

# A JSFX resource (for the easily overwhelmed)

compiled by [Keith Haydon](http://www.reverbnation.com/keithhaydon) ([www.reverbnation.com/keithhaydon](http://www.reverbnation.com/keithhaydon)) June 2022

I assembled this to help folks like me, who need a map to navigate the vast, unfamiliar sea of JSFX plugins. Not that you would actually use a *map* to navigate at sea... It just sounded better. And that's what JSFX are all about: *sounding better!* :)

I hope this will help you more easily explore the sonic possibilities of these crazy, cool JSFX plugins!

Note: Because I couldn't include all the JSFX, apologies and liability waivers can be found, [here](#). :)  
(Special thanks to BethHarmon for her guidance and support, throughout)

\*Please install all the Reaper extensions, especially [ReaPack](#). Keep [repositories](#) updated\*

**These are links to JSFX plugin packs** (the ones I know about, anyway):

<https://github.com/JoepVanlier/JSFX>

<https://github.com/chkhld/jsfx>

<https://geraintluff.github.io/jsfx/>

<https://www.tbproaudio.de/download>

<https://github.com/asb2m10/jsusfx/tree/master/scripts/liteon>

<https://ajaxsoundstudio.com/cookdspdoc/#download>

[https://stash.reaper.fm/v/25168/js\\_plugins.zip](https://stash.reaper.fm/v/25168/js_plugins.zip)

<https://www.ambisonictoolkit.net/documentation/reaper/>

How to install JS plugins: <https://www.youtube.com/watch?v=9EegrN-gF5o>

<https://www.youtube.com/watch?v=KIhrxE3kK0>

Next, you'll want to become familiar with cut/pasting code so you can create JSFX.

Here's Kenny Gioia to explain how...: <https://www.youtube.com/watch?v=pRIFOTiDp7w>

Note: One place to find info/instructions about a plugin, is in the code of the JSFX plugin. Just hit "Edit..." button, to view the code. Choose "Open in external editor" to see the code, in "notepad". The instructions are usually at the very beginning.

And then, there's WIKI:[https://wiki.cockos.com/wiki/index.php/Jesusonic\\_Documentation](https://wiki.cockos.com/wiki/index.php/Jesusonic_Documentation)

Finally: Learn to edit JSFX to suit your needs -w/o learning tons of code: [Just click here](#).

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## **CATEGORIES:**

Reverbs, Delay/Echo, Chorus/Flangers, EQ/Coloring,  
Bass/Lo-end, Transients, Gates, Compressors, Limiters, Lo-Fi, Crushers, Distortion, Other FX, Filters, Audio Analysis  
Utility, Stereo/Panning/Surround-5.1, Mastering, Synths-  
Sound Generators, MIDI-Arps, generators, MIDI FX, MIDI  
Utilities, and MIDI Editing

(Supplemental Scale, Sequence and KeyMap data)

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RBJ1073  
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Stereo Chop Chop

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[Dis-Treasure](#)  
Express Bus Compressor  
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LA-1A Compressor  
Major Tom & Master Tom  
Mawi Compressor  
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Multiband Ravager  
S.LA.X  
Saike Never Odd or Even  
Tight Compressor  
VOLA  
Upward Expander

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Mod – izer  
Nostalgizer  
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SC Filter  
Shelving Filter  
Simple 6db LP Filter  
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Cabinet Sim  
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Tone Gate

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Mid-Side Encoder / Decoder  
Modulation (w/presets)  
Panalysis  
Phase Rotator  
Pseudo-stereo fx  
RBJ Stereo Image Filter  
Stereo Bub II & III  
Stereo2Surround Rotator  
StereoManipulator  
Stereo To Sides  
Stereo Width  
Transform-Rotate-Tilt-Tumble (quad; 5.1)  
Volume/Pan Smoother v5

## **MASTERING:**

[BBE Sonic Maximizer](#)

Loudener  
Master Limiter  
QuadraCom  
Routing tool

## **SYNTHS/SOUND GENERATORS:**

Hammer And Chord (w/presets)  
Humonica (w/presets)  
Lorenz Attractor  
PadSynth (w/presets)  
ReaRack2 Modular Synth  
Shepherd Paradoxical Synth  
Simple Drum Synth  
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SpectroPaint-Synthesis)  
Swellotron  
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Yutani Mono Bass synth  
Ze Musette Organ

## **AUDIO ANALYSIS:**

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[Goniometer \(Tukan\)](#)  
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[ReSpectrum](#)  
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Bleed Kill-pressor  
Bric-a-Brac  
De-Esser  
DrumReplacer  
FX\_Chain\_Mixer\_Stereo  
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Learning Sampler  
Loudness Meter  
Macro Controller  
Mixer\_8xM-1xS / Mixer\_8xS-1xS  
Non-Linear Processor  
Punk Duck  
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Reference Noise:  
Second-Order Phase Shifter Allpass  
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Switcher 3  
SwixMitch  
Tone Sweep  
Triggered Random Modal Riffer  
TriLeveler 2  
Tukan De-Esser  
WaveshaperMulti

## **MIDI ARPS/GENERATORS: MIDI UTILITIES:**

[arp!0 - groovy MIDI arp](#)

El Chordero

FrAr

Gaussian Humanizer

MIDI Arp

MIDI Arpeggiator

MIDI CC LFO

MIDI Chord Splitter

MIDI Chordizer

MIDI Note Preview

MIDI Polyphonic Splitter

Nova Two - Generative Sequencer

Sendo

[Stochasticizer](#)

Super Arp!

VeloCycle

VI Sculpt

## **MIDI FX:**

CCRider

Channel to Key-switch

ChokingHazard

Cross-Polyphonic FM

Droplets (w/presets)

Karplus-Strong Delay

KeyMap II

KeySnap

Latch

Looper

Mibrato

MIDI Constant\_Note\_Length

MIDI Gate:

MIDI Harmony

MIDI Polyphonic Splitter

MIDI Strummer

MIDI Variant

MIDI "Vocoder"

Mipressor

MIDI Pitch Follower

MIDI Re-mapping

Multi Channel MIDI Keyswitch

Probalocity

Tool II

Variant

Velocifier II

Vibrato

Wobulator

AB Level Matching

Audio to MIDI

Audio to MIDI Drum Trigger

Fretboard Mapper

MB Reautomate

MIDI Clocks

MIDI Event Filter

MIDI-controlled track automation:

MIDI Performer2

MIDI Pitch Bend and Modulation Wheel

MIDI Rhythm Trainer

MIDI Timing and Velocity Humanizer

MIDI velocity viewer

Pitchwheel Control Center

Pitch Follower

ReaAutomate

Send Crossfader

SwixMitch GUI

Vmorph

X-Y pad controller

## **MIDI EDITING:**

Audio Vol to CC

Convert Envelope Automation to MIDI

Expression:

Convert MIDI CC to Envelope Automation:

Play Speed Switcher:

MIDI CC-to-CC Remapper

MIDI CC to Pitch Bend:

MIDI Message Converters

MIDI Nudge

MIDI Pitch bend to CC

MIDI VeloCurve

MIDI RedCC

MIDI Routing Matrix

MIDI Tool II

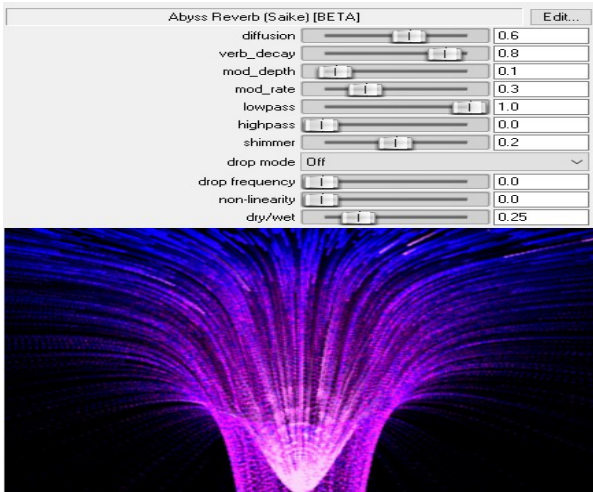
MIDI Transposer and Compressor

MIDI Velo to CC and CC to Velo

Addendum text: [SCALE text](#), [SEQUENCE texts](#) and [KEYMAP text](#)

# REVERB:

## Abyss Reverb:



A shimmery reverb that's very popular.

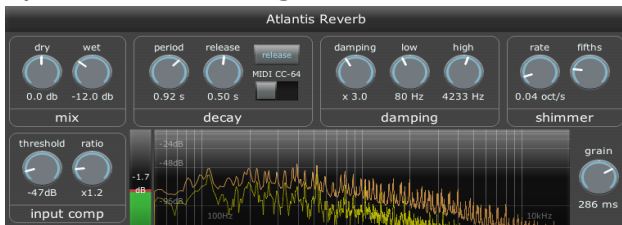
May 2022: reported that Abyss reverb may not like 8x oversampling, as it causes endless noise buildup!

"Remember that 'chain oversampling' can introduce behavioral issues using certain plugins."

<https://www.youtube.com/watch?v=nd1sMWZKGIY>

## Atlantis Reverb:

Specializes in long ambient sounds and shimmering textures.



"Grain" size controls the freq./time resolution.

Longer grains give smooth and pure tones; shorter ones give a thicker, wavering tones.

The "shimmer" control slowly morphs the reverb up by octaves over time, adding a bright and ethereal

sound to the reverb.

"Fifths" dials in octave-and-a-fifth shifts. May sound smoother, but not sound as clean.

"Release" controls (decay section), allow you to move the current echoes over to a second, faster-decaying reverb line.

It can be triggered by mouse, automation, or MIDI controller #64 (if enabled).

If the quieter bits sound great, but the louder sections sound harsh, the "input comp" section can help you tame the peaks.

[https://www.youtube.com/watch?v=Os7b\\_yzYZlw](https://www.youtube.com/watch?v=Os7b_yzYZlw)

## Lava Verb:



Shimmer reverb w/ 5 algorithms that have their own sound. Works in time domain and spectral domains.

Features:

- Shimmer (through pitch shifting).
- Saturation.
- Ice effects.
- Preset EQ curves.
- UI with fluid dynamics.



## Lexikan /Lexikan 2 (w/presets):



From ambiance to big plates, everything is possible. Give your tracks some room and space in the mix. "Using the Lexikans in a clever way, the mix will become lively and 3D-ish", says Tukan Studios. (Can be CPU hungry, however.)

Manuals: <https://www.youtube.com/watch?v=Ik-Hbw38k8c>

## Satan Verb (w/presets):

Mostly for diffuse and gated style reverberation.



It can either be used without an envelope, to generate large ambient spaces, or be modulated by an envelope based on the input sound to

give a sound more body while not adding too much noise to the dead time.

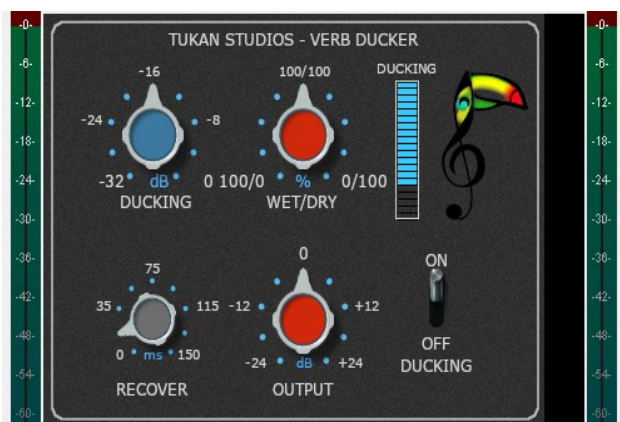
### Features

- FFT based reverberation algorithm.
- Optional downward spectral smearing for creepy effects.
- Optional spectrally shifted copy can be mixed in.
- Steep IIR LPF/HPF filters for the verb.
- Optional delay compensation.
- Envelopes based on the input envelope.
- Input non-linearity (dist), spectrum non-linearity (ceiling).

Instructions: <https://github.com/JoepVanlier/JSFX> (scroll down the page)

## Verb Ducker:

"To prevent your mix "swimming in reverb tails" you can clean that up with 'Verb Ducker'.



This plugin is designed to reduce the volume of the reverb or a delay while the direct signal is happening.", says Tukan Studios.

## DELAY/ECHO:

delay\_chfun: stereo bounce delay

delay\_chorus: delay with integrated chorus in the delay path

delay\_lowres: delay with adjustable resolution of the signal in the delay path

delay\_tone: delay with tonal control

delay\_varlen: variable length delay

delay\_pong: Ping-pong delay

delay\_tempo: Delay with optional tempo synchronization.

### **Delay Machine 2:**

This plugin is an advanced dual delay with time sync options.

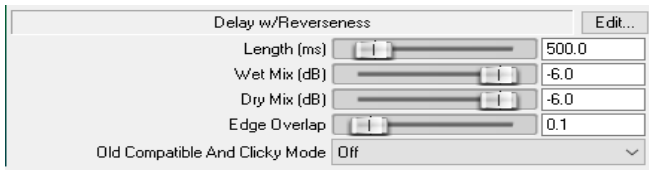


Capable of side-chain input, the delays can be processed by any other plugins while the clean signal stays clean. The plugin itself features a lot of flexibility of delay-designing and effects on the delays (distortion, bit crush, filter...)

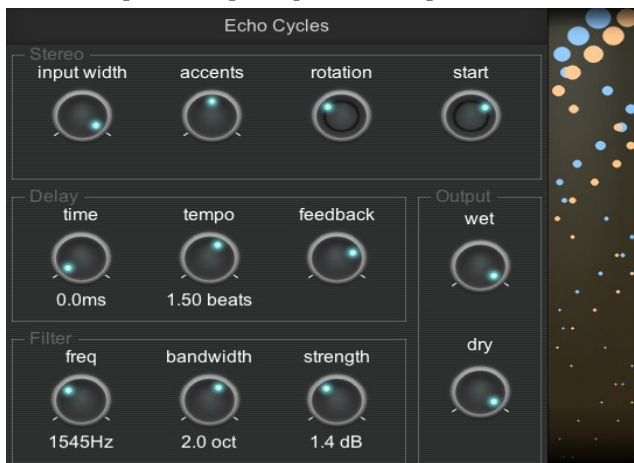
Some user contributed presets:

[https://stash.reaper.fm/v/43713/js-Tukan\\_Delaymachine2%20%28Tukan%29.ini](https://stash.reaper.fm/v/43713/js-Tukan_Delaymachine2%20%28Tukan%29.ini)

### **Delay w/Reverseness:**



### **Echo Cycles (w/presets):**



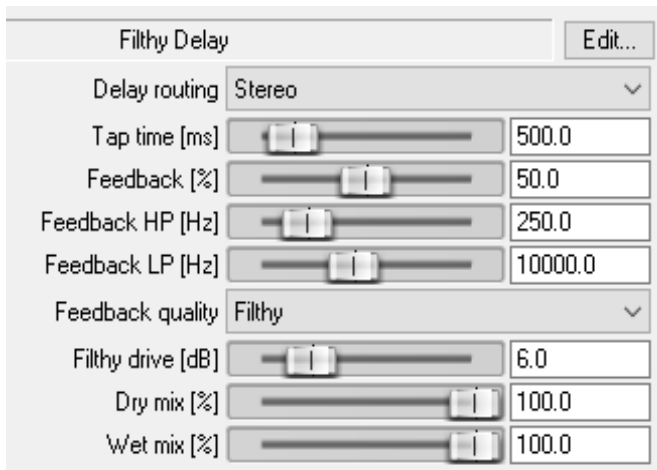
A feedback delay effect where the echoes move through the stereo space.

The stereo position of the echoes are independent, and good for building up textures.

<https://www.youtube.com/watch?v=BZ-1z7IKYT8>



## Filthy Delay:



Three signal routing modes:

Stereo: delay tap happens where the signal happened

Inverted: delay happens on the opposite side of the signal

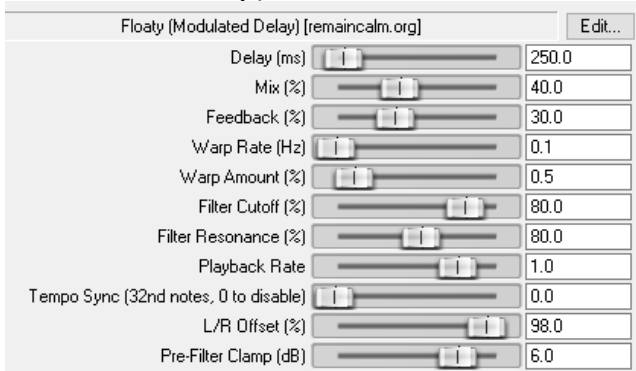
Ping-pong: delay reflects back / forth between both sides

(\*More instructions in the actual code\*)

Link to [Filthy Delay updates](#)

## Floaty:

Modulated delay; lots of extra craziness.



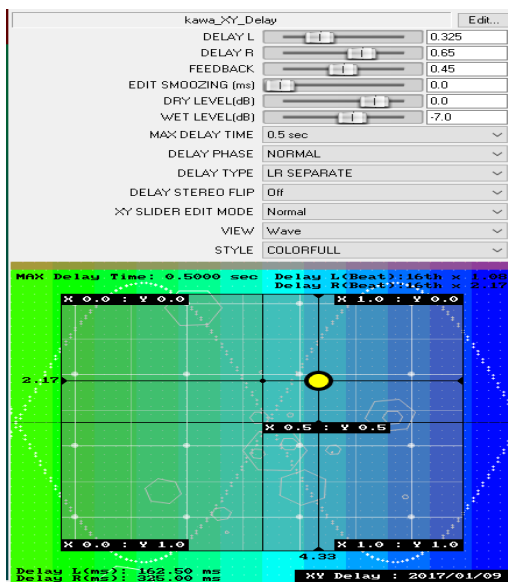
"Only stock delay with modulation (ReaDelay doesn't have it)"

"I use it sparingly (i.e. with modest, gentle settings) to help create a subtle "dreamy" effect for an instrument...."

It's creator says, "It's a tape-style modulated delay - the play head can "float" around the tape in interesting ways."

It goes great on big washy echoes and dubby stuff but it's a secret weapon on vocals, does a great 100ms "Lennon" style short vocal delay with a bit of tweaking. You can also knock the play-rate up to 2x and with the right mix, delay time and filter settings it can do some stellar sparkly stuff to synths."

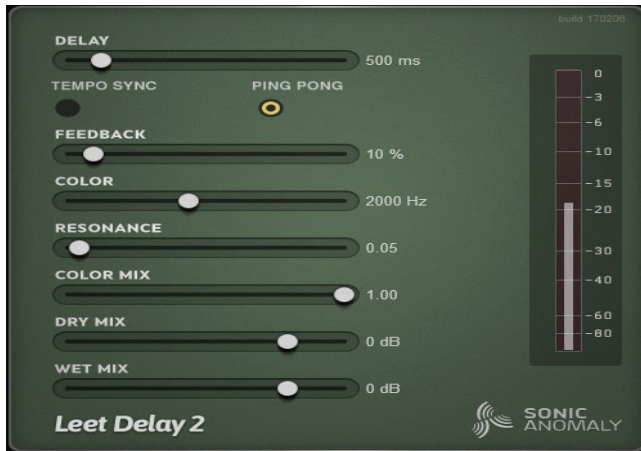
## Kawa XY Delay:



Link to: [Kawa XY effects \(YouTube\)](#)

## Leet Delay 2:

A delay with character



Option to sync with host tempo.

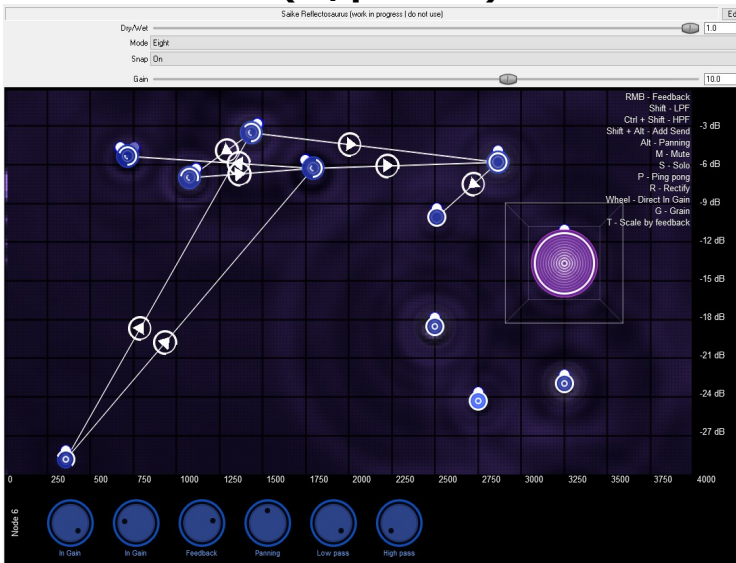
Delay time 0-4000ms; Ping Pong mode.

Color slider adjusts the filter frequency of feed-backed signal.

Resonance control can go to extreme values.

Can create self oscillating infinite loop.

## ReflectoSaurus (w/presets):



Each node indicates a delay.

X axis = delay time, Y axis = volume,  
Radius = how much feedback the delay has.  
Each delay node has lo/highpass filter.

The arc indicates frequency range of the sound allowed to pass each feedback round.  
The little knob indicates the panning of the node.

Nodes can be routed to each-other to create complex effects.

Routing sends are sent out before applying the feedback gain, but after the filters.

The arc around the routing arrow indicates

the volume at which it is being sent to the other node.

Delays/Grid can optionally be synchronized to host tempo on 3/4, 4/4 or 5/4 rhythm.

Reflectosaurus has a special FFT reverb node, which is indicated in red.

(Mute all unused nodes as this lowers CPU significantly.)

## Features:

- Building complex chains of delays with negative and positive feedback.
- Tempo synchronization.
- Filters on every tap.
- Various modifiers for delay on each tap (distortion, saturation, modulation...)
- Granular resynthesis.
- Pitch shifting.
- FFT Reverb. Add this for lush sounds.

Presets: <https://forum.cockos.com/showpost.php?p=2520483&postcount=938>

Manual:

[https://github.com/JoepVanlier/JSFX/raw/master/Reflectosaurus\\_Manual/Reflectosaurus\\_Manual.pdf](https://github.com/JoepVanlier/JSFX/raw/master/Reflectosaurus_Manual/Reflectosaurus_Manual.pdf)

Examples: <https://www.youtube.com/watch?v=47L9bysgIiA>

<https://www.youtube.com/watch?v=pUu3h21yARY>

## Simple Delay:



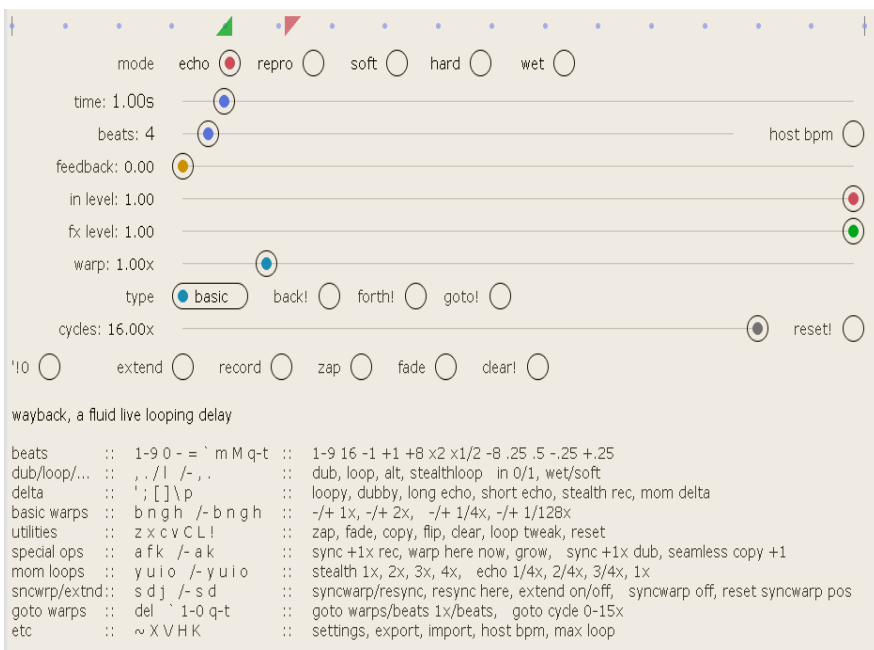
NOTE: To increase/decrease knob values by 5, hold down the CTRL key while dragging the mouse.

Use the text box to input a value for whichever knob or slider you last clicked on with the mouse.

<http://forum.cockos.com/showthread.php?t=34394>

## Wayback:

An audio delay for live looping, with warp, which shifts the delay in time.



Blends a basic delay with a looper, while staying as close as possible to the delay paradigm.

Contextual help is shown below controls

Wayback blends a basic delay with the essential abilities of a looper, while staying as close as possible to the delay paradigm. warp, copy & extend operations use a big circular buffer to revert to prior audio & manipulate multiple loops.

Wayback supports external fx on feedback.

Live looping controls are cross-faded to avoid clicks and even transitions.

Docs are here: <http://bangzero.org/wayback/guide>,

Forum topic : <https://forum.cockos.com/showthread.php?t=233734>

# CHORUS/FLANGERS:

## Chorus w/GUI:

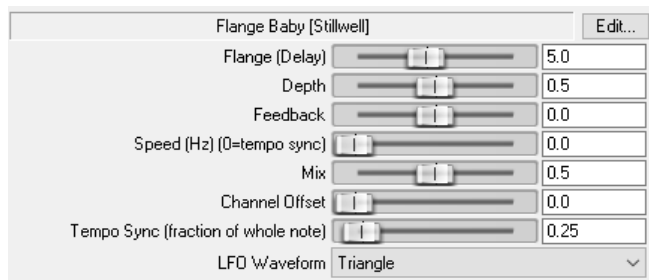


To increase/decrease knob values by 0.1 if the default value, hold down the CTRL key while dragging the mouse.

Use the text box to input a value for whichever knob or slider you last clicked w/mouse.

<http://forum.cockos.com/showthread.php?t=19647>

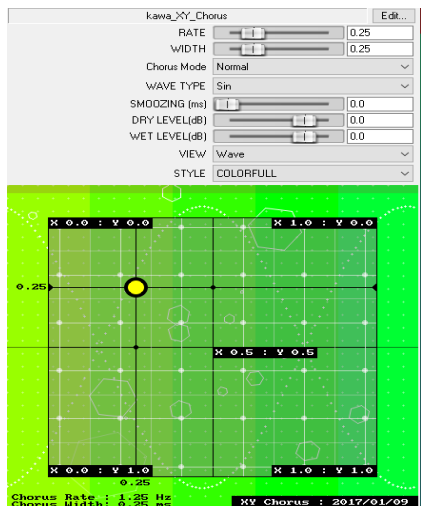
## Flange Baby:



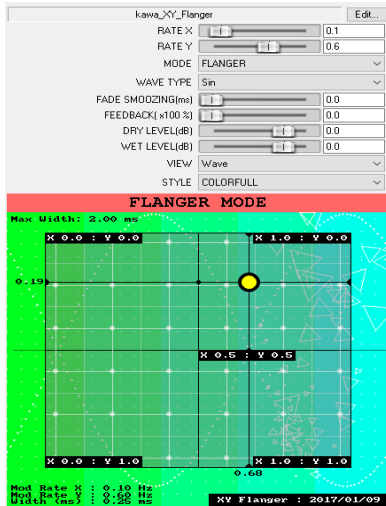
## JS Flanger (w/GUI):



## Kawa XY Chorus:



## Kawa XY Flanger:



Details:

<https://www.youtube.com/watch?v=3InE8QRSzk0>

## Ozzifier GUI:

Multi-voice chorus/delay...you'll recognize it.



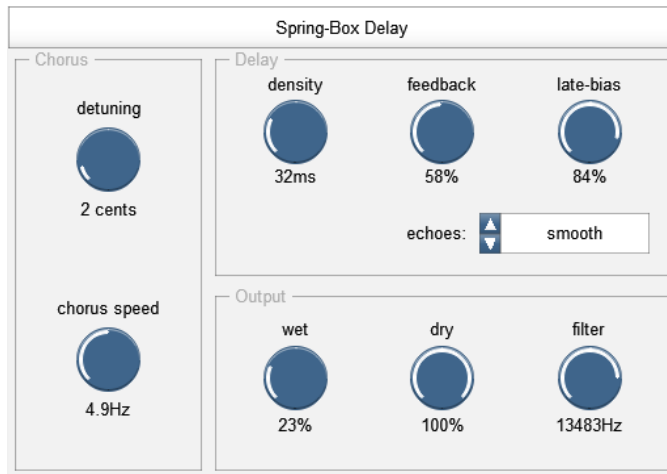
A classic fattening pitch Left/Right effect  
Click voice buttons to turn on/off;  
Click/drag slider to set  
Right-click controls to reset to default values.

<http://forum.cockos.com/showthread.php?t=17605>

<https://www.youtube.com/watch?v=HV3sK0ted6I>

## Spring-Box:

A chorus/echo effect based on a matrix of 4 delay lines feeding back into each other.

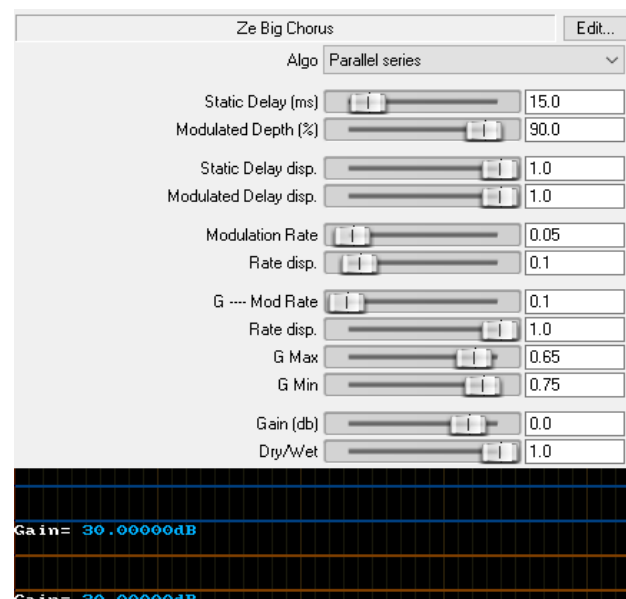


The delay lines vary in length according to the chorus parameters, so you can create a range of sounds from choruses and ambiences to space-like reverb effects.

Early echoes can be suppressed to get a smoother sound (the "late bias" control), by using two parallel delay structures with different feedback ratios, and subtracting the results.

<https://www.youtube.com/watch?v=UqryhWXHbA>

## ZE Big Chorus:



Many options; can hog CPU.

- 12 algorithms with series/parallel/nested allpass delay lines
- seven allpass delay lines x 2 (stereo)
- full stereo (independent signal paths)
- separate parameters for
  - static delays (ie "reverb")
  - modulated delays (ie "chorus")

See the JSFX code for additional info and instructions



**ZE Scanner Chorus:**

Ze Scanner Chorus

Edit...

LFO A Rate

7.0

LFO B Rate

3.25

LFO A B Mix

0.2

Modulation depth

8.0

F1

2500.0

F0

1000.0

R

0.7

LFO F Rate

0.125

Feedback

0.0

Fb Type

Short

▼

Feedback LP

1.0

Type

Chorus

▼

Self PM (dist)

0.0

Code, updates and discussion can be found, here:  
<https://forums.cockos.com/showthread.php?t=177387>

# EQ/COLORING:

## Envelope Shaper:

This plugin is a basic but effective envelope shaper.



Transients and releases can very easily be adjusted.

No need for expanders, gates or compressors to shape the punch and sustain.

## EQT-1A:

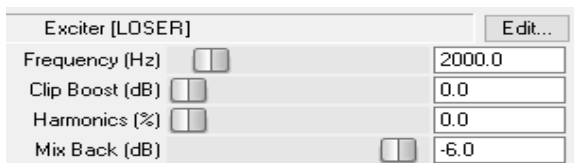
An emulation of the most used tube EQ.



The EQ-curves match the real thing and you can really use it to improve "boring" sounds.

## exciter:

HF boost/enhancer

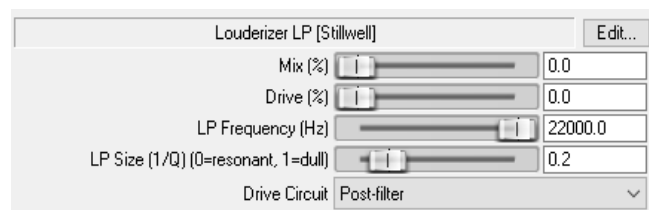


## louderizer:

Psycho-acoustic loudness enhancer

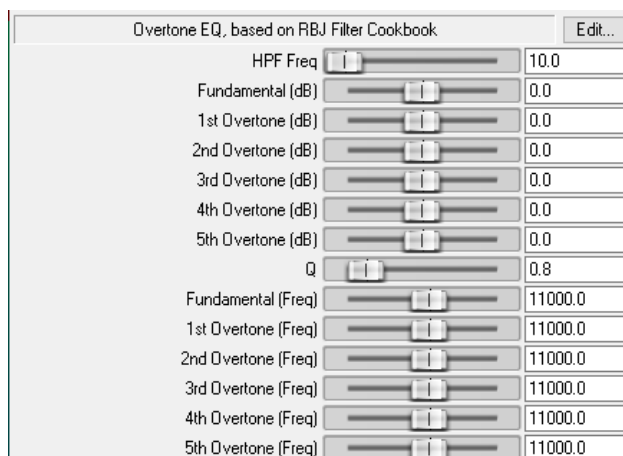


## louderizer LP: (w/Lo-Pass Filter)



## **Overtone EQ**

It's a dynamic EQ that takes a MIDI note input and calculates the note frequency and harmonic overtones then adjusts each EQ bands frequency accordingly.

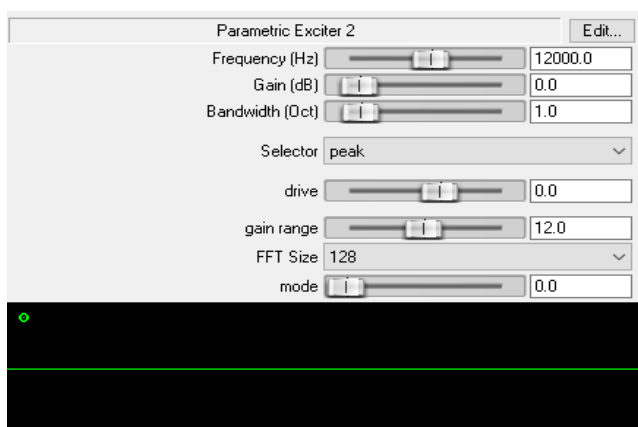


Best used as a sound shaping tool, than an EQ.

Works well on monophonic lines, although it can also work on polyphonic lines when just fed the bass notes.

<http://forum.cockos.com/showthread.php?t=21561>

## **Parametric Exciter 2:**



## **Presence EQ:**

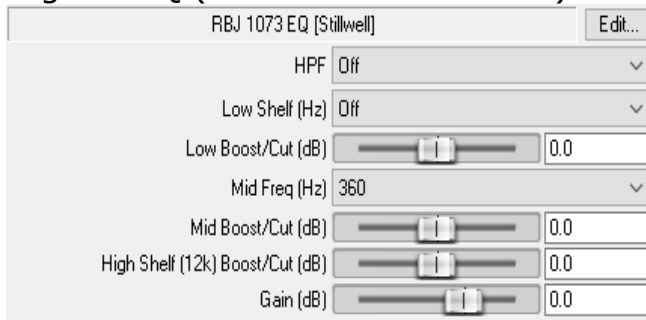
Can add presence to the top end of sounds. Bandwidth of the boost is somehow smart and frequency dependent.



- stereo/mono processing
- frequency range - 3100hz-1850hz
- cut/boost - -15/+15db
- BW - bandwidth of the boost
  - output gain control -24/+24db

### **RBJ1073:**

A great EQ (like actual Neve 1073).



