

KROTOS



INTEGRATION WITH
WWISE

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1 Dehumaniser Live

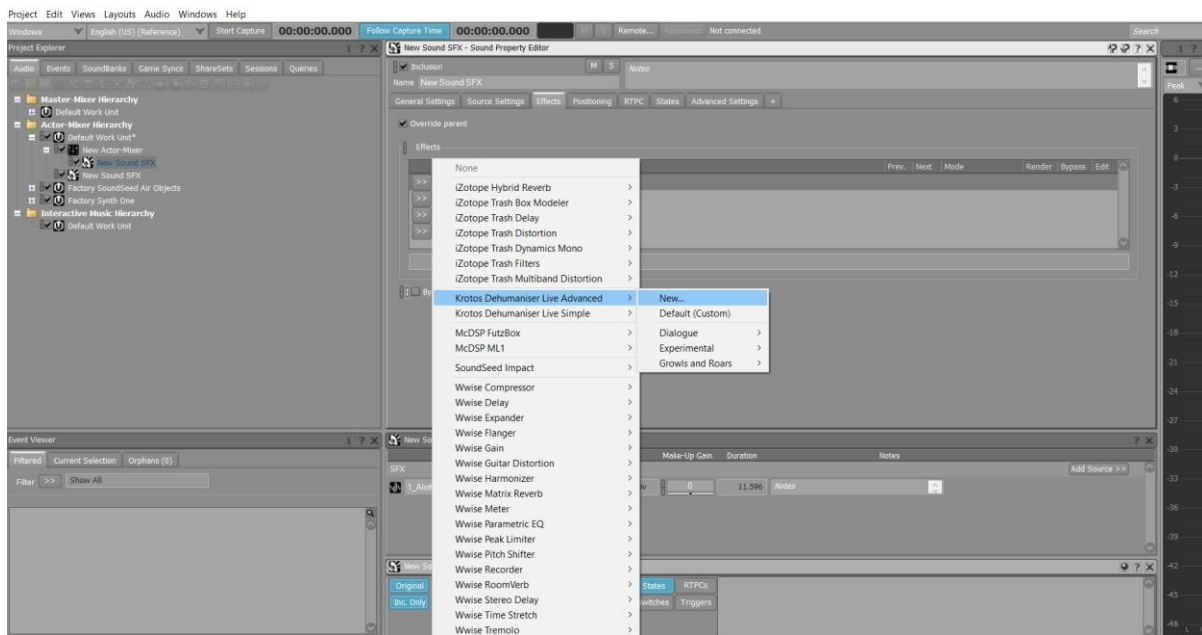
This version of Dehumaniser takes most of the familiar modules from our DAW plugin Dehumaniser 2, optimizes them for use in middleware, and offers precise control over the parameters for use at run-time.

1.1 Installation

Please run the installer downloaded from krotosaudio.com.

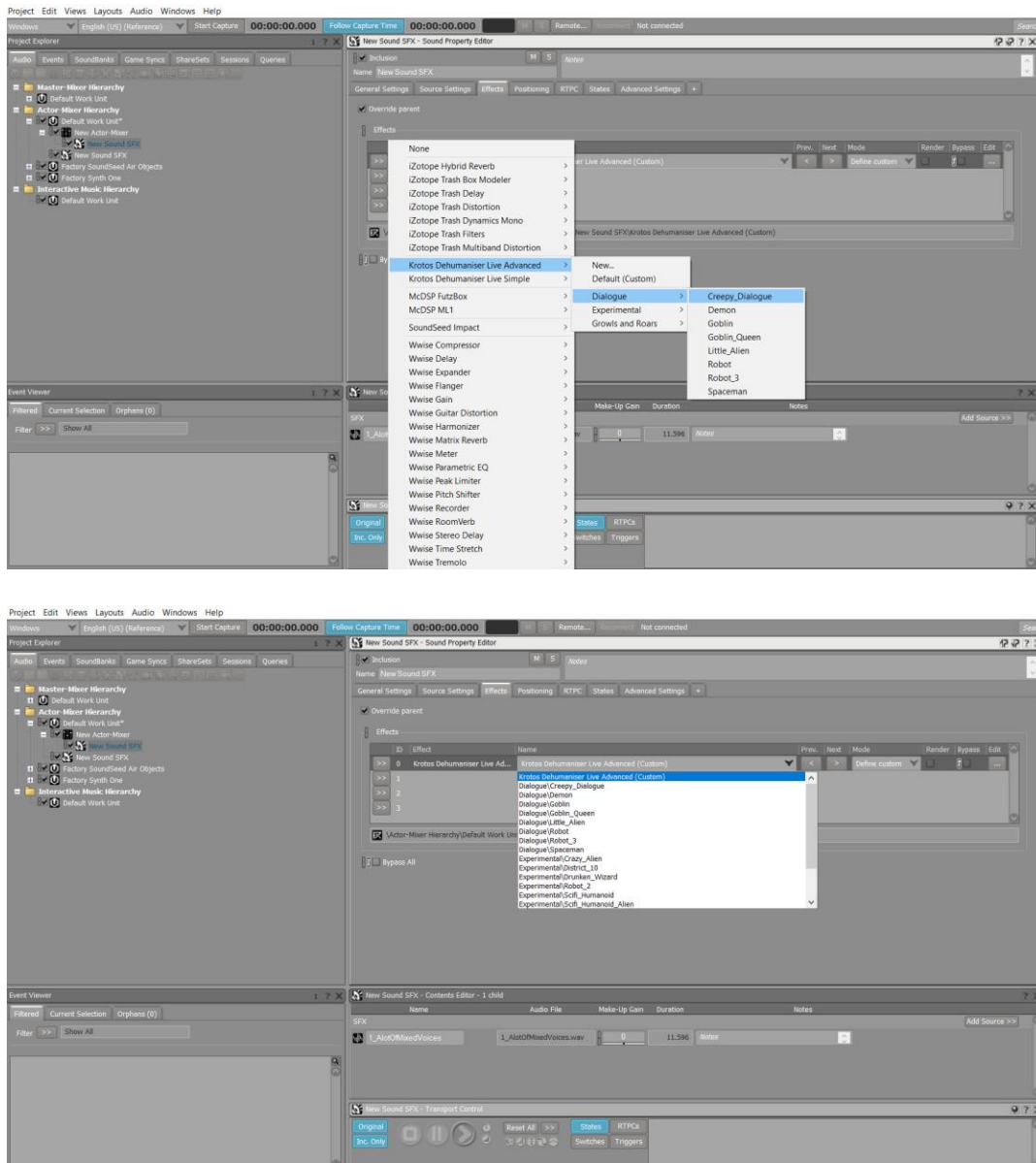
Once installed, the plugins will be placed in the correct plugin folder for your version of Wwise solution. You will be able to select the plugins to include in your new project in Wwise, in the same way as other third-party plugins.

