What's New in Strobe2

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i. Major new features
ii. Synthesis engine enhancements
iii. New modulation features

i. Major new features

Effects page

The Effects page provides 2 FX chains - FX A and FX B - each with 3 FX slots.

• 25 unique, high-quality FX devices can be used in these slots - many devices will be familiar to DCAM Synth Squad users from the Fusor environment, including classics like Amber Formants and Amber Chorus alongside DCAM compressors, drive and filtering.

• A variety of new devices is provided:

- • Several new EQ devices

- • Several new Amber Chorus models

- • Enhancer - emphasizes harmonics within an area of the frequency spectrum

- • Env Shaper - a transient-shaping tool

- • FX-Verb - a high-quality algorithmic reverb

- • Pattern Delay - a new delay for creating complex delay tap patterns

- • Nonlinear Ringmod - a modelled lo-fi ring modulator circuit

- • Phasemod Array - an FM oscillator that is modulated by incoming audio

- • DirtyDAC - a vintage digital-to-analogue converter model with a different sound to regular bit-crushing

• All effect sliders/rotary controls can be modulated via the TransMod system, monophonically with last note priority.

• The Effects page contains 2 Mix controls that can be modulated from the TransMod system:

Mix A: The blend between the output of the synthesis engine and the output of the FX A chain

Mix B: The blend between the output from Mix A and the output of the FX B chain

Arpeggiator page

The new Arpeggiator page contains an improved arpeggiator along with a modulation step-sequencer lane.

• The arpeggiator features independent Rate, Swing and Priority (in v1, Swing and Priority were shared with other parts of the synth)

• The built-in modulation step-sequencer lane can be used as a TransMod source and can also interact with the Arpeggiator in several ways.

Preset switching

A set of 8 'edit buffer' Quick-preset slots are provided, each of which hold a Strobe2 preset.

• These facilitate fast preset switching in real time via MIDI messages, very useful for live performance - any currently playing notes are not interrupted.

• Quick-preset slots are also useful for creating copies of a sound on which to program variations.

Preset morphing and freezing

Quick-preset slots feature optional morphing instead of fast switching.

• This is very useful for creating interesting transitions between variations of a sound.

• It is also possible to manually 'cross-fade morph' between 2 presets and 'freeze' mid-morph states as new sounds using a 9th Freeze Quick-preset slot.

• The Freeze Quick-preset slot features a History menu featuring sequential morphed states - this provides a multi-level undo to return to previous states.

Randomizer

A 10th Quick-preset slot is dedicated to creating random variations of a sound.

• The Randomizer pad allows morphing between the original sound and 4 randomly seeded variations - use the pad to 'explore' variations within it.

• The Randomizer Quick-preset slot features a History menu featuring sequential randomized states - this provides a multi-level undo to return to previous states.

Locks

Locks allow individual controls or groups of controls to remain unchanged during editing and preset-loading/ switching/morphing/randomizing operations.

• Individual parameters can be locked using the Parameter context menu (right-click on a control)

• The Lock menu features options for locking various groups of controls.

Voice engine improvements

• Strobe2's voice engine is completely overhauled to provide faster response, more accurate timing and tighter envelopes.

• It also features rapid oversampling switching - it is not necessary to restart the plugin to change oversampling settings.

Intel CPU Optimizations

Strobe2's engine has been optimized for Intel AVX and AVX2 instruction sets to take full advantage of the feature sets of recent generation i3/i5/i7 CPUs.

New interface

• Strobe2's futuristic new interface is purely code-generated and vector-based, meaning that it is scalable with no quality loss.

• The scalability of the interface makes it perfect for Retina, 4k and other high-resolution displays.

• 2 interface themes are provided: Dark (the default theme) and L.ight.

Redesigned browser

Strobe2's preset browser is completely redesigned - it is now visible at all times but can be switched off with a button when required.

Multidimensional polyphonic expression control

Strobe2 features a dedicated mode to support next-generation controllers with polyphonic expression such as the ROLI Labs Seaboard and Roger Linn Linnstrument.

Microtuning support for Scala .tun files

Strobe2 can now import Scala-format *.tun files for use in microtonal compositions.

New 900+ preset factory library

• The new 900+ factory presets provide a vast array of exciting, inspirational sounds.

• The vast majority are newly commissioned with an additional small selection of Strobe v1 patches revamped to take advantage of the new Strobe2 features.