The high shelf of this EQ is a frequent go-to for the real 1073.

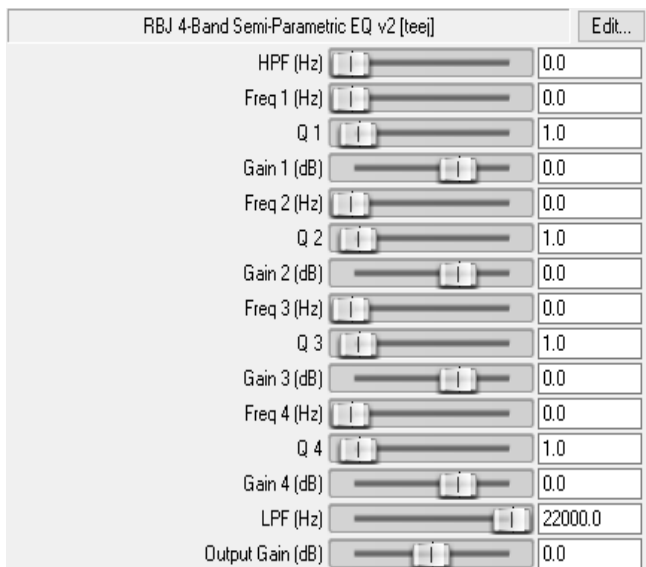
It has a fixed frequency of 12k, but the wide Q of the slope affects the signal lower down the spectrum.

If high-shelf sounds brittle, but has a smooth top, try a few db cut at 3.2k.

Similar complimentary boosts/cuts can be made with the mid-range filters.

### **RBJ4:**

A semi-parametric EQ that has selectable frequencies via drop down boxes.



Q is 0.8 for all bands.

Band 1 - choose between 40, 80, 160, 315 and 500hz

Band 2 - Choose between 125, 250, 500, 1k and 2k

Band 3 - 315, 630, 1.2, 2.5 and 5khz

Band 4 - 1.6, 3.2, 6.4, 9 and 12khz

Since the Q of the rbj4 is 0.8, this EQ works very well as a sweetener.

The options in Band 1 are suitable for low end shelving, and also sweetening a vocal track (315hz is an often overlooked, yet somewhat magical area for vocals).

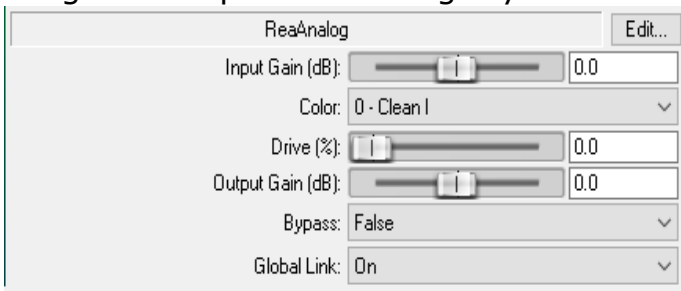
Band 2 has the go-to options for mid-band sweetening up to 500hz.

Band 3 gives you a variety of choices between adding lower harmonic sweetness, upper harmonics (1.2khz is a bit of a magic bullet for bass attack and a small boost 2.5khz can sometimes do wonders for an electric guitar) and 5khz presence options.

Band 4 starts you off at 1.6khz (try a boost here, and a cut at 2.5khz on a guitar track), and lets you choose between some key frequencies in the high end of the spectrum.

### **ReaAnalog:**

Its goal is to provide analog-style saturation/coloration of various flavors.



It performs frequency-specific (emphasis) saturation with its various presets.

The output volume is automatically compensated.

The "global link" control is for controlling multiple instances of the plugin simultaneously.

"Most beautiful and elegant sounding signal coloring, even linkable across all tracks. The million-dollar plugin."

Discussion: <https://forum.cockos.com/showthread.php?t=232358>

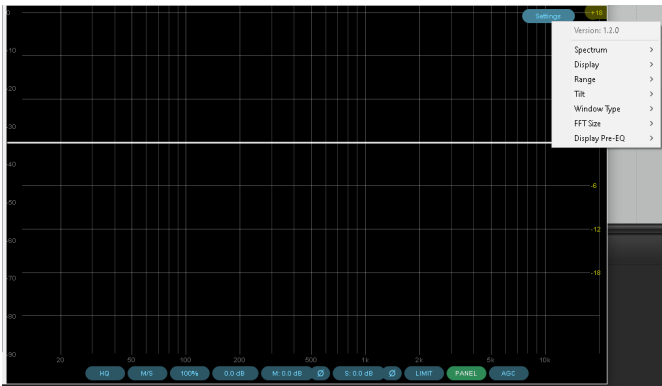
Get it, here: <https://stash.reaper.fm/v/43046/ReaAnalog>.

**realoud: Psycho-acoustic** loudness enhancer, with different algorithm than louderizer.

**realoud\_lpf:** Same relation to realoud as louderizer\_lpf is to louderizer. Low Pass Filter.

### **ReEq:**

A really well-regarded eq. Clean, unobtrusive, great extremely steep filter.



Much more info, here:

<https://forum.cockos.com/showthread.php?t=213501&highlight=reeq>

<https://www.youtube.com/watch?v=9YW-ZNqH5xw>

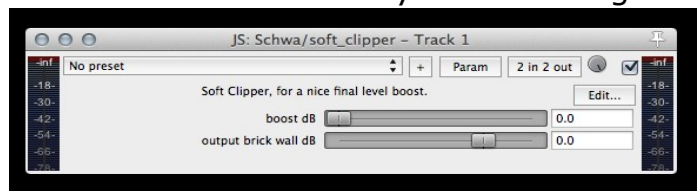
<https://www.youtube.com/watch?v=ddKCSUjSMLk>

<https://www.youtube.com/watch?v=IbfkWOGvVE4>

### **Soft Clipper:**

Takes the loudest peaks and rounds them off.

Often more effective way of increasing loudness than a brickwall limiter, it doesn't pump!



The JS soft\_clipper has only two controls:

- 1) Boost increases the input up to 9dB
- 2) Output brick wall is the ceiling or absolute max output level which can be set from -3 and +1 dBFS

Pushing it hard can cause distortion but when clipping off a couple dB either on a master or individual tracks it can be very transparent.

"Use on master bus either before/in place of a brickwall limiter. Useful on kick and snare tracks where I need them to be loud but not actually take up headroom."



### **Tape recorder (w/presets):**

This plugin gives you the non-linearity (wow/flutter/noise/frequency response...) of tape recorders.



Can be used for "tape machine" sound, or a lo-fi sound.

### **Warble - Pitch Shift:**

Manually correct, using the mouse to "nudge" the pitch up or down.



Note:

It has a few features missing at the moment.

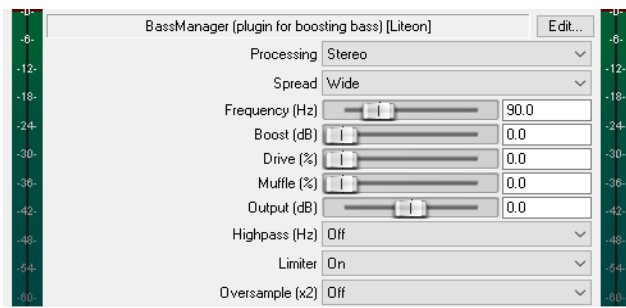
Most notably, there isn't a way to "snap to nearest note".

<https://forum.cockos.com/showthread.php?t=186988&highlight=warble>

# **BASS / LOW-END:**

## **Bass Manager/Booster:**

Has a 2-pole low-shelf filter for boosting frequencies.



Also has a saturator for high-end muffle and a limiter.

- spread - controls the width of the low-shelf
- frequency - 30-250hz
- boost - amount of boost for the low end - 0/24db
- drive - adds saturation
- muffle - "muffles" sharp high-end frequencies.
- output - controls the output gain -24/+24db

- hipass - hipass filter for the low end at given frequency.
- limiter(on/off) - to limit the output from the plugin
- oversampling (on/off)

## **Bass Professor I & II:**

Sound shaping suite for a bass guitar.

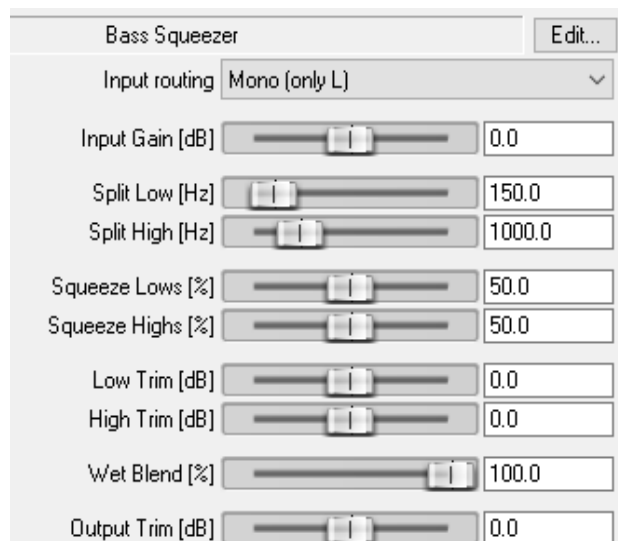


Bass Professor Mark II is not a replacement for the first generation of Bass Professor, but for when neutral/less colored bass sound is preferred.

"Fantastic sub enhancer in parallel or also as a dirt machine"

Manual <https://reaperblog.net/2016/09/free-plugin-stige-bass-professor-mkii-vstjsfx/>

## **Bass Squeezer:**



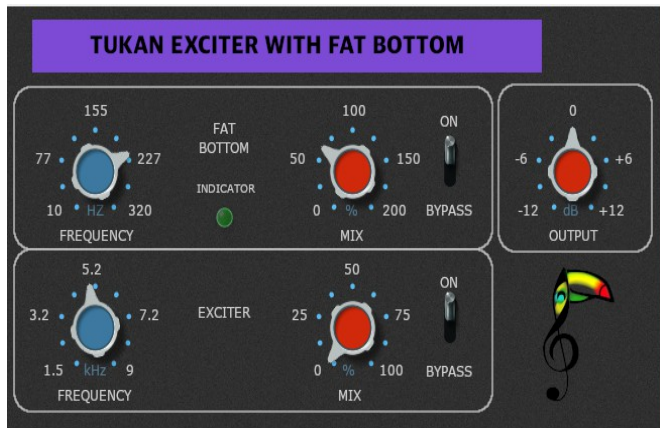
Split-band compression and filtered distortion for instant "bathtub" bass.

Instantly pushes the lows, cuts annoying low-mids, and distorts the high end to let it cut through the rest of your mix.

\*More information available in the JSFX code\*

### **Exciter + Sub (w-presets):**

Based on the idea of the Type-C Aural Exciter.

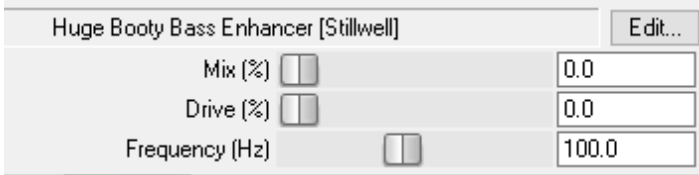


This plugin pushes the lows and highs to another level by adding sub-harmonics and highband enhancement.

"Give your tracks life with this plugin."

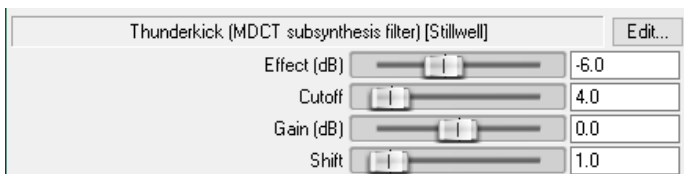
### **Huge Booty Bass Enhancer**

LF frequency enhancer...adds upper harmonics to LF content



### **Thunderkick:**

LF enhancer...adds in sub-harmonics to enhance lowest octaves.

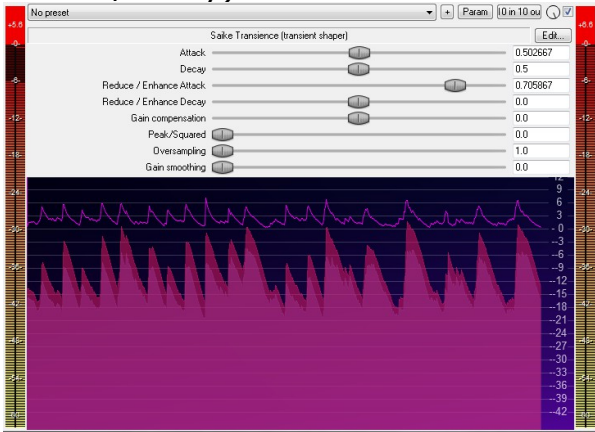


Note: does NOT work well with pitched instruments. Mostly useful for kick drum. Think of it as a MIDI compressor...scales output volume range and adds/removes gain. Learn about it, here: <https://www.youtube.com/watch?v=ZynVR9bMSZc>

# TRANSIENT:

## Transience:

It works by using two envelopes: one is an envelope follower (short attack, longer decay; roughly follows the peaks of the sound), the other is a user specified envelope (with attack/decay).



Shape the sound according to the difference between the two, making attacks or decays longer or shorter. The plugin operates in logarithmic space.

Note: Transience relies on Tight Compressor being installed. If not, it will complain about missing my up-sampling library.

Instructions: <https://github.com/JoepVanlier/JSFX> (scroll down the page)

## Transpire:

Works well w/drums and percussion.



Not linear, so small transients are being affected relatively stronger than large transients.

This is good for bringing up smaller details while not overloading on large hits.

Sensitivity controls the amount of details it can process.

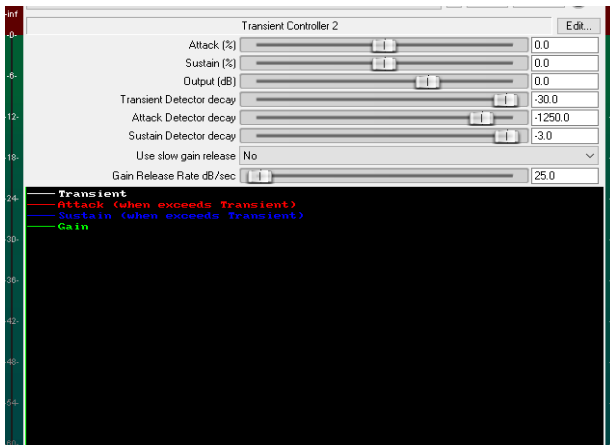
Small sensitivity will suit better for non-percussive material.

Output is hard clipped at -0.1dB.

Clipping can be turned on/off by clicking the clip indicator.

## TransientController2:

A modification of the standard Reaper's Transient Controller that adds graphic visualization and un-hides internal parameters for adjustment.



Kenny Gioia:

<https://www.youtube.com/watch?v=dITevIBUfCU>

# GATES:

## Basic Trance Gate:



You can separately control the pattern for left and right, adjust the pulse width, and create different feels by adjusting the pattern steps per beat.

There is a rudimentary graphical display to help demonstrate what the sliders are doing.

<http://forum.cockos.com/showthread.php?t=29349>

## ExpGate 2:

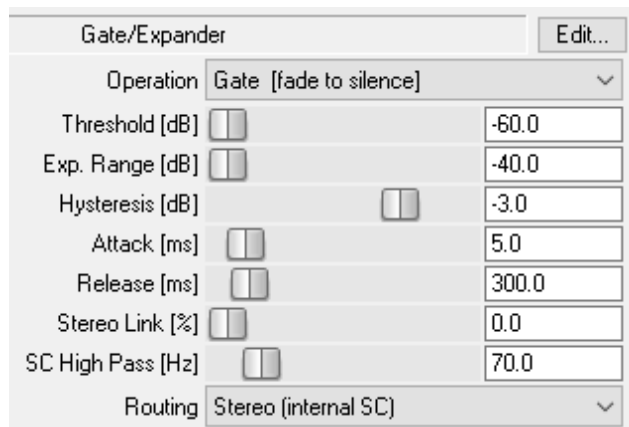
This plugin is a gate/expander with all the features you need.



Gating guitars or drums is very effective and easy with this plugin. A nice trick is added: This plugin also features an anti-gate, so if the signal gets too loud it will be muted.

The anti-gate is great for cleaning up drums via side-chain or to get that pumping effect in EDM music.

## Gate/Expander:



There's a lot of information to be found in the JSFX code (Load the effect, hit "Edit..." button.

The code opens. Hit "Open in external editor" to view the code, in notepad.

Any info/instructions are usually found at/near the very top)



## **SEGX2 Gate - Expander:**

A smooth dual band expander gate with look-ahead



Always has soft knee, which starts at the threshold point.

Signal above the threshold passes thru unaltered.

Independent release times for low and high frequency band.

The band link control glues the low and high band behavior together. At 100% the operation is similar to a regular wide band expander gate.

The monitor slider allows monitoring of the detector side chain, which can be used for checking the gated out signal.

The pre-gate option allows the gate open in advance, adding latency. When active, fast transients can pass thru unaltered, thus offering higher quality output.

## **Stereo Chop Chop:**

A pattern gate with separate controls for left and right channels.



It's pretty powerful and a great way to liven up pad sounds and more.

<https://reaperblog.net/2016/02/stereo-chop-chop-jsfx-plugin-demo/>  
<https://www.youtube.com/watch?v=LHbSUXsJ82M>

# COMPRESSION/EXPANSION:

## **1175 Compressor:**

A VERY FAST ATTACK compressor reminiscent of the UREI 1176 compressor.



The attack slider goes from 20 microseconds (that's 0.02 milliseconds) for transient killing, and extends as slow as 2000 microseconds (2ms).

Great for vocal, snare, and kick compression as well as buss compression. Wonderful results when you set attack times from 1ms - 10ms and short release times of 50-100ms, then mixing in the results to around 5-10%.

The "mix" slider, which lets you specify how much of the compressed sound you want to hear in the mix (ala New York style vocal compression).

Note: For longer, typical attack times, change the line:

*slider4:20<20,2000,10>Attack time (usec.)* to

*slider4:20<20,10000,10>Attack time (usec.)*

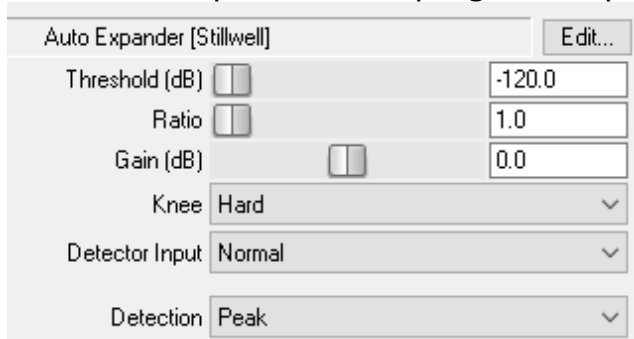
(This allows to set attack times up to 10ms (1 ms = 1000usec).

"Use it with a Nebula "Mojo" program or one of the corresponding "preamp" programs)"

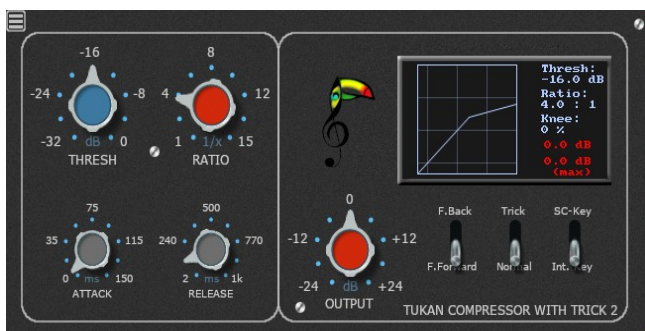
Kenny G's video: <https://www.reaper.fm/videos.php#eJM9qZbI0k4>

## **Auto Expander:**

Downward expander with program-dependent attack/release.



## **Compressor 2 (w/side-chain):**

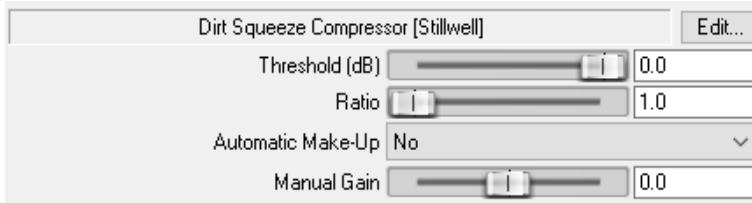


A clean Compressor with "trick". The trick is, that you can use it as a kind of gate. This method has been a "new" trick on many YouTube videos in 2021.

It also features parallel compression, side-chain, knee settings and more.

### **Dirt Squeeze Compressor:**

A compressor that adds grit and distortion.



Example: Out on the rhythm guitar: first normalize the track (right click on the track's event>item processing>then normalize).

Then insert dirtsqueeze and dial in the

following:

threshold -12

ratio - 4:1

automakeup - no

manual make-up - 0

Almost like magic, the guitar has a new life to it - a life with much more distortion!

Note: This does have some erratic behavior on very low thresholds.

With this compressor, it's sweet spot seems to be just below the signal peaks.

### **Dis-Treasure:**

Based on the idea of a well-known compressor, offering heavy compression with great



sounding results.

On top of the basic features, it can be used in many modes (ffwd, fbck, HPF, dist...)

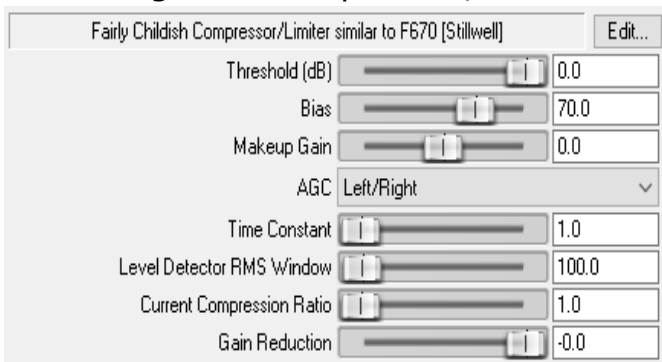
Get it here: <https://www.youtube.com/watch?v=4BxrZgeLH54>

### **Express Bus Compressor:**

Compressor meant to be used on buss signals.

### **Fairly Childish:**

A well-regarded compressor, modeled after the "Fairchild"



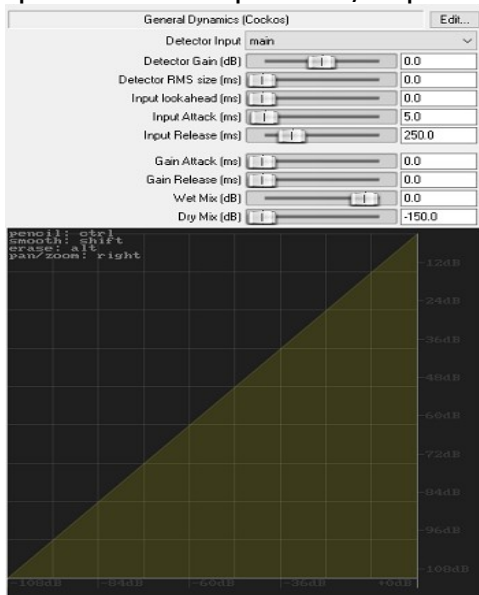
As the documentation is rather extensive, check the links below.

Discussion: <https://forum.cockos.com/showthread.php?t=5636>

[https://wiki.cockos.com/wiki/index.php/Jesusonic\\_Effects\\_Documentation#FairlyChildish](https://wiki.cockos.com/wiki/index.php/Jesusonic_Effects_Documentation#FairlyChildish)

## General Dynamics:

A powerful compressor/expander.

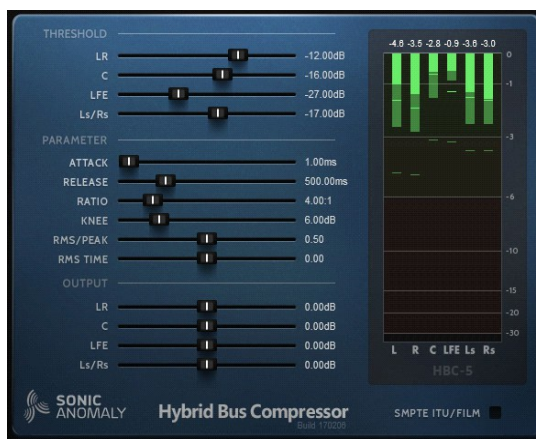
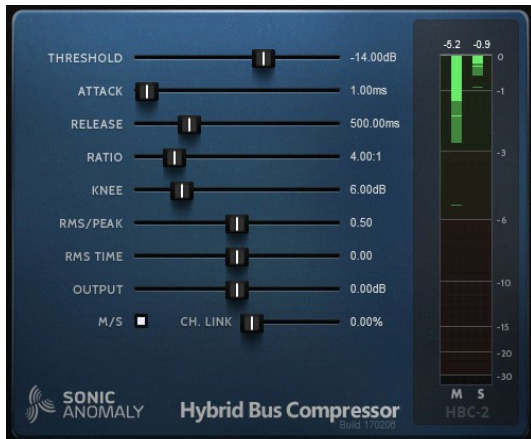


Kenny Gioia's video:

<https://www.reaper.fm/videos.php#xTOimswNf0M>

## Hybrid Bus Compressor HBC-2 (& HBC-5, for 5.1):

HBC-2 is a stereo version of the HBC-5, w/ additional M-S processing capability.



Adjustable mixture between peak & RMS detectors.

The RMS window size is controlled by the release time, but can be overridden by the "RMS Time" slider.

Smart release time control. Helps keep compression seamless w/long release times.

HBC-5: SMPTE ITU/FILM switch for alternative channel order.

HBC-2: M-S mode compresses mid-side information instead of left-right.

HBC-2: Channel link adjusts amount of compression interaction between L-R or M-S

## LA-1A Compressor:

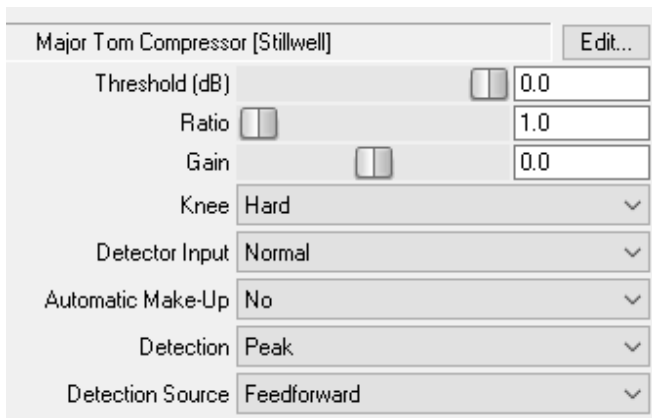
This plugin emulates the famous optical compressor with tube amp.



It is derived from measurements of the real thing with many different spare parts to get a good average  
Famous optical Compressor with tube output stage.

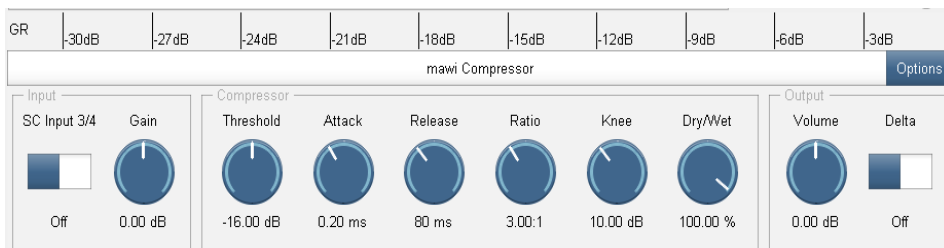
## **Major Tom and Master Tom:**

Controls exactly identical, but each has different algorithms, for a slightly different sound.



Excellent compressor, and works well in a variety of ways.  
"ala dbx160 VU (old model) or kinda like an LA2A when in Feedback mode"

## **Mawi Compressor:**



## **Multiband Ravager:**

Extreme upwards compression



Destroys incoming audio by performing extreme upward compression.

### **Features:**

- Multi-band processing (add/remove w/right mouse button).
- Extreme upward compression pulling up almost anything.
- Limiting in the forms of hard clipping / soft clipping.

Instructions: <https://github.com/JoepVanlier/JSFX> (scroll down the page)

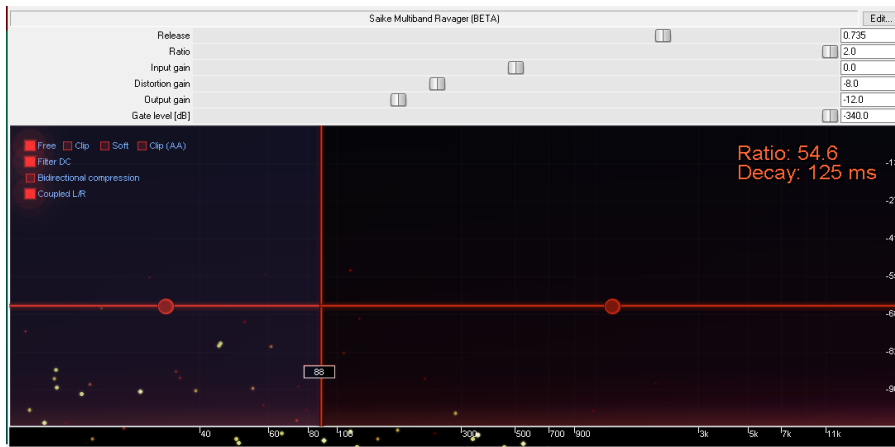
Demos: [https://raw.githubusercontent.com/JoepVanlier/Audio\\_Demos/main/Ravager/dry\\_wet.mp3](https://raw.githubusercontent.com/JoepVanlier/Audio_Demos/main/Ravager/dry_wet.mp3)

[https://raw.githubusercontent.com/JoepVanlier/Audio\\_Demos/main/Ravager/multiband\\_version.mp3](https://raw.githubusercontent.com/JoepVanlier/Audio_Demos/main/Ravager/multiband_version.mp3)

[https://raw.githubusercontent.com/JoepVanlier/Audio\\_Demos/main/Ravager/upwardcompress.mp3](https://raw.githubusercontent.com/JoepVanlier/Audio_Demos/main/Ravager/upwardcompress.mp3)



## Not OTT:



"A great linear phase multi-band upwards/downwards compressor (re-work of Multiband Ravager)"

## S.L.A.X:

A retro compressor loosely inspired by the famous LA-2A.



An aggressive and dark character, which suits well for vocals, drums, bass and acoustic guitars.

"A wonderful, creamy, opto compressor"

### The Controls

Gain: The output level.

Peak: The amount of compression.

Emphasis: The amt. of high frequency influence in the side-chain Smooths out sibilants.

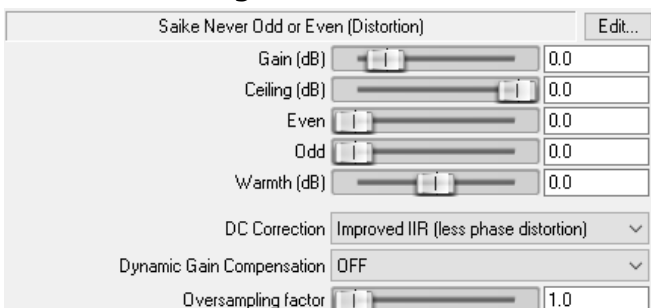
Comp/Lim: Alters the speed, ratio and knee of compression.

Overflow: The output limiter indicator turns on when output exceeds -0.1dbfs. No signal can get past -0.1dbfs.

Inside option screen (+) there are three audio coloring settings: flat, fat1 and fat2.

## Saiké Never Odd or Even:

Distortion using different colors/biases



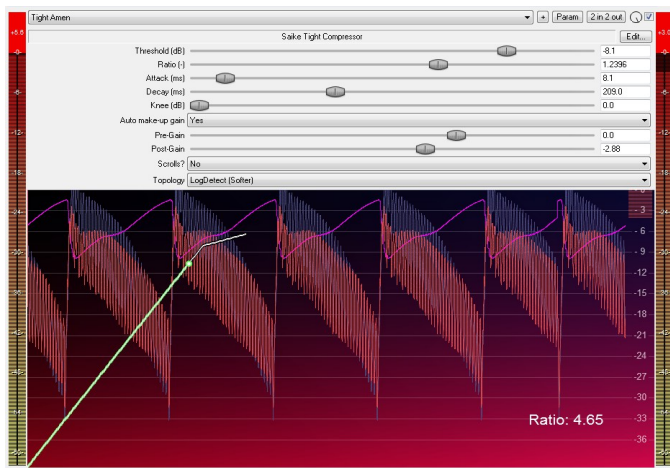
Soften and thicken the signal, or slightly crunch it, very convincingly.

Up to 4x over-sampled internally

Discussion: <https://forum.cockos.com/showthread.php?t=220277&page=9>

## **Tight Compressor:**

A peak compressor with a -very- tight compression and aggressive attack.



The compression is continuously visualized to help you dial in the appropriate settings.

Instructions: <https://github.com/JoepVanlier/JSFX> (scroll down the page)

## **VOLA:**

VOLA (Voice Optimized Leveling Amplifier) was made for broadcast voice dynamics processing but it works well with all kinds of material,



Upwards & downwards compression, each separately adjustable.

Very soft knee compression gradually turning to limiting at "Push Down" point.

Visual metering for changes in dynamics.

## **The Controls**

LF Filter: Low freq. filtering presets w/various cut-off frequencies/Q-values.

Attack Mode: Several attack presets from zero to 1 sec.

Push Down: Amount of downward compression.

Pull Up: Amount of upwards compression.

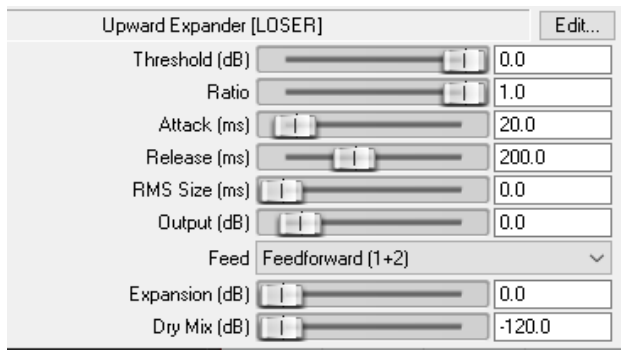
Recovery: Changes recovery speed. -10 is the slowest and 0 the fastest.

HF De-Emphasis: How much high freq. can affect the dynamics compression. (Useful with vocals for keeping sibilants at bay.)

Flt Side Chain: Puts the LF filter into compressor side chain, instead of the main input. The LF Filter must be active for this to take effect.

Display Speed: The speed of the gain reduction display. Adjustable between 1 - 10 seconds.

## Upward Expander:



Upward Expander [LOSER] Edit...

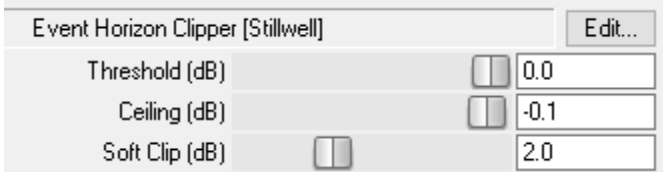
Threshold (dB)	0.0
Ratio	1.0
Attack (ms)	20.0
Release (ms)	200.0
RMS Size (ms)	0.0
Output (dB)	0.0
Feed	Feedforward (1+2) ▾
Expansion (dB)	0.0
Dry Mix (dB)	-120.0

Upward expanders are often used to emphasize the louder parts of the audio signal. They make the loud, louder, and leave anything below the “threshold”, unchanged.

