STACK/SHEAR

for Analog Modular Synthesizer and Personal Computer

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Stack / Shear (2019) is a multichannel sound work that combines improvised modular synthesis performance with voltage-controlled higher order ambisonic panning techniques and chance proceduresthat determine cutting, pasting, and layering of sonic elements in real time.

Modeled after architectural strategies put forth in Lewis, Tsurumaki and Lewis' 2016 *Manual of Section*, *Stack / Shear* may take the form of a improvised performance, a fixed media work, or a generative composition to be presented in an installation context utilizing archival recordings of improvised performances.

Taking advantage of the flexibility of higher order ambisonic panning techniques using SuperCollider's SC-HOA libraries, *Stack / Shear* can be realized for a variety of spatial audio formats ranging from two to thirty-six channels of encoded audio, and exists as an architectural investigation into the physical presence of sound.

As the piece unfolds, sections are extracted from a constantly evolving historical record of the performance and re-presented using chance procedures that maintain the structural integrity of the composition.

Stack / Shear begins as a solo improvisation, from which excerpts are slowly introduced as additional layers, with inter-cuts becoming more jagged, building in complexity to a dense and dramatically shifting soundscape and resolving with a single voice that emerges from the chaos and slowly dissipates into the ether.

The length of a performance of *Stack / Shear* is flexible, lasting $20-40$ minutes.

The following pages include blank worksheets to be utilized for note-taking during rehearsals leading up to a performance of *Stack/Shear*, as well as examples of the choices made in the premiere fixed-media version of this piece, made in October 2019 for presentation at the Diffusion Festival for Multichannel Electronic Music at the Red Room in Baltimore, MD on November 9, 2019.

