



MANUAL + USER GUIDE



Obligatory Legal Stuff

Thank you for downloading this creative Max for Live device!

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V2 Change Log

v2.1

X-Filter: Revamped GUI, revitalized Phasebank filter, Tilt control, envelope follower, rate quantization, and output clipper

X-Verb: New Shift and Space circuits, improved panning, and output clipper

X-Tonal: Improved algorithms, six new oscillator types, and output clipper

X-Delay: New Brigade circuit, improved width, and output clipper

X-FM: Improved GUI, five new oscillator types, and output clipper

X-Resonator: Noise circuit with three models, and output clipper

X-Pressor: Improved gain reduction, GUI, and output clipper

X-Torsion: New AM distortion circuit, and output clipper

X-Comb: Improved GUI, comb gain, output clipper

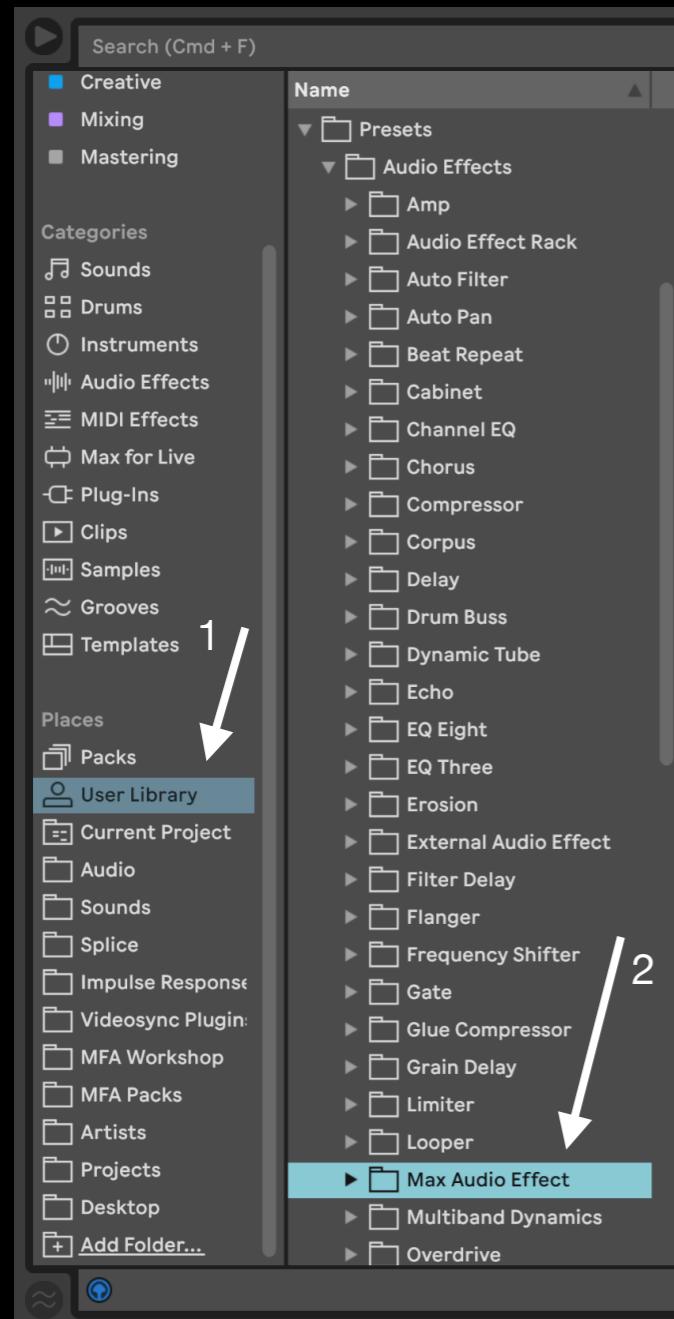
X-Harmonizer: Improved gain-staging, cent/semitone pitch shift toggles, and output clipper

X-Form: Added optional output clipper

X-Divide: Bug fixes



Installation Instructions



X-FX requires Live Suite with Max for Live installed; we strongly recommend Live 12.2 or higher with Max 9.0.5 or higher.

To install X-FX, first double-click to decompress the ZIP archive it arrived in. Presumably you've already done this, because you're reading the manual, also included in said ZIP – good job!

From Finder (Mac) or Explorer (Windows), drag the entire MFA X-FX folder to the User Library in the Places section of Live's Browser (Arrow 1 pictured left). This will copy the required files to your User Library. We recommend dragging it to the Max Audio Effect subfolder of the User Library Audio Effects folder (Arrow 2 pictured left).

In order for the included presets and racks to function properly, it's important the included folder structure remain intact, so wherever you place it, be sure to drag the entire folder together.

Once installed, we might humbly suggest adding it to an appropriate Browser Collection, if applicable.

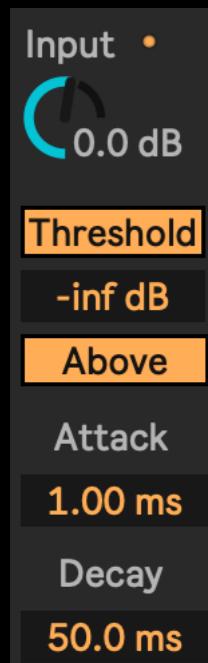


Overview

Designed to enhance harmonic coherence and provide new approaches to signal processing while enabling interactions between otherwise unrelated musical elements, X-FX is comprised of 13 Max for Live audio effects.

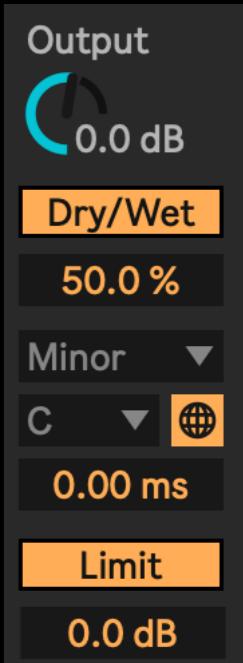
In addition to highly flexible synchronized timing controls, each effect can be controlled melodically with a MIDI note dial or played via X-Relay or native MIDI input. Better yet, when played in a harmonic mode, they can be constrained within 69 scales in any key. The scale and key can be selected locally within the device, via the Global Hub utility that comes bundled with it, or by default, using your project's scale and key in Live 12 or higher. All applicable X-FX now also feature an octave control for expressive real-time control.

