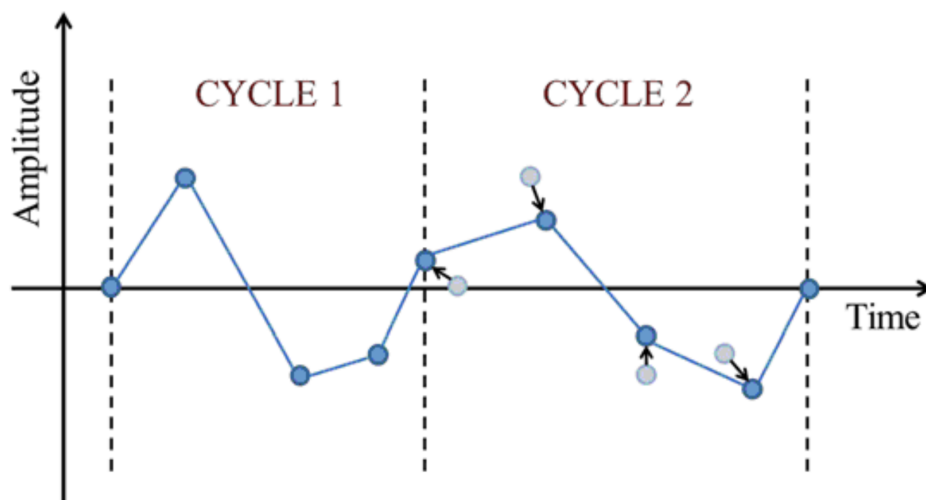


# Areal / Terrain<sup>1</sup> / Zone<sup>2</sup>

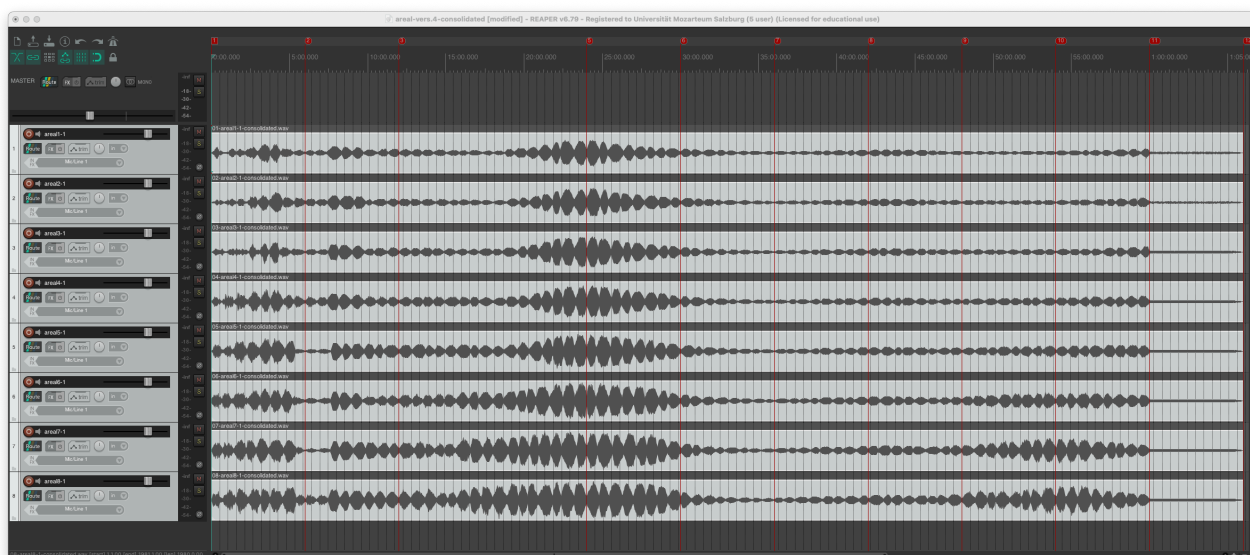
Areal (Terrain) is a piece for electronic organ and 8-channel electronics. The electronics exclusively use Dynamic Stochastic Synthesis (DSS), developed by Iannis Xenakis in the 1990s. This algorithm generates a variety of musical sounds by directly generating waveforms with different probability fluctuations.



*One waveform in DSS with 9 moving breakpoints*

The times for each voice are randomly chosen from 4 to 11 seconds, i.e. these 8 durations correspond to 1 min, 24 durations to 3 min, 240 durations to 30 min.

