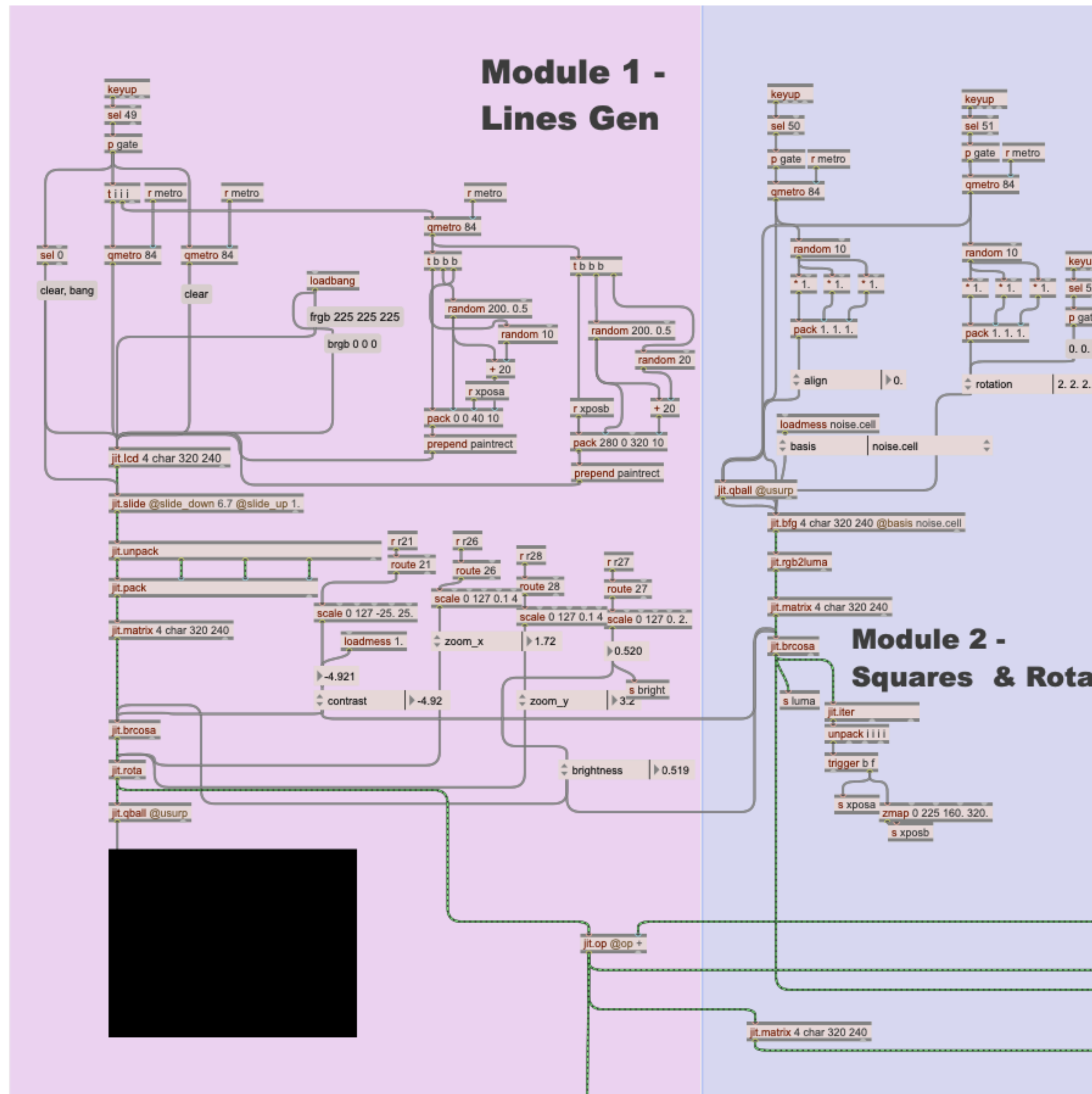


Algorithm Based Gen Video to Partial Gen Audio Synth

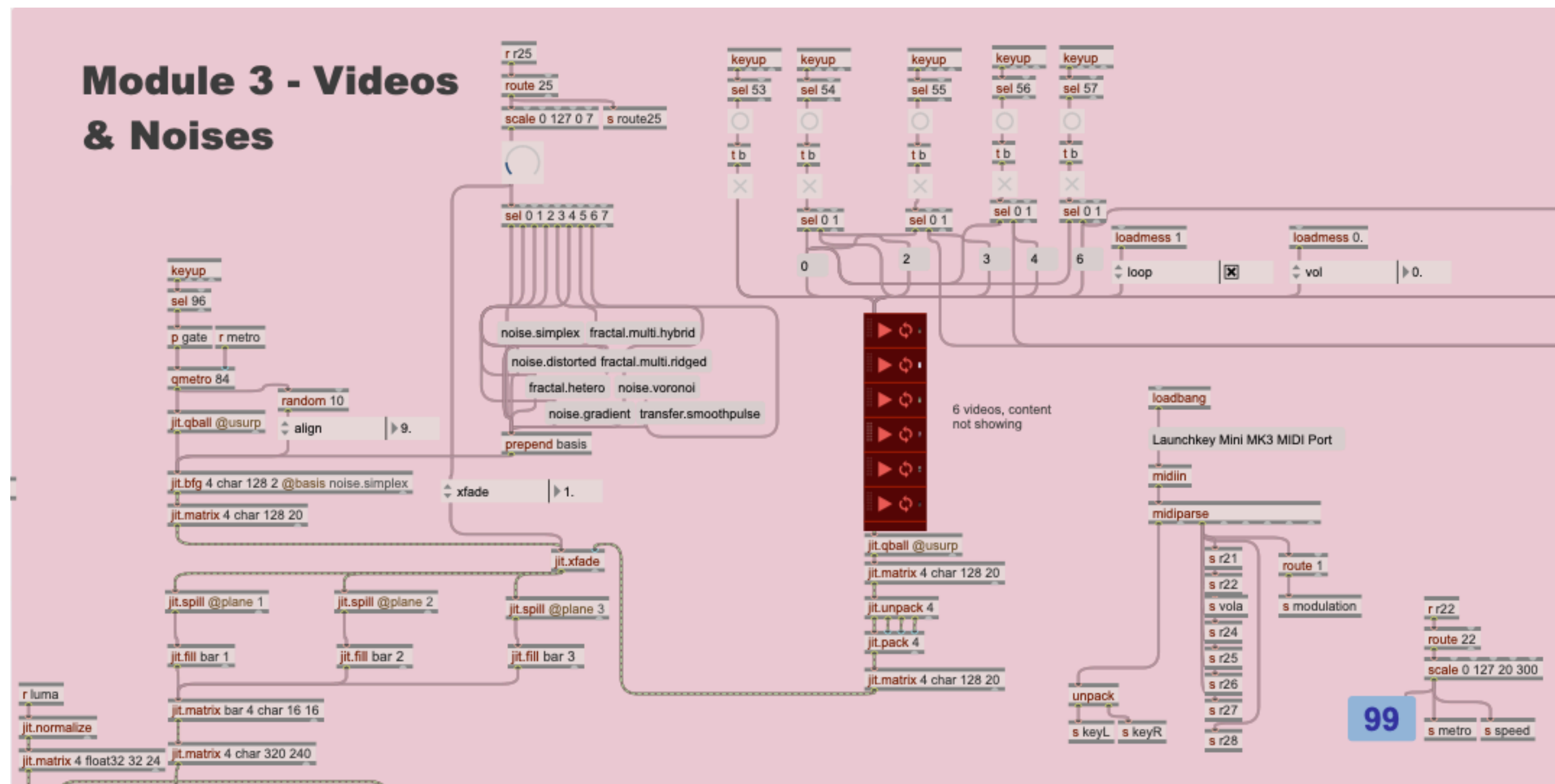
Xiaosha Evelyne Li

Gen to Gen

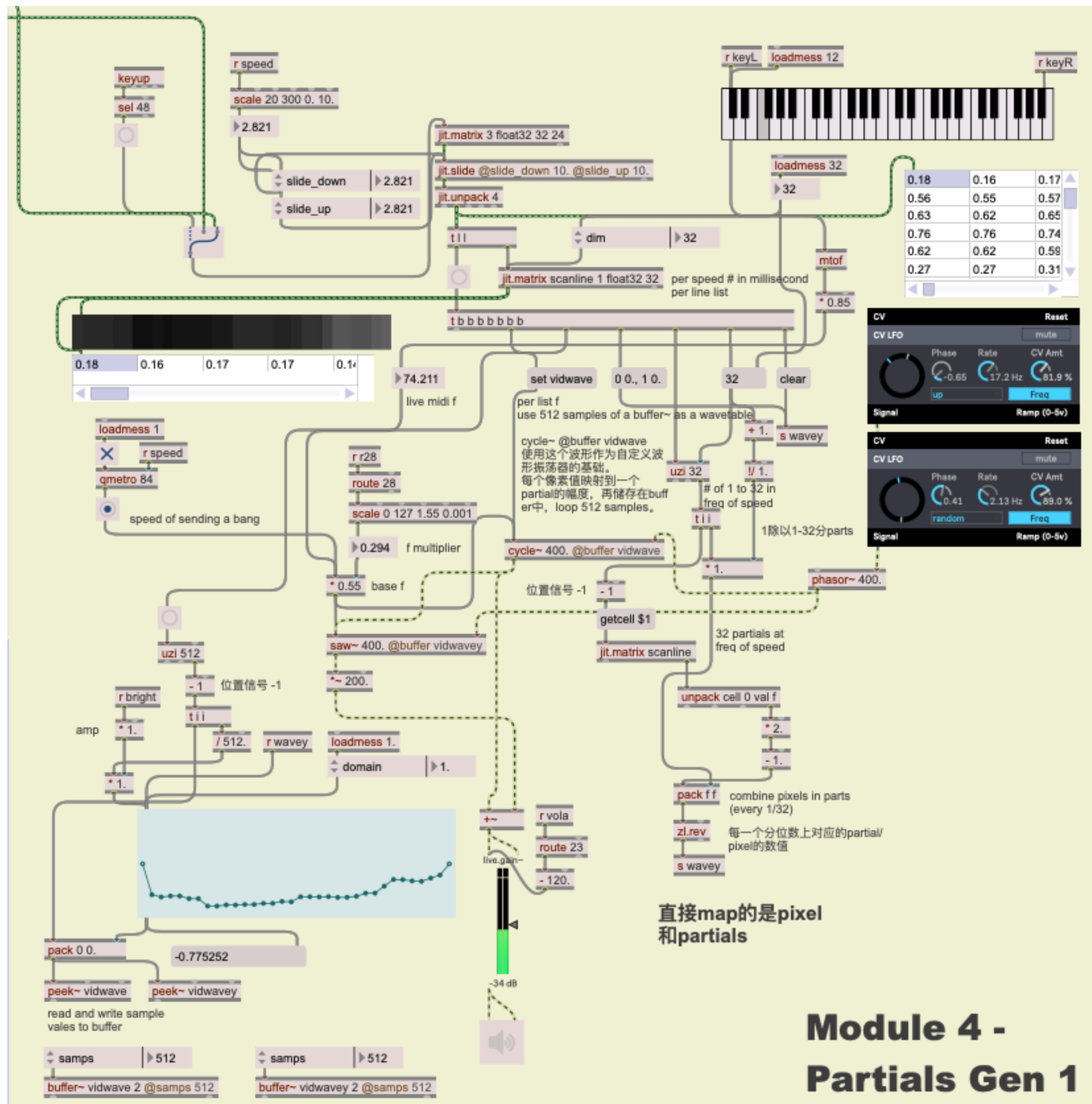
- This model consists of six modules, implementing two Gen-to-Gen Audio Synths. At the low level, generative video streaming pixels are used to generate streaming audio signals, forming a partial audio synth. At a slightly higher level, five different video playbacks control a real-time 32-channel amplifier to produce a 32-channel audio synth with predefined sound shapes (users can define 15 sound shapes in advance, derived from the 5 video sources and their 3 RGB channels).
- The interaction component maps the system to a MIDI keyboard and a computer keyboard for user control. Further details are provided in later slides.



