CHASE

FEATURE

Sonic boom!

LEIGH DE VRIES of Rotherham Open Arts Renaissance (ROAR) meets sythesiser wizard Alan Jackson

PREPARE to be immersed in a world of sonic experimentation and boundary-pushing innovation, courtesy of the extraordinary Rotherham native Alan Jackson.

Alan's journey has led him down a path of unparalleled creativity, culminating in the development of a modular synthesiser that challenges convention and offers sounds unlike any other.

His unique DIY philosophy blurs the lines between music, sound, and noise, resulting in a mesmerising two-way creative process.

The journey has led Alan to have a very deep understanding of the signal paths within the synthesiser and how that shapes the sound. Beware though, this is a hobby that can become an obsession!

At the age of seven, Alan began taking music lessons, learning to play the clarinet, and continuing to hone his skills throughout his schooling. It was during secondary school that he began to take an interest in classic and progressive rock, and began teaching himself to play the guitar. He played in multiple bands in his late teens and early twenties, and developed an interest in synthesiser music, inspired by bands such as Hawkwind, Pink Floyd, and Yes.

However, his career and family took precedence over his musical endeavours, and he stopped playing in bands.

But after his children had left the nest and he had more free time, he built a home studio and began recording guitars and keyboards. He even joined an old bandmate to play bass at open mic nights.

In 2017, Alan visited the Synthfest exhibition in Sheffield, where he was captivated by the modular synthesisers. While the cost of the individual modules was too much for him, he was determined to pursue his interest in the instrument. He returned the following year, and noticed a larger representation of DIY enthusiasts building their own noise boxes and modular systems from scratch. It was then that Alan realised he could create his own system without breaking the bank. He had a limited knowledge of electronics, but it was enough to get him started.

It was then that the CuSi Sound project was born. The name comes from copper (Cu) and silicon (Si), the two components used to create the electronic sounds.

Alan set up a YouTube channel to share his journey with other DIY synth enthusiasts, and to give back to the community that had helped him get started.

Alan began his journey by constructing small circuits running off batteries, which he put into little wooden boxes. Through this process, he realised he was creating a modular synth system, known as the Little Boxes Orchestra.

His knowledge and confidence grew, and soon he was ready to construct a full-on modular synthesiser, Project XII. This system was named after many of the modules requiring a +/- 12 volt power source. Alan kept cost and complexity to a minimum, so some of the circuits do not follow industry standards. This means that if a commercial keyboard controller is plugged into some of his oscillators, the sound will not be in tune. This does not bother Alan, as he sees it as an opportunity to explore new sounds and techniques.

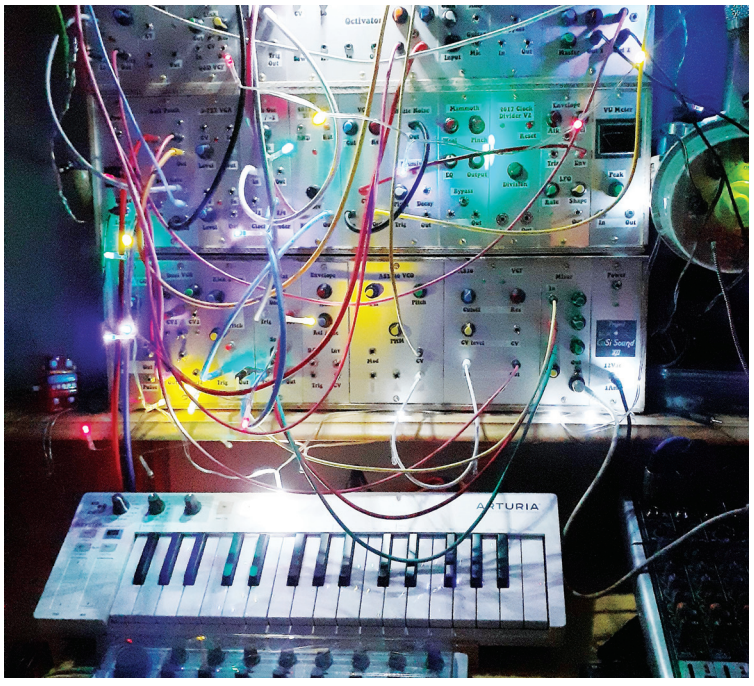
After constructing Project XII, Alan began to use it to make music, recording in his home studio.