These sheets may be used to help with recalling specific improvisational choices made in the analog modular synthesizer part, as well as settings of various parameters within the accompanying SuperCollider script. Multiple copies may be printed and notated in the process of preparing for any given performance.
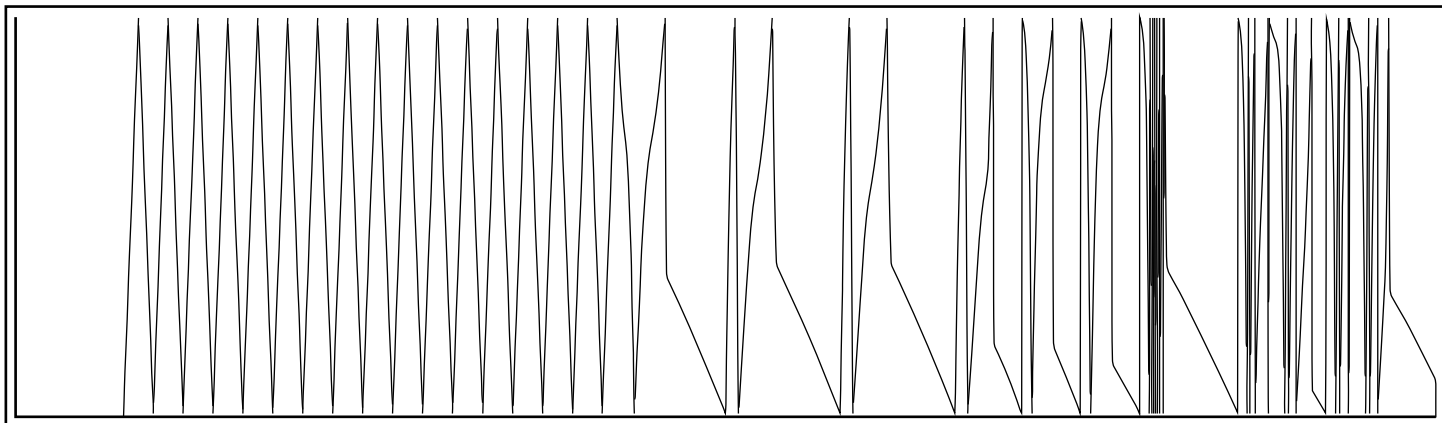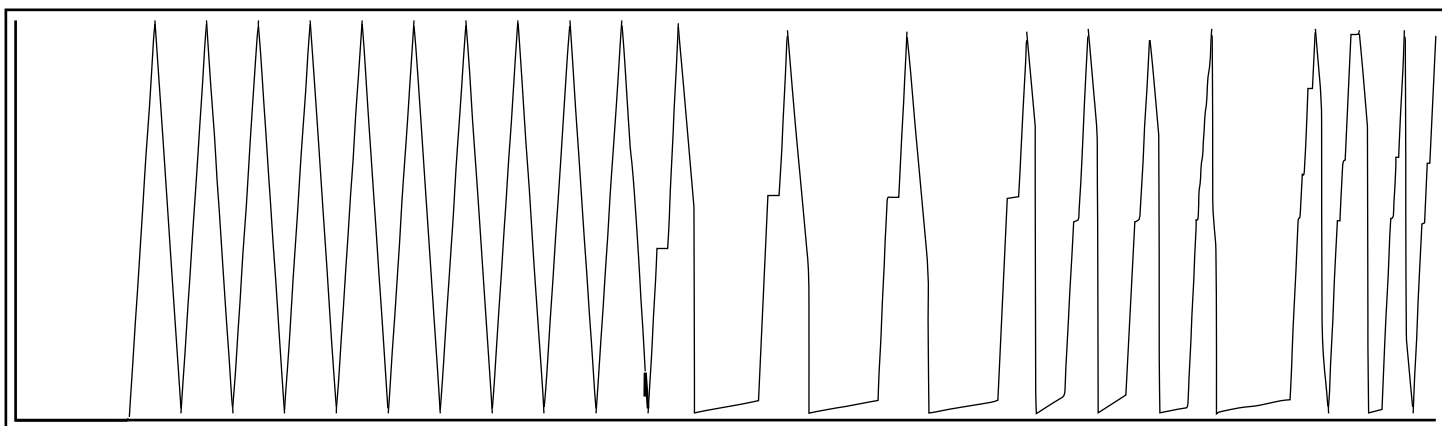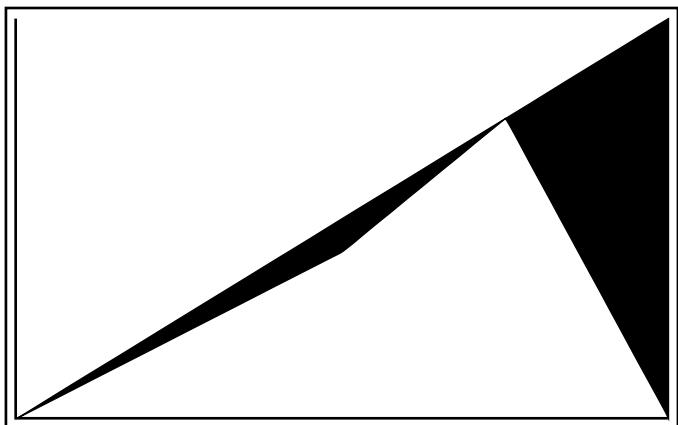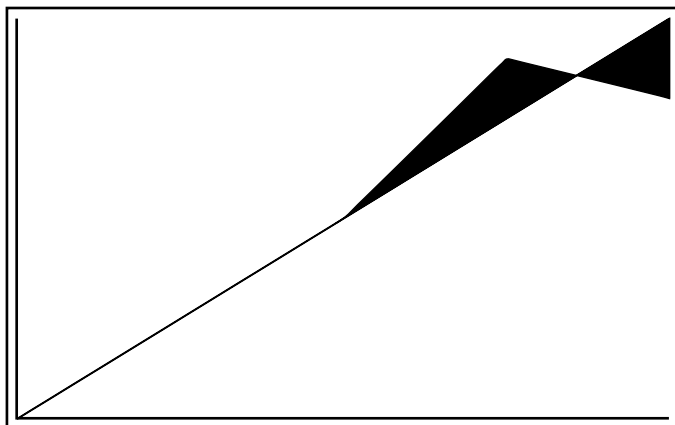
Mark Cetilia
October 2019
