

FLOWBRUSH - SONIC PAINTBRUSH

Audio effect plugin for Reason in rack extension format by Tonicmint.

- Matrix delay with grains and reverb
- Creative sound designer tool
- Internal and external modulations

FlowBrush is a creative time domain-based sound designer tool.



The story begins with the four-line matrix delay, where 4 delay lines could feed into each other. Each delay has a high pass/low pass filter with an "analoguish" flavour, and a granulator for chopping, mangling and twisting the sounds.

The next step is the dual algorithm reverb, which can be simple and small or huge and unconventional. The ducking allows spreading of the reverb to suit your needs.

Finally, are a plethora of modulation options with internal LFOs or external CVs.



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OVERVIEW

GLOBAL CONTROLS

- The well known Bypass/On/Off switch and the patch browser
- Global Dry/Wet control in the top right corner

DELAYS

- Four delay channels A, B, C & D arranged in a feedback matrix
- Individual Left & Right audio inputs for each channel
- Self-feedback knobs are marked with a circle

FILTER

- 'Analoguish' Low Pass / High Pass filter for each channel
- Center position = No Filtering (Left LP/Right HP)
- Post Mode positions the filter after the Granulator

DELAY TIME

- Sync 1/1 delay length = 1 quarter note (1 beat)
- SNC button toggles between synced and free timing
- XY control for free timing (fast and accurate editing on wide range) (Use shift key for higher precision)



TIMING COMPARISON

usually in Reason devices	in FlowBrush
e.g., resolution in Matrix or Redrum	delay time and/or LFO speed
1/2	2/1
1/4	1/1
1/8	1/2
1/8T	3/8
1/16	1/4
1/16T	3/16
1/32	1/8
1/64	1/16

GRANULATOR

- Optional granulator for each channel
- Adjustable grain size (Rate knob)
- Playback direction probability (Dir knob)
- Adjustable playback speed (Semi and Fine knobs)
- Pitch uncertainty (Spr knob)
- Random additional offset in the grain buffer (Jitt knob)

DELAY'S OUTPUT MIXER

- 6x2 channel mixer
- Mix out for the four delay channels and the Left and Right channel
- Dry/Wet control

REVERB

- Two algorithms
- CPU friendly Simple reverb
- Aura reverb for huge and/or unconventional spaces
- Ducking

MODULATION

MODULATION ASSIGNMENT

- Six modulation slots
- Modulation targeting for more than 80 parameters
- Internal (LFOs) and/or external (CVs) modulation sources

LFOs

- Four LFO (2 synced and 2 with free timing)
- Sine, Triangle, Ramp, Square, Random waveforms
- Adjustable phase and smoothing
- Automated or Manual Retrigger
- Auto restart option after silence

Note: The random waveform changes the value 2 times in a cycle, so this shape is like the square shape, but the levels are not the max and the min values but random values.

BACK SIDE

- Left and Right Audio Input
- Left and Right Audio Output
- 4 CV Inputs for modulation



DETAILS

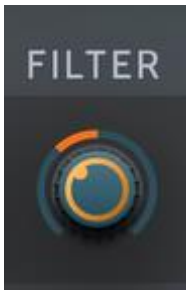
DELAYS

INPUT MIXER



Each delay has a mixer for input. The input could come from the left and right audio input of the device, and all delays also. The left and right audio in could be linked, to easily set the same level from both inputs. The knobs Feedback A, B, C and D are coming from the outputs of the delays. The self-feedback channel is marked with a circle. The input mixer ends with a Level knob to quickly attenuate the whole inputs.

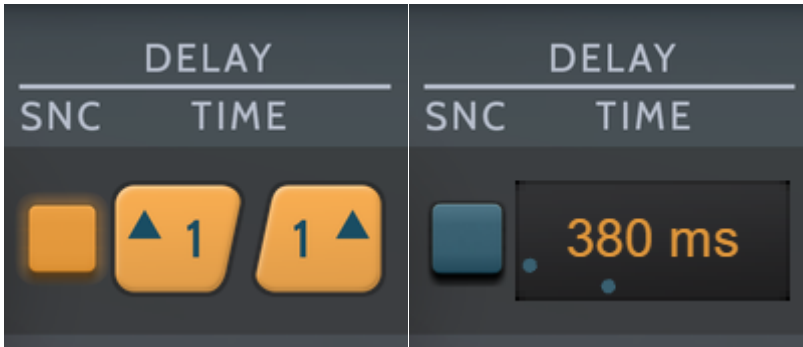
FILTER



After the mixer, the signal could be filtered. The filter knob controls two filters at once. The left side of the knob is a lowpass filter and the right side of the knob is a highpass filter. These slightly saturated analogish filters are almost closed in the endpoints.

