Antonín Gazda

installations and objects

Frequencies I Love
installation, 03/2025

Frequencies I Love is a site-specific installation at the Empire Greenhouse, Prague Castle. In collaboration with Daniel Vlček, we explored the positive effect of synthesized sound on organic processes. Sensors capture plant data (such as biofeedback) and transform it into a continuously evolving acoustic ecosystem, which enhances growth in a closed-loop system.
Exhibited as part of Ephemeral Entities, curated by Magdalena Deverová, alongside artists such as Michal Kindernay, Margarita Ivy, and others.

Involvement: Co-author, we conceptualized, assembled, programmed and installed the piece.

(click)

–arduino–touchdesigner–

Anna Šolcová / foto

Doom Doom Microbial Zoom
installation, 10/2024

Doom Doom Microbial Zoom is an installation, which amplifies and zooms in on microbial processes through sonification. The work was presented as part of the Czech project Confluence in Venice, which focuses on the connection between science and art. The exhibition took place at the Marignana Arte gallery under the curatorial direction of Lucie Drdová and Mária Gálová.

Involvement: I developed and produced the final electronics, which included sensors, solenoids, pumps, lights, displays and other components. I also provided production at the opening.

(click)

–arduino–

Aleksandra Vajd / foto

META–Amulet
object, 08/2023

A reductionist-futurist object inspired by Franz Kafka’s novella The Metamorphosis. This stylized trilobite-shaped amulet with an electrical circuit connects different planes of time - from prehistoric life to fossilization to modern electronic fossils of the future. META-Amulet symbolizes the metamorphosis between the organic, inorganic and electrical worlds. The work was created in collaboration with Artmat and Czech Centres.

Involvement: My task was to design and realize the electronic circuit, including the design of the texture, outline and text on the amulet. Daniel focused on the stylization of the trilobite.

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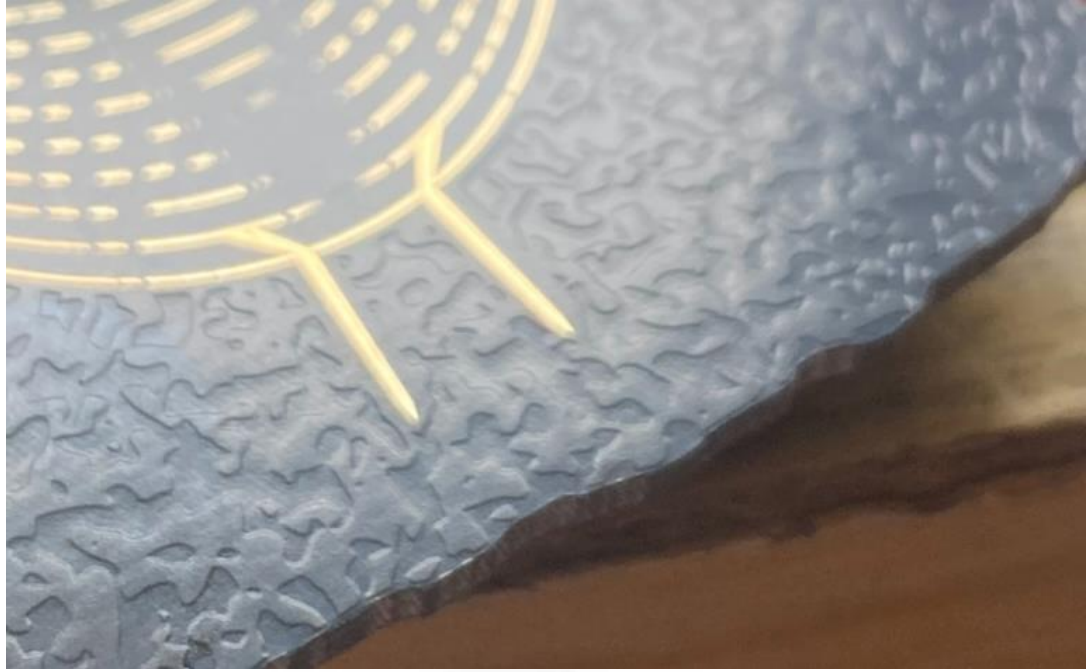
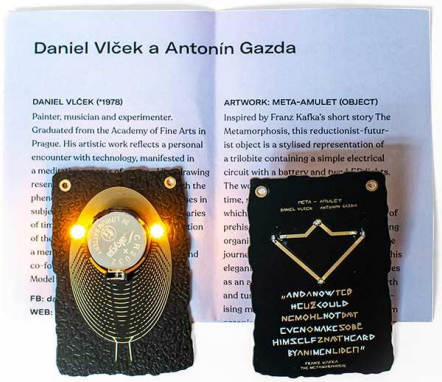
–kicad–touchdesigner–





NK Blank Panels
objects, 06/2023

Electronic circuit boards as a canvas for artistic representation. The project combines functionality with aesthetics and involves artists Teres Bartůňková, Daniel Vlček and Nathanaël Roman.

