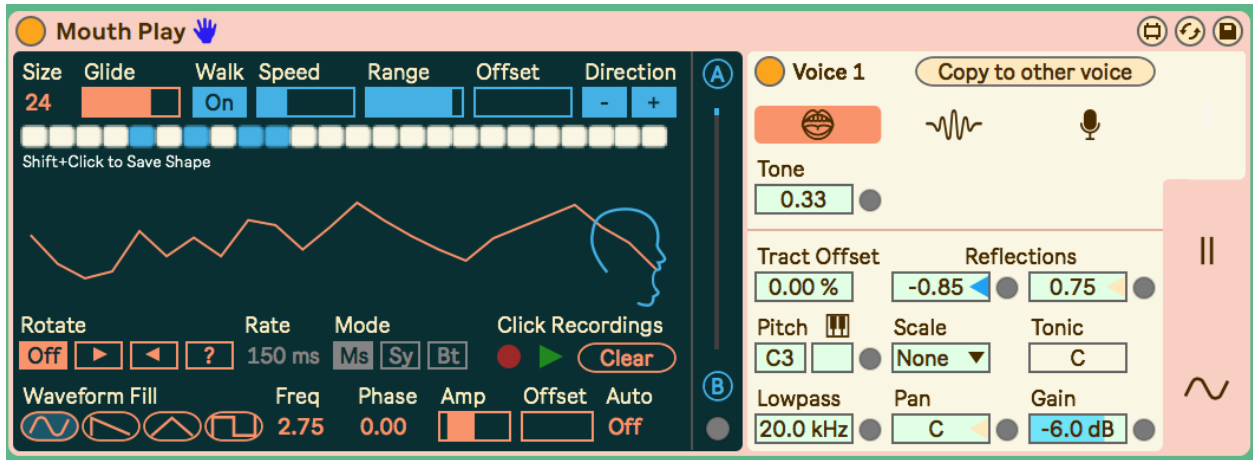**Mouth Play User Manual**

Mouth Play uses a vocal tract filter unconventionally to create a variety of complex filtered sounds and filter movements. The left side of the device controls the tract filter and the right side controls the input source. There is also a menu for standard modulation sources.

To install:
Unzip the folder and drop the folder called "Mouth Play" in this exact location in order for presets to load correctly: *ableton/user library/presets/instruments/max instruments*
For best results or if you are having issues, make sure you are using the latest version of max/msp. You do not need to have a license if you are using Live suite. Download the newest version here: https://cycling74.com/downloads and once downloaded go to the ableton Preferences > Library and set the newly downloaded version of max to the one ableton should use. (Also you can try to see if it works fine with your bundled version first).
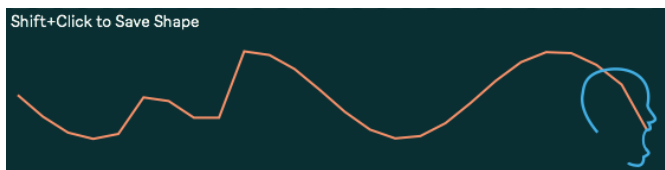

Here we can control and shape the tract filter. The orange line represents the current shape of the filter. Change the size and shape of this filter dramatically affects the sound output. You may simply drag your mouse on the orange line to change its shape, or you can use one of the other functions to change it. If you change the shape with your mouse, that shape is remembered for when you reload the device in a Live set or preset. Otherwise, to save the the shape of the tract hold the shift button and click the shape.

Starting from the top left, we can set the number of segments or "Size" of the filter. A
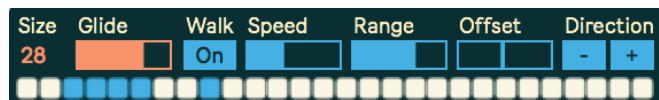
higher number of segments allows for more complex shapes of the filter, but will also change the overal timbre. The "Glide" parameter sets the amount of time it takes for the tract filter to update its shape on the audio side after changes to it visually. With lower glide times, there will be more resonant sounds introduced when changes take place which may or may not be desirable. To the right of "Glide" there is a section of parameters for random-walk modulations applied to the segments. The "Walk" button enables or disables these. You must also enable which segments you want to modulate on the tab object just below this that lines the top of the filter shape. "Speed" controls the incremental amount of the modulations, "Range" and "Offset" control the zone the random-walks will modulate to and stay within. "Direction" allows you to control if the modulations only go up or down.
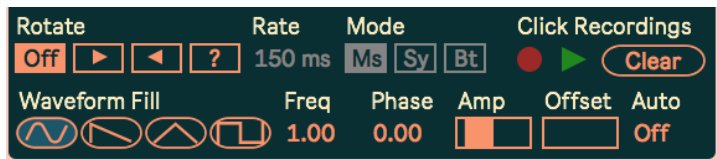
Below the tract filter shape, "Rotate" allows you to rotate the total shape in different directions. "Rate" controls the speed of the rotation in either millisecond intervals or synced rates or by a manual button depending on the "Mode". To the right of this is a small section for recording and playing back changes to the tract shape coming from mouse clicks. Each time you press record a new loop is created and layered with previous recordings. At the bottom is a section for filling the tract shape with basic waveforms. You may control the frequency, amplitude, starting phase and vertical offset of the shape fill function. Additionally, you can have the last shape clicked to autofill at a syncronized rate.