Tuned comb filtration, FM, delay, bit reduction, multi-mode filtration, flexible modulation, resonation, reverberation, and harmonization are all within your grasp. Time-based effects such as X-Pressor, X-Delay, and X-Reverb can be controlled with a highly-flexible base rate, multiplier and divisor combination, allowing for new levels of rhythmic precision and alignment.



This is the input section featured on all X-FX devices. Each device can be configured so that only signal either above or below a specified threshold amplitude or crossover frequency will be passed to the effects. This allows you to just punctuate the peaks of a signal smoothed with attack and decay times with your chosen effect — or only apply processing to signal below a certain frequency.

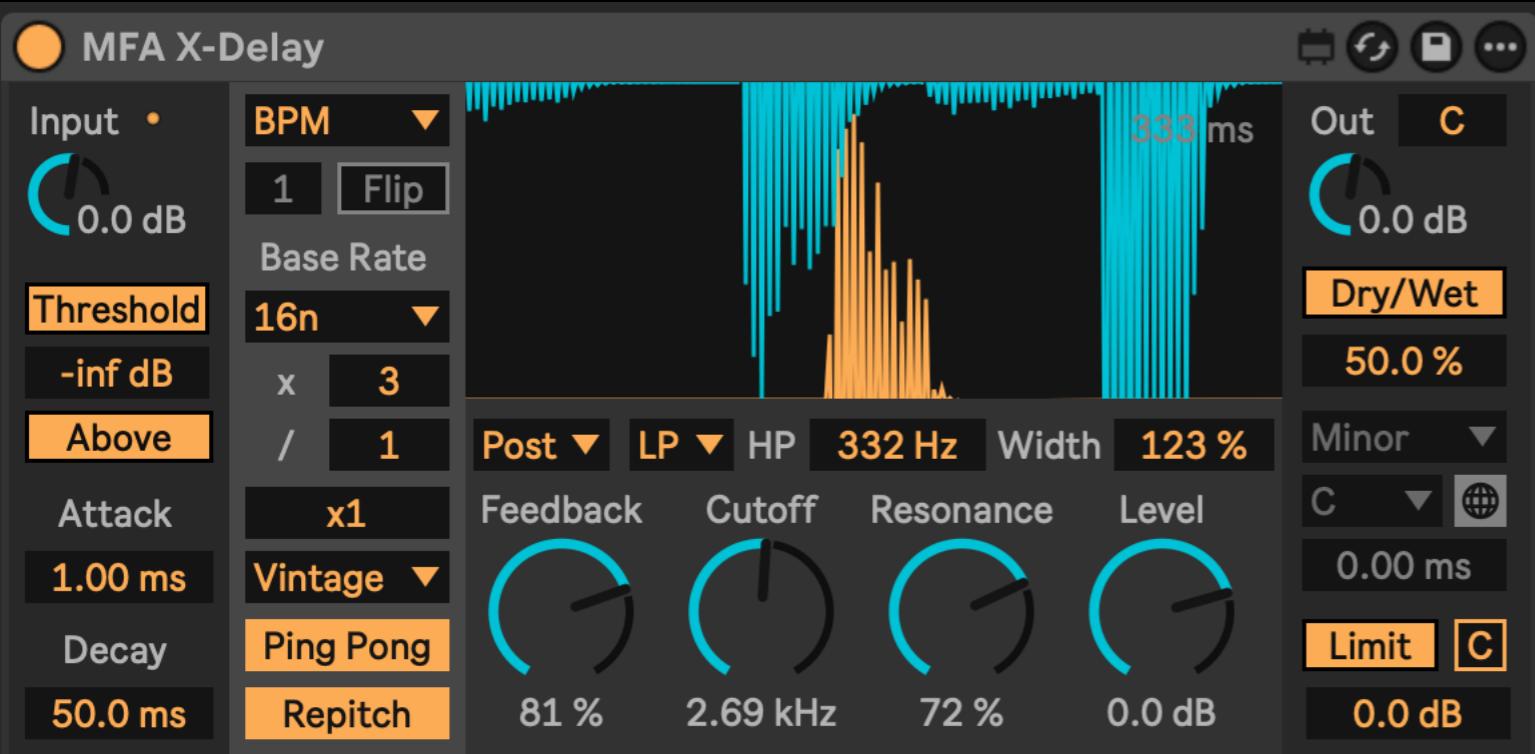
Here is the output section featured on all X-FX devices. The effected signal can be balanced with a standard dry/wet blend, or set to a unique interpolation mode where signal is toggled between the dry input and current wet setting whenever it exceeds the specified input threshold level. This is also where you set the scale and key of the effect in applicable modes, whether it's controlled globally or locally, and a glide time between MIDI note values when using notes mode for smoother value changes. Each effect also comes with optional built-in limiting for sonic safety.



X-FX

X-Comb & X-Delay

X-Comb provides comb tooth filtration with both feedback and feedforward. It can be controlled with a MIDI note dial, pure millisecond timing, or played via incoming MIDI note and then transposed in Relay mode, all with optional stereo detuning. Along with dedicated effect panning, redesigned interface, and efficiency improvements, v2 comes with two comb filtration algorithms available: classic and modern – plus a new gain factor control



