

Lynx

VSTI Manual



Lynx is a subtractive/Phase Distortion synth with Drawable Waveforms and Stacked/Unison Oscillators. The custom waveform generator allows for a great range of sounds from screeching basses to soft pads.

Features

- 2 Drawable Oscillators with up to 7 voices each.
- 2 Drawable LFOs
- Phase Distortion
- A powerful Wave Editor with plenty of wave generation and wave modification options.
- 2 ADSRs with adjustable slopes.
- Over 1000 categorized presets accessible from a single menu!

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 an Envelope or LFO.

Phase Distortion

Phase distortion (PD) distorts the wave in a special way. When used with a **Square wave**

it will produce **PWM** (pulse width modulation). On other waveforms the results can range from screeching growls to subtle vibrato-like effects.

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 **Normal drawing** which is done by holding down your left mouse button. If possible use a high DPI (Slow) mouse setting especially on the 32-bit version. The **line drawing** mode allows you to draw **straight lines** from one point to another. Hold down **shift** and **left mouse button** for the line mode.

Wave Button

Choose from many different and sometimes customizable waveforms with the wave button. First there are **basic waveforms** like Sine, Ramp Down/Up, Square, Triangle and special ones like **Fibonacci**, **Primes** and **Metallic**. Also **envelopes**, such as, Exponential and Logarithmic Down/Up. You can **set the curve or slope** of the Envelope waveforms **using the Amount knob**.

Voxel is for very crude “vocal” synth and “formant-like” sounds. Use with Phase Distortion for robot-like “yoy” sounds. For synth “vocals” use multiple detunes with no PD. Sounds best on low notes. Voxel uses the **Nr field** to set the amount of **harmonics**. **Nr field must be at least 10** for it to work! **Amount** controls the “**resonant character**” of the sound.

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.

Additive Copy Amp (Nr) same as above but the amplitude of each sine is set by the waveform that was last copied using the wavepoints starting from left.

Inharmonic Copy(Nr+Amount) Same as above but allows to shrink the distance between the harmonics creating a wave based on inharmonic windowed frequencies.

Nth Harmonic (Nr + Amount) Creates a waveform by adding sines and uses Nr to choose how many harmonics are skipped before the next harmonic. Amount sets the total number of harmonics.

Nth Randovertone (Nr+Amount) Same as above but the frequency of each overtone is slightly randomized, resulting in inharmonic overtones (windowed).

Random Lines makes waveforms by drawing a random amount of connected lines,

Random Segment draws random lines with different slopes that go from max to min or min to max to create sequence like waveforms.

Binary Noise creates a waveform of random max and minimum values.

Arp(Nr (Notes)) Is useful for making Chip style arpeggios with the pitch modulator set to one octave range and max level. Notice that this method is just a hack resulting in a poor implementation. The **Nr** field is used to set the notes in the arpeggio. 1 is the lowest note. For note pitch 11 use 20 for note pitch 12 use 30. A sequence of notes is entered as a string without any separation between characters. **Only 8 characters are supported!** More characters will result in wrong notes. 30 and 20 count as two characters! Example: 14730. Four note major arpeggio with an extra root note one octave higher.

Flat makes a waveform that is zeroed.

Modify

Modify button is used to modify a waveform in many different waves.

Harm option 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 will give result in normal harmonics. Using float values will result in inharmonic overtones. With the *Amount* knob you can set the level of the added harmonic/overtone.

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/Ends 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. ;)

Lower Resolution 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.

Phase changes phase of the waveform with the amount knob.

Remove DC centers the wave.

Add Sine (Nr + Amount) Adds a sine wave to the wave form. Nr sets frequency of added sine. Amount sets it's amplitude

Bandlimit (Amount) removes high frequencies where the amount knob sets the cut-off point.

Lower Amplitude uses the amount knob to set lower the amplitude.

Symmetrize doubles the frequency of the wave form and then inverts the second part

Rectify turns the negative part of the waveform positive and the centers and normalizes

the wave.

Phase Distort (amount) Allows band-limited non-modulated phase distorted waveforms.

Set Sample Value. Set the amplitude with amount knob of chosen sample number. Useful together with Additive Copy for setting each harmonic.

Undo removes the latest modification 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 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.

Midi Keyboard Mode (hereafter referred as MK-Mode) is used for being able to choose how LFO levels are controlled. If the Mode is off then the LFO has a constant Level and the **Attack knob** sets fade in time of the LFO. If MK-Mode is on and the **Lev Mod** switch of the LFO is **not off** then the LFO level is set by one of two available controllers.

The **preferred MIDI controllers** (hereafter MC) can be set by the switches labeled **MCtrl1** and **MCtrl2**. Each controller can be set to **Aftertouch**, **Mod wheel**, **Breath controller** or **foot pedal**. To assign a preferred MC to a parameter use the parameters Mod slot. Notice that for the **LFO levels** the preferred MC is set with **Lev Mod** switch. If the MK-Mode is off the Lev Mod switch will also be off. Other parameters controlled by the preferred MC will not be effected by the MK-Mode.

The preferred MC source and MK-Mode are permanent settings and not stored in any presets. The Preferred MC destinations are stored in every preset. This allows a sound designer to select which parameters in a preset are modulated by the midi controllers. The user can choose his preferred controller for those assigned modulations.