## LIMITERS:

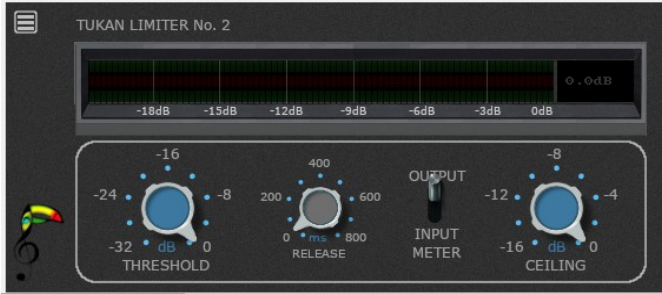
### Event Horizon Clipper:

Non-lookahead limiter that simply rounds off and truncates peaks.



### Limiter 2:

An easy to use limiter for final loudness of a mix or to cut peaks from single tracks.



This plugin is especially designed to reduce the peaks and get the loudness to your target level without destroying the overall sound and dynamics.

### NC76 Limiting Amplifier:

NC76 is the "fastest" compressor.

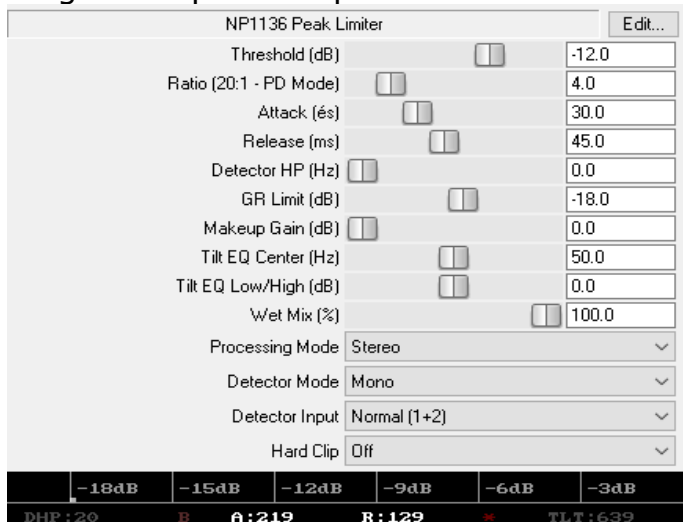


In addition to the regular behavior, this compressor allows a special "punch" option i.e. for drums.

"The combination with the LA-1A makes it perfect for stage compression on vocals."

### NP1136 Peak Limiter:

Program dependent peak limiter.

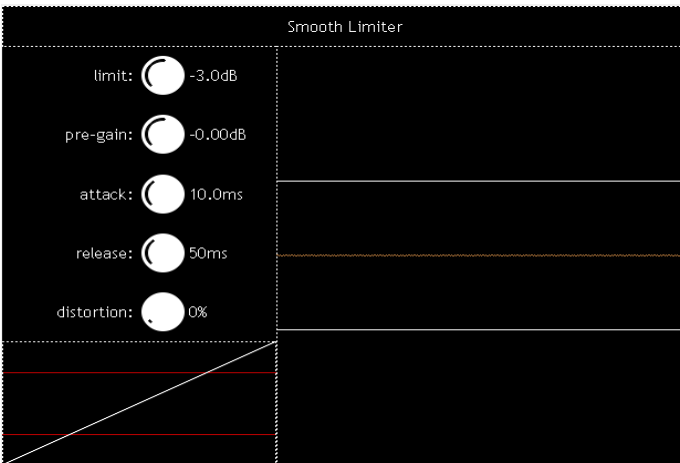


- fast attack and release, side-chain, detector high-pass, gr limiter, program dependent mode, \tone control, parallel compression  
Docs here:

[http://sites.google.com/site/neolit123/Home/np1136\\_manual.pdf](http://sites.google.com/site/neolit123/Home/np1136_manual.pdf)

### **Smooth Limiter:**

A brick-wall limiter that aims to curve smooth/responsive.



It will recover completely from any peak in a fixed amount of time.

Both the attack and release follow a curve that is similar to a sinusoidal segment ( $1 + \cos(x)$ ), with the goal of reducing cross-modulation.

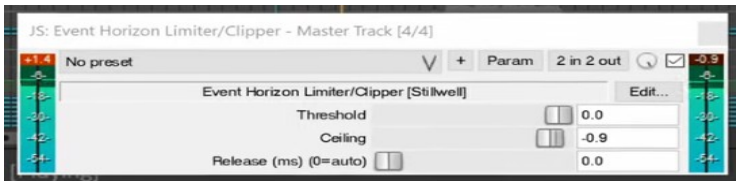
The "distortion" parameter changes the correction mode - at 0%, the correction is applied by scaling the output signal.

At 100%, the correction is applied using a non-

linear distortion (smooth, not a hard-clip), which can sound good for some applications such as drums. The display in the bottom-left shows the current correction response.

### **Stillwell Event Horizon:**

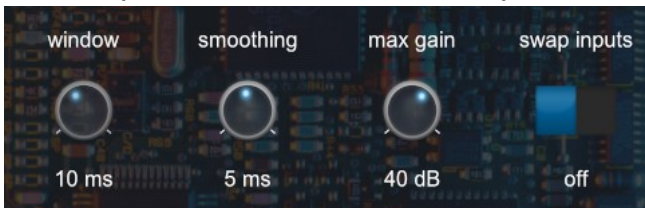
Works well on any master bus and does a great job as a quick master limiter to keep your main bus from overheating.



<https://www.youtube.com/watch?v=Qn-k57aiBC8>

### **Vocoder:**

FFT-based vocoder takes 4 channels (stereo main and aux), and alters the spectrum of the main input to match the aux input.



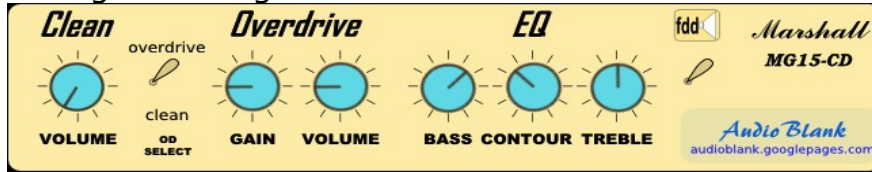
Longer windows will better for low sounds in the main input, but will be less reactive.

The "smoothing" dial averages the energy (from both inputs) over a short period, which can reduce growly artifacts.

# LO-FI, CRUSHERS and DISTORTION:

## **AudioBlank Marshall MG15-CD**

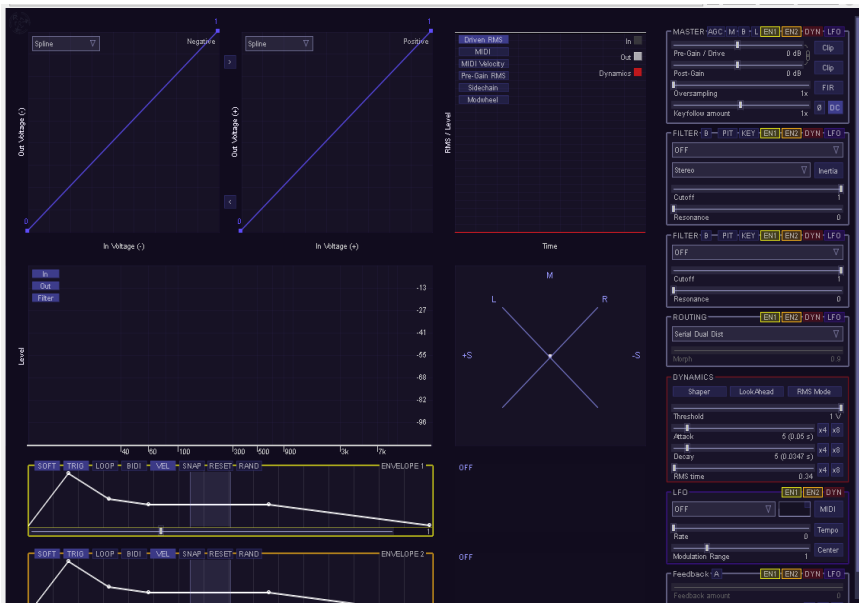
It has a neat GUI simulating guitar amp Marshall MG15-CD. It doesn't do any audio processing. It can be used to keep the knobs' levels and button states set on the amp during recording a track.



<http://forum.cockos.com/showthread.php?t=22024>

## **Filther (w/presets):**

A waveshaper/filter/dynamics processing combo.



Meant for bassy synth work (to add growl), but works on drums, guitars and pads.

A highly non-linear plugin, even with the wave-shaping disabled, so playing with the input gain is crucial to get the most out of it.

It contains both well behaved as well as more experimental filters, so be careful. Some filters were home-designed, others came from papers.

### **Features:**

- Spline wave-shaping curve based on placing nodes. Can draw asymmetric curves as well.
- Two non-linear filter modules which can be automated by dynamics from the input signal or a side chain, LFO or envelopes.
- Waveshaping amount can be modulated by input dynamics, LFOs or envelopes.
- Modulators can optionally be triggered by MIDI notes.
- Large number of filter types (linear filters, analog models, FM, AM filters, reverbs, distortions). Feedback section.
- Automatic Gain Control to protect your ears.

A distortion effect which allows dynamic filtering and wave-shaping.

"....One of the most versatile and dirtiest filters around. Stellar! Use it from synth tracks to effect returns, to give your tracks character"

"Filther is probably the most advanced dynamic, modulated, stereo/MS, everything-in-one waveshaper/filter I've ever seen!"

Manual here: <https://joepvanlier.github.io/FiltherManual/>

Tutorial: <https://www.youtube.com/watch?v=jtc8kp57xpI>

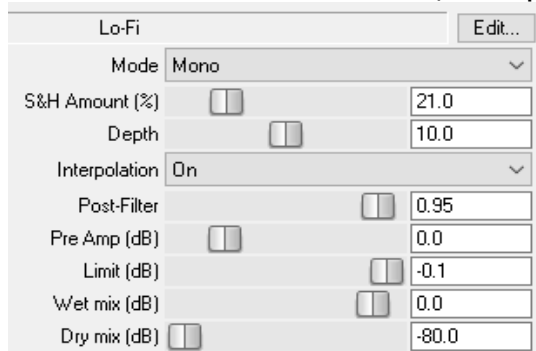
<https://www.youtube.com/watch?v=YlgsVy-C2yI>

Instructions: <https://github.com/JoepVanlier/JSFX> (scroll down the page)



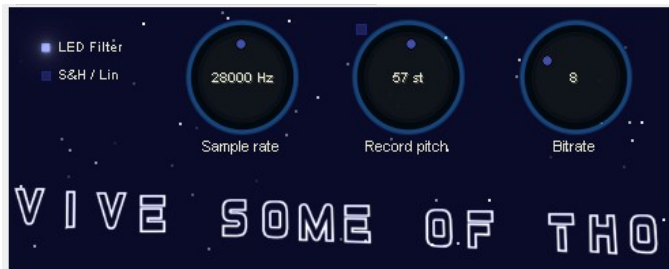
## Lo-Fi:

A mono/stereo bit-crusher, sample rate reducer with post filter.



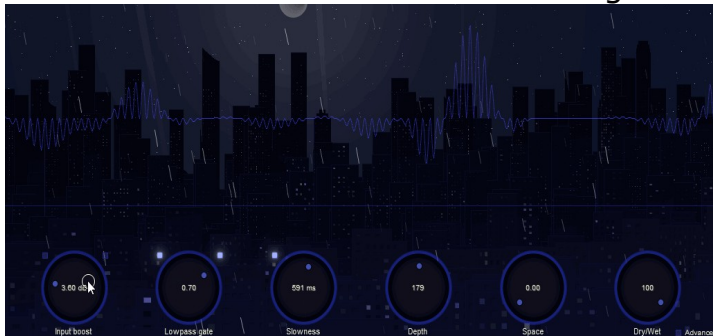
- bit-crusher/sample rate reducer
- 2 point linear interpolation
- 12db/octave, low-pass filter

## Mod-izer:



## Nostalgizer:

Make audio sound old with the nostalgizer.



A combination of a lowpass-gate and detuning module.

### Features

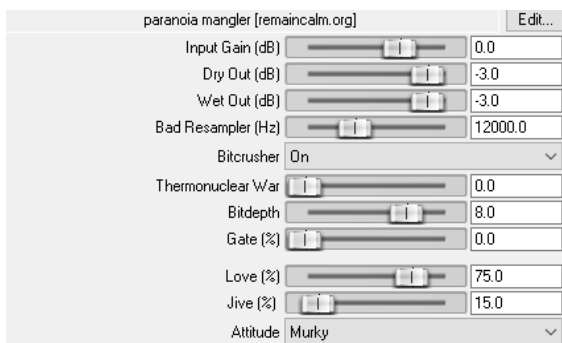
- Pitch instability.
- Low pass gate modeled after famous unit.
- Adaptive saturation.
- Modeled noise through a compander.

Demo: <https://www.youtube.com/watch?v=Y8ibWk8Tpm0>

Instructions: <https://github.com/JoepVanlier/JSFX> (scroll down the page)

## Paranoia mangler (w/presets):

A destructive mangler designed to injure your sound in terrible ways.



### Controls:

- \* input gain: gain into processing circuit (doesn't affect dry mix)
- \* dry out: amount of clean signal to mix in
- \* wet out: amount of broken signal to mix in
- \* resampler: aliasing resampler. lower is worse.
- \* bit-crusher: off disables (including next two controls). on is "normal" mode. on+noisier is a buggy

implementation that sounds cool on bass drums.

- \* thermonuclear war: bit manipulation pattern. 0 is disabled, anything higher than that and you're on your own. highly material dependent. optimized for 8-10 bit depth, below 8 and it could get even gnarlier.

- \* bit depth: bit reduction, 10-3 bit. lower is worse.

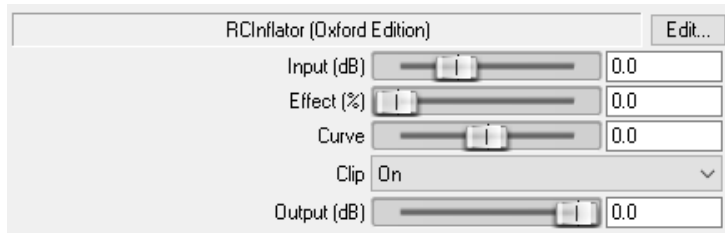
- \* gate: simple one-knob gate. anything below 50% will leak some un-gated signal through. use above 50% when bit-crusher is set to 'noisy' to stop it completely freaking out.

- \* attitude/love/jive: post-processing filter (off/LP/BP/HP)

This plugin is very material dependent - a lot of stuff is unusable through it, but some stuff just works really well. works best on dynamic stuff like single drum tracks.

### **RCInflator (Oxford Edition):**

A popular Sonnox Oxford Inflator clone; a waveshaper/saturation plugin.



"It nulls really really low to the tune of -144dB against the Sonnox Oxford Inflator at every setting."

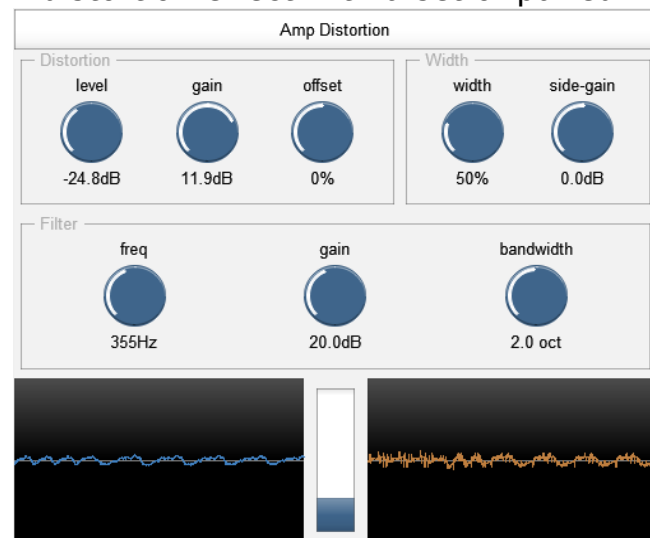
"Very effective!"

Installation: <https://www.youtube.com/watch?v=V-KirFidlp4>

Thread: <https://forum.cockos.com/showthread.php?t=256286>

### **Sandwich Amp:**

A distortion effect with a set of paired filters on either side, to provide a range of timbres.



The underlying distortion function is  $\tanh()$  (which is a fairly "soft" distortion, as opposed to a hard clip), but it can be driven quite hard, and an offset can be added to get asymmetrical response.

The "width" parameter widens the sound before distortion and narrows it afterwards, so that the distortion sounds stable and central while preserving the stereo feel of the sound.

Similarly, the "filter" section applies a filter before the distortion, and then applies the inverse filter afterwards, which can provide distinctive distortion timbres.

It is also possible to supply a secondary input to the effect (channels 3 and 4) - this audio is added in before the distortion, but then subtracted again afterwards.

## **Squashman:**

A multi-band saturation / distortion plugin w/parameter modulation.



- 25 modulatable waveshapers and 4 fixed ones.
- Several modulation sources (4 LFOs, 2 MIDI triggered and/or loopable envelopes).

"A compressor on steroids"

"like a Fabfilter Saturn w/Sonnox Inflator mode"

### **Features:**

- Optional high quality oversampling
- Flexible band count, up to five bands can be used to manipulate sound

-24 db/oct Linkwitz Riley crossover filters

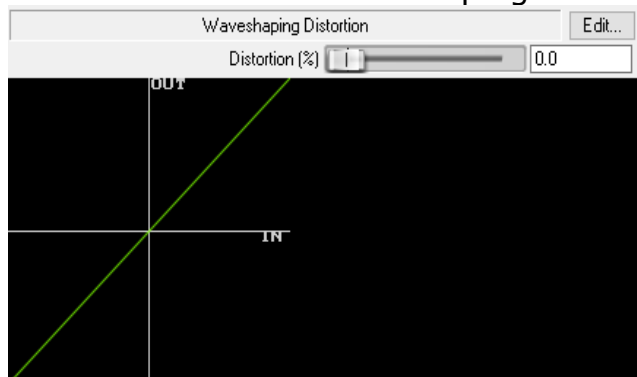
-25 modulatable waveshapers and 4 fixed ones.

-Several modulation sources (4 LFOs, 2 MIDI triggered and/or loopable envelopes).

Instructions: <https://github.com/JoepVanlier/JSFX> (scroll down the page)

## **Waveshaping Distortion:**

A more "extreme" distortion plugin.



You can use the built in splitter / mixer to apply distortion only to a certain frequency range

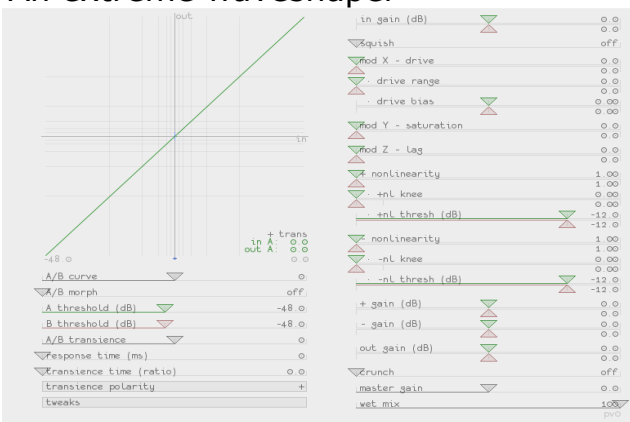
"I'll use the simpler waveshaping distortion and apply a moderate amount of distortion to the 2K and up range. You'll have to lower the volume of this range, but this does wonders for giving some life to a dull vocal track."

Also great for helping toms and bass to cut through the mix.

<https://reaperblog.net/2016/07/js-effect-spotlight-waveshaping-distortion-and-graphical-waveshaper/>

## **WildWave:**

An extreme waveshaper

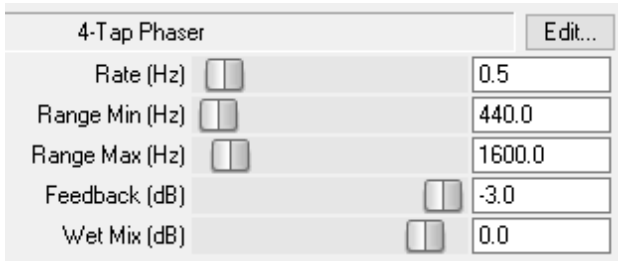


Forum: <http://forum.cockos.com/showthread.php?t=121890>

\*Much information in the JSFX code\*

## OTHER FX:

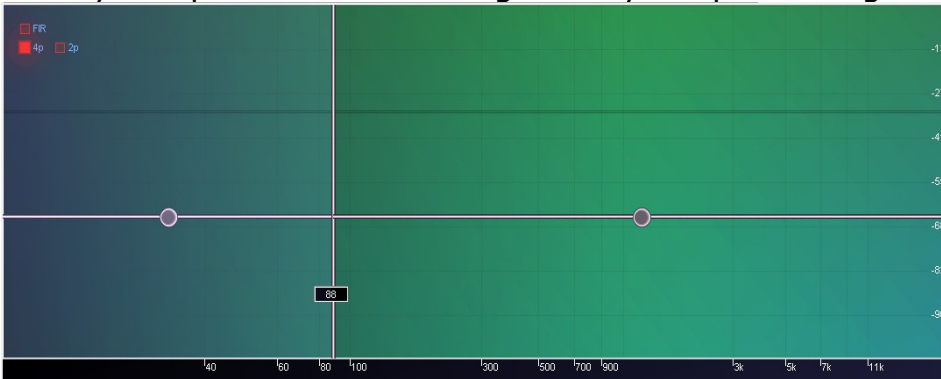
### 4-tap Phaser:



Kenny Gioia tutorial: [https://www.reaper.fm/videos.php#ot\\_NS56wIps](https://www.reaper.fm/videos.php#ot_NS56wIps)

### 4-pole Band Splitter:

"A very comprehensive and elegant way to split the signal into up to 4 bands, with the ability to level the individual bands. The optional FIR setting is the icing on the cake"



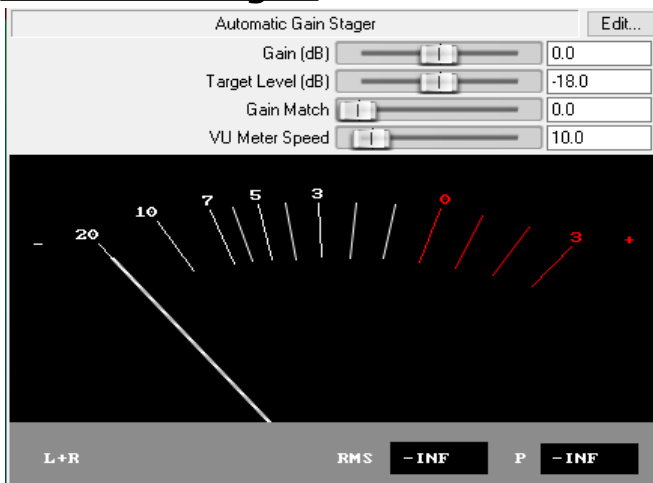
[https://www.youtube.com/watch?v=JU\\_7gIr5RTI](https://www.youtube.com/watch?v=JU_7gIr5RTI)

### AC Tremolo (w/presets):



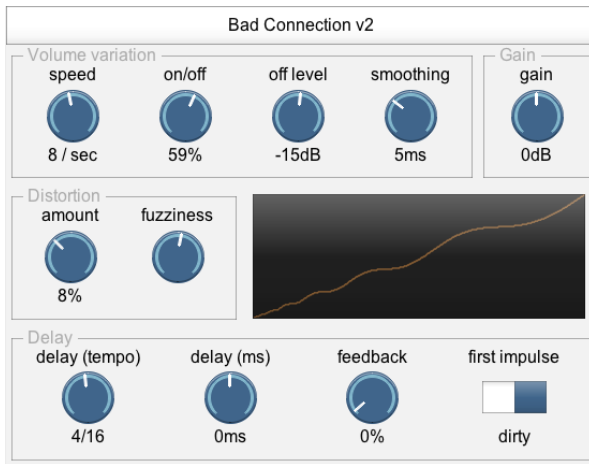
A tremolo and reverb plugin that is designed to add these effects to your guitar takes that are not made in a one-take. The benefit is, that you have constant tremolo and reverb although you pick the track from several takes

### Auto Gain Stager:



"Quickly set all tracks to healthy levels. Especially useful with some Acustica/Nebula units or analog outboard"

## Bad Connection:



Has three features:

1) Randomly change the audio between two volume levels.

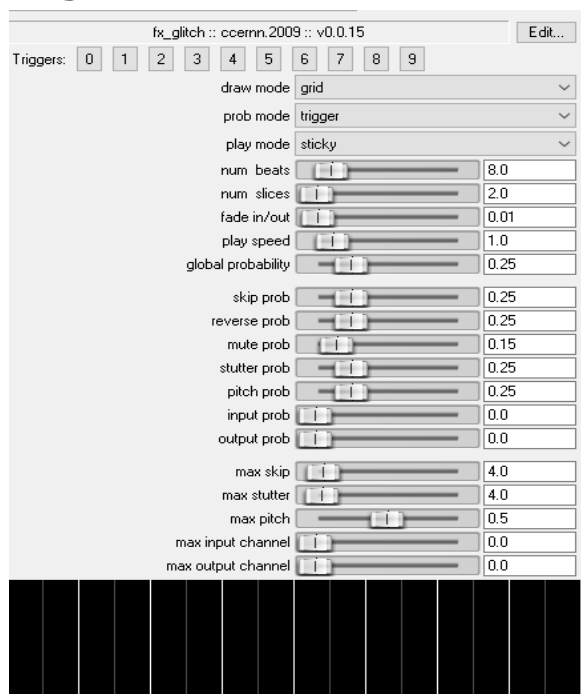
It can be used to imitate dodgy radios or glitchy CPU overloads.

2) Apply volume-independent distortion.

3) Tempo-dependent feedback delay line, and feedback line includes the distortion and volume variation to create clean or destruction/glitchy textures.

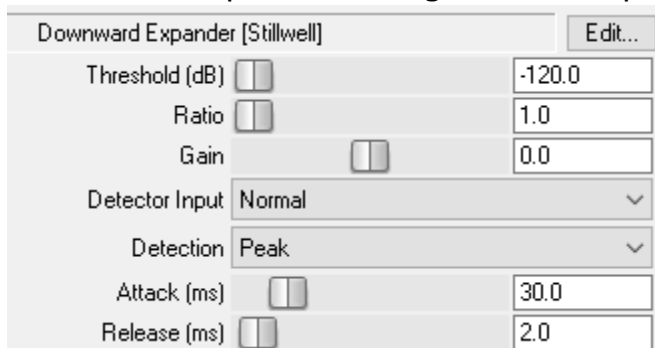
<https://www.youtube.com/watch?v=pmjLZKVoBLo>

## fx\_glitch:



## Downward Expander:

Downward expansion brings low level passages down further.

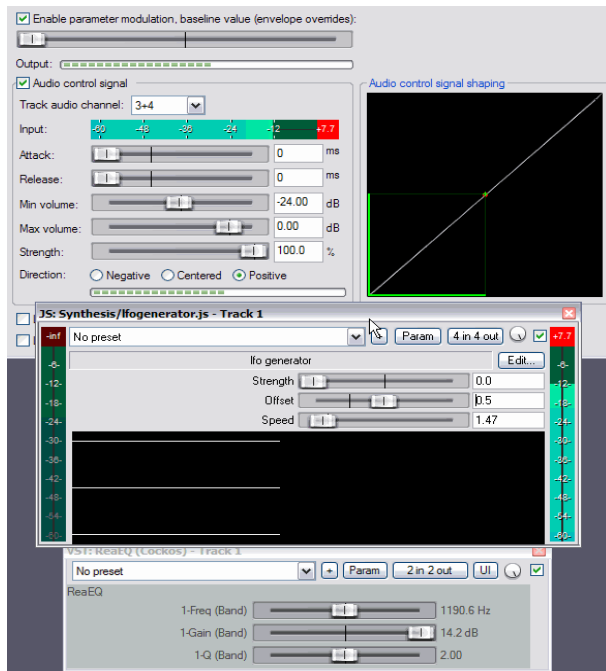


Most downward expanders are used to reduce noise, hiss, etc.

<http://forum.cockos.com/showthread.php?t=31724>

## **LFO Generator (for Parameter Modulation)**

<http://forum.cockos.com/showthread.php?t=85296>

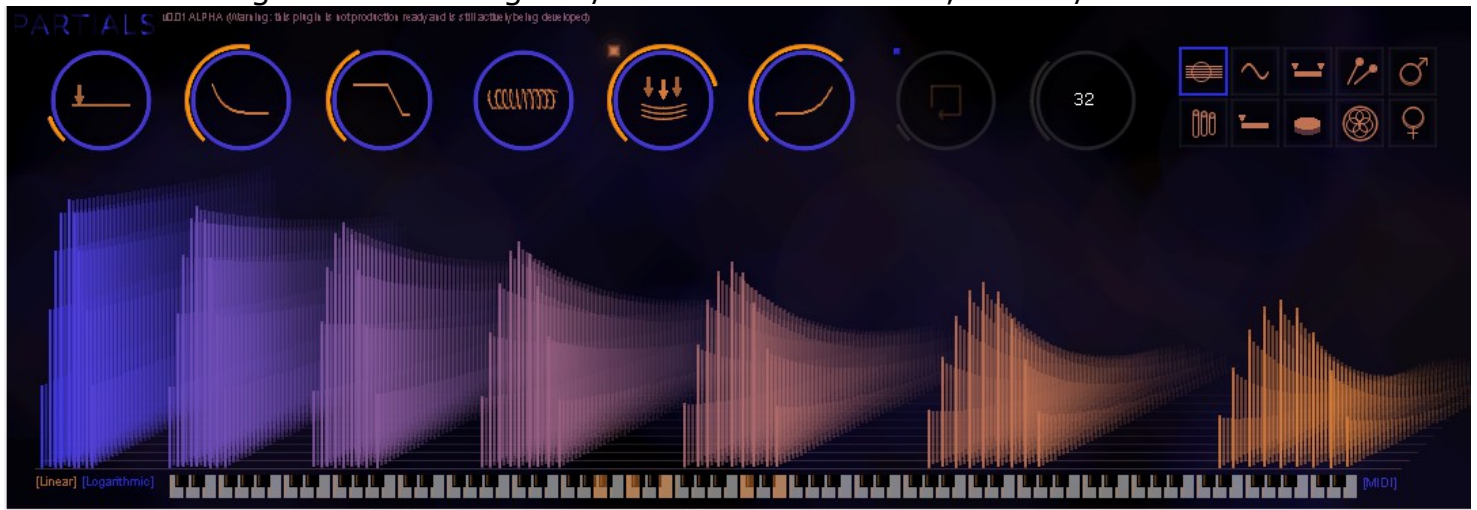


Place this plugin early in the effects chain, route it around so any effects on the track can use it for modulating a parameter.

You can then automate the LFO speed, height and offset.

## **Partials (w/presets):**

A modal resonator effect. Can be played almost like an instrument, or kind of like a reverb-like thing. Good at string-like/marimba-like sounds; best w/a dash of reverb.



Note: This is in "alpha" stage, as it was about 5/24/2022.

It sounds like this, when playing with inharmonicity/stiffness:

<https://github.com/JoepVanlier/Audio...z.mp3?raw=true>

Simple sounds with MIDI input: <https://github.com/JoepVanlier/Audio...t.mp3?raw=true>,

<https://github.com/JoepVanlier/Audio...2.mp3?raw=true>

Get all the details (so far), here:

<https://forum.cockos.com/showthread.php?t=220277&highlight=abyss&page=26>



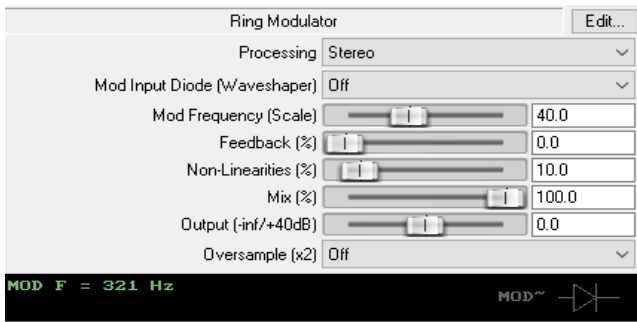
## Phaser:



To increase/decrease knob values by 5, hold down the CTRL key while dragging the mouse. Use text box to input a value for whichever knob or slider you last clicked w/ mouse.

## Ring Modulator:

Uses a sine wave as the modulation signal, which can be 'wave-shaped'.



Has feedback and non-linearities.

- stereo/mono processing
- mod-signal diode - on/off
- feedback lets the signal be processed multiple times by the RM
- non-linearities 0-100% - adds small variations to mod-freq/feedback amt.
- mix - 0-100% - mixes the original signal with the processed signal.

## Ripple Phaser (w/presets):

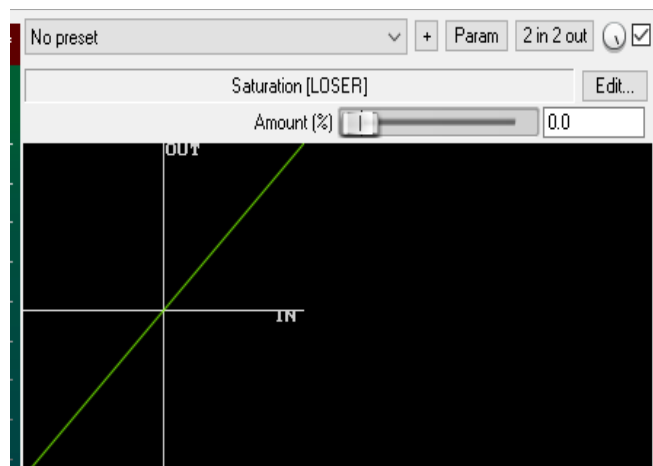
Phaser-like effect which continually rises or falls.



The filters fade out (go to 0dB) at some definable limit, so you can modulate some areas of the spectrum while leaving others in tact.

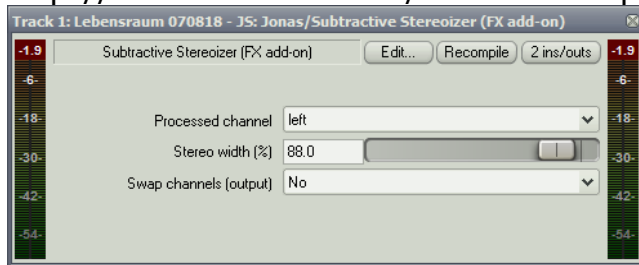
A variable number of filters (up to 20), stereo phase-offset and a tempo-synced LFO.

## Saturation



## **Subtractive Stereoizer:**

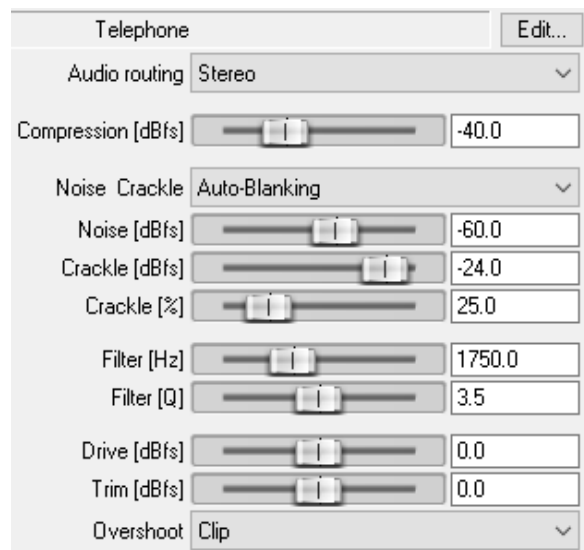
<http://forum.cockos.com/showthread.php?t=25486>



Put the Subtractive Stereoizer after another effect of your liking (EQ, transient modifier etc) and make sure that other effect is set to only input from and process one channel.

Use it combination with another effect, it stereofies a mono signal in a way that is 100% mono compatible.