Involvement: I provided technical support to the artists in the realization of their designs, provided preparation for production and created the final design of the panels. At the same time, I established a collaboration with the risograph studio Paper Can Dance, with whom we created adapted prints.

At Transforma 2023, we organized an exhibition in a marquee where people could play the modular synthesizer, view the blank panels and prints.

(click)

–kicad–illustrator–riso–

Cécilia Noiraud / foto

Patrik Veltruský / foto

audiovisual

WAKUSHOPPU
av, 02/2024

Audiovisual project created for noise concert in Punctum Krásovka. The musicians were Jena Jang and Vojtěch Výravský, and I was involved as the third member of the project with the visual component.

The visuals were designed to reflect the emotion of the music while visually amplifying it.

I also used audio inputs to control parameters that were not distracting or overbearing, but still dynamically changed the visuals,

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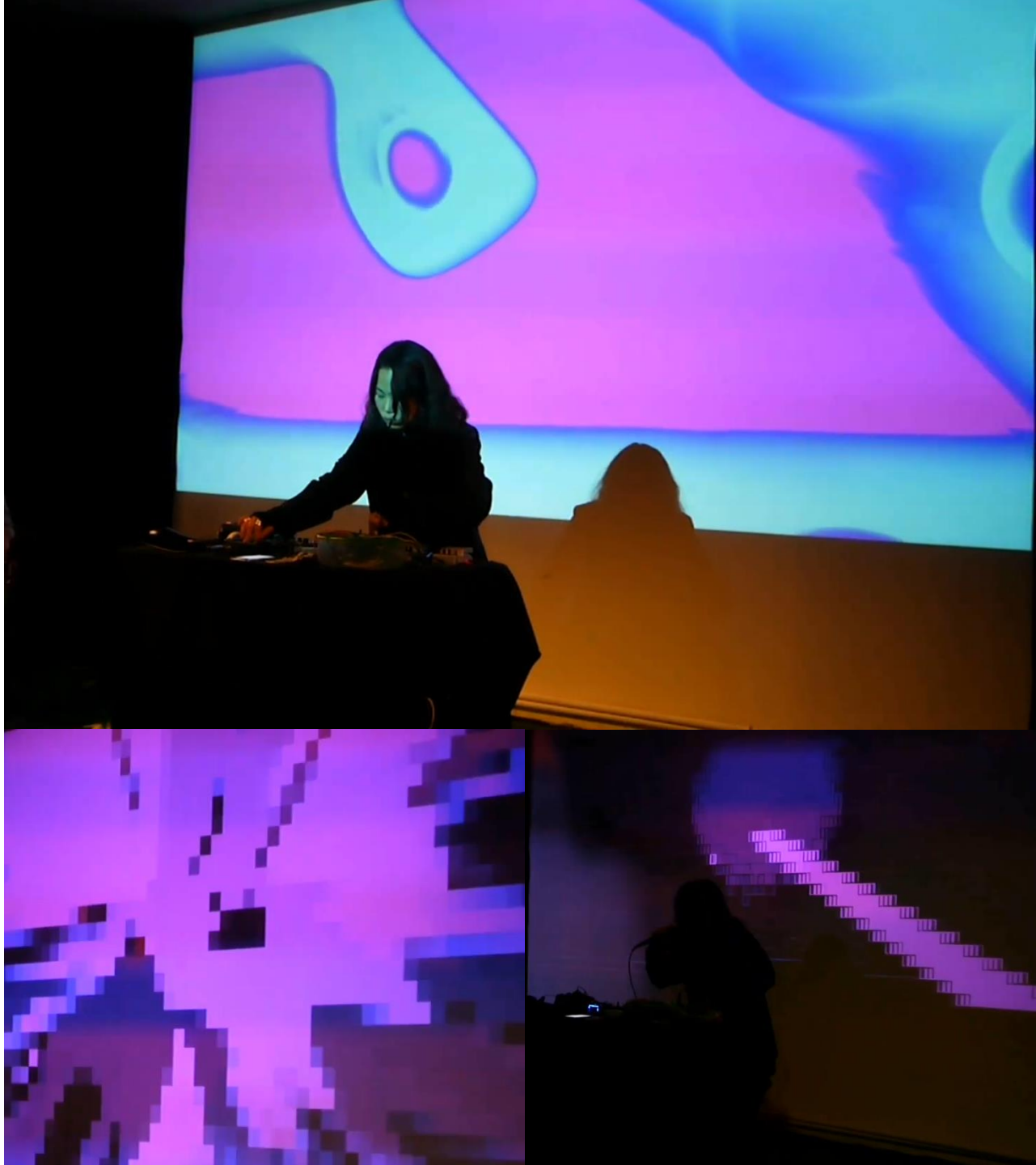
–touchdesigner–midi–audio–



