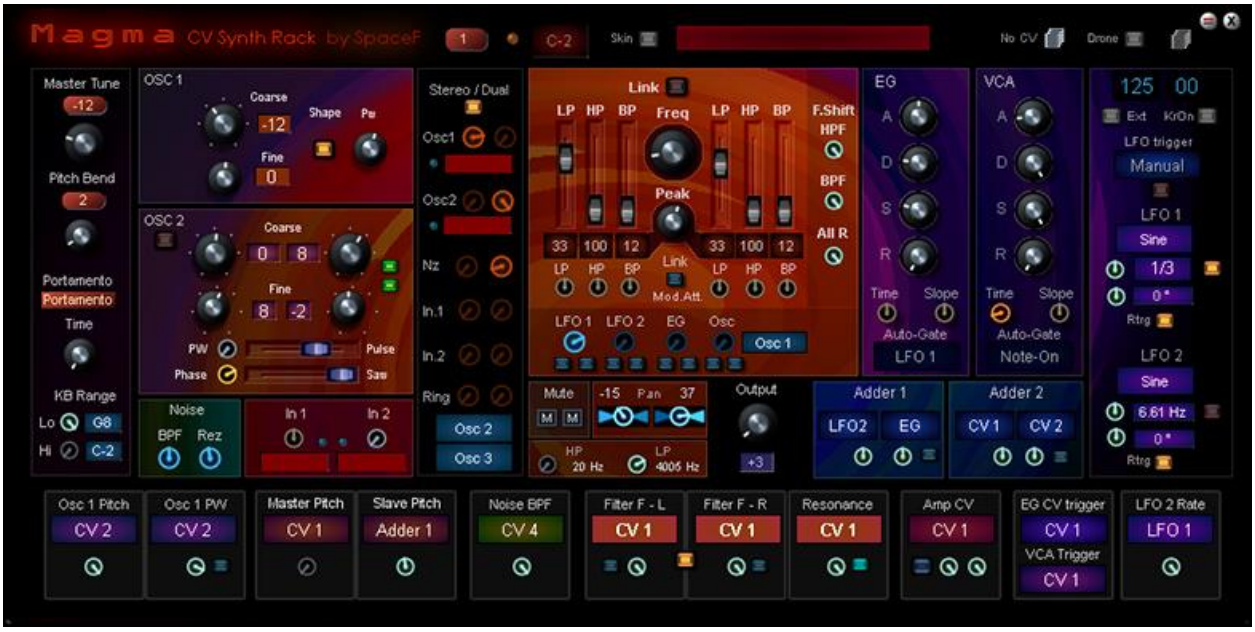
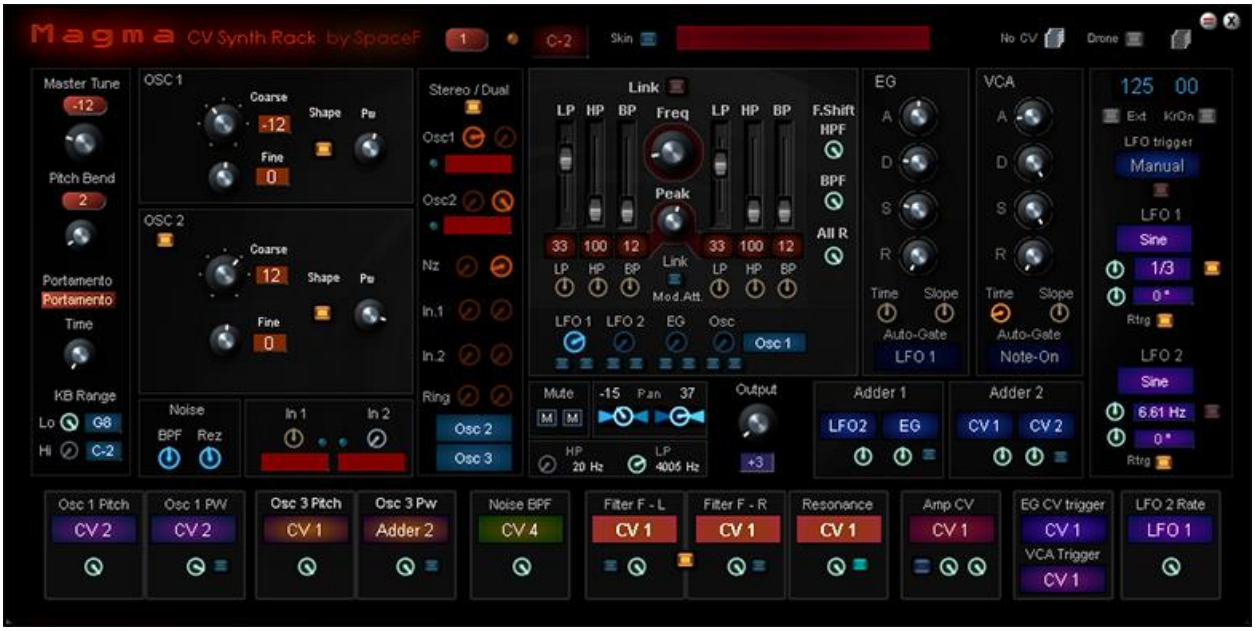
MAGMA





Semi-modular Scope CV synth

SpaceF-Devices 2018

INTRODUCTION

Magma is made to growl and to cut through the mix. Its main features are the oscillators and the filter, and of course the fact that it is made to work with external modulators and SpaceF KrOn.