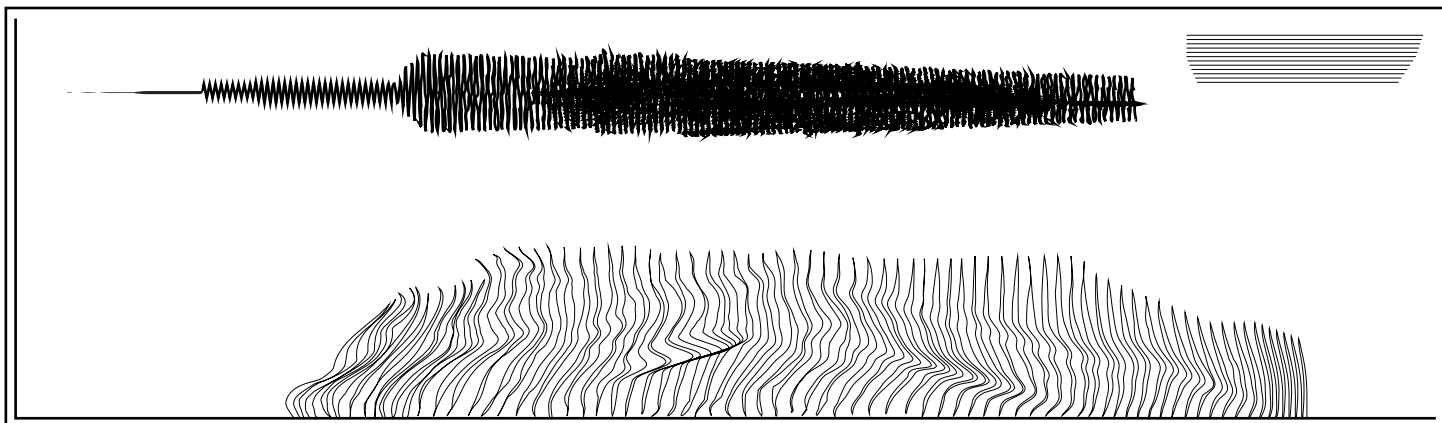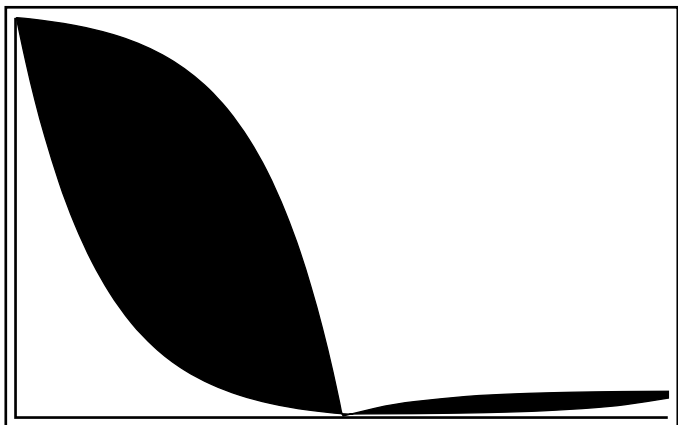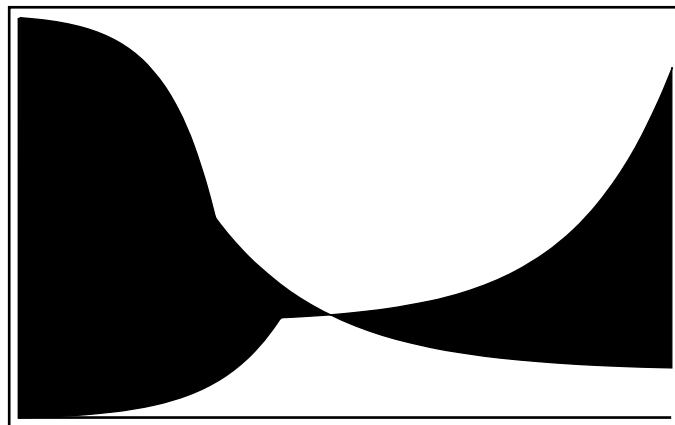
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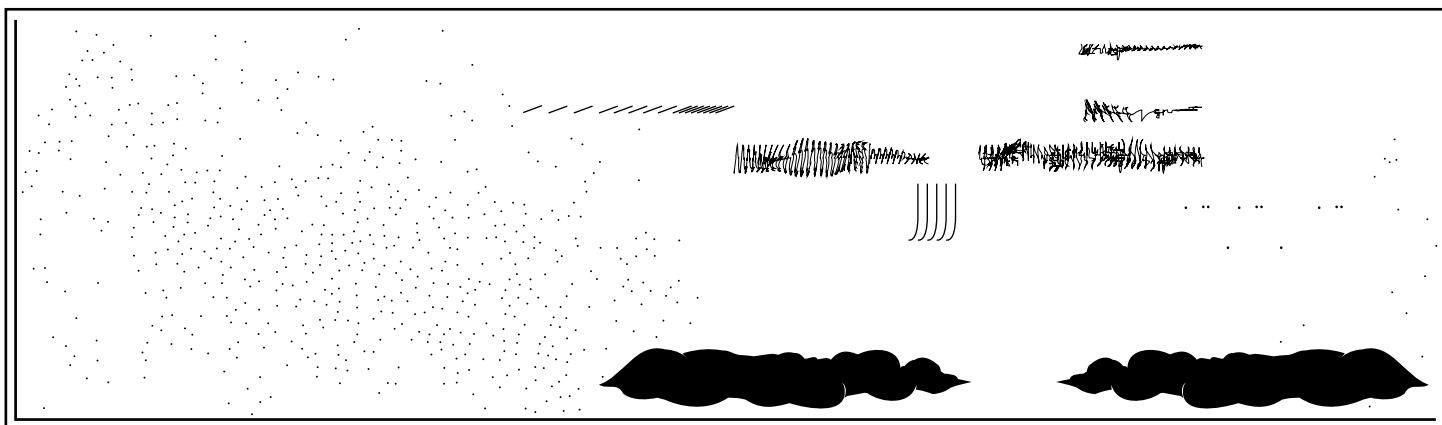
Sound Signal B
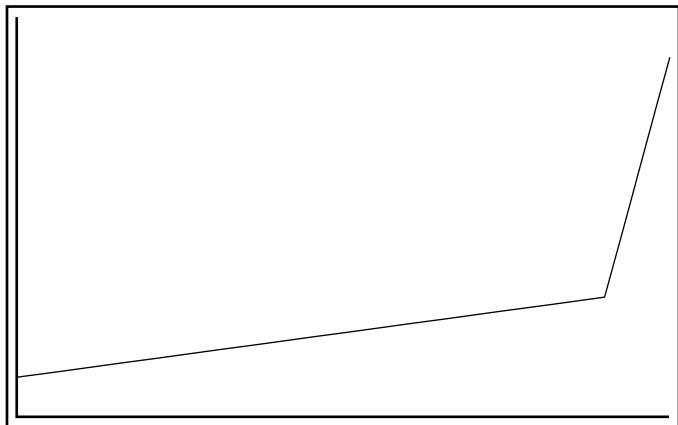
Control Voltage A

