EBB

LOFI MODULATOR



OPERATION MANUAL

CUTUP!

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What is this?

Ebb is a Lo-Fi modulation effect where a small, unstable delay moving randomly is combined with a filter controlled by your dynamics. The result is a wobbly chorus that brings to mind unstable tape recorders with worn-out tape that suffer from dropouts, asymmetrical distortion and a touch of randomness.

How can I get this?

Ebb is delivered in the **Rack Extension** format. For a long time since the introduction of Rack Extensions, the format was exclusive to Reason users. Today, Reason Free lets you put the Rack in your favorite DAWs for free. Reason Rack Plugin runs as **VST3**, **AU**, or **AAX** in a DAW and Ebb loads inside it alongside other Rack devices.

You need a Reason Studios account to purchase, install and use Ebb. Install the software Reason Companion and it will take care of installation and authorization.

What did you do to my audio?

Ebb is based on the circuits of a modern classic. We started from there and worked through how the signal is treated to get the character. Input and output stages, frequency and phase response, are all really colored by its circuit and that's why Ebb is never "clean" from the moment you add the device. There won't be any jump in volume, so it's safe to drop into your rack.

Ebb has also evolved beyond its predecessor. The Deviate slider deviates (no kidding?) from the original delay with a larger time range so you can literally wobble the wobble. There are flutter and dropouts and a bias-driven clipper and… what is that? Oversampling?

I'm aware of how this looks. Oversampling on **lo-fi** seems over the top at first. However, sagging clippers and drifting pitch is a good thing for the vibe, digital distortion (mostly relevant when Bias and Nudge are pushed hard) is not. Your call.

Controls

Rate, Damp and Depth work as a team. Rate is not a classic LFO rate. It sets how often the motion gets a new target and that target is random. Damp is the inertia of the motion towards that target. A low setting gets you there fast, with sharp changes in pitch. Turn it up for smooth glides, with time constants from a few milliseconds up to about a second.

Depth is how far the motion pushes the clock of a delay, i.e. how much pitch wobble you hear. Depth also scales the Flutter feature.

LPG is a low-pass gate, similar to a combo of VCA and VCF, with a laggy detection of the dynamics to open a filter. At low values, hit hard to open the filter. At high values, even softer transients will get through. Quiet passages stay dark and muted.

Flutter is a fast 40 Hz wobble on top of the motion. Bias shifts the working point of a soft clipper, giving uneven, sagging grit. The sound becomes somewhat asymmetrical at 50% and at high values, the level drops as the sound becomes thinner and grittier. Nudge is the second feature following your playing and this one works on top of Bias so loud notes sag.

Deviate extends the delay time from 6 to 22 ms. More obvious doubling if you are blending dry and wet, and Depth gives a wider pitch wobble. The delay changes smoothly so you can play this slider for manual pitch glides.

Dropout puts short gaps in your signal, like a tape that loses contact. Brief dips in volume, not silence. Each gap lasts between 8-43 ms. 10% is about one gap every 20 s, 50% about every 5 s and 100% once per second.

Channel formats

Apart from the regular Bypass/On/Off switch and the already mentioned Oversampling, there is another switch on the front: Dual.

While the original circuit runs in mono, Ebb works in full stereo. There is no audio crosstalk between the channels, but they share the same motion and dropouts. The LPG and Nudge detectors follow the louder channel on both sides, so the stereo image stays stable.

Engage Dual for Dual mono paths. Two independent chains where each channels has its own motion, its own detection and its own random sequence. Use it for wide, uncorrelated movement that pushes the drift even further.

CV and Silence

What is a Reason device without CV connections? Ebb sends its internal movement as CV so you can control other devices. *Motion Out* is the random motion for drifting and *Envelope Out* follows how far the LPG opens, which makes it a handy way to let your playing control something else in the rack.

Motion Out is a bipolar CV signal, Envelope Out is unipolar. In Stereo mode, A and B carry the same signal. In Dual mode, A follows the left chain and B the right chain.

When the signal has been fully silent for 0.3 seconds, Ebb stops processing until any audio enters the device again. This saves

processing power and affects both audio and CV outputs.

No presets?

No, since this device is fairly simple and built on randomness, where no two bars sound the same, and the sound also varies a lot based on your input, it's hard to suggest any settings. But don't worry - all the settings are saved in your song.

Also, you might want to bounce clips through Ebb and pick the take you like best, or record audio through it to catch that moment that most likely won't happen again.

Go tweak it!

// Linus Wileryd, CutUp Studios