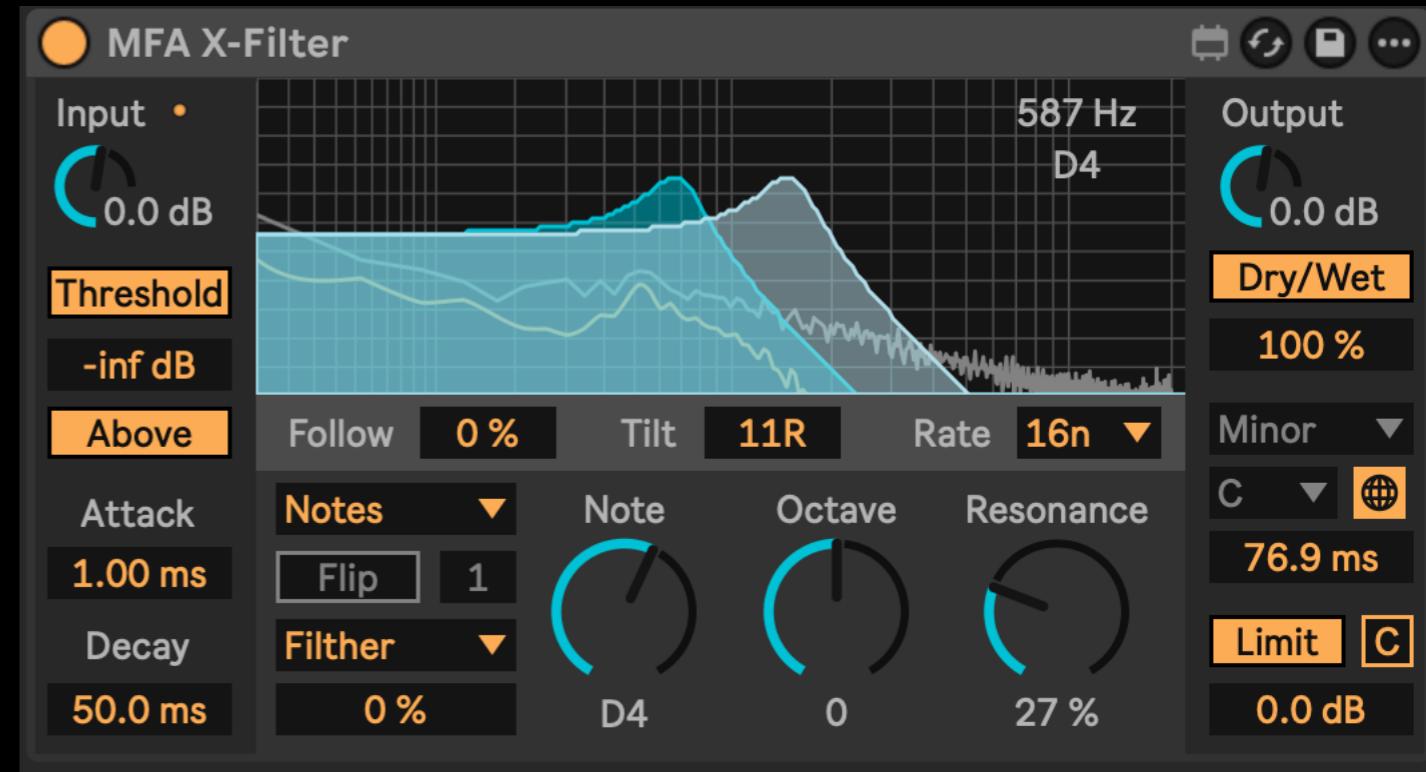
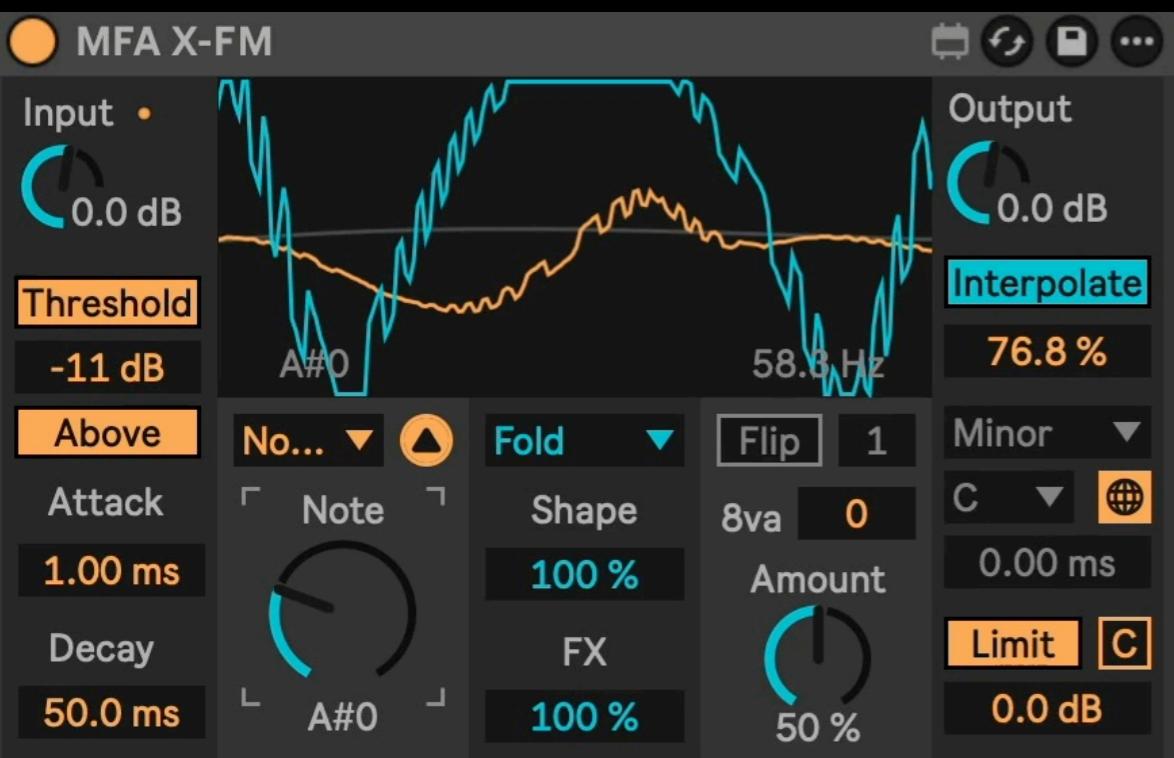
X-Delay is a flexible, multi-function digital delay with built-in filtration and extreme feedback options. Delay times can be controlled in MIDI notes, milliseconds, BPM rates, or played via incoming MIDI note and then transposed in Relay mode. In addition to a redesigned interface, a dedicated high-pass filter circuit, effecting line panning, and efficiency improvements throughout, v2 comes with three delay models: revamped Classic, for similar behavior to v1, a Modern digital delay, a Vintage dub delay, and a new Bucket Brigade modeled circuit as well. Delay times can be doubled, halved or changed in octave, while MIDI and Relay input can be quantized to a specified metric interval.