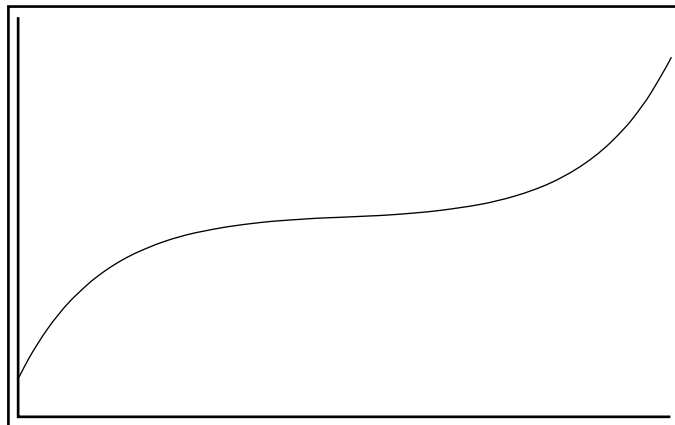Control Voltage B

Section Start

Section End

Spawn Rate

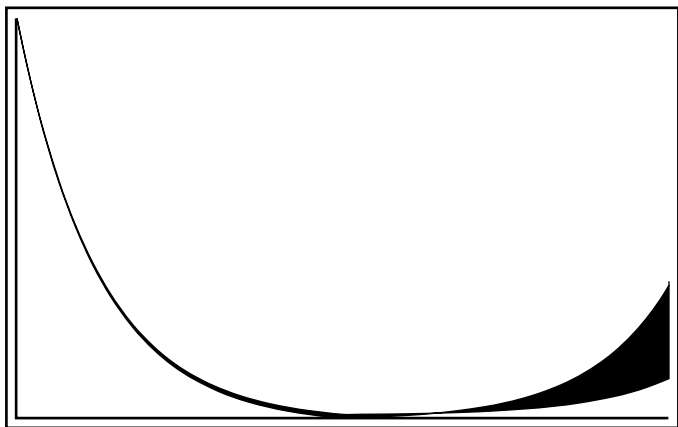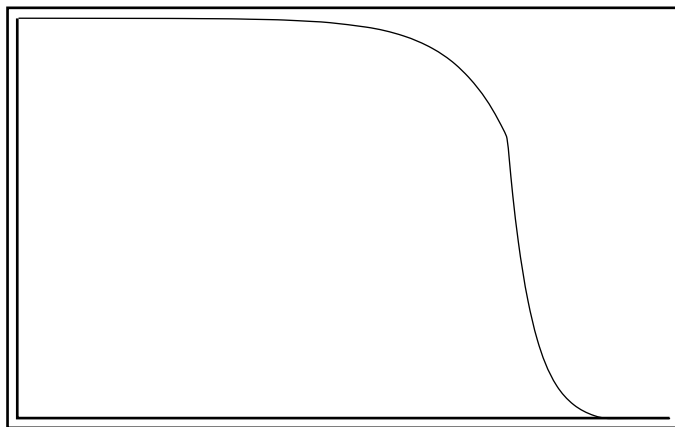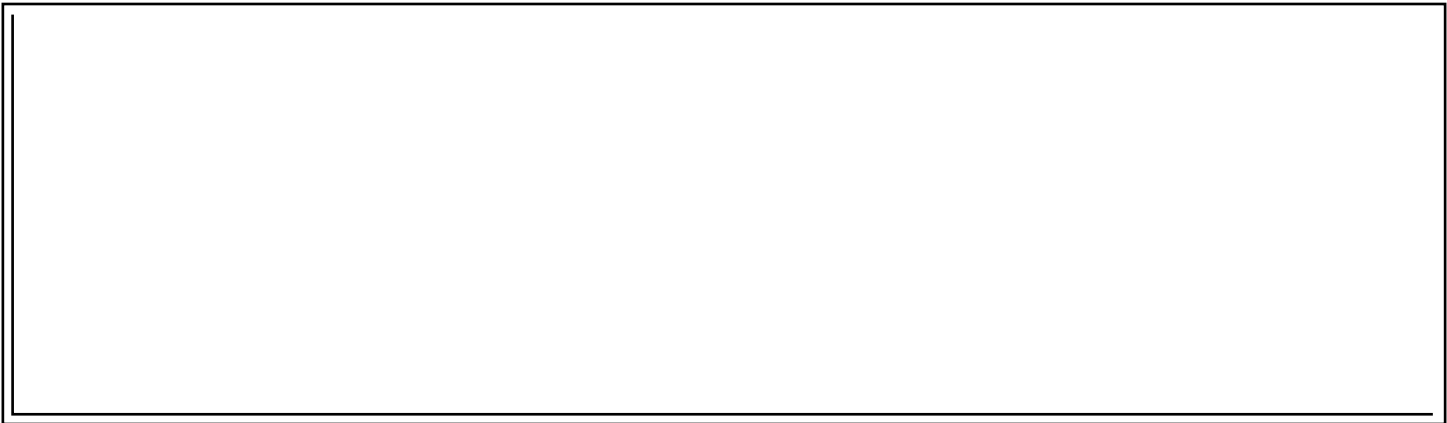Playback Speed