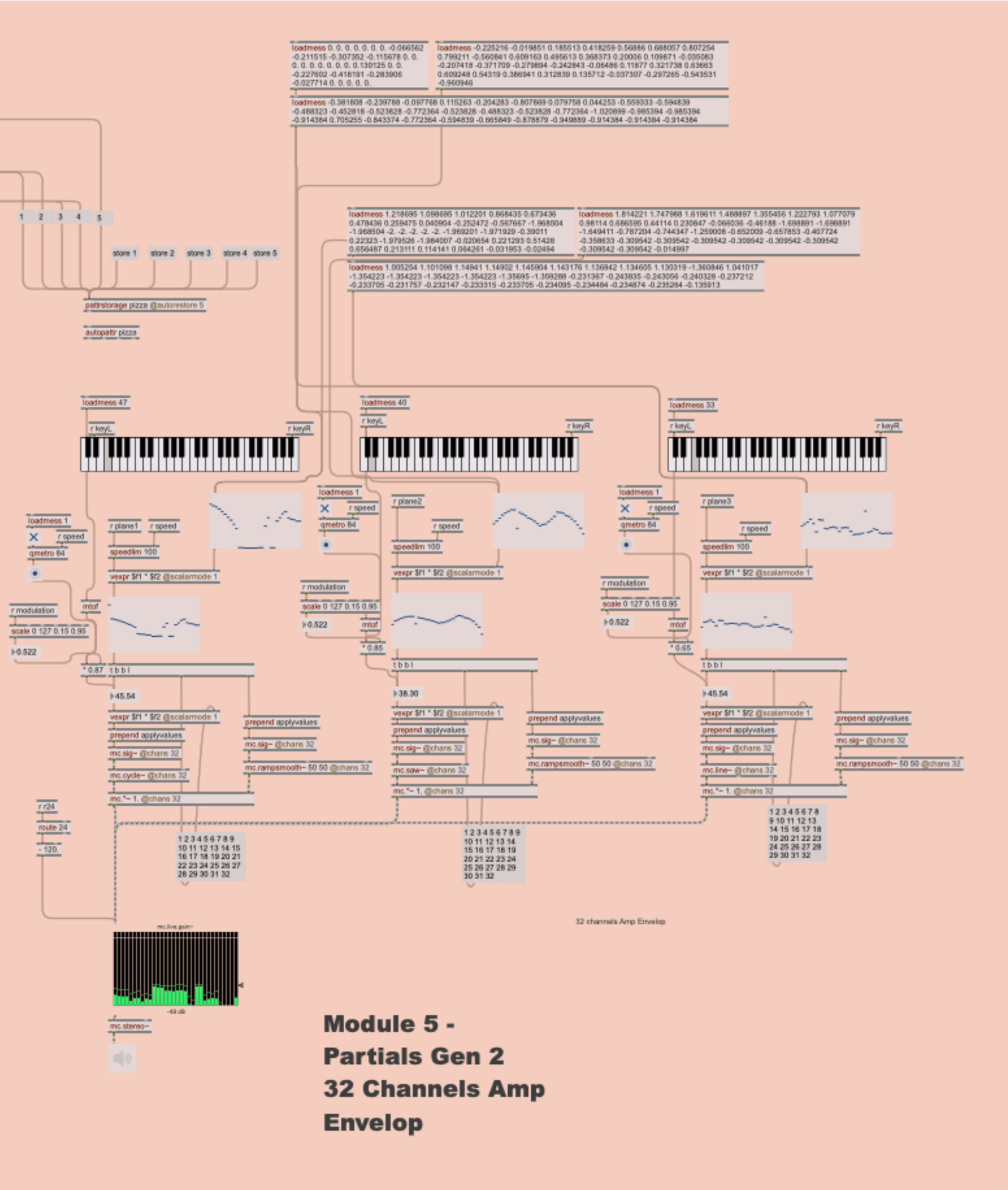
- **Module 1** - Gen Video based on thin rectangular shape and color change that only reflects black and white
- Controller Parameters - Contrast Level, Zoom in X, Zoom in Y, Brightness Level, Global Speed Control.
- **Module 2** - Gen Video based on big square shape and colored in black and white
- Controller Parameters - Alignment Level, Rotation On/Off, Global Speed Control.
- [Demo Video Link Module 1+ 2](#)



