Lynx

VSTI Manual

Lynx is a subtractive/Phase Distortion synth with Drawable Waveforms and Stacked/Unison Oscillators.

Features

- 2 Drawable Oscillators with up to 7 voices each.
- 2 Drawable LFOs
- Phase Distortion
- A powerful Wave Editor with following functions and more:
    - FM
    - Harmonics
    - Random Wave Generation
    - Noise Generation
    - Add, Multiply
    - Cycle copy
- 2 ADSRs with adjustable slopes.
- Over 128 presets

Oscillators

Oscillator A and B can have up to 7 detuned voices each allowing to play up to 14 voices on one key. The **Reset** option allows to reset the phase of both oscillators and is useful for making sounds with a hard attack. With the **Mix** knob you can crossfade the amplitude of Osc A and B. You can also modulate it with and Envelope or LFO.

Phase Distortion

Phase distortion (PD) distorts the wave in a special way. When used with **Square wave** form you will get **PWM**. PD is useful for evolving chip style sounds. It can sometimes also be made to sound similar to a vibrato. Notice that Lynx PD doesn't work well with saw waves, but on any other wave it should work okay. With complex waveforms you can get interesting and almost formant like effects if you use modulation.

LFOs

Lynx has two LFOs of which LFO 1 is **polyphonic** and LFO 2 is **monophonic**. Both LFOs have 3 different modes:

- ON: Normal LFO mode
- Once: Envelope mode
- Step: Outputs a constant value that changes only on a new note
- Host: Syncs LFO speed to Host tempo

The **Attack** knob only works for normal LFO mode (ON). It would not make sense to use in the step mode. In Once mode it's also doubtful if it could be of any use.

ADSR Envelopes

Lynx ADSRs come with **adjustable slopes** for each stage. The knobs for adjusting curves are labeled **AC**, **DC** and **RC**. In the mid position they will be linear, while in the bottom position they are exponential which results in a curve in where the output signal steeps quite rapidly near the end. The max position will do the opposite.

Volume is linked to **ADSR A** but can be disconnected in the volume section with the Env ON/OFF button. Each note will still sound but without any adjustable envelope.

Filters

Lynx comes only with a 4-pole Moog filter.

Wave Editor

The wave Editor has many built in Functions to make it easier to create new waveforms. The **WAVE** button comes with many options to generate waveforms. And the Modify Switch has many choices for manipulation of the waveform.

Drawing

You can draw a waveform with your mouse in two different ways. First there is normal drawing by holding down your left mouse button. Then there is an alternative Drawing mode where you draw by **holding down shift and left mouse button**. This mode allows you to draw **straight lines** from one point to another.

Wave Button

Lynx can generate **basic waveforms** like Sine, Ramp Down/Up, Square, Triangle. There is also waveforms that are useful for **envelopes**, such as, Exponential and Logarithmic Down/Up. You can **set the curve or slope** of the Envelope waveforms **using the Amount knob.**

The **Arp waves** are useful for making Chip style arpeggios with the pitch modulator set to one octave range and max level.

The **Random Wave** option creates random waveforms with simple Additive generation. While the Sines option uses Additive Wave Generation that allows to set Number of Sines and also to the level of the added sines using the Nr field and Amount Slider. You can also use the Add noise option together with smooth to create even more random Waveforms.

Sines (NR + Amount) allows you to set number of sines in the waveform and how the amplitude decays on the sines after the fundamental.

Sines Copy (NR) is same as above but the amplitude of each sine is set by the waveform that was last copied.

Flat makes a waveform that is zeroed.

Modify

The **Modify** button usually modifies a waveform in many different waves.

First there is the **Harm** option that adds Harmonics, or copies of the waveform back to itself but at a different frequency. Using the Nr (Number) field you can set the frequency using positive integers. With the *Amount* knob you can set the level of the added waveform .
Add noise allows you to mix in noise to the current waveform. With Amount at maximum you get waveform consisting only of noise.

Copy, allows you to copy the waveform and it's the same as using the **Copy Button**. Both can be pasted on any waveform slot or any waveform slot of any preset. But the copy can also be used with the options that have Copy in the their name.

