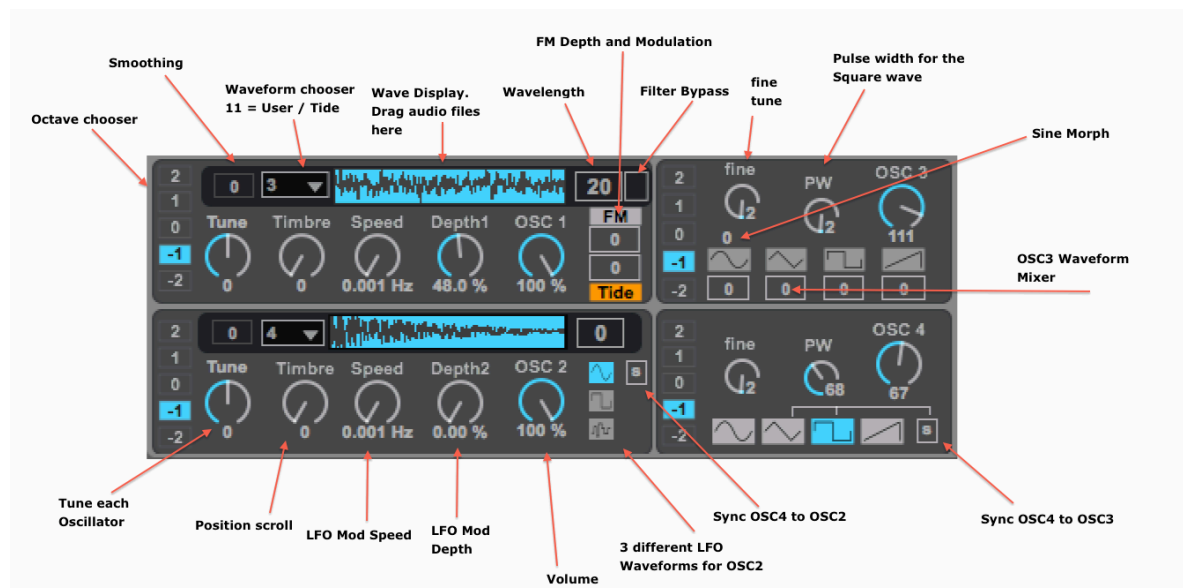# The M4L Tide Synthesizer

Tide is a 8 voice polyphonic Synthesizer. It was created with Max for Live and works with Live 9 (maybe even 8) and Max for Live.
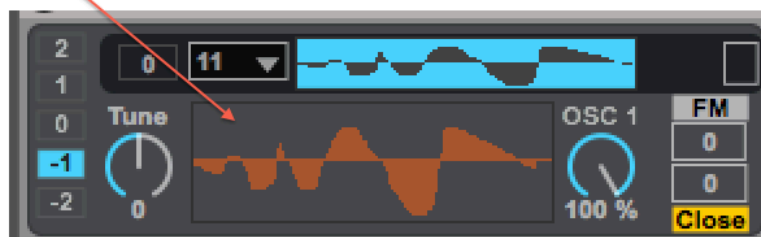
1. Oscillator sections:

