

Sound 2025 : RRREPURPOSE

LCB Depot's exhibition & events programme highlights work from different creative practices every month.

This month the focus is on sound and music from experimental audio to live music. Exhibitions and events run from **1st - 19th September 2025**

Find out more [@lcbdepot](https://twitter.com/lcbdepot) or at lcbdepot.co.uk/event/sound2025



48K - 1bit compositions

Andy Jenkinson

An unmodified 48K Sinclair ZX Spectrum (1982) running custom software (2025) that allows the user to select and play different original compositions utilising the 1-bit internal beeper.

Rather than having a dedicated sound chip, the ZX Spectrum had only a simple one-bit speaker (wired to the MIC/EAR socket) driven directly from the CPU. Programming music means “manually” make the sound by toggling the speaker line high and low at the right intervals.

Writing music on the 48K ZX Spectrum was tricky mainly because it didn't have any dedicated sound hardware—just driven directly from the CPU. That meant you had to “manually” make sound by toggling the speaker line high and low at the right intervals, and this created a few big timing headaches:

Writing anything other than the simplest of beeps means calculating the length of time each instruction the CPU makes so that the beeper can be flipped at the correct frequency to generate a desired note and interleaving notes to give the illusion of polyphony.

The software here is used for selecting the musical piece being played - each using various tricks to achieve audibly different 1bit audio results.

Artist Bio

Andy is a multidisciplinary artist, here in the medium of 1bit music and ZX Spectrum assembly language programming.

Andy also works across different media in similar tech-restricted art forms - including performance using 1-bit audio and graphics the Sinclair ZX Spectrum, 8-bit performative work with Nintendo Gameboys and visual art using Teletext.

Andy has recently run workshops in Teletext Art making and composing music with Nintendo Gameboys. Andy also teaches music technology.

[@uglifruiity](#) (Youtube)