

# Snarefication

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Additional Key Words and Phrases: Algorithmic, Resonances, Audio-Visual, Interactive, Click, Glitch, Snares, Generative, Polyphonic, MaxMSP

## 1 Program Notes

This installation investigates the resonance of metallic surfaces and snare drum snares (the strings on the underside of a snare drum). This concept forms the foundation of the work. The musical material is inspired by glitch music, in which clicks and sonic artifacts—often considered undesirable in many genres—serve as the primary material.

The pulsations and polyrhythms on which the piece is based create a form of polyphony in which each voice is accompanied by its own visual and lighting elements.

Snarefication draws inspiration from "Dust" by Rebecca Saunders [2], a unique composition for solo percussion with a duration of approximately 40 minutes, in which the composer uses a wide range of extended techniques for sound production. The sound of the resonating snare drum strings is a striking yet relatively underused effect, often treated as something to be avoided. In *Dust* and in *Snarefication*, however, it is intentionally brought to the foreground.

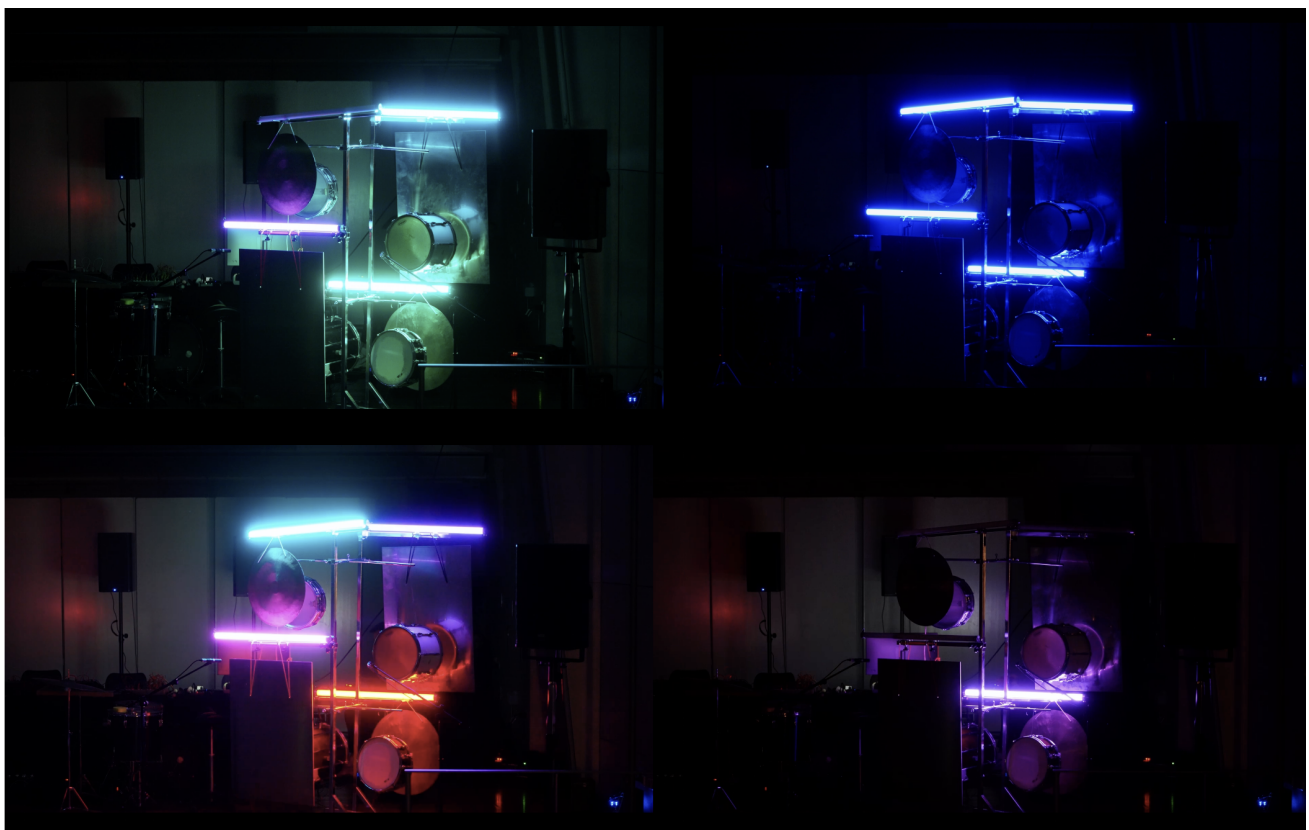


Fig. 1. Installative instrument front view; 4 different light scenes

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*NIME '26, June 23–26, 2026, London, UK*