Each Oscillator has some special functions. The functions are shown in this picture:
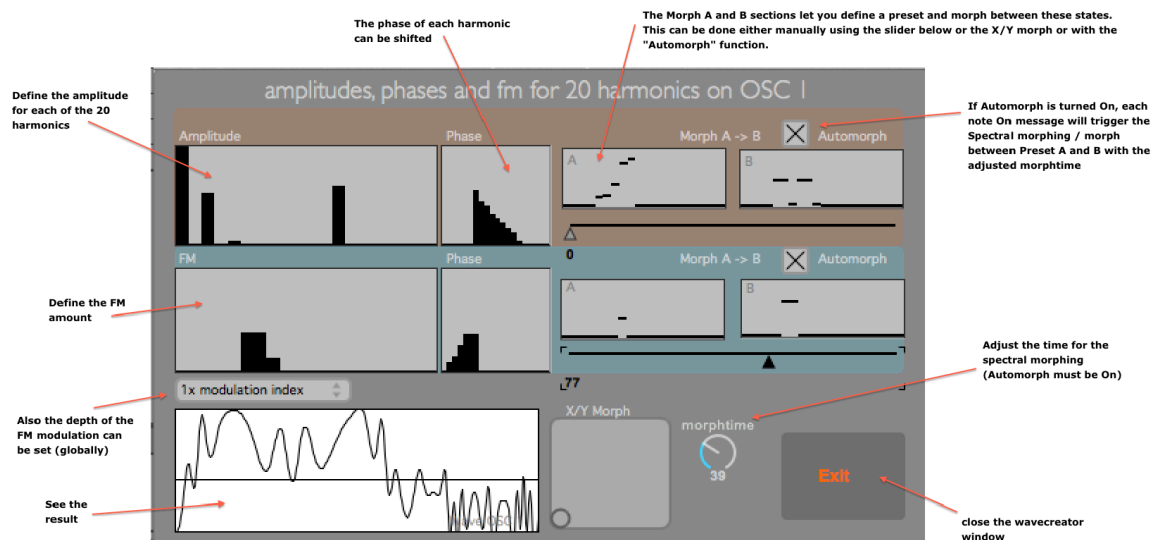

When clicking the "Tide" Button, Oscillator 1 let's you either design your own waveforms with the wavecreator or the waveform can be drawn manually:

…or use the Tide 'Wavecreator':

The phase of each harmonic can be shifted

The Morph A and B sections let you define a preset and morph between these states. This can be done either manually using the slider below or the X/Y morph or with the "Automorph" function.

Define the amplitude for each of the 20 harmonics

If Automorph is turned On, each note On message will trigger the Spectral morphing / morph between Preset A and B with the adjusted morphtime

Define the FM amount

Adjust the time for the spectral morphing (Automorph must be On)

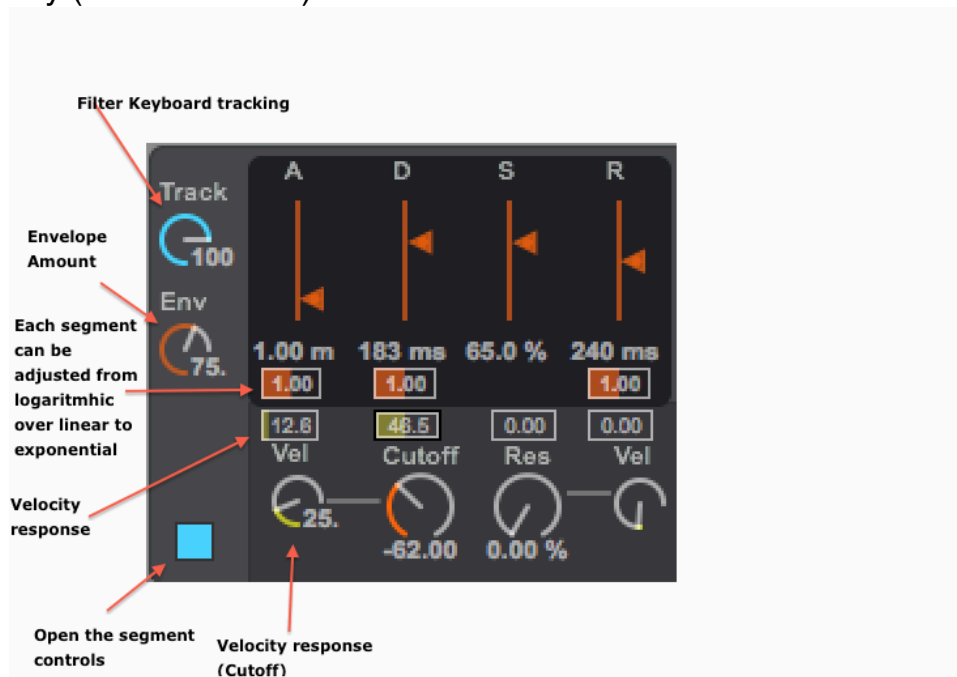Also the depth of the FM modulation can be set (globally)