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X-FX

X-Filter & X-FM

X-Filter offers classic resonant multimode (Low Pass, Band Pass, High Pass, or Notch) filtration controlled by MIDI note dial in Notes mode, frequency in Hertz mode, or MIDI note input with transposition in Relay mode. Along with a redesigned interface and efficiency improvements, the version 2 comes with four new filter circuit models: DFM with pre-gain, Filther with drive, multi-notch Phasebank, and Vowel with morphing control. It also offers optional envelope following, rate quantization, and stereo cutoff tilt control.

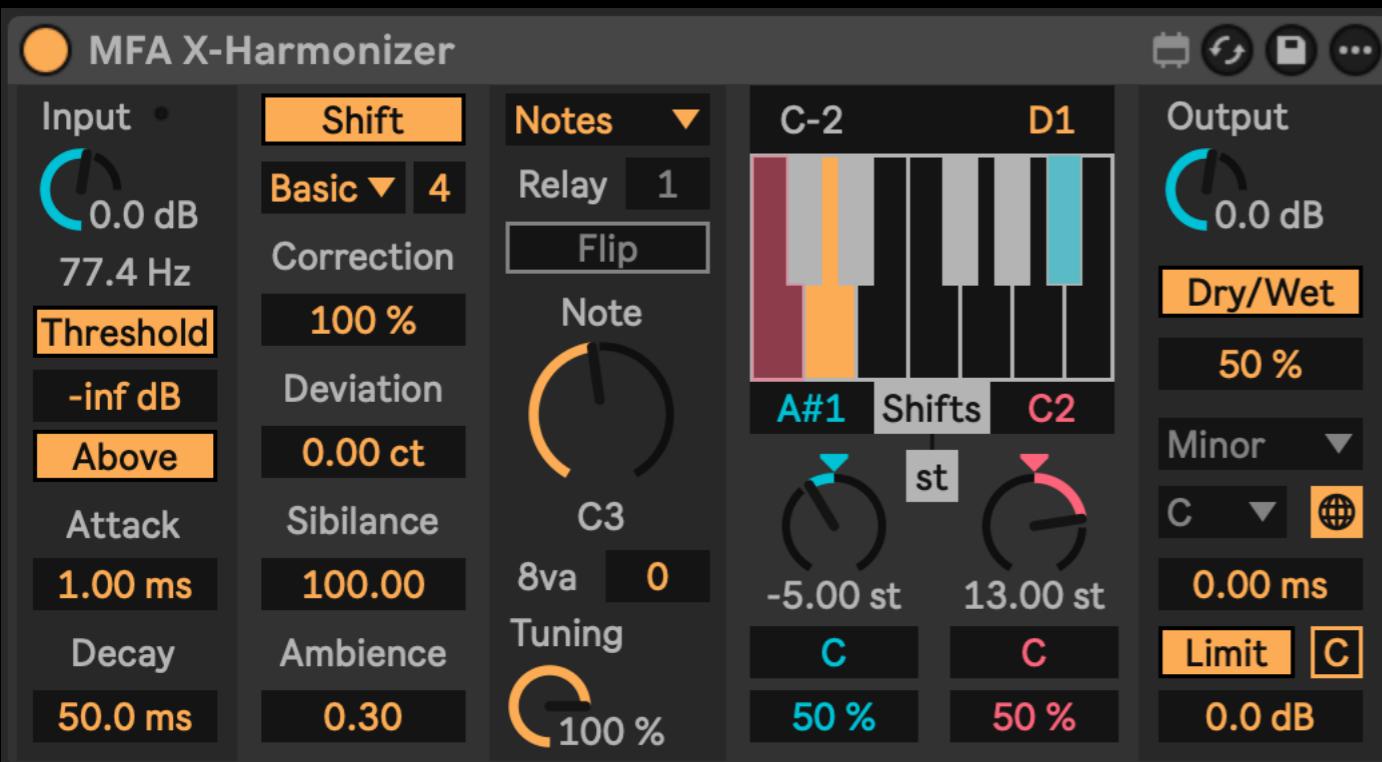


X-FM allows you to apply frequency modulation to any signal with a selection of oscillators — Sine, Saw, Pulse, Triangle, Noise — to modulate its own frequency (Self), or harness any other signal in your project as an FM source (External). Aside from Noise, Self, or External modulation sources, oscillator pitch can be set via MIDI note dial in Notes mode, frequency in Hertz mode, MIDI note input with transposition in Relay mode. In addition to a redesigned interface, v2 comes with efficiency improvements throughout, while v2.1 brings all-new carrier oscillators, each with Shape and FX controls: Waves, FM, Fold, Fifths, Swarm, and Inject.

