



# MUTATOR

USER GUIDE

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# Introducing Mutator



**Mutator** provides a combination of sound design tools for creating unusual, weird, and otherworldly voices.

With high quality pitch shifting, throat modeling, ring modulator-based mutation, and a mind-bending tempo-synced alienize function, Mutator is the perfect tool for unique vocal effects, character design, and post-production sound design.

The [Voice Design](#) controls let you craft the basic characteristics of your voice, the [Mutate](#) controls let you transform and mangle that voice into a variety of strange creatures, and the [Alienize](#) controls give your vocal track the quality of an alien language by chopping it up into small segments and playing each segment in reverse.

# Quick Start

Follow these steps to get started with Mutator:

## Choose the Correct Setting From the Vocal Range Menu

To optimize Mutator's pitch tracking algorithm, choose the setting from the [Vocal Range](#) menu that best describes your track. Options include Soprano, Alto/Tenor, Baritone/Bass, and Instrument.

## Design the Basic Character of Your Voice

Experiment with the [Shift Pitch](#), [Throat Length](#), and [Throat Width](#) controls until you find a vocal character you like.

## Transform Your Voice With Ring-Modulated Mutation

Try out 24 different varieties of [Mutation](#). Then use the [Mutant Mix](#) control to mix the mutated audio with the unmutated output of the Voice Design section.

## Translate Your Voice Into an Alien Language

[Turn on Alienize](#) to chop your vocal track into small segments and reverse them in real time. Experiment with the [Dialect](#) control to shorten and lengthen the reversed audio segments. Try syncing the Alienize effect to your project's tempo with the [Tempo Sync](#) button.

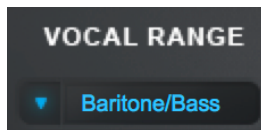
## Check the Levels

Various settings in Mutator can result in amplitude changes, so be sure to check the [Output Level Meter](#) and adjust the [Output Volume](#) as needed.

# Controls

## Audio Input Controls

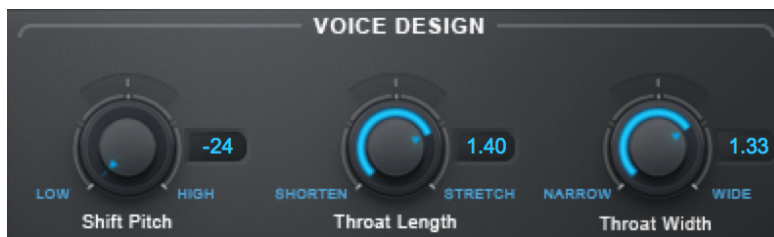
### Vocal Range



The **Vocal Range** menu lets you select the pitch range of your track, to optimize Mutator's pitch tracking algorithm.

Options include Soprano, Alto/Tenor, Baritone/Bass, and Instrument.

## Voice Design Controls



The **Voice Design** controls let you craft your voice with pitch shifting and a physical model of the human throat.

### Shift Pitch



The **Shift Pitch** control lets you shift the pitch of the input voice up or down by semitones. The range is from -24 (two octaves down) to 24 (two octaves up).

## Throat Length



The **Throat Length** control lets you lengthen or shorten a model of the human throat to adjust the formant frequencies of the input voice.

Settings greater than 1.00 will lengthen the throat, resulting in lower formant frequencies. Settings less than 1.00 will shorten the throat, resulting in higher formant frequencies.

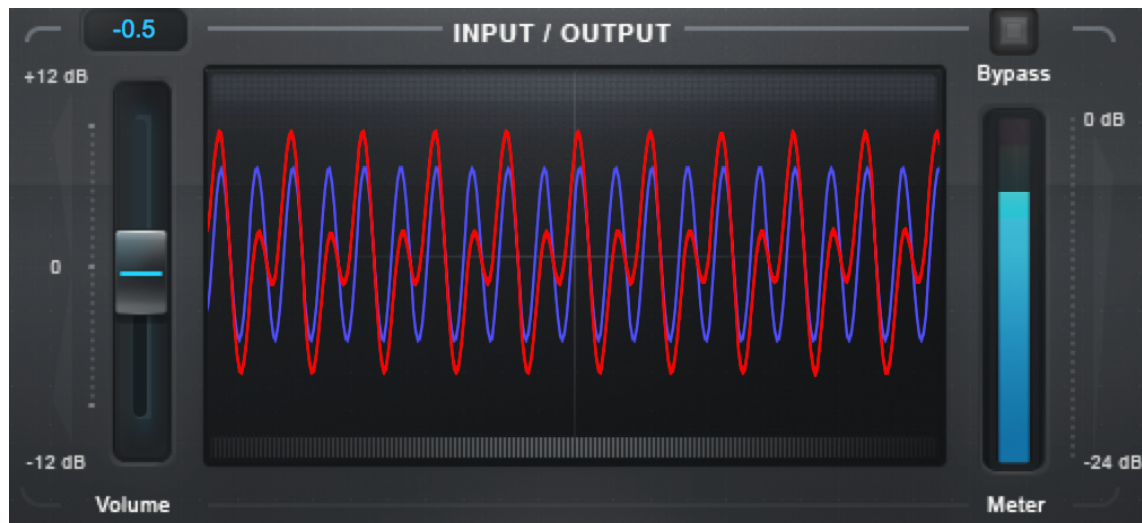
## Throat Width



The **Throat Width** control lets you widen or narrow a model of the human throat to adjust the formant frequencies of the input voice.

