FXEQ

Table of Contents

1. Welcome to FXEQ

The FXEQ is a novel approach to parametric equalization and creative effects. At its core the FXEQ allows you to apply the sound of 5 different effects through the lens of a parametric equalizer.

This document describes all features in detail, starting with the overview.

Document conventions

In this document the following formatting is used to highlight useful information:

Italics	Indicates paths to locations on your hard disk or other storage devices.
Bold	Highlights important names, concepts, and software interface elements.
[Brackets]	References keys on the computer keyboard.
►	Denotes a single step instruction.
→	Denotes the expected result when following instructions.

The following three icons denote special types of information:

The **light bulb** icon indicates a useful tip, suggestion, or interesting fact.

The **information** icon highlights essential information in a given context.

The **warning** icon alerts you of potential risks and serious issues.

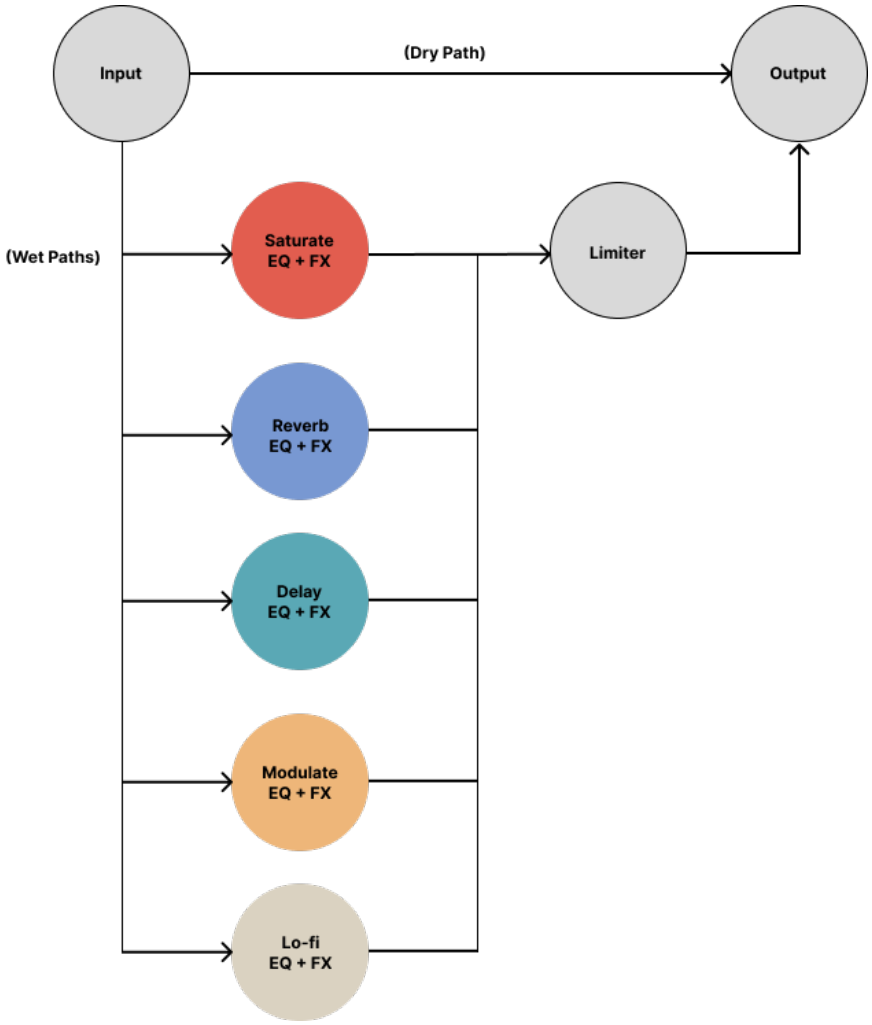
2. Overview

The FXEQ contains 4 main sections for sculpting and adding FX into the frequency spectrum through the interface of a parametric EQ.

1. **Header**: Contains global controls including the Preset selector. For more information, refer to Header.
2. **EQ panel**: Lets you apply FX to your audio signal with a parametric EQ interface. For more information, refer to EQ panel.
3. **EQ display**: Visualizes the frequency spectrum for the FX and dry signal. For more information, refer to Main controls and display.
4. **FX modules**: Lets you explore the individual Module FX processing. For more information, refer to FX modules.

3. Signal flow

FXEQ uses five parallel FX paths - one for each module (Saturate, Reverb, Delay, Modulate, and Lo-fi) - rather than a single serial effects chain like many other iZotope tools. Each module processes the input signal independently with its own EQ and FX, and the results are then combined and sent through the global Limiter before reaching the output. While the interface may resemble a traditional serial FX chain, this parallel design allows each module to affect the signal without being colored by the others.



