

User Manual

# Retrazoo

Delay Effect Unit



By MagmaSonic  
28/03/2018

## Retrazoo - Delay Effects Unit

RetraZoo is a new delay effect unit designed by MagmaSonic.

RetraZoo is made up of 5 main sections; a Delay section, a Filter section, an LFO Modulation section, an Envelope Follower Modulation section, and a main Mix section.

The Filters can be configured as Lowpass or Highpass Filters, in either a serial or parallel style configuration. RetraZoo can produce complex modulation by blending both LFOs and the Envelope Follower to be used by the internal modulation amount parameters, or externally through CV to modulate other devices in the Rack. Additionally, the output stage "Spice" parameter can be used to thicken up the processed audio.



### Delay Section

**Time:**

1ms to 2 seconds in Free mode, and 1/8T, 1/8, 1/4T, 1/4 and 3/8 in Tempo Synced mode.

**Feedback:**

Sets the decay of the repeating delayed signal, ranging from 0-100%.

**Dry/Wet:**

Blends between the unprocessed and processed signal.

**Pan:**

Sets the balance of the left and right channels.

There are three different pan modes, switchable

on the rear of the device. These different modes can help generate more space in the sound field.

**Pan Modes:**

In the back of the device there a pan mode switch:

Mode 1 - Bypass Dry / Normal Wet; The Dry signal is unaffected, while the Wet signal reacts to the Pan and behaves normally.

Mode 2 - Invert Dry / Normal Wet; The dry signal Pan behaviour is inverted, while the Wet Pan behaviour remains normal from left to right.

Mode 3 - Normal Dry / Invert Wet; The Dry signal Pan behaviour remains normal, while the Wet signal Pan behaviour is inverted.

## Filter Section



### **Cutoff:**

A 12db/Oct slope/roll off ranging from 20Hz to 20KHz.

### **Resonance:**

Gain increase emphasis at the set filter cutoff frequency.

### **LP/HP mode:**

Switches the Filter behaviour from Lowpass (LP) to Highpass (HP).

### **Filter Routing:**

The Filters can be configured in series (+) or in parallel (=). In parallel mode, Filter 1 is

assigned to the left channel, and Filter 2 is assigned to the right channel.

## LFO Modulation Section



### **Rate:**

Modulation cycle rate; in Free mode from 0Hz to 10Hz, and in Tempo Synced mode from 4/1, 3/1, 2/1, 7/4, 6/4, 1/4, 1/8, 1/8T and 1/16.

### **Depth:**

Amount of overall modulation available to the separate parameter modulation amounts, ranging from 0-100%.

### **Phase:**

Shifts the phase offset of the LFO waveform, from 0 degrees to 360 degrees.

### **Sync:**

Switches the LFO modulation Rate from Free mode to Tempo Synced mode.

**Time:**

Amount of LFO modulation to be sent to the Time parameter in the Delay section. In Tempo Synced mode, the modulation will step between synced values;  $1/8T$ ,  $1/8$ ,  $1/4T$ ,  $1/4$  and  $3/8$ .

**Feedback:**

Amount of LFO modulation to be sent to the Feedback parameter in the Delay section.

**Pan:**

Amount of LFO modulation to be sent to the Pan parameter in the Delay section.

**Cutoff1:**

Amount of LFO modulation to be sent to the Cutoff1 parameter in the Filter section.

**Cutoff2:**

Amount of LFO modulation to be sent to the Cutoff2 parameter in the Filter section.

**Envelope Follower Section****Attack:**

Slew/lag, configurable from 1ms to 100ms, at the beginning of the Envelope Follower's detector signal.

**Release:**

Slew/lag, configurable from 50ms to 600ms, at the end of the Envelope Follower's detector signal.

**Threshold:**

Level at which the Envelope Follower's detector will start to produce a modulation signal. Once the input

signal crosses the Threshold, the Envelope Follower will start to produce a modulation signal.

**Feedback:**

Amount of Envelope Follower modulation to be sent to the Feedback parameter in the Delay section.

**Cutoff1:**

Amount of Envelope Follower modulation to be sent to the Cutoff1 parameter in the Filter section.

**Cutoff2:**

Amount of Envelope Follower modulation to be sent to the Cutoff2 parameter in the Filter section.



## Mix Section

**Spice:**

Introduces additional "fattening sound" processing in the wet signal path.

**L2R:**

Sends part of the wet signal from the left channel to the right channel.

**R2L:**

Sends part of the wet signal from the right channel to the left channel.

**Volume:**

Master output volume of the effect unit, with up to 9db of additional gain boost.

## CV Outputs

**CV Out1:**

CV Out1 will output the value of the Cutoff1 parameter in the Filter section. If no modulation is sent to the Cutoff1 parameter, then the CV outputs a static level. Modulation can be combined from LFO1, LFO2, and the Envelope Follower to create more complex modulation signals.

**CV Out2:**

CV Out2 will output the value of the Cutoff2 parameter in the Filter section. If no modulation is sent to the Cutoff1 parameter, then the CV outputs a static level. Modulation can be combined

from LFO1, LFO2, and the Envelope Follower to create more complex modulation signals



# Retrazoo

**By MagmaSonic 2018**

*Made in Canary Islands*

*Spain*