Bramborack #1
av, 08/2023

This performance was created as part of the NK Bramborack Open Call, which was won by Jena Jang. As part of the project, she learned to play the eurorack synthesizer, for which I provided technical and creative support.

Her final performance was accompanied by real-time visuals. It was the first time I did live visuals at a concert. I had been experimenting on NK Open Jams for some time before that.

I used a ModuMIDI controller I designed to control the visuals, which helped me create the most appropriate controls. I focused on capturing video of the performer and manipulating it. This resulted in a vibrant and dynamic visual interpretation.

(click)

–touchdesigner–midi–ndi–

Synth Playroom – Lunchmeat 2023
av, 08/2023

At the Symposium on Digital Arts at Lunchmeat 2023, we created a Synth Playroom with Noise Kitchen, Synth Library and Bastl Instruments.

Involvement: This year I added an audiovisual patch that combined stream video and 3D objects. I developed an intuitive and playful system that made audiovisual creation accessible to a wide audience, from children to adults. Everything was easy to use with the controller, allowing for experimentation. The visuals also controlled ambient sound.

–touchdesigner–midi–ndi–vst–

Jan Havlíček / foto

AVARP 1
av, 03/2024

AVARP 1 is a project inspired by the themes of space and the music of Jean-Michel Jarre. The music for the project was created by Aleš Vejnar and others.

Involvement: The main motif of the visual part are agates, which evoke in me the transition between the living and the inanimate, their structure reminds me of the processes taking place in the universe. This contrast naturally complements the cosmic atmosphere of the project.

This project is being developed in conjunction with the upcoming release of AVARP 2.

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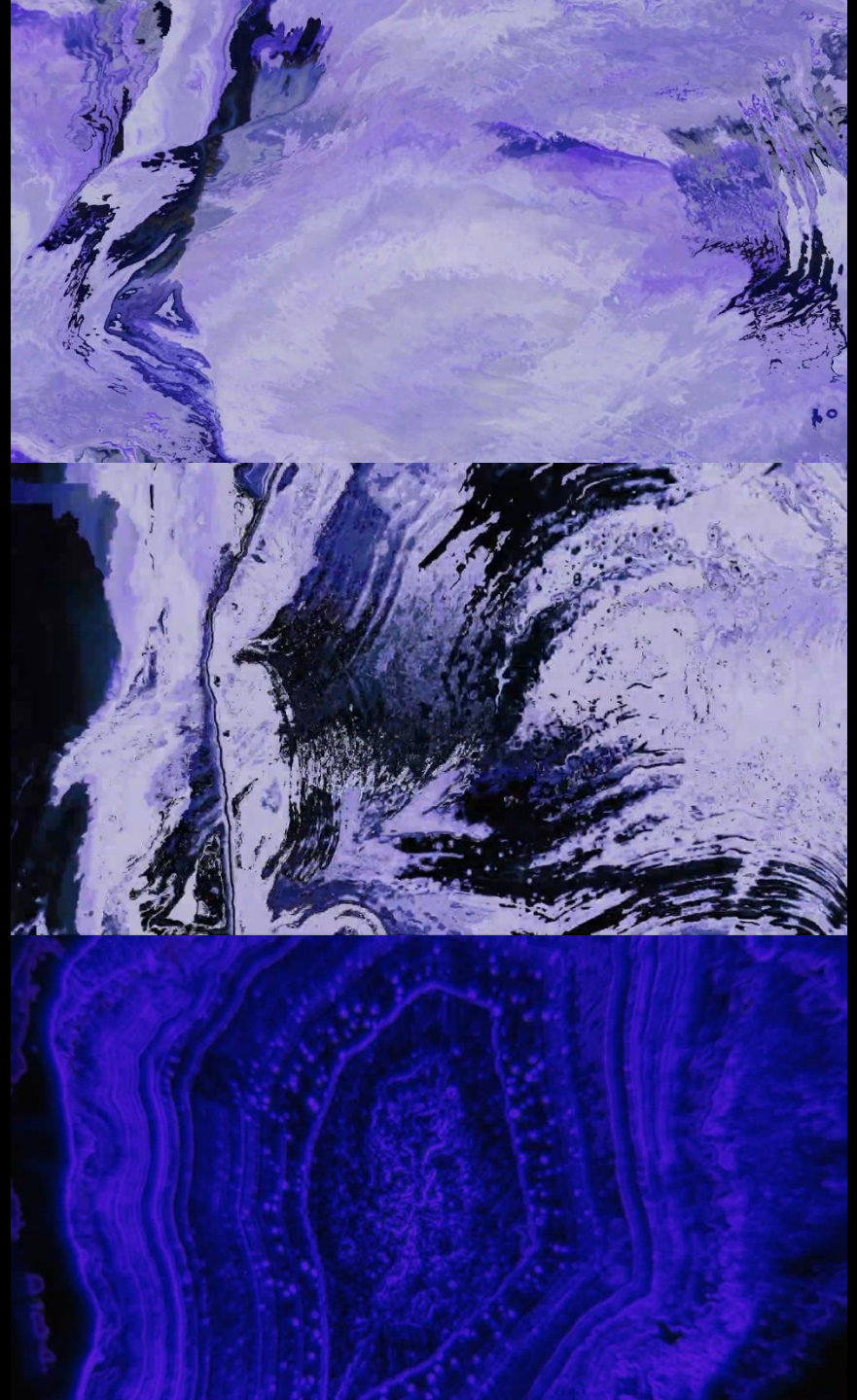
–touchdesigner–foto–