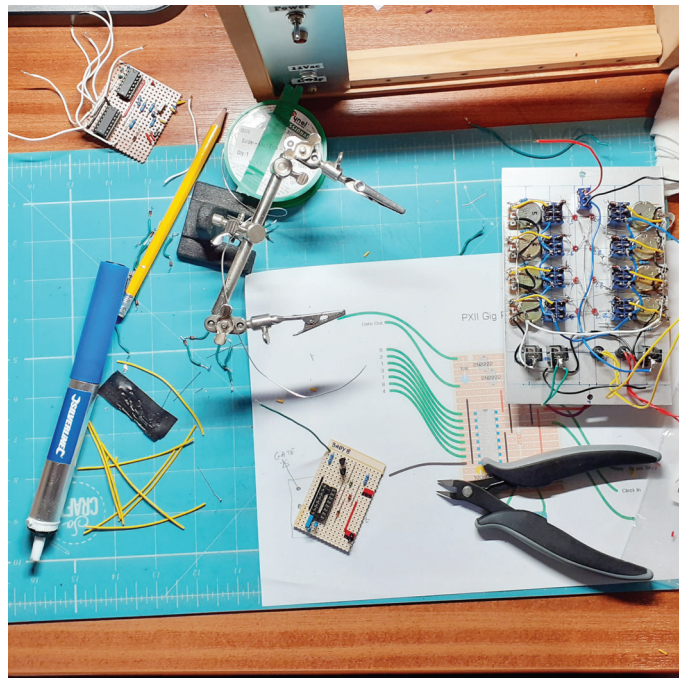
He also posted build videos on Youtube for others to follow.

Alan then began producing his own music videos, as part of the Modular Nights series. This series consists of live studio performance recordings, as Project XII does not have preset sounds or memory storage which means that each performance is a one-off experience. Alan also adds additional elements like piano, guitar, bass, or less formal items such as tape loops, field recordings, or walkie talkies.

Alan is a man who takes pride in the details. When he builds his Little Boxes and modular synths, he doesn't simply assemble pre-made components — he designs everything from scratch, right down to the type, colour and layout of the controls, and even the placement of LED indicators. For him, the visual design is just as important as the audio. He believes that playing the synth should be a full audio-visual experience.

In fact, Alan has even developed his own design standard for his synth modules, one that does not conform to the commercial Eurorack standard. His main motivation for this was to keep costs down and ensure the availability of materials. With stand alone boxes, he is free to push his design concepts even further. While most of the Little Boxes use ready made boxes from the art supplies shop, he occasionally creates a concept from scratch, making and assembling most of the components himself.





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As for music, Alan believes that he has only scratched the surface of what can be achieved with Project XII. He's also interested in exploring other electronic music genres that he's less familiar with, such as noise and ambient.

These unique, bespoke pieces are one-offs that will not be repeated.

One example of Alan's bespoke designs is the Audio Generator MK1 and its associated Stepping Sequence Control. Inspired by Victorian inventors, the Audio Generator MK1 produces classic 8-bit computer game sounds, using a low frequency oscillator (LFO) to modulate the sound and the ability to control the pitch from an external voltage control (CV) signal. The device is housed in a varnished wooden box, complete with wing nuts to hold the lid on, chicken head knobs and chunky switches that lend a vintage feel. Alan even created his own glass tube indicator lamps using LEDs and perspex rods, achieving the right effect without venturing too far into steampunk territory.

The Stepping Sequence Control is a four-step sequencer that produces a control voltage, with each step controlled by turning the knobs. There is also a control for the speed of the sequence. When the CV output is applied to the Audio Generator MK1 input, users can play simple four-note tunes in a way that sounds unlike any other music box.

Another example of Alan's one-off design concepts is the Bug Jar. Inspired by his childhood habit of collecting garden bugs in old jam jars, Alan used the "dead bug" circuit construction technique to create a jar with circuits that chatter and squeak like insects. The jar contains two oscillators that modulate each other and a small amplifier with a speaker. Alan drilled a hole in the glass jar and mounted the speaker, then glued the dead bug circuits to the side walls of the jar. The entire device is powered by a small 9-volt battery, mounted in the bottom of the jar. On the lid, there is an on/off switch and pitch controls for each oscillator, with the amplifier volume fixed. By adjusting the pitch controls, a wide range of sounds can be produced that, at times, sound like bugs trapped in the jar, with the small, squeaky speaker adding to the effect.