Settings greater than 1.00 will widen the throat, resulting in lower formant frequencies. Settings less than 1.00 will narrow the throat, resulting in higher formant frequencies.

# Volume Control and Audio Display



## Output Volume



The **Output Volume** control lets you adjust the level of the output signal.

Various settings in Mutator can result in amplitude changes, so you can adjust this control to make sure that your output is at an appropriate level without clipping.

Set it so that the output level is near the top of the **Output Level Meter** during the louder parts of your track, without ever reaching the very top.

## Output Level Meter

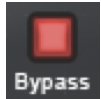


The **Output Level Meter** shows the level of your audio after processing by Mutator.

Use it in combination with the **Output Volume** control to set an appropriate level and avoid clipping.



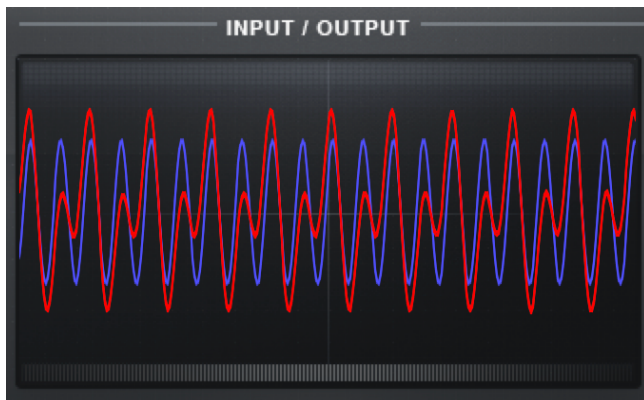
## Bypass



The **Bypass** button lets you bypass Mutator and pass your audio through unprocessed.

Use this to quickly compare the processed and unprocessed audio, or automate it in your DAW to bring in the Mutator effects at certain times in your track.

## Audio Display



The **Audio Display** gives you a visual indication of the original and processed versions of your audio.

The blue line is the waveform of the original audio, and the red line is the processed audio.



# Mutate Controls



The **Mutate Controls** let you transform your vocals with pitch-tracking ring modulation.

## Mutation



The **Mutation** control lets you choose from 24 different varieties of mutation, created with pitch-tracking ring modulation.

The effect of each mutation setting depends in part on the characteristics of the specific voice being processed.

In general odd-numbered settings will result in more complex overtones for a “rougher” sound and even-number settings (especially 8, 16, and 24) will result in simpler harmonic overtones for a “smoother” sound.

**Note for the technically curious:** *Mutator uses a unique variation of ring modulation, a synthesis technique that involves modulating one signal with another. What makes Mutator’s process special is that it’s constantly detecting the pitch of the input voice and shifting the relative pitch of the modulating signal to match, so that it preserves the same modulation quality regardless of pitch changes in the input.*

## Mutant Mix



The **Mutant Mix** control lets you choose the mix between the original unprocessed voice and the voice after being processed by the Mutation control.

# Alienize Controls

The **Alienize Controls** give your vocal track the quality of an alien language by chopping it up into small segments and playing each segment in reverse.

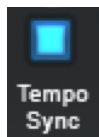


## Alienize On/Off



The **Alienize On/Off** button lets you turn the Alienize effect on and off.

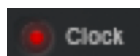
## Tempo Sync



The **Tempo Sync button** lets you synchronize the Alienize effect to the tempo of your project, using tempo information that's sent to the plug-in from your DAW.

**Note:** Most DAWs provide tempo information to plug-ins, but some may not. If Tempo Sync is on, the Clock Indicator should light up to indicate that Mutator is receiving tempo information. If it doesn't, it's possible that your DAW doesn't provide that information.

## Clock Indicator



When the **Tempo Sync** button is on, the **Clock Indicator** should light up to indicate that tempo information is being received from the DAW.

If the **Tempo Sync** is on and the **Clock Indicator** does not light up, it's possible that the DAW you're using does not provide tempo information to plug-ins.

## Dialect



The **Dialect** control sets the length of the speech segments that are reversed when applying the Alienize effect. It has two different modes of operation, depending on the setting of the **Tempo Sync** button.

### Tempo Sync Off

When Tempo Sync is off, the Dialect control sets the length of the segments to be reversed. Low settings result in short segments, and higher settings in longer segments.

At lower settings, it's often still possible to understand the lyrics of your vocal. At higher settings the words become progressively less intelligible and more "alien."

### Tempo Sync On

When Tempo Sync is on, the settings for the Dialect control will update to reflect divisions of the tempo provided by the DAW, instead of absolute time.

In this mode, lower settings result in longer segments of audio being reversed (more "alien" sounding), and higher settings result in shorter segments (more intelligible)

The following segment durations are available when Tempo Sync is on:

- 4/4 – 4 quarter notes
- 3/4 – 3 quarter notes
- 2/4 – 2 quarter notes
- 1/4. – dotted quarter note
- 1/4 – quarter note
- 1/4T – quarter note triplet
- 1/8. – dotted 8th note
- 1/8 – 8th note
- 1/8T – 8th note triplet
- 1/16. – dotted 16th note
- 1/16 – 16th note
- 1/16T – 16th note triplet
- 1/32. – dotted 32nd note
- 1/32 – 32nd note
- 1/32T – 32nd note triplet