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BESPOKE AUDIO C^o

Biography & Philosophy

The Bespoke Audio Company is a private limited company formed, owned and operated by Lucy Gastall and Harry O'Sullivan.

We have many years of experience in the design and manufacture of world renowned audio transformers and award winning audio products, having worked together alongside an acclaimed audio designer in our previous roles. This experience was vital, both in terms of an exceptional grounding and insight into our profession, but also in terms of developing a desire to pursue excellence.

Lucy has a deeply held passion for the aesthetic, for excellence in design and for perfection in execution. She enjoys collecting antiques, from furniture and kitchenalia to historical architectural salvage and haberdashery. She is an avid reader and is rarely seen without her Kindle. She enjoys rally driving with her father in the 1959 Austin A35 they refurbished together and has had articles published in Practical Classics magazine about their adventures.

Harry comes from a professional audio background, having spent years working in live sound, engineering countless live music performances, from rock to jazz, classical to electronic, from tiny bars to festival stages. He plays guitar with a local band and as part of an acoustic duo and operates a small, not for profit, rehearsal studio in Hastings. He also has a small home recording studio which he uses to record local bands and singer/songwriters. He still regularly works as a sound engineer, albeit in a scaled down capacity and welcomes the luxury to pick and choose the more interesting shows!

We share a passion for music and we founded The Bespoke Audio Company on two principles: to hold the experience of the customer as paramount and to accept no compromise in anything we do. We want to raise the standards of what can be expected from a high end audio company. Nothing less would be good enough for our customers, nothing else will do for us.

The Bespoke Audio Company gives us the freedom to set our own high objectives and to succeed or fail on our own merits.

Technical

Why a pre-amplifier?

A pre-amplifier is the control centre for your whole system. It's the interface between your sources (CD, Turntable, Tape, etc.) and your amplifiers.

Put simply, your pre-amplifier lets you select which source you are listening to, and how loud it is.

Everything is connected here, it's the heart of a high end audio system.

Why a passive pre-amplifier?

To be clear, our opinion on the merits of a passive pre-amplifier over an active design is only that: our opinion. It is also inherently biased, since we make a passive pre-amplifier! There are many music lovers who use an active pre-amplifier and enjoy exceptional sound from their systems. There is no right and wrong in music reproduction, there are only preferences.

Modern sources have output levels which are more than capable of driving amplifiers to their maximum volume. So, a pre-amplifier is almost always used to reduce (or attenuate) the signal level. Since there is no need to increase gain, the active element of a pre-amplifier could be considered to be effectively redundant.

Unfortunately, even though they are redundant, the active electronics can cause problems:

- Active electronics introduce noise. This is often heard as a hiss when no music is playing, but it's also there when music is playing.
- Active electronics rely on the quality of their power supply. This can be a problem because good internal power supplies are expensive and difficult to make and because even the best power supply is reliant on the quality of the mains electricity feeding it, which is often far from perfect!
- Active electronics can cause distortions. "Distortion" doesn't always mean the sound of a fuzzy electric guitar. In this instance the term "distortion" is simply defined as changes between the signal going into the pre-amplifier and the signal going out. Unless an active circuit is exceptionally well designed it is likely there will be some distortion, however small. In a good design, this distortion might be so small that it's nearly inaudible, but it is always there. And of course, not all designs are good!

Of course, in some circumstances, for some listeners, an active pre-amplifier is preferable. It might be that the active pre-amplifier adds something to the sound in a pleasing way. It might be that the active pre-amplifier's sound, when balanced with a particular sound elsewhere in the system results in a neutrality, or in a performance which the listener enjoys.

Our approach is that the loudspeakers should be suited to the room, the power amplifier should be capable of driving the loudspeakers and the pre-amplifier should be as transparent as possible. Any particular sonic signature the listener prefers should ideally come from the source or from the loudspeakers. The amplification chain should offer neutrality, otherwise there is potential for the system to operate as a kind of “see-saw” where each component's performance is dictated and affected by the others. This approach can, of course, result in excellent performance, but it can prove a problem when one or other part of the chain is changed.

