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Sviluppo di tecnologie per la produzione musicale

Modulated Delay whith saturation, inspired to the moog-moogerfooger-mf-104m-analog-delay

Moogerfooger m-104m is an analog delay unit originally designed by Bob Moog and released in 2000.

A special "Bucket Brigade" delay chip is used in the delay line. It consists of a series of capacitance sections. The stored analogue signal is moved along the line of capacitors, one step at each clock cycle. The name comes from analogy with the term bucket brigade, used for a line of people passing buckets of water.

The unit has a modulator section and a saturator to drive the input signal.

Digital reconstruction

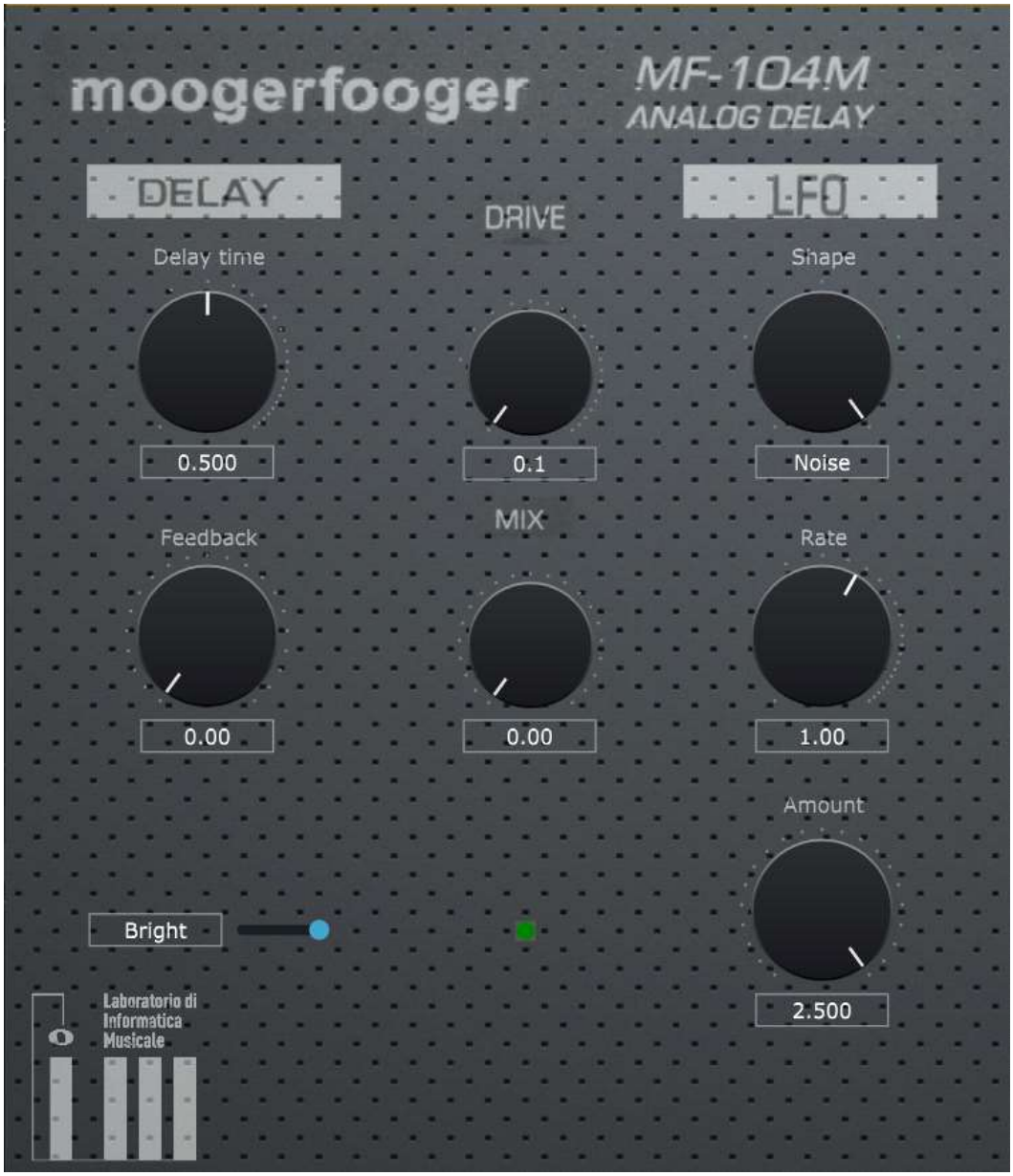
Moogerfooger vst uses a digital delay line, filters, saturator(arctg saturation) and a softclipper to recreate the BBD delay line. The saturator give a nice warmth to the output samples (if the signal is driven). The softclipper (located in the feedback line) prevents the signal from reaching too high levels and prevents digital clipping. The filters affect the signal before and after being affected by the delay line (the dry singal is not affected), shaping the tone of the delayed signal.