Magma is

- Paraphonic up to 3 ways (all oscillators pitch can be modulated independently).

- Stereo or Dual Stereo: the stereo filter can almost be “cut “into 2 separate filters. However, contrary to “Spirit” where filters are truly independent one from the other, Magma filter are always “linked”’ in a way or another. It is what makes it fun to program on Magma: you don’t necessarily know where your ideas will lead you.

- Two oscillators with spectral Pulse Width: these are the only oscillators in scope where the pulse width has some harmonic content, hence the name “spectral”. It also has this “growl” when the pulse width is modulated, and even though it does not sound exactly like an analog oscillator, the sound is convincing enough.

- 1 synced-oscillator-pair. Pulse and saw oscillators, synced. They can be un-synced. Also, the frequency of the slaved-oscillator can be taken “pre” or “post” master-oscillator-modulation. For example, you can modulate the pitch of the master oscillator without affecting the slaved-oscillator pitch modulation. They become paraphonic. An application is to play different melodies through the pitch modulation of each of these oscillators. Please note that the tuning of the slave oscillator is always relative to the master oscillator. The “unsyc” of frequencies only refers to the pitch modulation of the master osc, and whether it will influence the slaved oscillator.

- 2 audio inputs allow using a stereo source, or several oscillators from Modular patch, Eurorack, or Daw track.

- Another fun feature are the insert fx “before the filter”, on the oscillators and audio inputs.

- The Magma Filter is also quite powerful. It is not only pile of stock scope atoms. Care has been put in the settings, internal tuning, and all that makes a filter efficient, easy to use, and great sounding.

Magma’s structure is very simple, but the fine tuning is deep…and easy.

OSC 1

Oscillator 1 is the spectral oscillator. When automating the pulse width, it has a “growl” that is reminiscent of famous vintage synths .

Oscillator 3 is the same the same as oscillator 1. Oscillator 3 is found in oscillator 2 (and this is not a joke).

OSC 2

OSC 2 contains oscillators 2 and 3.
OSC 2 refers to the channel of the oscillator mixer. Magma is primarily made as a “2 oscillators synths. OSC 2 allows to choose between two type of oscillators, which are themselves called “osc2” and “osc3”. It is not confusing in “context”, and the context is the Ring and Osc-Modulator selectors.

“OSC 2” in the oscillator mixer refers to the one you actually see in this section. The oscillator that is not seen can still be accessed through the ring sources or osc-modulator of the filter.

Oscillator 3 is accessible by pressing the button just under “osc2” label. Osc 3 is exactly the same as oscillator 1.

Oscillator 2 is a mix of Synced saw and pulse oscillators.

The two green buttons on the right allow to un-sync the oscillators, and to change the pitch source of the slave oscillator ‘pre or post master-pitch mode. When the master osc is not pitch-modulated, this button has no effect.

When the two green buttons are “off”, then the master and slave can be used as 2 discrete oscillators, with different pitch modulation each.

The faders at the bottom are the level of the saw and pulse synced oscillators. You can change the phase and pulse width to change the harmonic content of the oscillator

FILTERED NOISE

The Noise oscillator is a white noise with a 24dB resonant Bandpass.

You can modulate the Band Pass Frequency and the Noise Amp through CV modulation.

AUDIO INPUTS

Basically made to input 2 external sound sources such as oscillators from a Eurorack or Modular Patch, or Vsti Synth. A Mono effect allows to Equalize or apply effects before hitting the filters.

To use stereo content, and keep the stereo, Magma must be put in “Dual Mono” mode, and each filter side panned hard left/right.

RING OSCILLATOR

The ring oscillator can be found at the bottom of the oscillator Mixer section.

You can select any oscillator (1,2,3) including the Master and Slave of osc 2 separately. You also have access to audio and noise sources.

Ring Tip! When using the same sources in both slots, the resulting sound is close to the original. This feature can be used to listen to that oscillator that is hidden (osc 2 or 3) and have a third oscillator playing in the filters.

OSCILLATOR MIX

The Stereo / Dual button refers to how the filter is configured.

In stereo mode, all sources are sent to the filter which is modulated to create stereo effects.

In dual mode, the oscillators can be sent to either Left or Right channels of the filter, and each channel of the filter can be edited separately. That’s why 2 “osc send” appear when in Dual mode, in order to send what you like to either filter Left or Right, or both.

THE FILTERS

The "Peak" represent the maximum resonance possible. For example, in the above pic, LP is 33% of the peak pot, HP is 100% (same), and BP is 12% only (almost no resonance). The amount of "%" depends on the amount of "Peak". If peak is at zero, then there cannot be any resonance.

You can shift the frequency of the High pass and Bandpass filters, to create layers of frequencies. It is also used to achieve a particular "filter sound" that can sound very authentic.