## **Telephone:**

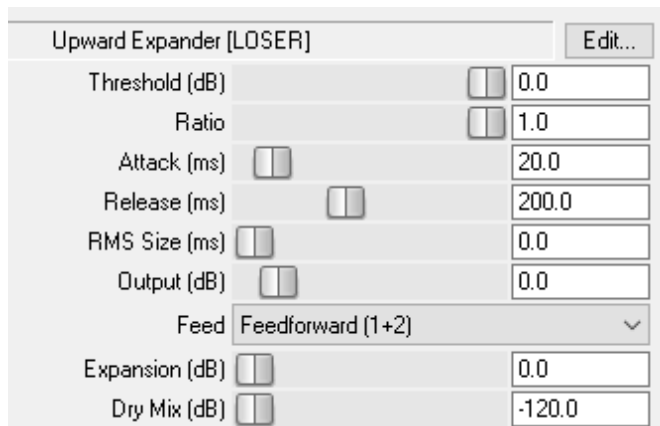


Sounds like a phone receiver.

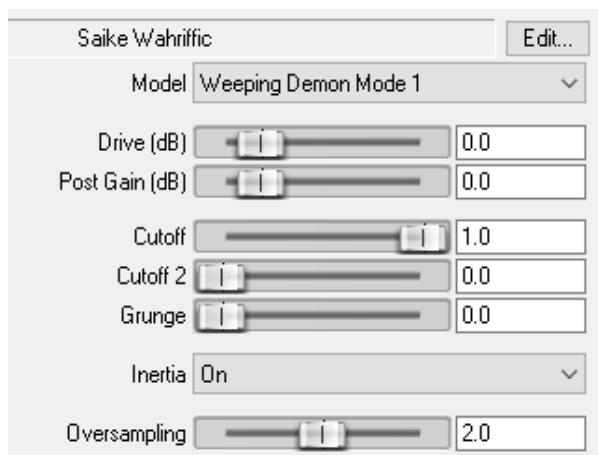
Degrades a regular input signal by compression and multiple stages of hard band filtering, as well as adding crackles, background noise and distortion.

The obvious application would be on vocals, but it can also wreak havoc on other sources, like drums, maybe to completely obliterate a set of room mics?

## **Upward Expander:**



## **Wahriffic:**



## **Warble:**

Pitch-editing plugin that analyses incoming audio, stores and displays it on a zoom-able graph (middle mouse and scroll wheel).



There are three tools: nudge, erase and smooth.

Tweak these w/the mouse (left/right buttons do stuff) to control amt. of shift.

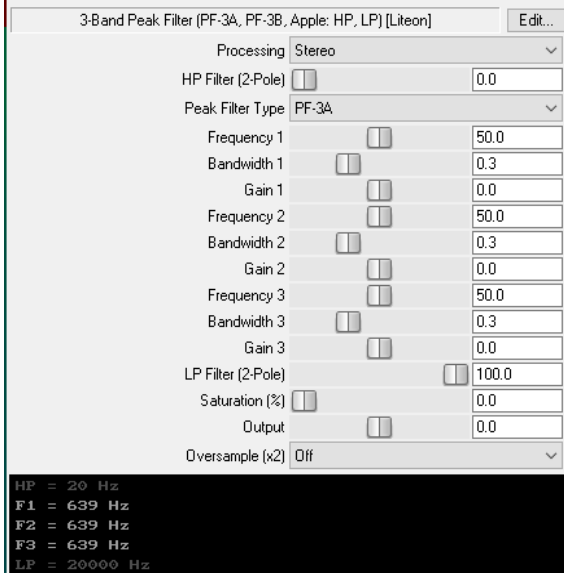
The current change amount is displayed in red.

The formant-correction on the shifting algorithm isn't perfect, so major corrections (e.g. 5 semitones or more) won't sound natural.

# **FILTERS:**

## **3 Band Peak Filter:**

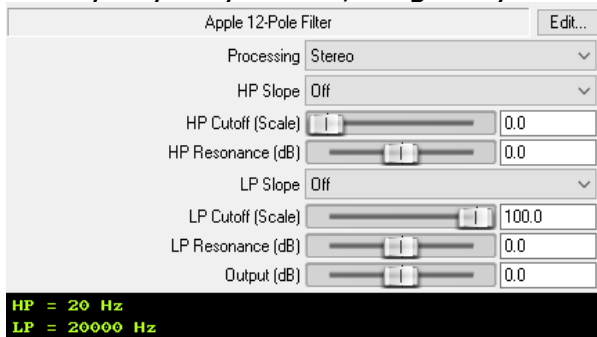
Filter bank containing two bi-quad peak filters.  
Each filter provides three fully parametric bands.  
Saturation control is also available.



- 2 filter types: PF-3A, PF-3B. The two filters have similar behavior in the midrange, but quite different at the low and high end.
- stereo/mono processing
- 12db lowpass, highpass
- output gain control -24/+24db
- saturation amount - 0-100% - adds harmonics and noise floor to the signal.
  - oversampling (on/off)
  -

## **Apple 12-pole Filter:**

A very “synthy” filter; originally from apple.com.

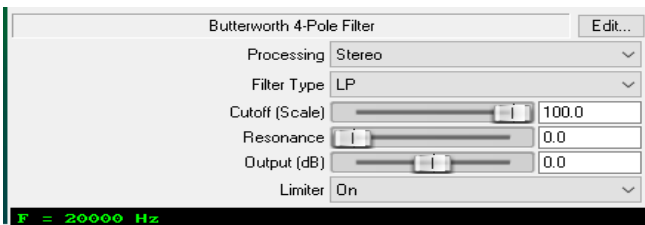


Mods allow up to 12pole cascade (HP, LP).

- stereo/mono processing
- slope - off/12db-72db per octave
- frequency range - 20-20000hz
- res - resonance amount -16/+16db
- output gain control -24/+24db

## **Butterworth Filter:**

Classic sounding 24db filter model

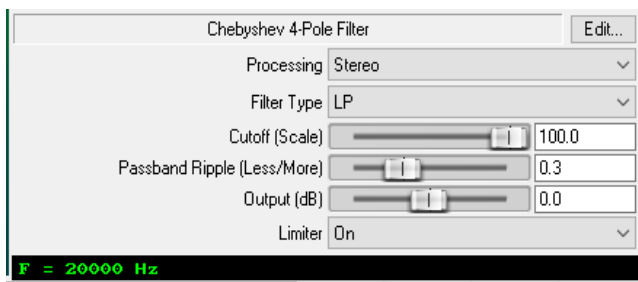


- stereo/mono processing
- filter mode - LP/HP
- cutoff frequency - 20-20000hz
- resonance amount - 0-0.9
- limiter(on/off) - to limit output
- output gain control -24/+24db

!Warning ! May be unstable when cutoff frequency is automated very fast in the low end.  
A limiter will automatically kick-in so speakers aren't blown out. :)

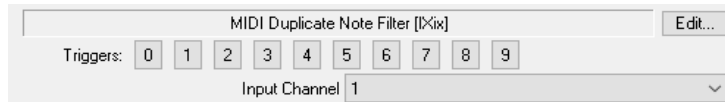
## **Chebyshev Filter - Type1:**

Classic sounding 24db filter model! With a very specific resonance.



- stereo/mono processing
- filter mode - LP/HP/BP
- cutoff frequency - 20-20000hz
- passband ripple amount - 0-0.9 (Produces two noticeable peaks on the spectrum)
- limiter(on/off) - to limit the output.
- output gain control -24/+24db

## **MIDI Duplication Filter:**



Duplicate note blocker that works by counting note on/off events.

Parameters:

- Input Channel - Which channel to work on.
- Trigger 0 - Reset Counters.

Tips: Editing MIDI notes while this plug-in is running can cause the note on/off counter to break. If this happens, hit trigger zero while no notes are playing to reset the counters.

## **FM Filter 2:**



Features:

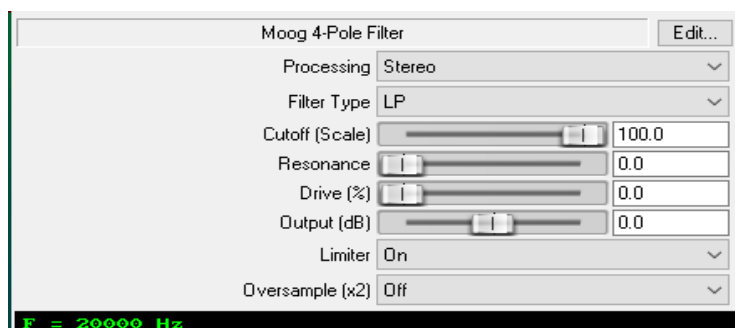
- 15 filters, from well behaved linear models, to gnarly analog modeled nastiness.
- Audio and MIDI controllable filters and MIDI controllable gate.
- Three LFOs.

- Modwheel and MIDI velocity support.
- Stereo widening effect.
- Distortion module.

Instructions: <https://github.com/JoepVanlier/JSFX> (scroll down the page)

## **Moog Filter:**

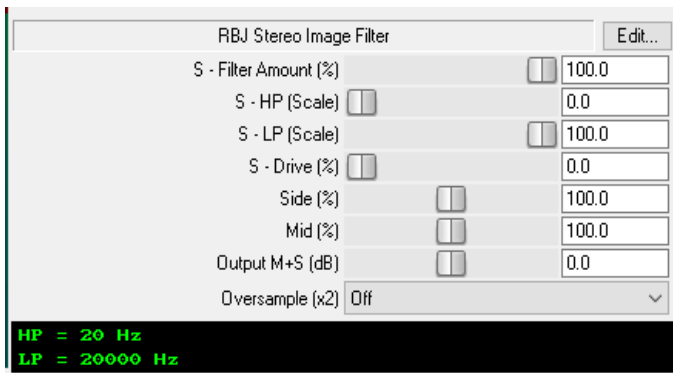
Classic sounding 24db filter plugin modeled after the infamous Moog Filter.



- stereo/mono processing
- filter mode - LP/HP/BP
- cutoff frequency - 20-20000hz
- resonance amount - 0-0.85
- drive - adds saturation to the signal
- limiter(on/off) - to limit the output
- output gain control -24/+24db
- oversampling (on/off)

## RBJ Stereo Image Filter:

A filter that controls only the stereo image of a sound.



Useful for precise sound modeling. Based on RBJ filters cookbook. Includes saturation.

- filter amount - controls mix between original signal and filtered one.
- HP - 12db hipass for the stereo image at given frequency.
- LP - 12db lowpass for the stereo image at given frequency.

- drive - saturation for the stereo image.
- side - stereo image width.
- mid - mid amount.
- output gain control (m+s) -24/+24db
  - oversampling (on/off)

## SC Filter (side-chain filter):

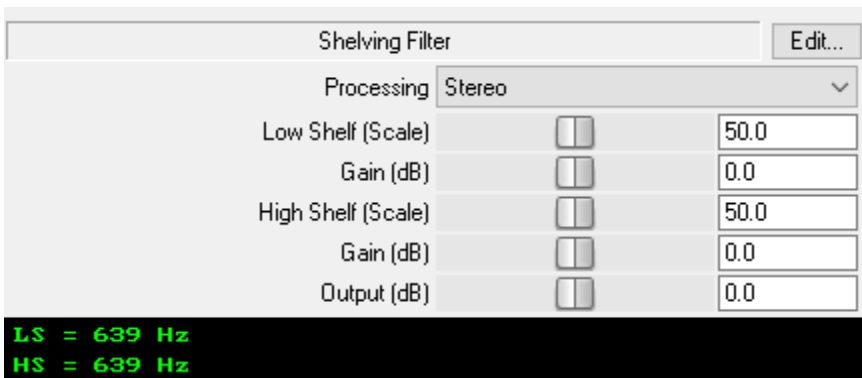
An easy to use EQ. Featuring Highpass, Lowpass, shelving, and full parametric filters you can filter to "whereveryouwant".



"The idea is that the signal goes trough the plugin unfiltered, while the filtered signal is used to change the behavior of a gate or compressor via side-chain" says Tukan

## Shelving Filter:

Plugin with LowShelf and HighShelf biquad filters based on James A. Moorer's formulas.



- stereo/mono processing
- frequency ranges - 20-20000hz
  - gain -12/+12db



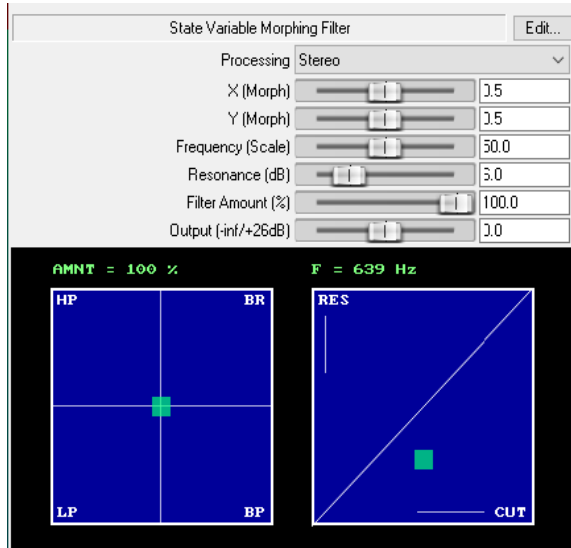
### **Simple 6db LP Filter:**

A simple 6db LP filter. Good for less steeper cuts of high end sounds.  
CPU friendly and good for automation. No resonance control.

- mono/stereo processing
- cutoff frequency - 20-20000hz
  - output gain control -24/+24db

### **State Variable Morphing filter:**

Filter which uses x,y pads to morph between different states - LP, HP, BP, BR.



#### **Features:**

- stereo/mono processing
- lp, hp, bp, br modes
- frequency range - 20-20000hz
- res - resonance amount
- filter amount - mixes original signal w/the filtered one.

"use the FX window Delta for finding and eliminating annoying resonances. Often much better than your average EQ"

# MISCELLANEOUS:

## Avocado Ducking Glitch Generator:

A powerful glitch engine, with a ducker built in so it won't stomp all over your tracks.

Avocado Ducking Glitch Generator [remaincalm.org] Edit...

Buffer Length (ms)	<input type="text" value="50.0"/>
Mix (%)	<input type="text" value="90.0"/>
Buffers	<input type="text" value="8.0"/>
Repeat Probability (%)	<input type="text" value="70.0"/>
Pitch Modulation Probability (%)	<input type="text" value="5.0"/>
Reverse Probability (%)	<input type="text" value="10.0"/>
Fadeout Probability (%)	<input type="text" value="18.0"/>
Threshold (%)	<input type="text" value="8.0"/>
Glitch Attack (%)	<input type="text" value="15.0"/>
Arpeggiator Mode	Off
Tempo Sync (64th notes, 0 to disable)	<input type="text" value="0.0"/>

"Can be really good for filling out "ambient" loops."

## Cabinet Sim:

5 simulated cabinets

Cabinet Sim Edit...

Routing	Stereo
FFT size	1024 [good]
Cabinet	Petaluma 4x12
Output [dB]	

- Petaluma 4x12
- Bavaria 4x12
- Milton Keynes 4x12
- Huddersfield 4x12
- Bass 8x10

## Convolution Amp/Cab Modeler:

Convolution Amp/Cab Modeler Edit...

Model	Dumble Overdrive Special - Tweed Delc
Preamp (dB)	<input type="text" value="0.0"/>
Upsample Impulse If Required	Yes (correct gain)
Channel Mode	L-Stereo
Filter Size	<input type="text" value="79.0"/>
FFT Size	<input type="text" value="256.0"/>

## Dual Amp Modeler:

Mono to Stereo

dual amp modeler (mono->stereo) Edit...

Model (Left)	Dumble Overdrive Special - Tweed Delc
Model (Right)	Dumble Overdrive Special - Tweed Delc
preamp (dB)	<input type="text" value="0.0"/>
upsample impulse if required	yes
filter size	<input type="text" value="79.0"/>
FFT size	<input type="text" value="256.0"/>

## **PreAmp (w/presets):**

This plugin simulates the richness of a nice not too clean preamp.

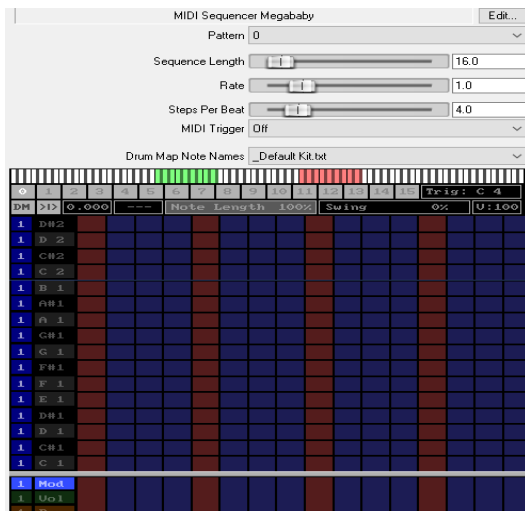


A low- and a highshelf help you to shape the sound. It is also capable of distortion.

So you can choose from light saturation to distortion.

## **Sequencer MegaBaby:**

<https://reaperblog.net/2014/09/js-effect-spotlight-sequencer-megababy/>



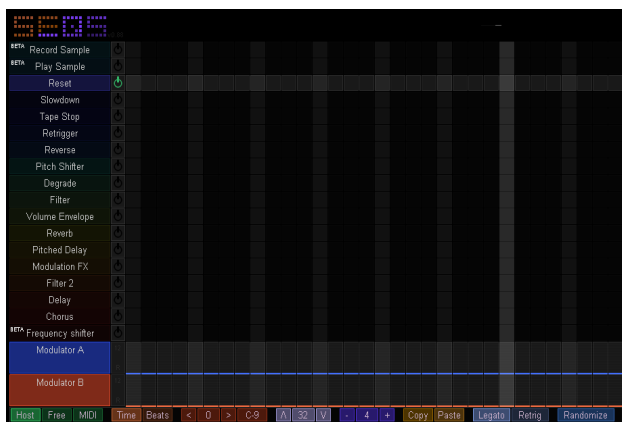
Kenny Gioia video:

<https://www.youtube.com/watch?v=EFbXBCutQAw>

<https://www.youtube.com/watch?v=Wq2C-Qg9Hp4>

## **SEQS:**

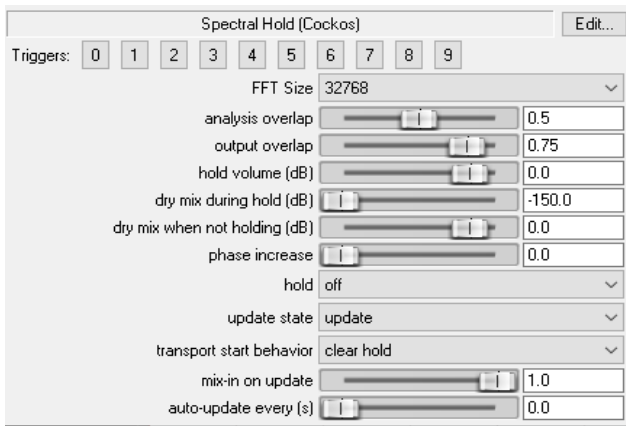
Sequence FX



Instructions: <https://github.com/JoepVanlier/JSFX>  
(scroll down the page)

## Spectral Hold:

"Wonderful effect for 'emotional piano...I use as a 'send', often w/a hpf, before it.



Using Spectral Hold to create an "atmosphere":  
<https://www.youtube.com/watch?v=XdJ1-Wpta4o>

## Sum Channel / Sum Thing SI:



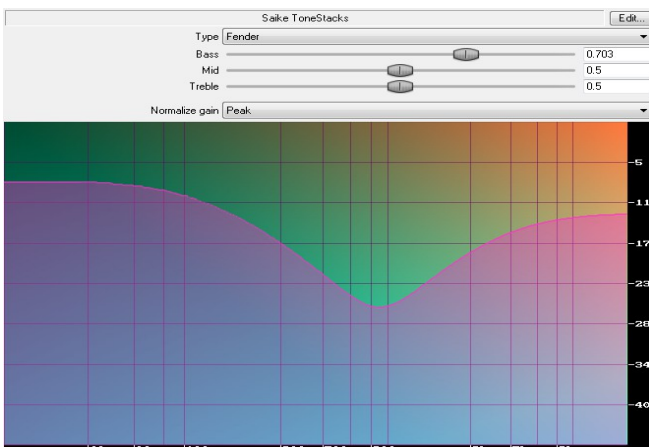
"Think your recording or mix sounds too digital? Give yourself the option of having the saturation and feeling of big analog mixers. Three mixers can be chosen in these plugins. Sum Channel features EQs, compressors, gates and even more options in a free arrangement of signal flow.

SumThing and Sum Channel can switch the model of the desk for all your channels from one master unit. No other plugin can do that", says Tukan.

<https://www.youtube.com/watch?v=YPfic7PSPoE>

## Tone Stacks:

Simulates the tone-stack circuitry of various guitar amps.



Note that some are marked as unstable, these are marked as such since their bi-linearly transformed versions are not stable when it comes to real-time parameter modulation.

Instructions:

<https://github.com/JoepVanlier/JSFX> (scroll down the page)

## **Tone Gate:**

Triggered tone generator

Tone Gate [remaincalm.org] Edit...

Wet Mix (dB)	-15.0
Dry Mix (dB)	-3.0
Frequency (Hz)	80.0
Waveform	Sine
Lowpass (Hz)	1000.0
Threshold (dB)	-20.0
Silence Length For Fadeout (ms)	50.0
Fade In Response (ms)	10.0
Fade Out Response (ms)	100.0
Dynamic Pitch	Normal

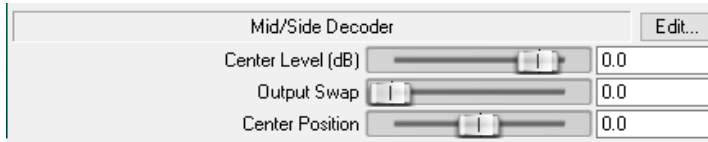
### Features:

- \* generates sine, noise or square wave based on triggered by track input
- \* gate has attack/release
- \* wet/dry mix
- \* noise and square wave can be low-pass filtered
  - dynamic pitch

<http://forum.cockos.com/showthread.php?t=20484>

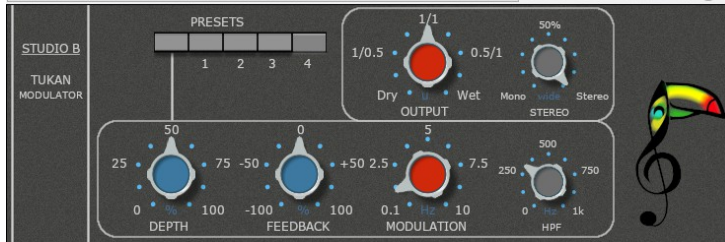
# STEREO/PANNING/SURROUND, 5.1:

## Mid-Side Encoder / Decoder:



(There are no controls for "Encoder")

## Modulation (w/presets):

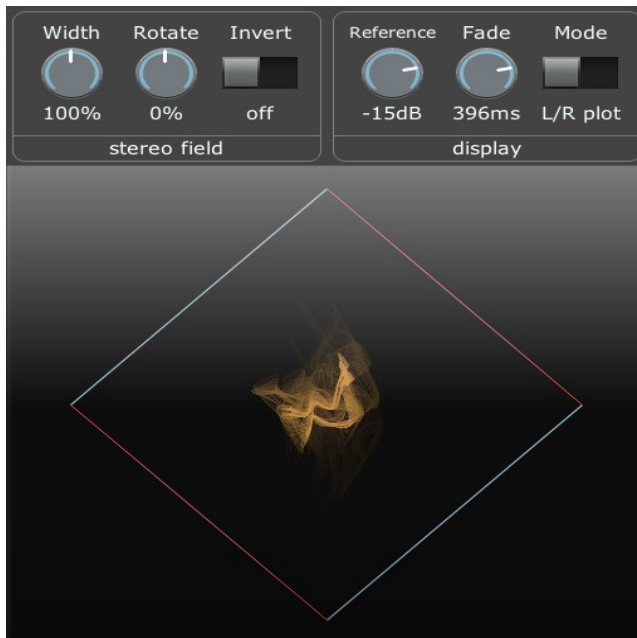


This plugin is a sine/triangle modulation with the common features.

Flanging or chorus can be generated as well as very experimental LFO effects.

## Panalysis:

For panning sends (not the track), in a multi-channel chain.



This draws the incoming audio on a 2D plot, so you can visualize the stereo field.

Alter the width/pan using the controls.

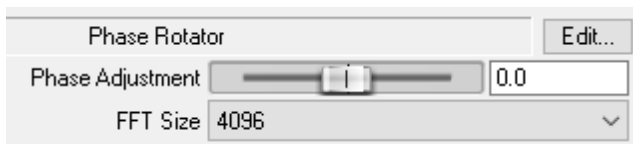
Center-panned (mono) sounds will draw vertically  
Left-panned sounds will draw angled left, right-panned will draw to the right.

If L+R channels are independent, graph will have no defined clear direction (may appear round)

It's possible to rotate the field such that hard-left or hard-right inputs will output "inside out" (opposite phase in both output channels).

In this case, the Width dial will turn red - double-click the dial to reset it to the maximum "safe" width:

## Phase Rotator :

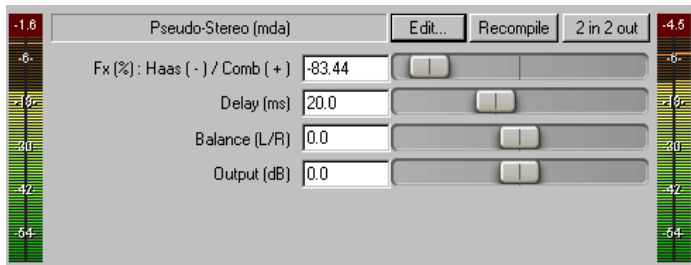


For tuning multi-mic'd tracks by ear.  
One, single slider



## **Pseudo-stereo fx:**

For mono-to-stereo conversions; very light on the CPU.



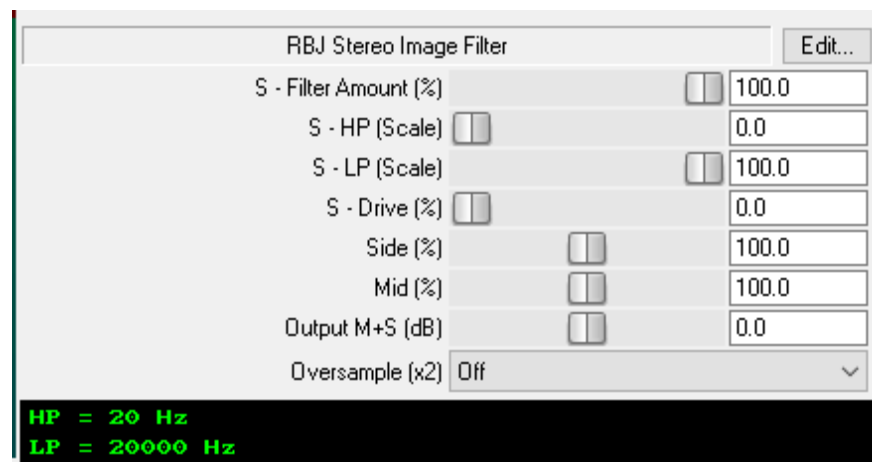
Uses one feedback delay on R ('Haas fx' mode) or 2 separate feedback delays for L & R ('Comb' mode).

- fx amount (%) - haas / comb
- delay (ms) - feedback delay in milliseconds
- balance - L / R channel amount

- output -20/20dB - output volume

Youtube: <https://www.youtube.com/watch?v=GoO2ykpX1PQ>

## **RBJ Stereo Image Filter:**



## **Stereo Bub II:**

A mono compatible stereo widener

Widens the sound, but makes sure that the mono-mix stays unaffected (unlike Haas).



The crossover basically cuts the bass to avoid widening the bass too much.

The last slider allows you to mix in the original side channel (which can optionally also be run through the 12-pole

highpass).

### 2 modes of operation:

1) Either add stereo sound from nothing, using the Strength slider. This adds a comb filtered version of the average signal with opposite polarity to the different channels.

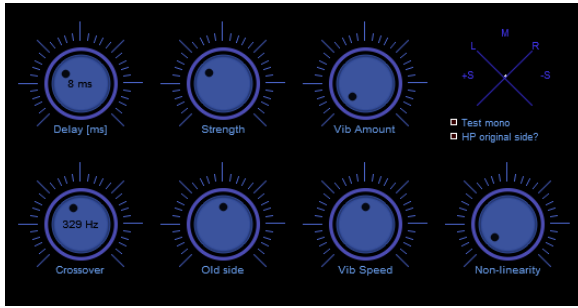
2) Manipulate the existing side channel that's in the input.

The gain of the original side channel is scaled by the old "Old side" knob.

"HP original side" button engages the highpass (mono-izing the low frequencies).

## Stereo Bub III :

A stereo widener

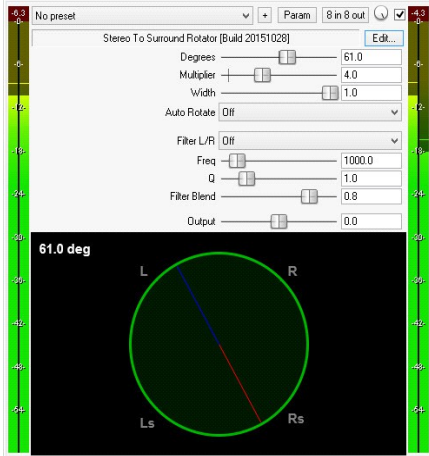


Like "II" except it adds vibrato on left and right and a squash option to box in the side channel. This squash option can be useful at times to mask the phasing effects you can sometimes hear on drums. Mind you, too much of it will cause harmonics that will completely vanish when mixing down to mono, so be careful with that one.

Instructions: <https://github.com/JoepVanlier/JSFX> (scroll down the page)

## Stereo2Surround Rotator:

Used to rotate stereo signal in surround space (Lf,Rf,Ls,Rs).



Can be also used with 2-channel tracks to achieve "Leslie" type fx.

Manual and automatic rotation modes.

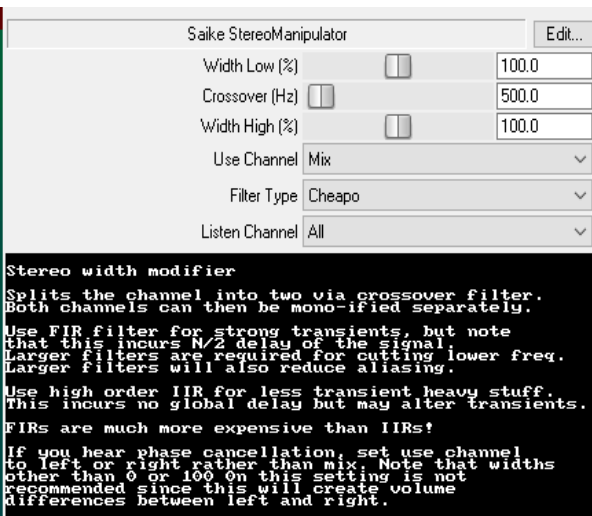
Also syncs with tempo.

Additional crossover filter to split L & R into high and low frequency bands.

## StereoManipulator:

A stereo width manipulator with a large number of filters.

Splits the channel into two via crossover filter.



Both channels can then be mono-ified separately. Use FIR filter for strong transients, but note that this incurs N/2 delay of the signal. Larger filters are required for cutting lower freq. Larger filters will also reduce aliasing. Use high order IIR for less transient heavy stuff. This incurs no global delay but may alter transients. FIRs are much more expensive than IIRs.

If you hear phase cancellation, set use channel to left or right rather than mix. Note that widths other than 0 or 100% in this setting is not recommended since this will create volume differences between left and right.

Instructions: <https://github.com/JoepVanlier/JSFX> (scroll down the page)

### **Stereo To Sides:**

There are no parameters; either it's on, or it's off.

This plugin simply removes the mid channel from a stereo track leaving you with stereo side channels.

You can play with the delta solo and dry/wet for some unintended results

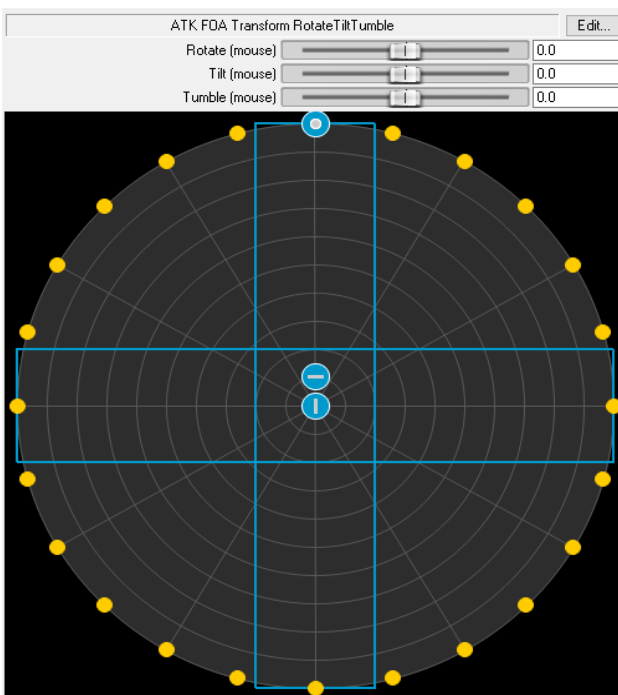
This plugin nulls perfectly against the original audio (unlike the native JS Center Canceler plugin which doesn't seem to be phase cohesive).

<https://stash.reaper.fm/v/44339/Stereo%20To%20Sides%20%28Moe%20Danger%29>

### **Stereo Width:**



### **Transform-Rotate-Tilt-Tumble:**



Ambisonic JSFX are for mixing in "surround" and "5.1".

Because it outputs to 4-5 speakers, it requires creating the proper file that will work in Reaper.

Here's the download:

<https://www.ambisonictoolkit.net/download/reaper/>

Creating an Ambisonic Audio File using Reaper and the ATK for Reaper

<https://www.youtube.com/watch?v=ClgVMjczaFc>

### **Volume/Pan Smoother v5:**



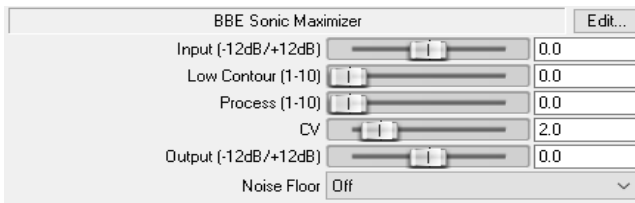
Gives movement to mono tracks

Kenny Gioia's demo:

<https://www.youtube.com/watch?v=WiaSy-NWMe8>

# MASTERING:

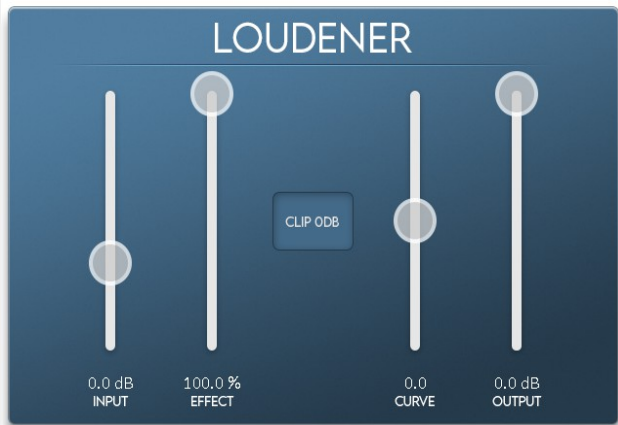
## BBE Sonic Maximizer:



Get the code, here:

<https://forum.cockos.com/showthread.php?t=91439>

## Loudener:



Here's the

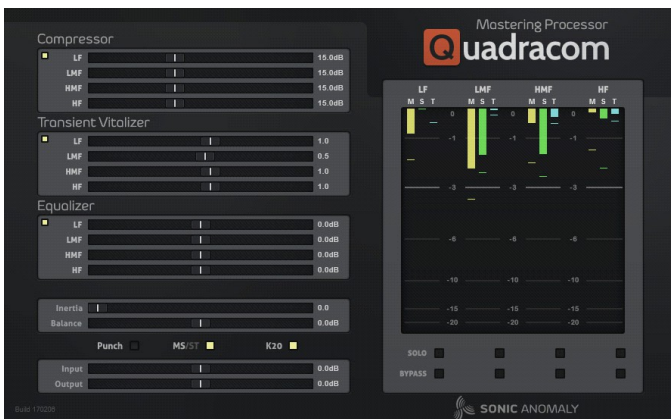
code: <https://github.com/ReaTeam/JSFX/blob/master/index.xml>

## Master Limiter:



## QuadraCom:

A 4-band dynamics processor by Sonic Anomaly for mix bus and mastering.



