

## FARBENKLANGSPIEL

For any number of laptops, with one person conducting.

The MAX/MSP patch used by the laptops has a sound component and a video component.

### Sound Source

Select Input

select FM Synth sound

one two three four

select sounds to play

one two three four five random

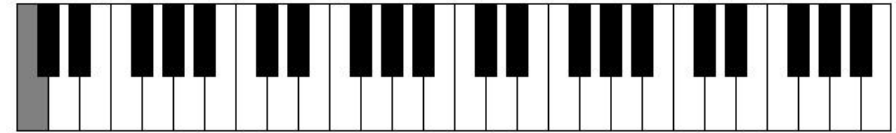
☐ sound on/off

☐ loop on/off



Performers can play sounds from 3 different inputs: FM synth, pre-recorded sound files, and pitch shifter (processing the same sound files)

FM synth has four pre-programmed sounds, but it also allows the performer have control over the synthesized sound. Click “Show FM Synth” to bring it up.



The interface is divided into two main sections: Main Amplitude Envelope and Modulation Envelope.

**Main Amplitude Envelope:**

- Envelope Amplitude Range: 1.
- Envelope duration in sec.: 0.5
- Wave Form: Sine, Sawtooth (selected), Square
- Buttons: Set Enevelope, Clear Envelope
- Vibrato Speed: 2.15
- Vibrato Depth: 0.89

**Modulation Envelope:**

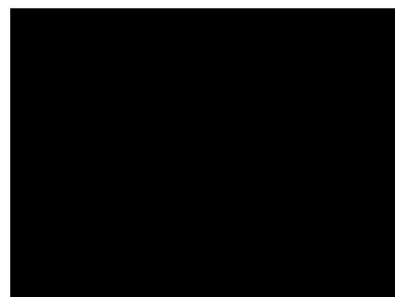
- Modulation Velocity: (graph showing a rising line)
- Buttons: Set Enevelope, Clear Envelope
- Modulation Index: 20.20
- Modulation Ratio: 15.3

During the performance, pitches of the synthesized sound are controlled by the video color tracking.

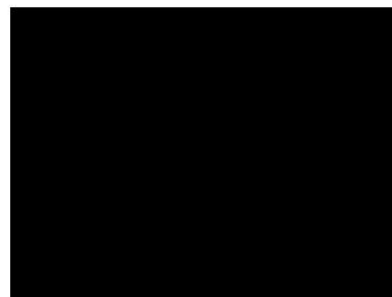
The five pre-recorded sounds cannot be modified, but are processed by using video color tracking. In this case, it controls playback speed, and Pitch Shifter's pitch, delay, and feedback.

To activate color tracking, click on the desired color to track in the picture on the left (showing the video input.) The picture on the right shows a processed video input, highlighting the tracked color. Color tracking works best with bright colors, glow sticks, LEDs, or infra red.

☐ Video On/Off



click on the picture to select color to track



FM Synth/Shifter Pitch



Playback Speed



Shifter Delay



Shifter Feedback



Generally, performers can choose what sounds to play, unless a specific one is indicated by the conductor.

### For the conductor:

The conductor uses a text score with cues to the performers.

+/- adding/taking out performers.

Sound input can be indicated by a number with the right hand: 1 = FM synth 2 = recorded sound 3 = shifter

Specific sound can be indicated by a number with the left hand.

The conductor can show the movement or gesture, to be imitated by the performers.

Ensembles are welcome to come up with any other methods.

The duration of the piece is indeterminate. However, cues should be 5–20 seconds long. Timing the cues is open for the decision of the conductor/ensemble. A timer MAX/MSP patch is available.