Each FX module in FXEQ shares a single set of controls across 6 EQ bands. This means there are not multiple instances of the same module (for example, 6 separate Saturate modules). Instead, all 6 bands for a module - such as Saturate - are controlled by that one module's settings, with each band determining where and how the effect is applied within the frequency spectrum.

4. Main controls and display

FXEQ's primary interface is a parametric equalizer that offers the familiar controls found in professional EQs. Unlike traditional equalizers, it does not allow for frequency cuts; instead, audio effects are introduced by shaping the signal through EQ band adjustments.

Gestures

You can use gestures to select EQ bands and effects, as well as add new bands.

Additional gestures to control common EQ parameters and functions can be found in EQ panel.

Band and FX selection

FXEQ introduces a unique approach to applying FX through EQ bands. Selecting bands works similarly to traditional EQs but with a few key differences.

Clicking the node of an EQ band of the same color lets you adjust the current FX, while clicking a band of a different color switches focus to another FX Module.

Changing FX Modules updates the EQ curve color and highlights the corresponding module in the lower FX Module panel. You can also switch focus by adjusting the control of a module or selecting an FX Module directly even if no EQ band is active in the main interface.

Adding EQ bands

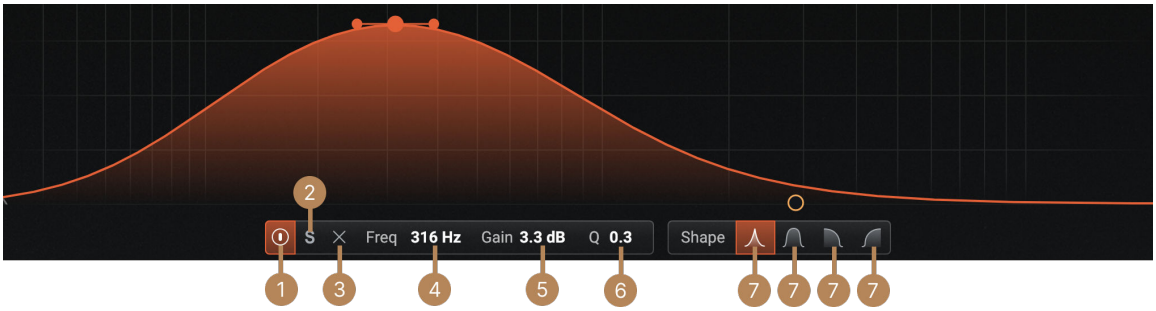
You can add up to 6 bands per each FX module in the FXEQ.

When an FX module is selected, you can add new, enabled EQ nodes in two ways:

- Hover over the highlighted EQ curve to reveal the (+) button, then single-click to add a new node.
- Double-click anywhere in the EQ interface to add a node for the selected FX module.

5. EQ panel

The EQ panel gives you access to common EQ parameters, and functions to manage EQ bands.



1. **Band On/Off**: Activates or deactivates any individual EQ band. When a band is deactivated, it no longer applies any FX to its frequency range. This allows you to mute an FX module within the spectrum or audition an FX module's sound in relation to the rest of FXEQ. Deactivated bands appear faded-grey but retain the color of their respective FX module in the EQ band node.

   In the main EQ interface, you can still adjust the gain, bandwidth, and frequency of a deactivated band (though no sound will be affected), while its controls in the EQ panel are fully deactivated.

2. **Solo Band**: Solos any individual EQ band. When activated, you can listen to only the audio within that band's frequency range, including frequency, bandwidth, as well as the single effect applied to that part of the spectrum. This mutes the dry input signal and deactivates the control over the FX Only, Limiter and Amount global controls. Alternatively, you can hold [Option] on Mac or [Control] on PC and click a node to temporarily activate Solo.

   Both Soloing approaches allow you to drag an EQ node around so you can listen to the sound of the module FX in the frequency spectrum while Solo is activated.

3. **Remove EQ Band**: Removes an EQ band from the main EQ Interface. Be careful when removing EQ Bands as Undo is not fully featured in the FXEQ. Alternatively, you can select a node and select [Backspace] or [Del] on your computer keyboard.

   You can lasso multiple nodes and perform the same actions.

4. **Freq (Frequency)**: Determines the center point of the EQ band, defining which part of the frequency spectrum is being adjusted or enhanced. Moving the frequency control shifts the band horizontally, allowing you to target specific tonal areas. In FXEQ, this also sets where the selected FX module is applied, giving you precise control over which part of the spectrum is affected. Alternatively, you can drag EQ nodes horizontally directly in the main FXEQ interface.