The Post button is for positioning the filter in the signal path. If it is turned on, then the filters will be applied after the granulator, otherwise the filters will be applied before the granulator. This setting affects on each delay line and has no effect when granulator is not used.

DELAY TIME



The timing of the delay could be synced or free. You can switch between the two modes with the SNC button.

In FlowBrush the synced time parameters are based on the beat length (quarter note length). So, 1/1 means 1 beat and not a whole note. One beat is always a quarter note. The numerators and denominators are knobs in the screen and could be set between 1 and 16 with mouse. In this way, the range is from 1/16 beat to 16 beat lengths.

The free time settings have an XY control for setting the time quickly but accurately in a wide range. Behind the scenes each time parameter is a double parameter, a base and a multiplier, and the applied time is the base param multiplied by the multiplier. Use the shift key for precise settings, just like for knobs.

The base parameter range is from 10ms to 200ms, and the multiplier parameter range is from 1 to 20, then the time parameter range is from 10ms to 4s.

The small knob in the header part of the delays is the delay time smoothing parameter. It is useful when the delay time is changed or automated. If this value is higher, then the delay time changes will be applied smoothly, otherwise quickly.



GRAINS

The filtered and delayed signal optionally can go through a granulator.



Grain parameters:

- Rate: rate and size of the grains. Grains in FlowBrush played continuously. Small rate means large grain size, high rate means small grain size.
- Dir: probability of the playback direction. On the rightmost position grains played forward and on the leftmost position grains played backward. In the center position grains played forward and backward with 50%-50% chance.
- Semi: Pitch shifting for the grains in semitone. Between -12 and +12.
- Fine: Fine Tuning for the pitch shifting for the grains.
- Spr: Grain pitch spread for individual grains. Additional random pitching for individual grains. If the grain pitch spread is 0, random pitch will not be applied. Higher value means larger distance from the current pitch.
- Jitt: Jitter for picking the grain in the grain buffer. In other words, additional random play head position for the individual grain. If 0, then the grain will be selected in the exact position.

OUTPUT MIXER

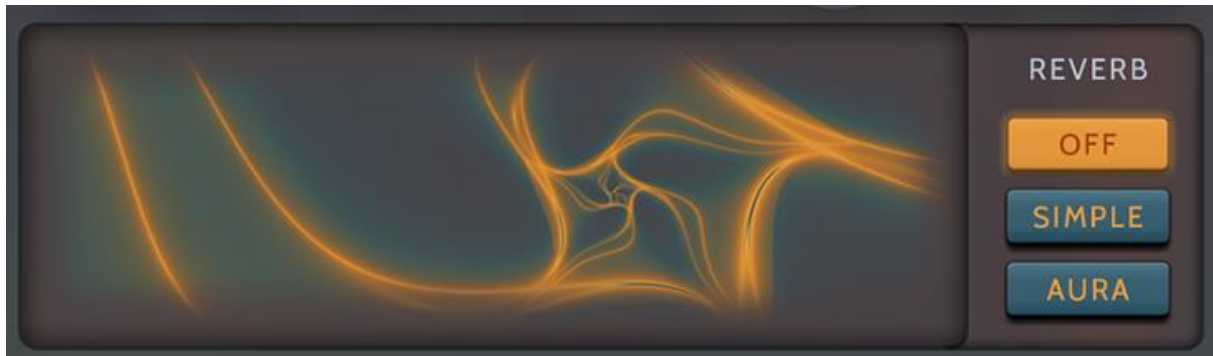
The delay part of FlowBrush has a 6×2 channel output mixer. The output level of the four delays could be set individually.

With the link buttons, the level of the left and the right side could be linked together. With the last two channels, the input signal also could be mixed to the output.

And lastly, you can find a dry/wet knob also here, for overall mixing for the delays.

If the delay part is not required for the patch, it can be bypassed by the button on the top left corner.

*Note: If the delay part is not bypassed and all of output mixer knobs are zero and the dry/wet setting is maximum wet, then the output of the whole plugin will be a silent signal**

REVERBS

After the delay part of the plugin, the stereo signal optionally can go through a reverb. With the reverb chooser radio buttons, you can choose from the followings:

- Off: no reverb will be applied
- Simple: simple algorithmic reverb will be applied
- Aura: complex algorithmic reverb will be applied

SIMPLE REVERB

A simple reverb with a low computation cost. It has three parameters, Damping, Size and Stereo Width.

AURA REVERB



Aura is a more complex algorithmic reverb. Parameters are Damping filter, Size, Diffusion, Feedback amount, Feedback filter and Predelay time. Filters, just like in the Delay section of FlowBrush are slightly saturated analogish highpass/lowpass filters.

With high Diffusion, Feedback and Size settings you can create really huge reverbs.

REVERB MIXING AND DUCKING



The bottom part of the reverb panel is shared between the two reverbs. You can set the unprocessed/processed signal ratio by the Dry/Wet knob. With the Attack and the Decay knob you can set the behavior of an envelope follower, and with the Level knob, you can set the reduction level of the processed signal, by this envelope.