Preset Browser

Lynx comes with **over 1000 presets**. The **64-bit** version has a **built in preset browser** located at the bottom of the GUI. After **importing** all the **xmlpreset banks** the user can access all presets from a single menu. The presets are sorted in to different categories to simplify finding the sound you want. It's possible to import new banks with presets that will

then be added to the preset menu. The 64-bit version supports both xImpreset and vstpreset formats. You can access imported presets by clicking on the **SELECTOR** button at the bottom. You can also use the small triangles next to the SELECTOR button to scroll through the presets.

Saving Presets

When saving presets using the built in save feature of Lynx you need to edit the name field of the preset before saving. Otherwise the preset name will not change to the name of the saved file. Using the **built in save feature** to save vstpresets will always make the **category set to user**.

The xImpreset format allows setting your own category and storing sounds in a bank. It's also easier to modify outside Lynx. Please try to **always save a backup of your personal presets**. Use the xml format and use a separate folder.

Installing

Lynx is currently available as 32-bit VST2 or 64-bit VST2 and VST3. Be aware that the VST2 and 32-bit versions might become unavailable in the future.

Lynx 64-bit (VST2)

Copy all files from the Lynx64 folder to your VST folder.

Open Lynx in your host or DAW.

You can use the **LOAD/SAVE** button at the right bottom to **import** the **xmlbank** inside the Lynx64 folder. The presets will be stored under *Documents/VST3 Presets/Sami.../Lynx* in *vstpreset* format.

Lynx 64-bit VST3

Copy all the files from the LynxVST3 folder to your VST3 folder. Import presets like described for the 64-bit VST2 version above.

Lynx 32-bit

Copy the Lynx32 folder to your VST folder.

Copy the Lynx Manual to where you want.

Open different banks using your hosts or DAWs preset loader.

Updating from pre 1.03 Lynx - x64 versions

Presets from earlier versions than 1.03 need to be updated. If you have made your own, try loading them first. Then save them again to update them. If you don't update your presets they will not display the correct name when loaded in lynx. **Please backup your presets** and then wipe the **Lynx** vstpreset folder. Then re-import the banks.

New presets for version 1.04

The main bank has been slightly updated in v1.04. If you have **backed up all your personal presets** you can delete the presets from the **Lynx** vstpreset folder. Then re-import the main bank from within Lynx. You can just import the new presets for v1.04 if you don't want to mess with your **Lynx** vstpreset folder.

License

Lynx is **Free** and you are free to use it in anyway you want. You can sell everything **you have made** with it, including presets you have made, sounds you have made or music you made with it.

You are **not allowed** to **sell any version of Lynx.dll, Lynx.vst3**. The same applies to included **presets** and other files included in the Lynx archive.

You are **not allowed to distribute** the **Lynx.dll** or Lynx.vst3 or any of the contents from the archive you have received **from Patreon**.

Non patreon versions of Lynx VSTI **can be distributed** freely including it's contents.

Xenobioz and the people behind Lynx VST are not responsible for any damage or loss due to the use of Lynx VSTI.

Patreon and supporting of Lynx development

Please support xenobioz on [patreon.com/xenobioz](https://www.patreon.com/xenobioz). Patreons will get updates before others and other benefits.

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<http://www.kvraudio.com/> (user name xenobioz)

Credits

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

Big Thanks to Elena, 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

Updates **after version 1.01** are for the **64-bit versions only**.

1.05 Added Loop fit FM Modifier

Fixed LFO Reset

Host presets browser support

No more patreon updates but,

New presets available on patreon

1.042 (For Patreons) DC-Remover at wavetable level

1.041 First Patreon only update

Continuous waveform display. Useful for high frequency waveforms

1.04 Fixed Scrolling through Presets bug
Fixed sound on low A and pitch modulation
Fixed Center+Normalize
Fixed Additive copy, and more
Tidied up and organized the wave and modify menus
Made startup preset to an init preset
Added Binary Noise, Metallic and Voxel waves.
Added Phase Distortion Modifier
Added Set Sample Value
Added copy Nth Sample

1.03 Preset browser fixes. Requires updated presets!
Harm Modifier can use non integer values
MIDI Keyboard Mode fixes
Improved drawing
Fixed crash when drawing with shift key
Fixed Fade End/Start and added Fade Ends
Fixed Smooth Loop and Smooth
Increased FM Copy Resolution
Added Symmetrize and Rectify modifiers
Added Fibonacci and Prime Waves

1.02 Fixed missing runtime bug
Fixed labels.
Fixed detune arrow pointing direction
Merged Modules and xmlbanks

1.01 Preset browser for the 64-bit version

1.0 Improved sound quality on high notes
bandlimit modifier added
Increased note range

0.88 xmlpreset loader for 64-bit version.
Add Sine Modifier.
768 presets included
Added Random Arp Waveform
Removed old Arp waveforms
Added arp generator
64-bit release (based on 32-bit 0.875 version)

0.875 Added more presets for a total of 512 presets in four banks
Added random line waveform
Added random segment waveform
Added Nth harmonic waveform
More possible waveforms in random waveform generator
Fixed click in osc mix with limit exceeding modulation
Changed from mono to stereo output
Fixed Velocity and MC2 modulators
Added dotted and Triplet Time to LFO Host Tempo mode

Waveform Modifier - DC remover
Updated GUI

0.87 Fixed only 16 presets
Fixed Lynx GUI not showing

0.86 Added in Wave Editor Modifier: LowRes, Multiply Abs Copy.
Changed from right click to double click for Wave Editor Amount knob reset, right click chooses reset position. Pitch knob also uses double click to reset.
Fixed a bug with low/high pitches.

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