   Hold [Shift] while dragging a node horizontally in the main EQ interface to lock its position on the Frequency axis, preventing any vertical movement.

5. **Gain**: Adjusts the node gain of the selected EQ, but it also functions as a Wet control for the chosen FX module. For example, raising a blue EQ node's gain increases the wet signal of the Reverb within that frequency range. Alternatively, use your mouse to move the EQ node up and down in the main EQ interface.

   Hold [Shift] while dragging a node up or down in the main EQ interface to lock its position on the Gain axis, preventing any sideways movement.

6. **Q (Bandwidth)**: Controls the width of the frequency range affected by an EQ node. In FXEQ, Q shapes how the selected FX module is applied, allowing for either subtle, wide-band effects or focused, frequency-specific enhancement. Alternatively, you can select a node and adjust the handles that appear; inward movements narrow the Q and outward movements widen the Q.

   You can hover over any EQ node in the FXEQ and use the scroll wheel on your mouse or two-finger scroll gestures on a trackpads to adjust this value.

7. **Shapes**: Selects one of four EQ shapes, Proportional EQ, Band Shelf, High Shelf, or Low Shelf. For more information, refer to EQ shapes.

EQ shapes

You can choose from four EQ shapes to sculpt your sound: Proportional Q, Band Shelf, High Shelf, and Low Shelf.

- **Proportional Q**: A smooth, musical curve where the Q (bandwidth) narrows as you boost or cut more strongly. This is often described as natural-sounding and transparent, making it ideal for subtle tone shaping.

- **Band Shelf**: A hybrid curve that boosts or cuts a wide frequency band while gently sloping at the edges. It can sound broad and open, great for adding or removing “body” or “warmth.”

- **High Shelf**: Boosts or cuts frequencies above a selected point, often adding brightness, shimmer or air to a mix.

- **Low Shelf:** Boosts or cuts frequencies below a selected point, often used to add depth, weight or remove muddiness.

6. FX modules

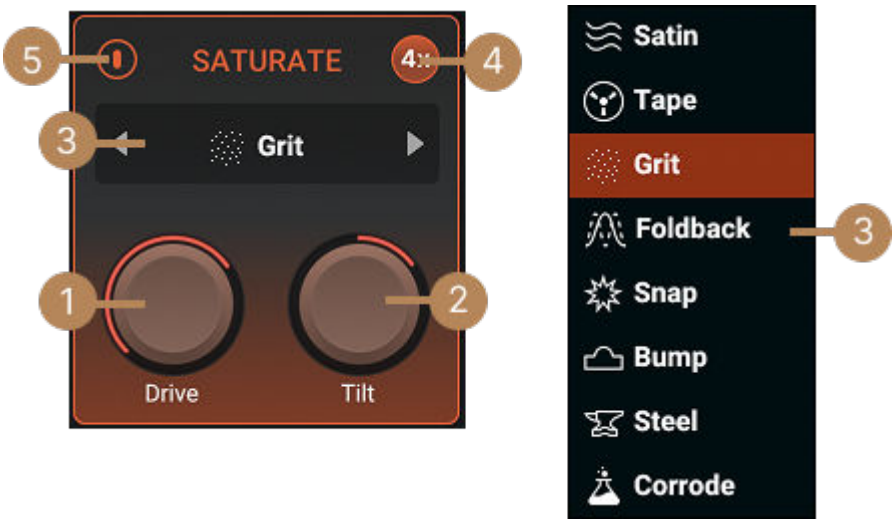
The FX Modules are five distinct processors located along the bottom of the FXEQ interface. Each module offers unique controls for shaping its sound, but no processing is applied until an EQ adjustment is made in the main EQ interface. Once a band is created, the selected module's effect is applied only within that frequency range, giving you precise, frequency-focused control.

1. **Saturate FX Module**: Adds harmonic richness, warmth, and character to your audio. For more information, refer to Saturate.
2. **Reverb FX Module**: Simulates the natural reflections and ambience that occur when sound interacts with physical spaces. For more information, refer to Reverb.
3. **Delay FX Module**: Records the input signal and plays it back after a set period of time, creating echoes or repetitions of the original sound. For more information, refer to Delay.
4. **Modulate FX Module**: Adds movement, width, and character to your sound. For more information, refer to Modulate.
5. **Lo-fi FX Module**: Recreates the nostalgic tone and imperfections of vintage playback mediums like vinyl, cassette, and tape. For more information, refer to Lo-fi.

Tip: You can use the [CMD] on Mac or [ALT] on PC to make fine adjustments to each control in the FXEQ

Saturate

The Saturate module adds harmonic richness, warmth, and character to your audio through a range of saturation and distortion styles.