Mono or stereo mode, bundled with a Compressor, Transient Vitalizer, and also an Equalizer for general-purpose Music Production.

### Features

4 bands with fixed frequencies.

M/S or Stereo mode.

Compressor, transient visualizer, and EQ.

Operation manual included.

## **Routing tool:**

A small convenience tool for quickly routing monitor configurations.



Meant to go on the master monitor FX or master bus.

Used for quickly toggling routing to different outputs.

Instructions:

<https://github.com/JoepVanlier/JSFX> (scroll down the page)

# **SYNTHS/SOUND GENERATORS:**

## **Hammer And Chord (w/presets):**

A polyphonic string resonator.



It can provide its own impulse (to act as a synth) as well as resonating the incoming audio (e.g. a drum loop).

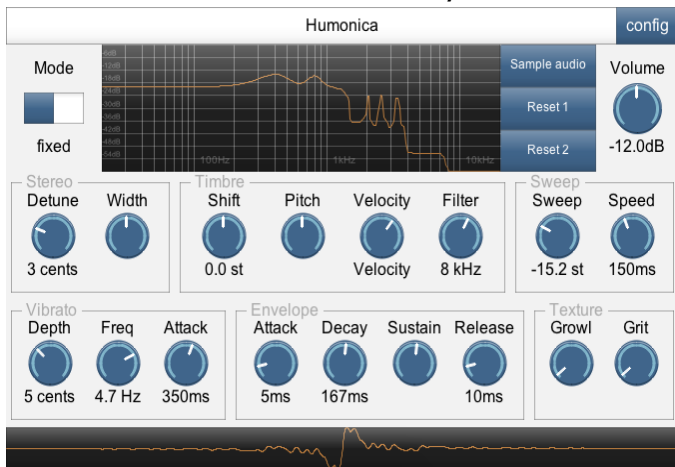
It has two resonators for each note (left and right) and they can be detuned.

If your input audio is tonal (e.g. speech), the "de-tonal" setting puts a ring-modulator before each resonator to make it atonal.

<https://www.youtube.com/watch?v=0MmKuW2nEkk>

## **Humonica (w/presets):**

Between a vocoder and a synth with sharp filter-sweeps.



It can use input audio for its timbre to act as a vocoder ("audio" mode), or use a spectrum which you can draw precisely with the mouse, allowing extremely sharp cutoffs.

You can shift the timbre up/down based on pitch, velocity or per-note envelope ("sweep").

In "audio" mode, you can control how much audio is used to calculate the timbre (window) and how often (overlap).

There is a zero-latency mode for live performance, and a latency-compensated one.

The "Volume" section acts like a basic compressor -turn both dials to 0 to disable.

The "fixed" mode lets you draw the spectrum for a single pulse of the oscillator using the mouse.

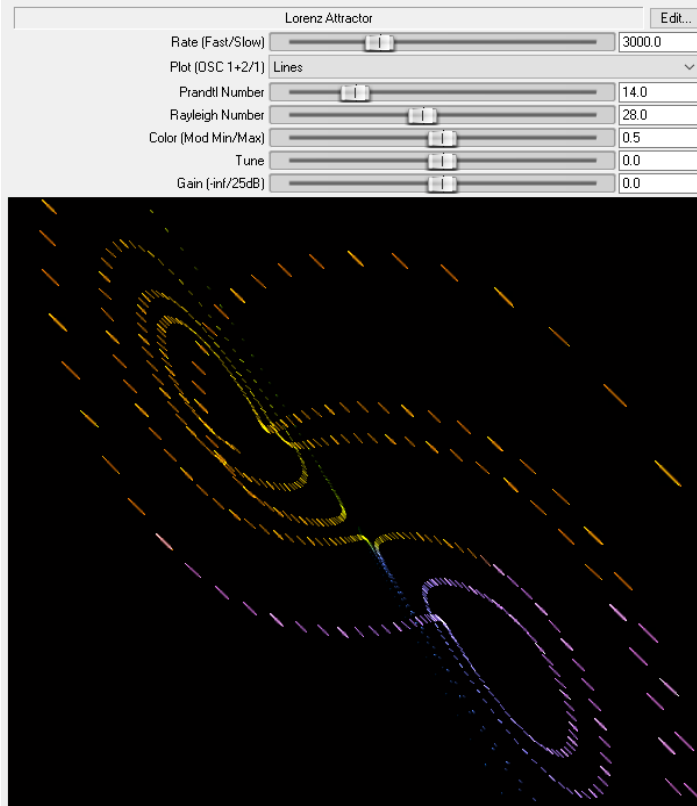
Shift-click lets you draw straight lines.

"Walkthrough": <https://www.youtube.com/watch?v=eTiwH886nAc>



## **Lorenz Attractor:**

Synthesizer w/2 two oscillators: one sine wave, one square wave and various parameters that control both the sound and the plotted graphics.



Can be used to produce ambient sounds.

- rate - controls the rate at which the plotter/modulation is working.
- plot osc 1+2/1 - when 'lines' is selected plotter outputs lines and the sound is a mix between osc 1 and 2 (sine+square).

Otherwise when 'dots' is selected the output is a sine-wave only.

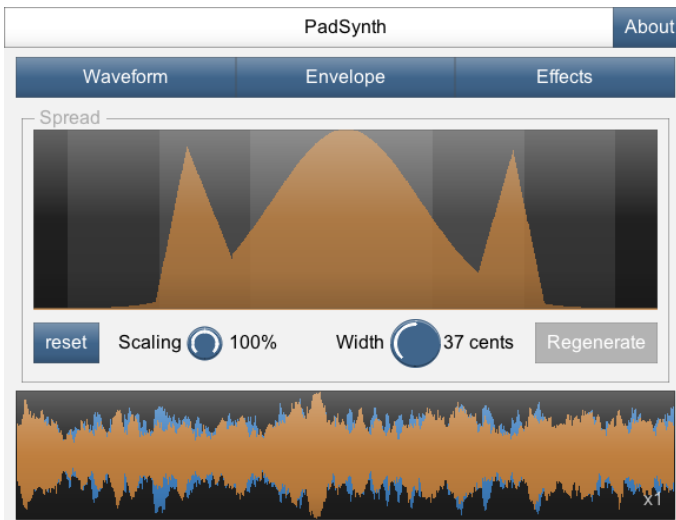
- prandtl number - first parameter controlling the attractor.
- reileght number - second parameter.
- color - changes the palette of the plotter.

When set to the far left, modulation amount of osc1 is minimum, otherwise its set to max

- tune - tunage of osc1 and osc2.
- output gain control -inf/+25dB

## **PadSynth (w/presets)**

Specializes in smooth and thick sounds, with a bank of effects and assignable modulators that are calculated per-note.



The per-note effects can re-ordered/renamed, and the modulators can modulate any later effect in the chain.

### Features:

\* Waveform design with variable harmonic width

- Filter (2nd-order lowpass) with envelope
- LFO (can modulate)

<http://forum.cockos.com/showthread.php?t=1726321>

<https://www.youtube.com/watch?v=hgSqq-SgSjs>

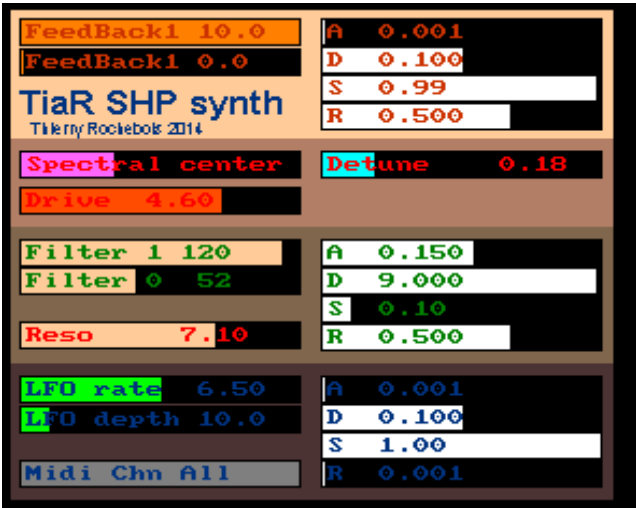
**ReaRack2 Modular Synth:**

A collection of JSFX modules for use in modular synthesis.  
Monophonic, but polyphony is possible using the "poly splitter" module.

19 modules including: 4 types of Oscillator, LFO, Envelope generator, 2 Filters, Amplifier, CC mixer, Trigger, Poly splitter, Key follower, Note filter, Audio to MIDI converter, Note Scope and MIDI Nonlinearizer.

The modules have a master/slave function so parameters can be linked for ease of setup of polyphonic voicing.  
Key module parameters can be modulated directly using the MIDI CC inputs, for those that can't, use Reaper's parameter modulation  
MIDI output can be directed to individual channels.  
For input channel filtering, use the REAPER track routing.

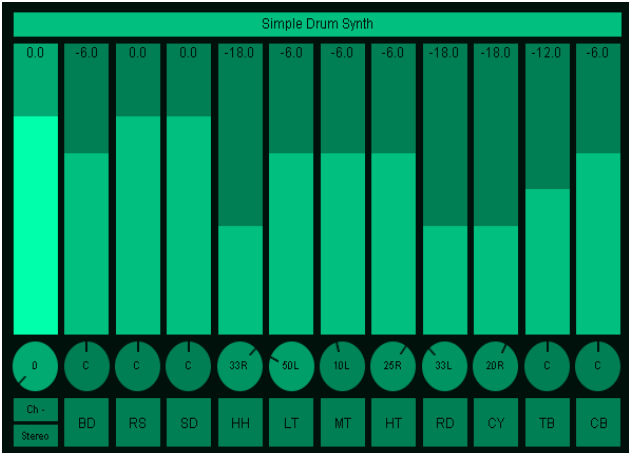
**Shepherd Paradoxical Synth:**



Continually rising pitch

**Simple Drum Synth:**

This electronic drum synth supports the following General MIDI (GM) subset:



// Note | Sound | Outputs  
// -----+-----+-----  
// 31 | Sticks | 21/22  
// 35 | Bass Drum 2 | 1/2  
// 36 | Bass Drum 1 | 1/2  
// 37 | Rimshot | 5/6  
(and so forth...)

See the JSFX code for complete list)

Internally the different sounds are generated by 12 sound generators, whose outputs can be mixed down to 2 channels in mono/stereo mode, or to 22 channels (11 channel pairs) in multichannel mode.

### **Soft Bell (w/presets):**

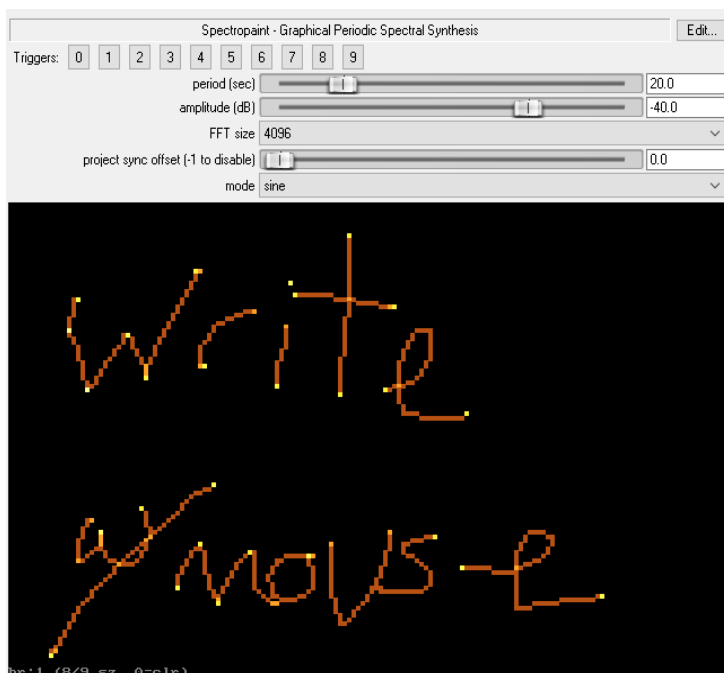
A synth that produces chime-like tones, with individually specified harmonics.



Can also be used with audio -it can produce interesting inharmonic sounds from musical input, particularly if you turn the "tonality" dial down.

<https://www.youtube.com/watch?v=JLLizwZHIEA>

### **SpectroPaint Synthesis:**



Get presets here:

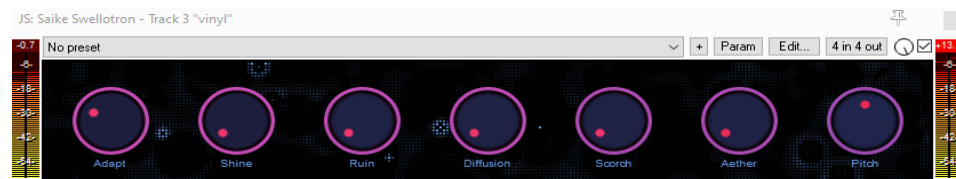
<https://reaperblog.net/2016/06/spectropaint-synthesis-and-filter-jsfx-get-presets-here/>

Tutorial:

<https://www.youtube.com/watch?v=T3XHN0LpA7o>

## **Swellotron:**

Combines two sounds into ambient soundscapes.



It computes the spectrum of both signals (using the STFT), multiplies the magnitudes in the spectral domain and puts

the result of that in an energy buffer.

This energy buffer is drained proportionally to its contents.

The energy buffer is then used to re-synthesize the sound, but this time with a random phase.

### **Features:**

Shimmer: Copies energy to twice the frequency (leading to iterative octave doubling).

Aether: Same as shimmer but for fifths.

Scorch: Input saturation.

Ruin: Output saturation.

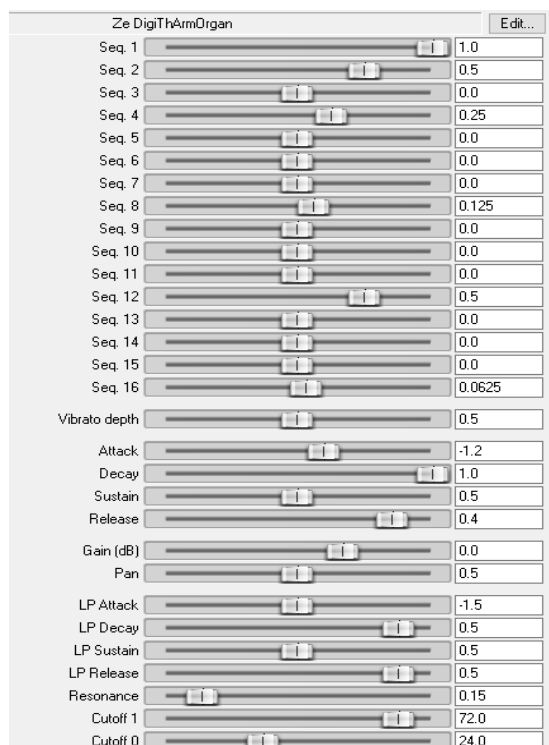
Diffusion: Spectral blur.

Ice: Chops small bandwidth bits from the energy at random, and copies them to a higher frequency (at 1x or 2x the frequency), thereby giving narrow-band high frequency sounds (sounding very cold).

Instructions: <https://github.com/JoepVanlier/JSFX> (scroll down the page)

## **The Digit Ham Organ:**

A fully polyphonic synthesizer based on Digital Harmonics i.e. Walsh functions.



### **Features:**

A LP filter with resonance and dedicated ADSR envelope per voice

The outputs are added to the outputs of the previous plugin, so you can stack them.

3 detuned oscillator and a two pole low pass filter per voice (the detune ratios of the secondary oscs are adjustable).

It is anti-aliased by third order integration /differentiation scheme.

## Yutani Mono Bass synth



Monophonic, 4-voice paraphonic bass synth w/fancy filters and modulation options.

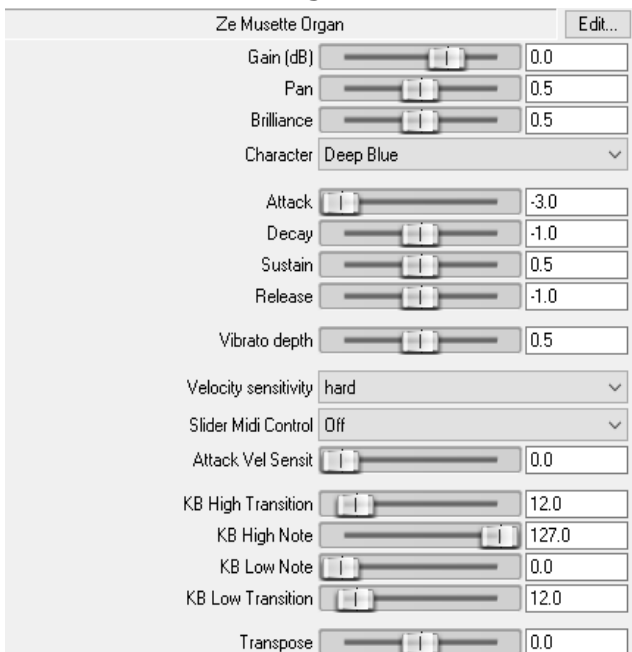
### Features:

- Anti-aliased oscillators.
- 14 Filters (9 are non-linear analog modeled ones, each with a unique tone. (Try driving them!))

- Audio-rate modulation options on the filter.
  - Velocity, modulation wheel and LFO modulation options.
  - Stereo widening effect.
  - Noise.
  - Distortion module.
  - Glide.
  - Modwheel, MIDI velocity and pitch bend support.
- Instructions: <https://github.com/JoepVanlier/JSFX> (scroll down the page)

## Ze Musette Organ:

Similar to Italian organs of the 1970's. Almost "chip-tune".



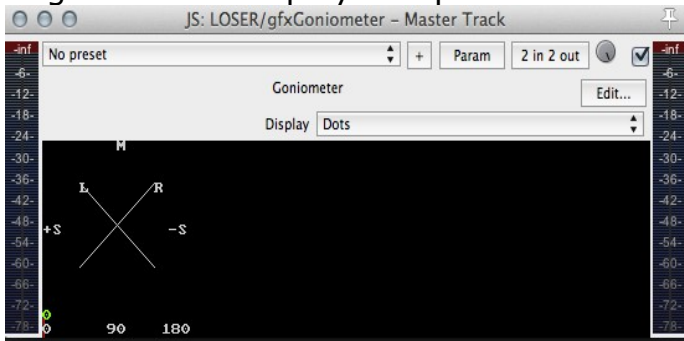
### Features

- \* Five tone "characters"
- \* Adjustable "brilliance"
- \* Vibrato controlled by the Mod. Wheel and Aftertouch
- \* +/- a 1 octave pitch bend
- \* Anti-aliased sound generation
- \* Stackable: many "Ze Musette Organs" can be stacked, so outputs will be added together.
- \* Different Gain and Pan settings can be used to widen the stereo field.
  - The keyboard range for every Musette Organ can be set with transition zones.

# AUDIO ANALYSIS:

## GFX Goniometer

A goniometer display and phase correlation meter



The practical use for such a tool is to give you visual feedback of the stereo image.

If you ever use stereo widening techniques you ought to check out the results on the goniometer.

A mono signal will display as a vertical line, a phase inverted stereo signal (each side 180 degrees opposite) would display as a horizontal line. A hard-panned signal will be a diagonal line.

A typical stereo signal is a squiggle all over but definitely vertically centered. A stereo signal that has been extremely widened or has phase issues will be a squiggle horizontally centered.

The phase correlation meter at the bottom is unfortunately set up in a “non-standard” way but is still helpful if you understand the display.

Normally the display would be on a scale of -1 to +1.

A mono signal would stay at zero, an ideal in-phase stereo signal would be hovering somewhere between zero and +1 while an anti-phase stereo signal would be shown below zero.

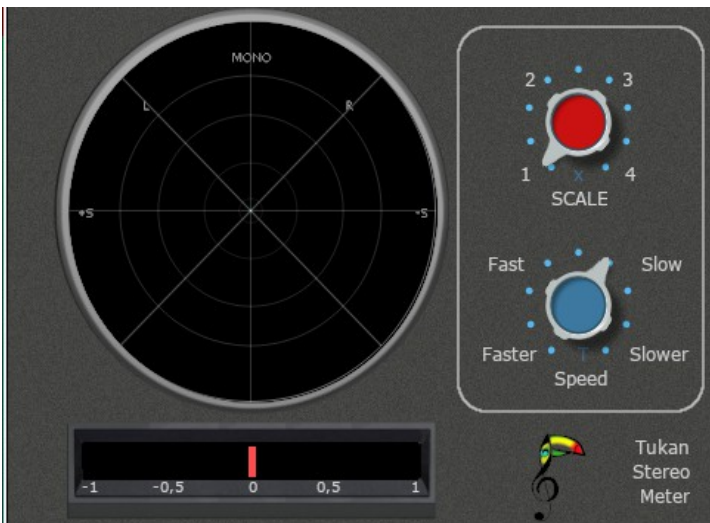
With real life sources and stereo mixes the display can occasionally drop below zero but should be in positive polarity the majority of the time.

With the correlation meter in GfxGoniometer, an in-phase signal will be between 0 and 90, phase issues will be shown between 90 and 180.

Tutorial: <https://reaperblog.net/2012/09/js-effect-spotlight-gfxgoniometer/>

## Goniometer (Tukan):

The TUKAN Goniometer is a tool to visualize the phase differences in the stereo signal.



For good visualization of low level signals the meter can be boosted, while the audio stays as it is.

Also the speed of the optical response can be adjusted.

Included in this instructional:

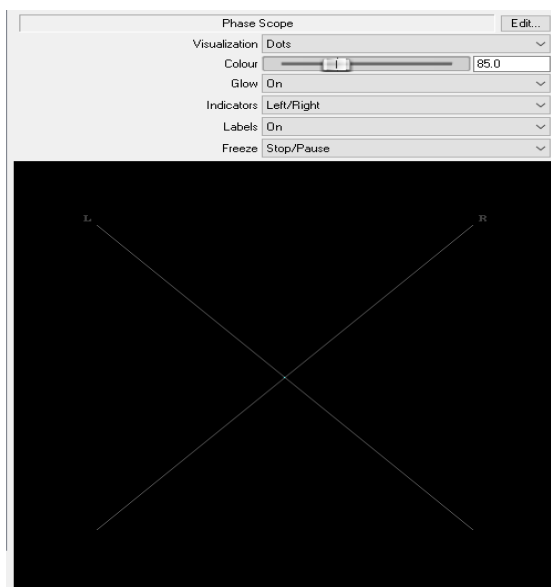
<https://www.youtube.com/watch?v=RwS3GCQKyeQ>

[https://en.wikipedia.org/wiki/Goniometer\\_\(audio\)](https://en.wikipedia.org/wiki/Goniometer_(audio))

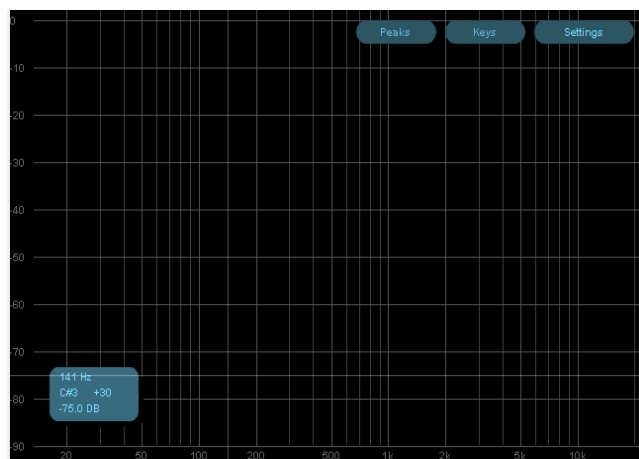


## Phase Scope:

Get the code, here: [https://github.com/chkhld/jsfx/blob/master/plugins/phase\\_scope.jsfx](https://github.com/chkhld/jsfx/blob/master/plugins/phase_scope.jsfx)



## ReSpectrum:



"A great analyzer w/useful settings"

## SideSpectrum Meter:

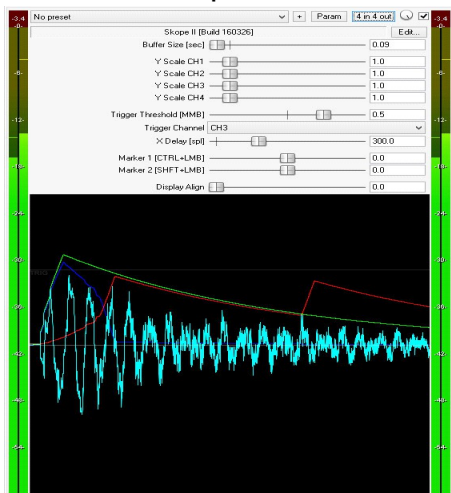
A stereo spectral analyzer to study how much the left and right channel differ.



Instructions: <https://github.com/JoepVanlier/JSFX>  
(scroll down the page)

## **Skope II:**

An oscilloscope.



4 Channels w/buffer size up to 10 seconds.

When buffer size is set to 0, the sync mode will activate.

The display will be synced with playback loop.

Click Middle mouse button on display to quickly set the threshold.

Two Y-axis markers. Click SHIFT+LMB or CTRL+LMB on display to quickly set.

Markers can be set automatically to the highest peak value of display buffer using SHIFT+ALT+LMB and CTRL+ALT+LMB

'Display Align' will gradually set input channels into separate lanes.

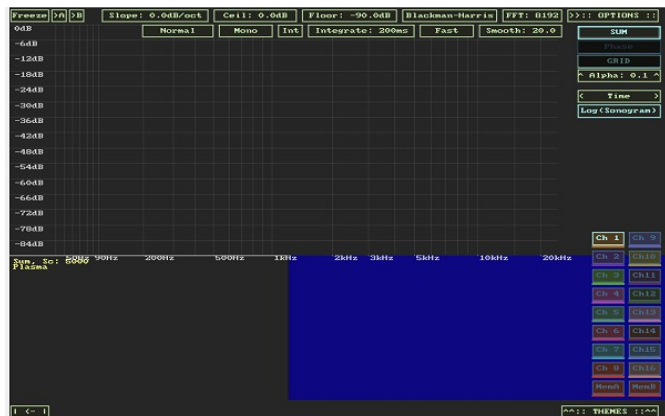
With LMB pressed you can paint X-axis and information will be displayed.

RMB will clear the display.

## **Spectral Analyzer:**

It comes with a lua script.

This adds a spectral comparison tool to selected tracks when you run the script.



Each track is presented with its name and color in Reaper (!) and the spectral analyzer shows them in the same window.

To setup: Embed the plugin in mixer panel, and then embed the equalizer in track panel.

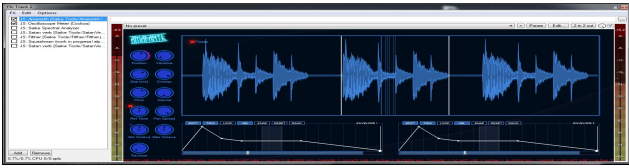
This way, when you select a track, you see both graphics, tweak you eq and see the result on the spectral analyzer directly.

Here's the link to the code:

<https://github.com/JoepVanlier/JSFX/blob/master/SpectrumAnalyzer/SaikeMultiSpectralAnalyzer.jsfx>

# UTILITY:

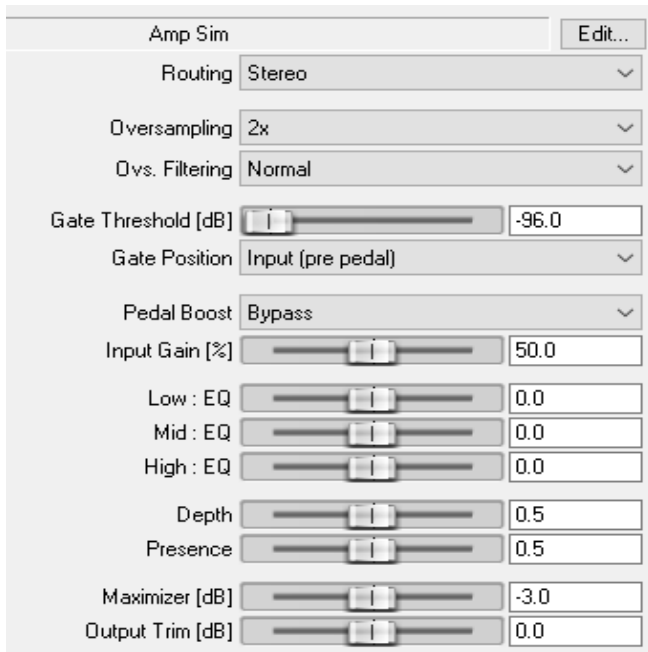
## Amaranth (w/presets)



Instructions: <https://github.com/JoepVanlier/JSFX>  
(scroll down the page)

## AMP Sim:

Put this on your guitar or bass DI tracks, or play into it live.



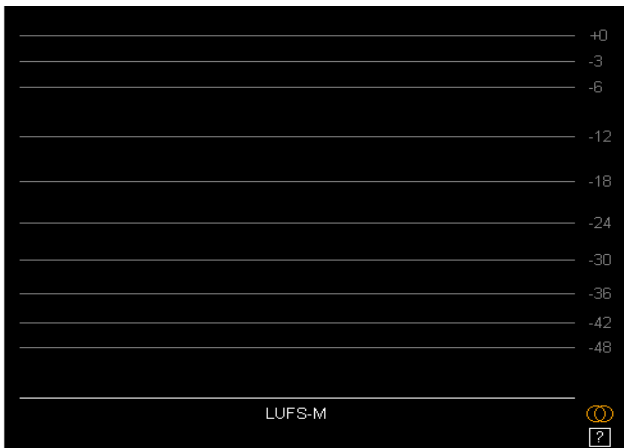
Does not come with a built-in cabinet, so you'll likely want to insert an IR loader (like my Cabinet Sim JSFX) after it.

Higher oversampling factors and heavier filters will be more demanding on your CPU, but may help to clean up the top end of the signal and avoid nasty aliasing artifacts.

NOTE: to save CPU, only the filtering and distortion stages are over-sampled.

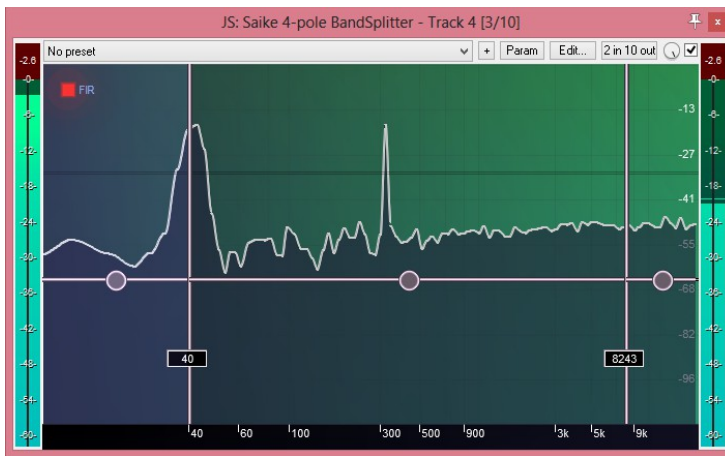
See the JSFX code for additional instructions. (Click "Edit...", then "Open in external editor". Look toward the top)

## Automatic Gain:



## **Bandsplitter/joiner**

A 4-pole (24 dB/oct) splitter that preserves phase relations between bands.



Has steeper crossover filters than Reaper's default band-splitter.

Also has option for linear phase FIR crossovers, and not the default IIR filters.

IIRs cost less CPU and introduce no pre-ringing or latency while the linear phase FIRs prevent phase distortion, but introduce latency compensation.

### **Features:**

- 24 dB/oct Band-splitting
- Maintains phase coherence between bands.
- Optional linear phase mode for the crossover filters.
- Solo/Mute options for each band.
- Graphical frequency graph.

**\*\*Note:** When using the linear phase filters, it is not recommended to modulate the crossover frequencies as this introduces crackles.

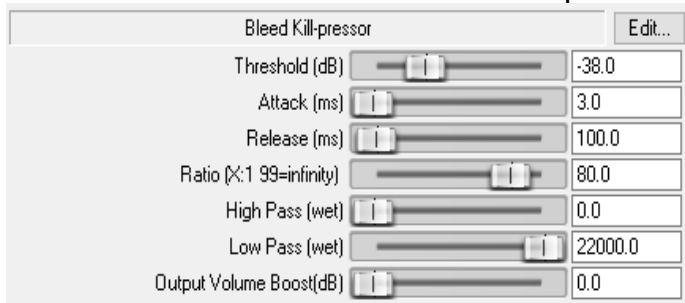
<https://reaperblog.net/2016/05/js-band-joiner-fx-multi-band-processing-with-any-plugin/>

<https://reaperblog.net/2016/04/js-band-splitter-fx/>

Instructions: <https://github.com/JoepVanlier/JSFX> (scroll down the page)

## **Bleed Kill-pressor:**

Simplifies the bleed killing technique of duplicating a track, inverting the polarity of the duplicate, and using a compressor on the inverted track to crush the signal, then blending both tracks which cancels out the quiet sounds, reducing bleed.



This plugin does all this internally, eliminated the need to actually create a duplicate track.

This helps keep the track count down.

HP/LP Filters apply to signal going into compressor.

Previously the compressor output was filtered.

Now only the frequencies you want to hear will hit the compressor and be output.

## Bric-a-Brac:

Adds textures to existing sounds.



Can be used to brighten up beats by loading a noise sample in a sample slot.

Or add some organic textures by adding a creaking sound that plays before the attack of a synth.

### Features:

-4 sample slots can be triggered/looped to add textures to existing sounds.

-Choose if sample will be: envelope follower, threshold or triggered envelopes.

-One LFO modulator per sample.

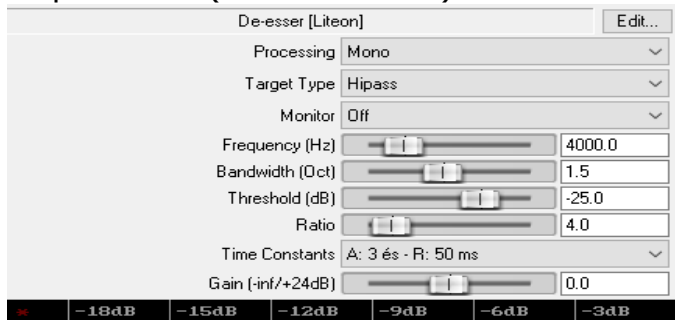
-A lowpass/highpass filter per sample that can be modulated by the envelope and/or an LFO modulator.

-Variable pre-delay per sample.

Instructions: <https://github.com/JoepVanlier/JSFX> (scroll down the page)

## De-esser:

A split-band (or multi-band) de-esser. Linkwitz-Riley crossover.



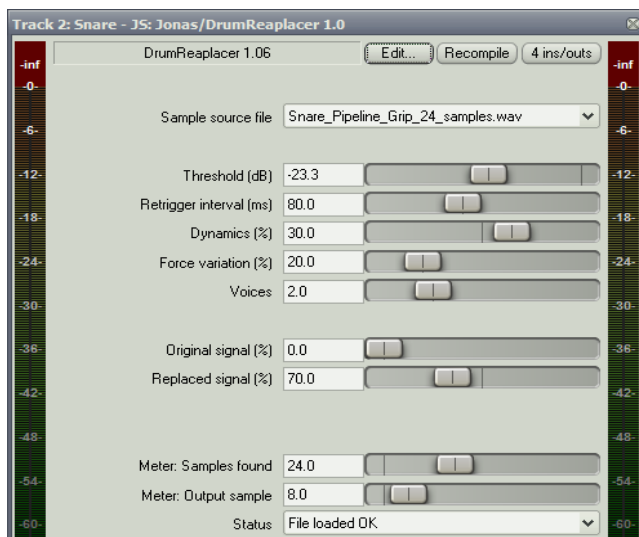
Allows fast or slow time constants.

