



**What would  
someone like  
me do with a  
tiny modular  
synth?**



Jess Borders playing a Workshop System at the Dyski Sound Maps residency in Cornwall in April 2024. Find how to join yourself at [dyski.co](https://dyski.co)

The Music Thing  
Modular Workshop  
System is a complete  
modular synth. It is  
slightly smaller than  
a hardback book. It  
comes in a foam-lined  
hard case. It comes as a  
kit; you have to solder it  
together yourself. Once  
built, doesn't make any  
sound at all until you  
patch it together.  
It goes deep.

# What would someone like me do with a tiny modular synth?

Most musicians, whether they're writing songs, composing for film, making beats or basslines or noise, chase two things: We want to create something **new**. And we want to make something that feels personal, **uniquely ours**.

**But we often get stuck.**

One reason is **convention** – the familiar ways instrument tell us they should be played. Play a 909 and a 303, sound like Daft Punk. Play loud, then quiet, then loud again.

These conventions work; they're why genres sell and why instruments feel intuitive. But they also limit our imagination.

**Escaping convention is hard.** It requires confidence, trust and stamina. You'll make things that most people don't understand or like.

Another reason is **habit** – the things our hands do automatically. Pick up a guitar, and the same chord progressions appear. Open

Ableton, and the drums always seem to end up in the same patterns.

The Workshop System is designed to help you escape both conventions and habits.

It's not just a synthesiser in the sense of "this makes bass sounds, this makes leads."

It's more like a toolkit for sound-making – collection of devices to either generate and manipulate. They can be connected together in any way. And connecting other things into the system is when it really starts to get exciting.

There's not right or wrong way to use it.

There's no menu-diving, no screens. Just knobs, switches, lots of patch cables. It's like Lego: you can't really tell what's going to happen when you start snapping things together.

You can make conventional instruments—a thick-sounding monosynth, a gnarly distortion box, a stereo filter.

But often, weirdness emerges. Take a field recording – street sounds from your phone. Instead of using it as a background texture, what if it became the lead?

Run it through the pair of filters, pulling out peaks. Break the loop into pulses, using it as rhythm. Stretch it, fragment it, let it drive the composition itself.

This is modular thinking. It's not about complexity or obscurity – it's about freedom.

Over time, you can break habits and conventions to shape something that only you understand and only you can play. Something that sounds completely yours.

But don't worry, it can still be a banger.

### SineSquare Oscillators

Two simple analogue circuits, just a handful of transistors and chips, evolved from 1970s designs by Bernie Hutchins. Optimised for FM, they just sound nice, and go from melodic to CCCKKN-NEERRRK very quickly.

### Ring Mod

is a great-sounding ring modulator, also works as a simple VCA. Turns sine waves into bell sounds, drum loops into \$%@!.

### Computer

The heart of the Workshop System is a sound computer that runs on tiny program cards, each one a distinct firmware in physical form. For example, one card is a Turing Machine random looping sequencer, great for unpredictable melodies. Another is a great-sounding 90s-style Reverb. Another, a USB MIDI interface. Just swap cards, hit reset, and the module completely changes its behavior.

### Stereo In

The Workshop System is made to connect to stuff you already have. Plug in your laptop, phone, drum machine, Volca, this boosts the signal to modular level.



## Amplifier

Behind the panel is a contact mic to pick up physical sounds: switches, touches, thumps. Also a nice transistor distortion based on the Mini Moog.

## Humpback Filters

A pair of old-tech filters, designed by God's Box. Low-pass and high/bandpass outputs, clean when you want them clean, gnarly when you want them gnarly.

SineSquare Oscillators

Stereo In

Amplifier

Humpback Filter

fine

FM

Ring Mod

Lofi Mic

Stages

IN

FM

fine

FM

Stompbox

Blend

Feedback

Pedal

FM



**Stompbox**

Connects guitar pedals, with a feedback control to make boring pedals more interesting. Plus a 9v power out for pedals behind this module.

**Voltages**

*A minimum viable keyboard:* four voltage outputs, one knob, four buttons. Patch, push, change. More fun to play with than to explain.



### Mix

Is a simple output mixer, with two stereo channels, two mono channels and a powerful headphone amp with two outputs.

### Power Supply

The System runs on USB-C PD or 15-22v barrel connectors. Use battery powerbanks and laptop adaptors, most likely something you've already got at home.

### Making a sound

To make any sound at all, you need patch cables. Patch a Sine wave to the mix input. Wiggle the top knob on the oscillator and the sound should wiggle.

This simple patch is a complete instrument: one pure sine with a big knob to control pitch, and another to control volume.

A theremin, with the interface of an Etch-a-Sketch. So stop here, master this instrument and use it to make a lot of music that you enjoy.

### Slopes

Use this to create versatile LFOs, envelopes, clocks and pulses. It's very loosely based on the Serge Voltage Controlled Slope circuit.

## Can I really build one myself?

The Workshop System is a complete modular synth that you can build in an evening or two.

The really tiny active components have already been soldered (650 of them), but you need to attach sockets, pots, switches, LEDs.

If you've never ever soldered before, practise on something else first. Then, start by watching the real-time build video. It's Tom the Music Thing designer building a system and talking through the whole process in real time. The closest thing you can get to an online build workshop. It's the same length as Gladiator or Pulp Fiction, but not quite as dramatic.

## OK. How do I buy it?

Kits are made in small batches. Wait list at:  
[thonk.co.uk/workshopsystem/](http://thonk.co.uk/workshopsystem/)

Find out more at  
[musicthing.co.uk](http://musicthing.co.uk)



**Hang on, what is this for, again?**

The computer module runs on little program cards.

You get four with the kit: a Reverb, a MIDI interface, a Turing Machine sequencer and a blank.

What can you put on the blank? There's a whole community of coders making amazing things: a Braids macro-oscillator, a speak-and-spell style number intoner, a byte-beat generator, a pair of delays, a bitcrusher, a wierd looper slash sequencer, a backyard rain simulator, a Lorenz attractor, a glitcher, a supersaw, a wavefolder, a Karplus-Strong machine, a dubby chord-o-matic, a clock divider and a Euclidian rhythm generator...

And yes you can definitely you can make it other things yourself if you want to.

**"Limitations quickly become assets. The System is teaching me concepts, rather than techniques." Stoneware**

**"This project is... WOW." hawksquill**

**"What a beautiful little box." tekknovator**

**"I'm loving how much range I can find in 'simple' patches on the Workshop." Robertffff**

**"This is both my first time doing any DIY soldering and my first modular experience. I've been having such a great time exploring the system, love what you've created." Reuben**

**"The Workshop System kit has meaningfully enriched my life" Brian**

**"The largest build I've done, but very manageable thanks to a very thoughtful design, the packing of the kit, and the build video." Hardworking**

**"It's a wonderful system and I am having a lot of fun with it. I am still amazed that my terrible soldering has worked!." Fanzini**