Deharmonising Lissajous
av, 11/2024

Deharmonising Lissajous explores the disruption of harmony in traditional Lissajous patterns. The patterns are created by combining two periodic signals, typically embodying perfect symmetry and harmony. I deliberately disrupt this and try to find other techniques to do so, using non-intuitive frequency adjustments, undersampling of the signal or other non-linear processes.

The parameters can be changed in real-time, other techniques are used to create the illusion of rotation.

Deharmonising Lissajous reveals the beauty of chaos and shows how breaking regularity can lead to unexpectedly compelling patterns.

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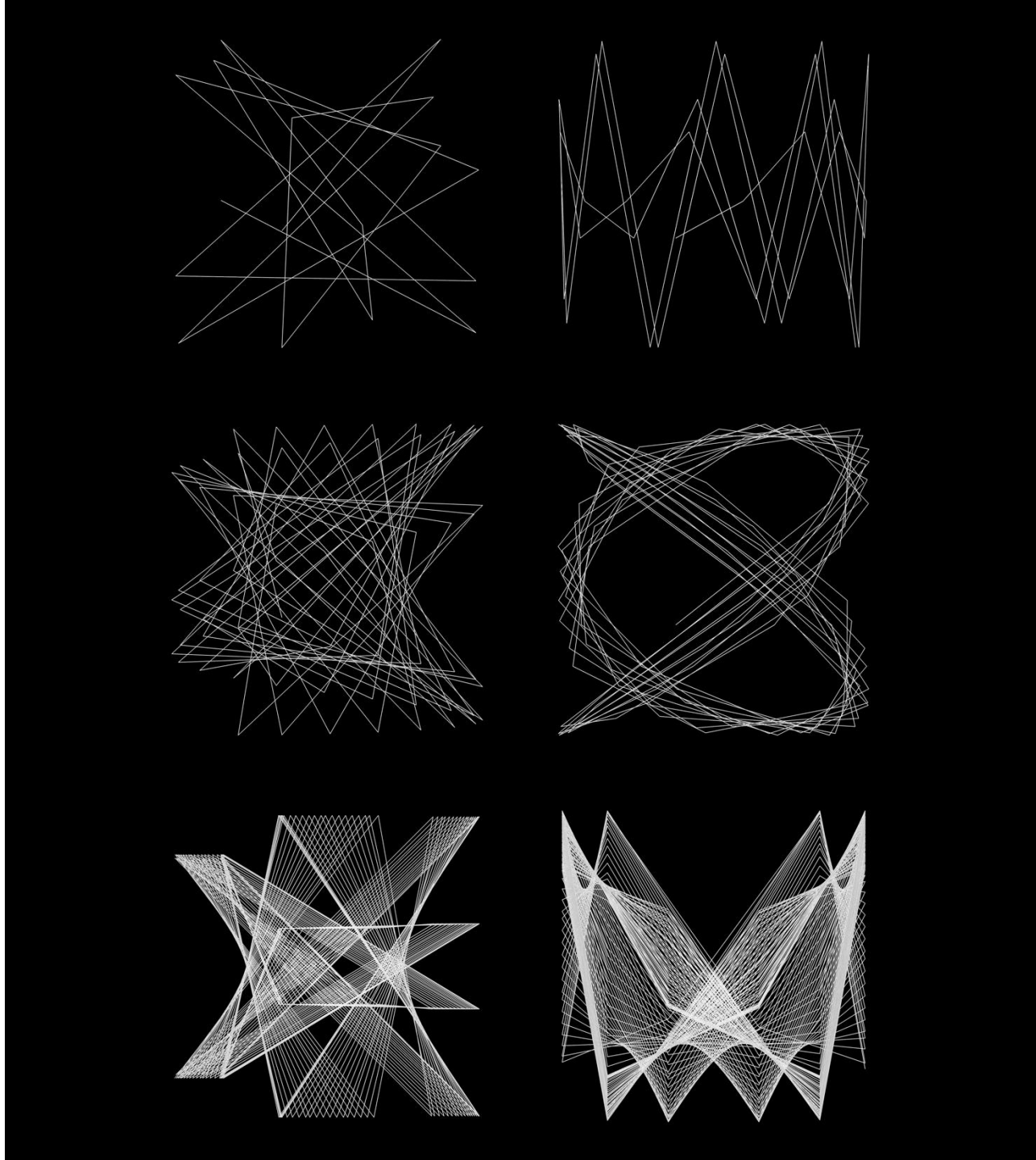
–touchdesigner–