Monitor switch.

High-pass or bandpass target. gr-meter

## DrumReplacer

<http://forum.cockos.com/showthread.php?t=20462>



### Features:

- Velocity sensitive drum replacer
- Force variation-slider to avoid machine gun-effect
- built-in sampler that supports any sample-rate
  - Dynamics-slider to control how hard the drummer beats those things.

Put DrumReplacer on any track where you want to replace a drum, lower the threshold until you hear it in action.

## **FX Chain Mixer Stereo:**

"I thought this might go at the end after some EQ and Reverb."

4 stereo channels, Level for each channel, with an option at the end to send all channels back to 1+2

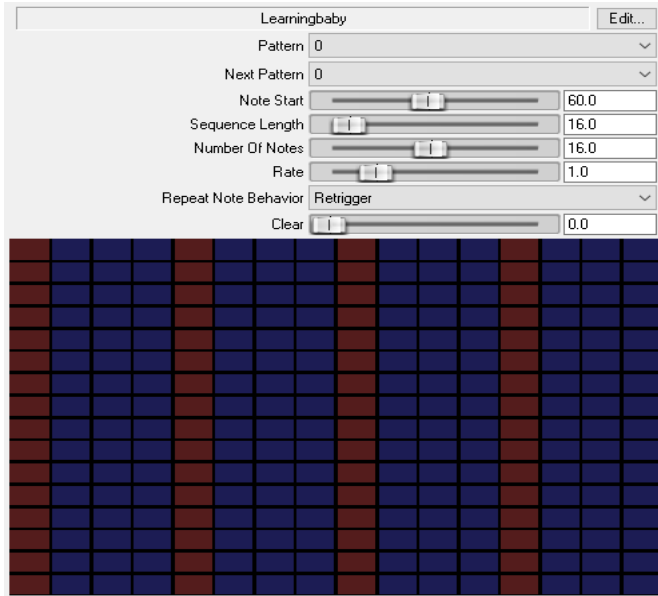
Each channel has Mute/On/Solo, Volume, Pan

Master section to select Output: None/1+2/3+4/5+6/7+8/Original/All

<http://forum.cockos.com/showthread.php?t=20578>

## **Learning Baby:**

A Sequencer Baby v2 that "learns".



It will add incoming MIDI notes to the pattern.

NOTE: If you use automation to change the selected pattern, you will get incorrect results.

Change the "Next Pattern" during a loop and you'll get a correct transition.

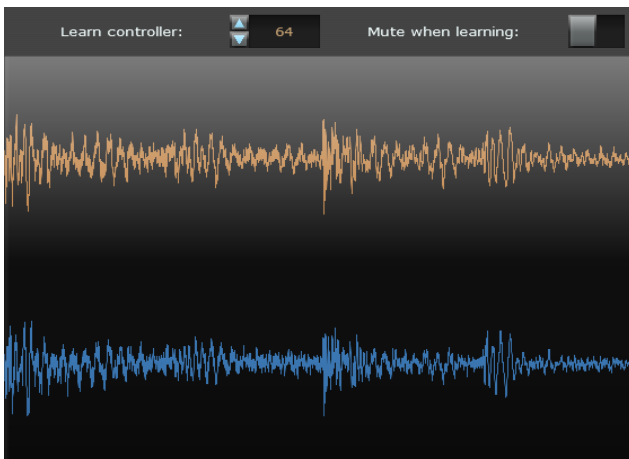
Forum:

<http://forum.cockos.com/showthread.php?p=1845408>

Tutorial: <https://youtu.be/dMTiWafJFmg>

## **Learning Sampler:**

This records samples from the incoming audio when in learning mode (selected by a controller switch), and plays them back when in playback mode.



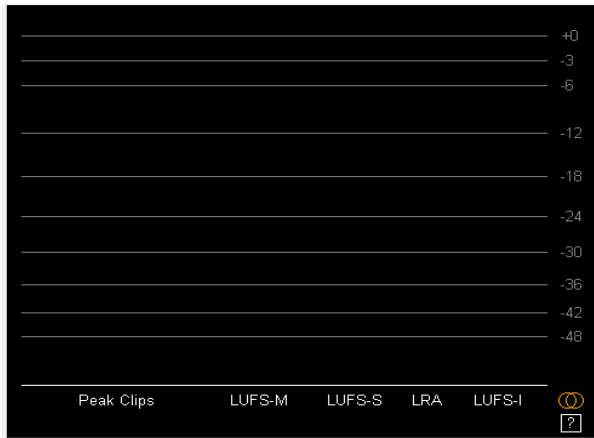
To record the samples, set the appropriate controller to a value of 64 or above. While this controller is down, when you play a MIDI note the sampler will remember the start/end positions in the buffer.

When you have recorded all the samples, reset the controller to 0, and it will enter playback mode.

Samples are scaled according to velocity - if you record at velocity 100 and then play back at velocity 110, the output will be louder than the original input. It currently does handle sample-rate change.



## **Loudness Meter:**



Kenny Gioia video:

<https://www.reaper.fm/videos.php#BF3SXuKBolM>

## **Macro Controller:**

Links many track fx parameters for complex effects; simple to automate.



It has 5 'dummy' parameters but the plugin does no processing.

It simply gives you sliders for parameter linking.

Once you configure the parameter links you can save as an FX chain.

This would work great for creating intense EDM buildups in one knob

<https://reaperblog.net/2018/03/macro-controls/>

## **Mixer\_8xM-1xS**

Mixes mono inputs 1 - 8 into a single stereo pair output on channels 1 + 2.

Each input has sliders for gain and pan allowing you to mix the inputs into a single stereo image. By default, odd numbered inputs are panned hard left while even numbered inputs are panned hard right.

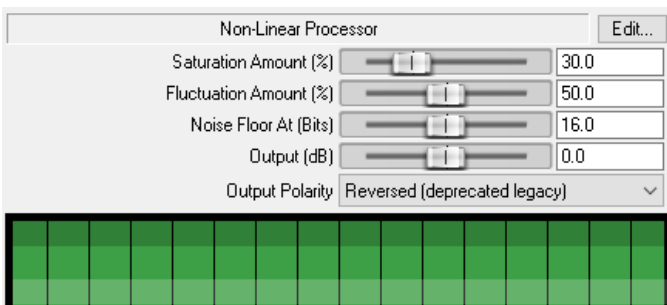
## **Mixer\_8xS-1xS**

Mixes input pairs 1+2, 3+4, 5+6, 7+8 into a single stereo pair, output on channels 1+2.

Each pair of inputs has a slider to control the amount of signal that will be mixed into the output.

## **Non-Linear Processor:**

Simple non-linear processor. Roughly mimics analog circuit behavior.



- saturation: waveshaper adds "odd" harmonics.
- fluctuation: adds probability to all parameters.
- floor reduction - adds filtered white noise at a defined range, calculated from bit depth.
- output gain -24/+24db

The effect also models a basic frequency response from an analog prototype.

Two slopes at the bottom and low end are present and also a positive low-shelf, around 300hz. But the probability also affect the filter parameters.

The result from this could be characterized as "dynamic", as opposed to "static" where a transfer function is time invariant.

The amount of probability is material dependent and slightly increases for transients, found in the signal.

### **Punk Duck:**

For "watermarking" your unpaid mixes and masters.

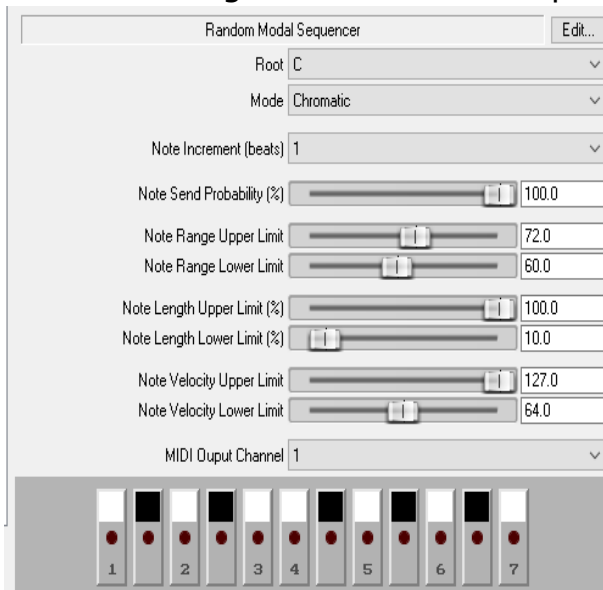
<https://reaperblog.net/2015/06/punk-duck-audio-defender-jsfx/>

<https://www.youtube.com/watch?v=vDAT9o41pCI>

Download: <http://forum.cockos.com/showthread.php?t=163288>

### **Random Modal Sequencer:**

Random note generator with the option of filtering the output by mode, or a custom scale.

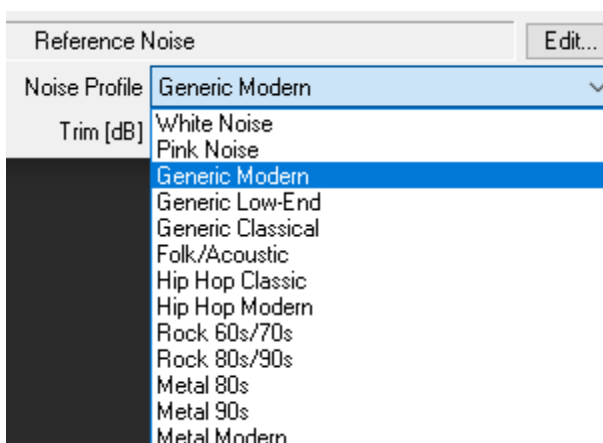


Note value, note length, note velocity and note send probability can all be randomized within a selectable range.

To use the custom scale option, select 'Custom Scale' from the 'Mode' slider, and click the key buttons in the graphics area to toggle the notes you want to use.

The transport must be running to get output.

### **Reference Noise:**



## Second-Order Phase Shifter Allpass:

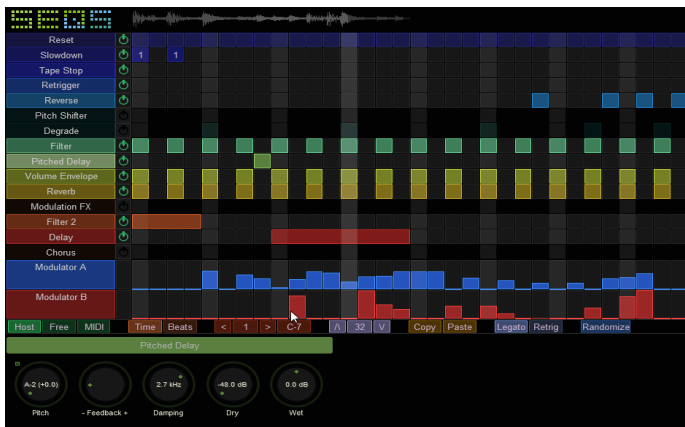


"Insane! Be it on multi-mic'd tracks or even for cleaning up or shifting a resonance in the recording, including feedback!

Kick drum phatness galore. Note: I edited my JS so the lower limit is 20Hz, not 100"

## SEQS - Effects Sequencer:

A GUI-based effect sequencer for stutters, slowdowns and misc. audio effects.



### Features:

- Choose from 14 effects, with lots of parameters inside each effect.
- Modulate all effect parameters by linking them up to the two macro modulator controls.
- Drag and drop to reorder the effects that do not control the playhead.
- Synchronize the patterns to the host, free or MIDI.
- See exactly what audio is coming in, right

above the pattern, making it easier to place the blocks in the correct places.

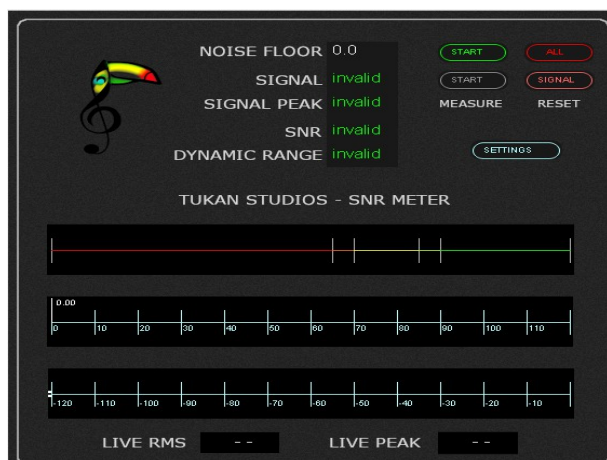
- Build up to 64 patterns; select pattern by incoming MIDI note.
- Choose to set times in the plugin by time or beats.
- Randomize tracks.
- Choose from a large number of effects:
- Effects that modify the playhead: Slowdown, Tape stop, Re-trigger, Reverse.
- Degradation effects (sample rate and bit-rate reduction).
- Two non-linear envelope controlled multimode filters (choose from 15 filter types).
- Pitched Delay (delay with delay length such that it produces tonal sounds).
- Amplitude / Ring modulation module.
- Tempo synchronized delay.

Instructions: <https://github.com/JoepVanlier/JSFX> (scroll down the page)

## SNR Meter (w/presets):

"Microphone bleed, cross-talk, background noise...ever wondered if your recording would finally work in the mix?

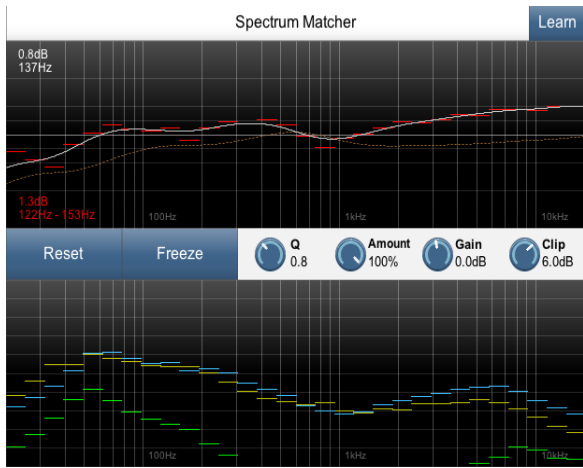
Check this before you go for recording with the signal-to-noise meter.", says Tukan Studios.



You can make your own presets for rating different signal types like voice recording, guitar amps or analog mixers.

## Spectrum Matcher

A tool for comparing the spectrum/timbre of an input against a model, and optionally applying a correction filter.

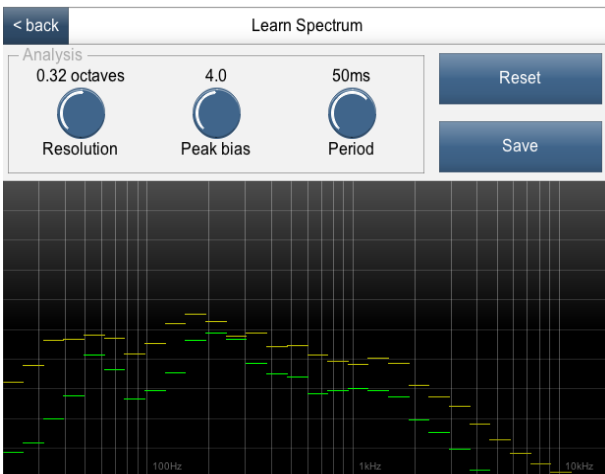


The bottom half of the screen shows the short-term spectrum (green), the long-term spectrum (yellow), and the long-term reference spectrum (blue).

The top half of the screen shows the current difference between the long-term spectrums (red).

If correction is enabled, it shows the correction curve (white) and phase (dotted brown).

If the correction is frozen, it shows the frozen correction values in blue.



To disable correction and re-start/clear the long-term spectrum measurements, hit "Reset".

To start correction, hit "Correct".

Once correction is enabled, hit "Freeze" to set or update the fixed correction values.

It can learn new models from the incoming audio, and save this as a preset for later use:

This effect is quite CPU-intensive, so if you're not using it it could be good to bypass it.

<https://www.youtube.com/watch?v=XdJ1-Wpta4o>

<https://www.youtube.com/watch?v=QLh6b88OvFs>

## Stereo Alignment Delay:

Makes small delays to individual channels, including a delay analyzer.

Delay amount can be displayed in ms or samples.



The delay analyses detects when one channel is ahead/behind or out of phase with the other - this can be useful when trying to get phases to agree in a multi-mic setup.

For tuning multi-mic'd tracks not by ear, but automatically -or at least getting a reference how the result might sound "clean". Works better than many commercial plugins (only with 2 tracks though)

### **Switcher 3** (Switcher 1 and 2 are obsolete)

A switching utility to switch between monitoring up to 4 pairs of inputs. Use the level sliders to match up the perceived loudness of the sources. Useful for A/B comparisons.

#### Parameters:

Output - Which input pair to send to the output (A/B/C/D)  
Output Level - Gain adjustment for output.  
x Source - One for each input pair. Select which audio channels to monitor.  
x Level - One for each input pair. Gain adjustment for input pair.

Download from <http://stash.reaper.fm/v/1423/IX%20Switcher3.zip>

### **SwixMitch:**

Description: 8 Input (4 stereo pairs), 2 Bus X-Fade Thing.

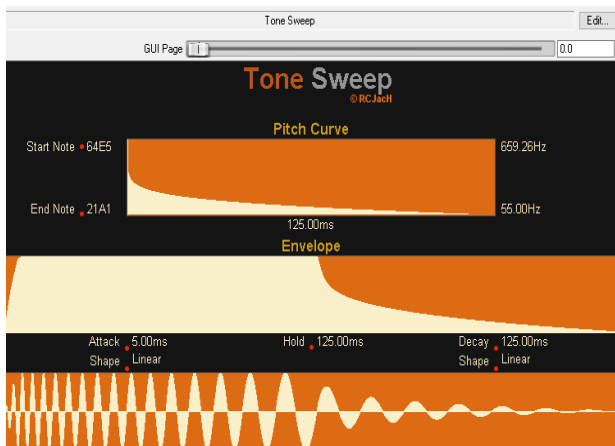
Feeds input pairs 1+2, 3+4, 5+6, 7+8 to Busses A + B then mixes A + B to output channels 1+2.

Dest (n)+(n) - Destination for input (Off, A, B, A+B).

Separate control for all four stereo pairs.

Mix A<->B - Cross-fade Controls the ratio of A to B present in the output signal.

### **Tone Sweep:**



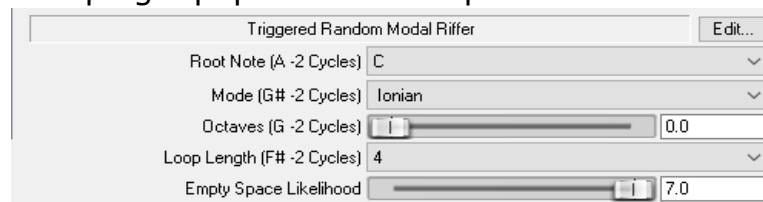
This generates a sweeping tone base on settings

Instructions:

1. Set start/ending note, fine tuning, if desired.
2. Set sweeping time and envelope time.
3. Adjust envelope curves
4. Select different wave shape if desired.

### **Triggered Random Modal Riffer:**

This plugin populates and repeats riffs from modal scales when triggered by a MIDI message.



//Reset riff of selected random notes with MIDI note 5

// tick through riff with MIDI note 4

// tick through root note w / MIDI note 7

// tick through modes w / MIDI note 6

<https://www.youtube.com/watch?v=dQLtjXSkNnw>

## TriLeveler 2

A voice broadcast leveler plugin.



For podcast & Youtube producers, radio/tv work or anything speech related.  
Set and forget operation.  
105 ms latency.

## Tukan De-Esser :

Simple but very effective dresser plugin with a straight forward user interface.

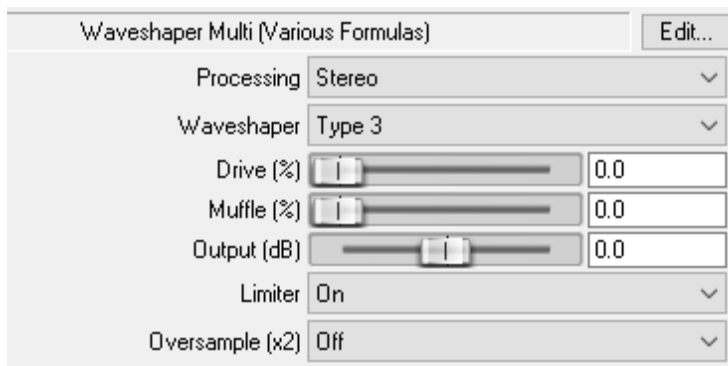


Uses "splt-band" compression.  
stereo/mono processing  
target type - compress a band or the whole top end.  
- monitor on/off - listen to the compressed signal  
- frequency range - 20 - 20khz  
- bandwidth in octaves - 0.1 - 3.1oct

- threshold - 0 to -80db
- ratio - 1:1 - 20:1
- 3 time constants.

## WaveshaperMulti:

A waveshaper bank with different waveshaper formulas.



- mono/stereo processing
- type - selected wave-shaper formula
- drive - controls amount of saturation
- muffle - dulls sharp, high-end freqs.
- output gain control -24/+24db
- limiter (on/off) to limit the output.
- oversampling (on/off)
- 

"3 modes, wave-shaper/exciter.  
Works well for individual tracks and

included muffle slider (high shelf attenuation).

"Works perfect to compensate build-up in highs and to tame overall increased brightness"

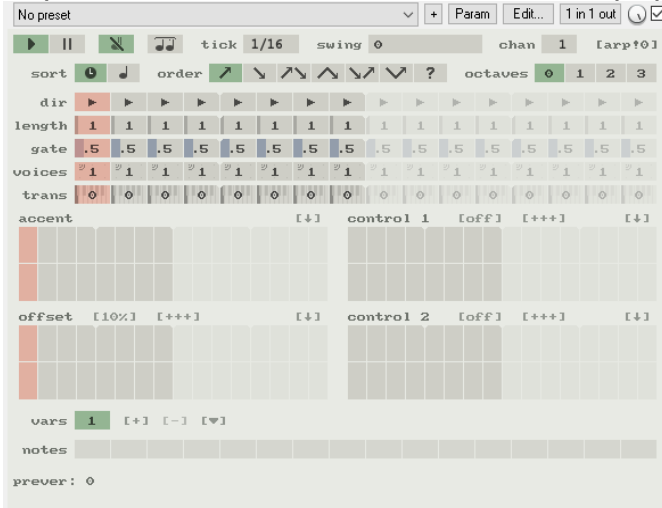


# MIDI:

## ARPS/GENERATORS:

### arp!0 - groovy MIDI arp

<http://forum.cockos.com/showthread.php?t=95841>

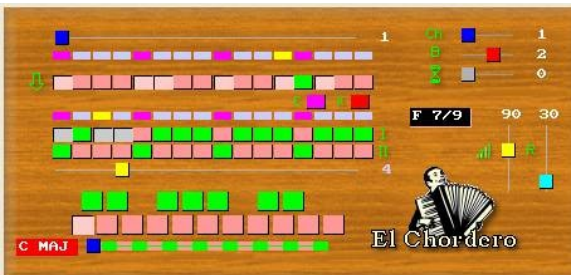


### Features:

- Independent length for each control sequence. parameter poly-rhythms!
- All real-time controls visible at once. change anything immediately.
- Expandable control grids for even more immediacy!
- Accent and offset sequences can create cool rhythmic grooves.
- Step length and voices sequences for uneven, chordal arpeggios.
- Variants for quick change arps with mouse or midi programs changes.
- User definable sort transforms rearrange input notes in unique ways.
- Syncs to the beat when the host is playing or recording.
- Plays in time as settings change, and through variant & preset changes!
- All arp parameters are saved in Reaper presets.
- Real-time display of active notes, played notes, and current steps.

### El Chordero:

A chord sequencer / micro arranger



<http://forum.cockos.com/showthread.php?t=26619>

## FrAr:

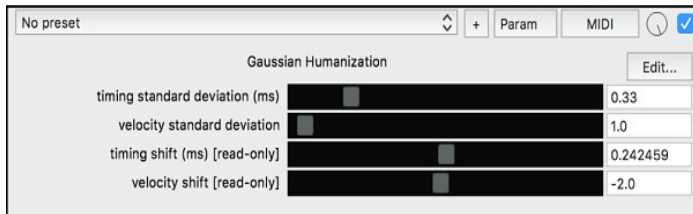
Pattern arpeggiator

It doesn't generate sequences, but uses an arbitrary melody as a pattern.

When you play some chord, the melody becomes played by the notes of this chord preserving its timing and dynamics.

<http://forum.cockos.com/showthread.php?t=25369>

## Gaussian Humanizer:



<https://forum.cockos.com/showthread.php?t=234279>

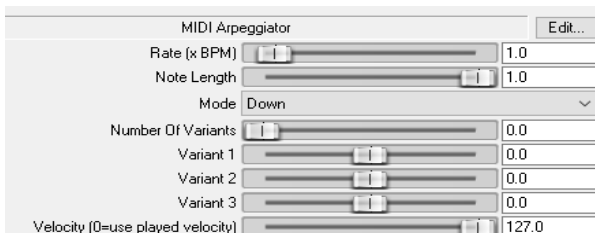
## MIDI Arp:

A small utility JSFX to arpeggiate midi chords.



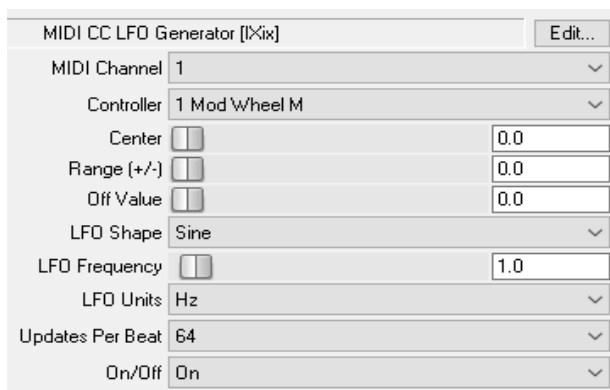
Program patterns and play chords. The JSFX will then play the notes according to that note pattern.

## MIDI Arpeggiator:



## MIDI CC LFO

<http://forum.cockos.com/showthread.php?t=76230>



### Features:

- normal mode & trigger on note mode (optional restart)
- 2 trigger note ranges
- freerun without "gaps" when changing frequency
- simple LFO-stuff like pulse-width & phase
- trigger on CC (first CC toggles on, next CC toggles off, next on, ...), CC# definable
- LFO fade in & fade out in trigger mode (various fade shapes)

-CC support for every slider

## **MIDI Chord Splitter**

<http://forum.cockos.com/showthread.php?t=26559>



To play chords with a monophonic synth just schedule the incoming polyphonic-MIDI-notes to individual Reaper-tracks.

Each such track is embedding an instance of the monophonic-synth.  
Endless possibilities: Adjust each channel separately (sound, panning, etc...)

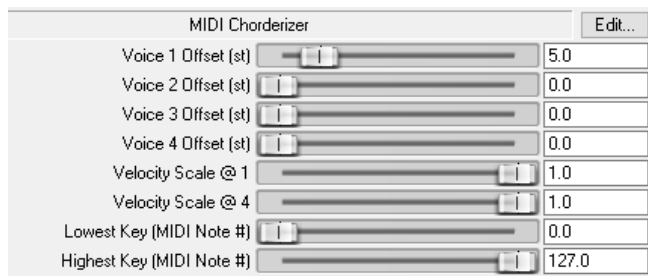
### Usage:

1. create a track for MIDI-input
2. insert an instance of the MIDI Chord Splitter Effect
3. Set the number of voices to use
4. for each voice create another track and insert a VSTi of your choice
5. route the MIDI-output of the first track to each instrument track (1:n)

### Example:

- Track1: MIDI IN -> MIDI Chord Splitter (parameter Voices = 3)
- Track2: VSTi Synth1a, Receive MIDI from Track1 to MIDI-Channel1
- Track3: VSTi Synth1b, Receive MIDI from Track1 to MIDI-Channel2
- Track4: VSTi Synth1c, Receive MIDI from Track1 to MIDI-Channel3

## **MIDI Chordizer:**



## **MIDI Note Preview**

To preview the drum sounds already loaded, when I load my drum template tracks.

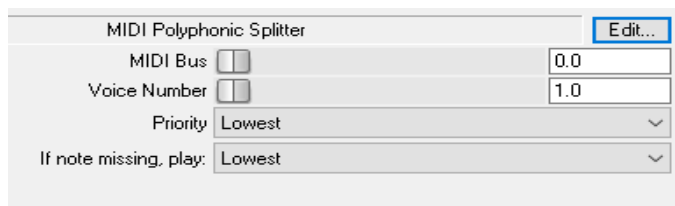


Why?

To be able to draw automation envelopes for external MIDI gear (or internal). Simply automate the plugin's parameters as needed.

Instructions, discussion: <http://forum.cockos.com/showthread.php?t=27840>

## MIDI Polyphonic Splitter:

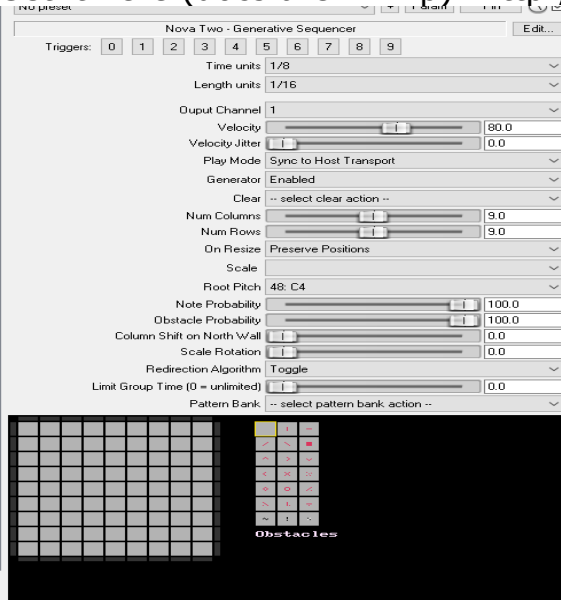


Instructions, discussion: <https://forum.cockos.com/showthread.php?t=179338>

## Nova Two - Generative Sequencer:

A generative sequencer.

Get it here (docs are in .zip): <http://forum.cockos.com/showthread.php?t=79873>



### Overview:

The idea is that a set of rovers move through a matrix of cells until they encounter a wall, another rover, or an obstacle.

When a rover encounters a wall, it emits a midi note corresponding to the row and column, then reverses direction. When a rover encounters another rover, both rovers are rotated clockwise.

When a rover encounters an obstacle, the effects of the obstacle are applied to the rover which could alter its position, its direction, both, or neither depending on the type of obstacle.

### The obstacles are:

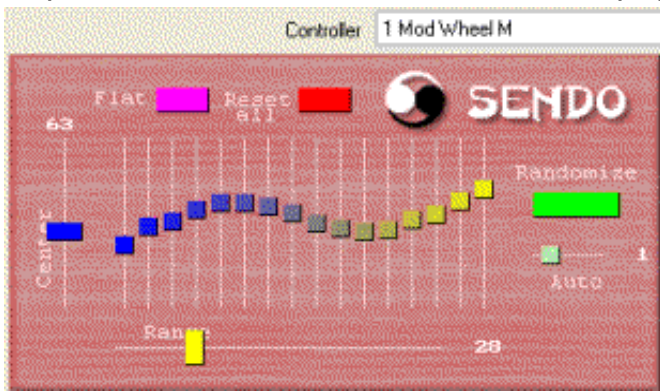
	horizontal mirror	N->N, E->W, S->S, W->E
-	vertical mirror	N->S, E->E, S->N, W->W
/	mirror up	N->E, E->N, S->W, W->S
\	mirror down	N->W, E->S, S->E, W->E
^	wedge north	N->N, E->N, S->*, W->N
>	wedge east	N->E, E->E, S->E, W->*
v	wedge south	N->*, E->S, S->S, W->S
<	wedge west	N->W, E->*, S->W, W->W
X	bounce	rover moves to random neighbor cell and direction
::	wormhole	rover moves to random cell and direction
<>	spin	rover changes to random direction
O	pause	every other rover pauses 1 step
.	hor mirror flip	N->N, E->W, S->S, W->E (then flip direction)
-.	vert mirror flip	N->S, E->E, S->N, W->W (then flip direction)
/.	mirror up flip	N->E, E->N, S->W, W->S (then flip direction)
\.	mirror down flip	N->W, E->S, S->E, W->E (then flip direction)
~	slow down	rover changes to slow pace
!	speed up	rover changes to normal pace
%	toggle pace	slow rovers become normal, normal become slow

Redirection Algorithm: the direction of the rover is changed according to this.

## **Sendo:**

A MIDI CC timed sender

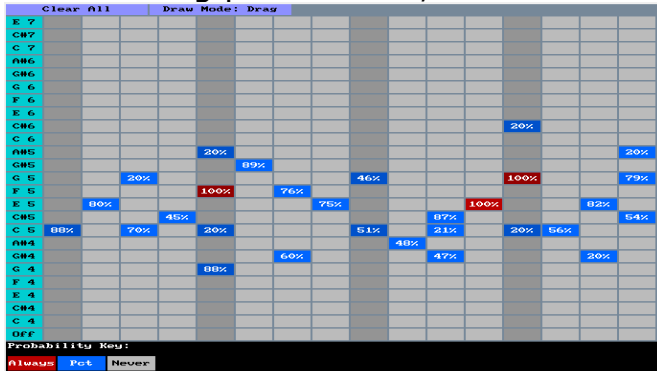
<http://forum.cockos.com/showthread.php?t=25796>



This sends Controller changes based on a timed sequence, with randomization.

## **Stochasticizer:**

Create a sequence where one or more notes are randomly chosen from a defined set. Allows editing probabilities, etc.



Allows random selection of some/all notes in the sequence.

<http://forum.cockos.com/showthread.php?t=181051>

<https://reaperblog.net/2019/01/stochasticizer/>

Demo: <https://youtu.be/xWGBd6X>

ReaperBlog video: <https://www.youtube.com/watch?v=znnYVDC-HK>

## **Super Arp!:**

<http://forum.cockos.com/showthread.php?t=44692>



### **Features:**

New play modes

Chords

Multiple Patterns (up to 32)

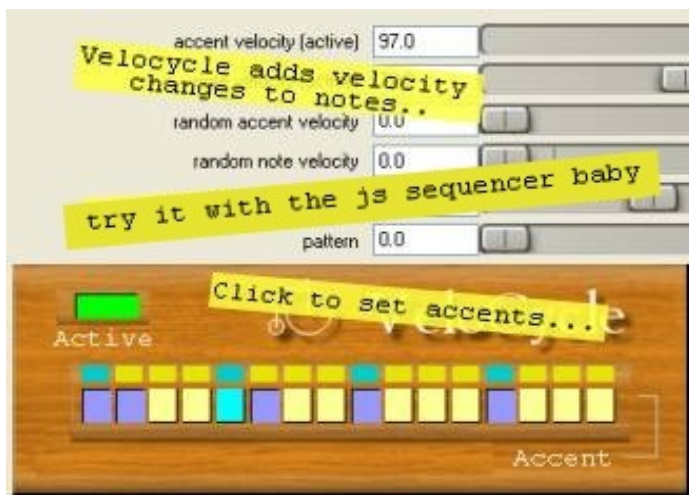
New Slice options

New GUI (again!)