MODULATION

FlowBrush has 6 modulation slots, and the target of the modulation can be chosen by more than 80 parameters. The modulation related settings can be found in the bottom mid area of the screen.

MODULATION ASSIGNMENTS

With the MOD 1-2, 3-4 and 5-6 buttons you can switch which modulation assignments will be visible.

You can set the modulation source here, this could be one of the four internal LFO, or one of the 4 external CV input. The next field is the modulation destination, it could be one of the more than 80 internal parameters. And then you can set the amount of the modulation in percent between -100 and +100. If the modulation destination is a delay time, then the modulation amount could be set between -200 and 200 ms.

INTERNAL MODULATION SOURCES

FlowBrush has 4 internal LFO (low frequency oscillator), with the LFO 1, 2, 3 and 4 button you can switch which LFO settings will be visible. LFO 1 and LFO 2 are synced, LFO 3 and LFO 4 are free running LFOs. The shape of the LFO could be sine wave, triangle, rump up, square, or random.



Note: The random option changes the value 2 times in a cycle, so this shape is like the square shape, but the levels are not the max and the min values but random values.



For the synced LFOs, the cycle times are based on beat (quarter note) (like in the delay section). So, 1/1 means 1 cycle per quarter note. The free LFOs cycle time can be set by a similar XY control, like in the delay section.

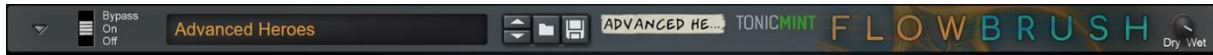
Phase of the LFO can be shifted by the Phase knob, the max value shifts the value with a full cycle. With the Smoothing knob we can control the smoothness of the curves.

With the "Restart" button the LFO restarts immediately. When the "Auto" option is turned on, then the LFO restarts, when new audio is detected after silence.

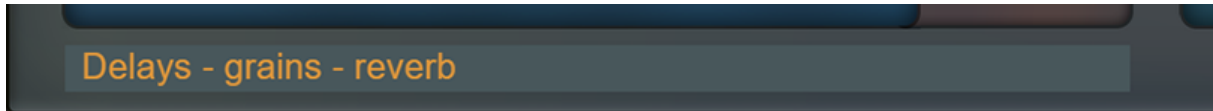


COMMON CONTROLS

In the header part of the device, you can find the Bypass switch, and the patch selector/browser area. They are working as usual.



In the top right corner of the header, you can find the global Dry/Wet knob for mixing the processed and unprocessed signals.



The bottom left corner you can find a free text field, for storing information, comments about the patch. If you create a FlowBrush patch for your friends/clients or you want to remember something about the patch in the future, you can write your remarks here.

BACK SIDE

If you flip the device (Tab key or Options->Toggle Rack Front/Rear menu in Reason or Flip Rack button in the Reason Rack plugin) you can reroute the audio inputs and outputs. And you can connect CV inputs from other devices for modulating values in FlowBrush. (See the Modulation section).

PATCHES

FlowBrush comes with

- more than 20 tutorial patches
for learning and understanding the basics
- more than 120 categorized patches
for using as is or as a starter point for your instrument and effect chains
- lots of combinator examples
combinator 2 and combinator 1 examples using Reason's built-in devices and Reason plus devices

Name	Type	Modified
> 00 Tutorials Starters	File Folder	
> 01 Delay only	File Folder	
> 02 Simple reverb only	File Folder	
> 03 Aura only	File Folder	
> 04 Delay with Simple reverb	File Folder	
> 05 Delay with Aura reverb	File Folder	
> 06 Modulated	File Folder	
> 07 Combinator 1 examples	File Folder	
> 08 Combinator 2 examples	File Folder	
> Combinator layouts	File Folder	
Re Advanced Heroes.repatch	FlowBrush patch	
Re Bats cave.repatch	FlowBrush patch	
Re Cascade mods.repatch	FlowBrush patch	
Re Classico.repatch	FlowBrush patch	
Re Filtered shards.repatch	FlowBrush patch	
Re Gentle Reverse Tail.repatch	FlowBrush patch	
Re Hidden layer.repatch	FlowBrush patch	
Re Maura.repatch	FlowBrush patch	
Re Metal Closet.repatch	FlowBrush patch	
Re Mika Rita Aura.repatch	FlowBrush patch	
Re Radio bounce.repatch	FlowBrush patch	
Re Rising.repatch	FlowBrush patch	
Re Slight doubt.repatch	FlowBrush patch	
Re Space foam.repatch	FlowBrush patch	
Re Transformers beta.repatch	FlowBrush patch	

VERSION HISTORY

FlowBrush 1.0.0	08.15.2022
	Initial release