To add the plugin, simply select the sound you want from the Default Work Unit while in Designer Layout in Wwise. In the Sound Property Editor choose the Effects tab, then click on the arrows in the Effects module to open the drop-down menu. In here, choose KrotoS Dehumaniser Live Advanced and then the Default or Preset option you require.



1.2 Presets

We've created several presets to get you started, and these are accessible from the plugin menu, when you add the plugin. They are broken down into a series of sub-menus for the sake of organization and ease of access.



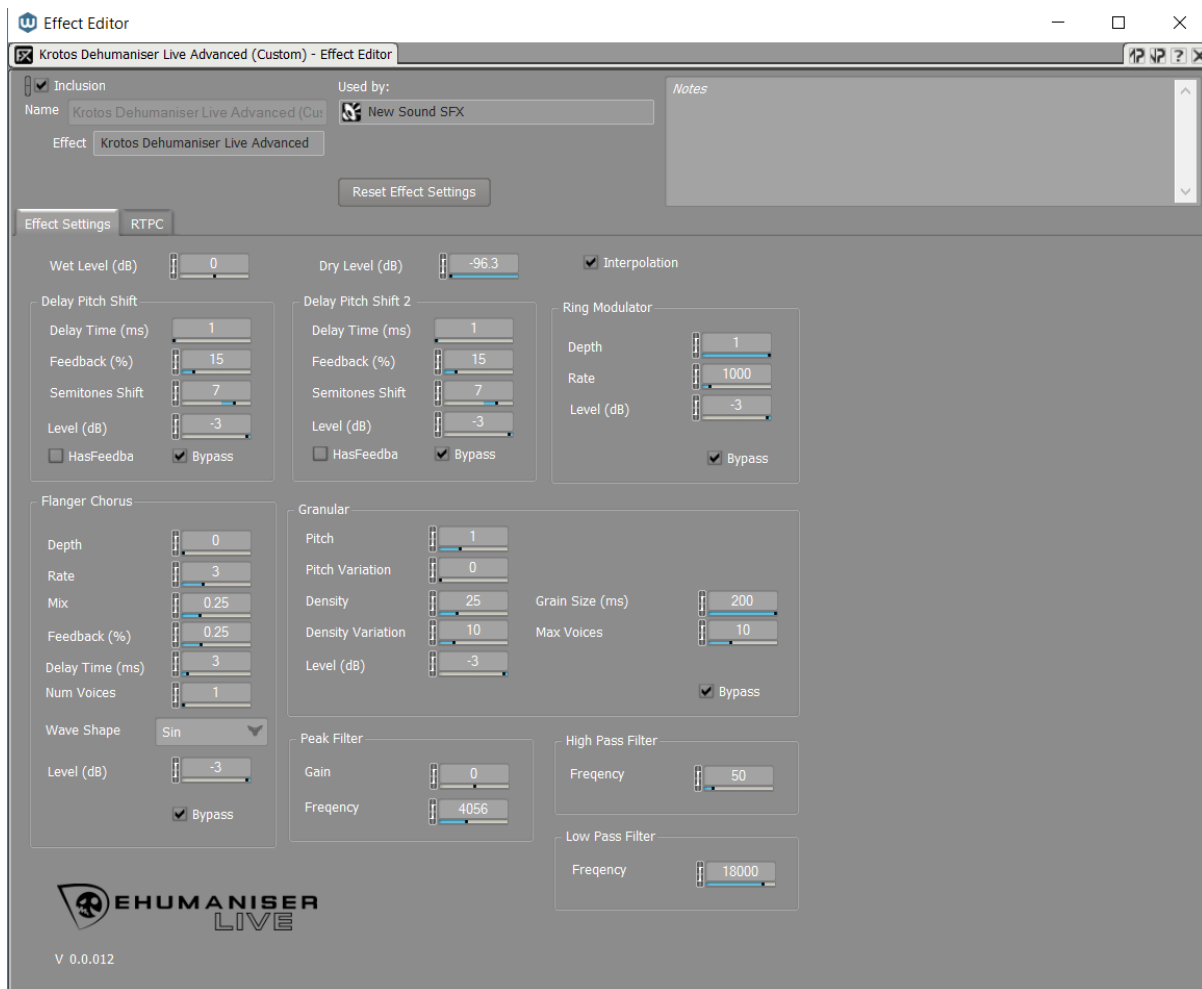
1.3 Modules

This version of Dehumaniser offers the following modules:

- Granular
- Delay Pitch Shifting (x 2)
- Flanger/Chorus
- Ring Modulator

The modules are hard-wired to run in parallel in the current version.

Each module can be bypassed by ticking the **'Bypass'** box close to that module. This will exclude the processing, and reduce the CPU load. For maximum performance, make sure to bypass all the modules you do not intend to use.



In both Granular and Flanger/Chorus modules, the number of voices can be controlled discretely. This not only affects the sonic character of the module, but also the CPU usage.

The Delay Pitch Shifter modules can also be used as delays, by adjusting the delay time.

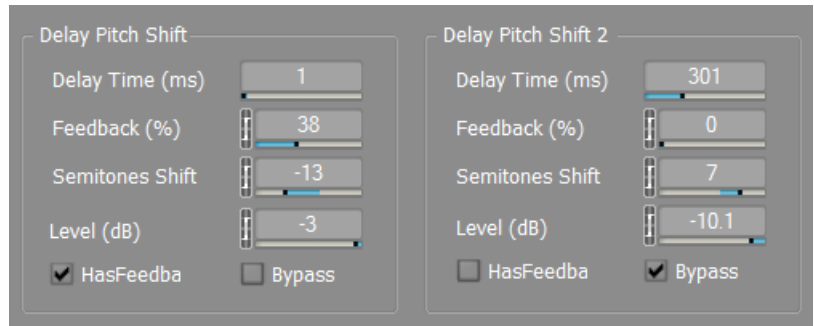
The '**Interpolation**' switch at the top of the plugin offers a choice of quality setting for the internal DSP processing. Disabling this will produce gains in CPU use, at the cost of sound quality.

1.3.1 Delay Pitch Shift

This is a classic pitch shifter with a delay line included for a variety of exciting sonic possibilities.