There is also an option to morph between two save tract shapes (A and B). To save each shape click the "A" and "B" button respectively. Moving the slider morphs between the two shapes. There is a circle at the bottom for opening a modulation menu to modulate the shape morphing.
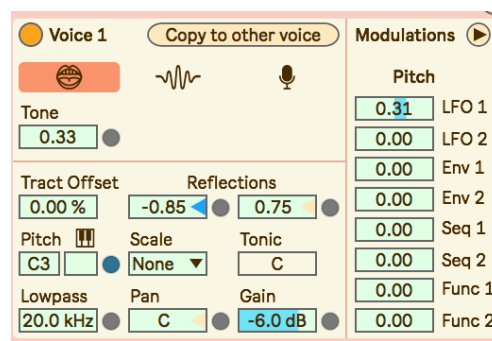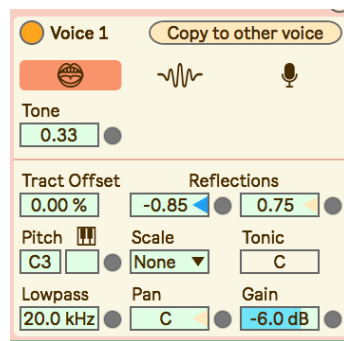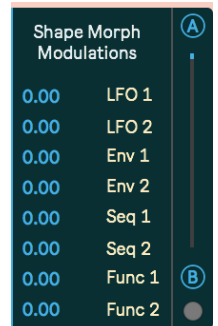
Here is the section for controlling the input source sound that enters the tract filter. One thing you'll notice is the small circles next to many of the parameters. Clicking these toggles a modulation menu to the right which you can use to apply the modulation sources to any parameter with a circle next to it.

You have two different inputs or voices (I and II) that can both be used to have two different sounding voices. At the top you can enable or disable the currently selected voice and there is a function to copy the current voice's parameters to the other voice. Below the top is a tab to select the different source type. You have 3 options: A brass model, a basic FM oscillator, and external audio routing from another source in Live. The brass model sounds the most "voice-like" depending on the shape of the tract, but you can also get a lot strange and complex sounds. This source has a "Tone" parameter. The basic FM oscillator source has options for FM and the waveform shape. The external routing option gives you the audio routing menus.
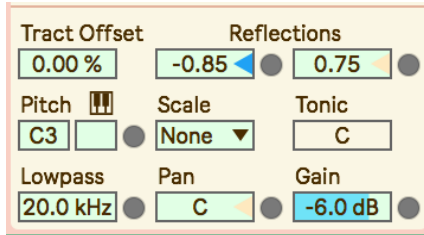
In this section are the rest of the source parameters. "Tract Offset" offsets the shape of the tract so that each voice may have a differen tract filter shape. "Reflections" controls the amount of resonance at the two ends of the tract filter. Higher or lower values of these will cause more resonant and complex filter sounds as they also introduce some feedback in the filter. Also, certain combinations of these parameters with the brass model may cause more silence so it is appropriate to dial them in. Below this is a section for tuning the source which you also have scale options for which can be useful when modulating the pitch. You may also drop a Scala (.scl) tuning file directly on the "Scale" parameter menu. This will allow you to use custom tunings. By pressing the keyboard button, you can control the tuning instead with incoming MIDI notes (Note: this bypasses the scale functions). Below this section is a "Lowpass" filter cutoff which could be useful as there is a lot of high pitch tones from the tract filter. There is also panning and gain adjustment.

The control to the far right controls the view for seeing the parameters of voice 1 (I) and 2 (II) and the modulation section.
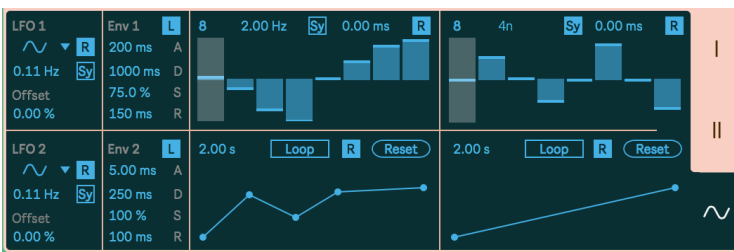
The modulation section has basic modulation sources and parameters. This includes 2 LFOs, 2 envelopes (triggered from incoming MIDI note messages), 2 sequencers, and 2 functions. All modulations can be retriggered/reset from MIDI note on messages with the "R" parameter. The sequencers have an option for gliding between step values shown with the parameter box value with milliseconds (ms) to the left of the retrigger "R" parameter. The function generators also have a time value parameter to their top left which sets the overall length of the function from left to right. If you set the function to "Loop" mode, you must retrigger the function in order to start it looping.

Additionally there are several secret animal themed popout parameter menus that you can unlock from certain parameter combinations ;) I may add more in future updates.

I hope you enjoy this device! Please email me if you have bugs or other issues: dillonbastan@gmail.com

Other stuff: http://dillonbastan.com