X-FX

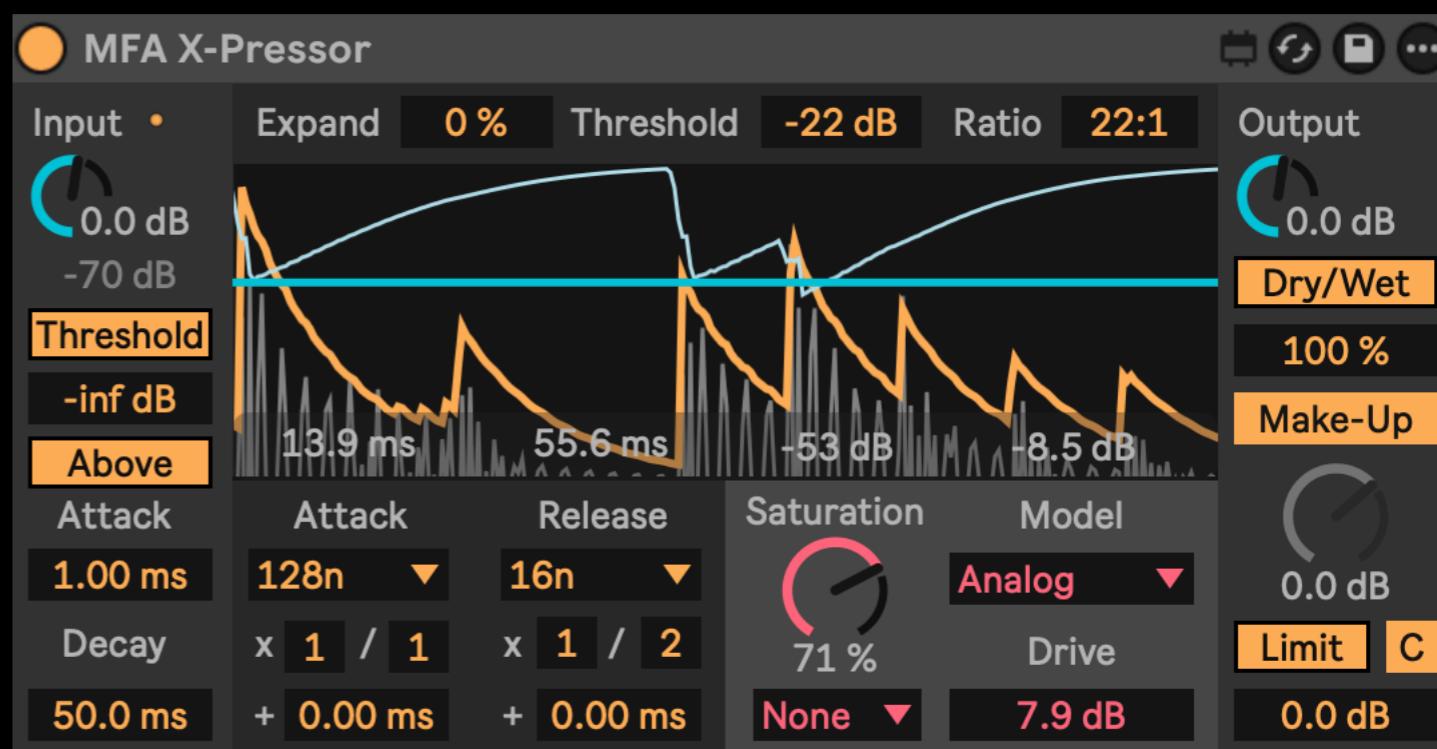
X-Harmonizer & X-Pressor

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X-Pressor offers tempo-synchronized dynamics control: attack and release are both governed by base rate with multiplier and divisor controls along with an optional millisecond adjustment. Along with standard optional input gating (or crossover) and output limiting, a pre-compression expander and post-compression saturator make X-Pressor a one-stop dynamics processing powerhouse. v2.1 brings improved gain reduction and make-up algorithms, GUI enhancements, and additional metering displays.

