asked to give Hifi Pig readers your top five recordings (on vinyl of course) what would they be and why?

JS. When it comes to music. I only divide music into two genres: good music and bad music. It does not matter if it's Jazz or pop. Classics or rock. I can enjoy all kinds of good music.

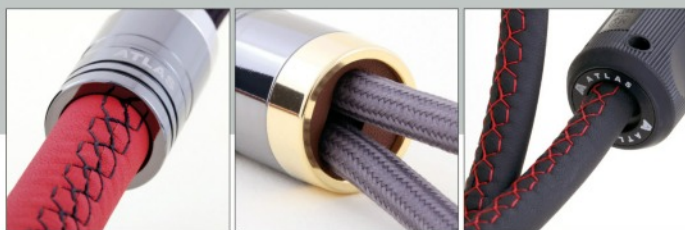
- 1) Let's Start with Sarah Vaughn – It's a Japanese 1974 mono pressing release. I love mono albums. This is one of my favourites. If it is about the music itself, in the context of this artist, do I have to explain why? Don't think so!
- 2) Artur Rubinstein plays Chopin – 1960 Live recording with the Symphony Orchestra in a National Philharmonic in Warsaw. Again, no words needed for such a great artist. This is one of the first Polish stereo recordings ever.
- 3) Suzuki Isao Quartet "Blue City". This album is the first one I reach when I want to show my guests the capabilities of my audio system. This 1974 release from the Three Blind Mice label is undoubtedly the reference album
- 4) Doug MacLeod "There's a time". When it comes to the blues this is definitely one of my favorites. This half speed mastered, 200Gram, 45 rpm release from Reference Recordings is one of my reference albums as well.

Steely Dan "Gaucho". In this case it's less about the release or the particular pressing itself. It is simply all about music of Donald Fagen and Walter Becker. I just love these guys and this album of all of their works is the one closest to my heart.

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INTERVIEW

ADRIEN HAMDI OF MICROMEGA



Adrien Hamdi is the Sales and Marketing Director/International Business Developer for well known french brand Micromega. Here Hifi Pig speaks to him about the history of the company, his involvement and the philosophy behind some of their products.

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HP: Micromega launched in the late eighties with the CDFI-Hitech CD Player, what do you think set it apart from other CD players of the time?

AH: Well, first of all I would never depreciate any other devices, competitor or even brands but one thing is pretty sure... at that time CD players from Micromega were unique. Someone would tell me the opposite? Ehh. No actually, Daniel Shar (MM founder) was a true avant-gardist person. Above all, he always had the desire to use different ways in design as well as engineering. He always used to find a way to make different products, having a different approach of what should be hifi products back in time. I truly believe that anyone can feel it through CD players model such as the CDFI-Hitech, Trio or even the Aria.

So, obviously I do believe that Micromega CD Players were literally setting themselves apart in term of design, concept and technology as well from the other CD players of the market... Who wouldn't be able to recognize those inimitable plexiglas top loading CD-players? Or these separated chassis CD players with the opportunity of having different and several stages, combinations or evolutions? After all, who knows...

HP: The CDFI-Hitech was soon followed by a dual chassis player and DAC, what was the thinking behind this two-box design?

AH: At the time when the design was done, it was obvious that separating the two sections, reading section and converting section was a good choice. The conversion section needs very quiet electrical environment where the reading section has three motors, turntable motor, radial motor and focus motor. The current demand for each motor is not insignificant and creates noise in the power supply. Even if the unit has two separate power supplies, sharing the same chassis is not the best you can have for a very quiet electrical environment for the converting section. On top of that more digital sources could then benefit from the separate D/A converter, for example DAB radio....

Also, without doubt, I'm pretty sure there was a design meaning / signature behind this.

Knowing Daniel, it has always to be evident, smart, as well as very apart.

HP: The early nineties saw Micromega add Bitstream Technology to all of its products, can you tell readers what this technology was and what it brought to the table sonically?

AH: It is extremely difficult to make a good and linear r2r ladder d/a converter. Almost all high-end d/a are oversampling ones and only a couple of ic's are r2r today. This just shows that at the time bitstream was a real progress and could lead to much bigger improvement in the future. The main difference between multibit d/a and bitstream d/a is the type of modulation used. In the case of bitstream the clock runs at a much higher frequency. Therefore, the brick filter used in a multibit d/a converter is not necessary anymore as the images of the frequency response are pushed far away from the audio band. Bitstream technology was the premises of what are can achieve today with modern d/a converters getting closer and closer to the spirit of the musical recording.

HP: In 1994 Micromega built their own factory, R and D space and listening studio, how important is it to the company that your products are designed and built in France and why? Have you, and would you ever, outsource to the Far East?

AH: Well, I would believe that, to Daniel... therefore, to us (because we kept manufacturing each of our products in France), it has always been one of our first priority. While most of manufacturers have decided to export their manufacturing through Asia or even closer East countries, we have been focusing on what we could get the best of our territory! We still do think that France has a huge potential and



expertise in each sector, in each industry. Ok perhaps not cars but... We are getting better year after year.

Being back to the point, I do think that when you are working in a true specialized and luxury industry as well as jewellery, watches, boats and many other... you got to do things more than properly, each single detail has its importance! Even the smallest! As a high end audio company, we've got to provide the best service quality to our customers. It includes to be in harmony with your main spirit, if you pretend to be a dedicated and high end French company... you need to search & extract the best of your country and to respect its value.

HP: Between 1997 and 2007 it seems that Micromega seemed to disappear from view, what happened and when and why did Didier Hamdi, your Father, become involved in the company? Also, production moved at this time, what was the reasoning behind this move?

AH: Indeed, MM has been away in between those dates. The reason behind is that after reaching a huge success in between 87 to early 90'... Daniel has wished to start developing even more affordable products, he wanted to give the opportunity to anyone to buy Micromega.

From my point of view, it has maybe been his biggest mistake because you can't design, produce or even offer high end, "made in France" great sounding components for such a reasonable prices... If yes, everybody would do it. There is always compromises, such as the size, raw material used or the quality of your PCB routing! Above this, in my mind it wasn't exactly the proper segment of MM. MM has been well known for its very special designs, the quality of its products and obviously the sound quality.

HP: At Munich High-End 2012 Micromega changed their direction somewhat and launched the MY range of components, tell Hifi Pig readers about the range and why the change of direction to a more budget-friendly range of boxes.

AH: The reason why from the Munich high end 2012 Micromega has been changing direction is mainly because of Didier's vision. Back at that time, Didier wanted to offer more possibilities to hifi lovers and to use the engineering qualities of Daniel, well known as very specialized in D/A converter. To me, it was very clever to go this way, small components but great quality (micromega - kind of translation / meaning of our name's brand). The idea behind was to invest as much as needed in the engineering, but also in the quality of components and the quality of the pcb routing. Why? Because the main concern was to give anyone the chance to afford a real hifi product only focus and dedicated to the sound restitution! It's actually how should be our industry, focusing on the sound quality and not the design of our metal or plastic boxes! Obviously when we have more flexibility to achieve it and both can match, design as quality... it is even not a question.

HP: The MY range further expanded in 2014 when you added MyAmp and MySPEAKERS to the range, how were these two products received by the buying public?

AH: Actually, very well! After reaching a great success with mydac, myamp is the second best seller from MM since the company has been redeemed. From the Myamp launch, more than 10 000 units has been sold all over the world. It is probably one of the smallest and lightest AB class built in amp in the world. It is also the first time that we ventured in the development of our special resonant mode power supply. A real interesting technology which allowed us to build in smaller and thinner format, to drive more demanding speakers, to

ADRIEN HAMDI OF MICROMEGA



get way more dynamic but also giving the possibility to get high quality audio results as well as keeping the ab class amp.

Regarding Myspeaker it was another story because as you perhaps already know, MM has never developed speakers before. Peoples were actually suspicious at the beginning, they were asking us why we decided to develop and invest in speakers... From there, we tried to explain everyone that the reason why we have been taking this choice was to complete our entire range of products. To finally give the opportunity to music lovers to get an 100% Micromega experience at a reasonable price. This also why the mysystem came naturally out with this range. A bundle composed of Myamp, Myspeaker and mycable, the idea was to offer a turnkey audiophile and affordable system within all the needed accessories. Being back to the point, myspeaker has been also a success, after the whole very positive unexpected reviews we've got... people has started to be very curious about it.

HP: The M-One is the main product in the Micromega arsenal, why the move to this one box does it all solution and how well has it been received?

AH: Well, to us M-One was an evidence. Back to 2014, be working on an all in one product having most a the inputs and features built in was something very exciting. Obviously it was also a challenge for the company to be back in front of the high end audio scene. But MOne has always been more than just a high end all in one product. To us, M-One is a ground-breaking and avant-garde concept based on three years of research and development. It is a real link between the latest advances digital using to all the advantages of analogue audio. The spirit of M-One is strongly focus on 3 main features :

- The MARS, being aware that the listening room can be the weakest link in great sound reproduction, it seemed very important to us develop a feature able to fixe as much as possible resonances by focusing on low frequencies.

- The MCF, here again we didn't want to miss the opportunity of product's customization. The matter was to propose a unique product based on toast of everyone by customizing it through painting or even surface treatments all made in France in partnership with luxury French companies.
- And finally the App. Be able to get full control of the M-One through the dedicated app we have been developing by our own for years now. Except the fact of controlling the whole M-One, you also can stream straight from a NAS, web radio as well as the streaming platform as Tidal, Qobuz or Deezer in native! Airplay and the BT are included as well for more flexibility.

Today, M-One has really been well received. Globally the industry was very curious about it. Medias (it seems matter to say that M-One has been awarded in more than 25 countries through the most specialized and prestigious magazines), our global network but also from the buying public. Since the launch of M-One, we are selling approximately 1000 units a year!

HP: The M-One has onboard room correction software and comes with a microphone to set up the system, what's the thinking behind this and what benefits do you feel it brings to end users?

AH: As I used to say, many people forget that the most important element in a complete set up is still the listening room's environment, in other terms, "THE ACOUSTIC". You can spend hundreds of thousands euros in audio components but if your room is not acoustically dedicated or treated for having such materials... You can be sure that the result will be disappointed! It is exactly what we wanted to avoid through the development of MARS. Let's put it that way, if someone is ready to buy a M-One and invest that money... the



ADRIEN HAMDI OF MICROMEGA



last thing that we wish would be to get a M-One owner disappointed because of the acoustic room.

It seems also important to remind what exactly does MARS: Frequency response below 300 Hz. Pulse response. Time alignment of each speaker.

Through 3 recording points, M-one will raise its volume until the right volume level is obtained for measurements of the listening room. M-One will measure each speaker, thanks to the professional Daytona microphone, therefore M-One will time align each loudspeaker for the best soundstage and central imaging. Then, it will offer two settings (AUTO and FLAT) that are working below 300Hz. The reason why M-One stops at 300 Hz is simply because we didn't wish to change the sound signature of the amp. After a lot of time spent working with several professional acousticians in France and Germany, we found out that if we started to work up to 300Hz, the sound signature will be totally changing (EX: several audio curves in auto radio). Being quite proud of the M-One sound, and in order not to perturb any listener... we have decided to work deeply below 300Hz, it is actually where all the whole bad frequencies are located. The idea remaining the fact to get more efficiency from the entire set-up, room included!

HP: M-One certainly looks the part and is very well specified, how influenced were Micromega in launching this product by Devialet and their products?

AH: I would say that when Didier has called help from the famous Parisian designer Alain Pinot (Focal designer, founder & C.E.O of Pinot & Le Porcher) he already had some ideas in mind!

Obviously, at that time, he used to say that most of electronics in the hifi industry looked the same but also they were kind of too much classic, even annoying somehow. I think that the first time he saw a Devialet, he probably told himself that they were opening a new way design wise.

But one thing is sure, while Devialet was focused on a luxury design, Didier asked Alain Pinot to get something technical. In any case, the base of inspiration has never been Devialet even if there is some similarities (shape of the box).

But I still do believe that in life a lot of things are inspiring us and especially Didier who has so much hobbies. M-One wouldn't have been the same that the one we know today if he wasn't an art & design lover!

HP: The rumour mill suggests that Micromega will be launching a mid-range line of separates towards the end of this year, are you able to give Hifi Pig readers any more information or is it a case of wait and see?

AH: You know, to me, the only mistake the MM team have done through the past regarding M-One is to have announced it way too early.

Once, a wise-man told me the following sentence : "Do not make twice the same mistake".

HP: Away from the office what do you do to relax?

AH: Obviously, I'm a big music lover! Also musician, back few years ago I had my own band. I do love a lot of things in life as well as every single thing related to the Ocean (dive, surf, sail) & the mountain (ski, hiking). Above all, I believe that the greatest feeling which across my body is still when I have the chance to sail, with music of course!

HP: We have lived in France for thirteen years now and all our French friends want to discuss Brexit with us, what are your thoughts on the Brexit process and how do you think it will affect the audio industry in Europe?

ADRIEN HAMDI OF MICROMEGA



That's funny somehow, I do not really like to talk politic to be honest. But obviously, to me the Brexit is a real stupid thing! First of all, we are stronger all together instead of divided. At some point, we have to face world powers as well as the USA and far East countries. My point of you if I had one, would simply be to connect to each other. Unfortunately, even if almost everyone is thinking the same... things are not going this way. For sure the Brexit will affect any business, at least I presume!

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INTERVIEW

KRIS SAWICKI OF THE NORTH WEST AUDIO SHOW UK



The North West Audio Show held At De Vere Cranage Estate in Cheshire (NW England) is now a main fixture on the UK audio calendar and Hifi Pig is delighted and proud to be exclusive media partner. Here we have a chat with Kris Sawicki who organises the show.

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KRIS SAWICKI OF THE NORTH WEST AUDIO SHOW UK



HP: Where did the idea for North West Audio Show come from and why did you choose the North West of England?

KS: My aim was to make the largest audio show in the U.K. and the North West seemed the logical choice of location given it is perhaps the most accessible place for audiophiles from all over Great Britain. We have visitors from Scotland, Wales and the South of England coming to the show and the transport network makes getting to the show easy wherever you are. Even flying to the show from elsewhere in the UK or abroad is easy thanks to a great train connections and nearby airports. This year we are organising a shuttle bus from Holmes Chapel train station to make it even easier for visitors and so there will be no excuses for not coming to the show.

HP: The venue of Cranage Hall Estate is certainly impressive, how important do you think the beautiful surroundings are to the event?

KS: Yes, without the De Vere Cranage Estate and their fantastic staff, The North West Audio Show wouldn't be so popular I don't believe. Once you're there you immediately feel relaxed and well looked after and ready to enjoy what the show and its exhibitors have to offer. Add to this beautiful landscape and great music and you could be in audio-heaven.

HP: The North West Audio Show bucks the general trend of other audio shows in that you do not charge visitors an entrance fee and you offer free parking to the event, what is the thinking behind that?

KS: It's a consumer show more than the trade. Why should people pay to listen to the stuff they're going to buy in the future? The aim all along was "Affordable for exhibitors and free for visitors".

HP: One of the things we have noticed when we have attended the show is that there are always families and couples attending, why do you think the North West Audio Show is able to attract these where others fail to do so?

KS: This is down to the very relaxed atmosphere during the show and our advertising strategy. This year we have prepared something special for families with young children. Watch this space!!!

HP: The show seems to have grown organically and is widely regarded as being one of the key events on the audiophile calendar in the UK, how do you plan to grow the show in coming years?

KS: True. Every year I see new faces, people who have never attended a HiFi Show before. This is my indicator of growth. It's a mission for me to make HiFi, music, audio, and of course the show, as inclusive and accessible as possible for everyone.

HP: Hifi Pig is tremendously proud to be associated with the North West Show as exclusive media partner, what do you think are the advantages of having such a partnership?

KS: There is no North West Audio Show without Cranage Hall and there is no North West Audio Show without HiFi Pig. Stuart Smith - the editor - is honest, trustworthy and has a great passion for the music and if you're in partnership with someone who has the same principles as you, work is a pleasure.

HP: Given the success of the North West Audio Show, have you any plans to expand the operation into other areas?

KS: No. There are too many shows in the U.K. I want to grow North West Audio Show to be the largest HiFi event in the U.K.

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KRIS SAWICKI OF THE NORTH WEST AUDIO SHOW UK



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HP: Do you think there will come a time when the show will outgrow the current venue?

KS: I can't see better place in the U.K. than Cranage in all honesty. If we use all the available space we will sleep in tents! Seriously, I think there is a room for everyone from the HiFi industry at the Cranage venue and I look forward to welcoming them in the coming years.



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INTERVIEW

RUSS ANDREWS OF RUSS ANDREWS



Russ Andrews is the founder of the well known and well loved UK based retailer selling upgrades, cables and accessories and bearing his own name. Hifi Pig catches up with Russ and asks a few questions of him.

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RUSS ANDREWS OF RUSS ANDREWS



A conversation with Russ Andrews at the festival Of Sound show towards the end of 2018 is what prompted Hifi Pig to include a DIY section to the site and to Hifi Pig Quarterly and so we thought we would catch up with the man himself and ask him a few questions about his history and the way he has seen the hobby and industry change over the years.

HP: What originally got you into the hobby of hifi and what was the first project you built?

RA: When I was 14, a school friend's father, Mr Taylor, had built a three valve amp and a simple 10 inch speaker driver fitted to a plywood baffle leaning against the wall in a corner. He put a record onto the Collaro auto changer and the sound issuing from the speaker grabbed me by the ears! It felt like it fizzed in my brain and ran down my spine. I instantly knew I wanted what that system did! Over several years I gradually built my own valve based system that gave me a standard of musicality I found hard to better with early commercially available transistor amps.

HP: When we last spoke you mentioned that you felt that the hobby had changed its direction from the fifties etc. What changes have you seen and do you think the changes have been for the better?

RA: In the 50s and 60s every town and city could offer several shops selling radio and audio parts, plans and advice because there was a large market of experienced DIY enthusiasts to sell to. The radio DIY history went right back to the crystal radio kits of the early years of the 20th century. I was fortunate to grow up in an era when building things yourself and making things from scratch and from kits was a normal activity. Mr Taylor had built his own TV set in 1952 ready for the Coronation broadcast! At school I was put in charge of all the audio visual equipment operating and repair - on call at any time! How times have changed. Can you imagine a school allowing a pupil anywhere near live electricity now?

The big change, therefore, was the rising prosperity of the 1960s and the consumer revolution. Don't build it, buy it on finance if you don't have the cash.

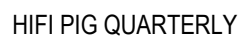
Product lines ran for years then. They might last a year now!

The change since the 50s/60s has benefitted technical innovation and improvement, but at enormous cost to the environment. So much redundancy, so much scrap and pollution. I hate to see perfectly good kit scrapped because you can't get the parts to repair it and a new one is so cheap to buy. For many years I have been advising enthusiasts to repair and upgrade old Hi-Fi amps, preamps, speakers and turntables because the results can be startlingly good.

HP: When did you launch the Russ Andrews brand and what was the thinking behind it?

RA: The first Russ Andrews product was Clamp 1 in 1982. I had spent a year in the USA across 1981/82 trying to set a distribution network for Nytech and ARC loudspeakers. It was a failure but I came across a mains spike suppressor that proved to be very useful in demos. Anyone who has tried demonstrating a Hi-Fi system in a hotel Hi-Fi show in the USA has faced the enormous RFI problems we were not aware of in the UK. Back home I tested the same type of suppressor and discovered we had a problem with RFI too!

I launched Clamp 1 successfully and then researched a much faster component to partner with it to absorb much more of the spike/RFI interference getting onto the mains. I replaced Clamp 1 with Super-Clamp, got better results and a more successful product that still sells well today. I followed this up with Torlyte equipment supports and a Russ Andrews product range was developing. In 1986, when demonstrating Torlyte at the Chicago CES show, I found Ray Kimber showing his cable in the room directly across the hall from me. A momentous meeting!



RUSS ANDREWS OF RUSS ANDREWS



HP: What were the big sellers when you first launched and what products are the big sellers now?

RA: It started slowly, a product at a time as I worked my way through the seemingly endless problems holding back the complete reproduction of music as I heard it. Things like frequency response, distortion and dynamic range seemed to be pretty well sorted but I knew we were a long way from the experience and emotional reaction I had listening to live music. As I identified and solved each problem a product got added to the range. This continues today, with each development building on the last, so we hardly ever drop a product from the range. They exist to solve real problems rather than to fill a space in a marketing range.

HP: How do you feel the internet has changed the retail market in Hi-fi and how has the internet affected the Russ Andrews brand itself?

OUT: The retail market was dying slowly long before the internet was even conceived. The huge dealer network of the early 1970s lived on a boom market. It couldn't last as Hi-Fi went out of fashion under pressure from new things to spend money on: cars, owner occupation, foreign holidays, computers etc. In my view, the internet exploits the weaknesses of retailing as a distribution paradigm. As a manufacturer and distributor, Russ Andrews has always sold direct to the public very successfully. First through a Mail Order Catalogue and then through the internet as an on-line retailer. The internet has allowed us to sharpen up our order taking, delivery, customer service and massively increased the amount of information we can make freely available to our customers. The customer experience is much better delivered through a good modern website than we ever could with a printed catalogue and huge team of sales advisers.

HP: Do you think it advantageous to the industry overall for it to move more towards a "hobby" based "pastime" and if so why?

RA: I think Hi-Fi needs to regress further back to its hobbyist roots. It really isn't and never was a 'mass market' interest. It is a niche, specialist hobby like classic cars, horology, rock climbing, watercolour painting, crown green bowling, you name it.

HP: You will have seen many products come and go over the years but if you were to have to pick out one standout product that changed the course of Hi-fi what would it be and why?

RA: In my time in Hi-Fi, it was the LP12 turntable. It marked the turning point of the "old world" of the 1950/60s thinking to the 'new' of the 1970/80s - when the loudspeaker was the most important component to when the source - the turntable - became the most important.

HP: Streaming services, computer audio and the way we access music has changed dramatically over recent years, what are your thoughts on these developments and how do you feel they affect the way we as music lovers interact with music?

RA: Computer audio has taken the heart out of listening to music. It has made it like fast food, something you consume on the go. You can hear lots of music that way but you can't listen to it. That takes concentration free from distraction. Sitting down and listening to a piece of music a symphony, an album, from start to finish. Young people have no time for that anymore. Most are amazed that we do it. Encouragingly, some really take to the practice if you can take the time to engage them. All is not lost, I think.

XAVIAN

Parkell



INTERVIEW

RICHARD BATES OF AURALIC



Richard Bates is UK & EU Sales Manager for Auralic Europe, here we talk about his background in the industry, Auralic's USPs, the 'vinyl revival', how the industry as a whole can better engage and we even have a bit of a chat about Brexit.

Hifi Pig
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RICHARD BATES OF AURALIC



HP: You currently distribute Auralic in the UK and Europe, what is your previous experience in the Hifi industry?

RB: I started an apprenticeship in electronics late 70's and then slipped in to 'Hifi' retail in the eighties for five years which was great fun as a youngster. I then progressed in to professional sound and lighting specification mid eighties and then joined Celestion Loudspeakers for three years. Following on, I joined Meridian in 1990 and started a nineteen year stint just when separate DAC's came to market and the world's first DSP digital loudspeaker systems were introduced - that was a hard concept to introduce nearly thirty years ago. Somewhat ahead of their time. Looking back, it's definitely a case of being in the right place at the right time within a forward looking organisation. I've DJ'd for donkeys years and always yearned for 'hifi' sound quality in big spaces. I think I had more fun setting up the gear than playing the records! - I can remember in the early eighties running a quite large mobile disco with a pair of SL1200's and a couple of original Marantz CD63 CD players, three-way actively crossed over big loudspeaker system driven by multiple Quad 405.2 power amplifiers. Quite something back in the day and a complete pain to set up and move around, but it was worth it. And then everything shrunk and became smaller - eight Bose 802's and bass cabinets driven by new breed of MosFet power amplifiers. And I still DJ occasionally today, but it's so much easier with a MacBook, Traktor and Nexo system.

HP When did you become involved with Auralic and how did that collaboration come about?

RB: I was initially approached following a recommendation from an industry colleague. Auralic were keen to establish their growing business in the EU - I took a long, hard look at the brand and following meeting up with my then colleague Christian Rechenbach, Xuanqian in the

Netherlands and then checking out the company's credentials and testing several products in the UK, I signed contracts nine months later at the Munich Show in May 2016. I haven't really looked back - I now oversee the EU and Scandinavian markets and also take care of our PR, advertising and marketing activities in the UK.

HP: We interviewed Auralic's chief designer Xuanqian Wang in the last quarter's Hifi Pig e-magazine and readers can see that interview [HERE](#), but what for you sets Auralic apart from the competition?

RB: The core attraction for me has to be the fact we design and manufacture our own hardware, our own 'Lightning' server and our own 'Lightning DS' control app with a real obsession for innovative design, style and the very best possible sound quality. I like the fact that our guys are young, forward thinking with progressive ideas. Our brand has quite quickly developed a reputation for producing rock solid products at the forefront of the streaming revolution and we couldn't have wished for better coverage in the press - it's very humbling. We compete with the best on a global stage delivering beautifully made products with cutting edge performance. We're well suited to this emerging market. There's a growing adoption by audiophiles and music lovers alike of high resolution music streaming services such as Qobuz and Tidal - this is becoming especially prevalent in Europe and Scandinavia where it has become the primary digital listening source.

HP: Streaming is fast becoming the preferred "source" for many audiophiles and music lovers, do you think the end is nigh for physical formats, or do you feel they still have a place?



RB: I've always had a 'live and let live' attitude to peoples preferences of music carriers and different formats. During the many years I've spent in the business, I've met many very opinionated characters who profess to know what is best for everyone based which seems to be rooted in experience from the past. I think its really up to the 'informed' customer to decide what they like to use, play with or listen to - some like music, some like gear, some like both. I don't think anyone can say the end is nigh for a physical format although its highly likely that be it vinyl record, CD or tape it will remain 'super niche'. From all the information I continually assess, the shift toward music streaming is very real. It comes at just the right time with network infrastructures and mobile environments that will support high bit rate data streams. In addition, hard drive storage is low cost so storing music is easy if you want to do it.

HP: There is a perceived resurgence in analogue formats – as well as the “vinyl revival” there is renewed interest in reel to reel tape – do you think this is a long-term phenomenon or merely dyed in the wool audiophiles looking for something new to play with?

RB: I still get a nice fuzzy feeling when I hear a decent recording on a Studer Revox or a very nice LP on a good turntable - I don't think there's anything at all wrong with that, it has its place and can sound very good. In my early twenties I had a Phillips 'Black Tulip' Reel to Reel which although unreliable had a very endearing sound. I don't think anyone should judge someone who chooses to collect records or tapes. Similarly, speakers - panels, horns, passive, active or DSP - which is 'best' ?. A person can surely decide based upon what they research or have a yearning for, and most importantly the advice of someone they trust and are comfortable dealing with. I guess i do get a little perplexed with folk who viermently denounce one format over

the other, often with limited experience of what music in different environments really sounds like, but i guess we're all different and its impossible to legislate for an individuals inner cerebral experience or motives.

HP: Portable audio is the buzz word on everyone's lips, are there any plans for Auralic to move into this area?

RB: I was over in our USA office recently with Xuanqian and Alex Brinkman and our primary focus moving forward is continuing to develop innovative products which enable potential customers to enjoy the very best quality music in their home. Technological advances will be at the core of our development as we move forward. Control, will naturally comes from a smart phone or tablet, but we have no plans at present to produce portable DAP products.

HP: How do you think as an industry we can better engage with young people and have them take a serious interest in Hifi and home audio, or do you feel that Hifi's destiny lies with smart-phones and the like?

RB: We're privileged to live at a point in time when it has never been easier to obtain great quality music on a wide number of different platforms. It's really not that long ago since I was playing LP's on my Logic DM101 (remember those?) and listening to Floyd, Led Zepplin, Funkadelic et al, but as good as it was back then, now it's the vast choice of music with no compromise in audio quality from the likes of Qobuz embedded in high quality streamers that moves everything forward. And those music streaming apps on a smart-phone enables you to have a consistent interface with your music so you can listen on headphones or easily connect to a car audio system - there's only so much time I want to spend listening to the same old stuff on a record or CD, but we're all different, and we all have choices. I believe



the best way for the audio industry to engage with young people is to increasingly engage via on-line media and to identify with what they like to listen to, be it on You Tube, Amazon or a better quality music streaming service. The re-emergence of vinyl is great and some younger people see it as something which is tangible, an art form with a tactile interface. I have two young daughters and they're a good barometer on trends. They're not really interested in vinyl, but I still play a record or two on my Rega RP8. My youngest is just getting in to playing a few different tunes on her phone and Bluetooth speaker. My eldest listens to music *all* the time - on pick up from school she hijacks the car radio and streams the latest tune she's just seen on YouTube. Then at home she'll pick a random playlist she finds interesting on her phone or laptop and streams to a Sonos - her choices of music are eclectic to say the least, but i don't think it's that unusual. Youngsters have so much music, gaming and video at their fingertips that what we produce as an industry is totally relevant to them as they grow up. I guess I do influence my daughters and expose her to lots of music and technology, but it's fool hardy to think many young people may not be interested in what the audio business has to offer if they're exposed to it, I say 'audio business' as 'hifi' is a term which doesn't mean much to young people these days. Where I think the retail trade could improve would be in how it generally presents itself to customers in store and through social channels. Quite a few stores are still quite intimidating for a novice to engage with. There isn't too much for a curious newbie to identify with - sadly, some have a 'sniffy' disregard for a product category they can't identify with, and can appear unhelpful and aloof. I can't understand that - if someone's experience of music is via an affordable supermarket Bluetooth speaker or low cost ear buds that's fine. A bit of time, a tune they know and just a small pair of speakers or headphones can be all it takes to gain a bit of trust and help someone enrich their enjoyment of the music they know. They may then tell their friends - some will be interested, some will not, but some may really get in to the gear as a hobby which is

great. Above all, we should all remain grounded in the realisation that what we produce and sell is quite expensive for youngsters.

HP: You are dealing on a European stage, what do you think the effects of Brexit will be?

RB: I think the referendum was ill conceived and the outcome was primarily a vote against governance at the time fueled by irresponsible media coverage. With such a close result it would never be an easy severance from our neighbours in Europe. Its hard to predict the outcome at time of writing, but in real terms i think we will continue to trade with Europe albeit we will have to become accustomed to different procedures in order to do so. All trading will be underpinned by general consumer confidence or a lack thereof. Our EU warehouse is based in Germany, so we're ready to implement changes to how we ship goods to the UK, once we know what will be required. Hard to predict, but although there are likely to be some major changes in trading relations I believe stability will return albeit with a bumpy ride along the way. We should stay positive. What's the point not being?

HP: Away from the office what do you do to relax?

RB: Those who know me know I'm pretty relaxed anyway, and I like what i do. I've always been lucky to have a working life that ties in with an interest in technology and music. I still do DJ stuff on occasion and have been lucky to do quite a few memorable parties over the years, everything from a few support gigs for Steve Wright in the days of Radio 1 to big corporate events with terrific sound systems at the NEC in Birmingham for a few thousand people or so, so I never take any of that for granted - trouble is... the phone doesnt ring so much anymore! I grew up in the countryside and enjoyed fishing, shooting and messing about with 'hifi' gear so I appreciate the simple stuff like

RICHARD BATES OF AURALIC



a walk with Paddy, our mutt, and a game of tennis once usually a week. Can't do the cycling thing as it all appears to get quite serious if you get the bug and I'd look like a decoy for the Japanese whaling fleet if I were shod in lycra. Bit of Skiing in winter. I love the snow and mountains but whilst competent, I'm not very good at speeding down a piste - I keep thinking 'what could possibly go wrong?'. I've an old Land Rover which I potter around in most Sunday's. It's, archaic, not so good to drive, smells of burned rubber and oil, but it always starts first time. I guess that's the attraction. It's a bit like the motoring equivalent of a old Garrard 301 turntable (that's a joke, by the way) I've had it over twenty years - it's like a comfortable pair of worn out old slippers. I occasionally try and play Golf but I wouldn't call a four mile walk relaxing. I do have bit of thing for Pyrotechnics and excessively loud bangs once a year on Bonfire Night - proud to say I made it in to the Parish Magazine one year for all the wrong reasons. Top of my 'relax out of work' list are our kids. We're very fortunate to have two super daughters. Nothing better than watching them flourish

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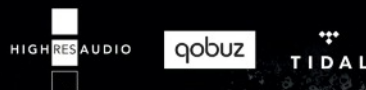
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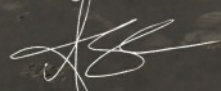
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INTERVIEW

ZE'EV SCHLIK OF PUREAUDIOPROJECT



Ze'ev Schlik launched PureAudioProject at Munich High-End in 2013 where they showcased their modular open-baffle loudspeaker concept. Since then the brand has launched several new models and here Hifi Pig talks to Ze'ev about his background and the philosophy behind PureAudioProject's creations.

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ZE'EV SCHLIK OF PUREAUDIOPROJECT



HP: What is your background and what were you doing before you were involved in PureAudioProject?

ZS: I hold a BSc in Electrical Science but my career spanned between hi tech and music worlds. It goes without saying how important music is in my life and as a hobby I play piano and owe a small indie music label. My professional entrance to the music world was back in 1998 when I formed a start up company that allowed legal usage of music over cellular networks without the need for DRM. This technology was implemented by Comverse, world leader of added value services at the time... We then worked with almost all major music labels and from there life led me to manage a major music label in Israel during the most turbulent days of the shift from CDs to files... a very challenging time indeed... back to hi tech in audio and content worlds and in 2012 I slowly started working on what grew to be PureAudioProject. PureAudioProject actually owes its kick off to Munich High End Show who invited us to be Newcomers at their 2013 show, and to reviewers that HiFi Pig was the first one, who raved our concept and provided us the tail wind and the confidence to go all the way forward !

HP: Where did the inspiration to launch PureAudioProject come from?

ZS: It was more of an evolution process rather than a one time sparkle... Being exposed to the sonic bliss of Open Baffle somewhere in year 2011 was an eyes opening experience that slowly pointed also on unique business challenges and potential opportunities, that are in line with today's online world. I think the blend of love to audio, the unique product concept and business model was the ground on which PureAudioProject seed was planted.

HP: Your loudspeakers are modular in design with customers being able to change the component loudspeakers to a greater

or lesser extent. Can you explain this concept and what exactly is available to potential buyers?

ZS: Our products are more of a platform with various pre designed configuration choices. Let's take the Trio15 as an example. All Trio 15 speakers reside in the same chassis that features our metal frame, baffles, our proprietary 15" OB-A15NEO woofers (designed and made for us by Eminence), and our 'Thrier' or 'Leonidas' crossover. The various models are defined by the main driver and the specific crossover components, e.g. Trio15 Horn1 comes with our Horn1 while Trio15 Voxativ comes with one of Voxativ's full range drivers and we integrated four different models of these. Once you own our Trio15 you can easily swap the main drivers and the crossover components and experience the different models. You can also try various capacitors and resistors and decide which ones suit your sonic DNA the best. And on top of all this, if you wish to move to Quintet15 all you will need is the frame, the additional woofers and baffles and few crossover components. The Quintet15 is an extension of the Trio15 and in both we use the same woofers, the same baffles and the same main drivers ! This is how straight forward and simple it gets

HP: Some of your designs use horn loudspeakers for the mids and tweeters, how difficult do you find the integration of horns with open baffles?

ZS: as frequencies raise higher the radiation pattern becomes more directional. Our Horn1 is very wide and a careful blend between our fast dipole woofers and the Horn1 was the design challenge. If I may use an example from food, here is one. When the tomato, the olive oil, and the garlic taste really good, the pasta sauce will be amazing and no additions nor corrections are needed... The OB-A15 woofers are very fast and can play beautifully the mid range as well. The Horn1 is a neodymium motor, polymer cone 1.5" compression driver that sounds smooth and pleasant, these two are crossed with a simple series topology first order crossover at ~550hz. One coil for the

ZE'EV SCHLIK OF PURE AUDIO PROJECT



woofers and one cap and two resistors for the Horn1. That's all ! The result is well described by the many customers feedbacks on our page, industry members, reviewers and awards we received for this and other models.