• Strobe2 loads Strobe v1 presets - there may be very small differences due to slight differences in the synthesis engine. Strobe2 co-exists happily with Strobe v1 on the same system. Any Strobe v1 presets on the system can be viewed and loaded by activating the **Legacy** button in the Browser.

ii. Synthesis engine enhancements

Main Oscillator, Sub Oscillator and Noise sections

Phase Reset

When the **Reset** button is enabled in the Strobe2 Oscillator section, the phase of the oscillator is reset on every note-on that is received. This is useful when each note onset is required to be consistent rather than with free-running phase - the latter can lead to audible variation which can be undesirable for some sounds and musical styles.

Constant-beat detuning

With the **Cents** button deactivated, detuning (use of the Fine and Detune controls) occurs in Hz rather than in semitones, and is added after keyboard scaling has been applied. This means that oscillator 'beating' rates remain constant throughout the keyboard range.

Tone filters

The individual **Tone** filters within the main Osc, Sub-Osc and Noise sections adjust the spectral emphasis of each of these sections before they are mixed and fed into the Filter. These filters are shelf-style EQ filters for emphasizing or de-emphasizing higher harmonics in the signal before the more radical sculpting offered by the V.C.F. section.

Tone filters always track the keyboard so their effect is always consistent throughout the keyboard range, with the centre of the shelf's slope positioned 2 octaves higher than the osc's Pitch setting. Each **Tone** control itself sets the amount of gain (increase or decrease) for the keytracking shelf EQ.

Sub Osc Link

With the **Sub Osc Link** button activated, the Sub Osc is affected by the Main Osc's **Sync**, **Stack** and **Detune** functions. With the button deactivated, the Sub Osc tuning is not affected by these functions - this can be useful for heavily-detuned or sparkly sync sounds anchored by a solid, tuned sub foundation.

Sub Osc Octave range

Each of the sub-osc waveforms can now be set to the same pitch as the main osc or 1, 2 or 3 octaves below it using the **Octave** buttons.

Sub osc waveshaper

The **Shape** control adjusts a waveshaper function on the Sub Oscillator's output, providing more complex and harmonically rich sub osc tones.

Osc / Sub osc / Noise level faders

All level sliders now feature exponential response, leading to more slider resolution at higher level settings.

V.C.F. (Filter) section

Drive

This Drive control in Strobe2 is gain-compensated - as it is increased, the output level of the filter is reduced so that, while the timbre changes, the level stays constant. This allows the huge range of filter drive tones to be available without needing to repeatedly adjust the V.C.A. **Amp** parameter to compensate.

Leak

The **Leak** control allows an adjustable amount of the original signal through, mixed with the filtered output, simulating the effect of a bleeding filter circuit. It allows further timbral options even with the more complex filter **Mode** settings.

Smoother Mode transitions

Transitions between filter modes when adjusting or modulating the **Mode** control are now smoothed, meaning that it is now more viable to modulate between modes continuously.

iii. New modulation features

Sub LFO

• The LFO is now a Dual LFO, with a secondary 'sub LFO' which is derived by dividing/multiplying the main LFO rate.

• There is also a LFO+Sub TransMod source which mixes both LFO signals. This can provide some very interesting modulation shapes especially when modulating the Rate.

Ramp improvements

• The Ramp generator now features a Loop mode, which effectively provides a polyphonic saw-wave LFO. This can be remapped to arbitrary shapes using the Curve processors (see below).

• There is also a new RampTrans source in the TransMod system - this features a slewed version of the inverted Ramp- source, which is useful as an additional slewed decay envelope.

Double the number of TransMod slots

Strobe2 features 16 TransMod slots compared to 8 in Strobe v1.

Real-time modulation indicators on parameters and TransMod slots

Modulated controls and active TransMod slots now display animated modulation in real time.

Euclid modulation processor

The Euclid processor utilizes Euclidean geometry and a spring model to provide an interesting way of creating chaotic and complex modulation signals for use in the TransMod system. It can also be used as an X-Y pad (mapped to an external X-Y pad controller if desired) with adjustable inertia. It can process mono or poly TransMod sources.

Curve processors for remapping modulation (x2)

Strobe2 features 2 Curve processors which can be used for remapping a mono or poly modulation source to an arbitrary stepped or smooth curve with adjustable slew (smoothing).

KeyZone remapping for keytracking (x2)

Strobe2 provides 2 KeyZone editors for arbitrary keyboard tracking curve with which to achieve any type of response across the keyboard range.

ScaleNote+ modulation source

This new TransMod modulation source is very useful when used in combination with a Curve processor, allowing modulation to be varied per note in a 12-tone octave.