Delay Time (ms)

This parameter sets the loop time, in milliseconds. The loop time can be set between 1 millisecond and 5 seconds (5000ms)



Feedback

The feedback sets the percentage of audio that is being sent to the delay loop. It takes values from 0% (no feedback) to 200%. Take caution when using values from 100%, including 100%, because they will create an infinite loop with increasing audio level.

The feedback circuit is deactivated by default, and can be activated by ticking the '**HasFeedback**' box.

Semitone Offset

This parameter affects the amount of Octaves (12 semitones) added or subtracted from the Loop Pitch Shift value, i.e. Loop Pitch Shift value of "Minor 3rd" (3 semitones) and Octave Offset +2 results a transposition of +25 semitones.

You can adjust the level of the module with the 'Level (db)' slider.

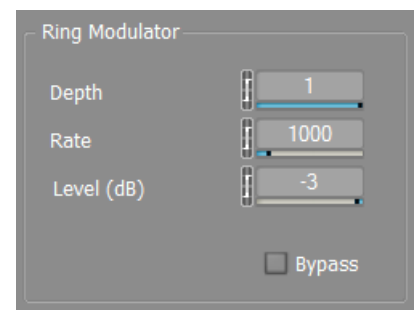
1.3.2 Ring Modulator

This is a classic ring modulator multiplies the incoming signal with an oscillator (in this case a sine wave). Excellent for robotic sounds!

The Depth control works like a 'mix' control, to blend the dry/wet signal of the processing.

Rate controls the rate of the oscillator.

You can adjust the level of the module with the 'Level (db)' slider.



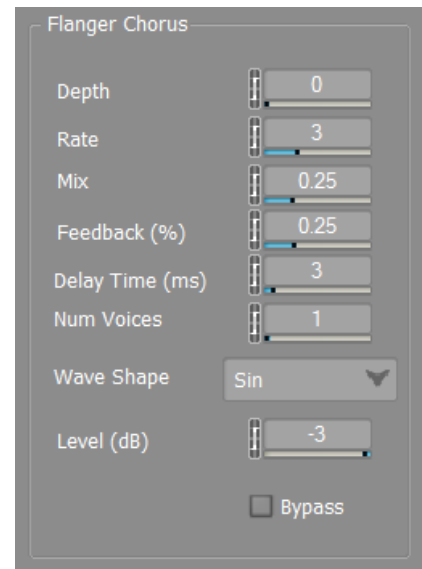
1.3.3 Flanger/Chorus

The Flanger/Chorus module simulates two technically similar effects; the Flanger and the Chorus. This module uses modulating delay times to process a signal.

The Flanger adds a robotic/artificial flavour to the sound by adding short delays. On the other hand, Chorus simulates the natural processes happening when several voices are played together, by adding longer delays to the delays.

Waveshapes: Choose from a variety of waveshapes to modulate the source. The shapes are the sine, triangle, square, square with ripples, wave-like, logarithm and exponential.

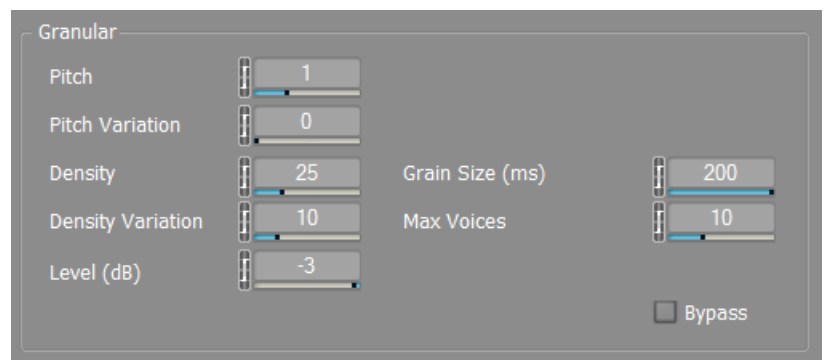
- Depth: The pitch variation of each voice from the input pitch.
- Rate (Herz): Set the frequency at which the pitch of each voice oscillates.
- Delay time (ms): The delay introduced in each voice compared to the input.
- Mix: Controls the amount of voices added to the input.
- Feedback: Changes the amount of resonance added by the feedback.
- Number of Voices: This changes the number of copies of the input signal added to the input. Each voice has a slightly different parameter set (by default mix, depth, rate and feedback).



You can adjust the level of the module with the 'Level (db)' slider.

1.3.4 Granular

Granular synthesis can create astonishing effects by splitting the sound into grains. This effect has various parameters that can alter the pitch along with the texture of the voice and can make it sound whispery or harsh. Furthermore, the grain separator setting can reproduce only bits of the input sound with silence between them and create bizarre effects, ideal for alien languages.



- Pitch: This parameter controls the tonal transposition of each grain in relation to the grain's tonality.

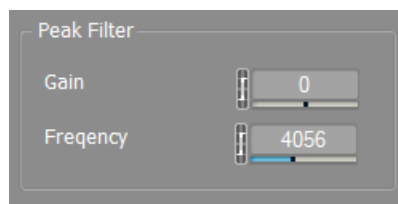
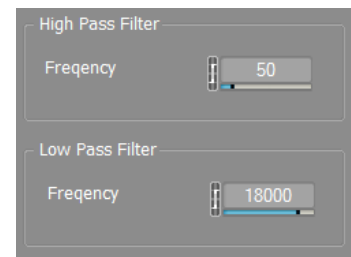
- Pitch Variation: Gives random variation limit to the “Grain Pitch”. The value is given in semitones. A random value between zero and the “Grain pitch variation” will randomly be added or subtracted to the value of “Grain Size”.
- Density: This parameter affects the time of generation between two consecutive sound grains.
- Density Variation: The limit of random variation on the “Grain Separation”. The value is given in milliseconds. A random value between zero and the “Grain rate variation”, will randomly be added or subtracted to the value of “Grain Separation”.
- Grain Size: The size of sound grains, given in milliseconds.
- Max Voices: Sets the maximum amount of simultaneous grains / voices that can be produced. Larger number of voices produces sounds with wider frequency spectrum.

You can adjust the level of the module with the ‘Level (db)’ slider.