HP: You use traditional crossovers; how complex a job is it to get the crossover you want and how do you go about achieving the final product that goes to market?

ZS: designing a crossover is like walking on a fine line between the technical and musical intuition. Some great measured crossovers sound bad and vice versa. Our guideline when designing crossovers is 1) if you can, make all to keep it simple 2) the end result has to be reasonably good measured but sounding great.

HP: Many people are using DSP to make the whole driver integration simpler, have you ever been tempted to use DSP and if not then why not?

ZS: temptation is nothing to do with this :) DSP is a great tool and allows an unprecedented level of control and experimenting. Our speakers allow biamping with DSP and we even offer a distribution board for cables and an Active Analog Crossover, PAP-C1, that was designed for us by Nelson Pass and PassLabs. However, the simplicity and the analog magic a well integrated crossover can offer is unbeatable for many audio fans !

HP: How easy are your speakers to integrate into normal room environments?

ZS: Our speakers are Open Baffle and dipole and their radiation pattern is not dominated by a box. Boxes recreate the feel of scale while small components are playing into a box. Open baffle speakers with large woofers simply move enough air without any need for additional energy transformation to make music feel live ! ...

Open Baffle Speakers therefore become part of the room and integrate with its acoustics rather than trying to impose its sonic signature on it. This is one of the reasons they sound so 'natural', no fatigue, and need no specific room treatment ! Our ears are accustomed to our rooms ambience and our speakers simply become a naturally integrated part of it...

HP: How important has the DIY community been (or not) in the development of the Pure Audio Project?

ZS: What amazed me with Open Baffle at the time is the fact that in the Pro Audio and DIY worlds Open Baffle concept is extremely popular, while Home Audio fans were totally not exposed to it. There are good reasons for this and IMO none of them has anything to do with sound but more with considerations such as margins, speakers size and the wish of the manufacturers to keep their design well hidden in a sealed box. Among DIYers one can find super talented people and we indeed interact with DIY community. This interaction goes as deep as some designs of ours. The Leonidas Crossover is a great example for this. A well known DIYer from Netherlands, Leon Huijgen, has implemented a series topology crossover with our Trio15. The result was stunning and we adopted this topology and named this crossover on his name, the Leonidas !

Also, our Modular Open Baffle Architecture allows audio fans without any technical skills to experience various drivers, various capacitors and other crossover components, and even careful voicing of the speakers to their personal preference, just like DIYers do, but all in a finished product and a guided procedure that doesn't require any technical skills except of a use of a screwdriver.

HP: Your loudspeakers look esoteric and some potential users may be put off by this, how would you reassure them with regards to the efficacy of the design?

ZE'EV SCHLIK OF PUREAUDIOPROJECT



ZE'EV SCHLIK OF PUREAUDIOPROJECT



ZS: We entered the market in 2014 with a unique design and modular offering of finished products that come in a disassembled form and are assembled by the customers with a Hex key and a screwdriver. Our customers circle grew fast and we to date score an unprecedented zero return rate. Many have replaced speakers that cost multiple sums that probably wouldn't be called by you 'esoteric'. However, we do see the border that needs to be crossed when purchasing our speakers and we therefor are now launching our most popular Trio15 in more traditional, call it a classic form, to allow fans who won't go for self assembled speakers to enjoy the magic of Open Baffle and a bit of our modular concept.

HP: Of all the designs you have produced which is your personal favorite and why?

ZS: We did not release any specific configuration we weren't fully happy with and it is well reflected in our selection of the drivers and the components. The various models differ by their sonic signature and each one has it's character but no 'better' or 'worthier' there... Instead of pointing on a 'favorite' please allow me to point on what we are proud of.

We do feel proud with our Horn1 as we managed to design a horn based speakers that are smooth and soft sounding but have all the dynamics and speed that horns are known for... we are very proud of our Quintet designs that bring a true wall of sound feel into regular rooms and do that for a reasonable price... and we are extremely proud for putting together a solid modular offering that allows a simple upgrade path from model to model !

HP: In a wider sense, and I ask this because I have noticed you use relatively modest ancillary equipment at shows, when putting together a system, how important is the speaker choice? And why do you think this to be the case?

ZS: We indeed do this sometimes to show that great sound is not a result of cost only but a result of good choices and match. Simplicity, when made right, is a well proven concept in audio !

HP: What is the latest development from PureAudioProject?

ZS: We are just about to release the first 'Trio Classic', that is our popular Trio15 speaker with Voxativ Full Range driver, but in a newly designed and finished form. This model chassis was designed by a very talented industrial designer name Omri Gino, who BTW is a fanatic DIYer!

We also work on few basic acoustical extensions to Open Baffle that are currently on a research level. We hope to cross the critical design milestones and we see then...

HP: What can HiFi Pig readers expect to see from Pure Audio Project in the coming months and years?

ZS: I believe that our Trio and Quintet offering is field proven and will be there for years, so we hope that HiFi Pig readers will also join the PureAudioProject family, enjoy our unique concept, and have their music playing from one of the PureAudioProject speakers they have assembled themselves !

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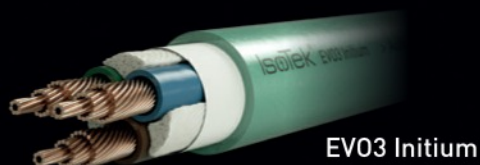
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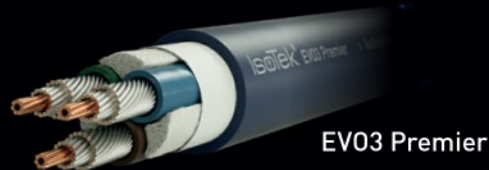
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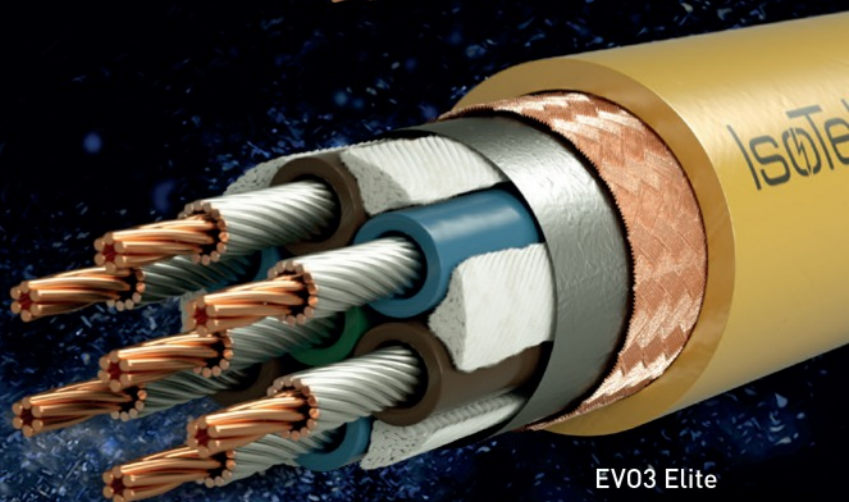
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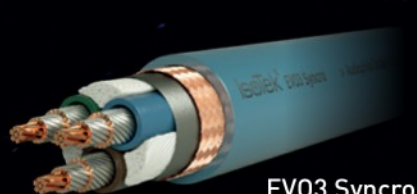
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UP CLOSE AND PERSONAL LEE TAYLOR OF LEEMA ACOUSTICS



Lee Taylor is the founder of Leema Acoustics, the lead designer and the 'Lee' in Leema.

A BAFTA winner, Lee has had an incredible career in music and audio, and following what is (still) the most valuable of audio educations, sound engineering at The BBC, Lee went on to work on some of the BBC's most popular TV shows including Casualty, Blue Peter and Panorama.

Lee set up Leema Acoustics in 1998 with fellow BBC engineer Mallory Nicholls as a means of further exploring their fanatical interest in audio reproduction. Starting with loudspeakers, the company progressed into electronics, hand-building everything from the Welsh factory. Even its PCBs are made in Wales.

Hifi Pig
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UP CLOSE AND PERSONAL WITH LEE TAYLOR OF LEEMA ACOUSTICS



Lee Taylor, Leema Acoustics
Job Title: Founder

What is your ideal day away from the office and why? (please go into as much detail as you wish about the day, where you would go, some of the best days you've had, how you got into this?).

Your question has made me realise I have never worked in an office, not ever! Even now, I work from a desk/workbench in the Leema Acoustics factory in Welshpool, rather than a little white cubicle. Away from work, I love to walk by the sea, which is probably why I now live in a little Welsh seaside town.

My family, three daughters and wife, (she insists on 'wife' by the way, if I say 'partner', 'significant other' or 'Mrs', I get hit by flying objects, which is odd because she has many names for me, most of which question various aspects of my conception/parentage and which you couldn't print), were in a wonderful old French townhouse near Carcassonne, when the sky turned black and the mother of all electrical storms started. We all stood on the balcony getting soaked, watching the free lightshow illuminate the mountains in the distance with massive lightning flashes all around us. It was bonkers, really, but utterly captivating and lasted for about two hours.

Ever since then, the perfect day for me is an afternoon walking by the coast, followed by biblical rain and terrifying lightning which takes out the power and the phones. This would be followed by a large scotch and a candle to read by; for someone who works in a technology-led industry, I could happily live without any of it. My daughters remember the Carcassonne storm as a family high point, mostly because they were terrified/excited/screaming, in equal measure.

Best gig you've ever attended and why?

I don't think any one gig could cover this: I've been to hundreds and played quite a few. But I'll try: Alice Cooper, Wembley Arena early 1970s. Pure theatre and he was on top of his game.

Alex Harvey, Hammersmith Odeon, 1975, the week I left school! Hammersmith Palais, 1983, Grandmaster Flash with Melle Mel and the Furious 5 - had to leave when people started shooting at the ceiling.

Rhianna, LOUD tour, The O2 Arena, 2012/13; totally different arrangements, live with a rock-royalty backing band. Fabulous. Also, the loudest gig I have ever been to. I was clearly the oldest person in the audience (by about 40 years!).

John Mayer, The O2 Arena, 2017; a joy from beginning to end. Glad he's dropped the ego/introspective obsession.

Tito Puente and Arturo Sandoval, Ronnie Scott's, 1980-something; distilled happiness and sunshine.

Gil Scott Heron, Bracknell Jazz Festival early 1980s, so cool! Rammstein, Birmingham Ricoh Arena, 2012, more fire than hell. Earth Wind and Fire, Wembley Arena early 1980s; endless groove. Verdine White, the bass player, flew the entire length of the Wembley Arena on a wire (while playing) to hit the stage just as the EWF mothership landed. The world was so much better without health and safety.

Mahler (Second), Royal Albert Hall, late 1990s; heart-rending. Prince. Words fail me.

Artist you would have loved to see but never had the opportunity?

UP CLOSE AND PERSONAL WITH LEE TAYLOR OF LEEMA ACOUSTICS



Sister Rosetta Tharpe. Electric rock 'n' roll, blues and rock all started with her. Stunning. Great guitarist, massive voice, wonderful gospel sound and all in a floral-print dress, fur coat and sensible heels!

Top five tunes of all time and what they mean to you and why.

Focus, Moving Waves album. Guitar solo side two (only vinyl back then). Jan Ackerman is one of the greatest guitarists of all time and made me buy my first electric guitar, a really shit Les Paul copy. I have played guitar ever since; you can never have too many! In fact, my wife just bought me another one for my birthday. Hoorah.

Steve Vai, *Passion and Warfare*. As a guitarist with a passable level of competence, I heard this album and just thought, "Shoot, might as well give up now." He had a level of ability that, at the time, was truly shocking.

Anything by Martin Taylor (no relation). A British jazz guitarist of indescribable talent: he can play three-part melodies simultaneously, without breaking a sweat.

Christophe Godin in *Metal Cartoon* and *Morglbe*. Crazy French guitarist who was my online teacher for a while. His jazz-funk/progressive rock version of *Smoke On The Water* is brilliant.

So, I guess you may have spotted a bit of a guitar theme here? So, I will throw in a curveball: any Disney song written by Alan Menkin. Need motivation to get on with something? Just play *Happy working song* from *Enchanted*. Need a pick-me-up? Try *Be our guest* from *Beauty and the Beast*. Need a good cry? I defy anyone to listen to Aerial lose her voice to Ursula, the wicked witch in *Poor Unfortunate Souls* from *I*, without a tear. *Colours of the Wind* from *Pocahontas*, I could go on, but they are all great recordings, too.

Analogue or Digital and why?

Quite a lengthy subject, this. I don't have the 'normal' hi-fi perspective on this because I spent most of my working life in recording studios which has shaped my views.

I think you have to break it down to 'recording technology' and 'delivery technology' and how the introduction of digital technology affected audio quality as a whole.

So, delivery technology first. I assume you mean vinyl when you say 'analogue' because *most* domestic tape machines were not very good (OK Janine, I'll give you Revox/Tandberg/TEAC) Commercial tape recordings were iffy and accommodating a lovely, proper lined-up Studer C37 quarter-inch machine running 468 was unlikely for most; though I had one. In silver. Hammerite! Oh, how I miss it.

Vinyl became the delivery format of choice. It was stunningly cheap to make, very profitable, easy to transport, could have nice big colourful covers to divert your attention from how awful much of the music was and made people very rich. However, by the late '70s/early '80s, pressing quality was largely terrible, with the thickness, dimensional stability and cleanliness of disks at a real low point. As a format, it's fragile, noisy, has poor L/R separation, is subject to poor tracking at the extremes, suffers warping and did I mention fragile!

Ironically, turntable technology took a leap forward with the availability of Rega/Linn/Lenco/Garrard decks that could actually rotate at a constant speed and could track a low-compliance cartridge properly, just as the physical format turned to doo-doo.

Enter the CD. It suffered none of the foibles of vinyl, didn't scratch if you coughed, you could finish a four-pack/bottle of plonk before you had to get up and change the disk, it had mega channel separation, perfect frequency response/phase-linearity, and was laboratory-perfect; we were all very excited, but they sounded sort of harsh and nasty! A view that has perpetuated.

UP CLOSE AND PERSONAL WITH LEE TAYLOR OF LEEMA ACOUSTICS



What was wrong? Well, several things, actually. Firstly, in the early days, most albums were issued on CD from masters that had been destined for vinyl release, so the bass was rolled-off, dynamics reduced etc. When replayed from CD, their true horror became apparent, hence the 'remaster' craze.

More importantly, the early DAC chips were poor in many ways. Specifically, the anti-aliasing filters tended to ring or sympathetically oscillate horribly, producing audible but non-music-related artefacts in the audio band.

However, like vinyl, the latest CD players suffer none of these problems and are capable of fabulous sound (with the right recordings, see below) just as, once again, the CD format is disappearing. History sadly repeats itself, which brings me on to: Acquisition (recording) technology.

Disregarding direct acoustic techniques from the very early days, (which by the way, with modern playback equipment can sound amazing), the majority of recording over the last 80 or so years has been with magnetic media: firstly wire recording - I believe it's the longest running recording technology - from the late 1800s right up to the late 1960s, the quality was not great, but very long recording times, over an hour!

These were eventually replaced by magnetic tape machines, which were very expensive but much better quality, so were immediately adopted for commercial recording. Throughout the '40s and '50s, the quality of tape improved enormously, thanks to innovations by BASF in Europe and AMPEX in the US, which largely ushered in the hi-fi era. Various additions were included through the late '70s until the '90s: DBX/Dolby A/Dolby SR noise-reduction etc., but the basic concept was just the same.

So, by the early '90s we had the basic recording technology to make breath-taking recordings, but once again, we threw it all out for the lure of digital perfection. Beautiful 24-track machines were scrapped by the hundreds and replaced with digital workstations and computers because they were cheap, offered perfect recordings (yeah, right), and needed no maintenance or real engineering knowledge.

Simultaneously, we had entered the age of the bean-counters whose only concerns were costs. Digital technology meant studios (and broadcasters) could lose engineers/maintenance staff by the truck load and vastly reduce electricity consumption, so the survivors of this cull were forced to go digital.

Mega-expensive bespoke systems from AMS/Fairlight etc. were adopted by the elite but the majority of commercial studios adopted Pro Tools (AVID Audio back then).

The concept was fine, but the analogue-to-digital converters which were recommended by Pro Tools (which everybody used) were absolutely hideous: they had a very distinct sonic signature which in essence, turned everything to mush.

So, for a while in the mid '80s to mid- '90s, there was a bit of a perfect storm (a bit like Carcassonne): recording quality went downhill. The delivery format was compromised and the engineers who knew what they were doing moved on and became builders or, in my case, fitted kitchens for a while. Later, I started an audio company!

At the time, people hunted-out albums that were recorded on analogue tape because they reputedly sounded better. Well, folks, I have news for you: between recording and distribution is a little process called 'Mastering' (I could write plenty about that).

Many mastering engineers took fabulous two-track analogue masters and loaded them into Pro Tools to cut them up/tweak/order the

UP CLOSE AND PERSONAL WITH LEE TAYLOR OF LEEMA ACOUSTICS

tracks/add gaps/metadata etc. To make things worse, the majority of digital systems at that time ran at 48kHz, due to various reasons but mostly because they were descended from video standards, so the final assembled master was copied to a DAT tape for delivery either at 48kHz, leaving the glass mastering house to do the conversion to 44.1kHz or the assembled master was converted back to analogue and played in to a DAT machine that could record at 44.1kHz natively (not many did at that time). Sadly, even the best recordings ended up going through multiple conversion processes before the final stages.

Perversely, many albums (recorded digitally) from that time, do sound better on vinyl, simply because the analogue process seems to suppress many of the digital nasties which are often prevalent at very high frequencies. Peoples' near-religious mantra that 'vinyl is best' does have some credence, but only because the recordings are filtered via an inferior medium. Wow, Hi-Fi Pig are going to need a bigger inbox!

So, to sum up, it's a meaningless comparison because either can be very good or very bad, however, it is generally far more expensive to get stellar audio from vinyl than it is from digital sources, plus modern digital equipment and techniques are capable of recording quality technically superior to analogue, however, to be clear, if I were recording a session today and could choose any equipment I wanted it would be an Oteri MTR90 24-track (or two) running at 30-inches-per-second with no noise reduction, an early '80s Neve mixing desk, steel-plate reverbs, Neumann u87/AKG HD414/Beyer M160/Coles 4038 microphones and ATC monitoring. Heaven.

Finally, I just want to make a quick additional but important point: as much as I have discussed the technological aspect of all this, I would like to say that **good recordings are made by well-trained and experienced engineers who know what they are doing, not by the technology.** Years of experience, knowledge of microphones, correct positioning, studio craft etc. are far more important than the equipment and no audio engineers were better trained or more capable than those who went through the BBC training machine from the '50s until the late '80s. Wherever you are now, I salute you all.

You have the opportunity to dine with one person (living or dead), who would this be and why?

My Dad, who loved music and spent a lot of time building a terrific system which has been my gold standard ever since. We had stacked Quad electrostatics ('57s) actively crossed over with a Tractrix subwoofer built under the floor. Massive dynamics and imaging. We lived in a terraced ex-council house in East London; we were very popular with the neighbours! He was a member of Mensa but resigned because he thought they were all stupid! If he was still alive, he would love what we do here at Leema and would probably be involved. Even now I sometimes think of ideas which would be great to talk to him about.

You're choosing the food, what would be on the menu?

I have been a Pescatarian for 40 years and increasingly, I find that the 'Posca' bit is shrinking. Oddly, I have never liked the taste of meat, even as a child. So, most likely, I would go for a really good Vegetable Pathia, Nepalese- or Ghurkha-style, with all the trimmings and a bottle of Indian Champagne (oops, not allowed to say that) Indian *Methode Traditionnelle* which is a magic combination - bubbles and burn, if you haven't tried it, you must. But it will change your life.

What's your tipple?

Really nasty, peaty Scotch. Laphroag as a minimum. Caol ila preferred. Talisker as an everyday drinker, if I had to you understand.

Favourite book and why?

Another difficult one because I am a prolific reader and have worn out two Kindles! *Skallagrigg* by William Horwood should be compulsory reading and deals with a number of issues surrounding disability. It is made all the more poignant because the story is inspired by the author's own daughter.

Also, *The White Hotel* by D.M. Thomas. It involves a Holocaust survivor retelling her story to a psychiatrist but goes right off track in ways you will not easily forget.

Name a film you can watch time and time again.

Les Vacances de M. Hulot, Jacques Tati at his absolute best: no dialogue, gentle observed comedy, black and white, enchanting and a France that is a still (just) in *La Belle Epoque*, clearly the inspiration for the far less subtle (and funny) Mr Bean.

If you weren't working in the Hifi industry what would your dream job have been?

I would be a rock star and I very nearly was! But, I would definitely be dead now having gone out in a haze of drugs, alcohol and excess.

What will your epitaph say?

I am with Andrew Carnegie: 'The man that dies rich dies disgraced'. He was the equivalent of a multi-billionaire in the late 1800s and was America's richest man at the time, but he gave it all away in his last 20 years. He built Carnegie Hall in New York, dozens of other civic buildings plus over 3,000 libraries around the world. Tragically, so few of today's super-rich want to give it back. It should be made compulsory for the super-rich that 90% goes back to society. For my part, probably something like, 'Was that it?'



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READERS' LIVES

ADRIAN HOLMES



Adrian works as an independent tour & merchandise manager in the live music industry with clients such as Steve Hackett, King Crimson, Steven Wilson & The Imagined Village.

Originally from the West Midlands, in 2017 Adrian & his wife Andrea moved up to the archipelago of Orkney off the North-Eastern coast of Scotland where he is now based between tours and where he also hosts Classic Album Sundays at Orkney's live music venue/record store The Sound Archive/Grooves.

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How and when did your love of music begin?

My real love for music was ignited when I went to Grammar (Secondary) School aged 11 in 1973. I discovered there was so much more to music than just Top Of The Pops and that week's guest on The Two Ronnies.

Suddenly I was exposed to Genesis, David Bowie, Pink Floyd, Roxy Music, ELP, Led Zeppelin, Frank Zappa & Yes. The Old Grey Whistle Test and Monty Python's Flying Circus became compulsory viewing. John Peel & Alan Freeman's radio shows became compulsory listening.

Later that same year I also attended my first real gig; Nazareth at Birmingham Town Hall and the seeds of my passion for live music were sown.

What was the system you remember from your childhood?

First my family had the obligatory Dansette record player (two-tone blue/grey) followed by one of those huge sideboard style BSR radio-grams (my parents ran a post office & newsagents close to the BSR factory in the West Midlands). Then when I became seriously interested in music, I had my own system as a birthday present; a BSR turntable with a Sony receiver, cassette deck & speakers.

What was your very first real Hifi system and can you remember how much it cost you?

My first 'real' hi-fi purchase came in the mid-70's. My BSR turntable started developing problems and I looked for a replacement. I was going to get a Sony Direct Drive deck (which had a strobe! Oooh!) but my older cousin who worked as an engineer at the BBC in London persuaded me to go on the waiting list (yes, there was a waiting list) for a Rega Planar 2; one of the very early models with the S shaped arm, rubber mat and wood surround.

I had that deck for nearly 10 years and it gave me SO much enjoyment. I can't remember the cost now, but when I finally sold it I actually got slightly more than I had originally paid for it!

Describe how your system has evolved chronologically.

READERS' LIVES - ADRIAN HOLMES



In the early 80's my trusty Planar 2 need some TLC so I took it along to Sound Advice (long gone) on the outskirts of Birmingham. Whilst my deck was being checked out, they played me a Linn LP12, Naim Nait & Linn Kan system; I was literally stunned! Until then I had no idea recorded music could sound so good.

Slowly as funds allowed, my Planar 2 was replaced by a Planar 3 and then a Linn LP12.

As so many of us did, I foolishly went down the CD Only route for a while but I returned to vinyl in 2006 and then started getting into hi-res digital in 2012.

Whether it's as a result of that early experience or not, I don't know, but I've largely stuck with UK manufacturers; Linn, Rega, Naim, Royd, KEF & Spendor; I just find their sound suits my ears.

Do you have one or more pieces of kit that you sold and immediately regretted and if so why?

It wasn't an immediate regret, but selling my first LP12 turntable when I went CD only. Bad move! I also wish I still had my Linn Kan II speakers from the same system to use in my office.

What is your current system?

Main System:

Linn LP12 turntable (with Lingo 3 power supply, Kore sub-chassis, Akito 2 arm & Krystal cartridge), Linn Akurate DSM pre-amp/streamer, Linn Akurate 2200 power amp & Spendor A4 speakers all connected with Chord Epic cables.

Office System:

VPI Traveller turntable, Rega Fono, MacBook Pro & Q Acoustics Q-BT3 speakers.

Tour System:

Astell & Kern A&Norma player & Jerry Harvey Audio JH13V2 in-ears or B&O H9i headphones.

What do you most enjoy about your system?

The ability to bring out previously unheard subtle nuances in recordings I thought I knew so well and also keeping me constantly broadening my musical horizons.

Analogue, digital or do both have their place?

Very definitely both! Both have the ability to sound dreadful, both have the ability to sound amazing; largely down to the source material. With storage so cheap these days, I find it unbelievable that MP3 is still the default file type for digital music.

READERS' LIVES - ADRIAN HOLMES

Overall, I still find listening to a whole album on my LP12 to be the most rewarding audio experience.

headphones! Then again, I've always wanted to own some Harbeth speakers!

What are your thoughts on streaming and are you ever likely to be a convert, if you aren't already?

I'm old school and believe in owning my music and in doing so supporting the artists I like so they can continue to make more music.

I do have a Spotify account, but it's mainly used to investigate artists & albums which, if I like, I will then buy on vinyl or hi-res digital.

Artists receive so little from the streaming services, I believe it's really important to support them by buying directly from their websites or at shows whenever possible.

What is the music that really stirs your soul? Give readers a top ten of your favourite albums?

Wow, just 10 is a difficult ask! In no particular order:-

- 1 Kate Bush – The Hounds Of Love
- 2 The Beatles – Abbey Road
- 3 The Clash – London Calling
- 4 Pink Floyd – Wish You Were Here
- 5 Genesis – Wind & Wuthering
- 6 Donald Fagen – The Nightfly
- 7 The Ramones – The Ramones
- 8 Talking Heads – Fear Of Music
- 9 David Bowie – Hunky Dory
- 10 Yes - Relayer

What was the last gig you went to?

I was recently working with ex-Genesis guitarist Steve Hackett on two music cruises in the Caribbean; Cruise To The Edge and On The Blue. As well as Steve's shows (obviously) I managed to catch sets by the new line-up of Brand X (stunning musicianship) and Alan Parsons (who's new music sounded great).

What is likely to be your next purchase and where do you want to take your hifi in future?

I'm not sure; there are so many possibilities! Maybe migrating my digital library onto something like Innuos? Or upgrading my office speakers to KEF LSX? There are some really nice new Audeze & Focal

MUSICAL JOURNEYS WITH LUKAS RIMBACH



Lukas Rimbach works for GIK Acoustics but also has a keen passion for not just listening to music, but also making music. Here he takes us through what has shaped his musical taste and how his taste has changed over the years.

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I am at that age now, where when you run into people from your past, people you went to school with, worked a job with or simply got drunk with at parties and the inevitable question comes up: "So, what are you doing these days?". Having spent the majority of my youth in a small town, most of these people have families, dogs, property and very common jobs usually. I myself still struggle with the question of a dog being too big of a commitment at this point of my life.

Anyways, when I mention that I work in the industry of pro-audio or music creation, it never seems to be a surprise to any of them. Usually the answer is something like: "I knew you would end up doing something like that". To be completely honest, I never did, even though looking back it seems that the signs had always been there.

MY FIRST STEPS

It all started between the age of two and three years maybe. My favourite hobby was banging on my mums cooking pots in the living room while listening to music. One of my parents' mates had created a cassette for me with a song by a very famous German singer at that time. The song was called "Verdammt Ich Lieb Dich" (Damn I Love You) by Matthias Reim. The genre is what we call "Schlager" in Germany, it's a horrible thing really, hard to explain.

So what I would do usually is move to the living room anywhere between six and seven in the morning, grab some pots and spoons and then play that song over and over again while banging the pot drums. My lovely mother never fails to mention at this point that I did have quite some rhythmical talent. It was only logical they ended up buying me a Disney drum kit for Christmas, which I played untiringly.

My Mom is a singer, I remember singing a lot with her when I was a kid and also tagging along to choir practice and singing lessons. My Dad on the other hand loved music passionately but honestly is quite incapable when it comes to playing instruments or singing. I think he

never really tried too hard. Being a middle class child, obviously my musical mother had me take music lessons, I played the piano for some time but ended up playing the drums again rather quickly.

I remember listening to Michael Jackson on my cassette player a lot. This was around the time of the "Earth Song" and the "HIStory" album. I also remember being a huge DJ Bobo Fan at that age; this was also the first gig I went to. My Dad took me to one of his shows, I really don't remember much but I must have enjoyed it a lot!

Apart from that I listened to a lot of music my father played, we had a Technics SL3000 with a matching amp that I still have in my possession. There was a lot of Pink Floyd, Queen, Phil Collins, Wishbone Ash but also many Jazz records I couldn't name. I also remember him bringing home our first CD player very early on when the technology was quite new. My Mom chose to torture me with Ace of Bass and ABBA, which was different obviously. A car ride with mom was quite a different experience to one with Dad.

Because of Dad's influence, rock music came naturally to me, but at the age of ten maybe eleven I stumbled across HipHop and rap music. This was also the time of a lot of cross over - or Nu Metal as they called it. I found myself listening to Limp Bizkit, Linkin Park, System of a Down and Korn, but also Wu-Tang, Mobb Deep, Nas, Run DMC and Eminem.

The first record I bought was a Blood Hound Gang Album I think, "One Fierce Beer Coaster" and shortly after the "Slim Shady LP" by Eminem. Honestly Eminem was probably the artist that dragged me into rap music completely. I'd listened to other rap records before and enjoyed them but his sound and attitude had something fascinating. At the same time German rap music started evolving in a direction that was a lot more enjoyable to me. Before it was mainly very clow-nish and corny stuff, but at that time the first acts with an authentic sound emerged. I had a friend who was into the same type of music,

MUSICAL JOURNEYS



we both started buying equipment, turntables, mixers, microphones and later on I sold my drum kit, got a condenser mic and an interface for my iMac. It was quite different back then to start creating your own rap music than it is now. There was no one showing us how it worked, no tutorials, no workshops, nothing at all. This was also the rise of Napster, Limewire and MP3s so we downloaded instrumentals of songs we liked and then recording our own songs over these. A quite typical phenomenon in Hip Hop... We did not know that of course.

After some time we started visiting jams and played little gigs including all the ups and downs of the Hip Hop scene in those days. There was a lot of rivalry with graffiti crews and rappers to the point of violence, which we managed to stay out of mostly... fortunately. When I was about 16 my parents took me to an open day at the SAE Institute in Frankfurt. I met a rapper there who invited me to come to town and record music with him. He had connected with a professional music producer who recorded him at his studio in a bunker facility in town. This was the first time I went to a really professional studio and recorded with high-end equipment. I was fascinated by the microphones, the equipment and everything about these rooms had a magical attraction on me. I instantly felt like this is what I would like to do with my life. From that moment on I spent a lot of my free time in Frankfurt, in that particular studio and around other musicians. It was only logical that I moved there after I finished school.

In school I also got in touch with 2step and later on Garage and UK Grime through my class mate Patrick. He was a British expat and we spent a lot of afternoons at his house watching Channel U on Sky. I even had a project with a few electronic music producers and a friend trying to create a german version of that sound. So Dizzee Rascals "Boy In Da Corner" was one of my absolute music milestones. Also the first Run The Road samplers were very influential as well as Mike Skinner / The Streets, Kano, Chase and Status and many more.

Of course, we also went clubbing, we were quite close to a city named Mannheim, there where a lot of clubs that played Drum and

Bass and Jungle, also Dancehall music of course. I was definitely very influenced by this type of sound. Mostly I would say the music I enjoy is rather breakbeat based.

At the same time I moved into the city I also started producing my own instrumentals, getting more involved with music theory, sound design, sampling and digital audio workstations. I had a phase where I worked through my Father's whole record collection, sampling anything imaginable. I created very classic 90s boom bap instrumentals as well as completely tripped out soundscapes - I didn't even know what they could be used for, I just enjoyed making them. Then dubstep emerged and I was really interested in that so I got into synthesis, sound design and glitch editing. I listened to a lot of Rusko for example the infamous „Cockney Thug“ but also Banga, Skream and other UK based artists. When the US adapted the genre I was skeptical, but I did like some Skrillex tunes to be honest. Ever since that time I listen to a lot more electronic music and also fell in love with Diplo's production a lot. His songs ended up being my reference many times in mixing sessions.

I worked different jobs and decided I wanted to pursue my dream, so I signed up to study at the SAE Institute and become an Audio Engineer. It was a really great time, we experimented a lot, recorded all kinds of instruments and artists.

After this this time I started working at a local studio, I recorded and mixed for a living for the first time. It was very small money but I managed to keep going. In these two years I took on a lot of smaller local projects, producing music, recording people and mixing music, but I completely stopped rapping. I also found my love for singer songwriter music in that period and started working with a few local talents. I got very involved with the projects and spent a lot of time on them. I also assisted a very talented engineer named Robert Fischer on a few projects and worked on a classic 4k SSL console while doing so. Something not too many young engineers get to do these days

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unfortunately. I learned a lot in this time that still serves me well to this day.

I took on all kinds of work from radio stations to live sound gigs and post production work. I also started working for GIK Acoustics around 2013, in the beginning I was mostly translating and working with German speaking customers, it was one of many part-time jobs which in 2015 turned into my main occupation.

I can't say that most of my work is really audiophile, I mostly specialise in urban music, pop music and EDM. Music that is usually very loud and can sound harsh and unpleasant on good systems. Technically speaking, in my opinion it is a lot harder to create something that complies to the requirements of these genres in this day and age and still sounds good on a pro system, than it is to create a good sounding, dynamic and natural record. One of my favourite recent records is definitely "Phase" by Jack Garratt, he is an unbelievably gifted musician and songwriter who plays a variety of instruments. He seamlessly combines many genres and somehow I enjoy all of them and the outcome as well. If one would ask me currently for my number one record, that would be it.

About three years ago I started creating my own music again. I started taking singing lessons, as I wanted to sing more on my own music. I try to work with producers that understand my influences and want to create a sound that stands out from the crowd in a very monotonous Hip Hop world. These days I find myself mostly writing emails and answering the phone in my daily line of work, something I never could have imagined eight years ago when I decided to do what I do. I love to be in touch with all the different creators I get to work with through the job at GIK, but of course one looks for balance when your life starts to change so I try to get to the studio at least once or twice a week and still work on a lot of music from friends and customers who often became friends.

However finally working on my own music again, being creative and having some kind of output is probably the most exciting aspect of it all because music to me has always been about expressing myself. I can't just consume it, I have to be part of it, I have to create it and shape it in some form. Music is what defines me, without it I would be lost surely.

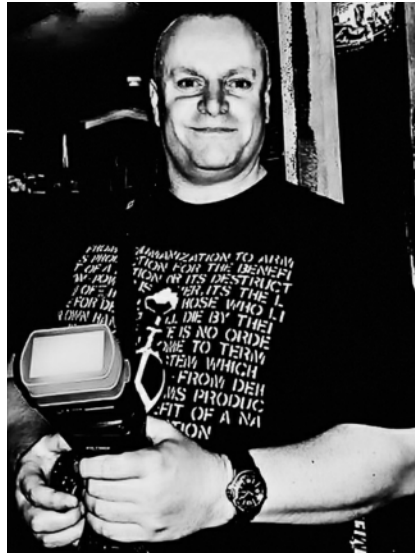


Lukas has an album out at the moment called Luke Und Truke and it is very good indeed.