Release Probability
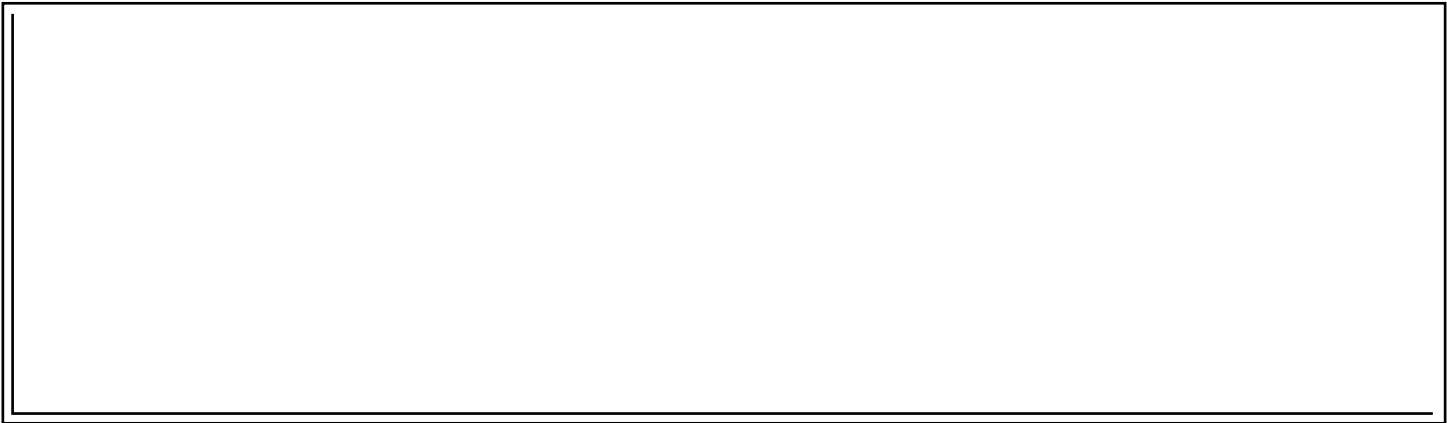

Looping Probability

Amplitude Envelope per Section
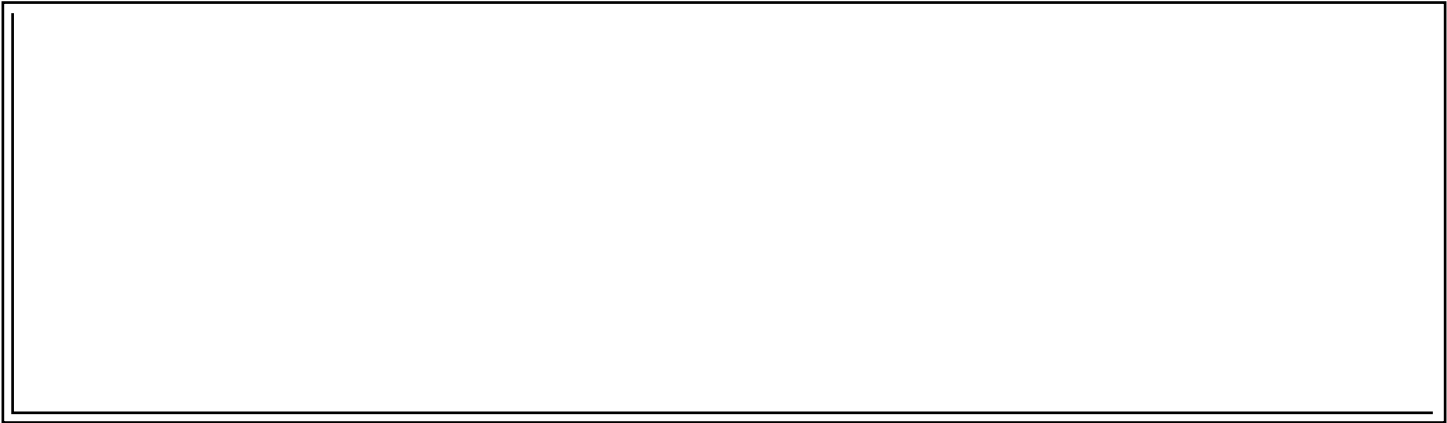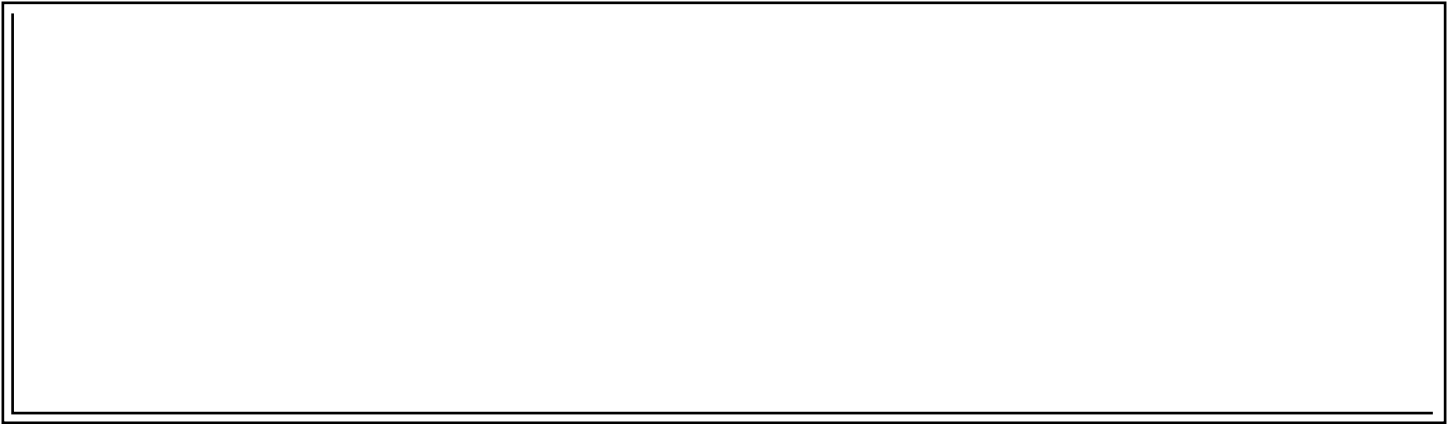