1.4 Filters

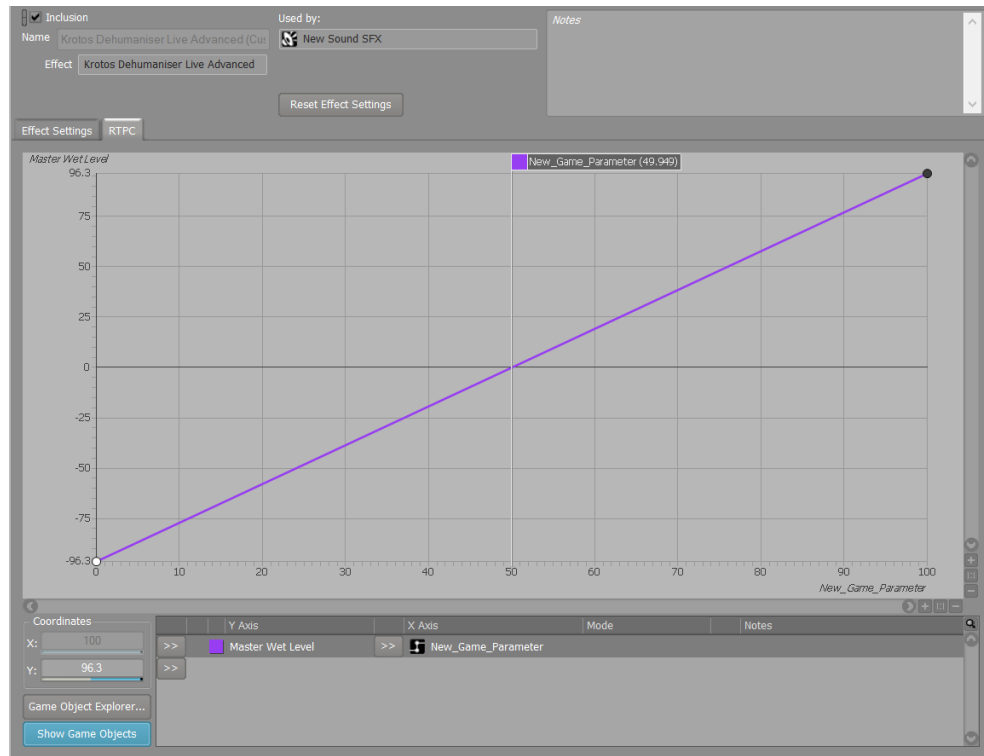
The plugin contains both low-pass and high-pass filters for shaping the processing. These are post-processing and apply over the signal from all modules.

A peak filter is also applied in the same way. Set the center frequency of the filter with the frequency control. The gain slider produces either a boost or a cut to the signal (0 = no affect, negative values = cut at the set frequency, positive values = boost at the set center frequency)



1.5 RTPCs

Most of the parameters in the plugin are available for use with RTPCs. However, some parameters are currently unavailable in this version. If there are particular parameters which you'll like to be able to use for RTPCs that are not currently available, please let us know via our contact webform.



2 Dehumaniser Live - Simple Mode

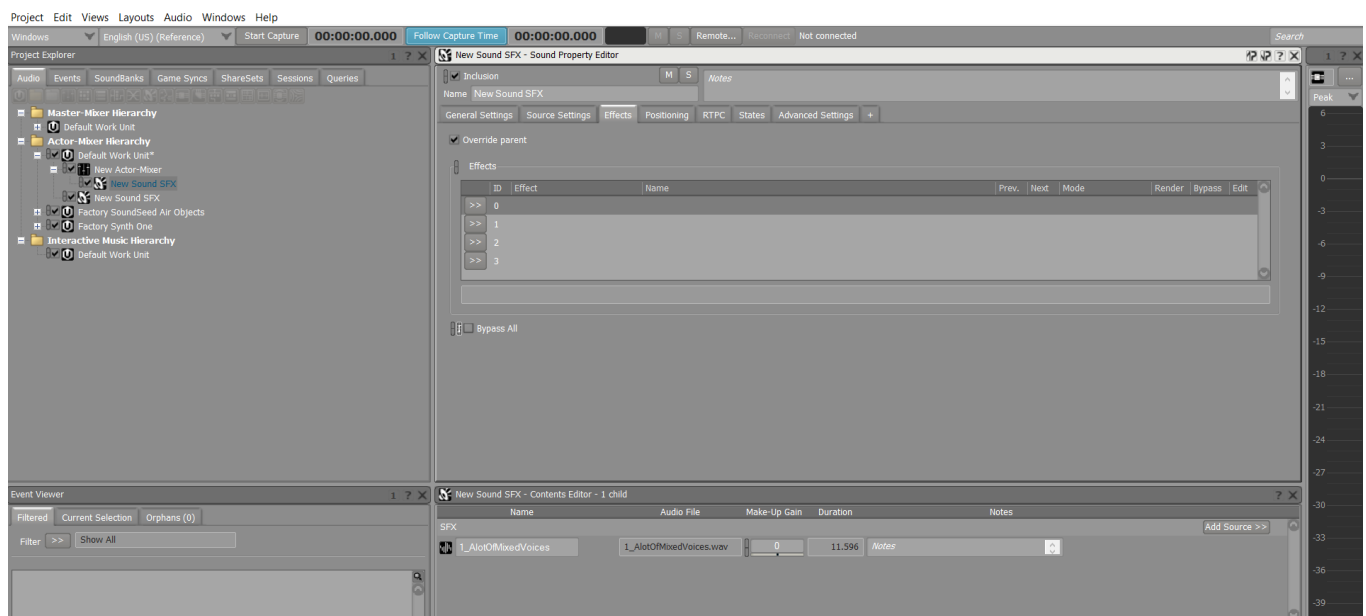
This version of Dehumaniser takes a new design approach to the software. It may be familiar to some, but is now tailored especially for middleware. We've created a new and unique system for interacting with complex layers of DSP and settings for audio parameters. This interpolates between multiple parameters behind-the-scenes so sound designers can focus on designing dynamic characters for their games.

2.1 Installation

Please run the installer downloaded from krotosaudio.com.

Once installed, the plugins will be placed in the correct plugin folder for your version of Wwise solution. You will be able to select the plugins to include in your new project in Wwise, in the same way as other third-party plugins.