elektro

Bachelor thesis
elektro, 06/2023

Abstract: This thesis explores the possibility of realization of an acoustic transducer performing direct analog to digital conversion and evaluates its functionality. To achieve this, an experimental condenser microphone is included into a Sigma-Delta loop. First, an equivalent circuit of the microphone is implemented, a time domain model is created and used in a Sigma-Delta conversion loop. The thesis also discusses, implements and tests hardware design of the proposed system.

I defended my thesis with an A.

In my thesis I focus more on signal processing - visualization, segmentation and sonification of ultrasonic vocalizations of laboratory rats.

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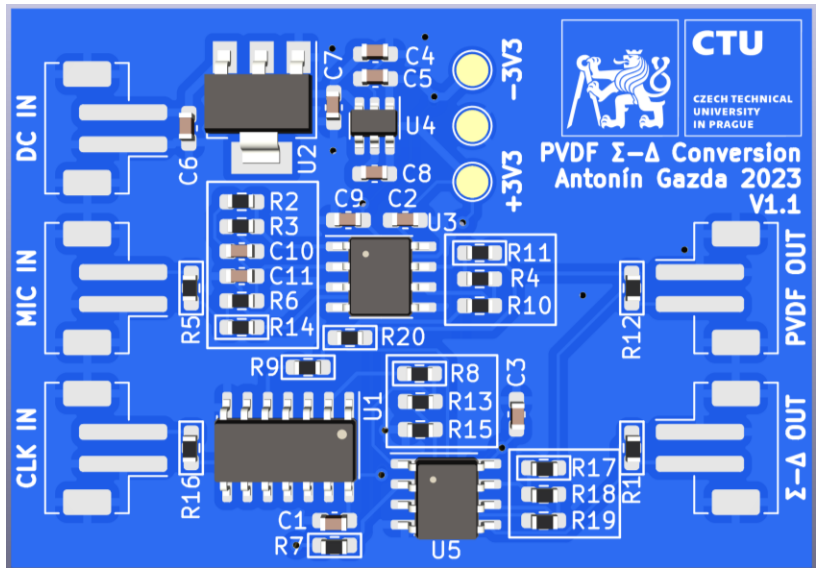
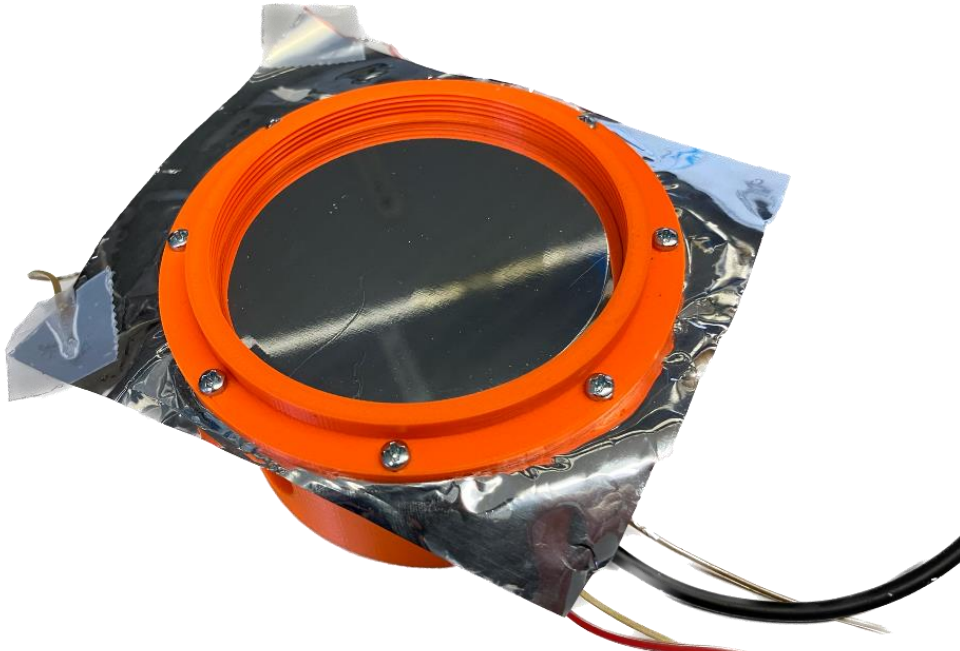
–matlab–praat–kicad–