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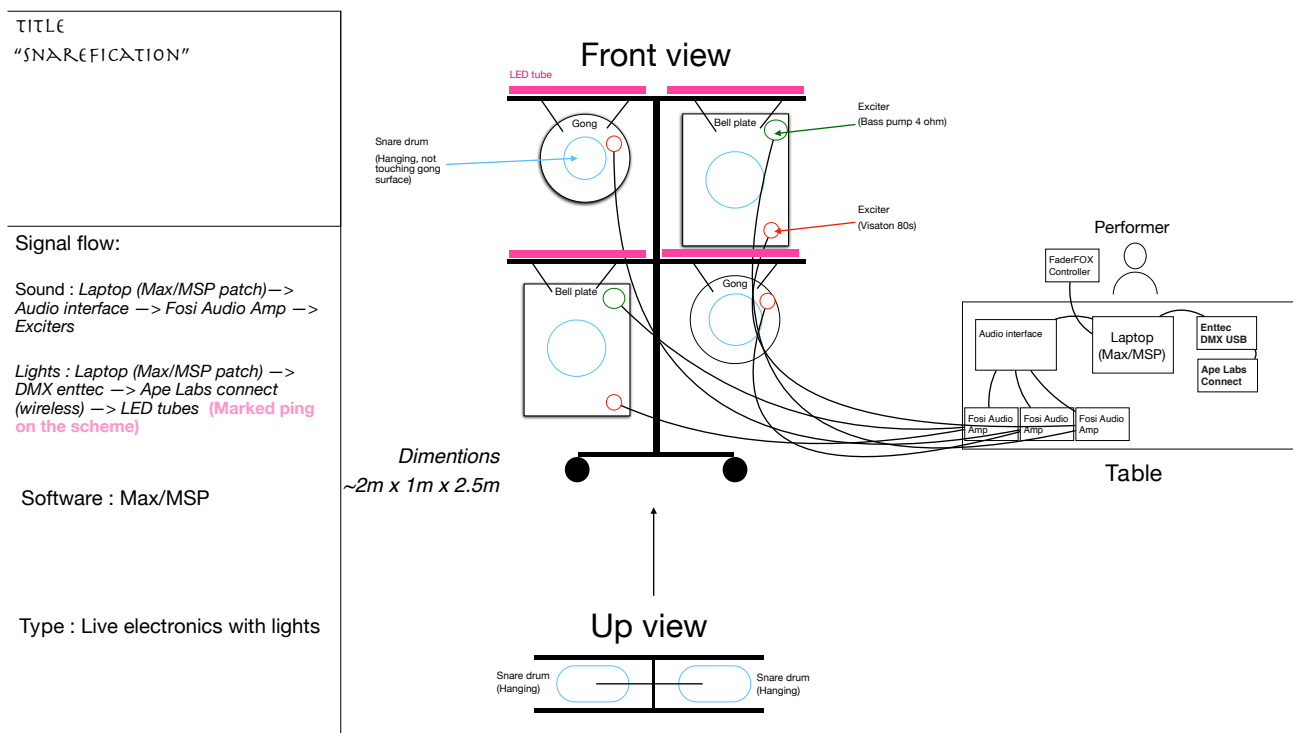


Fig. 2. Signal flow and staging. Performance variant.

## 2 Project Description

Snareification is an audiovisual installation that primarily explores the resonance effects of snare drum strings. Four snare drums of different sizes and with varying membrane tension are arranged horizontally opposite four resonating surfaces. As the drumheads resonate with the surfaces, they vibrate, causing the snare wires to produce a specific sound which, depending on its intensity, can span a spectrum from white noise to overdrive-like distortion. At the same time, the snare drums are not used as percussion instruments in the literal sense. There is no direct contact; instead, an invisible interplay with the snares creates unexpected harmonies.

The musical material of the installation is based on complex polyrhythms between the four panels, giving each of them its own voice and creating polyphony. Clicks and other elements of glitch music are also important musical components. In addition, the sonic process aims to find these resonances through portamento, both automatically and manually. [3]

The interactive visual component consists of four LED tubes synchronized with the processes taking place on the four resonating plates. This more clearly and characteristically reveals the interplay between the panels and more fully expresses the clicks and polyrhythms. The light element can also function as a counterpoint to the musical processes, forming a self-sufficient autonomous layer. [1]

The signal flow of the work is as follows: visual and audio components are synthesized via a Max/MSP software patch. The audio signal is sent through an audio interface to a Fosi Audio amplifier, then distributed to four exciters connected to resonating plates. The panels periodically enter into sympathetic resonance with the snare drum strings. At the same time, the panels themselves periodically resonate with the transmitted frequencies, greatly enhancing the amplitude of individual frequency components.

The visual component is synchronized with the polyrhythmic structure of the installation, sending DMX signals at each rhythmic pulse of each panel and changing color depending on the subdivision. In this case, the signal is sent via an ENTTEC DMX USB interface to ApeLabs CONNECT and transmitted wirelessly to LED tubes distributed across the four panels.

Rhythmic subdivisions are generated using the "Rhythm and Time Toolkit" package in Max/MSP, developed by Philip Mayer.

## 3 Media Links

- Video: <https://www.youtube.com/watch?v=fDXV1L3ynU4&t=258s>

#### 4 Technical Notes

The core structure, as well as the resonating surfaces and snare drums used, are adaptable to different venues. A dark space in which Snarefication serves as the sole source of light is desirable .

The installation can also be used as an instrument. In this case, lighting scenarios, rhythmic subdivisions, frequency ranges, the presence of clicks in the audio material, tempo, portamento, dynamics, and amplitude modulation (AM) are controlled via MIDI controllers (see Fig. 2)

#### 5 Ethical Standards

This work did not involve human or animal subjects, nor the collection of personal data, and therefore did not require informed consent. Sound and light levels were designed to be adjustable and compliant with exhibition safety standards. The author declares no conflicts of interest and no external commercial funding. Third-party software tools are appropriately credited. Sustainability was considered through modular design and low-power components.

#### Acknowledgments

The author would like to thank Prof. Dr. Nicola Leonard Hein and Kristin Kuldkepp.

#### References

- [1] Andrew Pickering. 2010. *The cybernetic brain: Sketches of another future*. University of Chicago Press.
- [2] Rebecca Saunders. 2018. *Dust; Performance notes*. <https://www.rebeccaunders.net/dust>
- [3] Simon Waters. 2007. Performance Ecosystems: Ecological approaches to musical interaction. *EMS: Electroacoustic Music Studies Network* (2007), 1–20.