You can stream it and buy the album [here](#).

INTERVIEW

WILL BINKS OF WILL BINKS PHOTOGRAPHY



Will Binks is based in the North East of England has been chronicling the regions vibrant punk music scene for a number of years through his photographs which capture the heart and soul of the scene. Here Hifi Pig talks to Will about his photographs and what motivates him to document the North East punk movement.

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HP: How did you get into photography in general and more specifically documenting the punk scene of the North East Of England?

WB: I don't think I can pinpoint it to one individual reason if I'm honest. My late Father had what I'd call 'ordinary' cameras during the 60's, 70's & 80's as he documented myself, my two younger brothers and sister as we grew up into adulthood. I'm pretty sure that left an impression and fascination with me. It wasn't until 1984 when I asked if I could get a camera for Christmas. I was 18 by this time. My parents took me to Alan Brown's Photography Shop in Frederick Street in South Shields where Alan advised me on what camera and flash would be best to get me off the ground. It was a Pentax though I can't recall what exact model it was. Although the results were superior to compact cameras I found myself in a bit of a quandary. I was attending gigs at places like The Station in Gateshead and The Bunker in Sunderland very frequently during this period and being at that age I was enjoying drinking, socialising and hanging out with mates. It soon became obvious to me that not only was photography an expensive hobby but carrying around bulky equipment was a pain in the backside too. Films, batteries and developing wasn't cheap by any stretch of the imagination. Here I was in 1985 two years before I started my first "real" employment and I was getting by on my part-time Community Programme wages. I ended up only using The Pentax very sparingly. I did a photo shoot with my mates The Fiend around Laygate, The Funfair and Marine Park which was great but music wise I didn't do a lot else. I found myself taking my parents Disc Camera out with me to gigs on account of its compactness and relative less financial burden to use but in hindsight, I gotta say, the results were very poor indeed. I kept The Pentax up until 1989 before selling it. It's a regret that I didn't explore it more or use it enough and perhaps I should've kept hold of it. As they say, you live and you learn!

After that I had a host of compact cameras up until when my daughter was born in 2007 I purchased my first digital camera, an Olympus 740. This was still a 'point & click' camera but it served me so well as I began to gain a deeper interest and thirst for chronicling gigs. I always enjoyed documenting gigs by listing those I attended, keeping tickets or posters but I can't think of anything better than looking back on good quality photographs of those great performances by the bands I love and appreciate.

Using the Olympus 740 was fun but it always left me wanting more. I had lusted after a camera with a lens to make the next step up but for a long time the finances were never quite right. Eventually, at the beginning of 2013, following a windfall, I decided I would seek out advice and purchase myself a camera, a Nikon D3200. I owe a big thanks to Gav Burn who I asked for direction and guidance. The D3200 is a perfect entry level camera for a beginner like myself but offers so much more too! Also, I need to say many thanks to my friend and work colleague Jim Ryan who has also been too kind with the amount of information, help and instruction and even his generosity in giving me some of his surplus equipment. I owe a lot of appreciation to these two lads!

HP: The scene in the North East seems to be thriving, why do you think that is?

WB: The scene up here has always had peaks and troughs, of course. Lately there has been a steady rise with a glut of new and old bands recording and playing regularly. We're lucky with some great venues too. The Black Bull in Gateshead, Trillians in Newcastle, The Museum Vaults in Sunderland to name just a few. Why do I think this is? Hmmmm, If only I knew ha ha! Perhaps a combination of a lot of things. I'm just grateful and feel fortunate I can document such a healthy Punk Rock Scene.

HP: Your Images are full of energy and excitement; how do you go about capturing the perfect shot?





WB: Thanks! Just simple things, really. For instance, if I'm capturing a vocalist I try to make sure I wait until they're just about to finish a line or chorus where they're emphasizing the words and their facial expression contorts.

HP: When you go to a gig to take photographs what's on your bag?

WB: 6+ years on and I'm still using the same D3200 so that's a given to be first in my bag. I usually use a couple of lenses, a bounce flash and spare batteries.

HP: Do you still get as into the atmosphere of gigs or do you find you are more focused on getting the images?

WB: A great question. Photography unfortunately isn't my job. I attend shows by bands I enjoy. Yes I wanna get some great photos but I also want to meet up with friends, enjoy a drink and not detach myself from socializing. It can be difficult to balance the two. After all, I'm there to enjoy the live experience first and foremost. Sometimes, I feel my attention is solely on getting "that shot" so I see a lot of bands literally through a lens.

HP: What's your favourite shot of yours and why?

WB: It changes constantly. Just recently I concentrated on getting a lot of crowd shots from a recent gig by The Varukers. People dancing and enjoying themselves. Some with their tops off and looking a bit battered but they all have a smile on their face which is so great to see. I suspect my favourite shot will always rotate and generally it will be from my most recent show.

HP: Which other photographers' work do you admire and why?

WB: Out of the big guns Silvy Maatman is absolutely amazing. Her work on the European Punk Festival circuit is quite incredible. I admire her a lot. Morat's work is stunning too. You ask why? Well, check out their work as it speaks for itself. I have lots of friends who too enjoy amateur photography and all do a sterling job. Gav & Jim who I mentioned earlier. Lisa Gray, Mark Cartwright, Melanie Branagan, Steve White, Trunt, Mark Tennant & many more.

HP: Do you have any plans to take this to the next level and turn full-time professional?

WB: I suppose it would be a dream to do a job that you enjoy doing. I honestly can't see it happening any time soon regrettably. I work full time in a large supermarket's distribution centre where I've been for 25 years. Turning professional would probably mean leaving the security of a steady but meagre income. I would probably need to outlay 5-6 grand on equipment to take it up a notch too. Incidentally, I've been taking pics for over 6 years and never made a single penny. I always said it's my passion and not my "business". Turning pro would change the way I approach what I do and without doubt take away some of the fun I feel.

HP: Other than gigs, do you take other photographs and if so of what?

WB: Gig photography is and always will be my main priority. I have took some sunrises and sunsets but the live music environment is my devotion. I have also made a conscious effort to document my two children in great detail as they mature from toddlers to teenagers and beyond. "Dad, not more photos" is something I heard a lot in recent years ha ha ha!

HP: Are bands asking to use your work for covers and promotional material?





WB: I enjoy working with great bands and good people. I ask for nothing more than my pic is credited, I am thanked and I get a copy of the finished release. The following bands have used some of my pics. Anti-System, Decontrol, Varukers, Uproar, Anord, Rats From A Sinking Ship, Hellkrusher, Force Fed Lies, Kickback Generation, The Relitics, Civilised Society, Aye Hobos, The DeRelias & Weld.

HP: Anything to add, Will?

WB: Yeah thanks so much for the interview and exposure. If anyone is wishing to see my work please check out these links.

You can see more of Will's fantastic photography on [Flickr](#), [Facebook](#) and [Instagram](#).

THE MERCURIAL MESSENGER SERVICE WITH PAUL MESSENGER



Paul Messenger is something of a legend on the Hifi scene and we at Hifi Pig are delighted to have him onboard writing a monthly column for us as well as doing the odd review. In the first of his articles for Hifi Pig Paul talks about Chord's new contact-enhancing fluid, remote control handsets and distinguishing sheep from goats.

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CONTACT ENHANCEMENT

At the recent Bristol show, cable makers the Chord Company introduced a number of new initiatives, one of which was a 'contact enhancer' from a Japanese brand that had apparently done well in its home market. I obtained samples of this treatment, as I assumed the results of a comparison would make interesting reading. However, the findings did turn out to be rather equivocal, so I'll have to leave it up to the reader to decide.....

The problem I encountered came down to an inability to A/B the end result, because the best cables I use tend to be 'one-offs', which makes the possibility of making comparisons difficult, especially when the treatment procedure is rather long-winded, as is the case here.

Sadly, I hadn't read the instructions in sufficient detail first time around, so I went ahead and treated one of my favourite cables (from Wire-on-Wire), without realising it would take more than an hour to do the treatment, or that the suggested cotton buds were incompatible with phono plugs.

The compatibility problem between the cotton bud and the phono plug comes down to the space between the latter's central pin and its surround being too tight for easy cleaning or conductive treatment. By rolling the bud-end between finger and thumb I managed to tighten it sufficiently to fit it into the gap, but only with some shoving, and certainly made the delicacy required in Stage 3 of the Instructions quite impossible.

Add in the observation that the treatment itself is quite demanding, so can only really be recommended for those who actually enjoy playing with their hi-fi systems. That said, I can state that the treatment does no harm, and may actually be beneficial, by slightly enhancing the sound quality, though that was after just one treatment, using cotton buds that were certainly rather bulky for the task.

HANDSETS

Although I had been aware of it for some time, my son drew my attention to an issue concerning remote handsets, and the need to make them deliberately heavy in order to match the pretensions of our upmarket hi-fi components. The simple fact is that costly hi-fi components are usually accompanied by hefty and frequently unnecessarily pretentious remote control handsets.

For more than forty years I've used Naim's top pre-amplifiers, and was very happy when the NAC 52 arrived complete with full remote control. The handset was a simple lightweight plastic affair, switchable to handle pre-amp functions, record outputs and Naim's then new CD player. I used the same handset to control my very similar NAC 552 when it was installed some years later, even though a new and slightly different handset had been supplied.

However, the arrival of a Statement NAC S1 a couple of years ago did change things somewhat. Although the original handset does



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control volume and channel balance, the Statement pre-amp comes with a much heavier and more pretentious handset, which one has to use in order to change inputs. A nice touch is the fact that the various buttons are backlit, and the lights come on automatically as soon as the handset is moved. However, it's also a good deal larger and weighs much more, so

I've only picked on Naim because it lines up with my personal experience. However, I doubt that it's all that unusual, and there's even a hint of it in the metal cases used in the upmarket Rega products that I've tried. My plea therefore is for simple plastic-case remote handsets to operate our hi-fi systems, 'cos they're lightweight and unpretentious in carrying out their tasks.

HIFI TODAY AND TOMORROW

I've already written about this elsewhere, but reaction was sufficiently positive, and a subsequent review has further reinforced the situation, suggesting I should have another bite, this time on the web.

A major problem afflicting hifi today is that it has become rather too good for itself. When I began writing about the kit more than forty years ago, there was plenty of not-very-good equipment around, allowing me to distinguish the sheep from goats without much difficulty. Nowadays I'm hard pressed to find any goats at all, and virtually everything seems to achieve a worthwhile standard.

I recently reviewed one of B&W's base models, called a 603. It cost a mere £1,250, which I thought was a very good price for a floorstander, especially as I was feeding the pair with around a hundred grand's worth of source and amplification. Although B&W's 800 D3 reference model does sound rather better, the 603 seemed remarkably good value at a twentieth of the price. It was doing a very good job of reproducing the signals I was feeding it, so much so that I didn't bother changing them for some weeks.



This is the very essence of the problem – a loudspeaker that does everything very competently and costs only just over £1,000. To some extent this is a function of computing and software, which means that it's now much harder to make mistakes. But so many of the old problems are now solved, and very effective driver manufacture is so

widespread, that a pair of speakers costing just £1,250 can now do justice to the very best equipment around.

That said, there may well be ways forward, even though one might wonder whether they're actually backward steps. As far as speakers are concerned, I believe there might now be a strong case adopting a single full range driver approach.

I recently purchased just such a device called Sibelius (primarily for my wife's room), which reinforces the bass by means of a transmission line. The overall tonal balance (far field) measures pretty good, and my only real criticism is that the Mark Audio drive unit has only average sensitivity.

I was also astonished by the number of exhibitors using valve amplification at 2018's Polish hi-fi show, so I wonder whether we might see a valve revival; I'm also looking at germanium (as distinct from silicon) transistors, and current rather than voltage drive. And I'll report any developments here as I encounter them.

I do therefore believe that hi-fi has a future in various directions, not all of which have much to do with the direction we're going in at the moment. Right now I might be a bit depressed by the situation, but am retaining some sense of optimism at the same time.

STEPHEN FEARING—THE SECRET OF CLIMBING

Rega doesn't often get involved in software (if such a term may be applied to a vinyl disc), but anybody interested in demonstrating to friends that analogue replay is inherently better than digital could do worse than pick up a copy of *The Secret of Climbing* by singer/songwriter Stephen Fearing.

The recording was actually made on a rebuilt Studer A-80 in Roy Gandy's large front room, and the following day I went over to hear the man himself performing in the barn. (This didn't mean that I was able to make a live vs recorded comparison, of course, but it did help to emphasise the superior quality of the recording.)

It's his ninth solo recording, and has received enthusiastic reviews from a number of music magazine. Much initial debate occurred about whether to record the guitar and vocal separately or together, decided by Fearing's preference for the latter. More details may be found on the relevant websites.



STU'S VIEWS CASSETTE TAPES



This month Stu goes a bit old school and talks cassette tapes. They're becoming a thing again by all accounts. Get the Biro's at the ready!

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In the last couple of days and before sitting down to start to write this article I read with interest that Bjork is about to release her albums on cassette tape and it made me wonder why she would bother to reissue material already available on vinyl, CD, digital download and streaming services on a format that is widely accepted inferior to the other media mentioned. I have a confession; I've been collecting pre-recorded cassette tapes for a few years now and pick them up at second-hand shops whenever I see something interesting. Indeed, only yesterday I picked up a compilation from presumably the early late 80s/early 90s called Red Hot & White Labels that has a dozen or so rave tunes on there. However, in the main I've been picking up classic rock tapes (Neil Young, Yes, Fleetwood Mac...you get the picture) and all this before I actually owned a machine on which to play them.

From a sonic perspective, cassettes are indeed inferior to pretty much every other format, with the possible exception of low bit-rate MP3. But the format is certainly making a limited comeback, so why, given its obvious limitations, are artists of the stature of Bjork choosing to turn to what is an outdated and outclassed media?

Nostalgia may be part of the appeal of cassette tapes; who remembers sat listening to the top 40 chart show and pressing play and record on the old fashioned tape recorder at just the right time to avoid the presenter's spiel, and even using the onboard microphone to record from the radio. Let's face it, with those recording conditions the finished product was unlikely to be particularly sparkling. But then music centres with inbuilt tape recorders appeared and the whole process of recording records directly became much simpler, allowing us to make copies of albums to play on our ghetto blasters or for using whilst been taxi'd about in the car...or even on one of those new-fangled Walkman doodads. Of course, the music industry hated that we could record friends' albums and every piece of vinyl you bought had an inner sleeve with the "Home Taping Is Killing Music" skull and cross bones. But the recordings were always poor on the

level of equipment I had to hand and I'd invariably go out and buy the record once I could afford it, which is much the way that I use streaming services to find new music nowadays. I even bought pre-recorded tapes back in the day and remember fondly having a copy of Blondie's Plastic Letters – actually my Aunty bought it for my Christmas gift, walking into Casa Disco in Barnsley and asking for Plastic Lettuce. Even with pre-recorded tapes the sound quality was pants and Dolby Noise Reduction, to my ears at least, did nothing but make recordings sound dull and lack lustre. To me Dolby seemed to be a sledgehammer approach that I preferred never to use, preferring the hiss at the top-end to the cut-off nature of the post Dolby output. Flicking the Dolby switch always sounded like you'd put cotton-wool in your ears, so severe was the top-end cut-off. But tapes were convenient and portable, but then you did always have to carry a biro with you for when the inevitable unspooling occurred.

Who of a certain age doesn't recall making compilations for friends, or potential "love" interests and poring over what tunes to include and what order they would go in; and then making sure the cover stood out on the shelf – cue reaching for the pack of felt tip pens in your school bag. I suppose this is a precursor to how people now put together digital playlists for friends and family only in laborious real-time; though I do remember some machines having a high speed dubbing facility, but I was never lucky enough to own such a machine. The thing I draw from the above comment is the "laborious real-time" comment; If someone handed you a mixtape you knew that they had taken time to put the track-listing together, spend their time recording each song and then designing the cover and spine. You'd also, I did anyway, read something into the tunes that had been chosen or omitted. A 90-minute tape would take a couple of hours to put together and as such represented a full evening of a schoolkid's afterschool free-time – a good degree of thought and attention had gone into your gift and as such it was something to be treasured. I got into DJing and by the time I hung up my decks for good I had literally hundreds of tapes of mixes I'd done and pretty much every time I got



behind the turntables the resulting mix would be recorded – sadly all of these mix tapes are long gone, though I am assured there are still some recordings of our radio show out there on cassette - which brings me nicely onto the bootleg scene of yesteryear.

When I started at university, every month a bootleg outfit would set up shop in the student union and flog their wares of dodgily recorded live concerts – nobody batted an eyelid and yes, I bought a lot of them. Lots of the covers were hand drawn and used Lettraset (remember, this was a time before home printers and computers) and sound quality was invariably appalling, but I didn't really care, I just had to have that Reading recording of Hawkwind or Gong in Paris. The claim was often that the recording was "straight off the desk" but I strongly suspect that the vast majority were made by some hairy with tape machines and microphones secreted about his person – in many you could actually hear the audience chatting with each other. Like I say, strictly speaking these recordings were all infringing on bands' copyrighted material, but in truth the quality was so low that no-one would use these as the sole source of a band's musical output.

Getting back to Bjork, I suppose what she is doing is saying "Hey, look, I'm setting myself apart from the norm, aren't I as quirky as ever" and I pretty much guarantee her tapes will be snapped up – I'm tempted myself. I imagine this standing out from the crowd will also be used by smaller independent record labels and bands as it's a cheap recording process (I recently almost picked up an 8 track (perhaps 12) into 2 mixer with onboard tape recorder that was going for a little over €100) and copying is likewise easy and cheap; record your band on a 4 track, bounce the tracks down to get overdubs on there and copy it whenever you get an order; this is exactly what the dub band I was in did with our first collection of music called Fattion.

I think a good deal of what folk like about vinyl, CDs and tapes is the fact that they are all physical formats that you can hold in your hands and you can see them on your shelves, not something that can be said of streaming services or files on your hard-drive. People like stuff and people like to own something they are paying for – with streaming services I often feel like I'm simply renting the music and that doesn't quite sit right with me for some archaic reason – though I'm aware I'm likely in a minority in this thinking. Call me old-fashioned, but if I am paying someone for something I like to feel that at the end of it I have something that will remain mine – though I fully understand the sheer breadth of content on streaming services is phenomenal and very attractive.

So, will cassette tapes ever become as big a format as they clearly once were? I don't think so! Audiophiles will eschew cassettes because of their inherent sonic limitations – though I do see the prices of tape machines (particularly high-quality machines) are on the rise and I still do yearn after a Nakamichi Dragon myself, though that's likely me liking boxes on the rack over and above any real desire to fully embrace tapes. The mass market has embraced streaming services and are happy to use their smart devices to access their music and don't want the hassles of a physical format and so are unlikely to take up an apparently antiquated format, though I do think there is likely to be a bit of the "Hipster Factor" that comes into play in some circles. I think the market, in the main, for cassette tapes will be limited to niche labels outputting small numbers of EPs and albums by relatively unknown bands to a specialist but enthusiastic audience, with a small number of major artists jumping on the apparent bandwagon as Bjork has. Major artists will sell their tapes in good numbers I think as fans will be fans and will want to have a complete collection of an artist's output – even if they never play it.

Facebook groups are atwitter ('scuse the pun) with the talk of cassettes making a bit of a comeback just as vinyl has and reel to reel (to a lesser extent) has. Companies are beginning to make blank tapes again and second-hand pre-recorded tapes are as cheap as chips to pick up with in charity shops and so there will likely be a bit of a spike in use, but long-term I just don't see the cassette tape making the kind of impact that vinyl has in recent years, though I am still tempted to go see if that 8-track recorder is still there.

UPDATE:

I wrote this piece a few weeks before it was due for publication but since then I did indeed go back for the eight track, have hunted down and bought a mint multi-tape duplicating machine, sourced blank cassettes and have a number of artists on board keen to do limited runs of 'specialised' music...watch this space for news in the coming months.

BIRDS' EYE VIEW THE ART OF DEMCRAFT



Linette tackles the subject of the demonstration, what makes a good one...and a bad one. Though our editor seems to have got the wrong end of the demonstration stick with his choice of image.

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"Demcraft", now there's a buzzword for you...what does it actually mean? Demcraft is the art of demoing a product or products. It's not simply presenting your product at a show, that's a different kettle of fish, but a great Demo has its place as part of the fabric of a show.

THE ART OF THE DEM

A good Hifi Demo is a joy to behold...I know that probably sounds more than a bit nerdy but hey, I get excited about factory tours too, I'm just so Rock n' Roll! Seriously though, a well put together Dem works on the principle of The Three Es (no, not that kind of Es). A great Dem needs to Explain, Educate and Entertain. It needs to be kept pretty simple, a long-winded technical discussion is going to bore the pants off even Hifi Journalists...possibly ESPECIALLY Hifi Journalists, as they go to a lot of Dems. A brief overview backed up with time for the more technically minded to have a chat with you afterwards is ideal, especially when supported with a handy, electronic info pack. Explaining to and educating The Audience about the product should be a gentle experience, not make them feel that they are being kept behind at school for a particularly long and nasty detention. The presenter of The Dem needs to be part teacher and part show-person. That third E, 'Entertain' doesn't mean that The Audience expect you to take to a uni-cycle whilst juggling your products, just be yourself, bring a little humour into the proceedings and keep it simple.

UP CLOSE AND PERSONAL

If you are presenting a Demo of a product, you need to bear in mind what you are wanting to achieve, what is the place of The Dem in a world where everything is shown on social media, in Youtube videos and streamed live from Hifi Shows on the audiences' smartphones? The Dem is personal, it is a connection between you, The Brand, and The Audience which could be made up of members of the public,

press, competitors, colleagues...generally a mix of all of the them, depending on the occasion. Your Audience could be a huge crowd or just a couple of people, either can be intimidating.

The Audience may come into The Dem with preconceptions. They may have watched videos or seen adverts or read reviews of your product, they may have a preconceived idea about what it is and what it does...it's your job to get The Audience to forget those preconceptions and be open to what you are going to show them.

THE PURPOSE

Your real aim when presenting a Demo is for The Audience to leave knowing more about your product and either writing nice things about it in magazines, on websites and social media, or wanting to review it or buy it. The Dem is not witchcraft but it does involve a bit of wizardry. It needs to be slick but not tricky, the last thing you want is people leaving thinking you were trying to trick them into hearing something that wasn't really happening. Keep it open and honest and let The Audience draw their own conclusions.

HIFI SHOW vs HIFI DEMO

If, as a Hifi Brand, you were to approach the Hifi Show situation as if it was one long (very, very long) Demo then several things are going to happen. Firstly, you are going to end up very knackered very quickly and you will probably need an industrial sized box of throat lozenges. Secondly, The Audience are going to get fed up because they want to actually sit down and listen to some music, not just watch your Dem over and over again. Thirdly, whatever that product is, you are going to be mightily sick of it after two or three days and never want to see it, or speak its name again...not ideal.

Your ideal Hifi Show should be a mixture of relaxed music sessions, playing full tracks of different genres of music, interspersed with your Demo, either as and when The Audience demand it or at set times of the day, that way people can arrange to come back to see The Dem at a time that suits them. Breaking the show up like this keeps it interesting, both for you and for The Audience, it's a win win situation.

WHEN GOOD DEMS GO BAD

I've been to loads of Dems in the last seven years so I've experienced The Good, The Bad and even The Ugly. Sometimes it's been a case of being told what you are supposed to be hearing before even a note get's played. A Master Of Demcraft doesn't prescribe what you are about to hear, they may suggest that you will hear improvements or differences but they leave it up to you to hear these.

Sometimes things go wrong, through no fault of your own. Forces beyond your control may make something blow up, the power fail or things just to not go as they should...it's how you cope with it that counts. When you press that button on there is no music A Master Of Demcraft doesn't get flustered and just calmly takes it in his or her stride. A great example of this was at High End Munich one year, the year Naim were launching The Statement amplifier. The wonderful Gérard Chrétien of Naim's sister brand, Focal, was presenting The Dem and the electrics blew. There was no panic, no one minded a bit and things were soon under control and progressing as they should. Gérard truly was a Master Of Demcraft.

Hecklers can be a problem. Personally I don't think heckling is a nice thing to do...fair enough, if you, as a member of The Audience, have a pertinent question then ask it. Don't push things for the sake of trying to look clever though or try to trip up the presenter. It's not big, it's not clever and it will just make you look like a dick.

Sometimes, the person giving The Dem just approaches it all wrong. The biggest mistake that you can make is talking too much. You have a limited amount of time before Dem Fatigue and boredom sets in with your Audience. Don't approach it with a stack of prompt cards, don't think you are giving a lecture, you need to let the product speak for itself... sometimes it's not about the words.

WHERE THE DEM COMES INTO ITS OWN

Certain products lend themselves really well to the Dem situation. Quite often these are the products that don't jump out in a system. When a system is put together well there is a synergy and the whole thing, well, it sings. It's easy to pick out the loudspeakers or the amplifiers as being the 'stars' of the system, but without the cables, the cartridge, the music server, the isolation, the racks....that system would not be so great. So this is where The Dem comes into its own. The products that you might not notice in a complete system but that make a real difference, really benefit from being singled out for their own Demo...probably why some of the very best Dems we have witnessed have been for cables and other accessories.

WHO GIVES GREAT DEM?

So who are The Masters Of Demcraft? This is not an exhaustive list, but some of those that deserve a special mention for their consistently great Dems, noted not only by us but by members of the Hifi loving public too.

The Chord Company - Alan and the team are always professional, never boring and present in a way that allows you to make up your mind without being bamboozled with technology. A special mention has to go to Pat and Doug after having seen them give their cable Dem at the Warsaw Show, to a mainly Polish audience and transcending the language barrier with the Power Of Demcraft.

Atlas - Another British cable company that gives a great Dem, in fact Kevin and Martin introduced us to the term 'Demcraft' and inspired the thinking behind this article. And it's not just us that thinks so, we have seen USB cable skeptics have their minds totally changed by these guys.

ISO Acoustics - This Canadian isolation manufacturer let their products do the talking. Loads of people at the recent Bristol Show, including us, were wowed by their Gaia isolation footer Dem. Simple, very effective, job done.

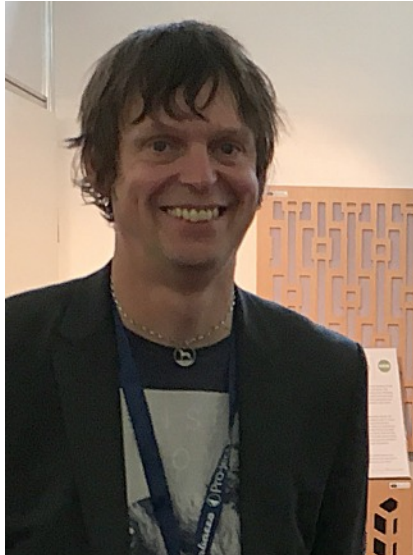
Townshend Audio - One of my favourite Dems ever. Does the speaker seismic isolation platform work? The simple 'Tap Test' Dem that Max and Tony do with a couple of tablets with an app measuring vibrations is simple and convincing proof of their products.

Quadraspire - Their racks feature in a lot of systems at shows but we were most impressed with a Dem done by AI in the comfort of our own home, with our own familiar equipment. Needless to say we bought the racks.

Innuos - Gave us such a clear and impressive good, better, best Dem at High End Munich that clearly and simply showed off their servers and players. We voted them Best Dem In Show that year and have physically dragged people to their room at shows since, so that they can experience it.

The Spiritual Home Of Demcraft...where is it? Well that is a simple answer. Glasgow. Did Linn invent The Art Of Demcraft? Perhaps, but what is sure is that they are a company that have trained their staff so well in Demcraft that it resonates around the Hifi world today. Many of the times you witness a great Dem chances are that it will be given by someone that has worked for, or been trained by, someone that once worked for Linn.

SMALL ROOM ACOUSTICS OR HOW TO STOP GUESSING AND TRUST YOUR ROOM



David Shevyn is the General Manager of GLK Acoustics Europe and lectures on room acoustics and their treatment at both Hifi shows and at professional events. In the second of his ongoing articles he is all 'bout that bass and explains to readers the concepts and science behind taming those low down frequencies.

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SMALL ROOM ACOUSTICS WITH GIK

I'M ALL 'BOUT THAT BASS

In the last issue of HiFi Pig we talked about how the room that you listen in effects the sound, how soundwaves work and how bass interacts in your room. At the time of writing I mentioned that acoustics was a VAST topic and pondered where even to begin but on reflection this was actually a really simple question. Always start with the bass, I mean how low can you go?

Why the bass though, why not first reflection points or getting into the nitty gritty of diffusion and the art of scattering? There are two reasons, firstly because this is where all your problems really do start, get to grips with the lowest common denominator and you are well on your way to getting a great sounding room and secondly because it is the hardest part of the room to get right. You need exactly the right products placed in the correct position to get the maximum absorption. It may be the trickiest part of the room to get right but it can be a fascinating journey learning about your room and achieving the desired results.

In the last issue we talked about how the shape and size of the room itself can affect how you hear the sound in the room and this is certainly one of the biggest influences on low end problems in a room but it is not the only factor that creates low end issues but we can look in those in more detail in later issues.

In this issue we are going to spend a little bit of time looking at the different types of bass absorbers available and how they work and ultimately where they need to be placed in the room to make the maximum difference.

HOW DOES IT WORK?

What do we even mean by absorption? To understand it we have to take a step back and look at the Law of Conservation of Energy. This law basically states that energy can neither be destroyed nor created but only transformed or transferred from one form to another. So even though the energy can change form from a liquid to gas and back again the amount of energy actually remains constant. The energy itself has not changed only the way it is perceived.

When it comes to room acoustics this principle is being applied to sound. Here the motion of gas at a certain temperature is being caused to slow down via friction. This friction gives off heat thus conserving the total amount of energy and reducing the strength and intensity of the waves released. This is known as acoustic attenuation.

TYPES OF BASS TRAPS

Bass traps work by providing resistance to the sound waves bouncing around the room, so our bass traps need to provide a good resistance to these soundwaves often referred to as the gas flow resistivity of the material. In general, most bass traps fall into 2 different categories

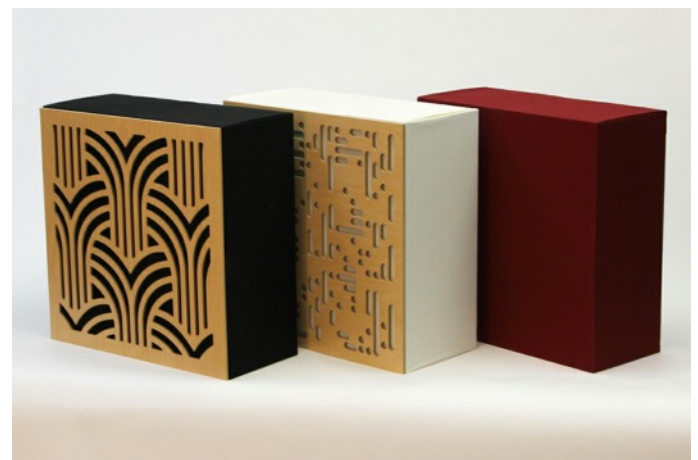
Velocity Based Absorbers

These are the most common type of absorbers as it based on porous absorptive material because of this you will often see them referred to as porous bass traps. Basically, a trap like this will work simply by the conversion of that energy into heat as previously explained. In general, this type of trap will absorb across a broadband of frequencies. The density, thickness and type of material will define which frequencies that they absorb and how much. Generally speaking this type of

absorber is applied when a broad range of frequency absorption is required (which is most small rooms).

Pressure Based Absorption

This category actually includes a number of different types of absorbers, but the commonality is that they are pressure based. They are also known as resonant absorbers, tuned traps, pressure-based traps or narrow band traps. These are generally much more complicated and use factors such as depth, mass, size of air cavities materials all into account to deal with the absorption of specific very low frequencies. The key with pressure-based adsorption is to understand the purpose and scope of when, how and where to use them. So, understanding your room and how it effects the sound is essential. These traps deal with peak pressure points and can be used in conjunction with broadband treatment.



GIK Acoustics Scopus Tuned Traps above look very similar to the porous absorber but are constructed completely differently using pressure to tune the traps in a narrow bandwidth. They are designed to be as compact as possible.

LET'S GET TECHNICAL

The best way to understand how this the pressure-based absorption trap works is to break it down into two further categories; the tuned membrane bass trap and the Helmholtz Resonators

Tuned Membrane Bass Trap – One of the advantages of these narrow band bass traps is that they are very compact. These work by creating a depth and sound pressure to a quarter wavelength of the frequency you are trying to absorb. Depth of the trap, the density and type of membrane used all effect the pressure within the trap to tune it to the right frequency.

Helmholtz Resonators – Most people are familiar with the concept here and many of you will have seen the demonstration of how this works in principle by blowing across the neck of a bottle. This works because of the way air works and that it has a natural 'springiness'. By this we mean that when you compress air its pressure increases and then it more or less goes back to its original form. The frequency of resonance is determined by the volume of air cavity, the length and diameter of the neck and this then absorbs the frequency you require.

HOW DO I KNOW WHICH BASS TRAPS TO USE?

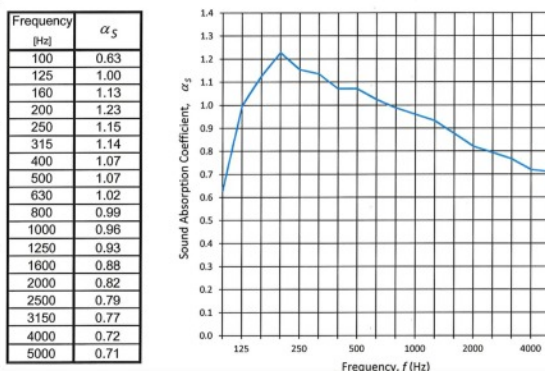
SMALL ROOM ACOUSTICS WITH GIK

Once you start looking into bass trapping and visit several different manufacturers websites you will possibly be more lost than ever. Which bass traps do I need? Although we have described just the two main types of bass trapping there are various different designs available using a combination of these theories, products like wood faced diffusion panels actually use a form of resonance in their design caused by vibrations leading to frictionless losses. The simplest answer to the above question is to take acoustic advice from a respected company and they can talk you through all the aspects of a room and how to treat it.

For now, let's jump forward a step and presume we do know which traps we want to buy, how to decide which one would be best for your room?

Reputable brands of acoustic treatments will have had their products tested in an independent laboratory and this is how we choose the correct treatment. Tests can come in different forms depending upon the type of product, where it was tested etc. but ultimately, we are interested in the Absorption co-efficient. This measures how well a material absorbs different frequencies. A perfect sound absorber would absorb 100% of a frequency and if it was to perfectly reflect a frequency then it would be 0%. These figures are sometimes written as a figure between 0.0 and 1.0

Random Incidence Sound Absorption Coefficient



The above data is taken from an official ISO test conducted by University of Salford on GIK Acoustics 6A Alpha Panels. The Alpha panel is a porous broadband absorber with an 8mm wooden resonator in front. Official tests like seen above are conducted in a certified reverb room and need to cover 11 square meters, flat to the ground. This is known as a A mount test. You will also often see J Mount tests. This is where the same panels are tested in the position they would be used (i.e. Manufacturers recommendation) rather than lying flat on the floor. All the numbers above 1 are 100% efficient. So, in the above example, the panel is 63% efficient at 100hz and 100% efficient at 125hz. This is a great broadband absorber that doesn't over deaden the highs and can go very low for a panel style absorber. Another factor to consider is the absorption area, the more surface area you have the more that it can absorb.

A simple demonstration for this is to consider 2 panels

- 1) 100mm thick absorbs down to 125Hz
- 2) 200mm thick absorbs 63% at 100 hz and 100% at 125Hz

If you had a problem with 100hz it would not matter how many Number 1 panels you placed in the room. They would never absorb 100hz. However, we can calculate (based on your room dimensions) how many panels of number 2 we would need. Above 125hz the panels may then perform very similarly.