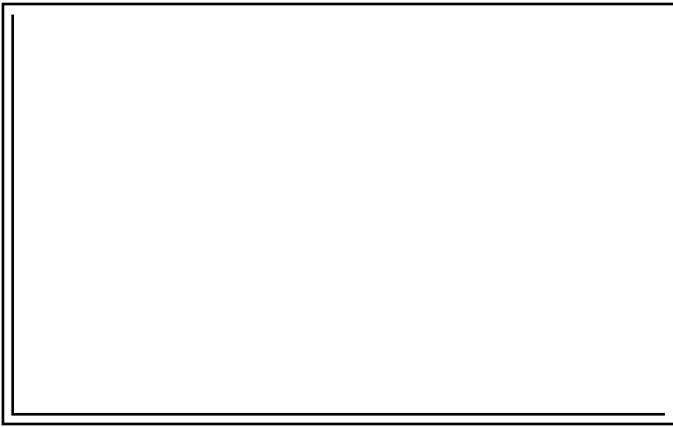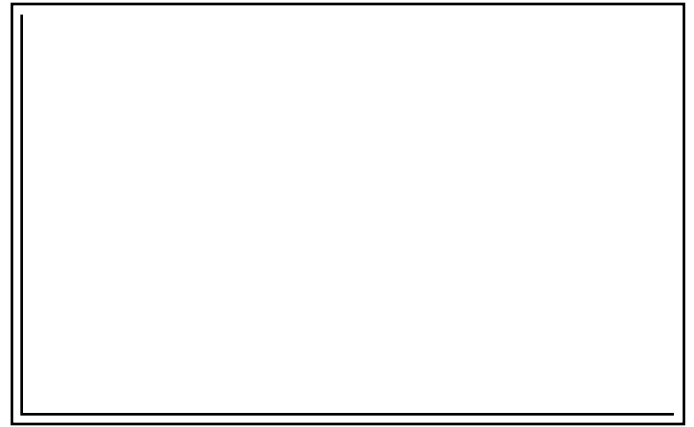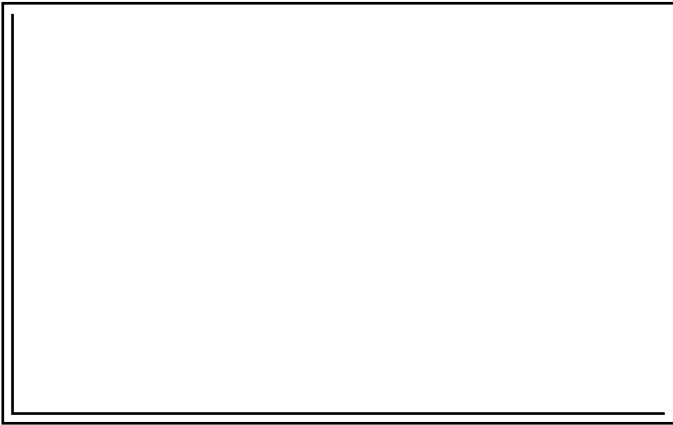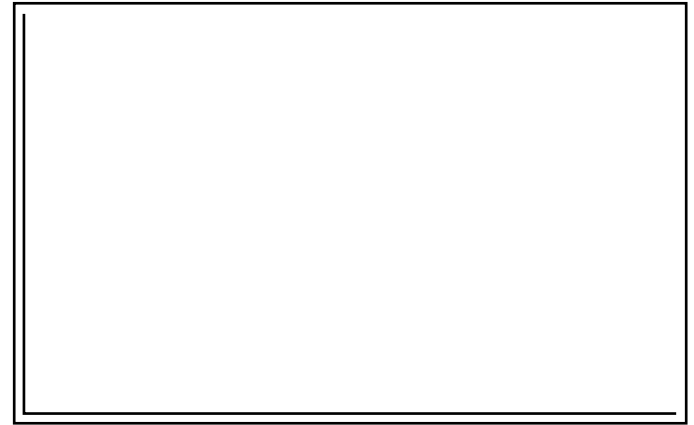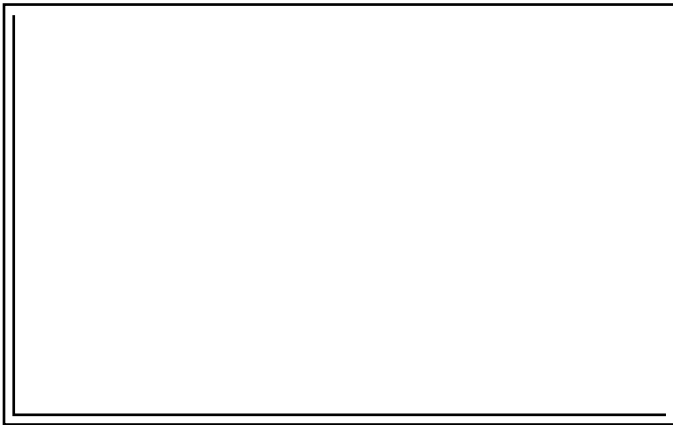