Add Copy and **Multiply copy,** takes the copied waveform (stored by the Copy option or button) and adds/Multiplies it with the current waveform. **AM Copy** is same as Multiply but the Copied wave is made positive.

Cycle Copy replaces a part of the waveform (in the time domain). The Amount slider will set the length of the copied waveform. When the amount is at max the copied waveform will completely replace the current. When the Amount slider is in the middle then the left side of the waveform will be taken from the Copy and the right part will be from the Current waveform.

FM Copy uses the Copy to Frequency Modulate the current waveform. The Amount knob sets the level of modulator (Copy).

Smooth applies smoothing over the whole waveform and the Amount knob determines the level of smoothing.

Smooth Loop smooths out the difference between the end and start of the waveform. Amount controls where in the waveform the smoothing ends.

Fade Start/End smooths the End/Start towards zero (on y axis). Amount controls where in the waveform the smoothing ends.

Reverse and **Invert** do what they say. ;)

Floor floors the waveform with the level of the amount slider.

Semi 1 / 2 Oct floors the waveform down to semitones. It's supposed to be used with the pitch modulation set to 1 or 2 octaves.

Normalize maximizes the amplitude of the waveform.

Clip clips the waveform with the selected amount and then normalizes it.

Undo removes the latest action on the waveform.

Modulation

Most modulators have a **positive and negative range** so you can do **inverse modulation**. When the knob is to the left of mid position the modulation is negative and at right it's positive.

Play Mode Section

In the top of the Play Mode Section You can switch to **Monophonic Mode** which only plays one note at the time. **Portamento** works only in monophonic mode. The **Env Reset** switch can reset the Envelopes (ADSR A/B or LFO 1/2) in Monophonic mode when playing overlapping notes.

The **Poly Mode** switch has three different choices that can be chosen to prevent clicks. For most sounds **Soft Steal** works best. **Hard Steal** or **Overlap** can be used to remove clicks on note on when using Reset together with a long release. (Usually on Waveforms like Triangle that don't start with zero amplitude)

MIDI Controllers

You can assign any controller to the any knob by **right clicking a knob** and choosing **Learn** or **Edit**. The assignment is not stored in any preset but is global for all presets. You can also assign one of the two controllers, **Mctrl 1 and 2** to any modulator slot. It will save MIDI Control modulation into a preset.

The **MIDI Keyboard Mode** (MIDI KB Mode) switch, allows you to select whether you prefer the **LFOs Level Mod** switch to be active. When it's off the Level of the LFO can not be modulated by a MIDI controller. When it's on the Level of the LFO is set by the MIDI controller only.

Installing

Copy Lynx.dll to your VST folder. If you have problems loading it **make sure that you allowed it to extract all its files**. If there is a folder called Lynx in the same folder as the Lynx.dll and there are files inside, then the installation should have been successful.

Currently Lynx is only available as a *32 Bit Windows VSTI.* A 64Bit version is planned but will not yet be available.

License

Lynx is **Free.**

You **can sell anything made with it**.

Lynx VSTI can be **distributed** freely but you are not allowed to sell Lynx.**dll** itself.

Xenobioz is not responsible for any damage or loss due to the use of Lynx VSTI.

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Credits

Lynx was made with Custom coded Modules in C++ and Synthedit. Lynx Head Logo was drawn by idfpower.

Big Thanks to Lee Louque, Antto, Andrew Ainslie, Mystran, Daz Disley, Jupiter 8, Jeff McClintock, everybody at kvraudio forums who gave feedback and anybody else I might have forgotten.

Version History

0.85 Changed the Sines Generator, to produce more useful waves.

Added Sines Copy(Nr) generator which uses copied waveform for decay of harmonics.

Curve Amount can be set now on “Exponential/Logarithmic Down/Up” in Wave Editor.

Added AM Copy Modifier. Same as Multiply but the Copied wave is made positive.

Negative Filter Keytracking.

Some minor fixes.

0.8 Added Tempo Sync for LFO, Fixed Undo Paste and Paste Empty bugs, Changed color for waveforms.

0.71 Removed DC offset

0.7 Initial Public Release