I always recommend that you work with companies that have these independent test results for two reasons

- A) It is a certification to say that the product you are buying performs to a certain pre-defined criterion
- B) Without this information these companies would not be able to advise you on how to deal with your room. It is essential to know how each product performs to be able to recommend the most effective acoustic solution for your needs.

WHERE TO PUT THEM?

Again, this isn't a straight forward question or answer. It never seems to be, does it? This isn't us making the subject complex instead our articles are designed to try and bring the complex physics of sound as it applies into our small listening rooms into something we can practically use in our own spaces.

Bass trap positioning can broadly be placed into three positions or categories

- a) Corners – In an ideal scenario we would recommend placing bass traps floor to ceiling in all available corners but why is this? Firstly, we need to understand what we mean by a corner. A corner is anywhere where a wall meets a floor or a ceiling, so there are 12 corners in a room but only 4 tri corners. Bass builds up in corners as this is where two room modes meet.
- b) Walls – Bass traps can also be placed on the walls and specifically the back walls. This is top deal with non-modal standing waves. These are basically standing waves created by your position within the room. As you move forwards and backwards though the room you will hear peaks and nulls of different frequencies so treating the back wall will prevent this. As the back wall is often the longest mode in the room then thick treatment is also required to deal with this.
- c) Places of high pressure. When we are concerned about individual low frequencies, we are trying to absorb then it is essential they are placed in the correct position, specifically in the areas of high pressure for the frequency the trap is tuned to. We will look at this in greater details in future issues.



An example of a 2 Channel listening room set up. Note the floor to ceiling traps in the corners and the thick traps on the back wall.

I hope that this has gone some way to helping you understand the different types of bass absorbers available, how they work and how to choose the best one's for you. Next issue we will be looking at Speak-

SMALL ROOM ACOUSTICS WITH GIK

er Boundary Interference Response and Speaker Positioning and how this can affect the sound within your room and how to deal with this.

If you have any acoustic questions or problems you would like help with, feel free to leave your comments on the [Hifi Pig Facebook page](#) or by contacting [Hifi Pig here](#) and we can answer them for you. Remember: no matter how difficult or simple the question is, someone else will likely be asking the same question.

GIK offer free acoustic advice and you can [get yours here](#).

REVIEW

XAVIAN PERLA

LOUDSPEAKERS



Made in the Czech Republic but with an Italian heritage, Xavian Perla loudspeakers are a smallish loudspeaker made of solid oak and costing €1990 plus stands. Could these be the pearl in the oyster you have been looking for?

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XAVIAN PERLA LOUDSPEAKERS



The founder of Xavian is Roberto Barletta who originally hails from Turin, Northern Italy where he grew up with his grandmother in a family of musicians. In 1984 his interest in music and technology brought him to “play” with loudspeakers and reproduction of music at home with him later creating a Class A amplifier for a school project.

In 1989 Roberto started working for an Italian company making loudspeaker systems and power amplifiers where he remained for five years until moving to Prague in 1994 and in 1996 he founded Xavian with the name deriving from Greek mythology - the sacred place to the Muses. First of all the workshop was in central Prague before moving to Kladno and finally to Hostivice in 2013 where the company occupies a large former mill. In 2011 audio engineer David Hyka joined the Xavian team.

BUILD AND FEATURES

Packaging is superlative, none of the ill-fitting bits of polystyrene packed around speakers in the vague hope that they will arrive at their destination intact. Everything is packed in purpose made and purpose cut high-density foam gubbins and the cardboard boxes are likewise purpose made. This is a good start and it continues when you begin to unpack the speakers and their associated and matching stands. Both speakers and stands are both made from solid Italian oak “slats” (not veneer over ply or MDF) and there is definitely a feeling of understated quality here. The speakers are heavy (7.7Kg) for their size and the tap test shows them to be pretty much dead – no ringing – which is obviously down to their solid construction. The Perla Exclusiva is available in dark oak, natural oak, black, white and “marina” with the review pair being in natural oak. They come with grilles but I reckon they look so much better without. The speakers are made in the Czech Republic.

These are a two-way, bass-reflex design with a front firing bass slot/port. Bass and mids are handled by a 150mm AudioBarletta woofer that uses a polypropylene membrane in a die-cast chassis

whilst the tweeter is a 26mm soft dome unit from the same company. Round the back of the speakers are a single pair of speaker binding posts and above these a decorative and artificial pearl. Personally, I don’t get the pearl thing but each to their own. Size-wise the Perlas are pretty compact measuring 315 x 190 x 26 mm.

The speakers bolt to the stands by way of a pair of hefty hex bolts and once they are on there they are not going anywhere. The stands come with spikes but for our purposes, and because we have suspended floors in our second listening space, we added a set of Franc Audio Slim footers to the bottom of the stands giving a solid and stable platform for the speakers.

The speakers have a claimed response of 53-20000Hz, have an impedance of 8 ohms, a sensitivity of 88dB and a crossover point of 3000Hz.

Along with the speakers you get a small booklet which talks to you about placement and recommends them to be placed 30 to 100cm from walls with at least 1.5m between the speakers. To be fair I found the Perlas pretty unfussy with regards placement and I had them 75cm away from the back wall and 35cm away from side-walls/acoustic treatment panels. Speaker cables for the duration of the review period were Chord Company’s Epic XLs, amplifiers were from Graham Slee, preamplifier was from Lab 12 and CD player was from Leema. I genuinely think that this is the level of kit that the Perlas are likely to be partnered with and I know each of the products used very well.

SOUND QUALITY

The speakers were allowed to play for a few days without any critical listening to allow them to loosen up a bit, something we always do with new equipment and in particular loudspeakers. Once this breaking-in period was over I set down to some serious listening and from the off knew we were dealing with a classy speaker.

XAVIAN PERLA LOUDSPEAKERS



XAVIAN PERLA LOUDSPEAKERS

The first thing that will grab you by the lug-holes is the way these speakers image. The mix is laid out before you with good width and depth and projects out into the room. Listening to Bowie's Ziggy Stardust and the first track Five Years grabs my attention with the instruments being able to be picked out from the mix. Imaging is not as good as the Jern speakers we reviewed recently but it's not far off. Yes, bass is limited to an extent but it is tight and tuneful and I never once thought about plugging in the subs that we have available. In this room, it's actually a sort of room within a room that is made of acoustic panels, I'd suggest that bass is pretty much perfect considering the speaker's size and price-point. Detail is fantastic and whilst with some speakers you can sometimes feel you are experiencing detail overload, I just never got that with the Perlas, finding them an easy and yet rewarding listen. It's clear from the off that these speakers have been designed and built with more than a nod to the studio environment I would suggest and we have a monitor type feel to the sound. Little cues in the music (reverbs, handclaps and the like) are all well in evidence but what I get overall is a feeling that I'm listening to a well-balanced speaker with no frequency range being pushed to the fore to create an artificial feel to the music. Particularly impressive was the guitar solo towards the end of the second track from Ziggy Stardust (Soul Love) with a really nice insight into the slightly over-driven electric guitar that also had great texture and tonality.

And so it's out with the killer track, Daft Punk's Contact. Regular readers will know that if a product can't do this track justice then it doesn't get given house room for very long thereafter. It really is a track that separates the men from the boys being full of complex rhythms and a whole host of electronic mayhem that can sound muddy, confused and downright awful on less than exemplary speakers. With the Perlas, I'm again impressed with the detail present. Drums particularly are set out in the stage brilliantly and you can "see" where each hit is in the mix and where it is panned. There is speed and agility here too with the bass stopping immediately when it should. This track builds and builds to a crescendo of electronic noise and although I've heard it hundreds of times, played on a great system I never tire of it and that is most certainly the case here. I'm grabbed by the detail in the alien "voices" at the very end of the track and again I'm reaching for the word texture. Look, these are messed up electronic soundscapes but the Perlas manage to make sense of what could be a racket and allow you to hear details that I've only encountered on the aforementioned Jerns and the main review system with speakers costing MUCH more. Impressive stuff for such a moderately priced and proportioned loudspeaker.

David Gilmour's Live At Pompeii CD 2 kicks off with Shine On You Crazy Diamond and the stage is set before you with the Perlas. Jerry that used to review for Hifi Pig often used to make a note in his reviews of speakers as to where in the concert-hall he had the impression of being with any given pair of speakers and here I find myself in the middle of the stadium (for want of a better word) about halfway back – just in front of where the mixing desk would be. Gilmour is, in my opinion, one of the finest, if not THE finest, guitarist period and the Perlas highlight his virtuosity wonderfully, with texture and tonality and the ability to easily pick up on little timing changes he adds to his playing. Goosebumps stuff!! Is it like "being there", well no it's not – for a start there isn't the mandatory tool (or more often tools) stood blocking your view with their smartphones, but close your eyes and you could almost be there. The sax solo on Shine (reaches for the thesaurus to find a new word for texture) has grit, rasp and a reality to it that is uncanny. The final track on the album, the singalong Comfortably Numb is portrayed magnificently with Gilmour's guitars soaring and cutting through the mix. It's always a good sign when you stop taking notes and just listen to the tune playing...and yes, there

was singing along, much to the consternation of not one but both cats. You will be getting the message that I like these speakers a lot I take it, but before I wrap this up it is obligatory to listen to some female vocals...because audiophiles.

However, a quick scan through the CD shelves makes me realise just how little of "that" kind of music we actually have and so I reach for Miles Davis' Kind Of Blue. Again, there is that imaging thing, a definite feeling that you are listening to real instruments rather than poor facsimiles of instruments that you can get on lesser speakers. Indeed, the instruments sound amazingly realistic and "in the room". Basslines are easy to follow and don't get lost in the mix and like Gilmour's aforementioned guitar, Davis' instrument of choice cuts through everything and takes centre stage. Nothing is missing here and we have balance and poise, speed and agility. That speed thing is a major plus for me with the Perlas!

CONCLUSION

I liked the Perlas so much they replaced the previous reference at this kind of price-point and it was an easy decision to make. I do enjoy monitor style speakers and that is what you have here. If you are looking for imaging to die for with bags of details then you need to audition these. They are a little light in the bass department but in all honesty, I didn't miss it at all with any kind of material I threw at them, and in small to medium size rooms they are absolutely fine and much more bass may well be overkill. Their key characteristics are clarity, even-handedness and preciseness of tone and texture.

Their build quality puts many a speaker to shame and at €1990 plus €693 for the stands they offer good value for money given their sonic attributes. I heartily recommend them.

AT A GLANCE

Build Quality: Fantastic build, fit and finish. I don't get the little pearl thing but hey...

Sound Quality: Detail and clarity, speed and accuracy of image. Bass may be a little light for larger rooms.

Value For Money: At less than €2000 for the speakers they are good value, though I do think the stands to be a little on the pricey side – and I'd suggest you do need them.

Pros: A superb monitor style speaker that is well balanced and even-handed with all kinds of music. Imaging is to die for and detail is fantastic. Excellent build quality. Bass is certainly not one note as can be the case with some reflex designs. Easy placement.

Cons: Bass is not trouser flapping. Stands are a little pricey.

Price: Speakers €1990. Stands €693.



REVIEW

WHARFEDALE D320 STANDMOUNT LOUDSPEAKERS



If you are in the market for a sub-£200 loudspeaker you have lots of options, but Wharfedale is a name that has been in this market for donkeys' years and so if only for that reason their D320 standmounters attracted our attention. But how do they perform? Harry and Stuart Smith find out.

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WHARFEDALE D320 STANDMOUNT LOUDSPEAKERS



Wharfedale is famous for their super-popular Diamond range of speakers that have been a mainstay in many entry-level HiFi systems for decades. The D300 range aims to be a slightly cheaper alternative to the Diamonds that are being marketed as a more premium option, though they are intended to exist alongside the Diamond range of speakers. The new line of speakers includes the D310 bookshelf speakers, D330 floor standers, D300C centre unit and the D320 bookshelf speakers that I was sent to review.

If you haven't heard of Wharfedale already, you probably have been living under a rock for the last eighty plus years. They have been a heavyweight in the HiFi industry since the early 1930s and have been champions of the entry-level and midrange speaker market gaining particular success in the eighties with their original Diamonds.

BUILD AND FEATURES

The D320s that I was sent for review cost just £199 and come in four finishes, black, white, rosewood and walnut.

At first sight, the speakers seem pretty ordinary until you look at the back and realize that there is no port – but they are not a closed box design. The port on the D320s is actually situated on the bottom side of the cabinet firing down – though there are rubber feet on the cabs to raise them above shelves, desks or speaker stand. I chose to use a pair of ISO Acoustic stands as I know they work well, raise the speakers a little on my desk and allow more air below the downward firing port. However, this proved to be a bit of a problem at first as the rubber feet were getting in the way of the contact between the speaker and the stand. Thankfully they were easy to remove with a hex key (not included with the speakers).

The curved edges and understated Wharfedale logo make the speakers look elegant and not out of place in my typical early twenty-something flat.

In fact, I would go as far as to say I'm a big fan of the build quality considering the price; the wood and high-quality plastics are soft to the touch and seem very durable. The feel of the materials and curves remind me of a Martin & Co acoustic guitar (very high praise from a guitarist)

The D320s are driven by a 4" bass driver teamed with a 1" soft dome full range driver. The bass drive units are made from woven kevlar with a foam surround.

The D320s were much heavier than I expected but this is probably down to Wharfedale not skimping on the materials. They're made in China but at this price, I wasn't expecting anything else.

You would struggle to find better build quality on another pair of sub £200 speakers in my opinion.

SOUND QUALITY

For this review, I paired the D320s with an Amptastic mini 1 amplifier and a SotM sHP-100 DAC along with a set of Atlas Equator 2.0 speaker cables. I used a laptop as my main media source running TIDAL and taking advantage of their "Master Tracks" where it was possible.

The D320s are great all-rounders. Nothing stands out as the speakers' best quality but everything sounds exactly as you would expect, given their budget price-point. That being said, the bass is pretty damn good and the speakers go much louder than you would expect before they start to break up and distort. Indeed, with the modest output of the Amptastic amp, I was hard pushed to get them to these kinds of levels. The soundstage, in general, is much wider than you would get from a traditional pair of bookshelf speakers at this price and perhaps this is down to the shape of the front baffle

WHARFEDALE D320 STANDMOUNT LOUDSPEAKERS



WHARFEDALE D320 STANDMOUNT LOUDSPEAKERS

The advantage of having the port on the bottom becomes apparent on more bassy tracks when the lower notes (thankfully) don't overwhelm the mids or highs that are surprisingly clear.

No matter what I threw at them the speakers managed to deliver a fantastic listening experience.

Janelle Mon  e's album "Dirty Computer" was definitely a great opportunity to showcase the all-around performance. Her signature R&B sound paired with disco Nile Rodgers style guitar loops and almost Beach Boy-esque backing vocals sounded immersive, especially on the track "Make Me Feel"

"Got To Keep On" by the Chemical Brothers also impressed me. The overall groovy feel of the track filled with repetitive but catchy backing vocals were not too overwhelming and let the synth hook take center-stage. The speakers didn't distort at all even though I was playing the track at near full volume. (the neighbours unfortunately didn't appreciate the clarity of the speakers at this volume).

On more acoustic tracks featuring folk guitars like "Blackbird" by the Beatles, I was able to hear the intricacy of the fingerpicking and background bird call sound effects. Paul McCartney's unmistakable vocals sounded warm and natural.

The D320s didn't struggle with Rock at all. Blur's 2003 album "Think Tank" and its heavily distorted guitars, robotic backing vocals, and repetitive drums were easy to differentiate from each other as the speakers provided good separation between the instruments. Even though the sound of this album is rather unconventional, it was faithfully reproduced. This is personally my favorite Blur album and one of my favorite albums of all time, so I'm happy that it sounded great on the Wharfedales. "Crazy Beat" was definitely the best track on the album to showcase the speakers – it can sometimes sound muddy on cheaper hardware, but that wasn't the case here. "Propaganda" by Muse was also able to showcase the same characteristics as the Blur track as it features similar distorted guitar riffs and vocals.

Jazz also sounded surprisingly good. Horns, pianos and electric organs were vivid and contrasted really well with the deep bass lines that the D320s are able to deliver. Gregory Porter's album "Take Me To The Alley" was definitely a highlight as some speakers struggle to faithfully reproduce his signature smooth deep voice. Not the Wharfedales! They sounded rich and warm like hot chocolate

CONCLUSION

All in all the sound quality of the D320s is definitely their main selling point. At this price, I would struggle to find such a great allrounder to compete with them. There are probably speakers around this price that deliver slightly better clarity but not without compromising the bass and mids. Wharfedale have been able to produce a pair of speakers that perform well no matter what you throw at them as they are very well balanced. If I was building a sub £500 system I wouldn't hesitate on including the D320s no matter what genre of music you prefer. And recommend them to anyone on a tight budget.

AT A GLANCE

Build Quality: No complaints at this price it would be hard to find better build quality.

Sound Quality: Fantastic all-rounder. Overall a very pleasing listening experience with a surprising amount of punch.

Value For Money: The easiest £199 you would spend on a pair of speakers. They don't disappoint no matter what music you're into.

Pros: Great all-round sound and excellent build quality for the price

Cons: Would love there to be a hex key included in the box to make fitting them on stands easier but that's being churlish.

Price: £199

Harry Smith

At Hifi Pig we believe in matching similarly priced components with similarly priced components – or perhaps that should read products that perform at similar levels. Our philosophy is very much that a review really only has value if someone reading that review is able to relate to it and that it is somewhat pointless to pop a £3000 amplifier in a system that is running a pair of speakers that cost a couple of hundred quid. Hang with me on this point, I am getting to the review and this really is relevant. We have lots of reviewers and each of those reviewers have systems that come in at various price-points and here at Hifi Pig Towers we have several systems at different levels of performance. The final system we put together here was our circa £1000 system and we searched high and low and tested many bits of kit to ensure we had what we believed to be a relevant and realistic system that we could slot in review items that arrived on our doorstep. So, what has all this to do with the Wharfedale D320s? Well, when we were looking to put this system together we came across these speakers being run by another Outstanding Product award-winning partnership in the form of the Audiolab 6000A amp with DAC and 6000CDT CD Transport costing £599 and £399 respectively and we were very impressed – sadly the Audiolab partnership put us over our budget otherwise they would be on our rack as I type. Anyway, based on this audition we bit the bullet and bought a pair of the Wharfedales to add to our Amptastic amp and Cambridge Audio DAC Magic and we've been listening to them very happily since in order to get a handle on what they bring to the budget table.

This is not a full review, it's meant as a bit of an addition to what has already been written by Harry and to ascertain whether the D320s are worthy of our Outstanding Product award (we don't give them out on a whim like some publications and gave out less than ten in 2018 and even less the year before). In short, the answer is yes they are worthy, but why?

Of course they are a budget speaker and so you aren't getting all the frills and jewellery you get on more expensive speakers - they are vinyl wrapped and you get just one pair of binding posts (though the binding posts are of great quality), but you do get removable magnetic grills that cover just the drivers rather than the whole baffle.

The Wharfedales are a balanced speaker that is well built, very well built for the asking price, they are easy to listen to and in my opinion punches well above its asking price. They fit well in the system, are unfussy about their placement and image very well indeed. They are not the last word in finesse when compared to much more expensive offerings but they are highly enjoyable and for those looking to enjoy their music without breaking the bank they offer a great insight into the recordings that are thrown through them. Bass doesn't go massively low but it isn't a one-note fart, mids are clear and articulate and there is good detail in the tops. The Wharfedales are agile and will satisfy those looking to move up from a soundbar based system and enter the world of "real" hifi. I also reckon they will prove popular in surround sound AV systems. They perform best on decent and

WHARFEDALE D320 STANDMOUNT LOUDSPEAKERS

solid stands but they also work well on a desk, though they are pretty big for a desktop system.

At highish volumes, they have that boogie factor and at low levels they have enough detail and poise to delight. Put simply, we stopped looking for a speaker for this review system once we plumbed them in and in all honesty I was really surprised by their performance. Look, Wharfedale is a big company that is able to exert the economies of scale where Fred in his shed producing speakers at this price-point just cannot compete and sonically this shows. Other offerings at this price-point are available and notably I'd say the Mission LX-2 should also be considered – both made in the Far East – but for me, the Wharfedales have it by a nose and as such, they are staying. with this in mind I have no hesitation at all in giving them Hifi Pig's top accolade! Harry also bought his pair for his review system!

Stuart Smith



REVIEW

MARTIN LOGAN ELECTROMOTION ESL X LOUDSPEAKERS



Think electrostatic hybrid loudspeakers and a handful of names will come to mind, and likely top of that list will be Martin Logan. Here Janine Elliot takes their ElectroMotion ESL X costing £4998 for a spin.

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MARTIN LOGAN ELECTROMOTION ESL X LOUDSPEAKERS



Many years ago, I decided to delve into a new level of audio exploration, auditioning three sets of top-notch speakers in one of the respected HiFi shops in London. One speaker was made in Sheffield, England, one from Arcugnano, Italy, and the third from Lawrence, Kansas. I bought the former, but also really loved the speakers from Lawrence - that one being a Martin Logan hybrid electrostatic. The reason I didn't go for the MLs was that I couldn't sensibly fit them in my then-confined listening area. So, to be offered their ElectroMotion ESL X for review in 2019 I took the opportunity with open arms and a larger living room.

Martin Logan's location is a bit of a mystery to me. Whilst their website indicates Lawrence, Kansas, they share space with Paradigm and Anthem in Canada, having been also taken over by ShoreView Industries of Minneapolis. Interestingly there was no hint of the place of construction on the speaker itself, though they are distributed in the UK by Absolute Sounds. Build quality has improved significantly since my first dealing with them in that HiFi shop, but that distinctive shape, fast sound, and the large soundstage has remained.

CONSTRUCTION

The ElectroMotion ESL X is one model higher than the entry-level hybrid electrostatic, the ElectroMotion ESL (RRP £3,198 per pair).

The ESL X at £4,998 per pair features a larger XStat panel with a radiating area 50-square-inch larger than the standard model. One thing of course that distinguishes Martin Logan speakers from the competition is the curvy shape called CLS™ technology (Curvilinear Line Source). As a young audiophile many years ago it amazed me that one could ever create a curved electrostatic construction bearing in mind the exceptionally thin diaphragm needing at all times to be in parallel with the stators supplying the EHT voltage. This gentle horizontal curvature is not a gimmick but rather it enables excellent high-frequency dispersion from a large radiating surface and without hindering sound quality. Furthermore, it prevents having to have a

restricted and overbearing sweet spot, something that conventional flat electrostatic panels can suffer from. It also enabled me to position the speakers easily in my listening area, just ensuring they were toed in by the right amount.

Below the curved and tilting electrostatic diaphragm is the black aluminium bass cabinet, covering a much larger space on the floor than the curved electrostatic membrane itself would. The EM ESL X has dual 8" woofers - one at the front and one at the rear - compared to the base model's single woofer. These two are housed in a non-resonant and asymmetrical cabinet with a downward firing port. The drivers are custom engineered high-rigidity paper cones, with extended-throw driver assemblies. Much of the design philosophy of the EM-ESL X comes from their more expensive loudspeakers, with custom-wound transformers, air-core coils, large steel laminate inductors, polyester and low DF electrolytic capacitors. The crossover point between the two drivers is set at 400Hz. Custom 5-way bi-wire binding posts allow for good and easy connectability. In operation, the frequency range was 41–22,000 Hz \pm 3db. I just wished there were a few more Hz in the bass but connecting my Wilson Benesch Torus sub allowed me to get another two octaves. Martin Logan has a selection of 7 different subwoofers to add, should you so require, or it can be part of a surround system, Martin Logan also manufacturing centre and rear speakers. Recommended amplifier power is suggested at 20–400 watts per channel, meaning you can use thirsty amplifiers without worry of damaging the diaphragm, unlike the unfortunate time I once had with my aged Quad ELS63's. Impedance is rated at 6 ohms (1.6 ohms at 20 kHz, which should not be a problem as there is so little power arriving at this frequency, but some amps might not like it); for the purpose of this review the EM-ESL X was lovingly supplied power from my Krell KAV250a. These are fairly large speakers with an overall area of 59.2" x 9.4" x 20.7" (150.3cm x 23.8cm x 52.6cm), the woofer taking up most of the floor space. The electrostatic section is bolted onto the bass unit at the front and moving the unit into place did mean I needed to be at floor level to get it right; the electrostatic section is not quite secure enough for you to

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dare risk moving the unit from the top. The unit comes with a choice of spikes or rubber feet, the latter which are inserted over the top of the spikes. Clever. No need to do any screwing in and out. Electrostatic loudspeakers generally require a lot of thinking about positioning at their best, not just the angle of placement and the distance from the wall, but also choosing carefully your seating position. The Martin Logan was surprisingly, and welcomingly, easy for me, and their wide dispersion of sound meant that both I and my cat Claude could listen on the settee without a hint of loss of detail. With a crossover at 400Hz, all the important mid frequencies are covered by the electrostatic transducers meaning an un-distorted frequency response particularly of vocals and upper strings. This was highly noticeable in my listening tests. The electrostatic panel dimensions are 40" x 8.6" (102 x 22cm), with radiating area of 344 in² (2,244 cm²). The transducers themselves employ Martin Logan's unique XStat™ transducer, developed for the ElectroMotion Series, to reduce the gauge thickness of the electrostatic panel's steel stators. The reduced thickness also means that the panel has increased visual transparency, so that the unit doesn't look quite so imposing in the living room, if you want to see what is behind them.

Being electrostatic meant I needed to give the speakers power, on this occasion coming in the form of two 15V DC power units the same size as those coming supplied with your mobile phone. They provide the bias-voltage for the electrostatic panel. For the review I charged the units for 24 hours before listening. There is a status indicator at the rear of the speaker below the speaker binding posts to say they are charging, but I wished the LED was positioned at the front, as being below the speaker terminals make them out of sight unless you are a contortionist. After 30 minutes of no signal the light goes out and the unit goes into standby. When connecting the charger on one occasion the light didn't show which worried me until I turned on my amplifier and it came back to life. Phew. In standby mode, the power consumption is reduced to 1W; the speaker only taking a second to wake itself up when the music starts. I guess there is a good reason for this apart from saving electricity in that bias voltage can cause the panels to attract dust, which of course isn't so much of a problem when playing music as they will be vibrating.

SOUND QUALITY

Sometimes initial reactions can be different to long listening sessions. My initial reaction after setting up the speakers was "wow"; suddenly the orchestra came away from the loudspeakers and I was amongst the musicians. The sound was very real and tireless. If I wanted to have a long listening session I wouldn't get exhausted. At the time of first auditioning ML back in the last century I was very much into Genesis, so I decided it would be very appropriate to start this audition off with 'Nursery Cryme', an album released in 1971 though it didn't actually get into the home UK charts until 1974. It comes in as one of my favourite albums from the group, the first to feature drummer/vocalist Phil Collins. The group did some amazing music, but I felt the studio engineering was less than perfect; often with a mid-frequency prevalence and uninspiring soundstage. A good test for the Martin Logan's then. Having set up the soundstage ideally for my listening test I could now begin to evaluate the speakers. Where conventional speakers can be hard to position perfectly and often have many idiosyncrasies such as resonances from the drivers or the box, the electrostatic panel is much freer from these. Listening to the album it was just as bad as I remembered it. What I did notice though, was how good vocals came into the room, with details from each instrument in their own defined area, not just left and right, but also front and back. Only that the bass end was slightly too prominent for me and slightly 'separate' from the electrostatic section, though both

observations seemed to improve the more I listened. Having the mid-high frequencies emanating from such a large area made listening highly engrossing. Turning to Patricia Barber 'Live in France' and the track "Gotcha" I could start to experience and adore the tight initial transients from the close-mic'd percussion. It also gave me a chance to take in the depth of the soundstage as well as from left-to-right. The electrostatic diaphragm is so lightweight, that the tight cymbal sounds were as close as you can get to reality. The second track opens with piano solo, and the ML's give you a chance to explore and get close to the instrument just as pianist Patricia was herself. The performance was unhurried, though still very detailed. I was listening to the live recital, not my HiFi. Only the live audience applause seemed less real than I was used to; quieter and too polite. I was concerned that there would be spill between both diaphragms causing issues, but Martin Logan have thought of everything; whilst the ElectroMotion-ESL X radiates sound with equal intensity from the front and back of its diaphragm the outputs are of course in opposite phase. As a result, sound waves rippling out toward the sides meet at the loudspeaker's edge and cancel. This allowed for an accurate stereo definition though at the same time giving bigger areas for sitting in order to enjoy the music; ideal if there are more than one of you in the house. Just make sure you don't place the units close to a side wall. The sound emanating from the rear was out of phase with the front though added depth to the sound, especially the closer it was to the wall. Luckily, the size of the woofer cabinet does limit you getting too close. I did feel the need to damp the sound behind the unit to control some of the rear reflection. Sound in front had a wider sound stage than that at/behind the speaker, so minimising it with curtains was a good ploy. Having the electrostatic element angled up means vibrations from the floor can be minimised.

Turning to Mike Valentine's compelling album "Big Band Spectacular", this time the version on reel to reel tape, it gave me a chance to hear the orchestra playing in my very own living room. I attended the original recording live at Air Studios so remember the live acoustics. I also love this album as it relives memories of my parents playing Glen Miller albums at Christmas time from their mono valve PYE radiogram. Whilst everything was being played well, there was a slight hint of accentuated mid frequencies overpowering detail of the higher percussion cymbals and brass harmonics. As a sound-engineer I did want to hear a piping-hot rendition of this energetic album at the higher frequencies, particularly the closing track "Anvil Chorus", but rather than hot chilli peppers I got more of a well-made Sunday roast. Don't think I was complaining about the speakers; I loved them, and Sunday roast, just that everything was very polite, like spending Sunday lunch with my mum. Whilst musicians weren't so easy to pinpoint at the listening position on my settee as with my own speakers, the result was a welcoming delicacy with the detail, with the sound covering a large space in front and behind the speakers that made listening equally enjoyable for me and my cat who was often sitting on the next seat. If you want an analytical and punchy sound these are not for you; these speakers are natural and lush sounding meaning I could relax and enjoy the musicians for long listening periods. That 400Hz crossover helped considerably to keep things natural, giving a noticeably good presentation of vocals and string music. I did, however, notice on a few occasions some "change" between the drivers at frequencies covered by instruments such as the cello and viola. However, a full-range electrostatic can mean a loss in the bass end, and ML's experience with subs and bass drivers showed off well in the ESL X; the bass/electrostatic hybrid generally working well in practice. What really made these speakers pleasurable was their ability to play any kind of music with equal care and honesty. If you want anger and spite look elsewhere. On a few occasions I did find the bottom end could be slightly overpowering, so please Martin Logan add a volume control as is featured in some of

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your more expensive speakers. However, for a few pounds short of five thousand this loudspeaker presented a very special time for me when set up in my audio space. I constantly felt the musicians were in my house, whether playing pop or classical, orchestral or electronic. Not many speakers can own up to this.

Cons: Bass can sound detached from the mid/highs. Some might not like the impracticability of running power leads to both speakers

.Price: £4998

The depth of soundstage and detail was so good. It also got me into deciding to play the highly engrossing album 'Memoryhouse' from Max Richter. This is an album that begins with the track "Europe, after the Rain" starting and finishing appropriately with the sound of rainfall, and which is an emotional montage of 1908 music on the radio, spoken vocals, close miked violin and restrained piano playing in the distance. The positioning was just right. The track is full of repeated pulsing effortless chordal phrases. This use of gently pulsating simple repeated ideas in all the tracks on this album is highly addictive. Indeed, the basic repeated theme of track 1 is heard again in some form in all 18 tracks! Only in track six ("Untitled/figures") is there a hint of excitement, a track with beats and a celesta adding to the violin solo. The ML loudspeakers showed just how fast transients and details are on electrostatics, and the angled diaphragms meant that the sound was in the room, not in my face. Detail of space was still large and highly addictive, despite the repetitiveness of the music. Bass was fast and having both front and rear 8" drivers enabled the sounds to fill the room completely. The speakers gave me an opportunity to forget that they were actually there, and having such a large vertical sound field from the electrostatic tower block created a large vertical soundstage just as in the concert hall.

My only criticisms at this price were small; that rear-facing LED and the fact that I wished there was a volume control for the bass at the rear, as is fitted in some of the more expensive speakers in their Expression range. There was a tendency for the bass end to overstate, so positioning greater than a foot away from the back wall was essential. My early experience with ML's left me with the feeling of a weakness in the bass, and the ESL X shows that Martin Logan has come a long way since my first listening in that London HiFi shop.

CONCLUSION

That initial "wow" factor was there for most of my review. It was so good to audition a speaker that seemed to work with all kinds of music. The speaker eked neutrality and musicality with an excellent sound-stage, just that the bass hid some of the greatness from the electrostatic inducers. The ElectroMotion ESL X was particularly good on vocals bringing them out better than on many a speaker I have listened to, whatever the price. Only on a few tracks did I find a slight sibilance. Be careful to match it carefully with your amplifier, so listening to it before you buy is well worth doing.

AT A GLANCE

Build Quality: Well put together with good connectors. Be careful moving them around.

Sound Quality: Fatigue free listening, with an almost holographic staging of the music, plus the speed of mids/highs that only electrostatics can muster.

Value for Money: £4998 is very good value for a hybrid electrostatic of this calibre.

Pros: Delicacy of sound. Work equally well on all types of music.

Efficiency. Ease of placement.



REVIEW

AIRPULSE A300 ACTIVE LOUDSPEAKERS



At a penny shy of £1000 the Airpulse A300 are an active loudspeaker with onboard amps and DAC. Alan McIntosh puts them through their paces.

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AIRPULSE A300 ACTIVE LOUDSPEAKERS



My first real close up listening introduction to active speakers was in my home studio some 10 years ago with my KRK studio monitors and my experience was that while you get to take a traditional amplifier out of the chain, actives have a definite signature sound, so when I was offered the chance to review the Airpulse A300's I was keen to see how things had moved on and what an up-to-date fully class D intergraded Hi-Res active speaker could deliver, especially one carrying a badge saying they had the signature sound of renowned studio engineer and monitor designer Phil Jones.

CONSTRUCTION

The A300's come in at a not unsubstantial 24kg a pair so careful when unpacking! Each cabinet measures 225 x 385 x 340mm putting them at the very upper edge of what you could call bookshelf, pretty large even for stand mounts. With a 25mm MDF construction finished in cherry wood veneer they have a certain retro presence. Imposing to the eye they carry that now well recognised Hi-Res Audio badge, hinting at what's going on under the hood. A smoked plastic strip offers LED indication of the input source and visual feedback when changing volume. Internally the construction employs 36mm thick acoustic material to reduce sound colouration as far as possible and an oval rear port.

Combining a horn loaded ribbon tweeter design inherited from the flagship 7001, and a substantial 6.5" hard anodised cone Mid-woofer suspended in a super-rigid cast magnesium alloy frame aims to improve initial sound reproduction and dissipate heat more effectively than other designs, which Airpulse feel all adds up to a better listening experience. Internal wiring is the Transparent brand from the US. The A300's are rated at 70w for Mid/Low and 10W for Tweeter output.

The tweeter is a fine aluminium ribbon diaphragm housed in a horn-shaped cavity designed to reduce reflections and improve staging and incorporates some strong engineering including structural analysis by Klippel Laser-Doppler Interferometer leading to a selection of

materials including a high gauss Neodymium magnet and a 50mm diameter edge-wound copper clad aluminum ribbon voice coil. These together are designed to gain maximum linear excursion and control while reducing the weight of the driver, allowing for very fast transient response as well as reduction of distortion.

As an active design there is an internal amplifier built on a triplet setup of TAS5754 Class-D amplifier modules from Texas Instrument all built around a powerful XMOS XU216 processor. Uncommonly this Class -D combines high input sample rate support (192Khz) and high output PWM carrier frequency- a stonking 768Khz twice that of many which make it a superb partner to drive that highly sensitive ribbon tweeter and means signals remain at hi-resolution throughout processing. Together they reduce noise floor and distortion say Airpulse.