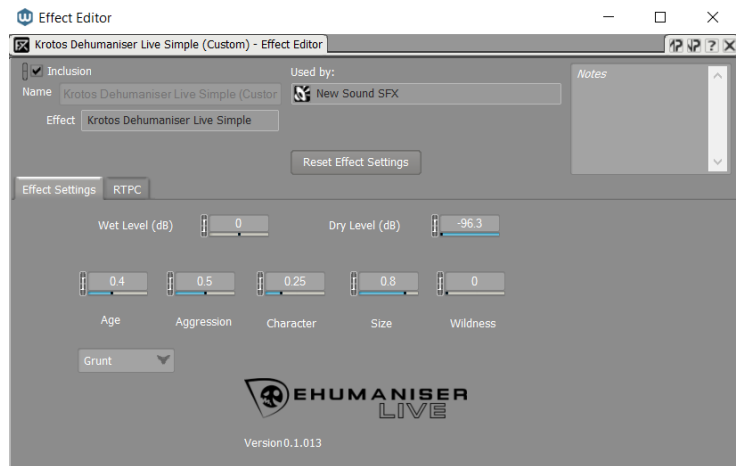
To add the plugin, simply select the sound you want from the Default Work Unit while in Designer Layout in Wwise. In the Sound Property Editor choose the Effects tab, then click on the arrows in the Effects module to open the drop-down menu. In here choose Krotos Dehumaniser Live Simple and then the Default or Preset option you require.



2.2 Parameters

Dehumaniser Simple Mode for Wwise offers five parameters to the user: Age, 'Aggressiveness', 'Size', 'Character' and 'Wildness'

These parameters have a symbiotic relationship to one-another, so that changes in one will smoothly, and dynamically affect the other. This allows you to design a 'core' character, and then make smaller adjustments based on behaviour (say, becoming more or less aggressive, or wilder, based on RTPC data from your game).



Size

This control affects the central pitch of the processing, as well as other elements of the multi-layered processing (including filter behaviour) in real-time. To design a smaller character, reduce the size value. To design a larger character, increase it.

Aggressiveness

This control affects the dynamic feel of the processing; if a character is passive, or inactive or active and aggressive. Higher values produce more aggressive processing, and lower values produce a more passive feel. This parameter is very effective once you have made decisions about size, age and character. Once the overall feel of your character is set, you can simply increase the fury to make them more, or less, angry or frantic.

Age

Age affects the pitch and feel of the character in a more delicate way than the Size parameter. However, these controls have a close relationship to one another, and certain settings will only be achievable with precise combinations of the two.

Character

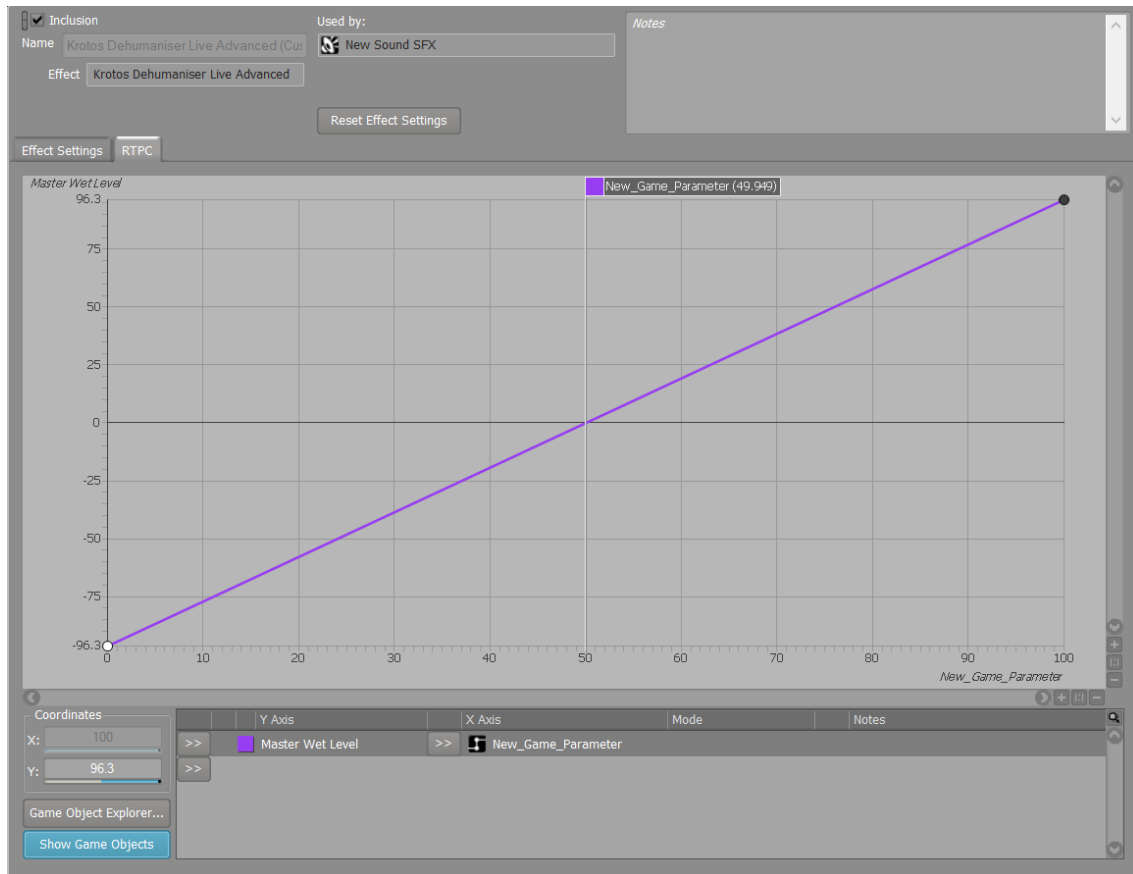
Character controls the overall feel and mix of the layers of processing. Different settings of character also affect dynamics (for instance a setting of '0' will be much quieter than a setting at max). This allows you to design a 'core' character using the Size, Age, Aggression and Sample Playback Level sliders, and then make smaller adjustments to the mix of processing that make up this sound.

Wildness

'Wildness' controls the amount of variation applied to the core sound, based on the settings of the other parameters (for instance, setting a young, small creature and then increasing the wildness will produce variations based on those parameters).

2.3 RTPCs

Most of the parameters in the plugin are available for use with RTPCs. However, some parameters are **currently unavailable in this version**. If there are particular parameters which you'll like to be able to use for RTPCs that are not currently available, please let us know via our contact webform.



3 Dehumaniser Live - Mic Input

The Dehumaniser Live Mic Input takes the audio signal from any connected microphone and exposes it to Wwise. This is an additional add-on purchasable from Krotos.