It is possible to modulate the delay time using Lfo's with different shapes (Sine, Triangle, Saw up, Saw down, Noise). The rate and the aumont of the modulation can be controlled using the respective parameters. The classic moogerfooger S&H is replaced by a white noise generator that modulates the delay time creating noisy and chaotic effects.

An input saturator (arctg saturation whith oversampling) can be used to drive the input signal.

A led meter show the signal level (red if sig >=0dbfs, yellow if sig<0db AND sig>=-6db , green if sig <-6db)

Plugin Gui



Parameters:

Drive = input signal saturation

Cutoff = control the cutoff of the filters (short mode=3000Hz long mode= 17000Hz)

Time = 80ms to 800ms (Moogerfooger Long delay mod)

Feedback = provides control from no feedback to greater than infinite, a soft clipper controls the feedback level.

Waveform= Sine, Triangle, Saw up, Saw down, Noise

Amount = amplitude of the modulation signal

Rate = LFO rate from 0.1 Hz to 50 Hz

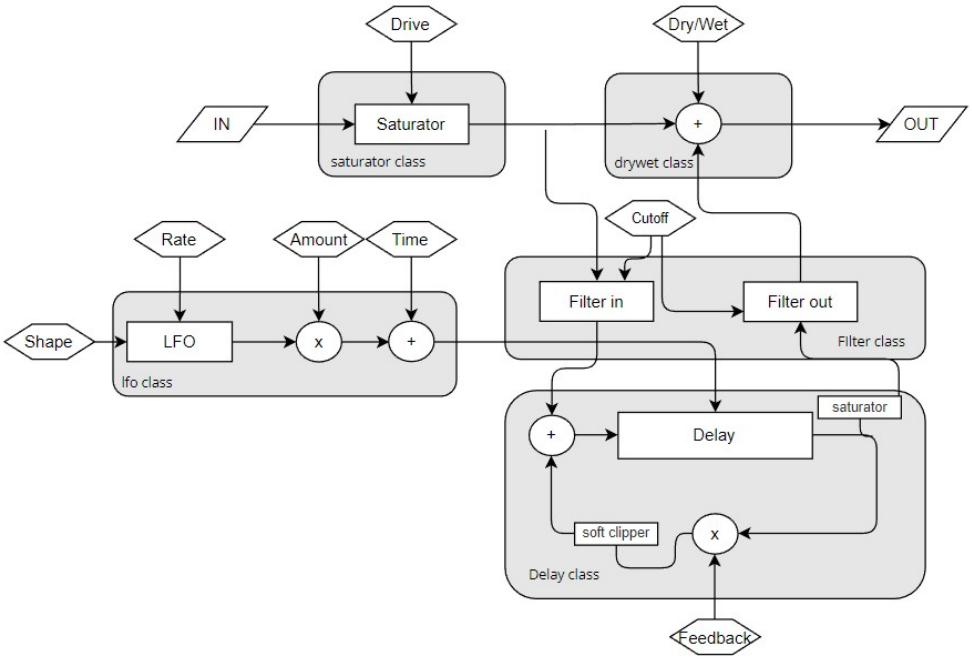
Drive = saturate the input signal

Mix = dry/wet

Dark/Bright switch = shape the tone of the delayed signal

Led = display level

Class Diagram



moogerfooger v1.0

coded at Lim UniMi

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