Each mid-low channel is driven by one TAS5754 connected in parallel bridge mode. The third TAS5754 is connected in bridge mode for left and right channel ribbon tweeters.

Inputs options are a combination of analogue balanced and RCA) and 3 digital – SPDIF coaxial, Optical and USB2.0 all handling up to 24bit/192Mhz tracks – allowing it to carry the coveted Hi-Res credentials. Bluetooth (at Apt-X quality) are also on offer.

Basic DSP is included via a High and Low-frequency rotary adjustment of +or- 3db (harking back to the studio monitoring stables), as is a master volume control. Volume can also be controlled by remote.

Included is a simple, but fairly stylish silver and black plastic wireless remote, a 3m "umbilical cable" to allow power and signal to run between the powered "master" speaker and its "slave", Optical cable, USB 2.0 A/B cable, 3.5mm to twin RCA adaptor, 2m RCA and 2m standard mains cable making a true "just add source" solution. Airpulse recommends the A300's be paired with their ST300 stands which are finished to complement the speakers.

AIRPULSE A300 ACTIVE LOUDSPEAKERS



AIRPULSE A300 ACTIVE LOUDSPEAKERS

SOUND QUALITY

Sources were Vinyl, Digital, (including A/B with an Audiolab MDAC+ for comparison to the A300's onboard DAC), Bluetooth, UDP/Blue ray player & simple SkyQ box to test the home theatre aspects.

Vinyl first and Melody Gardot's wonderful Live in Europe LP with its mix of breathy vocals, detailed acoustics and complex timings in parts. After slightly lowering to 600mm stands the initially bloomy bass fell into line and the A300's conveyed a pretty strong sense of timing especially in the mid's and highs as well as a level of detail I hadn't expected. The depth of stage couldn't match my Michell Alecto's but the live nature of the performance was allowed to breathe and I found myself enjoying Gardot's wonderful piece immensely.

Similarly, with the fast-paced demands of Kenny Drew's Undercurrent, the ribbon tweeter and rigid cone design on offer kept pace, again maybe a little too full in the bass but not slushy and with Hubbard's trumpet sounding vibrant and alive as ever. (Internal) Amplifier wise not reaching the detail as say the Audiolab6000A in the lows and mid's, but very listenable and slightly warmer throughout.

Testing the DAC input I streamed Deadmau5's Polyphobia from the Auralic G1 via USB to the A300's rear connection with no fuss. With its beast of a bassline and aggressive synths, it can be a real test for a system but the A300 is at home in this realm. Thumping, liquid and authoritative that 6.5" cone taking it all in its stride while the high tinkling breaks and soul lifting synth-lines were no issue for the horn tweeter. I haven't head bobbed this much for quite a while!

With big warm bass line clearly the play space of these speakers I slid into Kyle Dixons (of Stranger Things fame) – A Tasty Sandwich to see how well the bass resolution could be contained and sure enough the nostalgic synthwave beats held that bubble sound that I crave and is so elusive at times, powerful, thumping but held in check well by the A300's.

Comparison of placing the MDAC+ into the digital chain did show up a slight loss of air and that crystalline resolution, with slightly less resolve and avidity from the Airpulse's onboard DAC but then this is a full solution under a grand vs. a standalone DAC and streaming + amplifier combination at many times that. Bluetooth connected without fuss and performed well, not overly compressed the APT-X bringing out the best of what can be a very limiting connection.

After a few days of traditional listening, I decided to try the A300's out as a 2 channel home theatre setup running off my Sony BDP S72000 via an Ecosse Producer coaxial connection. Bladerunner 2049 Blu-ray was next, many will know its Hans Zimmer soundtrack offers deep explosive crashes and wrenching effects, sharp, almost pained synth stabs and a level of musical detail and breadth like few others. The film itself offers detailed, subtle background sounds as well as the on-stage action. While of course not able to match say a dedicated Sub these 40hz to 40Khz 90dB sensitive speakers offered a superb stab at the recreation of the experience I had in the cinema. It didn't feel like watching the film for the now 9th time it was so captivating aurally - and occasionally positively caught me off guard! After thoroughly enjoying Jean Michel Jarre's Oxygen in your living room" on DVD and (via SkyQ+ Optical cable) the long-awaited Bohemian Rhapsody movie I feel the Airpulse makes a great super cost effective 2 channel theatre option.

CONCLUSION

For me in a 2 channel home cinema situation the A300 are great, as a "just add source", low footprint solution for laptop streaming, gaming, CD or vinyl lovers (as long as you have a phono stage) they make a good proposition, packing a lot under the hood, for not a lot of investment, great fun to listen to and delivering oodles of bass and surprisingly good detail in the highs. Gives some ground to traditional, costly, single component HiFi setups on staging and resolution. Easy to set up, strong aesthetics. Nice to have all the cables and accessories included.

AT A GLANCE

Build Quality: Solid, expensive looking, quality components and well-engineered tweeter and cone design. Strong, well-finished cabinet. Inputs easy to access and well laid out. Simple but adequate remote. Feet spacing can be a little tricky for 3rd party stands.

Sound Quality: Well at home with electronic, bass-driven music or big movie soundtracks, impressed overall across the range for its price point, detailed and smooth where it needs to be, decent timing, pair and position wisely to get the most from the bass response. Use rear DSP for micro adjustments to derive the maximum.

Value For Money: Testing an active system creates a bit of a quandary – it's a combination of speaker, amplifier, DAC and in this case DSP so has to be viewed as a combination. The question I ask myself with a system like this coming in under a grand is where the balance of investment has gone.

At a current RRP of basically a grand, if seeking a new system or to replace a multi-component system this is serious bang for your buck – for me Airpulse have invested smartly in a very well made speaker and leveraged good, low cost, well performing Class-D and DAC technology to make a great value for money offering. Accessories a very nice touch.

Pros : Overall delivery especially of bass, handling of varied styles, resolution even with dynamic pieces, design and looks. Input options, all in one design. Accessories provided.

Cons: Limited analogue inputs, can be a bit bass heavy

Price: £999.99



REVIEW

A.R.T STILETTO 6 V3-S

LOUDSPEAKERS



The A.R.T Stilleto 6 V3-S speakers cost £3500 which seems very reasonable for their size, fit and finish. Janine Elliot hooks them up to her system to put them through their paces.

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A.R.T STILETTO 6 V3-S LOUDSPEAKERS

Art Loudspeakers are a Scottish company from Troon on the west coast about 8 miles north of Ayr, founded in 1998 and run by Derek and Ramsay Dunlop. The name Dunlop should be familiar to the more matured audiophile who remembers the first Systemdek turntable in the 1980's. Originally produced by Peter Dunlop the iconic IIX is now being manufactured by Audionote, but the legacy of his original company has come back to life again with sons Derek and Ramsay now creating two new three-point-suspended turntables and producing a range of speakers. The Stiletto, up for review here, is the cheapest of the range, though still looking very top-notch and with a modest price tag of £3500. It is also significantly different in design to the more expensive DRAM speakers (short for Derek RAMsay). This is a new version of the Stiletto that came out in the early noughties, but with new drivers and crossover, and also newer shape. The name Stiletto was created by Derek's wife due to its dimensions; where a stiletto shoe is tall and thin and something I would never wish to wear with my towering height at 5 foot 11, the new Stiletto 6 V3-S has a more generous girth of 215mm (260mm including the base), and height 985mm.

CONSTRUCTION

The Stiletto is driven by a treated paper SEAS 180mm mid/bass (Derek told me that he chose paper over aluminium or polymer as it "does the least harm") and 29mm wave guide Sonomex fabric dome tweeter made by SEAS from their Prestige range. It has a wide 'Sonomex' surround for low resonance and excellent mechanical linearity, with the voice-coil windings immersed in magnetic fluid to increase short term power handling capacity and reduce the compression at high power levels. The speaker has a pair of silver-plated connectors and a rear port. The cabinet is 25mm heavily braced wood with an internal double braced MDF structure running down two-thirds of the box, making it a very heavy cabinet that took me by surprise when I attempted to get them out of the cardboard cartons they weigh in at around 26kg. Art constructed a thick cabinet that is heavily braced so that it doesn't add to vibrations from the drivers, and indeed the cabinet was certainly well dampened. Their DRAM 'Fifteen' loudspeaker, for example, is even thicker with a 35mm multi-layered construction and weighing a monster 70kg.

There is also acoustic damping inside and a choice of oak or walnut real wood veneers on the outside. The sample for review had an excellent walnut veneer with matched "mirror image" front wood finish making it look very expensive and conveniently matching my room decor. As well as a leaflet telling you how to look after the speakers it also recommends using the speakers with the enclosed two sets of 4 spikes. I generally prefer 3-spike bases as opposed to 4 spikes because the latter can be harder to get absolutely level if your floor isn't, but this time it worked a treat largely because the speaker is quite heavy and is very stable on its base plate. The removable front grille is magnetically affixed to the mid/bass driver screws, which is very resourceful, but could easily be pulled off and fall on the floor if you have young children or athletic animals in the house, and it even takes a bit of practice fitting it on without falling off. However, that does mean the front of the unit looks neater than many a speaker.

The internal MDF vertical structure adds reinforcement and both drivers are connected with good quality cabling. The speaker is ported at the top of the rear and below this is a board containing the crossover and binding posts bolted on to the rear cabinet. The crossover uses hand wound copper air core inductors and Clarity custom made SA series capacitors. The loudspeaker is also upgradable, so if you wish, for example, to use the SEAS diamond-dome tweeter as used in their DRAM series, then this can be

retrofitted along with the appropriate crossover. A total of two alternatives are available.

SOUND QUALITY

My initial thoughts on a speaker are usually fairly accurate, and on this occasion, my findings were consistent throughout the few weeks I played music and speech. The first music I chose was an old favourite of mine, Andrew Lloyd Webber's 'Variations', an album of 23 variations utilising Paganini's 24th Caprice as its theme, a tune many other composers and performers have used as a starting point. It starred not only his brother Julian on cello, but also many of my childhood icons, Rod Argent, Don Airey, Barbara Thompson, and Gary Moore. Andrew only wrote this album as a result of brother Julian beating him in a bet on a Leyton Orient football match. They didn't bet on it making number two in the charts in 1978. Playing on the Stiletto there was a great sense of composure and detail to space, with good coverage of bass and mid frequencies. There was only a slight loss on the highest frequencies and this being an album I know so well I did feel a tad disappointed at the music not sounding quite so exciting as I remember it. Transferring to my Burson Audio Bang 40W amp with Vivid class A stage, it did return some extra clarity on the top, and more speed, though the amplifier isn't as musical as the Leak Stereo20 which was my main amp for this review. I felt these speakers would work best with classical music and vocals in pop music due to the excellent musicality in the mid-range frequencies. Top frequencies above 10Khz were for me just a tad less precise and vibrant when compared to the mids. Overall, the sound was very neutral making it ideal for long listening sessions and was able to be driven well by low powered amplifiers. Sensitivity was 89dB/1W at 1m.

The speakers come with a lovely shaped front grille using a black cloth, though I didn't use it during the reviewing process. When the grille is in situ one loses a little of the top end detail and soundstage. The only grille I ever leave on is my Chartwell LS3/5a, as that was its intended use. The front grille on the Stiletto is also quite heavy for its size, is made of MDF with cut-outs for the drivers, and if accidentally knocked it could fall on the floor. Maybe stronger magnets would make me feel safe in leaving it on when not playing, or better still magnets also positioned for where the tweeter screws are to 'double' the magnetic intensity – a minor point I concede.

Turning to the most uninspiringly titled album "On My Way to the 30th Analog Forum Anniversary" recorded on a Philips N4522 by STS Digital, this is a brilliantly recorded album with music from Gershwin, Rodgers, Charlie Chaplin, and others and with vocals from Greetje Kauffeld. Her silky-smooth vocals and the excellent playing of alto sax, guitars and pianos were given a superb performance through the Art speakers. These speakers not only looked gorgeous in my house but now the musicians had joined me in the living room. Charlie Chaplin's "Smile" is such a beautifully sad piece of music from someone whose life's work was to make people happy. This performance allows for both acoustic guitar and saxophone to give their own space in the wide soundstage, with a forward sound allowing you to closely engage with the musicians. OK, this might not be the brightest sounding speaker out there, but nothing was missed in terms of musicality and space. Mids were detailed and the bass was warm and inviting. I hate crossovers as they usually come in between 3 and 3.5kHz, just where the all-important detail of vocals and strings sit. One reason the Stiletto works so well at these mid frequencies is due to the slightly low crossover point at 2.8kHz. The 2nd order crossover design does include some padding on the tweeter and perhaps there is slightly too much – just a thought. I feel that if that top-end had just a little more substance this speaker would

A.R.T STILETTO 6 V3-S LOUDSPEAKERS



A.R.T STILETTO 6 V3-S LOUDSPEAKERS

be seriously good, whatever the price. However, this small point didn't dampen my enthusiasm for the speaker.

I was recently re-introduced to an album from my youth that is ideal for use in review since it hits every frequency and every type of waveform that a loudspeaker ever needs to be able to tackle. 'Tonto's Expanding Head Band' was a British-American electronic music duo from Malcolm Cecil and Robert Margouleff. TONTO stands for "The Original New Timbral Orchestra" and was (and still is) the largest multitimbral polyphonic analogue synthesiser in the world. It was constructed over several years by Malcolm Cecil. It started as a Moog modular Series III synth and then expanded further to consist of another Moog, four Oberheim SEMs, two Arp 2600s, modules from Serge, and products from EMS, Roland, and Yamaha. All of this was housed in a futuristic semi-circle of huge curving wooden cabinets, twenty feet in diameter and six feet tall, and wouldn't look out of place in a 'Back to the Future' film. The album has some amazing deep bass, thin and thick textures, and sine, square and triangle waves that are any reviewer's or manufacturer's dream and would work well on Dr Who or at the BBC Radiophonic Workshop. Track 3 is very Vangelis/Oldfield and the speaker had a little difficulty in handling the extreme bass end efficiently, showing bass disappearing in the lowest octave of the music. For that reason, I turned to Mike Valentines 'Chasing the Dragon II' album and Bach's Toccata and Fugue BWV565. I felt the performance wasn't as motivated as I know it can be on the best, and whilst it admirably got down very low, extreme lows below 45Hz were not quite so controlled. Now, should this be a worry, or does that mean I didn't enjoy these speakers? No on both accounts! The bass does get down to 36Hz in my test and choosing the right positioning and toe-in helps to get the best sound; at least 2 feet away from the rear wall made for best performance, and that performance was highly musical with excellent upper-bass and mid. I did feel it was dependant on which amplifier I used, and the best sound was obtained with fairly-high listening levels. I heartily recommend listening to this loudspeaker if you are in the process of buying, but also suggest you try it first with your amplifier of choice.

CONCLUSION

This was a lovely looking and keenly priced speaker using good quality components including crossover design. The bass and mid frequencies were highly musical and detailed allowing the music to take precedence over the equipment. Only that top-end isn't as prominent as I personally like, but these speakers will allow hours of listening without any fatigue. Now that is important.

AT A GLANCE

Build Quality: Excellent build with good detail to wood and veneer.

Sound Quality: Strain-free sound edging on the neutral.

Value For Money: £3500 is a good price for such a well-built speaker

Pros: Very good mid frequency. Good musicality. Can be listened to for long periods without fatigue. Good build quality including components

Cons: Some might find top frequencies not prominent enough and hence not exciting enough

Price: £3500



REVIEW

ELECTRICBEACH BLACKWOODS

LOUDSPEAKERS



Costing £1000 the Blackwoods are the latest loudspeaker from Electricbeach and use an interesting driver layout. Ian Ringstead takes a listen.

Hifi Pig
www.hifipig.com

ELECTRICBEACH BLACKWOODS LOUDSPEAKERS



Electricbeach is a totally new company to myself and it never ceases to amaze me how many audio companies are out there beaver away to pursue their dreams and hopefully entice us the consumers and reviewers into their domain. Steve Jay is the man behind Electricbeach based in Southend and having spoken to him on several occasions he is obviously passionate about his design.

CONSTRUCTION

The Blackwoods are a compact floor-standing loudspeaker made from birch plywood which is a material I have found to work extremely well in loudspeaker cabinets, both from my own experience in building a kit speaker (see my review of the KJF Audio Frugal Horn Lite design kit I did for Hifi Pig in 2017). Many other manufacturers use birch plywood as it has many advantages over chipboard or mdf but it is difficult to work with and achieve a good finish. I must commend Steve in achieving a superb finish on his design and it has taken him many years of experimenting and patience to attain such high standards. Steve's aim was to offer a superb looking and great sounding speaker at an affordable price. We'll see if he did this later. The Blackwoods are very neat and have a Mark Audio CHP-70 wideband, wide dispersion cone that is only 4" (10cm) in diameter mounted mid centre on the front face of the cabinet near the top at ear height and a Chinese sourced ribbon tweeter on the top surface of the cabinet. Steve experimented with many drive units but found this Mark Audio driver suited his goals best along with the relatively inexpensive ribbon tweeter. Internal damping is in the form of sheep's wool, a very effective natural material. Cost was a factor too, but the drivers he chose worked best and proved that putting more expensive units in wasn't a guarantee of improved performance. The same was true of the wiring and simple crossover components. He tried internal components costing more than the drive units themselves with no improvements.

The cabinet is rear ported (horn loaded) and the good quality speaker terminals (single wire) are on the back near the top. Steve uses a unique construction method that separates each panel with a neoprene damping layer, so reducing vibration transfer through the structure and the outer panels have a further neoprene layer sandwiched by a high-quality birch facing. The finishes are hand worked direct treatments of the Birch surfaces and laminated baffles – very similar to stripping the heavy surface lacquer from a guitar to allow the wood a more natural resonance. Rubber feet are attached on the base which were ideal for my solid oak floor. The speaker cabinet is wider at the base than at the top when looked at from the side being trapezoidal in shape which is part of the horn loaded design. The fit and finish was superb for the price and my review pair came in Vintage Cream which was a walnut veneered front baffle matched in pairs and a marbled cream natural wood finish for the rest of the cabinet. I loved this finish. The speakers were individually boxed and well packaged and protected for transit.

SOUND QUALITY

Having heard Mark Audio drivers both in their own models and other speakers and having spoken to Mark Fenlon himself at length about his design philosophy, I understand why they are very popular in many kits particularly. When utilised correctly the Mark Audio drivers have tremendous potential and Steve has nailed this. He wanted a very natural and open sounding speaker that would convey real emotion to the listener and be a long-term pleasurable experience, not an instant impressive sound that you soon tired of. On initial listening I was very impressed by the room-filling capability of the Blackwoods for such a small main driver and the bass output was more than adequate for my room and tastes. The clever design of the horn loaded cabinet worked well and positioning the cabinets about 30cm (1foot) from the back wall and about 2m (6.5 feet) apart with my bass traps in the corners behind them was optimum. Unlike my Audio Physic Avanti 111 which are a lot bigger and tend to overdrive the

ELECTRICBEACH BLACKWOODS LOUDSPEAKERS



ELECTRICBEACH BLACKWOODS LOUDSPEAKERS

room at times if I'm not careful with the volume, the Blackwoods were right at home.

Steve's intention was to make the speakers engaging and detailed with good dispersion allowing for a wide listening area rather than a narrow sweet spot. A live sound with good presence so the listener has the same experience in space as the musician playing, but also be easily tuned into the emotion of the performance, as it is when at a live event. Steve particularly wanted tone and character to be faithful and that is why he had an upward firing tweeter to provide a more realistic perception of reflected high frequencies as we hear them naturally. As the high frequencies are reflected off the ceiling, this gives the longest delayed time compared to the direct driver information. The clarity of sound is therefore not smeared but gives the treble more mass and body. The paper Mark Audio wideband driver was chosen for its combination of a rich and warm tone and being a natural organic material suits our ears better. The good bass potential and rolled-off top end meant that the driver could be run wide open without a filter and give a good physical blend into the tweeter with a minimal filter, being simply a resistor and a small electrolytic capacitor. Keeping things simple makes life so much easier and the sound benefits as a result.

I put Marillion's album on 'Seasons End' (the vinyl version) and the track Easter had me enraptured, not only because it is a favourite of mine, but also because it moved me in the way the Blackwoods conveyed Steve Hogarth's gruffish vocals, and the backing vocals and the sublime playing of the musicians, especially the lead guitar. The track builds up so well and this type of progressive rock music which is so melodic lifts my spirit every time I hear it and I never tire of it. Now if a piece of music can impress that much then the system must be doing something right. Synergy is one word used regularly and the Blackwoods were certainly gelling well with my Lime Tree pre and Temple Audio monoblocks. The title track 'Seasons End' also had me grinning from ear to ear as it sounded so good in a musical way because it was communicating with my inner psyche. I hear a lot of systems at shows, at manufacturers when I visit their factories but it's rare that products or systems move me enough to say I could live with that. Products and systems can sound very impressive but if they don't move you what's the point.

I used a variety of vinyl and CDs as source material and both mediums performed admirably. Steve said he was especially keen to see how I found vinyl on his speakers. I would say that any good source would sound great through them. Sure, my Luxman PD300 and Ortofon Quintet Black harmonised well on all the albums I tried. Wishbone Ashes 'Argus' dating back to 1972 and probably their definitive album took me back to my youth at Sheffield City Hall where I saw the Ash many times. 'Throw down the sword' and 'Warrior' which are eternal favourites and regularly played still by the current band reinvigorated my fond mental memories even though the original production on the album is not perfect.

CD was equally spot on and my Luxman D-05 lapped the Blackwoods up. Lee Ritenour's 'Overtime' live album has a brilliant version of 'Papa Was A Rolling Stone' on it. It is beautifully arranged and recorded with great spatial placement of the many instruments and vocals. At over 7 minutes long it is so good to my ear that it ends too quickly for me. (my dear wife has a different viewpoint!!). Everything But The Girl is a fine duo and Tracy Thorn has a beautiful voice. On Amplified Heart there is the classic hit 'Missing You' a well-crafted song spoilt only by the many inferior remix versions subsequently made. The vocals were well placed and the Blackwoods drew me into the mix so I could float off in my mind with my eyes closed just concentrating on the music, not the equipment. I could go on and on

about the different types of music I played, but rather than bore you let's just say I was impressed with everything.

CONCLUSION

It's obvious I loved these speakers. Steve has spent many years honing his skills to get the sound and finish on these speakers he wanted. The current model is a refinement of his original design incorporating all he has learned, and he has put hundreds of hours into this process. (Rome was never built in a day). These speakers suited my room and system, far exceeding my expectations and Steve is to be congratulated.

AT A GLANCE

Build Quality: Superb for the money with a flawless finish and very tasteful options.

Sound Quality: Room friendly, they easily fill a decent sized room no problem with surprising low-end performance. Heavy rock fans may want more weight or room shaking sonics, but I would trade that for quality and enjoyment.

Value for Money: Ultimately this will depend on your preferences. Compared to similar models and speakers in this price area they offer an awful lot to my ear and eye. I was more than happy with the finish and sound and ideal for a main or second system, brilliant.

Pros: Excellent organic sound and finish, easy on the ear and eye. Compatible with a wide range of electronics from budget to high end.

Cons: Very little to be honest.

Price: £1000



REVIEW

DEVIALET EXPERT 220 PRO

AMPLIFIER



The Devialet Expert 220 Pro is an integrated amplifier, but also a whole lot more to boot. Janine Elliot takes this £6990 French Fancy for a whirl.

Hifi Pig
www.hifipig.com

DEVIALET EXPERT 220 PRO AMPLIFIER



Devialet is one of those companies that you just go “wow” whenever you look at their products and, having heard such great things about them over the years, I really wanted to get the opportunity to find out for myself what the excitement is all about. Devialet began in 2007, set up by three friends; engineer Pierre-Emmanuel Calmel, entrepreneur Quentin Sannié, and designer Emmanuel Nardin. Later it was added to by Franck Lebouchard as CEO. They all had a vision of making a revolution in audio, and with one goal; to make it possible for large numbers of people to be able to listen to perfectly produced music using everyday sound devices. In order to meet their objective this Paris based company has registered over 160 patents covering many different areas of sound construction. Their Expert 220 Pro is just one of a series of very clever fully integrated amplifiers using Devialet’s own operating system based a Linux kernel. It is rated at 220WRMS (at under 6Ω) or can be bridged with a second machine to give 440WRMS. Their top Expert 250 Pro can be bridged to go from 250W to 1000W.

CONSTRUCTION

The laptop-sized/shaped Devialet is pure chromed heaven and includes a circular OLED display screen on its shiny top panel, the whole looking not too dissimilar to my bathroom scales, though significantly more expensive and more useful. The rear includes a plethora of connections and facilities including Wi-Fi and Ethernet via the AIR app for Mac and Windows (see later), asynchronous USB, S/PDIF and Toslink, RCA, which can be configured as line-level or phono inputs, and a further pair of RCAs that can be either L/R analogue or a pair of digital inputs. Access to the sockets is by sliding off the rear of the top panel and then replacing it after your pluggery to hide the unsightly plugs and cables; a clever idea. The digital inputs support PCM signals up to 24-bit/192kHz (AIR® universal streamer, UPnP, AES/EBU, Coaxial), Toslink 24-bit/96kHz, USB input handling up to PCM 32/192, and DSD64 from USB and coax inputs. All operation is through a Devialet designed operating system built on

a Linux kernel with an ARM 1GHz Quadcore Processor (Freescale iMX6), 1GB of DDR3-RAM and 4GB of Flash memory. The fact that all analogue sources go through an ADC before being processed and then returned as with the digital sources to analogue before working their way to your speakers impressed me, as the sound from my analogue sources during my evaluation showed no sign of lacking musicality or depth of reality as can be the case from digital processing.

This is quite a monster of an integrated in shiny chromed aluminium clothing. It even comes with a pair of white gloves so that you don't get your fingerprints on the lovely chrome. The only control is the tear-drop shaped on/off button at the front with visuals from a circular display panel on the top. The rear is festooned with the programmable analogue and digital sockets. Only omitted are balanced analogue XLR inputs, though there wasn't much space for them! It also comes with the most original and beautiful remote there is out there, which is as unique to Devialet as the design of the Pro itself. Carved out of a single aluminium block, the Expert Pro Remote is both very responsive and precise, using as it does zero latency radio transmission technology, and being fully omnidirectional means you don't need to pick it up and point it at the amplifier. I only wish that it had a LCD display – as the idea of a remote is to sit and be lazy on your chair but should you actually wish to change source and need to see if you have selected correctly you will need to get up and view the display on the top of the main unit, which defeats the object of a remote. However, of course this might be a ploy to persuade you to actually get up and view and adore the beautiful shape and shiny chromed aluminium top; this unit is simply too gorgeous for you to be sitting away on your armchair, nor should the unit be hidden away in a shelf. Certain functions can be altered via the LCD display, such as treble, bass and balance, but can only be done with the remote in hand.

If one 220 isn't enough for you, you can join two together in dual mono to create effectively an Expert 440 Pro, achieving no less than

DEVIALET EXPERT 220 PRO AMPLIFIER



DEVIALET EXPERT 220 PRO AMPLIFIER

2 x 440 Watts of power, should you need it, as well as an improved performance (You can actually daisy-chain up to 8 amplifiers, should you own a stadium). Streaming services also permit UPnP, Airplay®, Roon and Spotify Connect, though for my review I used sources I was familiar with; notably laptop and DAP, SACD/CD and phono.

Inside the Devialet is where all the fun lies. It all started in 2004 with the development of ADH, a hybrid technology embracing both Class A and D technologies in a single unit. The aim was to give the best of both worlds; the musicality and linearity of the Class A voltage amp with all the power and efficiency of the class D current amplification. It also allowed the unit to be compact with no need for massive toroidal power supplies, coming as it does with a built-in special switch-mode power supply to take you from absolute silence to loud dynamics instantly. This power supply also has a very high-efficiency rate of about 90%. The 220 Pro uses the 2nd version of ADH, the ADHV2®. The class A amplifier - directly connected to the speaker - drives the output voltage, and as the master, it sets the sound of the whole ADH core. The Class D amp, or rather several Class D amplifiers, are added in parallel to provide the speaker with the current it requires and acts as slaves to the master class A amplifier. The Class A section also needs to be able to output a high current over a short period of time and absorb the ripple current of the other amplifiers. The Class A section basically supports the Class D amplifiers and is freed from the task of delivering lots of power. According to Devialet the Class A is improved by the presence of the class D amplifiers in the ADH architecture and in my testing I did find the amplifier very open and musical, as I would expect a Class A, and fast and precise as I would switch mode and class D designs. I was able to listen for considerable periods without fatigue, something I cannot always say with Class D with switch mode supplies. Indeed, Devialet found the Class A amplifier works even better with the aid of the Class D section, something I would have to agree with. At loud volumes, the sound was quick and detailed with exceptionally low distortion levels.

Ahead of the ADH amplification stage is the "Magic Wire" DAC. This is placed before the first amplification stage in order to reduce noise and distortion, utilising the very able Texas Instruments PCM1792 chip. The design enables Devialet to ensure the world's shortest path between the DAC and speaker connections of just 5 cm and what they refer to as the dream of every audiophile: "a straight wire with gain", that famous phrase first instigated by Harman Kardon with their Citation line of electronics.

The most exciting part of the design for me is the Speaker Active Matching (SAM®) section that enables the user to adapt the sound signal to match the specifications of their speaker model. Every speaker sounds different and with different pressure levels. What SAM does is adapt the signal to the characteristics of the speaker you wish to use. Laboratory work carried out by Devialet in their factory enables them to identify sixty or more different parameters per speaker model. The results of this hard work are made possible by the powerful DSP at the heart of each Expert Pro system with an impressively large database of loudspeaker options, now over 800, created by real-time listening to actual speakers. For my review, I selected the Wilson Benesch Vertex speaker as the closest link to my elderly Arc. I could hear different settings do affect the overall sound, and the Vertex was the best setting for my chosen speaker for the review.

Also on offer from Devialet is their AIR® (Asynchronous Intelligent Route) high definition streaming system, enabling the listener to enjoy up to 24 bits / 192 kHz via Ethernet or Wi-Fi, regardless of the format, multimedia player or streaming service. Setting up for your designated

phono-stage is equally advanced. Thanks to RAM® (Record Active Matching) technology, your phono stage can be programmed not only to select either MM or MC, but one can also alter load impedance and capacitance to concur with your chosen cartridge as well as different equalisation curves, adding up to over 250 combinations.

Programming of all the parameters including those discussed above is very easily done from their website (see accompanying screenshots). Once you have selected/created your profile (I created one called "HifiPig", surprise surprise) you can save it by right-clicking and selecting "Save Target as" in order to save your personal settings as file dp_cfg.txt (for windows users). Unfortunately, Chrome doesn't give you this option, so I had to use IE for the first time! Oh, and the SD card is supplied by Devialet and plugs into the rear of the unit once you have set it up as you wish.

SOUND QUALITY

This is an exceptionally quiet amplifier whatever source is selected. Only when using the phono-stage did I ever hear any noise, though that is to be expected. All sources go through a choice of 24bit/96kHz or 24bit/192kHz digital stage, the heart or "intelligence" of the Pro as they refer to it, though at no time in my listening did I even consider this could degrade the sound. First listening was digital via the excellent Krell KPS20i CD player. Vincent Belanger "Pure Cello" is a beautiful CD, produced by Audio Note. This was an engaging performance. The solo cello playing was a positive and forceful performance without being over-powering or tiring. Indeed, all analogue sources I connected into the line input gave a positive performance in terms of accuracy of sound and covering all frequencies with a flat response. Listening to 'Live at the Citadel' from my friends The Enid was deep in bass yet top frequencies were equally detailed and clean, with a good sense of being there in the audience. I originally heard the band in the 1970's and fell in love with the references to Rachmaninov in much of the music as well as the use of synthesiser. The soundstage was large and detailed, without sounding clinical. Listening to sources via USB and SPDif was equally detailed and spacious giving some of the best performances whether FLAC, WAV or DSD. Pat Metheny 'The Way Up' and the second track confusingly named "Part One" had a great top end and bass that was relaxed but authoritative. Similarly, Muse Resistance album and "Uprising" has a deep bass at the start which was clean and clinical, though no less enjoyable. Listening to Supertramp 'Breakfast in America' on CD the sound was noticeably digitised than when I play my vinyl version of the album. Interestingly, playing it from vinyl, which still goes through a 24/192 ADC, sounded superior. The Devialet performed well in all I played, whether analogue or digital, though vocals and mid-frequencies were more forward in the presentation. Indeed, whilst the Expert 220 Pro worked great with all types of music and instrumentation my only slight concerns as a critical reviewer was a very slight sibilance with some vocals (mainly female), and the sound lacking some warmth in performance.

Feeding via USB from my notebook music was quick and precise with a good grip on detail and fast initial transients, just lacking that warmth I would like to hear. Turning to Vinyl was the biggest surprise for me. Bearing in mind all sources end up going through an ADC, the sound was particularly well defined and pleasurable after I matched ohms and microfarads. Devialet claims this to be the world's most advanced phono-stage, and for an integrated ten pounds short of £7000 with built-in phono-stage plus DAC and streamer, it was powerfully impressive. Listening to the 25th David Bowie album released two days before his untimely death from Liver cancer, "Legacy", this album contains many of the Tony Visconti produced technicalities that I never feel sound good on Hifi, though are very

effective in what they are trying to convey. This phono-stage gave a musical and defined performance offering a good insight into the top frequencies and with good bass extension. After this was my chance to listen to an album kindly supplied and produced by Devialet, part of a legacy of lost recordings put together jointly with Fondamenta from a selection of great artists such as Art Blakey, Dizzy Gillespie, Oscar Peterson, Thelonious Monk, and my hero Dave Brubeck. These are a series of recordings “on the verge of extinction” and using cutting edge technologies bringing them back to life. The Dave Brubeck Quartet’s ‘Live at the Kurhaus’ album recorded on 24th October 1967 was particularly enjoyable since this includes my favourite track “Forty Days”, beautifully produced later in ‘A Cut Above’ with his sons playing. This track is almost an oratorio, featuring biblical references and themes from the great blockbusters. Whilst stereo-spread was rather lacking in this recording, it was nonetheless a memorable performance and production, and jazz fans should look out for these beautifully produced and limited-edition LPs and CDs, restoring the performances using Fondamenta’s unique Phoenix Mastering® technology. Turning to Dire Straits live ‘Alchemy’ album I could really start to take in the extremes in frequency and dynamic attributes; this album does them all. Lots of bass drum and high-frequency synthesiser, plus everything in between including audience noises. Always a good album to play in reviews as it can often sound a bit contrite in performance if in the hands of the wrong gear. Whilst this phono-stage coped admirably I felt the sound was just a tad too clinical, again lacking some three-dimensionality, and I preferred my choice phono amplifier though that is much more expensive. “Private Investigation” had a larger soundstage, especially with the guitar riffs, but everything was just too tidy for me. That said, as part of an integrated, and a very clever one at that, it was one of the best phono-stages I have heard. I altered the phono R/C and settings to get a slightly better bass end, though doing so meant I needed to switch off and get back on my computer. Playing my favourite Beethoven piano concerto (The Emperor Concerto No5, Zubin Mehta/Israel Philharmonic Orchestra, DECCA) the sound had a grand bass and excellent soundstage showing the phono-stage working well and effortlessly on all types of music. The performance from this 1979 recording of his last piano concerto was well balanced from all instruments, with the amplifier having enough welly in reserve if I ever needed it, particularly when the piano fortissimos warranted it. Detail from piano mechanics in trills in the second movement gave the performance some needed realism making the performance more engrossing.

I listened to a considerable amount of music for this review as I really wanted to get a good insight as to musical qualities and technicalities of this unit. The soundstage was large as I would expect with lots of details on midrange and above. Having said that, the bass was full but not as decisive as I would like. The detail in the portrayal of the music means that if your music had any faults then it would show them off; something as a sound-engineer I really like. Some might, however, find the sound just a little too perfect and clinical, and lacking some depth and warmth.