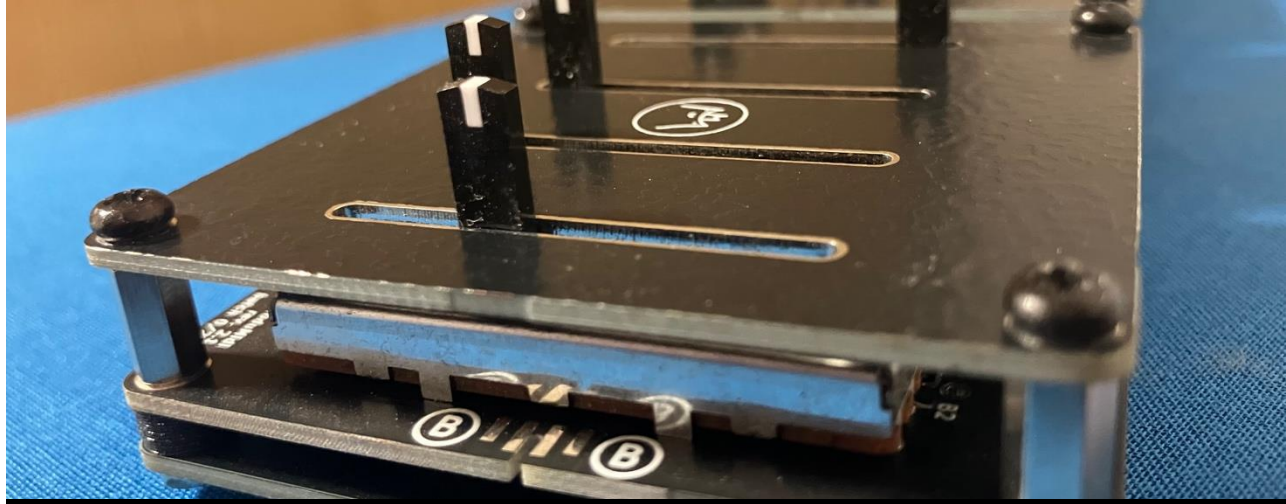


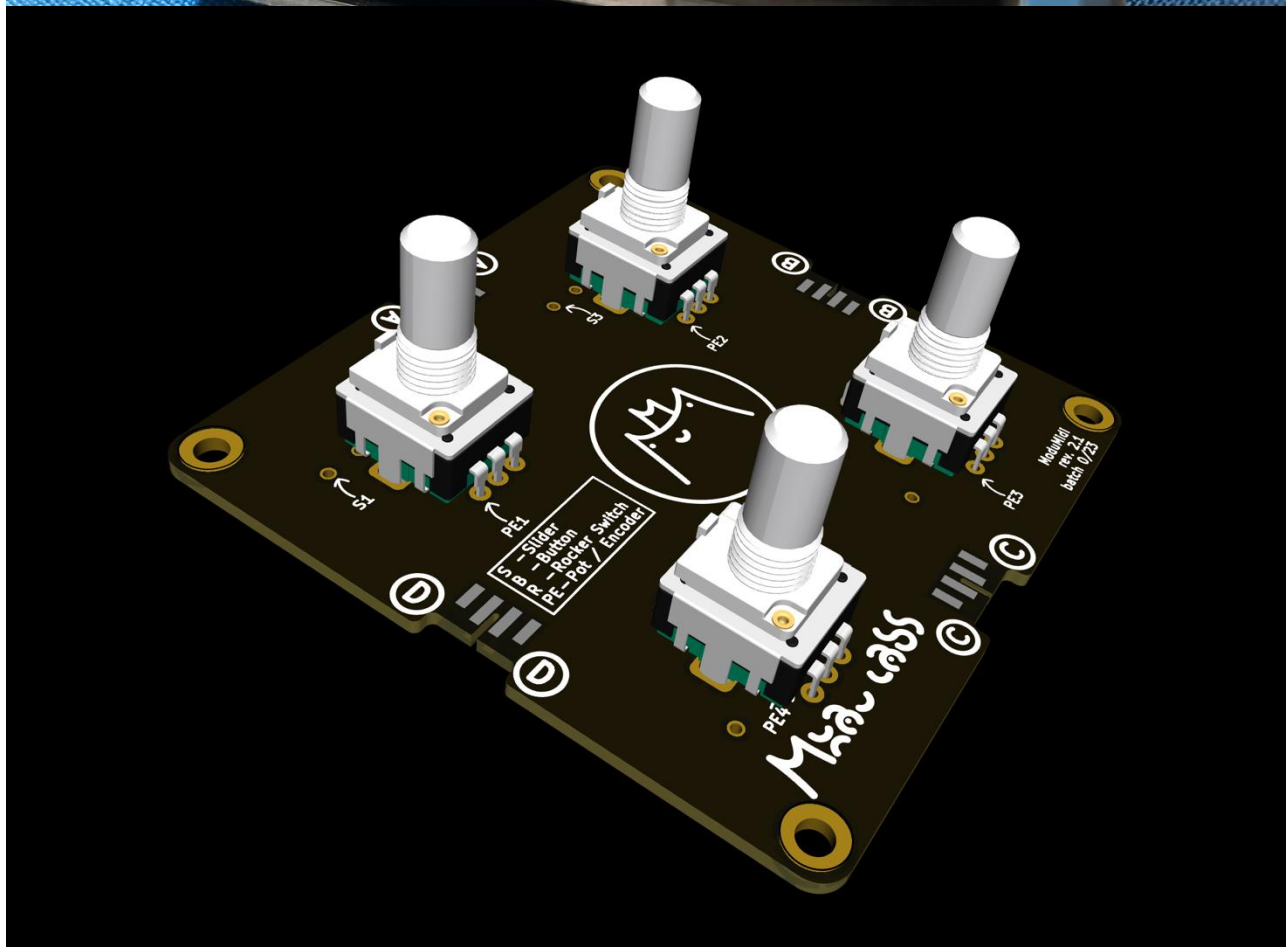
ModuMIDI
elektro, 08/2023

ModuMIDI is an experimental modular MIDI controller that I created as a tool for flexible control in various projects. The main benefit of this device is the ability to create physical controls exactly as needed, making it useful for a wide range of artistic and technical applications.

I am now actively working on extending the functionality using the OSC protocol, which will move ModuMIDI closer to versatility. The goal is to create a platform that not only supports the connection of controls and sensors, but also allows actuators to be controlled, creating a comprehensive and versatile tool for interactive audiovisual creation. This opens up new possibilities for creative work with music, visuals and technology.

–kicad–arduino–midi–





Krackonosh
elektro, 05/2023

Krackonosh is a eurorack case designed for beginners to democratize access to modular synthesizers. This project offers an affordable solution without compromising on quality, thanks to the optimization of the manufacturing process and the use of high-end components. The design is inspired by the IKEA approach.

Involvement: My main task was to create a high quality USB-C PD power supply that is specifically designed for the needs of this cue.We are working with Bastl Instruments on the project to complete the final product.

–kicad–spice–sojka–

other

RailHeads
3d, 03/2020

RailHeads is a project aimed at simplifying DIY eurorack case construction. The main idea is to create a system that makes it easy to install eurorack rails into wooden cases or build a complete case from scratch.

The project uses 3D printable components that can be easily printed on a home 3D printer.