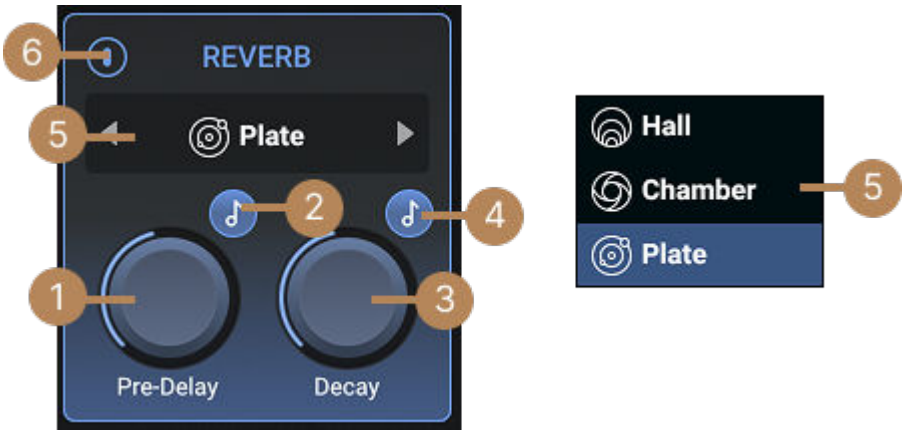
1. **Drive**: Adjusts the amount of signal pushed into the effect, increasing harmonic distortion, warmth, and overall character. Lower settings produce subtle coloration, while higher settings add more saturation and intensity, often resulting in a more aggressive or textured sound.
2. **Tilt**: Controls the gain of a Tilt equalizer. This control only effects the Saturate module's sound and does not have any other controls in the FXEQ. While it operates independently in the Saturate module, it's effects will be visible in light grey Output signal Spectrum highlighted in white. The Tilt shapes the tone of the signal before it is processed by distortion. At the center position, no tonal shift is applied. Turning the control left boosts low frequencies while reducing highs, and turning it right boosts highs while reducing lows. The overall effect of the Tilt depends on the placement of EQ nodes in the main interface

3. **Modes**: Picker for the 8 modes in the Saturate module. These range from subtle to dramatic. You can carousel through the list using the left and right arrows or click directly on the list to reveal the menu of mode options.
    a. **Satin**: This mode applies soft clipping to add harmonic warmth and saturation to your signal. At lower Drive settings, the effect is subtle, enhancing the tone with gentle harmonic richness while maintaining clarity. As Drive increases, the soft clipping becomes more pronounced, delivering a smooth, warm overdrive with compressed dynamics and a harmonically dense character. Even at higher settings, Smooth Overdrive retains a natural, musical quality without harshness, making it ideal for adding body and warmth to instruments or full mixes.
    b. **Tape**: This wave shape emulates the smooth, non-linear saturation and subtle compression of analog tape. At lower drive levels, it introduces gentle harmonic warmth and a slight softening of transients, enhancing the signal with a natural, rounded character. As drive increases, the saturation becomes more pronounced, adding thickness, subtle harmonic distortion, and a touch of tape-like compression. The result is a warm, musical coloration that retains clarity while imparting the familiar richness of vintage tape machines.
    c. **Grit**: This distortion style emphasizes rough, textured harmonics that add character and edge. At moderate Drive settings, Grit introduces a crunchy, mid-focused tone that works well for aggressive or lo-fi effects. At higher Drive, it creates a raw, almost abrasive distortion that breaks up the signal with strong harmonic content and a distinctly rugged vibe.
    d. **Foldback**: This mode produces harsh, inharmonic tones and metallic artifacts that don't blend naturally with the original sound. Instead of smooth harmonics, you may hear brittle, "digital" textures or unpleasant high-frequency ringing, especially at extreme drive settings or with complex signals.
    e. **Snap**: This mode enhances transients and add a crisp, edgy tone. At lower Drive settings, Snap introduces subtle harmonic brightness and a slight bite, keeping the signal tight and articulate. Increasing the Drive intensifies the effect, producing a sharper, more aggressive distortion that emphasizes the attack while preserving midrange clarity.
    f. **Bump**: This distortion style adds a smooth, rounded saturation that enhances harmonic warmth and body. At lower Drive settings (around 50%), it delivers subtle saturation with soft dynamics and a gentle tonal boost. When pushed to higher Drive levels (up to 100%), Bump produces a richer, fuller overdrive with a warm character, maintaining a smooth, musical quality without harshness.
    g. **Steel**: This mode delivers a sharp, metallic character with a pronounced edge. Steel introduces a biting tone with moderate saturation, adding a crisp and slightly abrasive quality to the signal. With more Drive, the effect becomes much more aggressive, with intense harmonic distortion and a metallic sheen that cuts through a mix with precision and grit.
    h. **Corrode**: A harsh, abrasive mode designed to erode and break down the signal with a rugged, almost industrial edge. At 50% Drive, Corrode adds noticeable grit and roughness while retaining some clarity, creating a raw, textured tone. At 100% Drive, it becomes fully destructive, introducing intense clipping and aggressive harmonics for a corroded, almost metallic distortion character.
4. **Oversampling**: Increases the internal processing rate of the plugin to reduce digital artifacts, such as aliasing, that can occur when applying effects like Saturate. By processing audio at a higher sample rate and then downsampling it, oversampling delivers a cleaner, more accurate sound, especially at higher frequencies.