The "Mod.Att." section allows applying different modulation level to each filter. Middle position is the reference, and you can add more modulation, or attenuate it. It is not possible to put the modulation at "zero", there is always something going on even at minimal values.

The section at the bottom is the level of internal modulators (2 LFOs, 1 EG, and various oscillator sources). You can inverse any modulation on L or R channels. When you inverse a modulator, the Frequency of the Filter (Freq) must also be changed in order to hear something. Stereo effects are achieved through the balance of modulation level and Freq. The "Shift" of HP/BP also has a dramatic effect on the type of modulations achievable.

FILTER MIXER

You can mute each L/R channel when you need to listen closely to one channel only.

You can pan only in Dual mode.

A final high pass and low pass filters allow shaping the sound further.

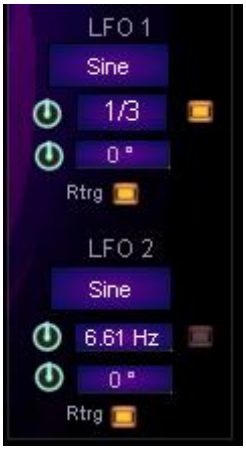
The output pot is a level attenuator (max is 100%, no gain added). You can then boost the final gain by 3 dB increments from 0 to +12dB.

BPM settings, LFO resync

Press "Ext" to use an external midi clock.
Press "KrOnSync" to use with KrOn.

The LFO triggers allow choosing between "note-on" and "manual". In manual mode, press the button to restart and resync all LFOs.

LFO 1 & 2



Make sure the Trigger buttons are “on” if you want to retrigger (on the picture attached, they are both off, ie, the LFOs are running freely and do not retrigger).

LFOs are classic SpaceF-LFOs (perfect sync with Daws).

Phase starts at -180° for saw up/down and at 0° for square, sine and triangle.

LFO 2 speeds can be modulated through CV.This CV input allows selecting LFO1 to modulate LFO2. The precision of the “modulated-modulation” has been limited in order to save resources, while being able to achieve something useable with most common LFO rates (from ¼ to 16 per cycle).

EG and VCA

EG goes to the filter. You can get EG modulation through the “Adders”.

“Time” is neutral at mid position. It divides all ADSR times by 10 when at minimum, and multiplies by 10 when at maximum.

“Slope” modifies the curve of the decay shape.

“Auto-Gate” allows to trigger EG and VCA with the internal LFOs, external triggers (Tg1 and Tg2 inputs) or even CV signals.

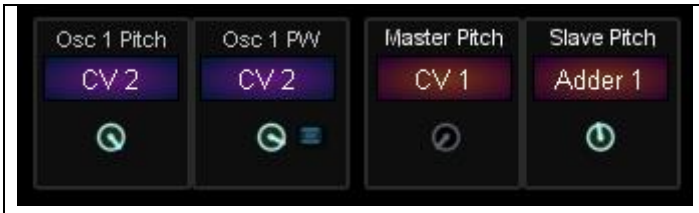
ADDERS

Allow to mix 2 modulation sources together. It includes the CV inputs and the internal modulators. The button at the right of one of the sources is an “inverse” button.

CV INPUTS

The CV selectors give access to the 8 CV inputs + the two adders.

OSCILLATORS CV



Not pictured; Noise BandPass Frequency CV.

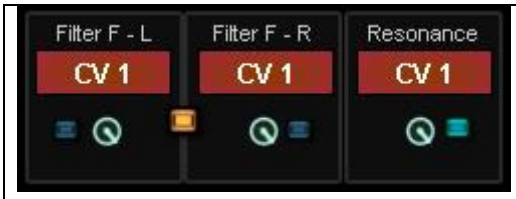
You can modulate the pitch of all oscillators independently, including each of the syced oscillators.

The settings for Osc 3 are accessible when Osc 3 is active.

Only Osc PW of osc 1 and 3 have invert buttons.

PW and Slave Pitch source selector give access to LFOs 1 and 2 directly.

FILTER CV



You can link or un-link the Left and Right Frequency of the filter (orange button). You can invert either L/R ide of the signal.

The resonance modulator uses a new circuit that is much smoother than the one used on Volcano and JunZ.

AMP and Triggers CV

The AMP CV is independent from the VCA envelope. You can modulate AMP even when in drone Mode.

It must be activated with the button. The next pot is the offset and the last one is the amount of volume modulation.

The EG and VCA trigger selectors are to be used only when EG and/or VCA have their Auto-Gate set to “CV”.

OTHER PARAMETERS

- A display allows showing the preset name of the main preset list.
- The No CV list recalls all parameters except the CV modulators.
- The “Drone Button” allows bypassing the VCA, and using Magma without a midi keyboard or daw.
- The “Dress” button allows changing between a black skin and Magma’s original orange flash skin.
- Classic **Master Tune**, **Pitch bend** and **Portamento** functions. K**eyboard range** allows to use Magma is a split configuration. The **Output level** is a mix level (- inf. to 0dB), and can be boosted up to +12dB.

Enjoy!