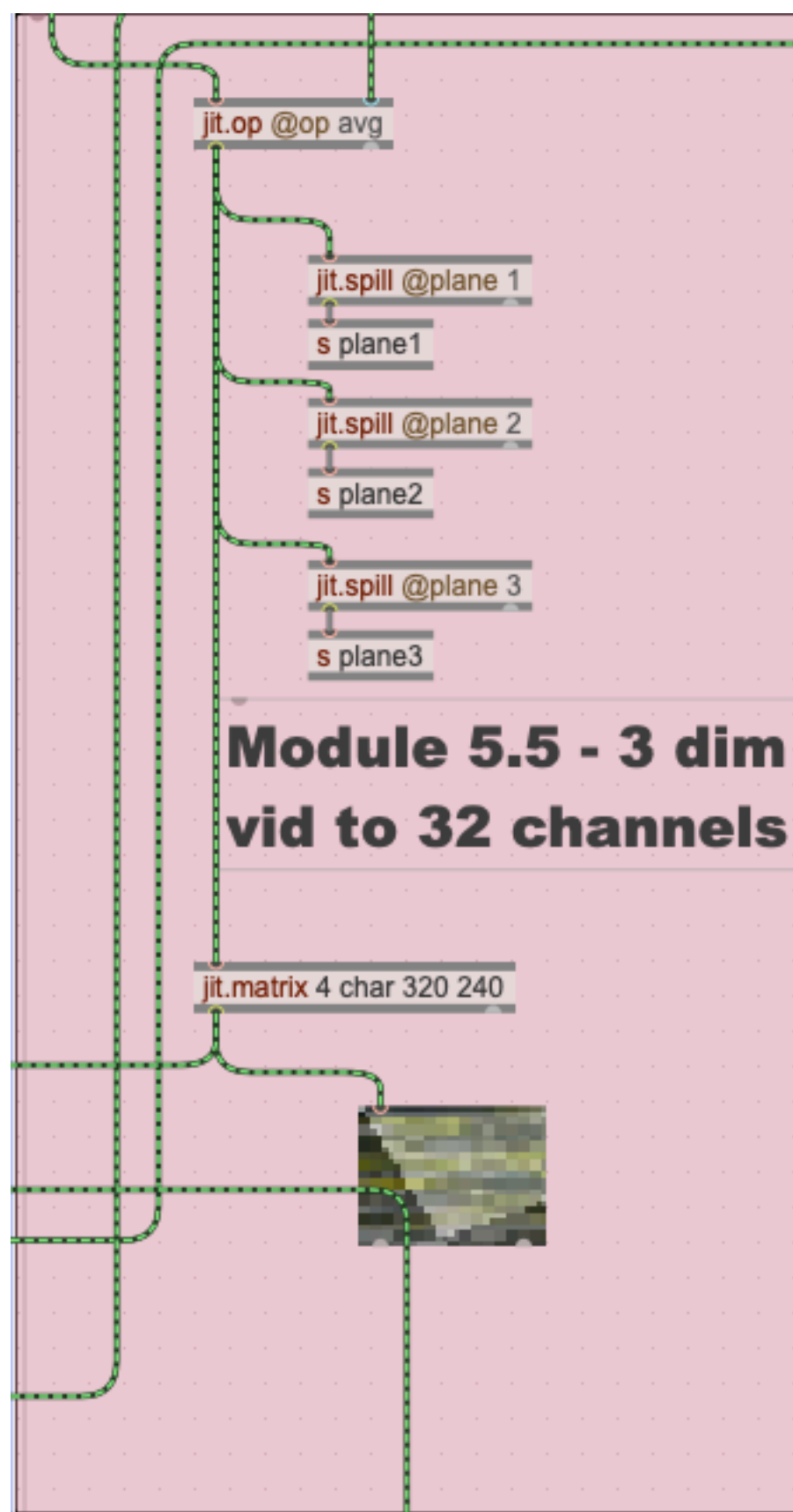
- **Module 3** - Video playback control and background noise video generation. Midi In routing and global speed patches.
- Controller Parameters - Fade Control for two type of videos, Video Selector, Background Noise Video Selector, Global Speed Control.
- [Demo Video Link Module 3](#)