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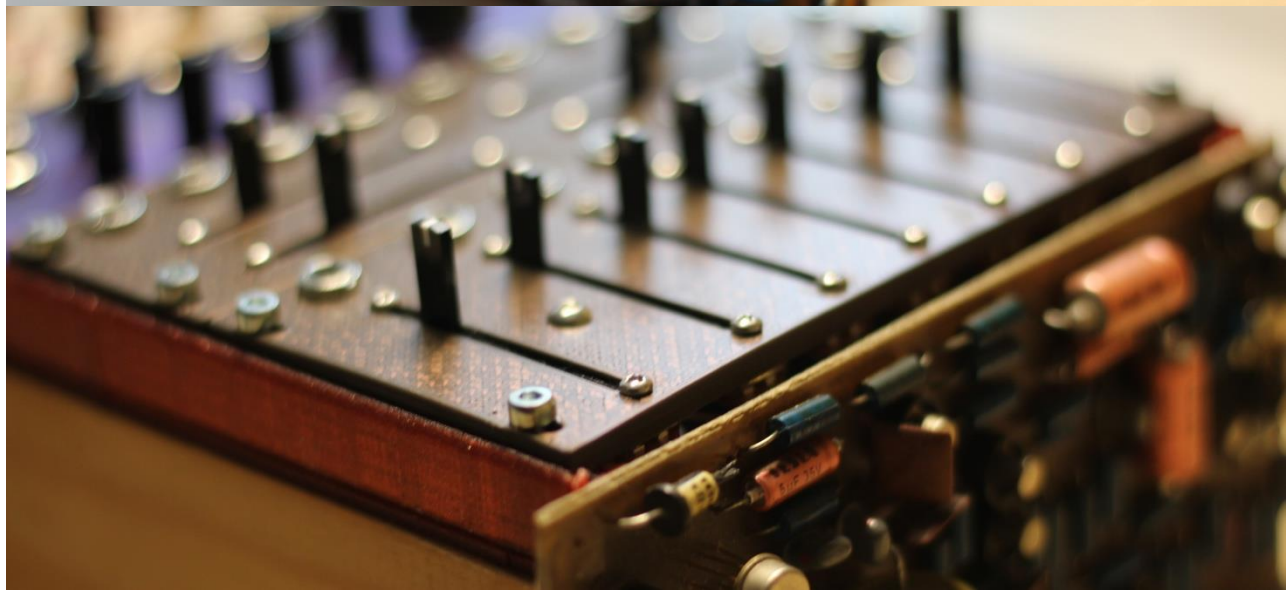
–fusion360–slic3r–

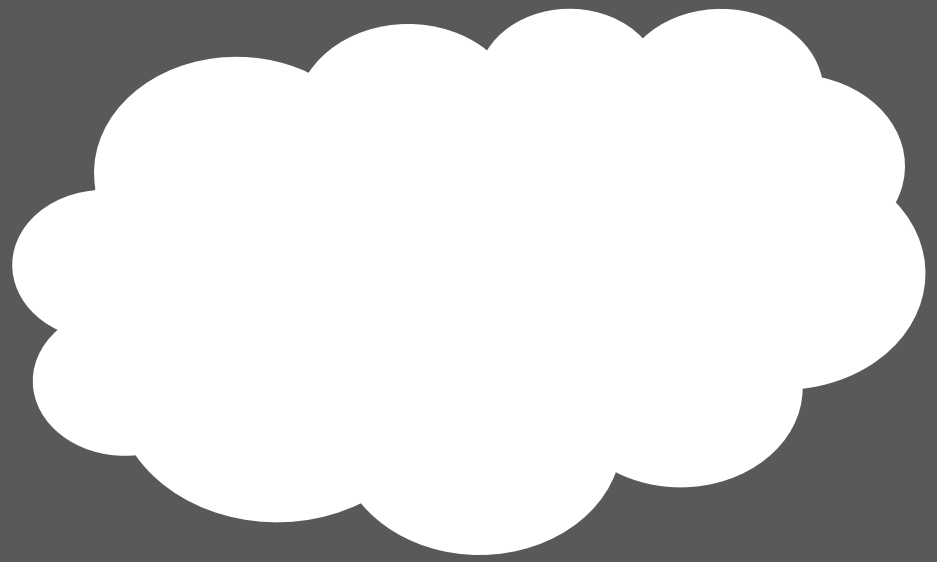


Confluence AV
concept, 00/2025

The Confluence Venezia project focused on the connection between art and science, a topic that has always fascinated me. Thanks to my technical knowledge, I can approach creation in different ways. I want to develop improved OSC sensors based on the ModuMIDI platform that will be able to sense different organic processes. These sensors should be versatile and suitable for use in various multimedia installations.

The biological processes will then drive multiple projections or screens in real time. Using nonlinear filtering in the 2D spectrum, I want to link biological processes to the frequency components of the scanned images. At the same time, these processes should also control audio.

The audience will also serve as another organic element that will directly influence the final form of the work.



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