

# Re-Coder VST v0.2

This is the user manual for **Re-Coder VST version 0.2**, an effect made by **runagate**

**This is an alpha version of a project, and as such use at your own risk.**

**Proudly made in SynthEdit – This VST plug-in is Freeware**

**This effect will be changed, possibly drastically, in future versions.**



**Re-Coder v0.2** is an FSU VST effect based on a **phase vocoder** (the carrier signal of which is a four operator frequency modulated synthesizer) inspired by circuit bending. The fact is it was made with not too dissimilar a method. It's quite different from the first version, so keep the old one if you liked it. It always seemed to me that vocoders would benefit from some much more interesting internal synthesis so I tried to make an FM vocoder with a mod matrix. Well, Re-Coder sort of is...

Re-Coder responds to Midi note data, so route a midi track to this effect - if you use the identical midi to what's being sent to a VSTi it works especially well. It actually has a pitch detector within it's circuitry, but it works (unintentionally on my part!) in conjunction with the "Pitch" as opposed to "Midi" mode nonetheless. Of course, for really messed-up audio, send totally different midi notes to Re-Coder than what your virtual instrument is receiving.

Now while forthcoming is a simple description of what the controls do bear in mind that this is a vocoder, and as such **the effect is highly dependent upon what audio you send through it.** Therefore, although there's 16 patches in the default preset bank just how those presets will sound will depend on what you're playing into it.

This page describes the controls though not in great detail so you're going to have to experiment.

Let's start with the leftmost column of the plug-in's graphical user interface (GUI):

There's controls for the vocoder's attack, decay, **bandwidth (pitch accuracy goes up as the knob is turned rightward)** and noise (used for pitch-tracking mode, to add definition or chaos to the sound)

The next column has 4 selectors for the FM oscillators' waveforms, a **toggle to switch between midi mode (which tracks the pitch of incoming midi notes) or "pitch" mode which also tracks midi notes if they're being sent, as well as via an internal pitch detector (therefore following the pitch of whatever audio you've input)**. Lastly there's an envelope follower, which modulates some parameters in a way mysterious even to me.

Next comes the ADSR for the carrier oscillator, as well as 4 level controls, one for each operator, and a quite important part: the octave and note tuning choices. The note you can use for simple transpositions; **the octave determines to a great degree how well the incoming audio's pitch is tracked. Experiment with this control to determine what's best for the type of audio you're sending Re-Coder.**

The next column has a mod matrix for the 4-operator FM oscillators, from top to bottom from left to right they represent  $2>1$ ,  $3>1$ ,  $3>2$ ,  $4>1$ ,  $4>2$ ,  $4>3$ . Next is an X/Y joystick that doesn't seem to a whole lot though it's supposed to be a vector control of four different routings of FM synthesis. Underneath that there's a knob to control how much the vocoder's bandwidth parameter is being modulated, then an LED to control the LFO's speed, a button that turns the LFO on or off, a drop-down list to select the LFO's waveform, and then over to the right of that is a "Division" drop-down selector which selects what tempo-synced beat division that determines another LFO which is modulating the first LFO's oscillation speed.

The next part is a flanger which has the normal controls, but bear in mind that this flanger is receiving a great deal of time and feedback modulation.

The same is true for the last column, which is a modulated delay. The "Level" control doesn't function correctly, but if you pull it all the way down no sound comes out of Re-Coder.

Due to the nature of the effect processes in Re-Coder, and the fact that it's not exactly made with scientific precision, **you may have to stop your DAW when the feedback gets out of hand**, or even re-start your program altogether when the plug-in has exceeded sane operating levels of modulation so save your project often and use a limiter after Re-Coder. **You have been warned.**

If you like this effect I've got a few similarly half-assed crazy ones (freeware) on my website:

[www.3amnoise.net/runagate](http://www.3amnoise.net/runagate)

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**Links:**

SynthEdit <http://www.synthedit.com/>

Dave Haupt Modules <http://www.dehaupt.com/SynthEdit/semmodules.htm>

Chris Kelly Modules <http://www.chriskerry.f9.co.uk/>

de la Mancha <http://www.delamancha.co.uk/index.htm>

Thanks to Etric van Mayer, Jack Dark, de la Mancha and my friend bobsled without whom this wouldn't be possible.

**About the Developer**

runagate is a USA-based producer of psychotic psychedelic electronic music who spends an inordinate amount of time haranguing fellow musicians about how they can now make music largely for free with software tools that would have been unimaginable at any price a scant few years ago.

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