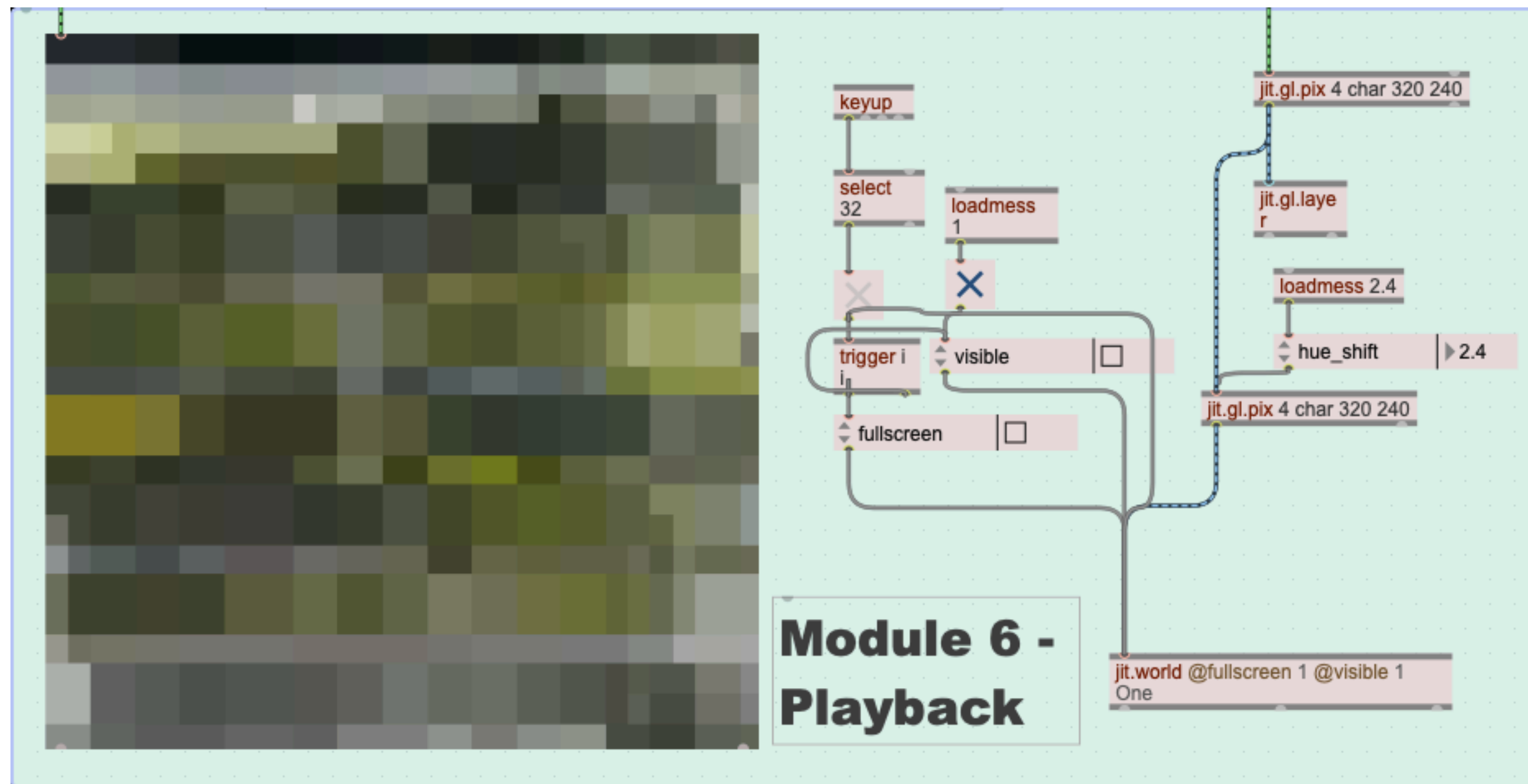
- **Module 4 - Partial Audio Gen:** The pixel data from the combined video signal is scanned and divided into 32 segments, which are then averaged and stored in a 512-sample buffer. This buffer is used to generate partial audio synthesis, with each segment contributing to the final sound.
- **Controller Parameters** - naturally controlled by video signals for the sound texture, Volume Controller, Brightness mapping to Amp Control, Zoom Y mapping to base Frequency Control, Global Speed Control
- Demo Video Link [Module4](#) with sound



- **Module 5 - Partial Audio Gen2:** Five stored sound patterns are mapped to five playback videos. Each RGB plane of the pixel output of playback videos controls the movement of the generated audio synthesis across 32 channels. The three RGB planes are combined to shape the final audio synthesis output.
- **Controller Parameters** - naturally controlled by 3 RGB plane of video signals for the 32 channels amp, Volume Controller, Modulation Control, Global Speed Control.
- [Demo Video Link Module 5 with sound](#)