Output Level of Section Combinations

Sound Signal A

Sound Signal B

Control Voltage A
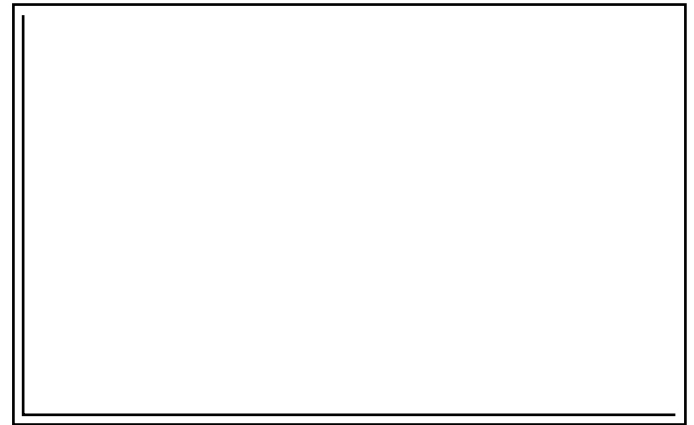
Control Voltage B

Section Start
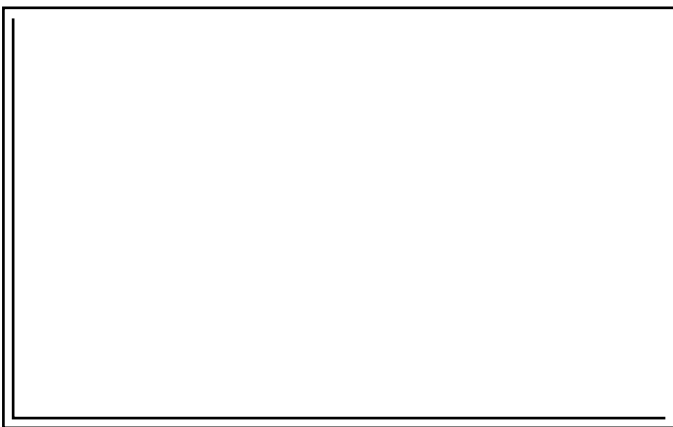
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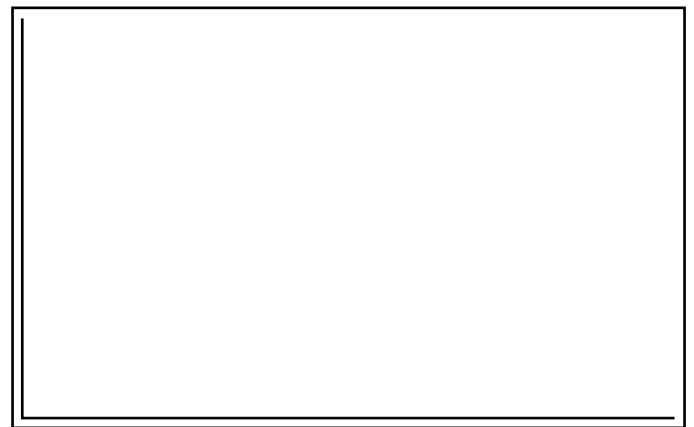
Spawn Rate

Playback Speed

Release Probability

Looping Probability

Amplitude Envelope per Section

Output Level of Section Combinations