CONCLUSION

This is a highly original adventure in integrated audio design. The price might not be as low as some integrated amplifiers out there but let’s look at the evidence; a beautiful construction and design including that lovely remote, a built-in DAC, Phono stage, Wi-Fi and ethernet. It recreates music with a clarity and transparency that surpasses many out there, perhaps only just sounding a little clinical to some listeners. However, I was still highly impressed, and it is well worth having a listen to, as well as a looking at.

AT A GLANCE

Build Quality: Beautifully constructed and gorgeous looks.

Sound Quality: Fatigue-free listening with an accurate presentation of all frequencies, and excellent noise floor. Distinctive Devialet signature sound.

Value for Money: £6,990 is very good value when you consider what it can do.

Pros: Advanced design and capabilities. Detailed coverage from lows to highs. Fatigue-free. Lovely remote with large knob puts others to shame.

Cons: Some might find sound too clinical. Slight sibilance in vocals/mids if they are overbearing.

Price: £6990



REVIEW

MONRIO MC201

INTEGRATED AMPLIFIER WITH USB DAC



Stuart Smith was really pleased to receive a call from Italian brand Monrio a few months ago asking if we'd be interested in reviewing one of their amplifiers as he'd owned one of their preamplifiers many years ago and thoroughly enjoyed it. Here he takes a listen to the company's MC 201 integrated amp with onboard USB DAC and costing £1600.

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MONRIO MC201 INTEGRATED AMPLIFIER WITH USB DAC



BUILD AND FEATURES

The MC 201 has 5 total inputs, 4 analogue RCAs, 1 digital, plus, unusually these days, a tape loop. The digital input is via USB and so the MC201 makes adding a computer to your set-up a doddle. The onboard DAC is an AKM DAC, 24-bit/192 kHz that will handle WMA, MP3 Streams, MMS Playlists (M3U, PLS), MP3, AAC (up to 320 kbps, CBR/VBR) WAV and FLAC so pretty much all your files other than DSDs and super hi-res are catered for. It also includes a “direct” analogue input bypass that allows the use of the MC 201 in a home theatre system as a two-channel surround system. In addition to the inputs outlined above you have a set of good quality binding posts, the IEC input and a master power switch. There’s plenty of room around the back and everything is neatly laid out. Output is 60 Watts into 8 ohms.

Moving round to the front of the MC 201 the brushed aluminium front panel is likewise nicely laid out with input selector buttons, a small window for the remote to work and five blue LED indicators to let you know what source is selected. To the left of the front panel is the volume control which is nice and smooth in operation. The remote is a cheap, but move up the food chain in the Monrio range and I’m told you get nicely finished matching remotes, and these are also available for the MC201 but add 90 Euros to the cost, something I would definitely seriously consider.

Build quality is impressive with the unit weighing in at 10 Kg and the whole thing feels well put together and solid.

All in all, the Monrio is an unassuming but elegant unit that has gone for an understated design that looks great on the rack. It’s certainly no “look at me, look at me” amp and that inspires a degree of confidence in it.

SOUND QUALITY

I paired this amp with the now reference speaker in the circa £2500 price bracket, a dedicated computer running JPlay and Tidal, and a Leema Elements CD player (both with and without the mid-price reference DAC).

First up the digital USB input (no other digital inputs are catered for) and it really is a doddle; plug the USB cable into the back of the amp, then into the computer and the computer (running Windows 10) sees the DAC immediately. I had no drivers to install at all which surprised me somewhat. Nothing left to do than fire up Tidal Hifi and we’re listening to tunes. To be exact we’re listening to Deep Purple’s Made In Japan. I use this album a fair bit when evaluating new kit much to the consternation of the cats but I make no apologies to either readers nor the cats...who went and hid. I give it a while to get accustomed to the music and putting pen to paper and it’s not until The Mule that I start to take note. There is a drum solo in this track (OK, the track is pretty much a drum solo) and the Monrio copes very well indeed with what can be a difficult track to get right – it is fast, dynamic and responsive. As well as being nimble on its toes this is not at the sacrifice of good tonality with the amp bringing out good definition of each of the different drums with each hit being identifiable in the mix from the previous and next as Ian Paice moves around the drum kit. There is also good definition as the beater hits the skin of the bass drum. The positioning of individual drums around the kit is also good with each having its own space in the stereo image. Moving back to Child In Time, a track where Ian Gillan’s voice can sound somewhat shrill (the cat’s really don’t like it) and over the top, but towards the start of the track there is a few lines where his voice is delicate and subdued and the Monrio allows his delicacy before he opens up the throttle and really goes for it. Here it is good to hear the Monrio stay in control without over-playing it and allowing it to become a screeching noise that I have heard sound terrible in the past.

Remember here we are listening to the amp in conjunction with it’s onboard DAC and I reckon it to be a sympathetic partnering - it’s simple to set up and it sounds great. There’s a definite lack of grain

MONRIO MC201 INTEGRATED AMPLIFIER WITH USB DAC



MONRIO MC201 INTEGRATED AMPLIFIER WITH USB DAC

and coarseness in the higher frequencies and, as demonstrated on Natalie Merchant's Ladybird, a slightly warm yet accurate feel to the midrange rendering her voice honey rich and smooth. This may suggest that the Monrio is somehow adding warmth and smoothing things off around the edges but there's still depth of accuracy and tonality to her voice allowing you really to connect with what she is singing. Perhaps one criticism here is that whilst the left to right image in the stereo mix is impressive, the three-dimensional aspect, the way in which the music is projected out into the room forward and backwards, is not as good as the Thor Merrills we have used in this system. With that said when the next tune comes on (Maggie Said) I just don't give a damn as Merchant's tone and emotion come flooding through and there's that emotional connection to the music that in my opinion is the key to great Hifi.

Monrio makes the following statement on their website about the MC201 "Radio station and compressed MP3 files take on new flavour through the MC 201" and so it would be remiss of me not to check this claim out. I'll be honest and say that on all our systems MP3s are unlistenable and I only have a few handfuls that have been previously sent to me for review purposes...and they rarely get an outing. First up is Radio 4 (UK based speech radio) streamed via a 4G connection and at 128kbs MP3 and through the computer and into the Monrio via the USB – just for clarification. Radio 4 sounded OK, certainly better than in the car and there was a decent sense of the people speaking on The Money Program moving around the house they were in, but I'd not go as far as to say it had a "new flavour". However, it was not unlistenable and I actually got quite into the program. Switching to Elefantz' Dark Tales and Love Songs is a whole different kettle of fish and I really do think that Monrio's comment is doing them a disservice. They are suggesting that their DAC and amp combo somehow make the unlistenable listenable, but I'm afraid they are wrong...to a fair extent. Elefantz album is still clearly MP3 but it's not terrible on the Monrio. However, switching to Vermont's eponymous album and things take a turn for the worse. There is a lot of synthesized higher frequencies on this record and it's all but unlistenable (I got two tracks in before it got painful). The horrible graininess and harsh (digital) sound are still apparent and there is still the feeling that you are listening to something that is not "whole". We have a saying that is apt here "You cannot make a silk purse out of a sow's ear" and whatever the claims with regards to MP3s played through the MC201 made by Monrio, I do not agree with them. I got two tracks in on the Vermont record before giving up in despair as to how folk can accept MP3s (often stolen) as a main source of music. With that said, the speech program (at a terrible Bit-rate) was acceptable and the more middy Elefantz album tolerable...just.

So far we've been listening to tunes on the Monrio's onboard DAC which adds great convenience for those wanting to add a computer to their setup without wanting to go the whole digital hog. The DAC doesn't allow for any other inputs other than USB and to some this may seem an oversight on Monrio's behalf, but to my mind it's actually fairly sensible as it keeps everything simple and it works well enough at what it does, especially when you are using higher resolution files. Would I say the DAC is the last word in resolution when compared to our reference, then no, and I'll expand on that a little in the following few paragraphs.

The reference DAC (for this system) is now in place and Eels' Beautiful Freak carries more authority, more detail, better forward to back dimensionality and overall a more "audiophile"-feel to proceedings. Spatiality (is that really a word?) is better than before and things seem to go lower and higher in every respect without losing it – and so it should, we're talking about a DAC that was in excess of £5000 when new which is more than double the whole of

the Monrio package, making the latter suddenly seem like a pretty good deal. But then the MC201 has to deal with the audio signal it is being fed and make sense of it and feed it coherently to the speakers and it does so wonderfully.

Overall the Monrio is a nicely balanced amplifier that has a sonic signature that I would suggest errs slightly on the warmer side of neutral in the mid-band making for an extremely non-fatiguing listen that will appeal to many. It has great control at the top and bottom of the frequency extremes and I genuinely don't think it is out of place with a DAC/CD combo costing much more than the sum of its' own parts.

Jorma Kaukonen's Genesis (a great record – go buy it!) sounds just fantastic and it plays to the MC201's strengths. Representation of the guitar is etched before you and that vocal is really beautifully projected into the room and never feels to be strained at any of the frequencies. I've noticed that I tend to like to listen to this record pretty loud but I just don't feel the need with the MC201 in place. Strings ebb and flow and what's more (and perhaps most importantly) is that emotional connection to the music that is playing without me wanting to over-evaluate or analyse.

CONCLUSION

I have a small admission to make; when I was reviewing this unit I had thought that the conversation I had had with Giovanni had mentioned a price of nearer €3000 for the MC201 and it was only after writing this that he confirmed price to be €1780.

As a standalone integrated amplifier, the Monrio is a lovely sounding amp that I have thoroughly enjoyed my time with. It errs on the side of warm and features mid-band frequencies really beautifully. However, this is not at the expense of detail and grip in the other frequency extremes. For those looking for an absolutely neutral amplifier then I suggest you would be better served elsewhere, but that is not to say that the MC201 will not find its fans looking to simply enjoy their music collection in a really connected (emotionally) manner.

The onboard DAC is a useful addition and whilst it is not the last word in definition it allows for the simple and stress-free addition of a computer to a system. The Monrio website seems to claim it will make poor online streams and MP3 content sound better, but I don't agree.

Build quality, apart from the remote control, is of a very high standard and the unit should be fit and forget for many.

AT A GLANCE

Build Quality: Great build both inside and out (I did ask permission before opening up) with casework that puts many costlier amps to shame. Remote is not in keeping with the product's build and quality and so factor in an extra €90 for the matching one in aluminium.

Sound Quality: Warm and yet detailed unfatiguing presentation with great control of bass.

Value For Money: Given the features and build, allied with a lovely sound, I believe the price to be very good value, even when you factor in the price of the upgraded remote.

Pros: The onboard DAC is a very useful addition for those wanting to add a computer to their system but not to "go mad" on the digital front. Beautiful mid-band quality exuding clarity and warmth and with good

MONRIO MC201 INTEGRATED AMPLIFIER WITH USB DAC



on the loudspeakers' response. A very non-fatiguing listen with lovely connection to the music.

Cons: The remote isn't great for this level of product. The onboard DAC is USB only (though that could be seen as a positive). Not as three dimensional when using the onboard DAC as when using our better (and much costlier) reference DAC. Some may not like the slightly warmer signature. Onboard DAC won't make MP3s sound better as claimed.

Price: €1780 or £1600. Upgraded Remote €90.



REVIEW
DIMD PP10
INTEGRATED VALVE AMPLIFIER



John Scott is introduced to the DIMD PP10 and falls a little in love with a Latvian beauty.

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DIMD PP10 INTEGRATED VALVE AMPLIFIER



The birth of the DIMD PP10 is a little bit of a love story. Latvian designer Edgars Spārmins noticed that his wife, a well-known violinist, always seemed to be dissatisfied when listening to music on their stereo system. With a PhD in physics and a deep love of music himself, Edgars decided to build a valve amplifier for his wife, Marta. She loved it immediately and so Edgars spent another year getting it to look just as he wanted it to. The result is the elegantly beautiful PP10.

UNBOXING

The PP10 arrived in a thick cardboard packing case, approximately twice the size of the PP10's actual dimensions. This is because the PP10 comes tightly enclosed in an extruded foam liner large and thick enough to keep it safe from harm. The liner includes cutouts for the boxes that contain the valves, the valve cages and the power cable and the whole package is accompanied by a clearly written and comprehensive instruction manual.

Removing the PP10 from its packaging, I was immediately struck by its solidity. Measuring 430 x 159 x 280 mm, it is a fairly compact unit and at 9 kg it is far from backbreakingly heavy but its weight to size ratio feels just right and gives an immediate feeling of quality.

The PP10 uses four EL84 pentode in the power stage and two ECC83 valves in the pre-amp stage-matched for optimum performance. These need to be pushed firmly into place in their respective ports before the amplifier is powered up. The valves are configured into two groups with two EL84s and one ECC83 in each group. The valves can be left exposed, or if desired, each group can be covered by a cage. As I have a five-year-old granddaughter who visits regularly I decided that fitting the cages would be the sensible option. In any case, unlike with the majority of valve amps I have seen, the cages were aesthetically pleasing and actually added something to the overall appearance of the amp.

Fitting the cages is slightly fiddly but not massively so. Three small pins on each cage fit into holes in the amp to position them correctly and a central screw is tightened to keep them in place. The screw is tightened using a small Allen key. Because of the design of the cage it can only be turned by a quarter-turn at a time and needs about twenty-five quarter-turns to be fully tightened. Remember what I said about making sure that the valves are securely fitted; you don't want to have tightened up the cages and then find that a couple of your valves are standing at jaunty angles. Not that that happened to me, of course.

Anyway, after I had loosened off the cages, pushed the valves in more securely and tightened up the cages again I was ready to power up the amp. As this was a review model it had already been burned in but I gave it half an hour or so to warm up while I put away its packaging and had a cup of coffee.

As you can see from the photographs, the external appearance of the PP10 is clean, simple and to my mind, elegantly beautiful. The chassis is made from CNC machined 5mm aluminium with a satin anodised finish. The base is also CNC machined from solid oak and the two parts fit together seamlessly; there is not a rough edge in sight.

The front panel is stylishly minimalistic with a small power button on the left and volume and input controls to the right. These controls (it would do them a disservice to describe them as knobs) share the same sense of quality as the rest of the unit; the volume control moves smoothly and allows a wide span of operation while the input selector moves easily between selections with a reassuring click.

Quality continues on the rear panel with four sets of RCA inputs, high-quality speaker outputs, a pair of fuse holders and a secure mains input which locks the cable in place and prevents it from being accidentally removed.

DIMD PP10 INTEGRATED VALVE AMPLIFIER



DIMD PP10 INTEGRATED VALVE AMPLIFIER

SOUND

Price: £2795.

Having given the PP10 a little bit of time to warm up, it was time to see what it could do. The first track I chose was John Martyn's Solid Air. If I had been struck by the PP10's appearance, then I was immediately impressed by its sound. This is one of my favourite tracks but I was immediately struck by its presentation here, particularly in the way that the instruments hung together and supported Martyn's vocals. It was as close as I've come with this track to a sense of "being there".

I have learned that immediate impressions are not always reliable but everything I threw at this amp over the course of the evening continued to surprise and delight me. After a few days, when I had almost got used to the idea of being continually delighted, not that you can ever get used to such a thing, I began to appreciate just what it was that pleased me so much about this amp; it was a sense of dynamism. Dynamic might not be the first word that would spring to mind when discussing an amp with a power output of 10 watts per channel. If it wasn't a huge power reserve that was producing this, then what was it? There is a well-known solid-state amplifier manufacturer who has made pace, rhythm and timing their hallmark and it is these qualities that the PP10 has in spades. When the notes are starting and stopping cleanly and precisely when your feet are tapping and your fingers are drumming along with music then you know that the amp is doing something right.

Whatever music I threw at the PP10, it handled it superbly: classical, acoustic, unaccompanied vocal, hard rock or electronica; nothing fazed it. I've found Benjamin Britten's A Young Person's Guide To The Orchestra to be a useful reviewing tool as it's not only a great piece of music but it shows off each section of the orchestra individually in terms of their physical position in the orchestra and their range of tonality. As the melody moved from the strings, through to the woodwind, brass, basses and percussion, again there was that sense of being there.

Each listening session and there were many, ended with the same thought: "I wish I could own this amplifier". And that's the bottom line really, isn't it?

CONCLUSION

The DIMD PP10 is a beautifully crafted, fuss-free valve amplifier that sounds as good as it looks. While not the most expensive nor objectively the "best" amplifier I have heard recently, it is certainly the most persuasive and easiest to live with. If I had around £3000 to spend on an amplifier right now, the DIMD PP10 would be my first choice.

AT A GLANCE

Build Quality: Excellent build and finish.

Sound Quality: Dynamic and fast despite its modest 10w output.

Value For Money: Great sound and fabulous finish render this price-point very fair.

Pros: Beautiful, simple design. Excellent craftsmanship. Lovely, engaging sound.

Cons: I can't honestly think of one. Perhaps it could come in other wood finishes.



REVIEW

SYNTHESIS SOPRANO

INTEGRATED VALVE AMP WITH DAC



A valve amp at 1300 Euros sounds like a bit of a bargain. Add to the package an onboard phono stage and DAC and this Italian package starts to look even more attractive. Adam Billingham takes this Latin beauty for a spin.

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SYNTHESIS SOPRANO INTEGRATED VALVE AMP WITH DAC



When Hifi Pig Towers sent me my first HiFi mission of reviewing an Italian valve amp I received it with a mixture of both excitement and slight trepidation. I've never actually owned a valve amp, though I've listened to rather a few at various HiFi shows and other people's homes, but I always thought them to be expensive, a little fussy and rather too esoteric for a modern music listener like myself. While I found many of these amps to be undoubtedly beautiful, there is surely nothing more beautiful in the electronics world than the soft glow of beautifully created tubes, I think I probably rather unfairly thought that valve amps were probably owned by the older HiFi listener who enjoyed craft ale and discussed what was the best von Karajan recording. Synthesis' beautiful little Soprano amp was about to put a bullet to the head of my rather ignorant pre-conceptions.

If you haven't heard of Synthesis, they are an Italian company set up in 1992 by Luigi Lorenzon with over 20 products in their portfolio of amps, CD's, DACs and headphone amps. Now having owned a couple of Italian motorbikes I know that the Italians know how to create something of beauty and the gorgeous little Soprano amp is no different.

BUILD AND FEATURES

Unpacking the packaging to reveal a rather hefty black box (10kg) I was surprised of its relatively small dimensions (310*295*150mm). On the right hand side, you have the guts of the amp that houses the power supply and has the large volume knob, power switch and input selector switches. The left half of the amp contains the 4 Electro Harmonix EL84 tubes with a 7 layered grill that protects the tubes, disperses heat and gives the amp a rather sexy look. On the rear of the amp you have a pair of speaker terminals, RCA line in, moving magnet phono input and a Coax, Optical and USB input. So that's a great start and for me the perfect combination of inputs for the heart of any modern music system. One thing that did worry me, however, was that the large volume control felt rather badly made, with a rather

too soft feel on turning and also it was slightly askew (to be fair this was a review/demo amp so might well have been knocked a little) and also the remote was serviceable but rather cheap feeling. Had corners been cut elsewhere I wondered as I plugged her all in, turned her on and gave her a good few hours warm-up time?

SOUND QUALITY

So, I thought I'd start her off slowly with a bit of Richard Hawley's Late Night Final album on CD, an album full of reverbed atmospherics, 50's guitar, sparse percussion, and Richards splendid voice. Straight away I sat up in my chair, the Soprano started to deliver. The first thing I noticed was the beautiful balance the Soprano managed to convey in the music; everything just sat in the right place in the mix. Richard's voice seemed to be conveyed with even more warmth and the highs of the jangly guitars avoided any shrillness and had a beautiful clarity, sitting nicely forward in the mix, the drums had great attack but weren't in your face and the reverberated FX surrounded me like a warm blanket, showing off the imaging this amp could deliver. Precious Sight is one track with lots of deep, synthesised bass all the way through and the Soprano delivered it beautifully, giving plenty of depth, as well as a fabulous tone without muddying the rest of the mix. I was impressed already.

Next up to was First Aid KKit's debut album, The Big Black and The Blue, another album I thought would suit the tonal qualities of a tube amp. There is a beautiful refinement that the amp brings to the Swedish Soderberg sister's folk pop. Again, there is that fantastic balance in the sound that this little amp manages to bring; nothing stands out strikingly in the mix yet everything has its own space, with great dynamics. Vocals and guitars are definitely a thing the Soprano deals with with such finesse that it should be wearing a dinner jacket. There is no lack of excitement and clarity in its delivery though so don't mistake its finesse for dullness.

SYNTHESIS SOPRANO INTEGRATED VALVE AMP WITH DAC



SYNTHESIS SOPRANO INTEGRATED VALVE AMP WITH DAC

So, I'd broken her in with some laidback music, next was to see how she handled something a little more dynamically challenging. James Blake's self-titled debut is all analogue synthesisers, heavy bass, and electronic percussion, with fantastic production that I thought might prove a bit of a challenge for the little Italian but once again she shone. James' vocals still sat perfectly against the tight drums and the filtered Dave Smith Prophet 8. One track, Limit To Your Love, is one of my go-to tracks when reviewing kit for myself, with its beautiful piano, haunting vocals, and thunderous sub bass. Even the bass didn't put her off her step and she remained calm and composed, delivering the sub with warmth and without a hint of fatigue.

Throughout these tracks on CD I compared the analogue output from my Primare CD32 and the optical output. The DAC also performed very well for an inbuilt bit of kit and still retained excellent detail and warmth. The highs were probably a little more pronounced but in no way were they shrill or over the top. On some of the less quality recordings it perhaps wasn't quite as forgiving as my CD player but for an inbuilt DAC it performed sterling work.

PHONO STAGE

Finally, I thought I'd put the inbuilt phono stage to test. I started her off with Tom Misch's excellent debut Geography. Again, for an inbuilt phonostage, the little Italian cutie performed excellent work, delivering the crisp synthesised drums with plenty of energy and Toms' fabulous George Benson like guitar work with fluidity and gusto. Later on a bit of Zep also showed that while not the first word in sharp dynamics the Soprano was more than able to give plenty of excitement, animation, and fun to the thundering foursome. She may have not been quite as detailed as my Primare R32 stage but she would be more than satisfactory to those with a mid-range deck.

CONCLUSION

Throughout my time with the Soprano the one thing I loved about her the most was just her beautiful sense of musicality she brought to everything I listened to. I know that one shouldn't judge power by watts (The Soprano is rated at 12w per channel) but my LS50s, while beautifully accurate, are a little harder to drive than most but at no time did the amp get flustered at volumes that were more than plenty for my listening room. There were several times while listening with her that I got goose pimples and a big smile on my face from music that I have heard dozens, if not hundreds of times before and this is the best thing a good bit of kit can offer. I started my journey being a little bit of an inverse snob about what this tube amp could offer but I came out the other side wanting to keep her. With a name like 'Soprano', with her italic writing you can see why I might have thought this is an amp for the past but actually, I couldn't have been more wrong this is an amp very much in the present with an analogue heritage as well as a digital future. If you have ever dreamed of an affair with a beautiful Italian and are in the market for an amp around the £1000 mark you absolutely owe it to yourself to give the little Soprano a listen. I for one will be very sad to part ways with her.

AT A GLANCE

Build Quality: Very well built except for that irritatingly cheap volume knob!

Sound Quality: Excellent throughout. Warmth, precision and detail in equal measure.

Value For Money: Outstanding. A great sounding valve amp with inbuilt DAC and phono stage, what's not to love.

Pros: Great selection of inputs and a wonderful warm sound.

Cons: Some might be put off by the apparent lower power rating. That volume knob!

Price: 1300 Euros



REVIEW

BURSON BANG

AMPLIFIER



Coming from a land down-under (depending on where in the world you reside), Burson makes a wide range of relatively affordable products. Here Janine Elliot takes a listen to their tiny Bang amplifier. Does it offer good bang for its \$499 (£599) bucks?

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BURSON BANG AMPLIFIER



Burson Audio are gaining good notoriety in recent years with original designs and good looks, a company founded by a small team of audio engineers in 1996, based in Melbourne, Australia. As well as complete audio products including power-amps, headphone amps, DACs and cables what makes them particularly innovative is their creation of building blocks such as hybrid Op-Amps. Their philosophy is simple; have components that don't interfere with the audio signal. If the equipment is designed well and transparent enough then the pace, rhythm, timing, dynamics and tonality will become a natural expression of the music. Burson feels this cannot be achieved with standard circuit components such as IC chip op-amps, IC regulators, or standard transformers. Instead they researched and developed their own discrete circuits so that every component in the signal path can perform at its very best.

CONSTRUCTION

This is one tiny little amplifier tightly packaged at the rear with essential RCA inputs and pair of loudspeaker sockets. Next to that is the input from external power supply and a 12V pc 4-pin socket, and elsewhere is the all-important rocker on/off. The black aluminium casework is carefully put together with Allan keys, with the brushed frontage complete with just a single small blue LED appearing central as soon as you turn on the unit. The size of the Bang matches those of the Play and Fun DAC/headphone amps, and therefore very small for a class A/B unit. Indeed, Burson claim that the Bang is the smallest dual mono Class Ab power amp in the world, and with a footprint of 210 x 145 x 45mm it certainly is miniscule. Yes, this is a dual mono design, with two separate amplifiers in one box, only sharing the single PCB, oh, and of course also the external power supply.

In my earlier review on the Burson Conductor V2+ I stated that we both had two things in common. One was a like for Class A (They believe Class-D circuitry is overtly complex and reduces the purity of

the music) and the other was a hate for conventional op amps. The new Bang is a dual mono Class AB amplifier PCB. Instead of the usual class-A preference for toroidal power supply – another of my favourites – they have opted for Switch Mode Power Supply (SMPS). Having a separate SMPS does mean there is a massive reduction in the size of the amplifier casing, placing the power supply in a separate small box which means it can be hidden well away from those all-important audio fields. Burson offer some very good reasons for choosing switch mode. Firstly, it is much more efficient. The reason for this is simple; Toroidal power supplies have considerable windings which add resistance and therefore constrain the current flow. SMPS doesn't need a transformer and its high-speed switching transistors adjust its working frequency based on the demand of the circuitry. My feeling on switch mode is beginning to change, and the Burson power supply is a good reason for that to happen. Human hearing for those lucky to be under 20 years of age can reach 20kHz, and SMPS designs usually convert AC to DC at higher frequencies around 30-50 kHz and that conversion process can be quite noisy. However, some of that resonant frequency from the AC/DC conversion process can still reach down to the auditory level. For that reason, seriously high-end audio designs usually have no choice but to stick to transformer-based linear power supplies. Burson claim to have changed all that. The Bang employs "Max Current Power Supply" (MCPS) whereby the AC to DC conversion happens at over 170kHz. That's way beyond human hearing and completely eliminates any detectable noise. They also employ a current purifying network to deliver noise-free high current power. This is an excellent power factory, the amplifier being exceptionally quiet. All of this means that the size and weight of the Bang is considerably small as there is no need for masses of smoothing capacitors as well as needing to fit in a large and weighty toroidal supply.

The second thing Burson and I have in common is that we both don't like Op-Amps. In the past I have spoken that whilst they might be great for pc's and equipment short of space there are many drawbacks having individual "components" printed on a miniscule

BURSON BANG AMPLIFIER



BURSON BANG AMPLIFIER

composite the size of a grain of rice using a process of photolithography. Due to the high number of miniscule components in the space (maybe 50 or more) it does mean that due to their reduced size and closeness to each other there is an increased likelihood of EMI noise, less tolerance to heat and a reduced specification. Burson Audio tackle this by manufacturing their very own 8-pin op-amps such as the V6 Classic and Vivid, and whilst they still fit into conventional 8-pin DIP sockets what makes them significantly different is that they contain discrete full-size components requiring a 'box' significantly bigger in size, looking like a brick of lego glued onto the base. The unit for review came installed as a Vivid in red with a spare Classic Op amp in orange, each measuring around 28 x 15 x 12 mm, with ventilation at the top end. I say the dimensions were 'around' 28mm in length, because the Classic supplied was longer with the bass pin section protruding from the casework meaning I couldn't actually close the lid once I had inserted the orange op amp, meaning some critical listening had to be done with the lid removed. I assume the review sample Classic V6 op amp container hadn't been pushed in all the way as it was different on their website (see photos). Both V6's are available on their own at \$70 (£65), for a pair of single or dual (stereo) Op. Amps. The standard Bang comes at \$499 with the very able Texas instruments NE5532, and \$100 more if you choose either of the two Burson Op. Amps as in this review.

Using ELNA Aluminum Electrolytic and Vishay resistors, the highly adjustable Bang allows not only changeover of the Op. Amps forming essential parts of the Class-A stage but the built-in buffer stage allows a choice of two selectable gains to choose from. This allows perfect matching to your input source, whether it be a preamp as in my case, or a DAC or portable player or smartphone (that was their suggestion, not mine!) Either way, this allows perfect impedance match as they suggest;

"Unless the entire audio system is from the same manufacturer within the same product line, it is most likely that impedance mismatching will exist. Most audiophiles are paying 100% for their systems but are only hearing 70% of its full potential."

One certainly gets a Big Bang for small bucks with this amplifier, outputting a decent amount of driving power at 40WRMS into 4Ω (29W 8Ω) but because the MCPS has nearly perfect power throughput, the 40W from the Bang creates a faster, more solid and consistent sound when compared to most transformer based 40W amplifiers. Utilising four sets of Burson Max Current Power Supplies the Bang delivers all of that power and noticeably faster than I anticipated from such a small box, creating bang-on details from my sources. No surprise the Bang was faster than my Leak Stereo20, and my Krell for that matter.

I like to look into names of companies or products from the companies as that helps me understand what they are trying to achieve or perhaps statement they are making. Names such as Schiit Audio always comes to mind, and MFA's Senlac SJE amplifier a while back. The name Bang is equally important to this company as are their other products in the Burson line-up, such as Fun or Play, or Vivid and Classic for that matter. Burson believes this new amplifier will start a new revolution and evolution "starting with a Bang". It might be fast and small and very adaptable and efficient, but will it be bang on spec musically. Time for a serious few days listening.

SOUND QUALITY

My first listening was from the excellent Eagles Live LP, played on my tangential-arm Pre Audio turntable with Audio Technica AT30sa cartridge, Manley steelhead phonostage/Music First Audio preamp

played into my Graham Audio LS5/9 speakers. I am used to guts from my powerful class A Krell power and musicality at the extreme from my modified LeakStereo20 from the 1950s. Whilst the latter is slow it does allow me to surrender into just listening to the music, and not to hi-fi. The initial thoughts on the Bang were "wow" tight and clean top end, but this album also has a lot of mid-frequency information which was slightly veiled in my initial playing, though the amp, delivered to me hot off the production line did improve the more I used it over the weeks.

Next on the list was Vladimir Ashkenazy playing the Rachmaninov Piano Concerto No 3 in D Op.30 (Decca SXL6057, London Symphony Orchestra). This is my favourite piano concerto, especially the 2nd movement with lots of romantic melodic lines with plenty of breathing space to take in all the slushy music. The sad and, at times, bitter first movement (led by the French horns) is followed by calmness in the following movement and then a brisk closing movement. The Bang allowed so much space in the music, despite it being a very quick player, allowing the music itself to set its own pace. Whilst my Leak might lose things above 20kHz or slightly veil the music, it is very human and can mean listening for hours and hours. The Bang allowed me to hear things I had never heard before, and whilst more critical was still excellent after several hours without being tiring, which can be the case with a number of punchy and highly detailed amps I know.

Art Blakey's 180g "And the Jazz Messengers" was clearly laid out across the soundstage in front of me. The Vivid Op. Amp did mean some of the mid-frequency warmth I get from my choice amp was lost, though changing to the Classic brought some of this back. Even so this amp was still highly satisfying and easily competing with amplifiers around £2000 plus. The Pre Audio GL-1102N tangential turntable with its ideal geometry is so hard to beat, offering a tight, unphased performance that is just such fun. The piano sounded a little stifled on the left channel, though drums were pin sharp. Again, it was that mid-frequency range that just wasn't as tops as I know I can hear, but hey, who's complaining at this price.

For much of the listening I chose the Jethro Tull "Bursting Out" live album, a group formed in Luton, Bedfordshire where I have lived half my life. This album is full of rock, country and classical music and playing an orchestra of flute, guitar, piano and pipe organ, mandolin, marimba, glockenspiel and synthesiser. This is quite some recipe of instrumentation for me to get a good understanding of the music whilst interchanging the op amps. The immediacy of differences between the two was apparent from the start. The Vivid is aptly named, giving tons of information from a complex album which lacks some reality of soundstage, or at least how I would perhaps have recorded it if I was engineering it at various locations during their European Heavy Horses tour between May and June 1978. The recording lacks much excitement though the music itself and liveliness of the characters, particularly Worzel Gummidge lookalike Ian Anderson, was able to be taken full advantage of for this test; not only his unique singing but including much talking from him and giving me a chance to check out that all important mid frequency.

The Vivid was enjoyable though perhaps a tad on edge at certain frequencies and certain points of the album. The Classic was much more refined, though slightly at the expense of detail. "Jack in the Green" was one of my favourites from my childhood and the detail from vocals and instrumentation was highly enjoyable. "One Brown Mouse" gave insight from the pipe organ, covering those lower frequencies.

BURSON BANG AMPLIFIER

Turning to Manuel de Falla 'Love the Magician' (Chandos) I wanted to hear the difference between the two amps with purely classical music. Double bass on the Vivid wasn't quite so audible, though the placement of instruments was far more refined in this Op. Amp than with the Classic, if a tad less interesting at times. Sarah Walker's mezzo-soprano voice was highly emphatic as was the Col Legno (bouncing on the strings from the wooden side of the bow) from the lower strings quick and effective. Taking frequency readings for a specific point in the most famous track "Ritual Fire Dance" showed frequency range fairly similar with changes at the lower frequencies of the Vivid being most noticeable, and explaining the more apparent top end. It is quite some choice to decide between the Vivid or Classic, and I guess for most of the listening I preferred the former.

CONCLUSION

This is a highly capable and versatile amplifier for very few bucks and should have considerable interest from audiophiles looking for minimalist units in the living room. The first' Class-A stage is the most important part in any AB design, so having a choice is a welcome and unique opportunity; The sound from the complete unit was very quick and equally quiet in operation. Detail was on par with the best, and the Vivid Op. Amp made the best of this, only that it sounded more musical, though not as detailed, with the Classic. Both are highly musical and punchy. Either way, this is a highly recommended and adaptable piece of kit at a suitable price for those with minimalist wallets.

AT A GLANCE

Build Quality: Excellent build with good quality connections at the back. Pity only available in black.

Sound Quality: Impeccable resolution with punchy and tightly detailed sound. Might be a little too bright for some.

Value for Money: \$499 for basic Bang, rising to \$599 if you choose either the Vivid or Classic op-amp, or you can at a later date add them at £65 and fit it yourself. Excellent value for money.