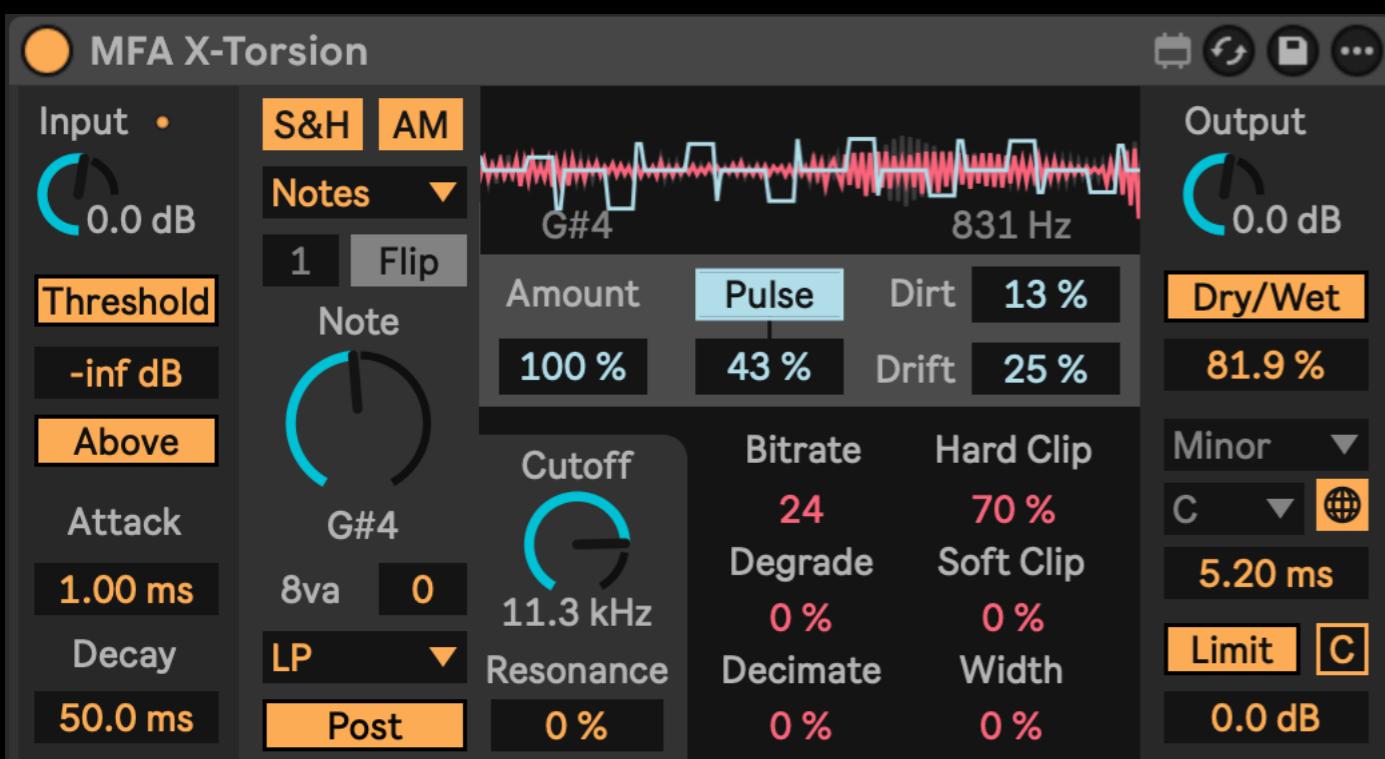
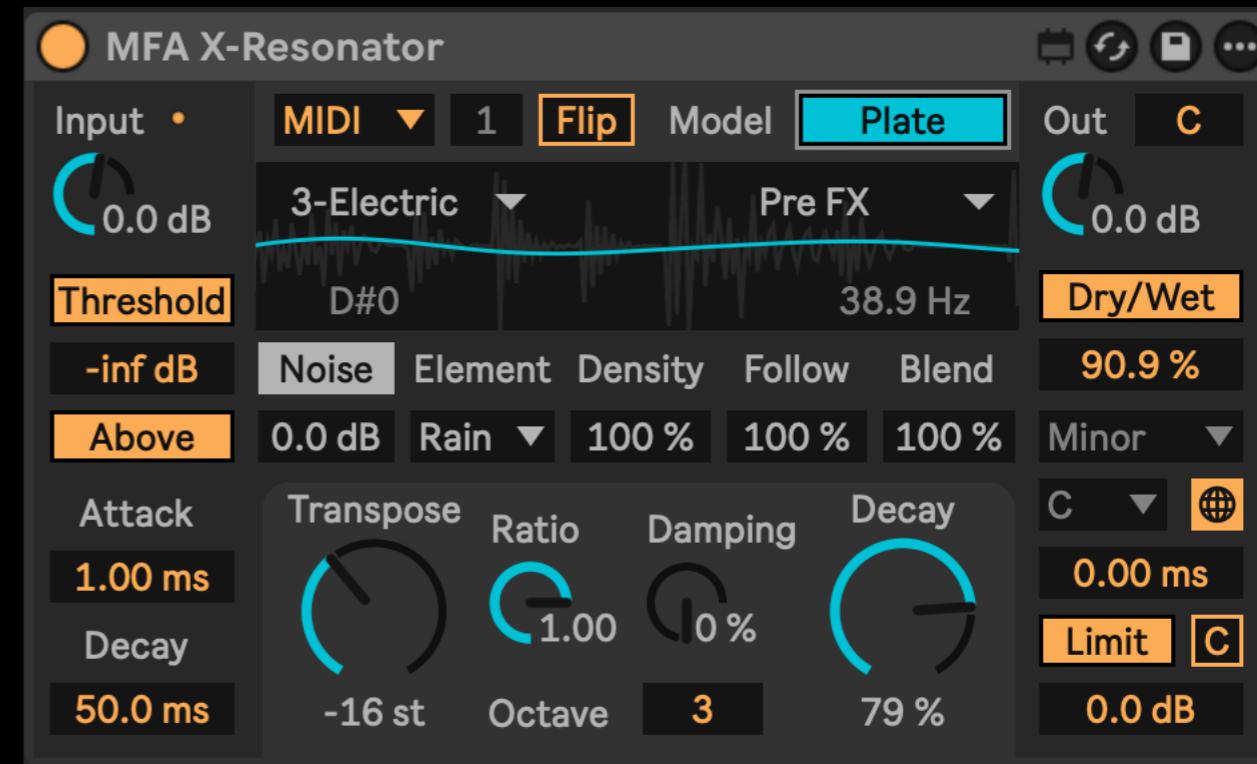
X-Harmonizer allows you to autotune or shift incoming signal pitch within a selected scale and key. Along with advanced tuning settings, it also features a pair of optional harmonizer shifts that can be panned, blended, and detuned, while also conforming to the selected scale and key. With Tuning at 100%, processed signal will be fully retuned according to its settings — but this can induce some latency, which can be addressed by compensating via track delay. Along with efficiency improvements throughout, v2.1 comes with a fully redesigned interface, while v2.1 introduces cent or semitone pitch shift control toggles.



X-FX

X-Resonator & X-Torsion

X-Resonator is a scale aware physical modeling resonator with two models: Plate or Membrane. Control decay time, harmonic ratio, and high-frequency damping to tame the treble. The resonator can be panned independently and controlled with scale aware MIDI note frequency, raw Hertz values, or via MIDI notes using the bundled X-Relay - with octave control available in all three modes. New in v2.1 it gets a dedicated Noise excitor with three element models, density, and envelope following.



X-Torsion is a multifunction digital distortion effect, featuring sampling distortion, bit reduction, stochastic decimation, downsampling, and separate hard and soft clipping circuits. These pass through a dedicated multimode filter bank with stereo exaggeration. In addition to a redesigned interface, v2 comes with efficiency improvements throughout. A new amplitude modulation distortion circuit arrives with v2.1 for added filth with pulse or saw waveforms, dirt, and drift controls.



X-Verb & X-Form

MFA X-Verb

Input • BPM 1n 7.11 s Out C 0.0 dB Dry/Wet 50.0 %

0.0 dB Base Rate 1n 4 / 1 Bloom 25 % Post LP HP 800 Hz

Threshold -inf dB Above x 1 / 1 Size 79.9 % Cutoff 3.81 kHz Resonance 23.6 %

Attack 1.00 ms Pre-Time 0.00 ms Feedback 50 % Shift +12 st

Decay 50.0 ms Fade In 23.0 % Mod 0 %

1.07 s 0.0 dB Freeze In

79.9 % 3.81 kHz 23.6 %

0.0 dB

X-Form is an all-in-one answer to harmonically synchronized modulation effects. Select from Chorus, Doubler, Ensemble, Flanger, Phaser, Ring, and Vibrato, each with unique parameters - and control with flexible synchronized rates, raw millisecond or hertz timing, scale aware MIDI note dial, or real-time MIDI notes via X-Relay. Each mode comes with a unique visual form that responds to the current rate and gain; toggle the animation off for moderate processor savings.



X-Verb is a potent algorithmic reverb with built-in feedback circuit and multimode filtration. Reverb decay time can be set in MIDI notes, milliseconds, BPM synchronized intervals, or transposed from note pitch input via Relay. In addition to a redesigned interface, a dedicated high-pass filter circuit, and efficiency improvements throughout, v2 comes with tail panning, BPM-synchronized fade time octave control, and two reverb models: Legacy for previous behavior, and Modern. The latest version introduces the Bloom and Space circuits, with Freeze input.