See the result
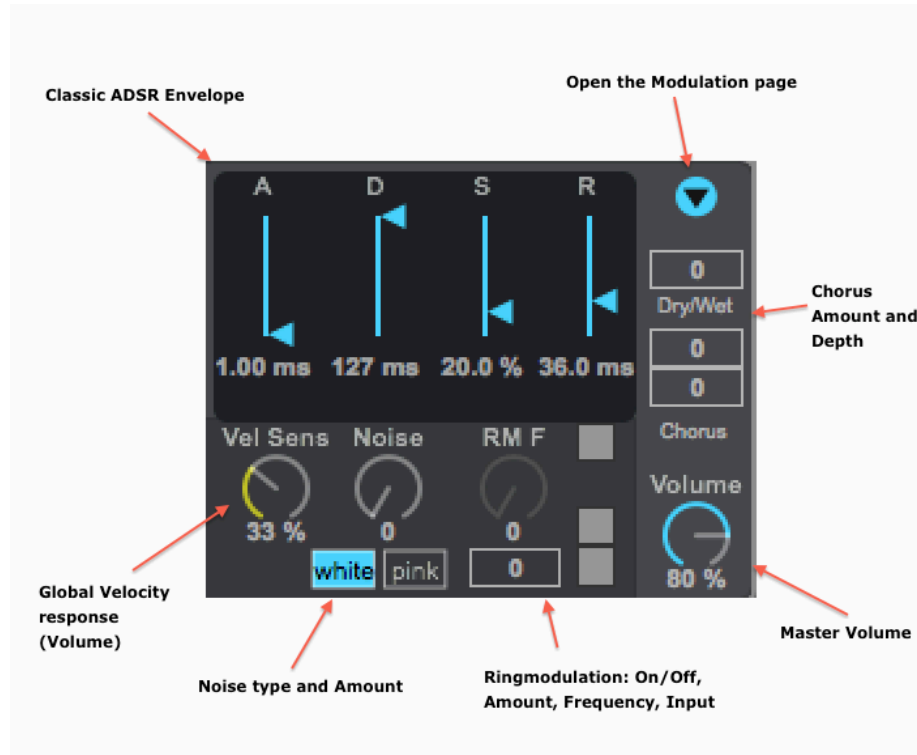
close the wavecreator window

2. Filter section:

The Tide Filter is a classic Moog-style Lowpass filter with an Attack, Decay, Sustain, Release Envelope. Each of the envelope segments can be adjusted individually (thanks Stretta!)

Filter Keyboard tracking

Envelope Amount

Each segment can be adjusted from logaritmhic over linear to exponential

Velocity response

Open the segment controls

Velocity response (Cutoff)

3. Amp and Master Section:

The Amplitude section has a classic Attack, Decay, Sustain and Release envelope, Velocity response, Noise generator (pre-filter routed), Ringmodulator and
a Chorus section:

4. Modulation page:

Here's the Modulation section. Keep in mind that nearly all parameters can be modulated with the Live Session automation. Also, almost every parameter
can be MIDI mapped with Live's global MIDI map feature.

Modulation Envelope

LFO mod depth for LFO 1

LFO Mod depth for LFO 2

Activate/deactivate modulation for each Oscillator individually

Waveform select

Offset for the Modulation

Sync speed

Positive, negative or no envelope modulation

LFO 1 frequency (in "Free" mode)

On/Off for Frequency Modulation (and RM = Ringmodulation)

A   D   S   R

100   9903   0.50   100

Sine   Sine

1nd   Free   1nd   Free

4.00 Hz   4.00 Hz

1   1
2   2
3   3
4   4

E   E   E   E

Cutoff   RM/FM   Pitch   Volume

FM   RM