A help screen (click the question mark)

## **VeloCycle:**

MIDI Velocity Sequencer - Randomizer



2 levels of randomization

Active or passive mode

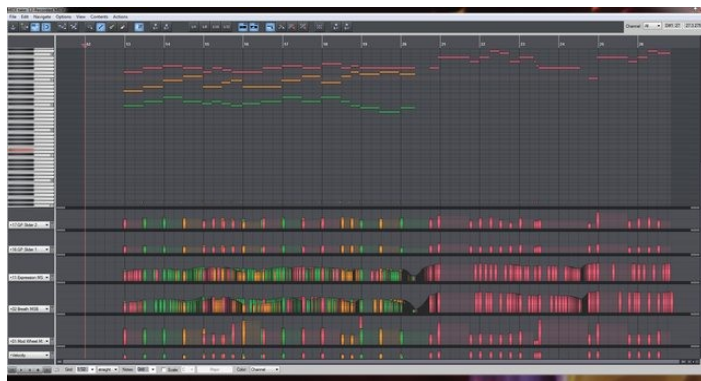
16 patterns

Get FX and GUI image, here:

<http://forum.cockos.com/showthread.php?t=25391>

## **VI Sculpt:**

To shape virtual instruments



Performs multiple tasks to help automate the sculpting of pre-recorded MIDI data for more organic playback.

Especially for virtual instruments with many articulations and/or CC automation

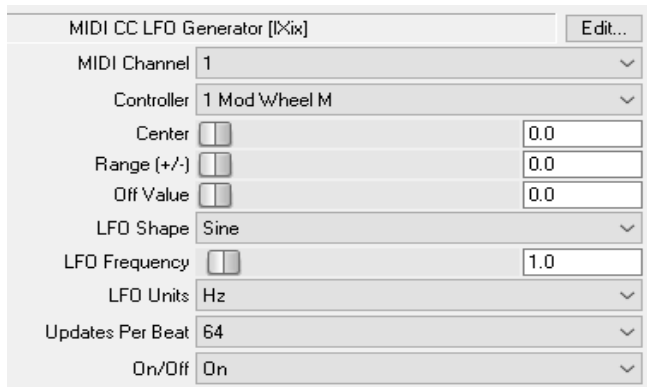
<http://forum.cockos.com/showthread.php?t=131845>



# MIDI FX:

## CCRider:

Generates MIDI CC messages which can control parameters of effect that recognize CC's.



MIDI CC LFO Generator [IXix] Edit...

MIDI Channel 1

Controller 1 Mod Wheel M

Center 0.0

Range (+/-) 0.0

Off Value 0.0

LFO Shape Sine

LFO Frequency 1.0

LFO Units Hz

Updates Per Beat 64

On/Off On

### Parameters:

-MIDI Channel - Channel to send controller data on.

-Controller - The number of the controller to be manipulated.

-Centre - The center value for the controller data.

-Range (+/-) - Deviation above and below the center value.

-Off Value - Reset value sent when On/Off is

switched to Off.

-LFO Shape - Sine only for now. Included for future updates.

-LFO Frequency - LFO rate. Effect depends on the selected Units.

-LFO Units - Unit for LFO rate calculation.

-Updates Per Beat - How many time per beat to send controller data.

-On/Off - On/Off switch. Not quite the same thing as bypass.

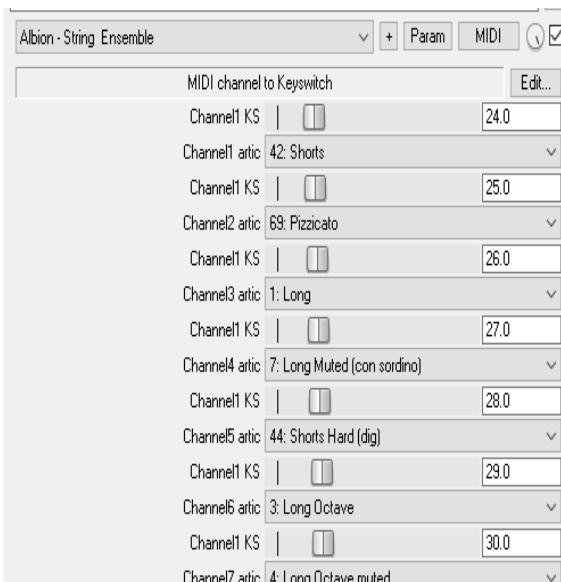
### Tips:

Use the On/Off switch rather than bypassing the effect. Turning it off sends the reset value specified by the 'Off Value' control. Turning it on resets the effect so you can sync the LFO to your song by automating the switch.

You can type values into the LFO Frequency control.

(Generated CC's won't work with Reaper's learn function but you can get around this by using a midi loopback device such as MIDI Yoke to send the MIDI data out of REAPER and back in through the MIDI inputs so that the learn function will 'see' the CC data)

## Channel To Keyswitch:



Albion - String Ensemble + Param MIDI

MIDI channel to Keyswitch Edit...

Channel1 KS 24.0

Channel1 artic 42: Shorts

Channel1 KS 25.0

Channel2 artic 69: Pizzicato

Channel1 KS 26.0

Channel3 artic 1: Long

Channel1 KS 27.0

Channel4 artic 7: Long Muted (con sordino)

Channel1 KS 28.0

Channel5 artic 44: Shorts Hard (dig)

Channel1 KS 29.0

Channel6 artic 3: Long Octave

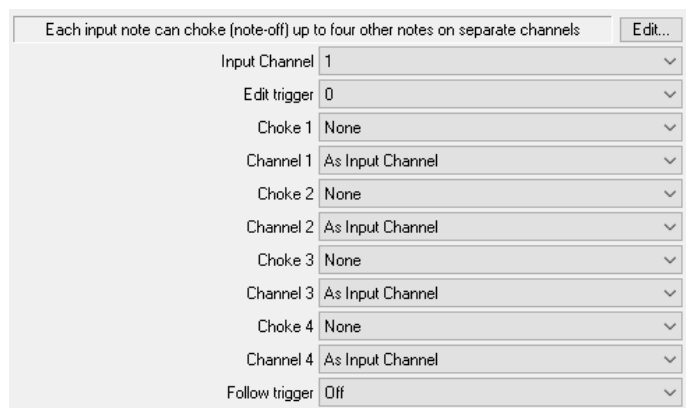
Channel1 KS 30.0

Channel7 artic 4: Long Octave muted

This is an example showing it use for Albion One articulation keyswitching.

## **ChokingHazard:**

Allows each incoming note to choke (by sending a note-off) up to four other notes on independent channels.



For example you could set it so that pressing C4 on channel 1 would cut E5 on channel 2, G#3 on channel 5, F6 on channel 10 and Bb2 on channel 16. Probably most useful for live control of multiple samplers.

## **Parameters:**

- Input Channel - MIDI Channel to monitor.
- Trigger - Selects which trigger mapping to edit.
- Choke n - Select which note will be cut when the trigger note is pressed.
- Channel n - Selects which MIDI channel to send the note-off message on.

## **Tips:**

The Trigger control is activated by any MIDI note it receives and it merely selects which 'page' of Choke controls to view and modify.

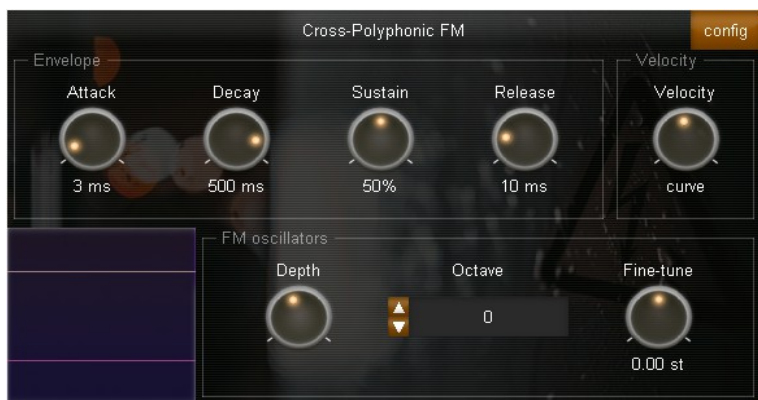
You can store your mappings as presets.

Download from <http://stash.reaper.fm/v/1422/IX%20MIDI%20Utils%20II.zip>

## **Cross-Polyphonic FM**

This effect is a MIDI-controlled frequency-modulator effect.

It can be used to add character to an existing sound.



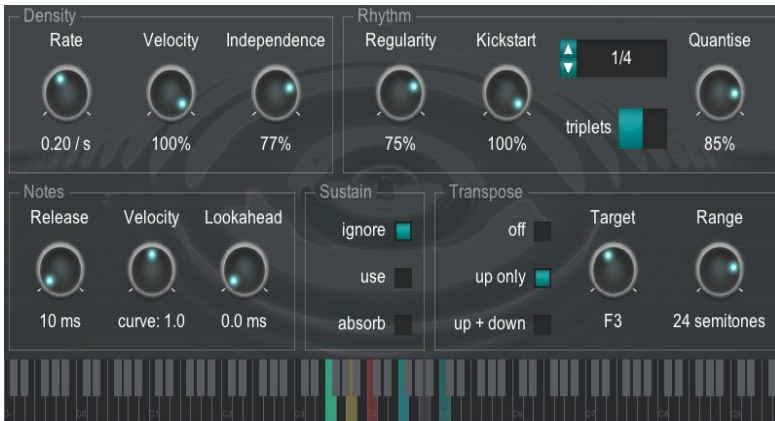
Multiple MIDI notes produces multiple modulation frequencies.

The notes aren't processed separately, they're added together to form the modulation waveform.

This means that different notes interact (slightly similar to distortion).

## **Droplets (w/presets):**

This effect re-plays the notes of a chord in a random fashion. Each MIDI note in the input is triggered randomly over time.



You can control the re-triggering rate, and how much this is affected by velocity or # of current notes ("Independence").

You can also allow it to transpose the input up/down octaves, to move it to a target note range.

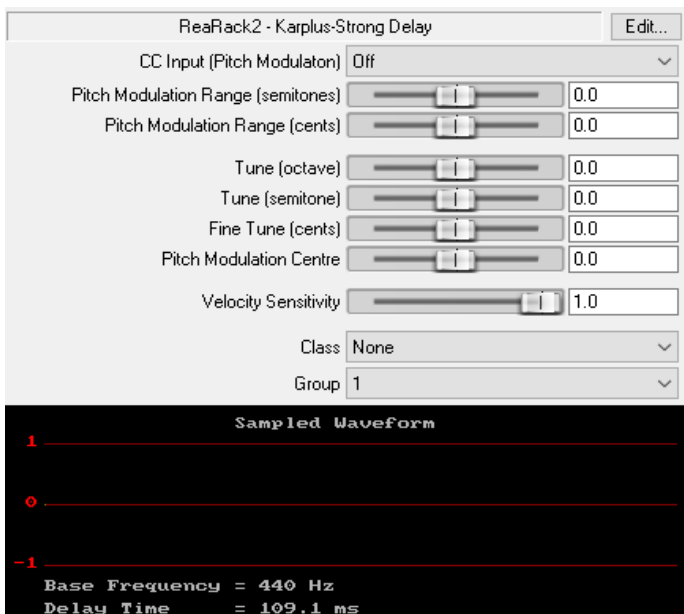
This is automatable, so your music can float up/down in pitch.

"Regularity" prevents notes from playing too soon after their previous instance - high settings produce patterns which evolve slowly over time. "Kickstart" will play incoming notes immediately, with the specified probability. "Quantize" lets you specify that notes can only occur near beat boundaries.

You can let the final notes ring on after the input ("Release"), and change the velocity randomization curve, add look-ahead to shift the input forward, and set how it reacts to the sustain pedal (ignore it, use it, or use it but don't send it on).

ReaperBlog video: <https://www.youtube.com/watch?v=DHKvd4ou67o>

## **Karplus-Strong Delay:**

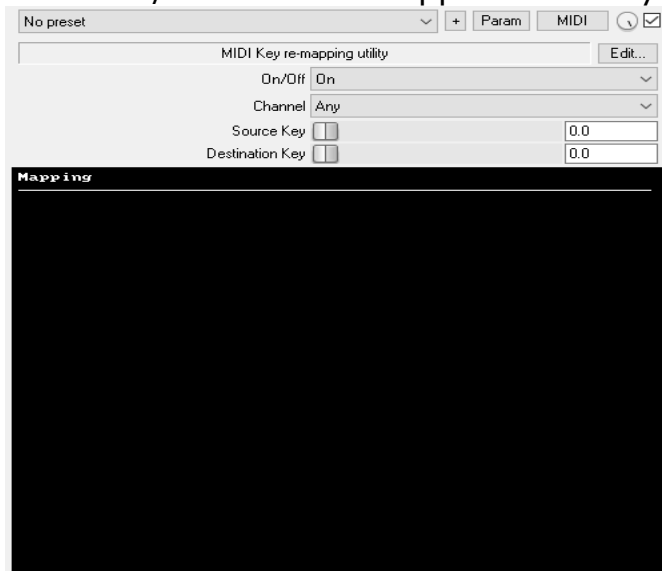


Based on the pitched delay part of the Karplus-Strong plucked string physical modeling algorithm.

Use with an audio input source (e.g white noise) and an envelope generator driving a lowpass filter, to get the complete plucked string sound

## KeyMap II:

An easier / more flexible approach to key re-mapping.



### Parameters:

- On/Off - Whether mapping is in effect or not.
- Channel - MIDI Channel to monitor.
- Source Key - Selects which mapping to view and modify.
- Destination Key - Selects which note will be sent when Source Key is pressed.

### Tips:

Don't be confused by the Source Key control. The plugin is activated by all notes on the selected channel. The plugin maintains an internal map of source/destination pairs for all 128 possible MIDI notes and the Source Key control merely selects which pair to modify.

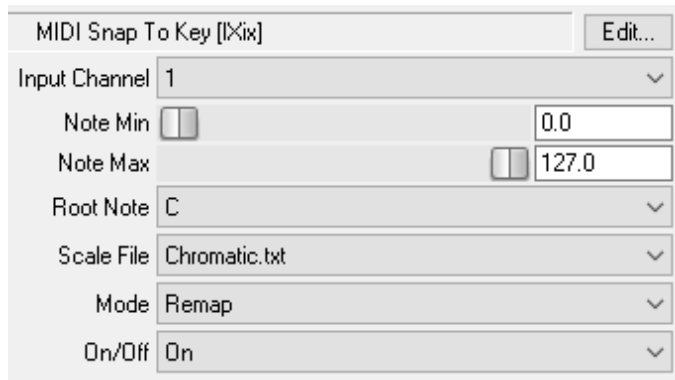
You can now save your mappings as presets. No need for fiddly data files!

Download from: <https://stash.reaper.fm/v/1422/IX%20MIDI%20Utils%20II.zip>

## KeySnap:

MIDI Note constrain effect.

It listens the input channel and either replaces or blocks bad notes.



Allowable notes are controlled by a scale file which should be located in 'REAPER/Data/ix\_scales' (see end of this document)

### Parameters:

- Input Channel - Which channel to work on.
- Note Min - Note range minimum. Notes lower than this will not be affected.
- Note Max - Note range maximum. Notes higher

than this will not be affected.

- Root Note - The root note upon which to construct the scale.
- Scale File - The file containing the scale information.
- Mode - Work mode. Whether to block or remap notes outside the scale.
- On/Off - Fairly pointless bypass switch.

This will only work with positive scale values between 0 and 11.

Values outside this range will cause incoming notes to map to the closest root note further down the keyboard.

## **Latch:**

Forces specified keys to hold until they are pressed again.



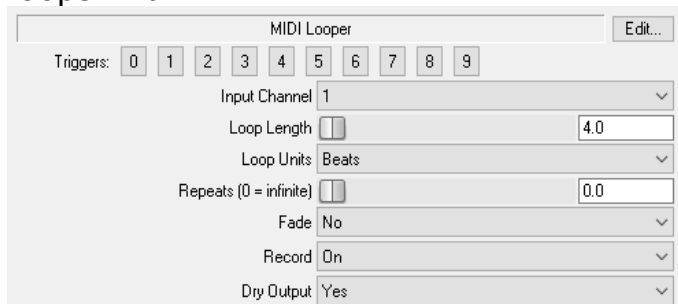
### **Parameters:**

- Channel - Which MIDI channel to monitor.
- Key - Selects which key to view and modify the settings for.
- Latch - Whether latch is enabled for Key.-

Don't be confused by the Key control. The plugin is activated by all incoming notes on the selected channel. The plugin maintains an internal list of which keys to latch and the Key control merely selects which setting to modify. You can save the settings as a preset.

## **Looper:**

Loops midi.



### **Parameters:**

- Input Channel - Which MIDI channel to monitor.
- Loop Length - Length of the loop, obviously.
- Loop Units - Units to use for Loop Length (Beats,Seconds,Ms. or Samples)
- Repeats - Sets # of times new notes will be repeated. Zero = infinite repeat.
- Fade - Reduces new note velocity to zero in n steps (n= the # of repeats.
- Record - When enabled, incoming notes are added to the loop.
- Dry Output - Whether to allow incoming notes to pass through the effect.

### **Tips:**

Trigger 0 clears the buffers, as does setting zero loop length.

Trigger 1 toggles MIDI input recording on/off

Changing the loop length will scale any existing loop to fit the new loop length but changing the units will reset the loop.

Dry Output blocking is overridden by record off (it assumes you want to play over a loop.)

Download: <http://stash.reaper.fm/v/1422/IX%20MIDI%20Utils%20II.zip>

### **Mibrato:**

A LFO MIDI Vibrato effect with CC support (Hold pedal, Tap tempo), Mouse tap tempo,

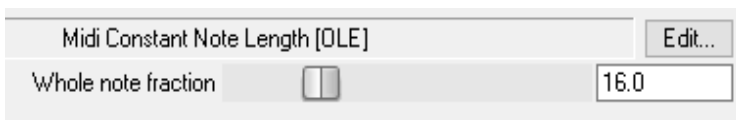


Tempo from grid, Pitch bend wheel support, 3 bend modes: bend up, down and center, and visualization of the vibrato effect.

It has special feature 6 channels for MIDI guitar vibrato pitch-bends on 6 channels.

### **MIDI Constant\_Note\_Length:**

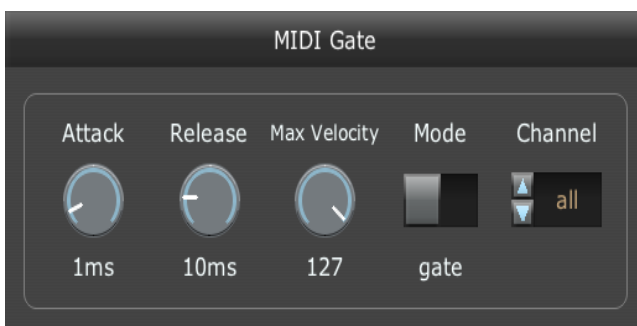
Quantizes note duration to a length specified by a slider as a fraction of a whole note.



It is intended for use with drum- and percussion pads which generally don't provide a consistent note duration.

### **MIDI Gate:**

A simple MIDI-triggered.



In "gate" mode, when a MIDI note is down (any MIDI note), the audio is passed through. In "mute" mode, audio passes through when no notes are held down.

The "Max Velocity" control sets the velocity that counts as "down fully". Values between 0 and this value result in a partially opened/closed state. Multiple notes add their velocities together - so two notes with velocity 50 are equivalent to one note with velocity 100.

Tutorial, links to FX: <https://reaperblog.net/2019/10/midi-gate-jsfx/>



## **MIDI Harmony:**

Shifts MIDI notes up or down by octaves, to fit within a target range.

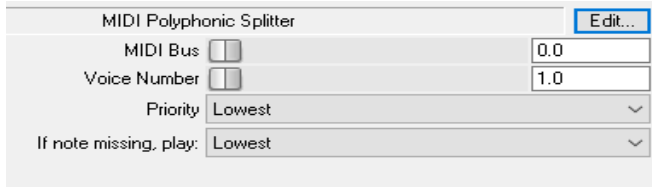


This can be used to fold whatever chord is being played by some other instrument into a particular region (e.g. one octave around Middle C). A built-in sequencer can be used as an arpeggiator (so it will play a pattern, but only using octave-shifted notes that you are already holding down).

It also has a MIDI-input mode -so, instead of the target region or note being fixed (e.g. "one octave around Middle C") it is defined by a second input on a different MIDI channel (channel 16 by default). This lets you very quickly take one MIDI input, and re-cast it into a different scale or a different chord.

## **MIDI Polyphonic Splitter:**

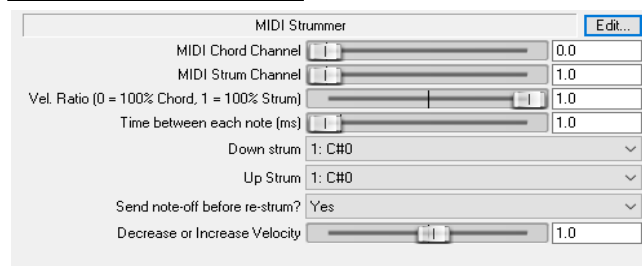
Takes incoming polyphonic MIDI notes and outputs monophonic notes based on user criteria.



Details/FX, here:

<https://forum.cockos.com/showthread.php?t=179338>

## **MIDI Strummer:**

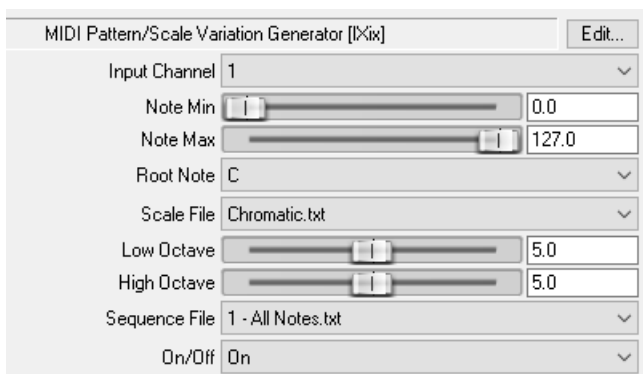


Get code here:

<https://forum.cockos.com/showthread.php?t=186766>

## **MIDI Variant:**

A pattern/scale variation generator)



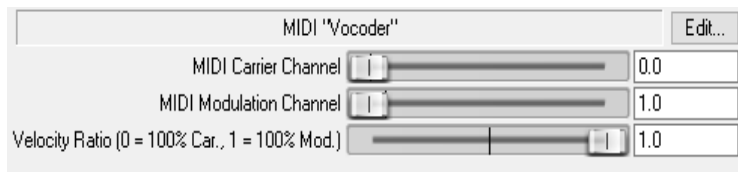
Creates variation in incoming note messages. When triggered by the pattern, outputs a random note from the specified scale.

**\*\*Important Note\*\***

This requires user defined scale and sequence files. These are at the end of this document.

[http://wiki.cockos.com/wiki/index.php/Jesusonic\\_Effects\\_Documentation#Variant](http://wiki.cockos.com/wiki/index.php/Jesusonic_Effects_Documentation#Variant)

## MIDI "Vocoder":



Takes one set of MIDI on a 'carrier' channel. A different MIDI channel acts as the 'modulator.' The result is that the rhythm of the modulator is used on the notes found in the carrier.

Get the code, here: <https://stash.reaper.fm/28076/MIDI%20Vocoder.txt>

<https://forum.cockos.com/showthread.php?t=179340>

<https://www.youtube.com/watch?v=ZTPqowLvGTC>

## Mipressor:

MIDI expander/compressor



Switches:

Linear - linear dependency: for LOW -> 1, for HI -> 127

Level - All notes louder: for HI and more -> 127, for less -> linear dependency

Knee - like linear, but you can change knee of dependency. Mouse-touchpad changes knee.

Learn - learn Mipressor levels: play louder and silent notes, then change to one of above options. Low and Hi will be equal to loudest and quietest notes played.

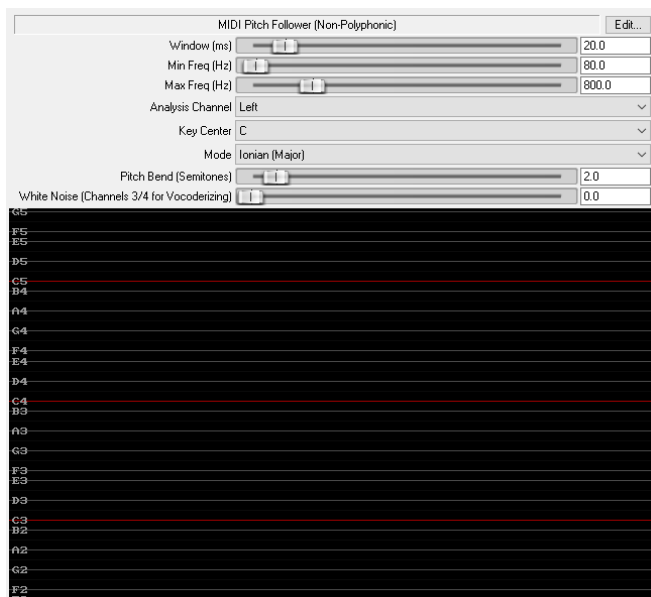
Bypass - bypass mode

Const - All notes the same level; mouse-touchpad

changes volume.

<http://forum.cockos.com/showthread.php?t=76620>

## MIDI Pitch Follower:



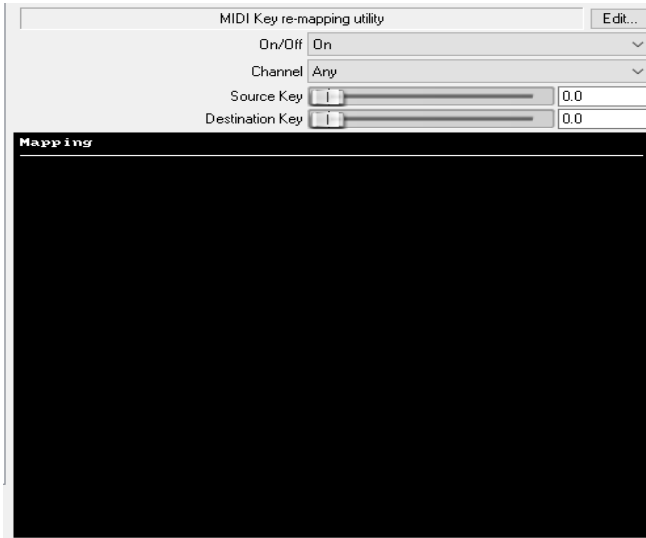
Tracks the pitch of the (monophonic) audio track to which it is applied, and generates a stream of MIDI notes which match that pitch.

For examples of use, watch these videos:

[https://youtu.be/DJ\\_fNW3Rz6Y](https://youtu.be/DJ_fNW3Rz6Y)

[https://youtu.be/rZQcwrBn\\_OY](https://youtu.be/rZQcwrBn_OY)

## **MIDI Re-mapping:**

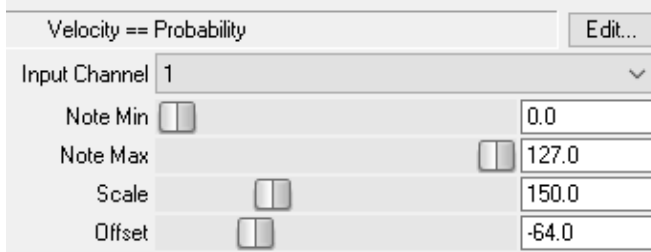


## **Multi Channel MIDI Keyswitch:**

Intended for virtual instruments accepting one MIDI channel of input, typically channel 1.  
Download: <http://stash.reaper.fm/v/11328/Multi%20Channel%20MIDI%20Keyswitch>

## **Probalocity:**

Treats the velocity of incoming notes as a percentage probability that the note will be passed through the plugin.



A velocity of 127 has a 100% chance of being played and a velocity of 12 has around a 10% chance of being played. Notes outside the specified range will pass through the plugin unchanged.

### Parameters:

-Input Channel - Which MIDI channel to monitor.

-Note Min - Note range minimum.

-Note Max - Note range maximum.

-Scale - Multiplies input velocity by the specified amount.

-Offset - Adds/subtracts the set amount from the scaled output velocity.

### Tips:

Use Scale and Offset controls to compensate for the softer velocities of less likely notes.

Download from <http://stash.reaper.fm/v/1422/IX%20MIDI%20Utils%20II.zip>

## **Tool II:**

Transform MIDI messages in various ways.

Listens for note events fitting note/velocity rules on the input channel.

If it hears one then these things happen in this order:

1) Depending on the 'Input Velocity Mode' setting, velocity may be clamped to the specified range.

2) Velocity is multiplied by the scaling percentage.

3) A random amount (+/- n% of velocity at this point) is added to the velocity.

4) Velocity is clamped to the 'Output Velocity' range.

5) Note is transposed by n semitones.

6) A random (+/- n% of travel) pitch wheel message is sent to the output channel.

7) Modified note/velocity information is output on the selected output channel.

There are 2 ways of dealing with notes outside of the selected velocity range:

1) Clamp To Range will set any values below/above the specified range to the minimum/maximum specified velocity.

2) Ignore Outside Range will allow notes with velocities outside the specified range to pass unchanged.

Non-note events, note events not on the selected channel, or note events outside the note/velocity range should pass through the effect unchanged. The 'Pitch Reset' control specifies whether to center the pitch-wheel when the effect receives a note that will not be processed. You may wish to disable it to avoid canceling existing pitch-wheel data.

### **Parameters:**

-Input Channel - Channel to monitor.

-Note Min - Note range minimum. Lower notes will not be affected.

-Note Max - Note range maximum. Higher notes will not be affected.

-Input Velocity Min - See above.

-Input Velocity Max - See above.

-Input Velocity Mode - Sets input velocity behavior. See above.

-Velocity Scaling - Multiplies the velocities by the specified percentage.

-Random Velocity - Random velocity percentage.

-Output Velocity Min - Minimum velocity value for outgoing notes.

-Output Velocity Max - Maximum velocity value for outgoing notes.

-Transpose - Transpose affected notes by n semitones.

-Random Pitch - Random pitch wheel adjustment.

-Pitch Reset - Reset pitch wheel for un-processed notes.

-Output Channel - Send affected notes and generated pitch wheel data to this channel.

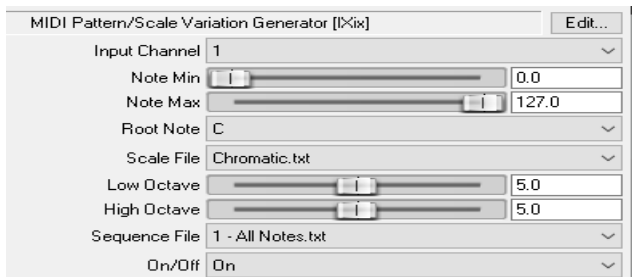
-Warning: Changing the range or transpose controls while midi data is passing through this effect may cause notes to stick.

Note: Most VSTi's do not allow you to specify an input channel will respond to events on ANY channel. This can be quite confusing/annoying.

[http://wiki.cockos.com/wiki/index.php/Jesusonic\\_Effects\\_Documentation#Tool\\_II](http://wiki.cockos.com/wiki/index.php/Jesusonic_Effects_Documentation#Tool_II)

## Variant:

### MIDI Pattern Variation Effect.



It listens to the input channel and replaces some of the notes with random(ish) notes.

Which notes get replaced is controlled by a sequence file and what they get replaced with is controlled by a scale file.

Some common scales and simple sequences are

included but it's very simple to create your own.

*\*Scale and sequence files are at end of this guide.\**

Put simply, this effect counts notes and checks against the sequence file whether each note should be passed or modified. If a note is to be modified then a random note within the defined scale is substituted.

Note that if you play a chord of four notes, the sequence counter will see four notes and advance four steps.

This effect doesn't really care what scale values you give it (unlike KeySnap which is very fussy.) Any number of offset values from -127 to 127 is fine. Output values exceeding the MIDI note range will be clamped accordingly.

## Parameters:

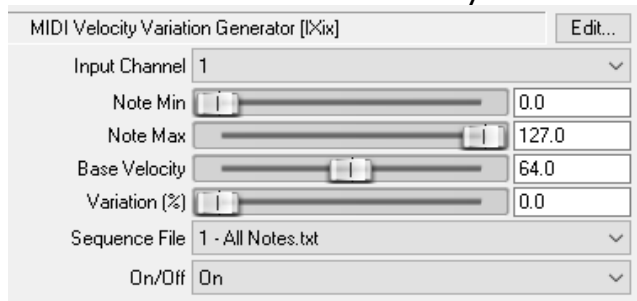
- Input Channel - Channel to work on.
- Note Min - Note range minimum. Notes lower than this will not be affected.
- Note Max - Note range maximum. Notes higher than this will not be affected.
- Root Note - Root note to base the scale on.
- Scale File - File containing the scale information.
- Low Octave - Lowest octave for generated notes.
- High Octave - Highest octave for generated notes.
- Sequence File - File containing the sequence information.
- On/Off - On/Off switch. Not quite the same thing as bypass.

## Tips:

The On/Off switch resets the sequence counter. You can automate it to force the sequence to start at a specific point in your track.

## **Velocifier II:**

A Pattern-based MIDI Velocity Modifier. (Sequence files are at end of this guide)



It listens to the input channel and adjusts the velocity of some of the notes. Which notes get adjusted is controlled by a sequence file which should be located in the folder '/Data/ix\_sequences/'. (See text at the end)

See below for details of how to create your own sequences.

Note that the sequence works by counting notes, so it will only work as an actual pattern on sequential notes. If four notes are played at once, the sequence will hear four notes and advance four steps.

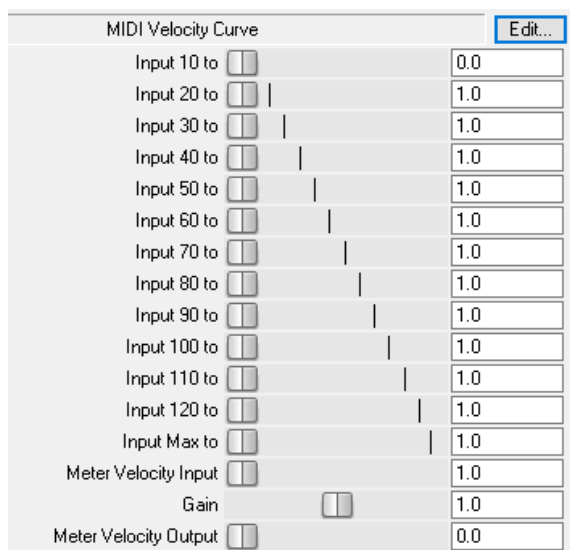
### **Parameters:**

- Input Channel - Which channel to work on
- Note Min - Note range minimum. Notes lower than this will not be affected.
- Note Max - Note range maximum. Notes higher than this will not be affected.
- Value - The center velocity value for modified notes.
- Variation - Random velocity variation (percentage of center value)
- Sequence File - The file containing the sequence information.
- On/Off - On/Off switch. Not quite the same thing as bypass.

### **Tips:**

The On/Off switch resets the sequence counter. You can automate it to force the sequence to start at a specific point in your track.

## **VeloCurve:**



<http://forum.cockos.com/showthread.php?t=22060>



## **Vibrato (w/presets):**

Adds vibrato, using MIDI notes to produce a more natural envelope (vs. a constant LFO).



Each note resets the vibrato to zero, and it is slowly introduced.

Useful for adding vibrato to synths that don't have already have it.

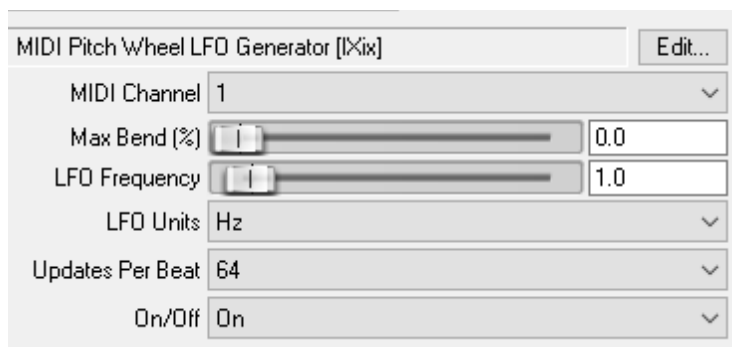
The "Lookahead" dial controls how much latency is added.