Why a transformer passive pre-amplifier?

One option is to simply remove the active element of a pre-amplifier and just use the volume control (either as a potentiometer or as a stepped resistive “ladder” attenuator) – called a resistive passive pre-amplifier.

This partially ameliorates the possible problems associated with active electronics (above), but there are some technical issues. Briefly, relying on only resistive attenuation can result in very poor impedance matching. This can lead to problems with high frequency response and may explain the common perception that passive pre-amplifiers lack “drive”. In order to minimise this effect, it is necessary to use short interconnects, and to pay careful attention to the source and load impedances.

The results with resistive passives can be excellent, but the technical limitations can mean that compromises must be made elsewhere in the system (cable length and the specifications of other components), which might not be ideal.

Another solution is to use a transformer with a multi tapped secondary winding to allow it to step down the level in various increments – a Transformer Volume Control (TVC).

A good analogy here is with a car. Using a resistive passive is a little like putting the brakes on, it's inefficient. Using a transformer is like changing gears – the engine is always working at it's optimum pace, we're simply using gears to adjust it's pace to our own preference.

There are many other benefits to using a transformer, not least of which is the ability to convert balanced and unbalanced signals in either direction. There's also the ability to completely isolate/decouple the source and load (called Galvanic Isolation), to break ground loops and further minimise noise.

Why The Bespoke Audio Company?

We've been involved in the design and manufacture of multiple award winning audio products for the last ten years. We are confident we have the experience, the know-how and the proven track record to supply and support high end audio products and their proud owners.

Right from the start, we wiped the drawing board clean and worked to remove any restrictions. We worked with, and consulted with, other designers. We spent time with a local electronics genius, who is also an enthusiastic audiophile and who has a unique

perspective, informed by years of servicing and repairing vintage hi-fi. His input was particularly useful because he has very little experience in transformer design, so was able to help us approach things from a perspective less prejudiced by habit, convention or engrained thinking.

In simple terms, a transformer is made by forming a wire coil around a core. The wire itself is wound onto a bobbin and the core is inserted into the bobbin (and therefore the coil). In order that our transformer design would not be constrained by commercially available components, we designed our own bobbin. This means we have more space to experiment with winding design and we can use a larger core, to great effect.

We experimented a great deal over many months with different approaches and designs. Transformer design follows basic rules of science, of course, but we wanted to see what would happen if rules were ignored. The luxury of time to experiment like this meant we could try things that would not normally be given consideration. Breaking with convention usually produced predictable test results, but the sonic performance wasn't always as expected, and this meant the potential existed for progress and spurred us on to keep experimenting.

Over time we narrowed things down to a few different design options and we built basic pre-amplifiers into identical (off the shelf) enclosures. We gave these pre-amplifiers common English male names like Nigel and Roger to try and remove any preconceptions, then sent them out to various listeners whose opinions we value and asked them to try these prototypes in their systems and let us know what they thought.

The response from the listeners was very positive. We found an instant, universal and compelling opinion prevailed and we were reassured that after many months of learning and experimentation, we'd found what we were looking for: a design which we feel pushes sonic performance beyond what could have been expected before.

Unfortunately, the transformer had become too large to fit into readily available shielding cans so we had to have a tool made to manufacture our own Mu-Metal cans. Our helpful local electronics engineer explained that in his experience of repairing older equipment he'd found the petroleum wax used to pot transformers was corroding the lacquer on winding wire. Eventually, over an extended period, this caused transformers to fail completely, but he also speculated that before this total failure, there must also be a point where the transformer's performance will be impacted. For this reason, we chose to pot our transformers in beeswax.

We've taken the same care and applied the same meticulous attention to every aspect of our pre-amplifier, from the exquisite casework to the individually printed owner's manual. Finally, we strive for complete excellence in the supply and support of our product, from the first enquiry to the delivery of the hand made unit itself and beyond. Our products carry a lifetime guarantee, so it's not unreasonable to say the service lasts forever.

The Bespoke Audio Company, we suit you.

Lucy Gastall & Harry O'Sullivan, March 2015.