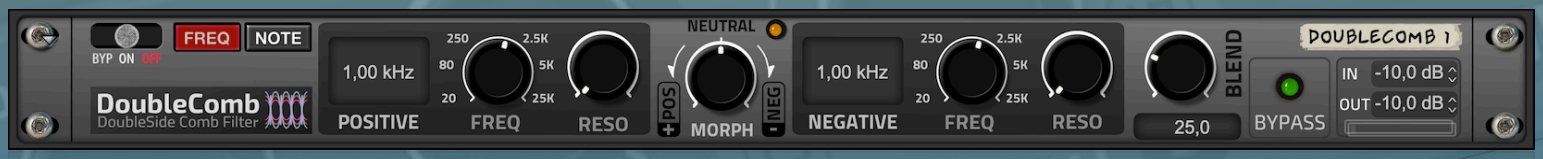
DoubleComb

Double-Side Comb filter

[RACK EXTENSION] MANUAL

2018

FX device by Turn2on Software



Introducing a new Comb filter with positive/negative morphing in Rack Extension format.

Comb filters usually reshape waveforms, ending upwith a signal that resembles a comb shape.

Comb filters create copies of signal and work as a **delay** and **filter** at same time. Small delays between copies of the signal create _phase offsets_ and the sum of them builds peaks. Filter **Frequency** sets the length between these peaks. **Resonance** sets the strength of resonant peaks at the cutoff frequency. As result, you have newly shaped waveform named as the Comb filter line.

Actual standards of Comb filters have selections of **Positive** and **Negative** modes.

Positive and Negative modes have peaks at 0Hz. Classical Comb filters normally use selected positive or negative modes, but we allow **Morphing** of these modes at the same time. The device includes two individual Comb filters with customizable settings which you can morph between.

Note Mode activates filter Keytracking, and help to select frequencylinked to the Notes.

DoubleComb rack extension is also interesting because it includes:

- **Biggest** range of frequencies (from 20Hz to 25kHz) in Reason devices and Rack Extensions;
- Exclusive **double-side** engine: Positive and Negative modes with morphing;
- **Neutral** sum mode of peaks (50% of Positive/ Negative morphing)

With ***DoubleComb*** you can really do more then you can do with other classic Comb filters.

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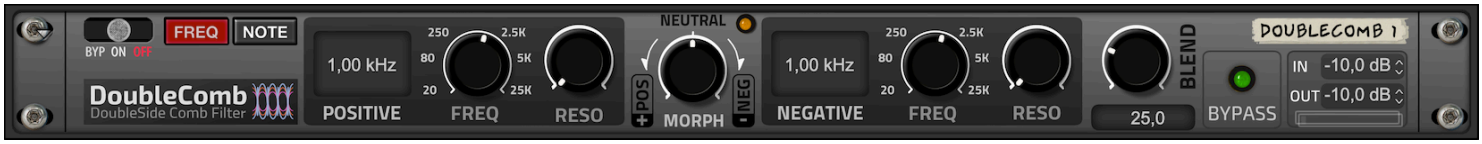
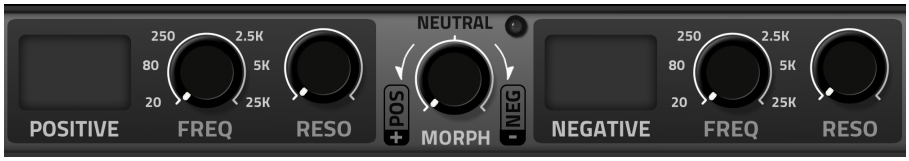


NATURE OF THE COMB FILTERS

Comb filtering happens when the same sound arrives at the listener's ears at different times with a very small delay between the signals. This delay can be anywhere from few milliseconds, up to 15ms–20ms. The slightly delayed signal can be created acoustically (as with a sound reflected from a hard surface - wall or glass pane). The cancellations caused by the delayed arrival will create dips at certain frequencies. Depending on the time delay, some frequencies are reinforced while others will cancel out, causing a frequency response that looks similar to a comb – with lots of teeth (dips).

BYPASS - disable effect
ON - enable effect
OFF - mute incoming signal



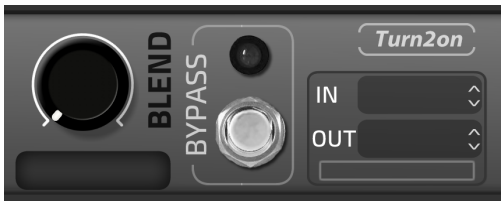
POSITIVE / NEGATIVE COMB FILTERS

COMB FILTERS PARAMETERS	
FREQUENCY	Set length between peaks. Positive section (positive max peaks at 0Hz), Negative section (negative max peaks at 0Hz)
RESONANCE	Set strength of resonant peak at cutoff frequency for Postive and Negative sections
MORPHING	Morphing of two individual Positive and Negative peaks filters with personal settings

FILTET MODE	
FREQUENCY	Set length between peaks. Positive section (positive max peaks at 0Hz), Negative section (negative max peaks at 0Hz)
NOTES	Select Notes frequency for Positive & Negative peaks filters. Also activate Comb Filter Keytracking for Positive & Negative peaks filters at the same time

MASTER

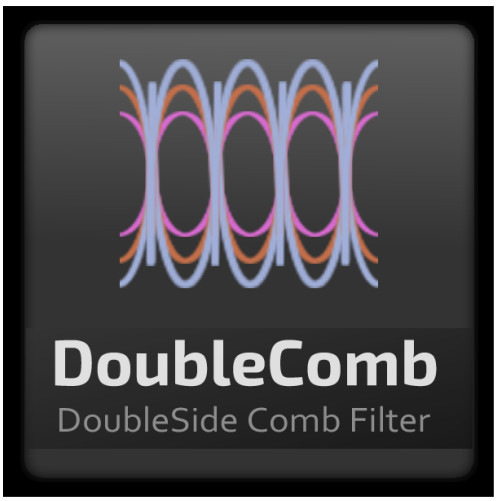
MASTER PARAMETERS	
BLEND	Dry/Wet proportion for incoming / processed signal
SOFT BYPASS	Soft bypass variant for MURDER RhythmCutter effect
INPUT	Gain correction of the dry input level (unprocessed input signal) before it goes to the effect
OUTPUT	Gain correction of the output level of the processed signal



BACK SIDE PANEL

AUDIO INPUT/OUTPUT	
INPUT	Mono or Stereo connections for audio signal input
OUTPUT	Mono or Stereo connections for audio signal output
OVERCLIP	Overclipping indicator
ROUTING ICONS	True stereo: If a mono signal is connected with one cable to L input, it is routed to the L output as a mono channel. If a stereo signal connected with 2 cables (L/R), it routed to the L/R channels as stereo channels

CV INPUTS
Use these CV inputs to control the main parameters with external CV source curves.



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ReasonStudios Add-on Shop

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Thanks to all beta-testers,
Special thanks to
- **MrFigg (Cameron Jeffrey)**
- **Philip Meadows (Despondo)**

Thank you very much for supporting us by choosing our products.
This allows us to develop future interesting and creative effects / utilities / instruments in the Rack Extension format.

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