When setting to "0", the start of a note might momentarily detune because of ongoing vibrato.

To prevent this, turn the dial to max. value (which scales according to the LFO Rate value).

## **Wobulator:**

LFO Controlled MIDI Pitch Wheel Generator. It "wobulates" your notes.



### **Parameters:**

MIDI Channel - Channel to send controller data on.

Max Bend - Percentage of pitch wheel travel.

LFO Frequency - LFO rate. Effect depends on the selected Units.

LFO Units - Unit for LFO rate calculation.

Updates Per Beat - How many time per beat to send pitch wheel data.

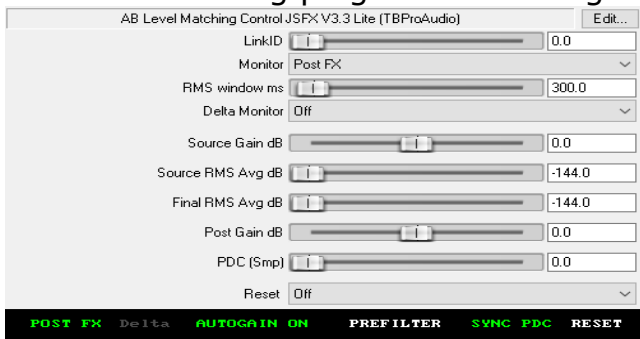
On/Off - On/Off switch. Not quite the same as bypass; use On/Off switch rather than bypassing the effect.

Turning it off centers the pitch wheel; turning it on resets the effect so you can sync the LFO to your song by automating the switch.

# MIDI UTILITIES:

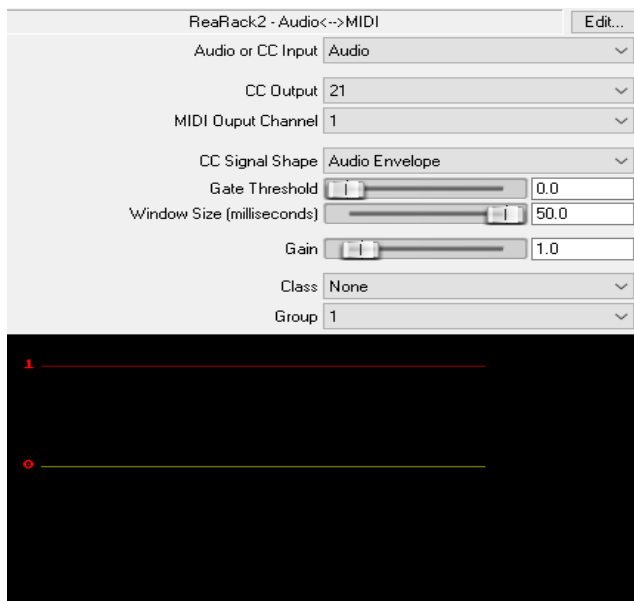
## AB Level Matching:

"Great for testing plugins or avoiding 'louder is better' mixing choices."



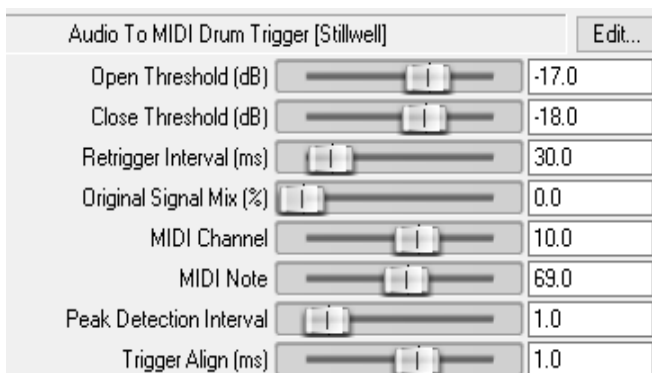
<https://www.youtube.com/watch?v=wNICbcy2GjA>

## Audio to MIDI:



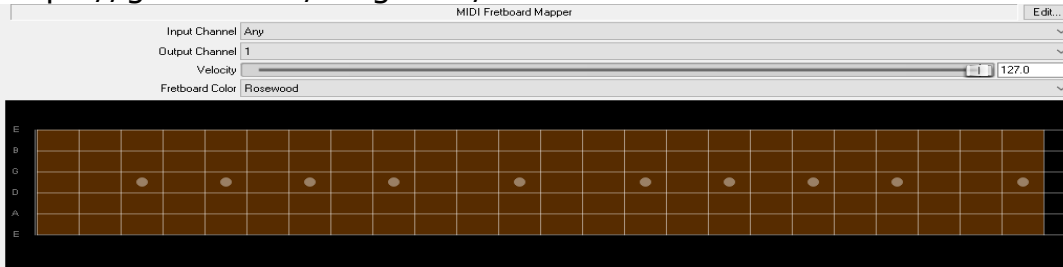
<https://www.youtube.com/watch?v=XtnuecwO8hM>

## Audio to MIDI Drum Trigger:



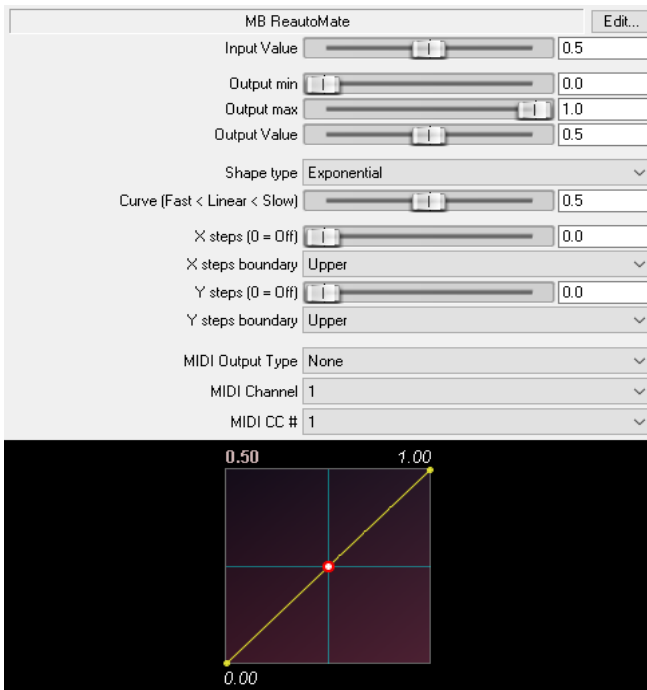
## Fretboard Mapper:

<https://github.com/KnightHill/JSFX>



Maps incoming MIDI events on a virtual fretboard.

## MB ReautoMate:



The goal:

To use full automation envelopes ranges for sweet spots, where only a limited range is relevant or useful.

So you can redefine the min and max values to which the full 0-1 automation envelope range actually refers.

I also added, within the defined sub-interval, the options to apply nonlinear transformations (exponential, logarithmic, quadratic bezier), stepping (example: quantize pitch-bend envelopes to semitones or whole tones), and various MIDI output options.

Usage:

1) set an automation envelope for the "input value" parameter

2) set "min" and "max" output parameters to the actual minimum and maximum values sent in output.

3) Set quantization and curve options as desired.

4a) Set parameter linking from "output value" to the desired plugin parameter

OR

4b) Set MIDI output as wanted and have the desired plugin parameter respond to the matching MIDI message

## Midi Clocks

<http://forum.cockos.com/showthread.php?t=20962>

This one has two options:

1) Start offset (see below)

Useful if you need to compensate for latency.

2) Start resolution (in beats)

If you set this slider to 4, it will wait until the beginning of the next bar before sending the start message (assuming you are in 4:4).

This gives some time to the other device to catch the proper tempo, plus it's necessary if you want a negative delay (start early).

Quote by "Adam Fulara"

'This is Midi clock with SPP, just load FX and set output to midi out connected to external device. If you need compensation, Ctrl+P, Midi devices -> Midi out -> Offset output to this device by:.... (I use -3ms)."

### MIDI Event Filter:

MB MIDI Event Filter		Edit...
MIDI Channel for filters	Off	▼
MIDI Channel for output	Same as input	▼
Pitch Wheel filter	Off	▼
Polyphonic Aftertouch filter	Off	▼
Channel Aftertouch filter	Off	▼
Program Change filter	Off	▼
Control Change filter #1	Off	▼
Control Change filter #2	Off	▼
Control Change filter #3	Off	▼
Control Change filter #4	Off	▼

### MIDI-controlled track automation:

Lets you use your MIDI controller device to control volume, pan and mute for audio tracks. This means you can e.g. select a volume/expression pedal to control the track's volume, select a knob to control panning, and perhaps the sustain pedal to mute the track. \ Of course you can record the MIDI data (on a separate track), and then route it back to the audio track, which essentially gives you MIDI-controlled track automation.

You can use any regular CC, but you can also select pitch bend, or even note on velocity, or channel after-touch. You can reverse the controller's behavior, so e.g. the track's volume actually lowers when you turn up the modulation wheel.

<http://forum.cockos.com/showthread.php?t=25785>

## MIDI Performer2:

#	Bus	Chan	#	THRU	Trans	PC	PCArSend	⊙⊙⊙
8	All	All	All		0			

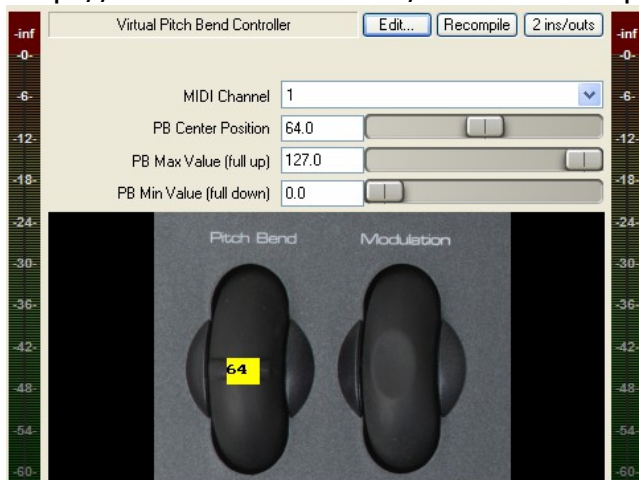
--- In ---			--- Filter ---			--- Notes ---			- Program Change -			--- Out ---	
#	Bus	Chan	I	CC	PW	Min	Max	Trans	MSB	LSB	Prog	Bus	Chan
1	^	^				C -2	G 8	0		0	0	1	1
1	^	^				C -2	G 8	0		0	0	OFF	1
2	^	^				C -2	G 8	0		0	0	OFF	1
2	^	^				C -2	G 8	0		0	0	OFF	1
3	^	^				C -2	G 8	0		0	0	OFF	1
3	^	^				C -2	G 8	0		0	0	OFF	1
4	^	^				C -2	G 8	0		0	0	OFF	1
4	^	^				C -2	G 8	0		0	0	OFF	1

## Forum:

<https://forum.cockos.com/showthread.php?t=216034>

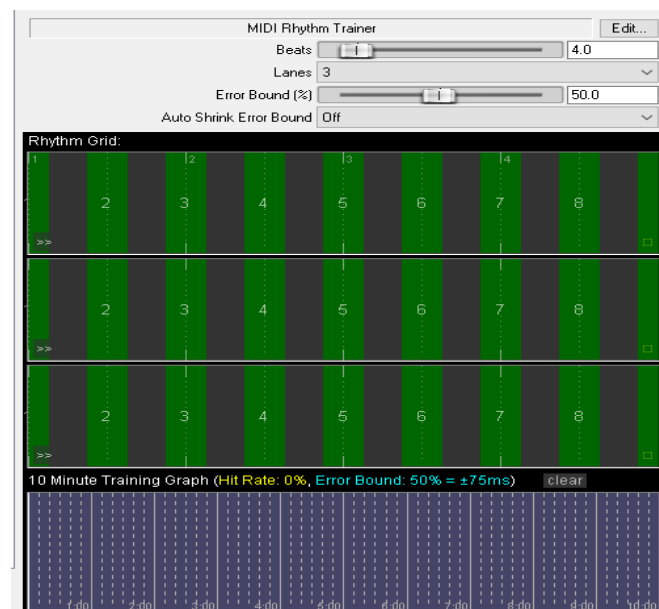
## **MIDI Pitch Bend and Modulation Wheel:**

<http://forum.cockos.com/showthread.php?t=25368>



To bend pitch, hold the left mouse down on the center of the wheel, and drag up or down. Releasing the mouse button will return to the center position.

## **MIDI Rhythm Trainer:**



### Features:

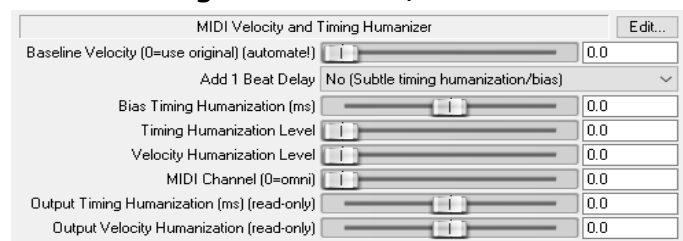
- Define a rhythmic pattern, and play along to hit the pattern. Only accurate notes will be heard.
- Get visual and audio feedback; controllable target Support complex poly-rhythms, e.g: 4 beat pattern, divided to 5 in the right hand, 7 in the left hand.
- Set up complex splits - up to 4 "lanes", receiving separate key ranges and input channels.
- Get "click" sounds for each lane (as metronome).
- "Swing" and "Phase" parameters.

Tutorial [https://youtu.be/cifj6eh\\_LF0](https://youtu.be/cifj6eh_LF0)

Discussion: <https://forum.cockos.com/showthread.php?t=250891>

## **MIDI Timing and Velocity Humanizer:**

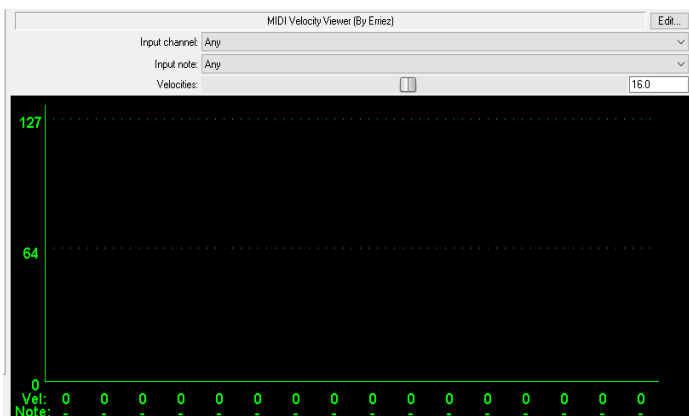
Record using automation/LFO on.



## **MIDI Velocity Viewer:**

<http://forum.cockos.com/showthread.php?t=93421>

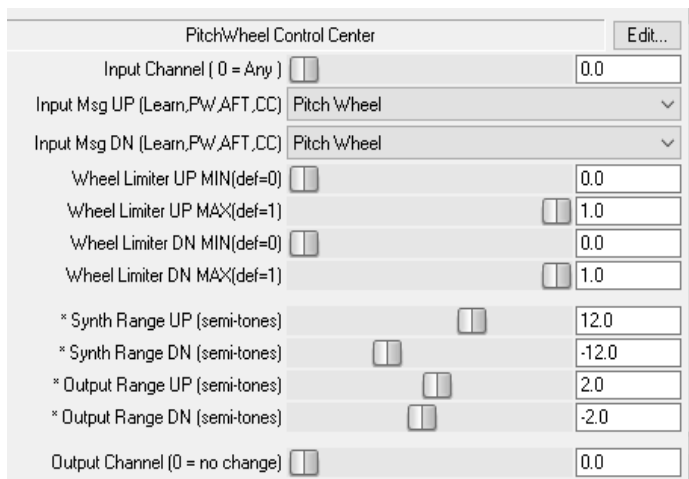
Developed to measure/improve MIDI dynamics (velocities) of my electronic drum kit.



## **Pitchwheel Control Centre:**

<http://forum.cockos.com/showthread.php?t=20852>

Converts channel after-touch or any CC to PW (included a Learn mode).

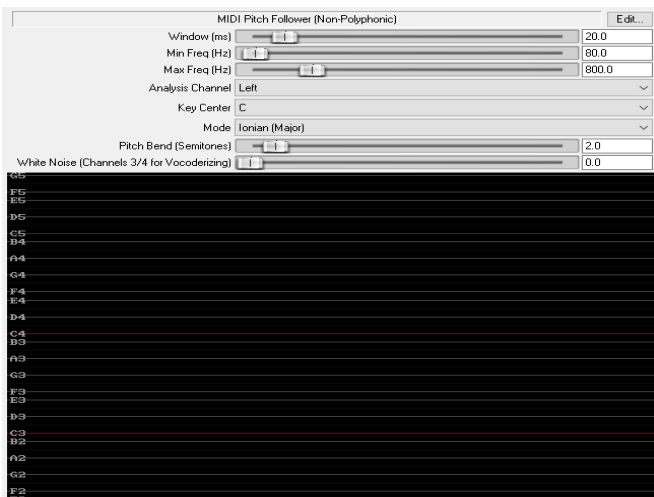


If both up and down use the same CC (or AFT) it uses a full range, so 64 becomes 0.

If only Up or Dn is active, or we use different CCs, the full CC range will apply only to Up OR Dn PW.

It also has MIDI channel input filter (others get sent untouched) and the possibility to select a specific output channel (only the Pitch-wheel is affected)

## **Pitch Follower:**

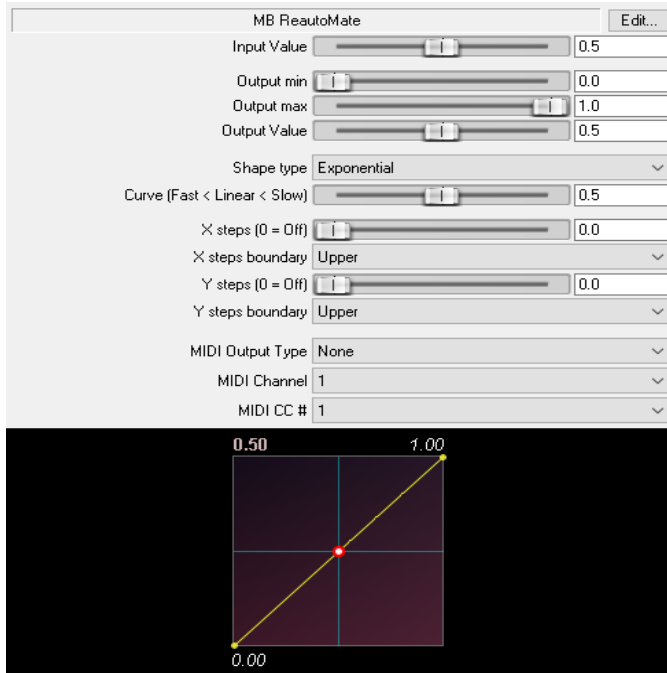


[https://www.youtube.com/watch?v=DJ\\_fNW3Rz6Y](https://www.youtube.com/watch?v=DJ_fNW3Rz6Y)



## ReaAutomate:

Made to re scale full automation envelopes to a restricted interval for the target output MIDI parameter, allowing to achieve finer precision over settings like filter cutoff, resonance, and wherever narrow sweet spots or limited ranges are relevant or useful.



To Se: 1) Add the FX to a track  
2) Set an automation envelope for the "input value" parameter  
3) set "min" and "max" output parameters to the actual minimum and maximum values desired in output.  
4) Set quantization and curve options as desired.  
5) Set parameter linking from "output value" to the desired plugin parameter\  
OR\  
Set MIDI output as wanted and have the desired plugin parameter respond to the matching MIDI message type

Download, instructions: <https://forum.cockos.com/showthread.php?t=251684>

## Send Crossfader:

Lets you create complex transitions by automating a single parameter. You do by creating 2 different sends with different mixes, and use the "Send Crossfader:" to cross-fade between them

Effectively, it allows you to use a single parameter to approximate automating a whole bunch of things (EQ, volume, reverb level, pan - whatever you like) all at the same time, by fading between two mixes

<http://forum.cockos.com/showthread.php?t=23418>

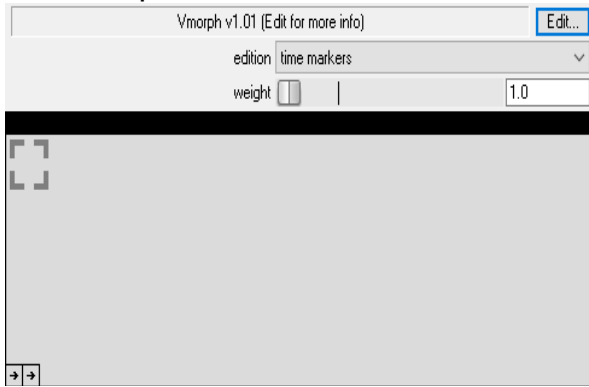
## SwixMitch GUI

<http://forum.cockos.com/showthread.php?t=35748>



## **Vmorph:**

A JS adaptation of AudioMulch's Metasurface.



It stores the parameter values of instruments and effects in patch dots, and interpolates between these dots while dragging the cursor on the XY pad or following time based vectors.

Tutorial Video: <http://vimeo.com/16399678>

<http://forum.cockos.com/showthread.php?t=67977>

## **X-Y pad controller:**

<http://forum.cockos.com/showthread.php?t=66467>

[http://b.imagehost.org/0750/vectorpad\\_movie.gif](http://b.imagehost.org/0750/vectorpad_movie.gif)

This is a X-Y pad sending CC values via the mouse or a path of 4 vectors or both.

The yellow square follows the white path, the red square chases the yellow one and sends the two CC messages (mapped to Cutoff and Resonance here).

# **MIDI EDITING:**

## **Audio Vol to CC:**

This script converts audio from selected channel 1 through 4 and converts the input to a CC. It can also Invert, Compress, Smooth. Option to use three meters for Current, Max, Min as controls for the range of CC output

<http://forum.cockos.com/showthread.php?t=20952>

## **Convert Envelope Automation to MIDI Expression:**

To automate the modwheel (CC#1) from an automation envelope. Selecting "CC A Value" will automate the Modwheel, "AT Value" will automate the channel pressure/aftertouch, and "PB value" will automate pitch bend.

<http://forum.cockos.com/showthread.php?t=42960>

## **Convert MIDI CC to Envelope Automation:**

A kind of hacker\* VST plug that routes incoming MIDI events to Reaper's control path and/or to the standard MIDI path. The VST uses Reaper's extension API for that and thus is only intended to be used with Reaper.

### Use case examples:

enabling automations only for some MIDI inputs and for some MIDI msg types

easier learn (i.e. filter channel + type of MIDI message)

combined other MIDI FXs, you can now process events before sending them to the control path, example: routing all CC4 to a given channel, so that it triggers the same action whatever is its original channel.

FX params driven at "play time" through recorded MIDI items

Complex/conditional FX control through JS effects (generating the CC events).

One of my use cases: reaDelay length live control according to the e-drummer's beat (live = no metronome)

<http://forum.cockos.com/showthread.php?t=43741>

## **Play speed Switcher of MIDI notes:**

A JS script that allows you to detect the speed of a MIDI performance, either a live performance or upon playback. Also, the JS would toggle between MIDI channels based on performance speed.



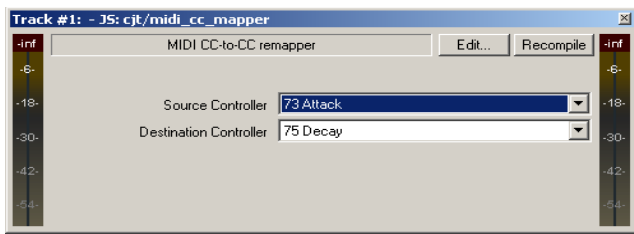
Julio

It detects the length of notes, and outputs a MIDI controller from 0 to 127 based on 'percentage' of maximum length.

<http://forum.cockos.com/showthread.php?t=31403>

## **MIDI CC-to-CC Remapper:**

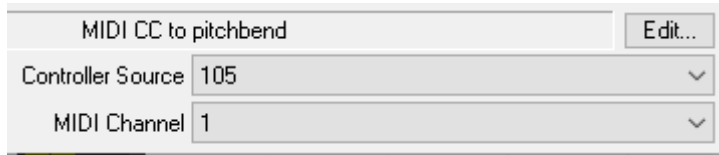
In this example, all CC73 messages (on any channel) are translated into CC75 messages.



<http://forum.cockos.com/showthread.php?t=21515>

## **MIDI CC to Pitch Bend:**

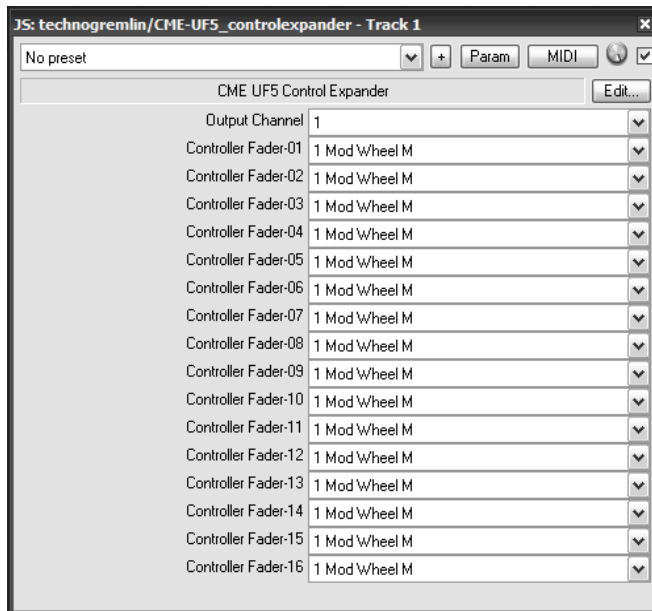
"This was designed to allow me to pitch bend my MIDI when the only useful pitch bend input was a CC converted from a gamepad joystick."



<http://forum.cockos.com/showthread.php?t=21408>

## **MIDI Message Converters**

Control surface expander



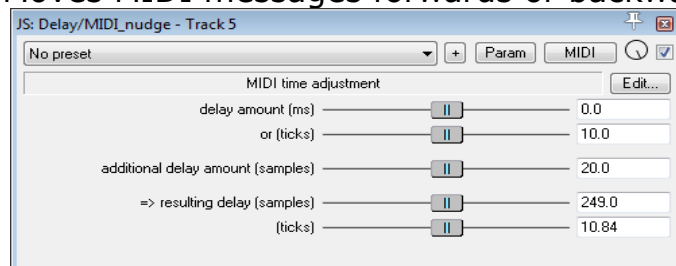
This FX maps ALL incoming MIDI-channels to one output MIDI-channel, at the same time mapping each CC-7 message (from each incoming channel for the two banks set as 'mixer controls') to a different CC-message.

You can set the output CC-message for each of the incoming volume faders.

<http://forum.cockos.com/showthread.php?t=129813>

## **MIDI Nudge:**

Moves MIDI messages forwards or backwards.



Set either of the top two sliders (960 ticks per beat).

Set the third slider, if desired.

The net resulting delay is shown on the 4th and 5th sliders.

It should do negative nudges too - by passing a PDC value back to Reaper.

<http://forum.cockos.com/showthread.php?t=129433>

### **MIDI Pitch bend to CC:**

<http://forum.cockos.com/showthread.php?t=21414>

This converts Pitch Bend to CC.

#### Options

1 invert. move PB min to 127, PB Max to 0.

2 Zero Value. My Pitch Bend is spring loaded to return to 64. This option allows moving the CC=0 up to 64. It automatically adjust the ratio for the remaining range, so no matter where CC=0 is, you can still bend up to CC=127.

3 Min and Max CC.

4 Meter for Value out.

### **MIDI VeloCurve:**

13 sliders to adjust velocity response.

Also Preset Lib to Import for various curves

<http://forum.cockos.com/showthread.php?t=22060>

### **MIDI RedCC:**

#### Features:

-- detects redundant CC msgs (same CC #, MIDI channel and value) and deletes them

-- Match menu choices:

Ignore MIDI channel, match only on CC number and value

For each channel, match on CC number and value

For the selected channel only, match on CC number and value

-- Match CC# choices:

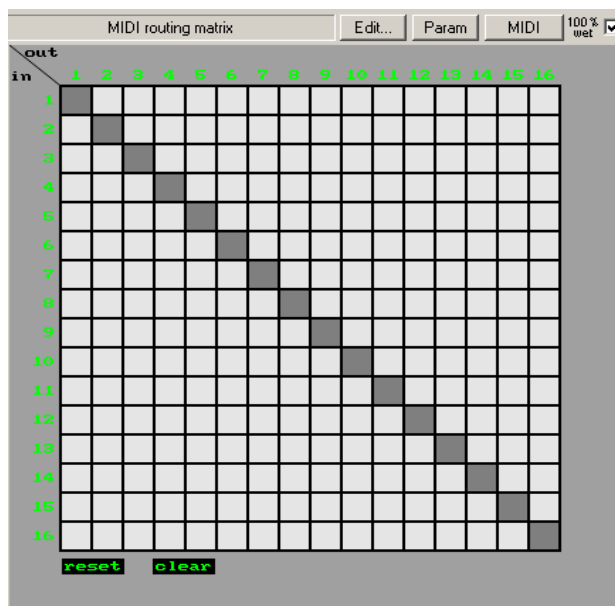
check all CC message numbers

check the selected CC number only

<http://forum.cockos.com/showthread.php?t=134606>

### **MIDI Routing Matrix:**

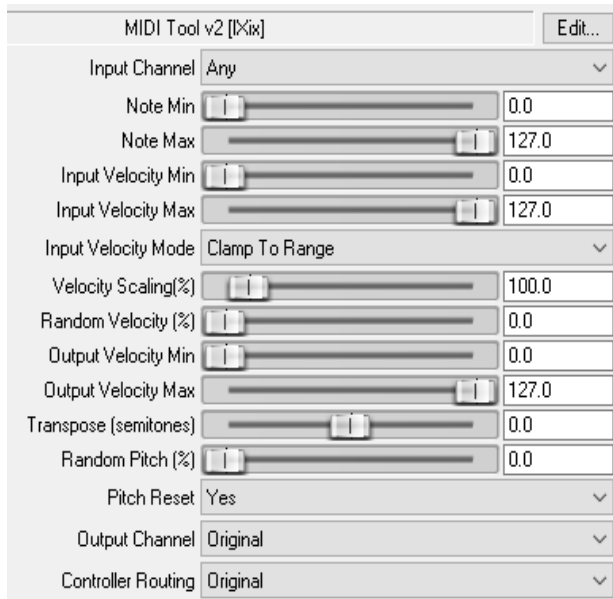
This FX allows arbitrary routing of MIDI channels.



Discussion:

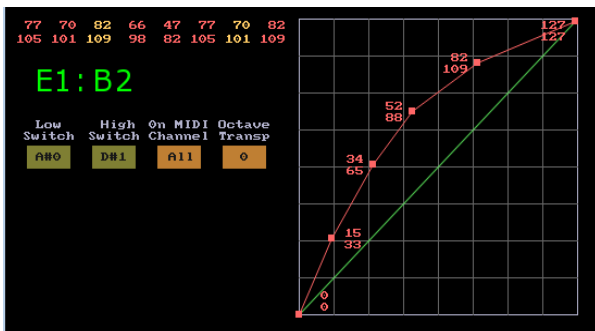
<http://forum.cockos.com/showthread.php?t=67115>

## **MIDI Tool II:**



## **MIDI Transposer and Compressor:**

To facilitate utilizing keyswitches in Kontakt instruments, when playing a short, MIDI keyboard, because when you play higher notes, the keyswitches are no longer available.



### **Features:**

- the range of keys for keyswitches can be defined
- the other (playable) keys can be transposed by an octave at a time
- the octave transpose can be changed from 2 buttons (sending CC value of 127) on the MIDI keyboard
- the range of keys (above the highest key switch) is

displayed, as a reminder

-- many of the controls can be automated / controlled from the keyboard

Also, there is a MIDI velocity "compressor" to alter the velocities of the notes played.

-- it has 4 draggable nodes to set the compression curve.

-- different curves can be saved as Reaper presets

<http://forum.cockos.com/showthread.php?t=91981>

## **MIDI Velo to CC and CC to Velo:**

<http://forum.cockos.com/showthread.php?t=21320>

When sending Velocity to CC:

A note that is out of range, above Max Note or below Min Note, will send No CC.

A note's velocity that is out of range, above Max Vel or below Min, will send No CC.

When the generated CC is out of range, above Max CC, or below Min CC, the Max CC or Min CC will be sent.

When Sending CC to Velocity:



A note that is out of range, above Max Note or below Min Note, will send the original velocity.

A note Velocity that is out of range, above Max Vel or below Min Vel, will send the original Velocity.

The Min CC and Max CC act as limiters.

When a CC is below Min CC, the Min CC will be used for the Notes Velocity.

When a CC is above Max CC, the Mac CC will be used for the Notes Velocity.

## **IX Scale Files**

Scale files are currently used by KeySnap and Variant.

A scale file is just an ASCII text file containing a bunch of numbers representing semitones above the root note (represented as zero).

Each digit should be on a separate line. Spaces for readability are okay but there should be no extra lines after the last digit, otherwise the loader thinks there's another step.

Comment lines starting with // are okay too.

Scales can be any length (the limit is 1024) and can contain any positive or negative value.

Here's an example:

//Scale file. This is the major scale.

0  
2  
4  
5  
7  
9  
11

The above example is how these scales were intended to be used. Here's another possibility:

//Scale file. Specialist values, limit to white keys of octave five.

60  
62  
64  
65  
67  
69  
71

With a scale like this, you can cause Variant to limit itself to the specified note numbers by setting the high and low octaves to zero. This would be useful for altering drum patterns.

# **IX Sequence Files**

Sequence files are currently used by Variant and Velocifier II.

A sequence file is an ASCII text file containing a bunch of zeros and ones which will tell the effect to either do something or not. Each digit should be on a separate line. Spaces for readability are okay but there should be no extra lines after the last digit, otherwise the loader thinks there's another step. Comment lines starting with // are okay too. Sequences repeat and can basically be as long as you like as the limit is close to 1MB.

Here's an example:

```
//Sequence file. This sequence will trigger the effect on every fifth note.
```

```
0
```

```
0
```

```
0
```

```
0
```

```
1
```

# IX KeyMap Files

Used by the KeyMap plugin, keymap files are ASCII text files containing a list of numbers representing how input notes will be transformed. The file should contain 128 entries, one for each note of the MIDI range. Each line that starts with a number will be treated as an entry.

One keymap, "00 - Default Mapping.txt", is supplied with REAPER and you can find it in the folder 'REAPER/Data/ix\_keymaps/'.

Make a copy of this and edit it to suit your requirements.

Note that only the number at the beginning of the line matters.

Everything else is ignored.

//Key Mapping File. Change the number at the beginning of the line to set the output note.

//Octave 0

0	(0) C
1	(1) C#
2	(2) D
3	(3) Eb
4	(4) E
5	(5) F
6	(6) F#
7	(7) G
8	(8) G#
9	(9) A
10	(10) Bb
11	(11) B

//etc.

//Octave 10

120	(120) C
121	(121) C#
122	(122) D
123	(123) Eb
124	(124) E
125	(125) F
126	(126) F#
127	(127) G

=====

## Footnote:

It would've been foolish to try to include every JSFX....but, which to eliminate?

This started as a "guide" for my own use, cutting/pasting what I could find.

I did the best I could, to make it worthwhile, but further editing and refinement is a task best left to someone else. Maybe there's someone who'd like to update and maintain it, from here on? That would be great!!

That's why the editable MS Word version is available, [here](#).

(I just ask that you keep my name and links in it)

I really hope you folks enjoy this. Peace, Keith

PS: Oops...I need to give a "shout-out" to Jon Tidey ([ReaperBlog](#)) for opinions on the first draft. Thank you!