Pros: Versatile; add your preferred Op. Amp and also alter input impedance. Gallons of punchy, fast and clear audio in a pint-pot size

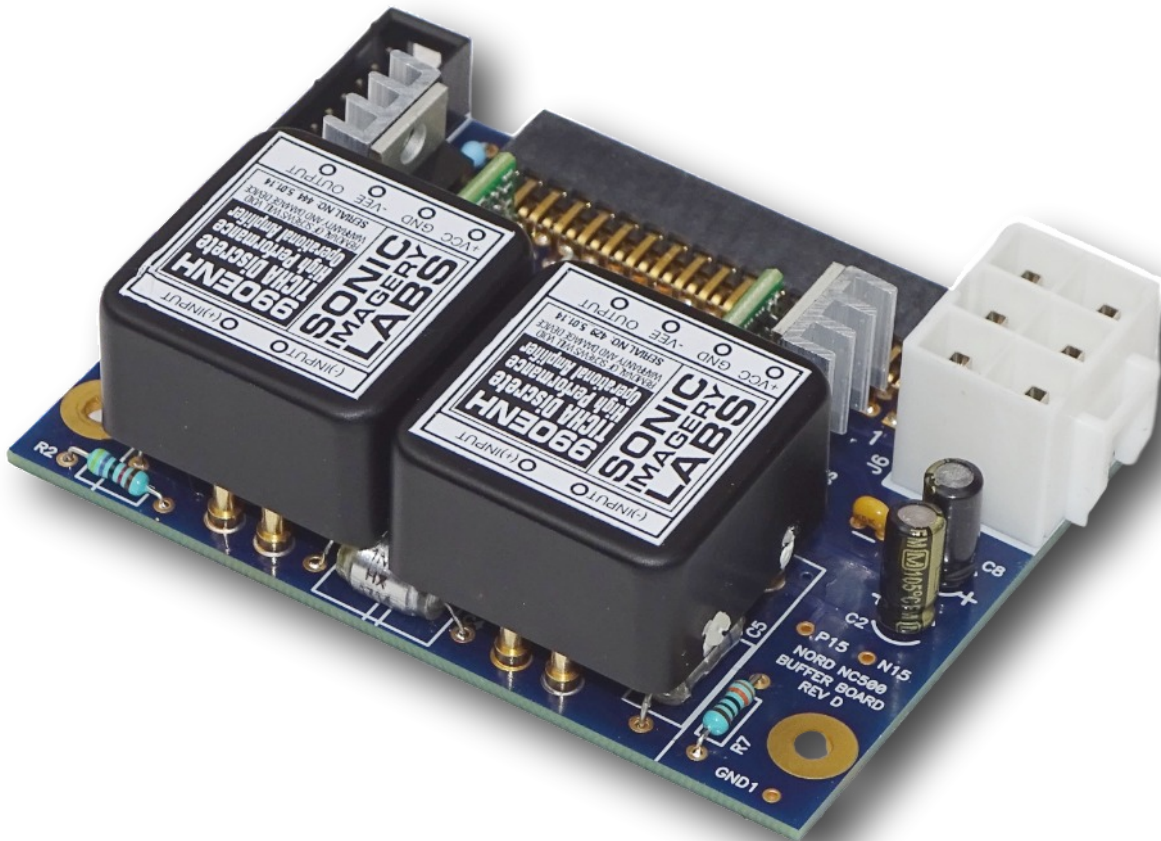
Cons: Some might find it a little brittle and lack a little musicality, though the Classic can restore that at a cost of some of the detail. On and off switch at the back which might annoy some people, especially if the unit is stacked with Fun or Play above it with all their cables and switches.



REVIEW

NORD NC500 REV-D

INPUT BUFFER BOARD UPGRADE



Ken Stokes and David Robson take their Nord NC500 power amps for the latest upgrade using the newly available Nord REV D Buffer Boards as used in their MKII Amp with 2590/990 package Sparkos and Sonic Imagery op-amps to compare and contrast the merits of each. The complete upgrade board with Op Amps are £712.80 with Sonic Imagery 990's and £658.80 with Sparkos 2590's including VAT. Extra OP Amps are: Sparkos £60 each and SI990 £73.80.

Hifi Pig
www.hifipig.com

NORD NC500 REV-D INPUT BUFFER BOARD UPGRADE



INTRODUCTION

By David Robson

I was first introduced to the Nord brand with my good friend Ken Stokes on a visit to the North West Audio Show at Cranage Hall (Holmes Chapel) a couple of years ago. We met Colin North, the owner and designer of Nord amplifiers. Ken acquired a Nord NC500SE not long after and I an early Mk1 Nord NC500 in a 3/4 sized case, both these amps being twin mono design (one case containing two separate monoblock units). Having now owned my Nord NC500 Class D amplifier for about a year I've come to appreciate the quality and level Class D amplification is achieving with continued improvements and upgrades.

Ken recently contacted me to say there was an upgrade available for our amplifiers. This being a new upgraded modular replacement input buffer board. An internal board upgrade available either as a DIY upgrade or if preferred available by returning to Nord for in-house modification. This upgrade is available for fitting to Nord NC500's fitted with either the standard input buffer board (no optional op-amp choice) or Rev-C board (optional choice of dual discrete op-amps).

Ken and I chose to go ahead with these upgrades, we contacted Colin North at Nord and as soon as was practical had 4 Rev-D boards dispatched (1 pair for each of our amps). As Colin is offering a choice of op-amps for these new Rev-D boards we decided to try both options available for comparison. Each Rev-D board requires two of the newly available pro grade 6 pin op amps. We therefore asked for one pair of boards pre-fitted with the Sparkos Labs SS2590 and the other pair of Rev-D boards pre-fitted with the Sonic Imagery 990EnH.

Ken was to get the honour of first chance using the new Rev-D boards and corresponding new op-amps and as is usual, giving each set of boards and op-amps some burn in time. I was to join Ken two weeks later with my early case NC500 amplifier. The plan being to

compare new upgrade options against my Rev-C fitted board and as best we could conduct A/B tests against the various options available. We had a plan!

CONSTRUCTION

By Ken Stokes

So what do you get 'in the box' with the DIY option (or inside your amp if a back to base upgrade), what is the actual physical construction like, is fitting difficult and why does this upgrade differ from previous units? I will try to cover question by question.

We may be stating the obvious, but you should receive two Rev-D input buffer boards for each of the mono boards. Mine were extremely well wrapped and packaged and arrived promptly. Perhaps it is worth saying to save disappointment, you will need to specify x2 in qty on the Nord website, this is because they are sold singly to enable those with multi-channel setups to order as many as they need. The boards will be pre-fitted with the 6 pin op-amps you chose on ordering. So far as appearance, these boards looked robust and very neat to me. That was certainly borne out when I fitted them. Because I was experimenting; running in two amp sets of boards and two amp sets of op amps I removed and fitted more times than anyone else is likely to or should ever need. Our boards received thorough fitting and handling testing! If they had been easy to break I'm sure, with my usual determination I'd have found a way, but that didn't prove the case.

Naturally care is needed when fitting, but note, surgical precision is not essential, nor is soldering. Should any readers happen to be surgeons I wouldn't expect you to have much difficulty though! Some components on the boards are by nature small so care is needed. However, I did, as mentioned, find these boards robust enough to cope with exposure to my handling. Key here is don't force anything, use gentle pressure and take your time... and did I mention do not

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force anything! All the connections are push fitting, unique fit and only fit if orientated the correct way so please do check.

A few tips I would offer - good lighting helps and a head torch or anglepoise type light is beneficial. I set out all components on a white towel prior to starting my surgery so as not to lose anything. As I said, surgical precision not needed, but I did enjoy a nice glass of Chianti while operating... I used a towel on my work surface so that small screws or 'bits' didn't end up on my Welsh slate floor, thus providing me with endless hours of fun searching for them. Grrr, I will say I learn by experience... You will need a very small Philips type screwdriver (to remove screws in the amplifier case lid), a small hex Allen key socket set or Allen key (3/32 for two hex Allen key grub bolts that hold the boards in place). If (unlikely) you have any issue with these Allen bolts not lining up with the supporting pillar after inserting new boards, slacken off the grub screw (from under the case) that holds the pillar. This allows movement. I had this happen once, but the issue is easy to resolve and is only about minor adjustment.

Colin North does provide instruction for fitting. DIY is not the only option. Return to base is also an option if you don't want to undertake DIY, remember help is available.

As already mentioned, these boards do offer more options with a choice of op-amps that can be fitted than the Rev-C boards. These boards enable retrofitting of the 8 pin dual discrete op-amps as used in the Rev-C input buffer boards, in addition to and crucially, also allow fitting of much higher current draw class A pro-grade single op amps. Each board takes 2 of these single pro-grade op-amps. Some modifications to boards have been made that are obvious on viewing, the voltage regulators - due to increased current draw now have heat sinks fitted. Also, I understand some care has been given to revisiting the components fitted to ensure electrolyte capacity rates are optimised. The main gain though is this greater opportunity for a wider choice of higher quality studio standard op-amps. I do know after talking with Colin North that a good deal of thought and testing was undertaken regarding the choice of op amps offered. I understand the design brief was to take advantage of the larger 2590 and 990 packaged op-amps designed specifically for audio performance and used in pro-audio gear and mixing and mastering desks in studios. At this stage I will keep my comments to saying whatever the technical merits, the differences do show! Changing op-amps can and will make some dramatic differences to the audio timbre of your Nord.

SOUND QUALITY

By Ken Stokes

Before I express thoughts on the merits of changes that can now be achieved with the Rev-d input board upgrade, I will quickly recap on past options. This is simply to put context to changes and the journey readers might expect from this upgrade. As we know the Rev-C board fitted NC500's were offered with a choice of either the dual discrete Sparkos labs SS3602 or dual discrete Sonic Imagery 994. Preference varied, the Sparkos option was considered the warmer op-amp with a more pronounced bass delivery than the Sonic Imagery offering, but for lovers of detail, the Sonic Imagery was generally the op-amp of choice. For what it is worth I preferred the Sparkos Rev-C option as I found the Sonic Imagery option a little sterile with my kit.

So what is new? I realized, of course, that judgment 'straight out of the box' is dangerous, but because I was drawn to the light, I did, of course, have to try. Following initial installation, with the Sparkos labs SS2590's pre-fitted Rev-D boards, I was very pleasantly surprised.

Colin North did tell me that each time the amp is powered up it takes a little time for these op-amps to hit optimal running temperatures. However, right from first track with Bob Marley's Kaya it was noticeable that quality bass was creating a substantial foot stomping vibe! It was also obvious detail was significantly improved. Overall I liked what I heard.

I lived with the Sparkos Labs offering for the following five days. I have no hesitation in saying I found the bass absolutely astonishing; levels of detail were also a revelation. However, with my ears and in my system, I did start to find the top-end a little forward for my taste. I had played lots of albums dipping in and out of various musical genres. I decided to 'return to base' and did a retro test on my Sparkos Labs dual discrete op-amps (fitted in the new Rev-D board to check the retrofit in these new boards). This really was like putting a well-worn pair of slippers back on. Comfy and easy. There was I'm afraid no turning back now.

So onwards and next up the new Sonic Imagery 990EnH fitted Rev-D boards. Again I knew early judgment was foolish, but again if only to be able to report back I just had to. Out of the box, my initial impression was frankly very misleading. I sat down and literally thought 'what is the difference between this and my old Rev-C board with dual discrete Sparkos fitted'. Sounds crazy now and although I know these op-amps do need a little time to run up to temp', it seems there was a bigger difference for me from start-up to warmed up performance with the Sonic Imagery 990EnH. Two hours later I was absolutely mesmerized. I couldn't get enough. Although I found that the bass was maybe not quite as fast as the Sparkos there is absolutely no shortage of clout and bottom end thud. Kick drums felt very real and over the bass range there is clarity and real punch. The Sparkos 2590's weren't bloated, neither are the Sonic Imagery. Both offer very good tight bass that digs deep and offers oodles of detail. I also found these Sonic Imagery op-amps, like the Sparkos, to have detail in abundance across the whole frequency range. However, I didn't find the top-end of the Sonic Imagery 990EnH to be as forward as the Sparkos, but note, still a much crisper and vibrant 'top' than my prior set up with Rev-C boards.

I don't doubt some may prefer that slightly different sonic character of the Sparkos. Some may well have systems that benefit from a slightly different balance across the range. Both sets of these new op-amps are pretty close in character and in many ways I think fair to say neither are a bad choice. However, it was clear to me even at this stage that the Sonic Imagery 990EnH were a better fit for me, my ears and my rig.

I played a huge range of music to get a feel of what was happening with these new Rev-D boards. I gave both sets of new op-amps a good run in and trial. I know it's customary in sound quality reviews to talk about the music played and effect and thus far I haven't. I will say though that I like a broad range of genre's and over the weeks played music encompassing lots of my favorites. Some notable albums used for my listening tests were; John Martyn's Church With One Bell (chosen for testing bass, especially on The Sky is Crying), Nick Drake Pink Moon (chosen for vocals and the stripped-down recordings), Jan Garbarak 'sRites (for complex layered instrumentation), Malia / Boris Blank Convergence (for electro, vocals and layering), Ian Drury's New Boots and Panties (a slightly leaner recording) and Neil Young's Massey Hall 1971 (for live ambience, soundstage and vocals).

I think the simplest thing I can say is perhaps that nothing suffered, even albums I know to be a bit lean and harsh (and frankly not great recordings) were no less listenable as than before, and in most cases

NORD NC500 REV-D INPUT BUFFER BOARD UPGRADE

more actually more 'listenable'. All had increased presence; lots, and I do mean lots more clarity and detail, but without any sense of fatigue or harshness and all portraying a bigger perceived soundstage too. The whole room now feels more alive. The Neil Young Massey Hall recording left me wanting to stare at audience members making unwarranted noise in the room... Everything felt and sounded, simply put, more real. For the first time ever I noted a slightly harsh element to Young's voice when really straining on a couple of tracks, not a fault, simply an observation about the increased detail and sense of realism - Neil Young can sound a bit harsh. I've heard Neil Young live and that new revelation is as I remember him live.

In my view this change of boards and switch to pro-grade op-amps is a huge upgrade. I simply can't praise it enough!

I knew David was in for a treat when he arrived.

SOUND QUALITY

By David Robson

After a nice cup of Yorkshire tea, I started listening to Ken's set up with the new Rev-D boards fitted with the Sonic imagery Op Amps. I hadn't heard Ken's kit for a while, but both Ken and I have very similar tastes in music and presentation. Ken's set-up is similar to mine in the fact we both use a separate Pre Amp/Dac/Transport as our main source. The previous incarnation of the amp with Rev-C / 8 pin Sparkos was a great sound for me, and gave me everything I wanted from an amplifier; grip, control and detail with a lush tight bass. This was what I liked. My smallish listening space at home limits how much bass I can have as too easily I can be overcome with reverberation and loss of focus. This I understand isn't the Hifi's fault but my room.

At Ken's the impact of the new amp set-up with the Rev-D boards and Sonic Imagery op-amps was enlightening and immediate. Soundstage was wide and deep and you felt inside the music bubble with that 3D spatial awareness that instruments and sound effects were not only left and right of the centre of the Hifi, but also around your head and enveloping your listening position. This "opened" out listening experience allows you to focus on an exact instrument in isolation - if it's a guitar then the detail of fingers hitting the strings and the vibration of the lower frequencies, the buzz and texture is just so more apparent. If it's a set of drums then each hit of the sticks and thump of a drum has a feeling of reality and believability and not just a sound "like drums". A recent find of mine "Cross Border Blues" by Segal, Kennedy and Miltau, has harmonica and cello playing predominantly throughout. The workings on the breaths of the harmonica and the bow drawing on the strings where just mind blowing for me. I've only ever heard this level at shows with some seriously expensive set-ups that exhibitors have got just right! The top-end and high frequencies are not too sharp or bright, a trait which is sometimes levelled at D Class amplification, if anything it is quite rounded and earthy. The mid-range detail was astonishing and in another league from whence I came. Detail, tiny bits of recorded information invisible before could now be heard. I swapped out Ken's speakers for my own Wilson Benesch Arcs, the same sounds and presentations where borne out with my speakers and I was happy with what I was hearing.

We swapped out the Sonic Imagery Op amps for the Sparkos Rev-D offering and put Ken's Vienna Acoustics Baby Beethoven Grand SE speakers back and left the amp to warm up again - the Sparkos had been used before and were run in. My initial thoughts were more bass, a slightly deeper and chunky affair, but everything else seemed quite similar to the previous set up, the same qualities of sounds and

the same jump in overall sound quality over the standard Nord NC500. I was quite taken by these new Sparkos op-amps for about 30 minutes, then quite strangely I noticed a slight hardening to the higher frequencies as these op-amps warmed to running temperature. The only way I can explain what I heard was that the sounds of say cymbals that came across quite crisp and "brassy" before where now fuzzy, and wrinkled. A tinfoil sheen to something that was once sharp and realistic. Other aspects of the music where absolutely fine. I did feel that the added bass could be an issue in my personal set-up at home as we demonstrated with John Martyn's "Church With One Bell" CD. The low frequencies played out from that CD certainly tests your speakers and room acoustics.

My conclusion from the swaps and listening sessions over the day with these new Rev-D op amp choices put the Sonic Imagery in quite a lead over the Sparkos, and that was, unsurprisingly the set up I had decided to return home with!

CONCLUSION

By Ken Stokes

Over the two weeks prior to David arriving with his NC500 for upgrading I had plenty of time to give both sets of boards a bit of run time and both sets of op-amps their chance. I knew I would be able to revisit the Sparkos during the demo for David, but still fitted a few more hours run time in for them anyway. I was though hooked, well and truly, line as well as sinker, on the Sonic Imagery 990EnH. I do think it fair to say the differences between the new op-amp choices with the Rev D boards are not enormous, both are very good, it just seemed that the Sonic Imagery just fit my taste and kit and of course that proved to be the case for David Robson too. In our opinion both sets of the new op-amps available offer a huge step up from the dual discrete op-amps used in the Rev-C boards. Choose your expletives because frankly I could wax lyrical for a lot longer. I'm still pinching myself every time I turn my system on and it's now a month since I started this journey. I know David feels the same. As we both agree on the outcome of this upgrade I'm going to cover our conclusions for both of us with David's blessing.

We have not been shy about preference, the Sonic Imagery 990EnH are our choice, we find these op-amps to have a slightly smoother top-end than the Sparkos 2590, but still with lots of sparkle, absolutely fantastic levels of detail through the whole frequency range and an overall depth and timbre that, with quality recordings, simply becomes breathtakingly real. I'm pretty sensitive to clinical or fatiguing systems, but neither of us found the results harsh or irritating, even though detail is seriously elevated over and above the Rev-C boards fitted with our prior Sparkos dual discrete op-amps. The new Sparkos are still a good choice and I can understand why Colin is offering them. Sadly for both of us, despite that absolutely astonishing bass, we both found something a little fatiguing with the top-end. We both noted the sheer clout; speed and detail of bass on offer with the new Sparkos option, but David was concerned this might be a little too much in his listening space.

AT A GLANCE

Build Quality: Robust and does exactly what it says it should. Once I understood how the components fitted a straightforward installation. KS

Ease of Fitting: Process took me approx 30 minutes and that was taking my time. I understand literally hundreds of these new boards

NORD NC500 REV-D INPUT BUFFER BOARD UPGRADE

have now been sold with only a few minor issues, all rectified quickly by Nord. KS

Sound Quality: Once run in and warmed up was I was mesmerized. Breathtaking. I would describe as a very significant step up. KS

This is a great way to upgrade your Nord power amplifier for minimal cost. Bringing you a fair way up the Hifi ladder. A serious jump up in sound quality, not only in detail but also in overall presentation. This upgrade will take you up to a level where you would have to spend a far greater amount of money to better what you have here. DR

Value for Money: Not cheap, especially considering initial outlay for a Nord NC500, but I know from discussion with Colin at Nord some of the components are not cheap. Op-amps per board, base price for cheapest, run to over £100. However, using my pound for sound meter, still worth every penny. KS

The cumulative prices for the old amp and the upgrade kit is a no brainer on my par - the for the extra outlay and an hour of your time, this level of amplification is hard to achieve for the same money in my opinion. DR

Pros: Already an amp that punched above weight, this upgrade takes the Nord NC500 to a position that really does belie its price-point, compares to amps I've heard at dizzy prices. KS

Hitting the high-end sound quality levels. DR

Cons: Other than initial outlay, no, I'm seriously struggling to find fault. KS

Nothing. DR



REVIEW

METRONOME TECHNOLOGIES

AQWO CD/SACD PLAYER AND DAC



French company Metronome Technologies make a whole host of kit for the digital domain, here Stuart Smith tries out their AQWO CD/SACD player and DAC with valve output stage costing £13,870 Euros as tested.

Hifi Pig
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METRONOME TECHNOLOGIES AQWO CD/SACD PLAYER AND DAC



Metronome Technologies is a French brand you may or may not be aware of, but they have been in existence for over thirty years, they were founded in 1987, and if you have ever seen the Kallista DreamPlay CD (yes, that's one of theirs too, though you won't find it on the Metronome website oddly) you will certainly remember its massive aluminium and methacrylate structure – it's one of those "once seen, never forgotten kind of products" that just screams high-end luxury. Despite having manufacturer amplifiers, speakers and other products, they now concentrate on products aimed at reproducing high-resolution music and formats with their product range including DACs, CD Transports, Integrated DAC/CD Players and in 2016 they launched new servers, all of which are distributed in the UK by Absolute Sounds (interview with Ricardo of Absolute Sounds [here](#)). The philosophy here is to produce high-quality products capable of reproducing to the highest standards the latest, and legacy, formats. All Metronome's products are hand-crafted and overseen by the company's engineers to ensure the best performance and build quality.

BUILD AND FEATURES

Here with the AQWO we essentially have a CDC+SACD/CD drive along with a DAC which will handle DSD up to 512 (x8) - actually this is the first time Metronome have ventured into the realms of an SACD player. It's a top loader that uses a professional drive mechanism from D & M (look them up, you may not know the name but you will know the brands) that has been breathed on by Metronome's engineers, with the mechanism being centre of the top plate and using a Delring clamp that clicks beautifully and securely into place with a magnetic snap. It's that kind of feeling you get when you move from a good but basic car when you close the doors to a quality car whose doors close with a reassuringly solid feel and satisfying clunk. Certainly, the unit oozes quality from the outset of the package arriving – packaging is great and fantastically secure, internal packaging is likewise beautifully done ensuring that the machine

arrives in one piece and ready to play music. Taking the AQWO out the box is no mean feat as it weighs a not inconsiderable 15Kg.

Inside the beautifully finished aluminium box, you have two internal DACS (AK4497) made by Asahi Kasei Microdevices Corporation from Japan. The chips were introduced at CES in 2016 with full production beginning in the Summer of 2016. The AK4497 uses new circuit design techniques and manufacturing processes and has onboard six different digital filter types which are selectable according to user/system preferences.

Special attention has been given over to the power supplies used in AQWO using separate power regulation lines and individual toroidals with the aim being to protect from EMI and RFI, decrease vibration and aid rapid power transitions. Indeed, there are three toroidals with no less than ten independent regulation lines. All PCBs used are soldered in Metronome's own workshops.

The review unit arrived in silver but a black version is also available. Round the back and looking left to right you have: Master power switch, IEC Inlet, 2 x AES/EBU XLR inputs, 2 x SPDIF RCA inputs, 2 x Toslink inputs, USB Input.

Outputs include: Toslink, SPDIF, AES/EBU and HDMI12S plus balance and single-ended analogue outputs using the usual RCA and XLR connections.

All inputs and outputs are well labeled and easy to read in a distinctive blue on black livery.

This comprehensive array of inputs and outputs allows the AQWO to be used in a variety of configurations: All-in-one SACD/CD and DAC player, dedicated standalone SACD/CD transport or standalone DAC. For most I think the unit is likely to be used either as an all in one DAC and transport with the added benefit of being able to use the onboard DACs with a host of other out-board devices, be that a laptop

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running your favourite music software (the unit comes bundled with drivers for Foobar), and external CD player/games machine/streamer/whatever. It's a well-connected unit that offers itself up as the hub of your digital universe. The only thing missing, and this is catered for with other Metronome units, is a network connection to allow direct streaming from a home network...but then add a computer and you have that anyway.

The unit measures 425 x 130 x 415mm with the front panel being dominated by a large 6.5" touchscreen which I personally thought was a very nice touch (no pun intended) – more on this later. A nice and simple remote control is also included.

So, before you even think about plugging in the AQWO to the mains supply, the vibe is positive with a feeling of over-engineered loveliness that is the epitome of understated yet solid design and engineering. When you take a step back to admire the unit on the rack, it is only then that you notice the massive spiked feet which support the AQWO's mass.

SOUND QUALITY

I wanted to use the AQWO in the way that I think it will be most likely used and in the first instance this is an all in one CD/SACD player and DAC to my mind. First on the platter is the musically superb Babes Never Die by Honeyblood whose first and title track sounds fab in the car, but on any system that has any resolution at all sounds muddy, muddled and generally horrible. With the AQWO I was as disappointed as I have previously playing this CD in the house, suggesting that the Metronome unit isn't going to allow a sow's ear to be magically crafted into a silk purse – perhaps I'm missing the production values in this record, though I strongly suspect not! I don't like products that make clearly badly produced records sound somehow and magically better - this suggests to me that a product is not truly High Fidelity and is fudging something along the way.

Changing discs is an absolute pleasure on the AQWO, with the sliding top mechanism having that same satisfying expensive car door closing feel to it as I mentioned. And the remote is perfectly useable too – simple, nice enough, not too generic looking (we've had some horrors arrive at Hifi Pig Towers) – it does its job.

And so, in comparison to the above, we have the brilliant Leftfield and their Rhythm and Stealth. It's a very well-produced record that demands to be listened to on a great system to get the very best from it. It's deep, complex and with textural elements that can become lost on lesser systems. What the AQWO manages to do is bring out the layers of the mix and present them in a cohesive and intelligible stream for the speakers to project into the room. And it's all there too, micro-detail is probably what more verbose review-bods may likely call it, but I like that the AQWO is able to bring a feel of texture and detail to proceedings with you being able to hear what effects etc have been added to certain sounds such as electronic kick. This kind of music can often become muddled on some systems, it's not the recording, rather it is the electronics used to decode those zeros and ones' inability to make sense of those digits that makes a mess of it. The AQWO performs brilliantly here portraying and laying before the listener coherence and subtlety, whilst at the same time not getting phased by the dynamic shifts in the music. There is a feeling of solidity to proceedings with this kind of program that inspires confidence and, it must be said, to shake one's ass! This is a good thing! Often a piece of electronics can come in for review and whilst it sounds accurate and whatnot it doesn't make you want to move and really get down with the grooves – not so here.

On acoustic material, I've plucked Neil Young's After The goldrush out of the many albums I played for the purposes of the review, and again the AQWO shines. There is detail and accuracy in the, let's face it, less than perfect voice of Young that lets the emotional feel of this record come to the fore and AQWO hides none of it, but without that overly bright trick used by some to highlight upper-end detail – another pet hate of mine. To me, the music should be presented to

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you as near to the original as is possible and I think this is what this box of tricks manages to achieve. DAVE from Chord Electronics is perhaps more detailed in a real sense than the Metronome unit and the Lampizator Big 7 is perhaps more musically engaging, but what the AQWO manages to do is fall somewhere in the middle, allowing for an emotionally engaging listen that sounds very detailed and resolved without being too much – to these ears anyway. Don't get me wrong, DAVE is THE best DAC I've heard in our system and the Lampizator BIG 7 remains our reference in the big system, but this is a very enjoyable CD/DAC to listen to. Easy going and yet detailed is perhaps the best way to describe it.

TUBE OUTPUT

On the touch screen is a little virtual button in the shape of a vacuum tube/valve which is used to engage or disengage the tube output section. "The tube output section consists of 2 JAN6922 using a Class A polarisation diagram with a high bandwidth," says the bump from Metronome. Push the button and there is a more "rounded" sound without it being rolled off in the top-end if that makes sense. I confess to having preferred the sound with the tube section engaged, feeling that it seemed a little more natural sounding – I categorically refuse to say it made it sounds more analogue, but I know for certain that that is exactly what some reviewers will say about this.

FILTERS

To access the available filters on the AQWO simply press the logo for a second or two and the menu page opens up – you can also change the voltage output here as well as the main colours of the screen. A short press on the logo allows you to dim or turn off the screen. It's on this screen you can enable or disable inputs too. Filters available on the AQWO are a Sharp Roll-Off, Slow Roll-Off, Super Slow-Roll-Off, Short Delay Sharp Roll-Off, Short Delay Slow Roll-Off and Low Dispersion Short Delay which each have an effect on the final sound – though I've tended to find that digital filters on DACs tend to be useful in "taming" the digitalness (I know it's not a real word) of hi-resolution recordings and the same is here. Users will find one they like and tend to stick with it I would suggest.

USING AN EXTERNAL CD TRANSPORT

This is an interesting one for me as I had in the dim and distant past been of the opinion that the most important bit of a CD was the DAC being used, and I do believe that this is true – to an extent. In recent years I've played around with a number of transports into our DACs and each has a greater or lesser effect on the overall performance. Using our Leema Elements CD player and Musical Fidelity Tri-Vista 3D as transports into the AQWO highlighted that whilst the DAC on the AQWO does, in my opinion, have the biggest effect, the transport used betters the two transports we have to hand and by a good margin. The effect I got using the transport in the AQWO over the other two was a perceived increase in stability of stereo image and a "cleaner" overall presentation. With this in mind, I cannot wait to hear what the company's bigger (and much more expensive) transports are capable of. So, if the onboard transport is so good then why bother having the digital inputs (I'm not talking about the USB input here)? Well, they are useful if you have other digital sources that you want to put through the AQWO – I'm thinking DVD players, games consoles and the like as I mentioned earlier. This way the AQWO becomes more than a CD/SACD drive, it becomes more of a digital hub for your home.

USB INPUT

Download the drivers (usual procedure), select the relevant output on your Windows machine and off you go. I sued to have a great deal of trouble with drivers but once you get your head around having to install them then all is good.

Playing DSD files (I only have a few to be fair) from the computer and via USB is pretty revealing. The detail and depth of the files are well evident and sound fabulous. Jazz At The Pawnshop (yeh, I know it's a cliché) is brilliantly portrayed on DSD and there is that real "I'm in the venue" feel. The recording is like that anyway but the AQWO adds another layer of realism to the recording – or perhaps that should be the Aqwo strips away any layers that are getting in the way of the realism of the recording. Again we have beautiful depth to the recording which envelopes the listener and transports them to 1976 and the venue – I've never seen pictures of the inside of the venue but sat here listening to this album on the AQWO I see in my mind's eye a fairly intimate and smoky venue, that is warm and buzzy to combat the cold December weather outside. And here is one of the key characteristics of the AQWO – it has an uncanny ability to make sense of a recording and to set before the listener a realistic portrayal of the space and music without taking anything away or embellishing it.

Other files of varying resolution all play perfectly and are converted to music without hassle and with the same kind of results I've outlined earlier.

CONCLUSION

The AQWO is a fine machine that sounds absolutely wonderful. It is accurate without being fatiguing on everything we threw at it other than poorly recorded music which it makes no excuses for – if you have a load of dodgy MP3s etc then this is not going to be for you – that said, you are unlikely to be the kind of person to spend this kind of money on a CD player and DAC and then go steal dodgy files. Hi-resolution music sounds sublime on the AQWO and it is to this market that I believe it is aimed.

CD, it is often claimed, is a medium in decline but I'm of the opinion that CDs often represent great value for money and I'm still out there buying them in larger numbers than I ever have and I believe they will be around for a good deal of time to come. It is fantastic to see a company have such dedication to the format and to include the SACD format too, which sounds great to these ears. However, what Metronome has done is incorporate so much more into this unit taking it beyond mere CD/SACD player and to the realms of being, as I've mentioned a couple of times already, the heart of a digital playback system that is as up to the rigours of dealing with the new-fangled hi-res file formats as well as playing the CDs and SACDs you already own or will own.

I highly commend the AQWO and in many ways wish I could have justified having another CD player and DAC in the system – actually I did justify it but was told we need a new kitchen...

If you are in the market for a DAC then check the AQWO out. If you are in the market for a CD/SACD player then check the AQWO out. Really, this unit offers so much in terms of sonic enjoyment and flexibility that it should be high on anyone's list of must audition pieces if you have the price of entry.

AT A GLANCE

Build Quality: Superb. Not a lot to add other than to say this is like stepping into a Mercedes after being in a Peugeot.

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Sound Quality: Unforgiving on poor recordings but fantastically engaging and connecting on well-recorded files and CDs. Fatigue-free listening whilst being wonderfully detailed.

Value For Money: It's not cheap by any stretch of the imagination, but then neither are Mercedes.

Pros: Build quality. The flexibility of inputs and outputs. SACD onboard. Great sound.

Cons: All I can genuinely think of is its price which may be off-putting for some.

Price: 12,800.00 euros, and the tube output option is 1,070.00 euros



REVIEW

X-ODOS - XO|ONE CD RIPPING STREAMER



Dan Worth takes a listen to the catchily named x-odos - xo|one CD Ripping Streamer costing £7500 and hailing from Germany.

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X-ODOS - XO|ONE CD RIPPING STREAMER



German-based x-odos is a relatively new manufacturer in high-end streaming. Owner and IT expert Christof Poschadel is well known in his country's industry for application-specific programming. Christof was a natural in programming from a young age and although obtaining degrees in History and Archaeology his talents for programming were never overshadowed and he became Network Administrator at his University.

Christof, a lifelong HiFi enthusiast decided to take on the task of building his own music server which soon attracted friends and acquaintances attentions and requests for units were made.

Following his heart and passion for music Christof founded x-odos in 2014 and along with two colleagues produced the xo|one music streaming server and ripper.

THE UNIT

The xo|one is a seriously sturdy heavyweight piece of equipment made from thick panels of well-finished aluminium for resonance control. The front of the unit is very simple, which I like very much. Too often digital streamers have a plethora of buttons, flashing lights and unnecessary adornments, which make them look slightly on the cheap and tacky side. The xo|one has a slot for ripping CDs, one captive touch sensitive button for powering on and off and just above this and centre stage is the CNC machined-out, led-lit, user-dimmable X branding, which is pretty cool looking and adds a smart look to the sleekness of the front fascia.

To the rear is a Furutech power inlet IEC socket, two Neutrik USB 3.0 sockets which are backward compatible with all USB 2.0 DACs, matching high quality locking Neutrik Ethernet and AES/EBU sockets and a single WBT RCA digital out. Isolation is provided by the use of SSC supporting feet.

INSTALLATION

If streaming worries you somewhat, then worry no more! Installing an xo|one is so simple you could probably have your cat do it for you!

Plug in an Ethernet cable to your router, if you want to stream from the likes of Tidal or Qobuz this is your connection to the internet and also links the xo|one to the WIFI signal of the iOS or Android device you wish to use to control the unit.

Choose whether you wish to connect the xo|one to your DAC via a USB, AES/EBU (XLR) or Coax (RCA) via a digital cable - all of these outputs send a signal at all times, so there is absolutely no configuring of outputs.