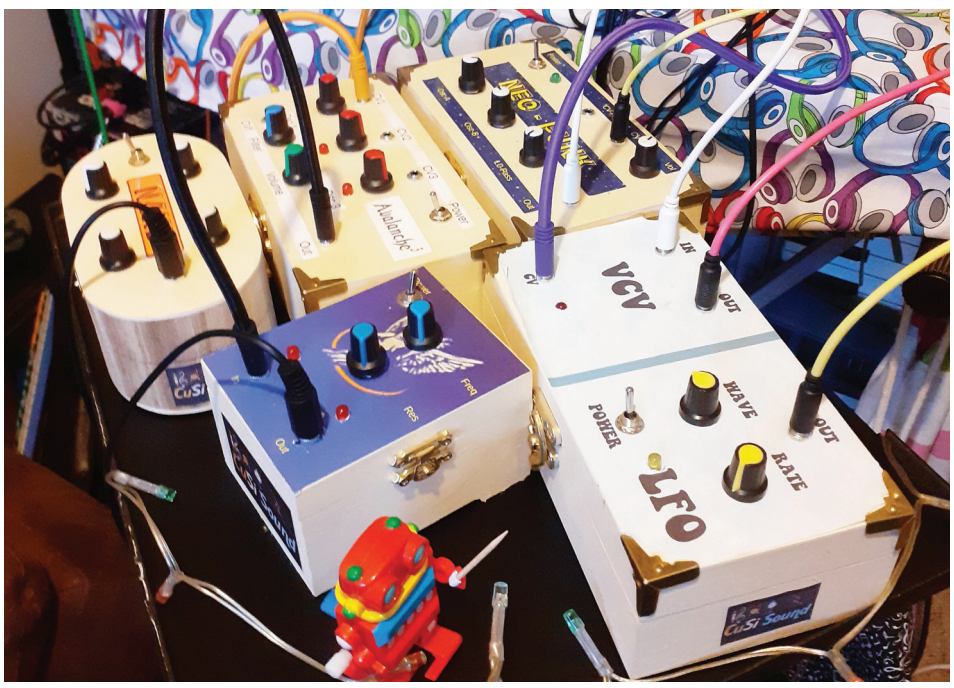
Alan's CuSi Sound project began as an affordable way to explore the world of electronic music. As the project has grown, he has tried to keep accessibility in mind, even starting a YouTube channel to share his journey through the world of DIY synths and electronic music. Through the channel, he has connected with like-minded enthusiasts all over the world. While the build videos are particularly popular, generating positive feedback and questions relating to circuit design, the Modular Nights videos are more experimental and don't fit neatly into mainstream categories like EDM. Alan isn't concerned, however, and believes that the music will attract a more curious audience. For him, making music with an instrument he built himself is an amazing experience, and he's thrilled to inspire others to do the same.

The CuSi Sound project is not yet complete, and the journey continues for Alan. He's currently working on a smaller modular synth, which will be more portable than his current Project XII, primarily built for studio use. The new synth's box will have a more robust construction, complete with a removable lid to safeguard the modules during transport. The restrictions in carrying Project XII have meant that he hasn't played any gigs outside his studio. However, he hopes that will change with his new gig rig.

Alan is also eager to conduct workshops where people can get hands-on experience with alternative electronic music. While he may build some more modules for Project XII, which already has over 40 modules, things are slowing down on that front. He has a couple of ideas for some bespoke builds, but he doesn't want to give too much away just yet. Suffice to say that the Victorian inventor may make a return appearance.

As for music, Alan believes that he has only scratched the surface of what can be achieved with Project XII. He's also interested in exploring other electronic music genres that he's less familiar with, such as noise and ambient. He's keen to delve further into techniques such as field recordings and tape loops, which he has only touched upon so far.

In the few years that Alan has been running the CuSi Sound project, he has observed the cost of commercial synthesisers decrease considerably. The Eurorack modular market has grown, including relatively affordable DIY kits. While he could probably afford to buy a small commercial synth now, he believes that what he has built offers him much greater scope. His DIY synths have a more extensive range of sounds, and he can produce something unique to his machines.



For Alan, the ability to conceive an idea, put a circuit together, and test it out is an integral part of his electronic music journey. He started out in classical music and formal education, but he had to abandon much of that formality to come to terms with playing his DIY synths. This shift gave him a new perspective on what music is and what constitutes music.

The DIY ethos provides him with the freedom to express himself, blurring the boundaries between music, sound, and noise. More than just playing music, it's a journey of discovery, where the route and destination may not always be what he thought they would be.

Alan finds it to be a two-way creative process where the synth responds to his input, and in turn, he must respond to its output. He's in conversation with the machine.

If he's inspired anyone to try building their own synth module or effects unit, there are several cheap and easy ways to begin. Inexpensive kits are available for beginners to build things like the Atari Punk Console, which will give them a literal buzz.

The CuSi Sound YouTube channel has build videos that include circuit diagrams (or links) and strip board layouts that are easy to follow. Most of the components needed can be obtained cheaply from online suppliers. There are several resources on the internet, including forums, where people can get help and advice.

Alan advises starting with something simple that gives a sense of achievement and excitement upon hearing the fruits of labour for the first time. He emphasises not to be afraid of failure since not all circuits work the first time. Trying to figure out why and fixing the problem is how he learned a lot about how circuits work. The rewards are worth the effort, but he warns that this hobby can become an obsession.

The Modular Nights Eps can be downloaded at cusisound.bandcamp.com.

FIND OUT MORE ABOUT ALAN AT:

Youtube — https://www.youtube.com/@CuSiSound
Instagram — https://www.instagram.com/cusi.modular/
Bandcamp — https://cusisound.bandcamp.co