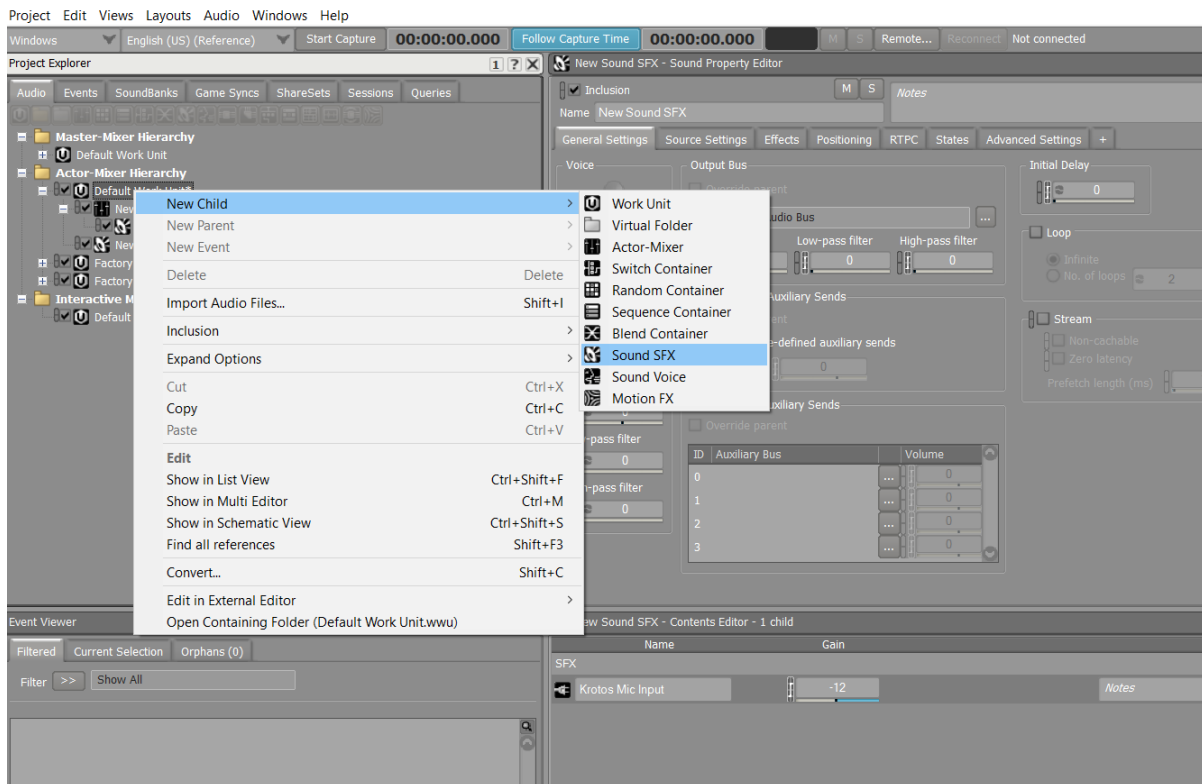
3.1 Installation

Please run the installer downloaded from krotosaudio.com.

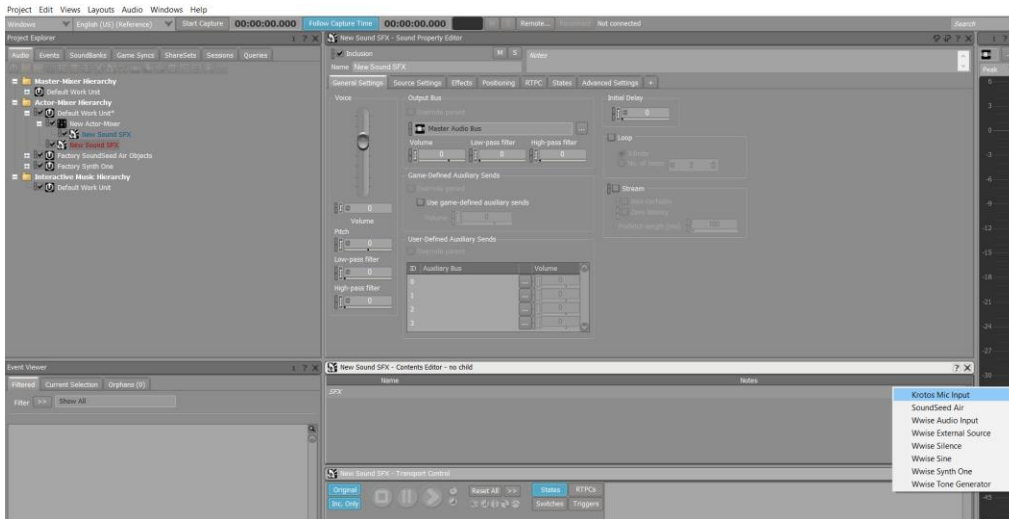
Once installed, the plugins will be placed in the correct plugin folder for your version of Wwise solution. You will be able to select the plugins to include in your new project in Wwise, in the same way as other third-party plugins.

3.2 Setup

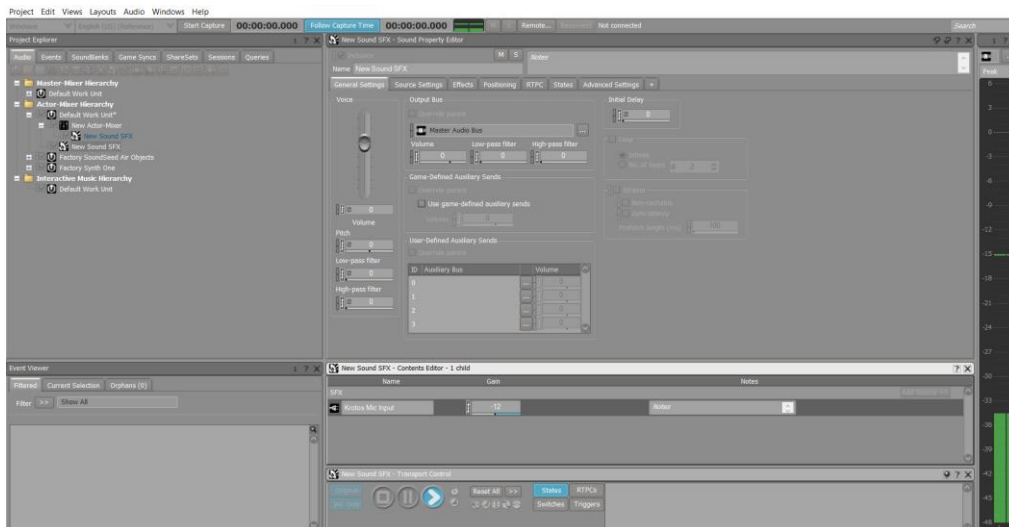
Under default work unit (on the left-hand side), right click and select 'New Child > Sound SFX'



Then choose 'Create - New SFX', and select 'Add Source' from the bottom right-hand corner of the screen.