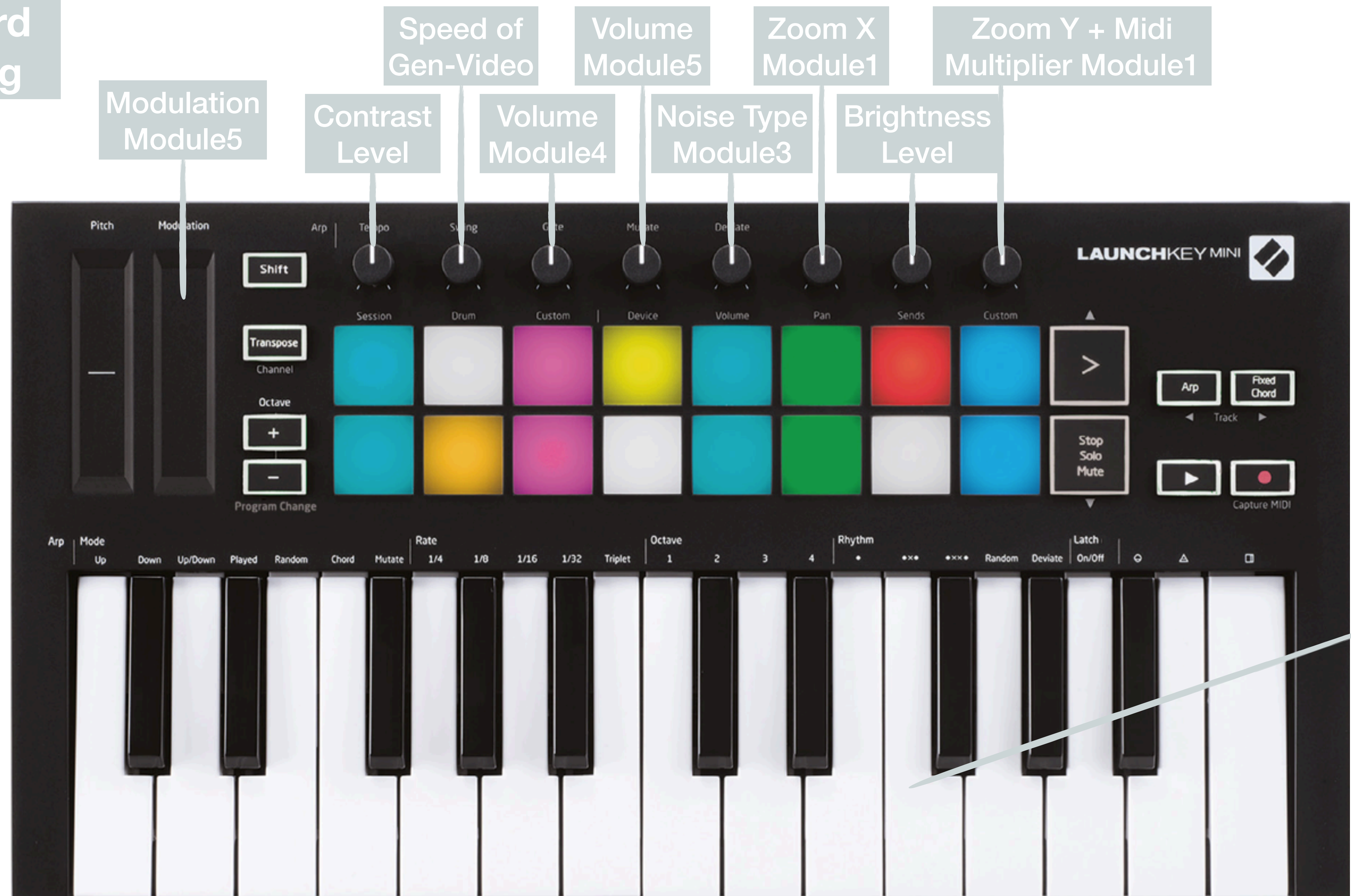


- **Module 5.5** - The 3 RGB planes of the videos are downscaled from 320 to 32 values, which are then used to control the amplitude of the 32 audio output channels.