Attach a power cable

Download the x-odos app

Open the app and a window will find the unit you have installed, connect and have it ready for use

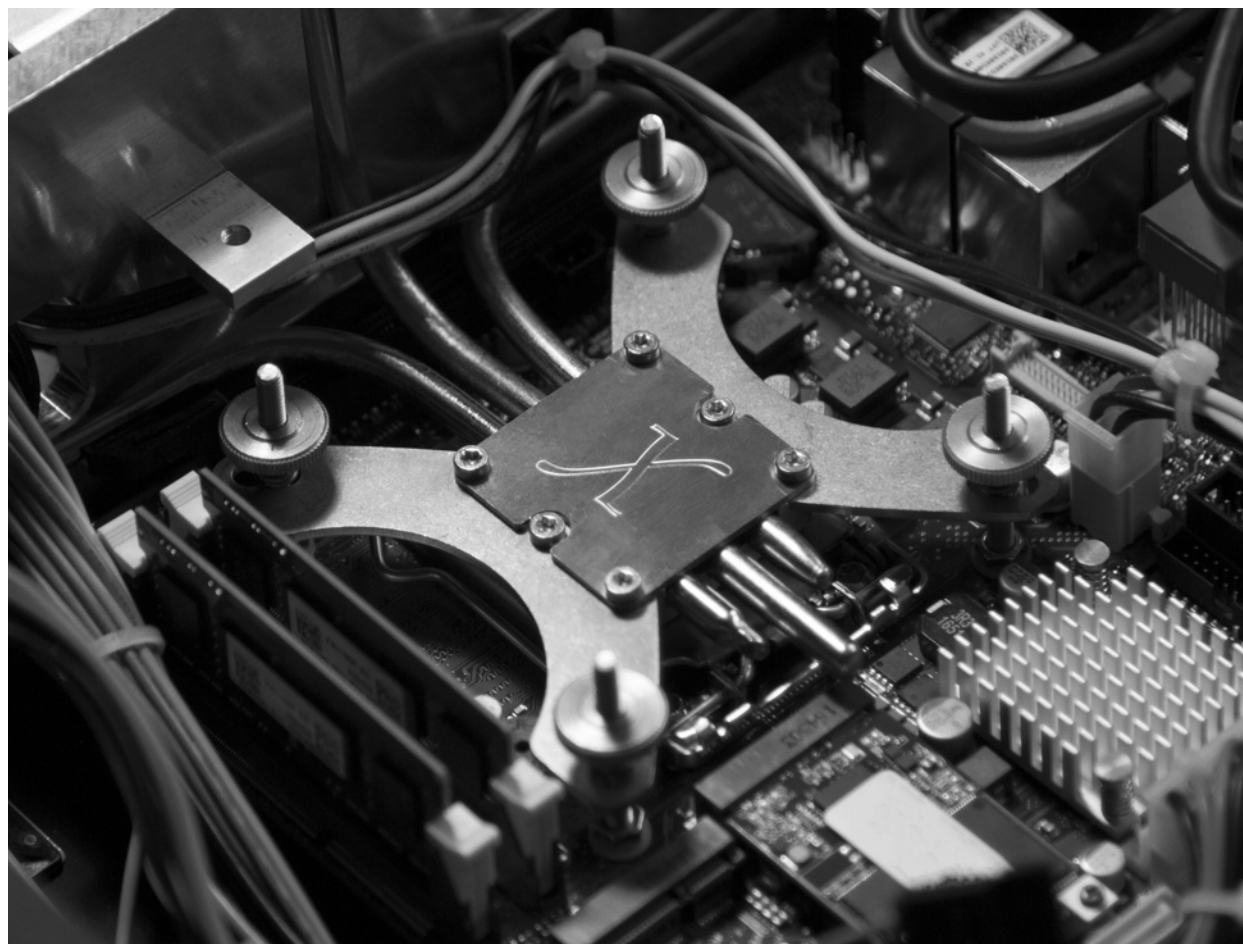
Note: an installation and operations manual is included with the xo|one - this will explain how to configure any Network Attached Storage devices - it's simply a case of opening a webpage and entering the unit's IP address, selecting the stream tab and entering the IP of the NAS along with its username and password and then selecting SMB from the drop-down menu. Follow the simple steps outlined and this task is completed in just a couple of minutes.

xo|one CONTROL APP

The control app for the xo|one is an absolute joy to use! I've used many apps in the arena of streaming, probably 90% or so of them, and the xo|one's app is up there with the very best in terms of GUI layout, ease of use and complexity.

Covering all basics such as internal drive storage selections, Tidal, Qobuz, Radio, HirezAudio direct library download and streaming,

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along with the ability to simply configure and add an existing Network Attached Storage device, the xojone already makes strides to becoming a very well thought out and intuitive platform for covering all of your digital music requirements.

The GUI itself is a very creative platform to use. Unlike some other very well-regarded control apps, xojone's on the iPad has absolutely everything you require for fully complex control that is neatly laid out on one screen to save the constant rigmarole of flicking backward to previous page menus, other windows, and essential options.

When selecting an album from the chosen page (whether headed as album, artist, genre etc), a colourful and high-resolution window opens an alongside curtain with all album options, leaving the ability to change one's mind from the initial selection and still visible centre screen. Once an album or artist is selected a smaller overlaying central window shows available tracks with a begin to play button. Tapping the screen anywhere off of this forefront window makes it disappear, leaving the left hand upper fixed pane with the current playlist available for viewing, editing or clearing with a simple option button within its borders. Any further selections during playback simply adds to the length of the current playlist, which again can be edited and condensed if you wish to do so. Saved playlists can be created in this pane, whilst having every available option present to build and create playlists without any disruption to the music.

Underneath this pane in the lower left is always the current albums cover art. A tap of this opens a new full-screen window with play/pause etc buttons to the right and the larger cover art to the left. Along with the backward and forwards navigation buttons, the user has the ability to slide the cover art up or down to select the next or previous track, which is instantly responsive. A further tap on the window opens up a full-screen album art page and a swipe left or right will change tracks. Hitting the X in the corner takes you back to the multi-pane view, where the top bar on this page has track navigation buttons.

This page is what I tended to use the majority of the time as I just found every option so easily accessible and readily available, although for deep listening sessions of created playlists I would move forward into the simpler, album art plus condensed navigation window. Talking about condensed, the iPhone version of this app has all features present with a slightly more user-friendly layout to maximise screen size and user ability, never sacrificing functionality or features.

RIPPING FROM CD

xodos has made this task very simple. Just pop a CD into the slot on the front of the unit and let the xojone do the work for you. The unit will find all the metadata for album information and artwork, as well as dropping it into your music library when complete and kindly handing your CD back to you for storage.

THE SOUND

One of the first points I'd like to address with the sound quality of the xojone is its tonality. Firstly, it's completely analogue, full stop! If anybody can hear digital harshness from this unit then there's something wrong in your system! I've rarely heard a digital source sound so organic, maybe some of the older proper Levinson products, like the 360S DAC I'm using connected to the xojone here or a CEC belt driven transport possibly, but let's not get into too many comparisons here, tonally the xojone is immediately impressive, engaging and toe-tapping.

Listening to Rachelle Farrell's 'I Can Explain' explained this all for me...firstly the intensity of her dynamic range was less forceful and I felt as if there were more prominent momentary steps into following notes which gave more realism to the human voice. I could hear her throat and chest better between breaths and also during climbing notes, making for an effortless and silky, yet still immensely powerful tonality to her voice. Pleasantly accompanying her vocal, which demands a lot of focus normally, was the grand piano. I was actually drawn to its tonal accuracy without giving it any real consideration as I was assessing the vocal, but due to its new found positioning in the overall image, it was hard to miss. Overall it was richer, far more accurate and decayed more interestingly.

'Temptation' by Diana Krall - although not as powerful a vocal, had a similar effect on my listening experience, the natural balance her vocal took on was a clear step up from my normal listening. Bass, tambourine and piano were all able to convey their individual tones with no smearing and again, just so analogue-like and natural in presentation and with more of that "sat in front of the live performance" feeling.

The xojones ability to soundstage is exceptional, from emerging trombones to wavering low bass notes which sweep into the room - it structures events with complete believability, with three-dimensionally as a byproduct that the xojone has in spades. Its soundstage compliments its tonality and the two characteristics combined to forge a fantastic partnership - never forward or rushed and the way it swings dynamics is incredibly realistic.

Great recordings really thrive here and the music has a way of carving into the listening space making vocals truly "in the room" and each and every instrument claims its own spot within a presentation which is simply captivatingly musical. I adore how well the xojone has such a black background and yet keeps everything together and flows without any detachment. It offers performances the rare ability of real spaciousness yet retains the collaborative effect the artist intended.

I'd often just forgot about all the electronics and simply sank into my seat lost into the music. Then at times the xojone would all of a sudden have me really sitting up in my and taking real notice of certain passages.

Smaller secluded events seemed to be happening throughout my listening space at varying volumes and intensities, again I kept thinking to myself "how on earth is this voiced so tonally accurately". Characterisation is determined simply by genre and recording, not by an overzealous engineer who believes he knows better. There is no misplaced ego here, rather the foresight to let the music speak for itself. Every piece of music sounds different and very true to the music - if a track has more perceived height when recorded then that's what you get, if it has wider proportions then that's what you get and if it has a deeper or lighter bass quality...you guessed it, that is simply what you get.

Now alongside the Melco N1/a2 and quite honestly any other streamer I have had here to a certain degree, the xojone betters them in most areas in my opinion. I feel the Melco has less opportunity in allowing the music to be as playful or abundant of character and tonality, less analogue, relaxed and toe-tapping. The xojone has an ability to just simplify everything and open a window which allows a stuffy room to breathe and this is reflected in the sheer amount of time I sat in front of my system listening to album after album.

The ease of how the xojone conveys tone and timbre is exciting in itself - its midrange clarity is staggering at times, for example when I

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listened to 'Little Zing' by Andy Erin & Valerie Joyce and Valerie's vocal was just sublime with the accompanying guitar sitting a shade or two darker and a foot or so back, five foot to the right-hand side of centre stage. Neither instrument nor vocal was overshadowed in any way and the full organic nature of the performance was nothing short of gorgeous. I listened to many blues and trad-jazz tracks which all had the same appeal. I found tone in abundance, speed and control of leading-edges accurate and just so damn playful and bouncy into the Levinson DAC - I actually haven't been this invigorated by my music for some time and if I'm completely honest I really believed that the xo|one was going to be an item from a company who had simply jumped onto the streaming band wagon attempting to drive into the slipstream of the likes of Innuos or Melco, but they really have hit the ground running in my eyes...and ears, and really deserve some serious attention.

My time with the xo|one continued on from here from a reviewer's perspective to a "sit back and relax and just put your feet up and enjoy forgetting everything else situation". Enjoying long listening sessions and re-finding that spark again that made me want to spend any free time I had listening to music again. The review took a backseat for a while, while I simply became engrossed in my system as a whole, putting all my hard work in redesigning my speaker crossovers and system isolation to one side and realising that I have actually found a place in my heart where music makes sense again. I even spent one entire evening listening to classical music which isn't generally one of my favoured picks, although I appreciate many performances, I tend to not give the genre much time when I have a few hours to spare. What initially began as "I'm going to investigate some classical music due to the abilities I've come to love about the xo|one" soon migrated into albums being played right through. It was at this time where I really found how in-depthly playful the xo|one was with the smallest of nuances dancing through my listening room and all around me. The evening was young and atmospheric noise was very much diminished from the hustle and bustle of a daytime session, but nonetheless the inner-detail and micro-dynamics again just had incredible tonal qualities that made me smile again. And huge dynamic swings never (and I do mean never) squashed them – yes, they would drown them out in hugely dynamic and busy passages but that's the reality of a large performance. Even so, I was still very much aware of their presence.

Even listening to the likes of 'Chasing Cars' by Snow Patrol during some daytime frolicking (Daytime what? – Ed) I hadn't had ever appreciated so many layers of music within the performance. Fond memories of top Lampizator DACs I loved the abilities of come to mind, they can allow fantastic shape and layering of music and their tube tones made for such enjoyable grain-free listening sessions. I went on to listen to Amy Whinehouse, Adele, Phil Collins, One Republic, Fleetwood Mac and many others who I listen to as more of a fun timeor background music session. The type of artists who I enjoy singing along to and not really paying an awful lot of attention to the reproduction or mastering of the recording. Time and time again I was caught off guard by details, rich tonality or shaping of the soundstage without any intention of close inspection whatsoever and that's when you know that you have found something a little special in my opinion.

CONCLUSION

I can't inform you of what recipe of hardware components or software the team at xodos use to produce the xo|one, all I can do is speculate that they are built and configured in such a way that it reflects the intentions of an individual or individuals that understand how music should sound.

The voicing within the xo|one is simply moving! It's not a cheap product by any means coming in at £7500 but I have heard units costing more which just do not stack up in terms of tonal accuracy, soundstage shape, overall realism or form and function.

The app is an absolute joy to use and again is so thoughtfully presented that it just ties the entire package together, complimenting aural appeal with visual appeal. The physical unit isn't too shabby looking either! A very heavy for a streamer design, made from thick panels of aluminium, keeping everything rigid and vibration free. The single captive touch sensitive front button, cool looking led lit X branding and top-quality rear connectors from Furutech, Neutrik and WBT are sweet little cherries on top of a delicious cake.

I urge anybody with a system warranting a streamer of this ability to get some hours under their belt with one. If you have strongly considered streaming but are afraid of typical digital and pride your turntable as the one and only source, then give the xo|one a try, you may be surprised!

AT A GLANCE

Build Quality: Very nice thick aluminium, well-finished paneling and top quality sockets.

Sound Quality: Analogue, fantastic tonality, wonderful soundstage shaping, and top quality layering.

Value For Money: In comparison with everything else I've heard, value for money is appreciable.

Pros: Utterly musical and analogue presentation, great voicing and build quality, with the addition of one of the best streaming apps I have ever had the pleasure to use.

Cons: A little pricey but in comparative terms not so.

Price: £7500 in black or silver finishes.



REVIEW

QUAD ERA 1 HEADPHONES



Quad has never made a headphone before and so we were delighted to hear about, and get the chance to try, their ERA 1 planar cans costing £599. Janine Elliot takes a listen.

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QUAD ERA 1 HEADPHONES



I grew up during probably the most exciting time in audio, eager to own a Quad 33/303 and then a 405 and saving up so I could one day get an ESL57 or better still an ESL63. Actually, I didn't get any of these until an adult. I made do with Sansui amp and Audiomaster loudspeakers, though I did get a pair of PWB electrostatic headphones as I could hear the importance of good personal stereo. That was when Mr Belt made some good British products. I pretended that my headphones were Stax Lambda Earspeakers or miniature ESL57s. With the rise in sales of headphones over the last 5 years up by 50% this is now a very big market, so it was great to hear that Quad finally bit the bullet and introduced a headphone to plug into their PA-One headphone amplifier. I have been waiting for this moment for years though I, like most, was surprised that they didn't introduce an electrostatic headset (even though of course that wouldn't work with their PA-One). What they have done is use their extensive knowledge on electrostatic diaphragms to create a planar design that is pretty damn good for a first attempt. Where conventional drivers can cause a less than perfect frequency curve, and generally are heavier and slower in performance, planars are quicker and more accurate due to the ultra-thin diaphragm set between two magnets. Where conventional drivers might have phase irregularities, a planar design has all parts of the diaphragm resonating equally giving a more accurate sound and with no inductance-related intermodulation distortion. That distortion can make them sound bright and edgy. Planar headphones do have some drawbacks, though. Firstly they are generally not so bright sounding as conventional headphones, though there are exceptions, such as my favourite Abyss AB-1266. Another drawback of planars is that they are usually more expensive and also less efficient. The Quad ERA1 is neither of these. At 20Ω and £599 it can be connected directly to your portable player without fear of having to turn up the volume to the top.

CONSTRUCTION

This is an over-the-ear headphone though considerably smaller than an Audeze LCD-4, for example. At 450g it is also fairly heavy, though still lightweight compared with some Planar designs, and I didn't feel weighed down when using it. It has a robust metal and plastic construction looking very expensive but orthodox. It also comes with two ear cushions; one made of latex topped with fleece fabric, and a spare set made of soft leather, so you can use whatever suits your ears. The headband is very comfortable though fairly aged in appearance, looking similar to the Oppo PM-1. The metal ear cups are of very good construction and protects the diaphragm. As for the drivers themselves, the Quad ERA-1 incorporates an ultra-thin, electrically active diaphragm which is thinner than a human hair, yet it is extremely strong and highly elastic, weighing less than the volume of air that it displaces. This is sandwiched between a magnet system, which according to Quad is "designed to maximise sensitivity and consistency of the applied force over the driver area." Patented non-linear vibration suppressing technology allows the drivers to hit up to 40,000Hz faultlessly and ensuring clarity of music. There is a metal cavity behind the driver which is specially designed to improve acoustic performance, and the drivers themselves are very closely matched. Topping it off is a high-quality, detachable 215cm cable with 3.5mm plug and screw-in 1/4" adaptor and an attractive and durable carrying case to put it all in.

SOUND QUALITY

Quad is famed for saying 'The Closest Approach to The Original Sound', and their amplifiers and electrostatic loudspeakers have stood the test of time and still revered by audiophiles around the world. They are also claimed to have said that their amplifiers were "a straight wire with gain". Their amplifiers do indeed have a distinctive footprint; a distinguishing mellowness and warmth through the bass and midrange frequencies. So too, do these cans. That warmth and musicality is in earnest in the ERA-1 making them easy listening with punch in the bass and still detail and speed in the top end, though the

QUAD ERA 1 HEADPHONES



QUAD ERA 1 HEADPHONES

sound is neutral. Listening to music from the days of the Quad 405 – Kinks track “A Rock’n Roll Fantasy” from the album ‘Misfits’ (24/192), Ray Davies’s equally distinctive voice has its midrange lisp, and these headphones bring this out more than my regular Audio Technica W1000Z and Sennheiser HD650’s, that are more open and with a top frequency accentuation. Doing comparisons with these or other headphones, however, is never a good idea. AB comparisons can be fraught and inconclusive. Our hearing adjusts not only level but also EQ; just listen to something loud, then play it at your normal listening level and you will find it now too quiet until your hearing adjusts to it. Similarly going from the Quad to the AT cans initially gave a sound that was far too bright and painful, but after a few minutes of continued listening they start to feel normal. The best approach, therefore, is to spend a longer time with each, take notes, and then a break before swapping with other headphones. When I orchestrated a listening test for new speakers at the BBC to replace the aging LS5/8’s the test was inconclusive because it was a series of comparisons; the brighter speaker sounded more fun and hence got more votes but it wasn’t actually the best speaker musically, nor conducive to long hours of listening! The Quad goes all the way up to 40,000Hz, way past my hearing, but the bass was just slightly raised taking away some of that top end, but boy does it sound good. Interestingly the ESL63 which I owned some years ago had a similarly well controlled top end, and I remember Quad made a point saying that it was correct; just that we expect an unreal ‘lift’ at the top frequencies. Once I got used to the sound, anything that was brighter sounded too much. All frequencies are covered, just that it is well behaved in the top. If you like Quad electrostatics you will like the ERA-1.

Pink Floyd’s ‘The Wall’ and the track “Hey You” was allowed to excel in the bass and mid-band with a speed in the transients that conventional motors cannot muster. Nick Mason’s drumming is potent and energetic. Only that the voice wasn’t quite as clearly discernible over other instrumentation happening to be playing at the same frequency. At 3’22” starts a repeating violin line that sounds like a swarm of bees, and it was actually clearer on the Quad than my cans of choice, with detailed harmonics that I hadn’t been aware of before, largely at the mid-frequency band that the ERA-1 excels at. Everything was in the correct proportion. Quad being able to produce the king of electrostatic loudspeakers I just wished the sound from the ERA-1 was as open as it is on my electrostatic Earspeakers from Stax. I still felt at times like I was wearing headphones rather than listening to music. Perhaps the next model should have a larger ear-cup with a slightly angled or a larger membrane which would give a more 3D sound as is heard from my Stax and Audio Technica. If the top end had more bite, I would be happier.

Listening to Vivaldi in Venice (Mike Valentine) and the Tartini Violin Concerto the sound was much more open and inviting and the bass end was one of the best I had heard. The harpsichord was all there, but just not as pronounced as I would like. David Bowie’s epitaph ‘Blackstar’ title track “ ” has a very pronounced digital bass and snare-line which might sound too overpowering on headphones. The skins and drumstick sounds, however, were not quite so clearly defined through the Quad as on my choice cans. That said, after actually listening on my AT’s it was just so bright that the top end became unbearable, so going back to the Quad was actually quite a welcome relief, and in terms of long listening times the Quad was top . Moving on to my own album ‘Boxed In’ and “Boxes” the vocals are perfectly proportioned; sometimes my vocals can sound overwhelmed by the complex orchestration, but Quad have got it just right here. This was indeed the closest approach to the original sound. These Quads might only be £599 (OK, Hifiman do a planar at half this price) but they compare with some I have heard at £2000.

Holst Planet Suite, (Karajan, Decca) is a great recording and these headphones through my Brocksieper phono amp gave a compelling performance and chance to listen to a few mic stands being hit (eg at 3’49”) and lorries driving past. Indeed, the 7th movement not only had a few scrapes and wheezes but a brilliantly audible bass drum beat at 3’19” that my resident cans miss out.

Turning to one of my favourite albums David Rees-Williams Trio ‘Classically Minded’ and “Music for a While”, whilst cymbals weren’t quite as prominent as I expected them to be, the soundstage was actually better than I anticipated. In ‘Prelude and Fugue in D Major’ cymbals were quick and unconstrained, and whilst not ‘in your ears’ [sic] it was balanced making the whole music very enjoyable. The ERA-1 performed with ease. “Nun Komm der Heiden Heiland” had a much more musical sense of rhythm and detail of reverb that I have heard on other headphones. Similarly, breaks in music were allowed to form a clear and natural decay.

For a first attempt at headphones Quad have succeeded well. The sound is full and detailed with an especially good bass and midrange depth and speed. And for those who like the Quad aural signature then these are ideal partners for your ears. For £599 these are exceptionally good value, and I look forward to their next model. Perhaps one day an electrostatic? Go on, please.

CONCLUSION

These are very good headphones for a first attempt, and ones that I had great pleasure listening to. The bass and midrange is typical Quad and the top end is refined and not overstated. It worked well with all my headphone amps and also directly connected to my low output PDAs, something rare for planars. At £599 they are also very good value. If you want to listen to music for long a time without fatigue then these could be your ideal partner, but if you want lots of excitement then these might not be your choice.

AT A GLANCE

Build Quality: Well-constructed and look good.

Sound Quality: Fatigue-free listening with excellent bass and midrange, full-bodied sound and silky top end.

Value For Money: £599 for a planar design and musical performer is excellent value for money.

Pros: Excellent bass/midrange. Fatigue-free. Excellent value for money.

Cons: Some might find top frequencies not exciting enough

Price: £599



REVIEW

TELLURIUM Q ULTRA BLACK II SPEAKER CABLES



Tellurium Q Ultra Black II Speaker Cable is the latest incarnation of this British company's Ultra Black cable and costs £310 per metre. Ian Ringstead plumbs it into his system for Hifi Pig.

Hifi Pig
www.hifipig.com

TELLURIUM Q ULTRA BLACK II SPEAKER CABLES



I'm no stranger to Tellurium Q cables and I have been using the highly regarded TQ Ultra Black mk1 version for a couple of years now as my system reference speaker cable. It made perfect sense for me to review the new MkII version, so Geoff Merrigan kindly had a 3m stereo pair sent to me with jumper cables as my speakers are bi-wireable. What goes into Geoff's cable designs is a close kept secret and to be honest it doesn't matter. Geoff is a chemist by training, so he has a great understanding of materials and elements. I see him as a magical alchemist who has an ability to get the best out of materials by instinct and hard graft at experimenting. Cable design is a black art to my way of thinking (pun unintended) and the ability to use certain metals as conductors and di-electrics as insulation is not a simple task. Jean Hiraga in the 1980's concluded that cables sound different and that some sounded far better than others, a fact many disputed then and some still do now. It was no different to the original assumption that if a piece of electronic audio equipment measured better than another then it had to be better sounding. This doesn't hold water now, but as to why is a mystery.

CONSTRUCTION

There is little to say about the design, the cable comes in mono pairs that are a flat ribbon construction sheathed in an outer cover which is very smart looking, and each end of the cable is neatly finished with a metal spacer and a choice of good quality gold spades or banana plugs can be fitted. Lengths are generally by the metre, and custom lengths are readily made to order.

SOUND QUALITY

The original Mk 1 version of the Ultra Black sounded great to my ear and having used them for a couple of years I take them for granted. Would the new version be much better? The answer is absolutely. When I listen to equipment or cables if I can't hear a discernible difference then it's either because there isn't one or my ears/brain are

having an off day. It took a while for the Ultra Black II's to bed in. Geoff had kindly had them burnt in for me before I got them, but even so, a few weeks on they seemed to suddenly burst into life. They sounded better straight away with more detail and a fuller sound all round, but then one day recently the system just sounded sublime. It wasn't a one-off event either as this pleasurable experience continued thereon in.

Vinyl and CD both benefitted in equal measure. I particularly enjoyed 'The Best of the Crusaders' from 1972 on ABC records. This album is mainly studio recordings but the live track 'So far away' written by Carole King really conveyed the atmosphere of the venue it was recorded in. You could picture the clinking of the glasses and the laughter and interaction of the audience as they lapped up this performance. Near the end of the track the horns hold a note for what seems like minutes using an incredible technique that has the crowd whooping and a hollering when it finishes, and the rest of the band join in again to finish. It was a moment that I am sure the whole audience would never forget. The hairs on the back of my neck were standing up and I wish I had a time machine to take me back to that event all those years ago. The Ultra Black II's really dig deep into the mix of any tune or song having an uncanny ability to open up warts and all the musicians' artistry. I listened to many albums I thought I knew inside out, but time and time again they surprised me. It was like when I upgraded my TV from an HD LED set to an Ultra High Definition 4K set. The differences were stunning. My daughter when she first saw the new TV said it was too realistic as it showed an amazing amount of detail as you would expect, but she wasn't used to the improvements. Another analogy is looking through a camera lens that is out of focus where the image is blurry and then adjusting it so the image snaps into sharp focus.

Layers in the music I listened to that had previously appeared very detailed to my ear just took on a whole new meaning and level of enjoyment. Just like the layers of an onion, you don't realise how many make up the complete onion until you cut a cross-section right

TELLURIUM Q ULTRA BLACK II SPEAKER CABLES



TELLURIUM Q ULTRA BLACK II SPEAKER CABLES

through it. The Ultra Black II's allow our ears and brain to work as they would in a live environment picking out every nuance and sound cues to create that actual experience, not a close approximation. Let's just say I was hearing so much more into the performance. I genuinely was hearing microscopic details I just didn't know were there before. Imagine you are looking at a beautiful painting in an art gallery like I was recently in Edinburgh at the National Gallery. It was a Dutch master artist Gerard Dou. The scene was a room with a young man sat down with a violin at a table surrounded by many objects exquisitely painted and light was coming in from the window, just sublime. It was like looking at a photograph. They say art is an approximation or interpretation by the artist of the real thing or what they see in their mind. Abstract is all well and good but for me reality is key. The Ultra Black II does reality.

CONCLUSION

I could talk all day about all the albums I listened to but that would bore you and be of no interest anyway if you didn't know the music or like it. What I can state is that the Ultra Black II cables are currently the best I have heard in my system and I will sorely miss them if they go back. At £310 a mono metre they certainly aren't cheap and the 3m pair I had would cost £1860. In the context of my set up that equates to about 10% of its value, so it is not a ridiculous overspend or imbalance. If you are serious about Hifi and love your music then great cables to finish it off are not just *de rigueur* (a fashion statement), no, they are essential. Geoff and his team are once again to be congratulated on a fabulous design and addition to his range.

AT A GLANCE

Build Quality: Excellent for the money.

Sound Quality: To my ears they were spot on and currently are my reference in my system. Oozing quality and detail without ever drawing attention to themselves as the music just flowed.

Value for Money: As stated earlier not cheap. If kept in the context of the value of your system or budget, then go for it. You can buy them and have gone way over the 10% rule and still be happy. The key is to as always ask your friendly dealer to loan a pair out to try at home.

Pros: Excellent organic sound that is brimming with detail and depth.

Cons: Just the price.

Price: £310 a metre.



REVIEW

BLACK CAT COPPERTONE SPEAKER CABLE AND RCAs



David Robson takes a listen to Black Cat's Coppertone speaker cables and matching RCAs costing £276 for a three metre pair and £159 for a one metre pair respectively. Will David be the Cat that got the cream from this relatively budget offering?

Hifi Pig
www.hifipig.com

BLACK CAT COPPERTONE SPEAKER CABLE AND RCAs



Well today took me back in time over 3 years! The parcel I received from Black Cat Cables was the self same manufacturer that provided me with my very first opportunity to review HiFi cables back in October 2015. Then the Redline Tube RCA and speaker cables had arrived from Japan, the brainchild and work of Chris Sommovigo, who's handmade cables achieve stunning levels of sound reproduction. Chris has now relocated back to the USA, Alpharetta Georgia to be exact. This line of cables will become the starting level for music lovers to experience the qualities that Black Cat Cables are known for.

Black Cat Coppertone RCAs

CONSTRUCTION

The neat red boxes the cables arrive in are the usual high standard that accompany all Black Cat Products. "Coppertone" emblazoned in a "Coca Cola" like font and is very striking to behold. The RCA cables out of the box are slim and flexible. This means that they are easy to route around your other HiFi cables and equipment. The outer sheathing is of a Nylon multi-filament braid in striking red! The Cables are finished off with high quality gold plated "REAN" RCA's. Fit and finish is exemplary and the handmade quality shines through. On the inside of the Coppertone cable, Chris has used a central conductor made from 24AWG copper. This "Airwave Center" core is woven into a loose spiral shape, this sits inside a Teflon tube so only the outer edges of the wave shape touch the inside of the Teflon. According to the designer this conductor format allows the interconnect to be very low capacitance and high velocity by substantially suspending the conductor in the air within the tube. Outside the Teflon tube sits a set of multi stranded tin-coated copper strands, helically wound around the inner, this is then all covered by the nylon outer. There is no directionality printed on either the sheathing or the RCA's but there is a shrink wrap collar halfway down the length of the cable with the Coppertone name printed upon it, for

those with cable OCD this can help with consistency of fitting for those who require it.

SOUND QUALITY

Chris advised an initial 50 hours break in time with 100-200 hours under their belt as being fully bedded in. That only means one thing, hours of listening to Black Cat quality while waiting! (insert smiley face!).

During the first few hours of letting the Coppertone settle into its optimum performance, the sound was imminently pleasing, I was expecting to hear some hardness and limited bass frequency, but no, the sound was lush and honey like straight out of the box. Over the next few days, I heard nothing shift by any measurable margin, not in the highs or lows, just a well contented level of detail and smooth top-end, very very similar to my own reference cables.

After several days of casual listening, and being confident no other changes may take place to the sound, I popped Bill LaBounty's "Into Something Blue" into the Oppo 205uhd I use for CD transport duties. The Black Cat Coppertone carried the signal beautifully, the musical instruments kept apart and separated, vocals sitting central and in their own black space, carrying feeling and emotion out of my speakers to my ears. Sound-stage remained open and wide, depth front to back again allowing the instruments to sit in a proper stage like formation. I'm very impressed and these represent a welcome addition into the system, they seem to have an easy synergy with my equipment. Simple cymbal strikes have a crisp timbre and have good hard edge, yet with an extended delicate decay, not slipping into a shushy, slushy sound, though hard sounding speakers may not suit this level of detail, a very accurate portrayal is what we get. Bass is tight and tuneful, not fluffy or indistinct. It keeps the timing and rhythm like a metronome, and brings a real boogie to the party.

BLACK CAT COPPERTONE SPEAKER CABLE AND RCAs

CONCLUSION

I really like these Black Cat Coppertone cables, I've had the pleasure of hearing Black Cat cables before, and I use their speaker cables as my reference set. The quality and family sound thankfully runs throughout the range. This cable for it's price point is superb, this may be the only cable you may need to buy if it fits in as well, and as easy as it does into my reference set up, which is generally very revealing of inadequacies or faults in presentation.

Playing a few genres through the Coppertone, it didn't seem to favour one over another, if I was pushed to a criticism it would be that very bright systems may not benefit from what the Black Cat brings to the party. It would have to be a very bright and hard edged system though, this is because of the high levels of detail that is seemingly being transferred to the speakers at the high-frequencies. An absolute pleasure to listen to and experience.

AT A GLANCE

The Black Cat Coppertone 1m RCA is a superb step up in sound quality from the lower rung on the Hifi cable ladder. Although this isn't a budget cable, it's closer to my reference cables than I imagined them to be. I'd be very happy if I'd taken the initiative to buy blind and arrived at this sound.

Build Quality: The usual excellent Black Cat build and attention to detail shines out with this cable.

Sound Quality: It has an even and natural balance with my equipment. It doesn't step out of line or cause imbalance anywhere I could detect.

Value For Money: What we have here is a seriously good cable and this leads me to believe it is one of the very best I've heard at this level and price point.

Pros: Sound quality, easy system matching, and value for money.

Cons: A very hard and bright system may not be an ideal partner. Apart from that, nothing of note.

Price: 1m - £159

Since the review, Chris has been in touch to say "I've decided to use my own Lovecraft MINI RCAs as standard now, which otherwise would have been an upgrade to the REAN. The biggest difference in construction between these is that my signal pin is made from pure copper, direct gold plated (no intermediate plating), hollow, and uses a set-screw to create intimate contact between the wire and the pin before soldering."

Black Cat Coppertone Speaker Cable

Having tested the Black Cat Coppertone RCA cables, next up are their matching Speaker cables in 3m guise, these retail at £276 terminated with 4mm banana plugs, other lengths are available.

CONSTRUCTION

Like the previous RCA cables the Coppertone Speaker Cables arrived in the self same smart red box with the Coppertone logo splashed across the front. The cables are very flexible and like the higher-end cables have a stiffer red connector than the black connector cable, which feels like there is nothing inside it! Be sure though that there is

a cable lingering inside the sheathing. The cables designer Chris advised me that the speaker cables are of similar construction to the RCA's. A central conductor made from 24AWG copper. This is what the designer calls an "Airwave Center" core, the single copper filament is woven into a loose spiral shape, this sits inside a Teflon tube so only the minimal amount of copper touches the inside of the Teflon tube. Thus this aids the very low capacitance and high velocity by substantially suspending the conductor in the air within the tube. The speaker cables differ only slightly in that they have a tin plated copper shielding on the Negative / Return. All this is wrapped up in a black nylon multi filament braiding.

SOUND QUALITY

After giving the Black Cat Coppertone some 40-50 hours use I settled down to some serious listening.

The family sound is transferred across the range and the speaker cables have the same inherent qualities that the RCA does. The bass is tight and rhythmical, regardless if played by bass guitar or drum, it's tuneful and fat. You can so easily follow every note within the music. Detail on every thumbing of the bass guitar, the warmth and the vibrant twang from a badly hit string is definable. The sonic flavour of the Coppertone pushes me towards funk/jazz, soul and pop. The high frequencies do not stand out as harsh or fatiguing, as a crisp yet smooth presentation is delivered. These are in for the long listen, happily playing away while I write, even stretching me into some styles of jazz I'm not usually comfortable with. The heavy clanking on the top keys of a piano usually leaves me heading for the volume button to reduce the harshness, but the Black Cat seemingly to take that very top edge off, maybe there is a little rolling off at the top and upper middle that alleviates the discomfort? The sound stage, is a nicely open presentation, spreading across the rear wall opposite my listening position. Not as deep front to back as my Redlevel reference cables but just as accurate left to right with instruments and vocals perched in their correct order. Running through my usual fare of CD's I find I'm liking the even balance that the speaker cables give, there is nothing I'm worried about with regards to what type of system these cables would suit, even handed and easy going comes to mind. Playing some new music by Kennedy, Miteau and Segal "Cross Border Blues" has a lot of Cello and Harmonica, the coppertone gives a great rendition of the textures, every oscilation and vibration is played out with an effortless ease. Vocals have a reality and human warmth that is well appreciated, no fluffing of the leading edge of the words being sung. There are no real issues with this cable I can identify, if I was pushed there is possibly some loss of detail in the top / mid range, but this is compred to the cables costing many times the price from the same stable. This shouldn't stop you trying and buying this cable, the overall balance is very good indeed.

CONCLUSION

Another great cable from Black Cat. Chris Sommovigo has delivered an entry level cable into the big league. An even and very balanced cable with great sonic abilities that should fit into many systems. Although not cheap, and in a very competitive market, the Coppertone can stand shoulder to shoulder with it's competitors, the even handed and balanced sound could make this a great choice for many venturing onto the upgrade path.

AT A GLANCE

BLACK CAT COPPERTONE SPEAKER CABLE AND RCAs



BLACK CAT COPPERTONE SPEAKER CABLE AND RCAs

Hand made quality and matching sound, one more for the must audition list. If you haven't heard Black Cat before this should be on your list. Simple ideas well executed.

Build Quality: Really good, the usual Black Cat standards.

Sound Quality: Even handed and will slip into many systems.

Value for Money: This is a tough sector at these prices. A lot to choose from.

Pros: Nice well built cables, very flexible and easy going on the ear.

Cons: This price point is a very competitive one. A slight rounding off of the upper mid-range and top. Nothing huge but an overly warm system may not bring out the very best in these otherwise great cables.

Price: 3m (pair) £276.



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