Select Krotos Mic Input. Press play, and you will hear the stream of live audio.



To use with Dehumaniser (if installed), choose '**Effect**' in the panel in the upper section of the screen. Under '**Effects**', click the top grey box with two arrows [>>]. Select Dehumaniser Advanced Mode from the menu (at the bottom) and work through the sub menus to select your preset.

For example, choose Dialogue > Robot. You will hear the live signal passed through Dehumaniser sounding like a robot.

*NB: For maximum performance select a lower buffer size in your User Preferences in Wwise. **We recommend a buffer size of 256 with either 2 or 4 buffers, depending on your project's demands.***

4 Dehumaniser Live - Vocoder

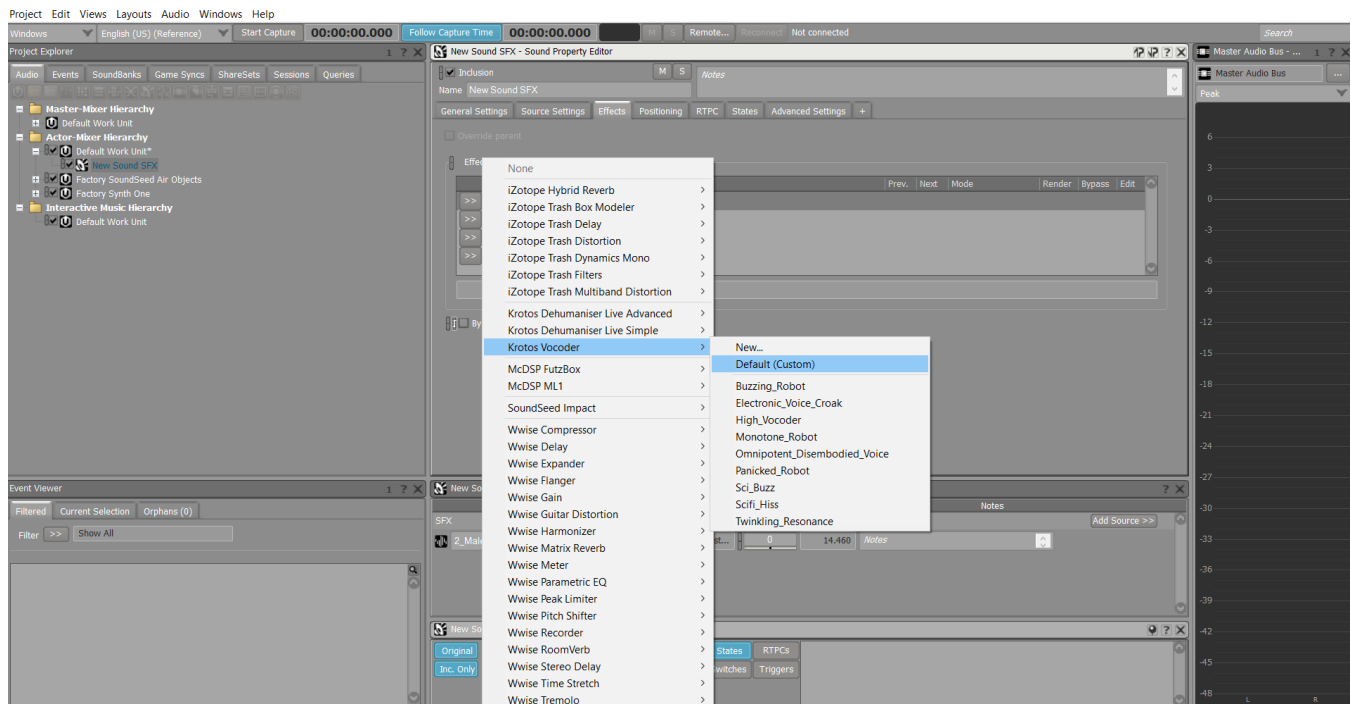
The Dehumaniser Live Vocoder is tailored especially for middleware. We've created a wave manipulating plug-in that interacts with dialogue input and voice samples, allowing sound designers to focus on designing dynamic characters for their games. This is an additional add-on purchasable from Krotos.

4.1 Installation

Please run the installer downloaded from krotosaudio.com.

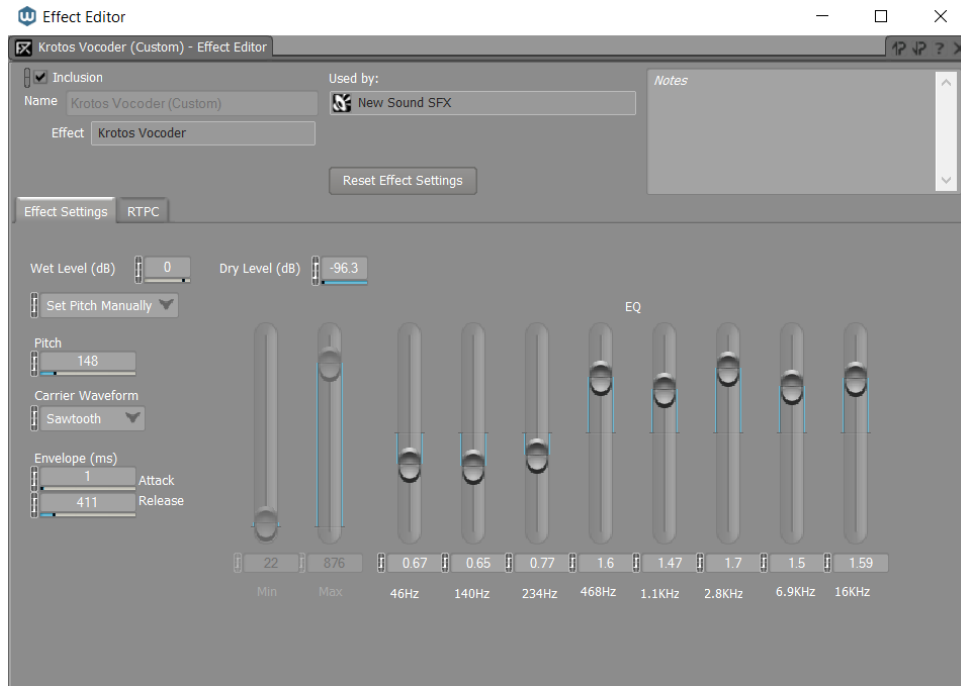
Once installed, the plugins will be placed in the correct plugin folder for your version of Wwise solution. You will be able to select the plugins to include in your new project in Wwise, in the same way as other third-party plugins.