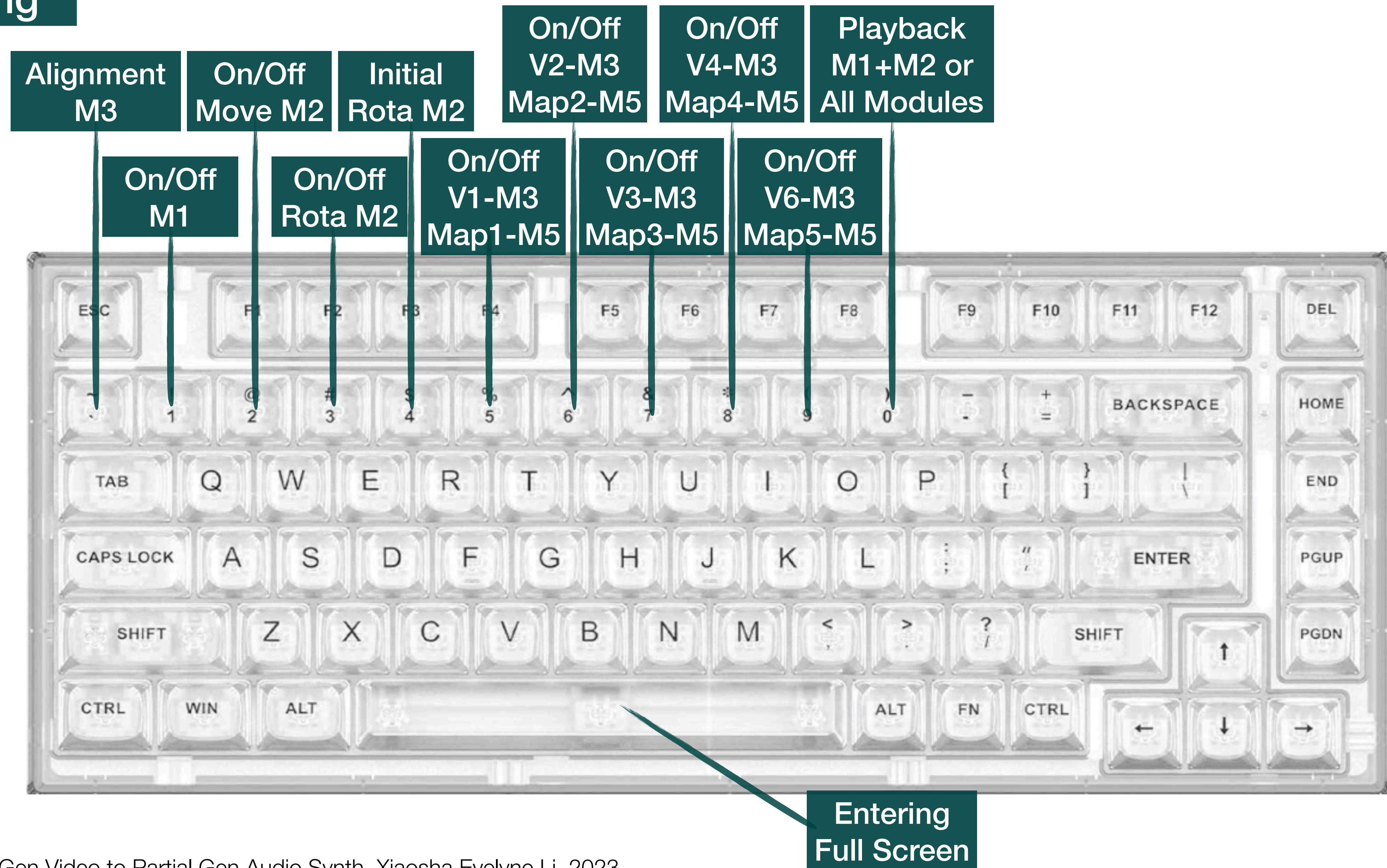
- **Module 6 - Global Playback Control** : All video signals combined together through several operations.
- Control Parameters: Fullscreen On/Off, Visible On/Off
- [Demo Link for Entire Project](#)

Keyboard Mapping



Initial Keyboards

Keyboard Mapping





Evelyne Web Page

More Questions? -> evelynelixiaosha@gmail.com