The list of numbers [4-11] is shuffled randomly 30 times for each channel adding up to 240 timestamps. This corresponds to 80 fades with 3 times each: fade in, sustain, fade out) With 3 durations per fade, there is a clear cut every 3 min = 24 durations.



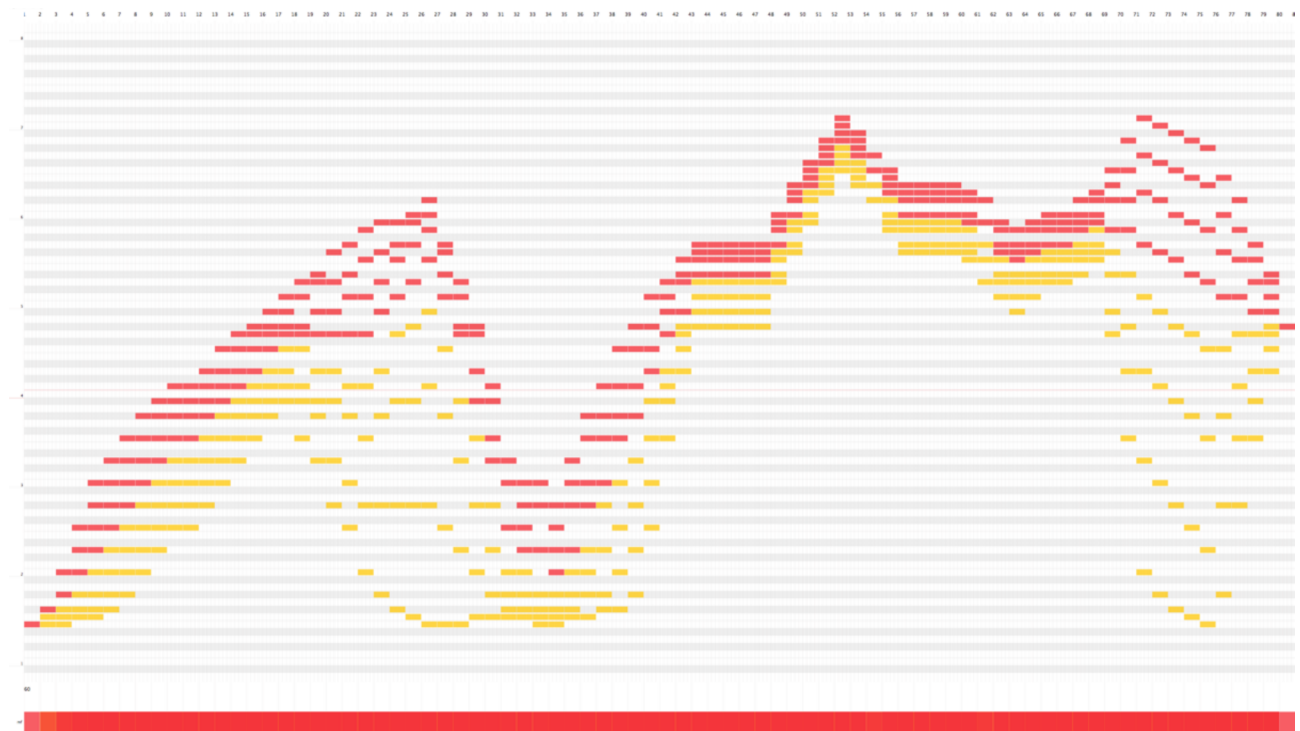
*8 channels in Reaper with vertical markers (red) every 3 minutes.*

<sup>1</sup> Terrain is a version of the piece Areal which lasts 60 minutes instead of 30 minutes. Therefore each time mentioned here is to be multiplied by two.

<sup>2</sup> Zone is a version of version of the piece Areal for 2 electric guitars

For the synthesis 20 musical "states" are found using a graphical interface in Pure Data, with the focus on creating sounds as different as possible in a range between pure waveforms and noise. The transitions are calculated by automatic interpolation of all parameters from one state to the other.

The organ improvisation of the piece uses the same fundamental pitches that underlie the electronics. This creates sound mixtures that allow the two sound levels to almost merge. In this way, the organ becomes a moving sound object that both stands out from the sound surface of the electronics and sinks into it in the course of the piece.



*General chord progression of the organ.*