MFA X-Form

Input • Notes 1 Chorus 0.0 dB Output -15 dB Dry/Wet 50.0 %

0.0 dB Relay 1 Flip Note -inf dB Minor C

Threshold Above Gain Animate

Attack A#0 8va 0 Depth X Feedback Warmth

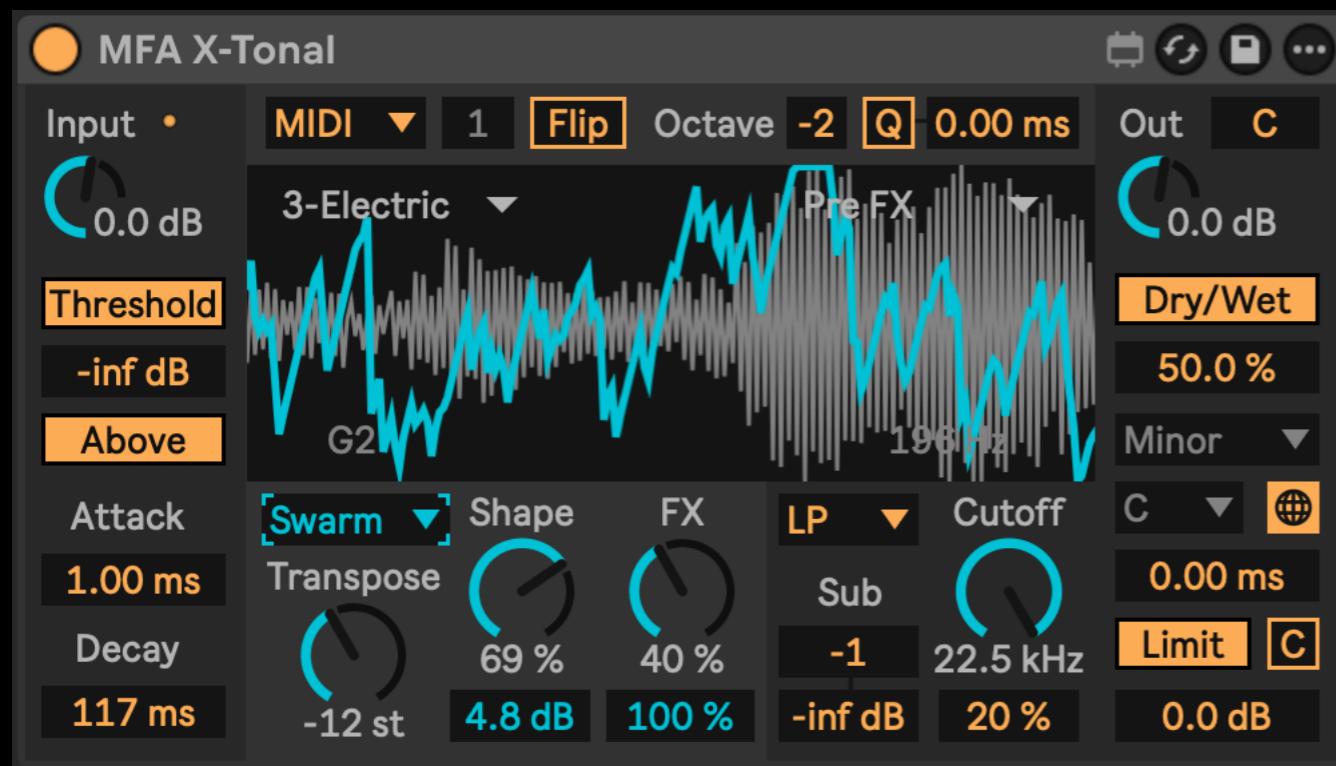
Decay 1.00 ms 50.0 ms Decay 50.0 % 83.1 % 33.5 % 79.1 %

50.0 ms Width + 0.0 dB Limit C

X-FX

X-Tonal

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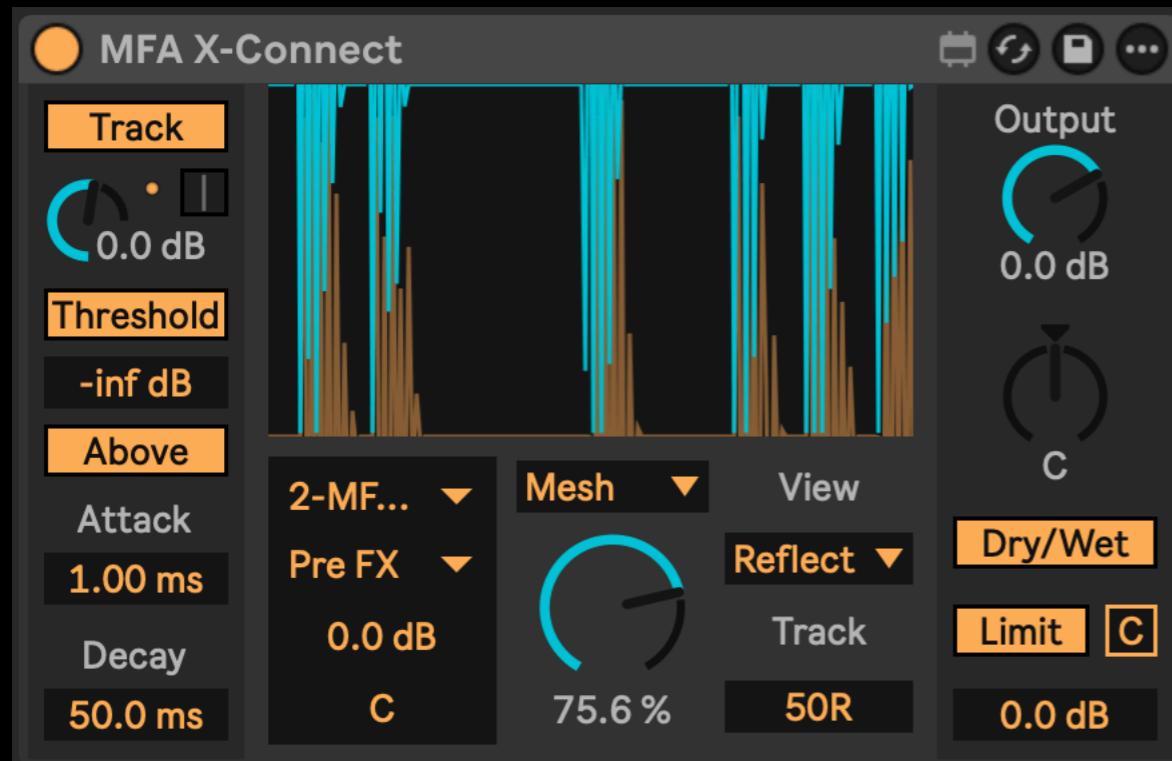