To add the plugin, simply select the sound you want from the Default Work Unit while in Designer Layout in Wwise. In the Sound Property Editor, choose the Effects tab, then click on the arrows in the Effects module to open the drop-down menu. From here, choose Krotos > Krotos Vocoder > Default (Custom).



4.2 Parameters

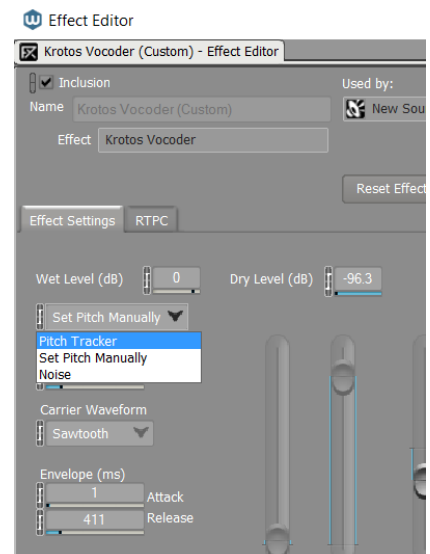
The Krotos Vocoder offers eight parameters to the user: Mode, Pitch, Carrier Waveform, Pitch Tracker Algorithm, Envelopes, Range, Graphic EQ and Dry/Wet Level.



These parameters allow you to design a 'core' character and then make smaller adjustments to fully create the sound you want. You can also use RTPC's to adjust these parameters based on in-game data.

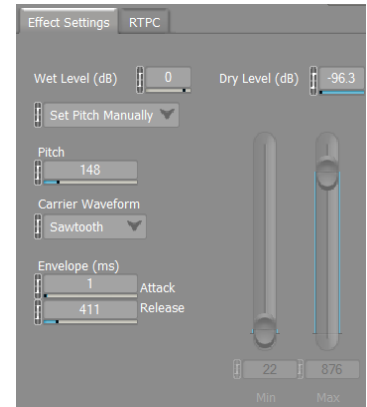
4.2.1 Mode

This control has three settings - Pitch Tracker, Set Pitch Manually and Noise. Pitch Tracker set's the pitch according to the incoming sample. Set Pitch Manually applies a set pitch using the 'Pitch' parameter. Lastly Noise modulates the pitch with a noise signal. Each of these settings are good for creating different types of voice. Pitch Tracker works well on expressive fluctuating samples. Set Pitch Manually is great for monotone robotic dialogue. Noise is good for sci-fi creatures and ethereal voices.



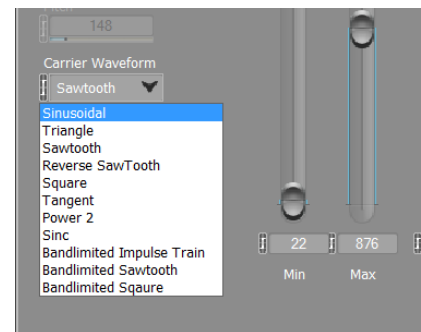
4.2.2 Pitch

Pitch is used only when the Mode is set to Set Pitch Manually. The range parameters of the Krotos Vocoder are disabled and causing a monotone resonating frequency setting. By adjusting the Pitch parameter higher or lower, the relative pitch of the modulation applied to the sample will also be higher or lower.



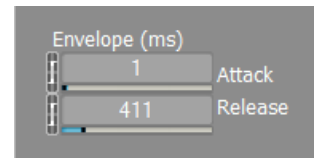
4.2.3 Carrier Waveform

This parameter allows the user to choose from a range of different carrier waveforms, that modulate the sample in different ways. Use the different waveforms to create unique and tailored modulation that accurately describes a character in-game.



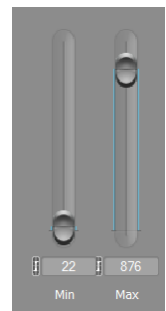
4.2.4 Envelope

The Envelope parameter has an Attack Time and a Release. These controls allow the user to adjust how quickly the processing affects the sample and how long the fall-off of the effect from the sample will be. Short Attack and Release time will give shorter and quicker effects as well as glitchy stutters. Long Attack and Release times will result in washed ambient sounds with ethereal or delayed sounding effects.



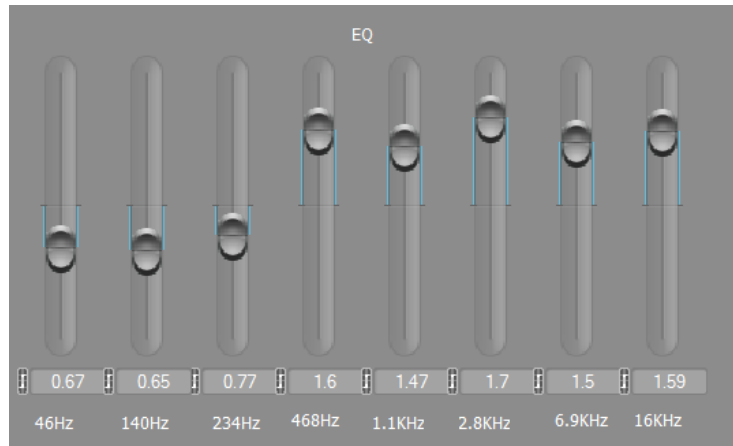
4.2.5 Range

The Range parameter has two components, Min and Max. These set the limits for the Pitch Tracker mode and how much the sample will fluctuate, based on the incoming pitch. With the parameters set for a smaller range, samples can be more glitchy or monotone. With the parameters set for a larger ranger, the sample can fluctuate and sound more random.



4.2.6 Graphic EQ

This is an eight band Graphic EQ that allows the user to fine tune the tone and qualities of the overall sound. Create high frequency roll-offs, reduce boom or add more clarity to any preset or custom user created content, using this parameter.



4.2.7 Dry/Wet Level

Dry Level allows the user to increase the original dry sample level to the mix, blending with the wet level as required. Wet Level allows the user to reduce the level of the vocoder processing, either reducing the overall level of the mix or blending with the dry level as required.



5 Feedback

We hope you enjoy using this version and look forward to hearing your feedback.

We'd love to hear about any issues you had or any further suggestions as to how we could improve the plugin in any way.

To contact our support team, please [message us here](#).