X-Tonal is an audio-reactive synth tone triggered when signal exceeds the given threshold. With attack and decay governing its envelope, it can be tuned via scale aware note dial, raw hertz, or transposed via MIDI or X-Relay input. Shape controls the waveform output with unique FX adding extra texture. Synthesis gain and pan are augmented by the input to velocity control. Multimode resonant filtration further focuses the outgoing tonal signal which can be delayed in milliseconds and optionally quantized to the nearest sixteenth note for rhythmically staggered output. New in v2.1 are six new oscillator circuits, each with shape and FX control: FM, Fold, Fifths, Swarm, Inject, and Noise.

X-FX

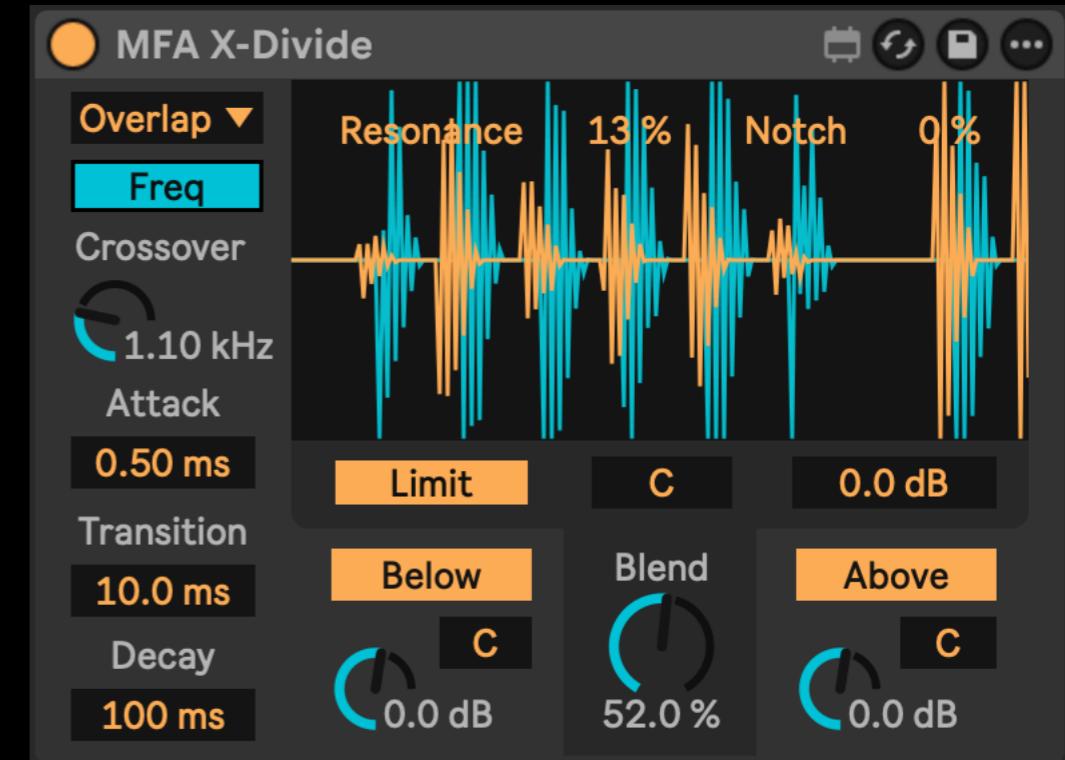
X-Connect & X-Divide

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X-Connect provides access to similar input gate or crossover processing as the other X-FX devices, with discrete control of both above and below layer gain and panning, plus a blend between them. In addition to a redesigned interface, and efficiency improvements throughout, v2 comes with the same new viewer options as X-Divide.

X-Connect allows you to intercept or combine audio from different tracks anywhere in a set via the central selection dropdown menus. Along with redesigned interface and efficiency improvements throughout, v2 comes a new transient combination mode and three different viewer options. V2.1 brings the new Mesh blend mode and optional output clipping.



I'm constraining eligible effect parameters to my project scale and key via Global Hub, but the end result isn't harmonizing — why not?

The pitch-related parameters are quantizing corresponding millisecond or hertz values to notes in the current scale and key, but that doesn't necessarily mean the resulting audio will be tuned to that scale and key; this is entirely dependent on the source material being processed so results may vary.

I want to control the Note or Transposition value with a Rack macro, automation, MIDI controller, or a modulator — but it doesn't work, how do I fix this?

Due to an issue with Max for Live, in order to control pitched Note or Relay Transposition values outside the effect, you must set the device Glide time to 0.00 ms, after which all the above described methods will work as intended.

How do I use Relay mode with my X-FX?

Place an instance of X-Relay on the desired MIDI source track. Set it to Relay mode and select the desired Relay conduit. Then, put your X-FX device into Relay mode and set it to receive on the same conduit. Transposition might not register until it has received a MIDI note from the X-Relay source.

I prefer certain device in my set not conform to Global Hub's scale and key — is this possible?

Simply click the globe icon to switch the X-FX to Local pin mode so it will ignore Global Hub scale and key messages; this is particularly useful for percussive instruments that should remain Chromatic. Toggling from Local back to Global mode will automatically force the device to inherit Global Hub scale and key settings.

X-FX looks small — how do I make it bigger?

In the Look/Feel tab of Live's Preferences pane, simply increase the Zoom Display percentage slider to 125% or 150%.

Where can I learn more about X-FX?

All X-FX parameters are Info View enabled, so just open Live's Info View and hover your mouse above any X-FX element you want to learn about.

Thank you for supporting us — we hope this device inspires your creativity!

For more information, video tutorials, and other devices, please visit us online at: **manifest.audio**

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