5. **Enable/Disable**: Bypasses the sound of the Saturate module. This will bypass all EQ nodes enabled for the Saturate module. The EQ bands that are enabled for Saturate will be visibly disabled.

Reverb

Reverb simulates the natural reflections and ambience that occur when sound interacts with physical spaces. It creates a sense of depth, size, and environment by blending multiple reflections and decays into the signal.

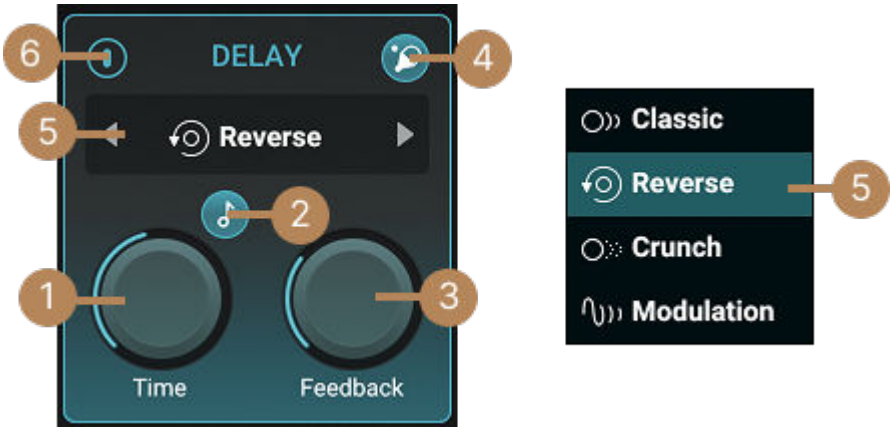


1. **Pre-Delay**: Sets the amount of time between the dry signal and the start of the reverb reflections. A short pre-delay creates the impression of a small, tight space, while a longer pre-delay can add depth and separation by allowing the dry sound to be heard clearly before the reverb begins.
2. **Pre-Delay Tempo-sync:** When tempo-sync is enabled, the pre-delay time is locked to the DAW's tempo, allowing the reverb to start in time with the beat or groove of the project. In free mode, the pre-delay is set manually in milliseconds, giving you complete control over the spacing between the dry signal and the onset of the reverb, independent of the project tempo.
3. **Decay**: Controls how long the reverb tail takes to fade out after the initial sound. Short decay times create the impression of small, tight spaces, while longer decay times produce a more spacious, lingering reverb.
4. **Decay Tempo-sync**: When tempo-sync is enabled, the decay time is locked to musical values (such as beats or bars) based on the host DAW's tempo, allowing the reverb to rhythmically match the project. In free mode (disabled), the decay time is set manually in seconds for more flexible, non-tempo-based adjustments.
5. **Modes**: Picker for the 3 modes in the Delay module. You can carousel through the list using the left and right arrows or click directly on the list to reveal the menu of mode options:
    a. **Hall**: Models the acoustics of large concert halls or performance spaces, delivering a spacious and reflective character that adds grandeur and depth. It's ideal for creating a sense of vastness and making instruments or vocals sound more expansive.
    b. **Chamber**: Models the sound of a smaller, acoustically treated chamber with reflective surfaces. Compared to a hall, it has a shorter, more controlled reverb tail that offers an intimate yet balanced sound, perfect for adding space without overwhelming the source.
    c. **Plate**: Models the iconic sound of vintage plate reverb units, producing a smooth, dense, and slightly metallic tone. Known for adding warmth and presence, plate reverbs are especially popular for vocals and instruments that need to stand out.

6. **Enable/Disable:** Bypasses the sound of the Reverb module. This will bypass all EQ nodes enabled for the Reverb module. The EQ bands that are enabled for Reverb will be visibly disabled.

Delay

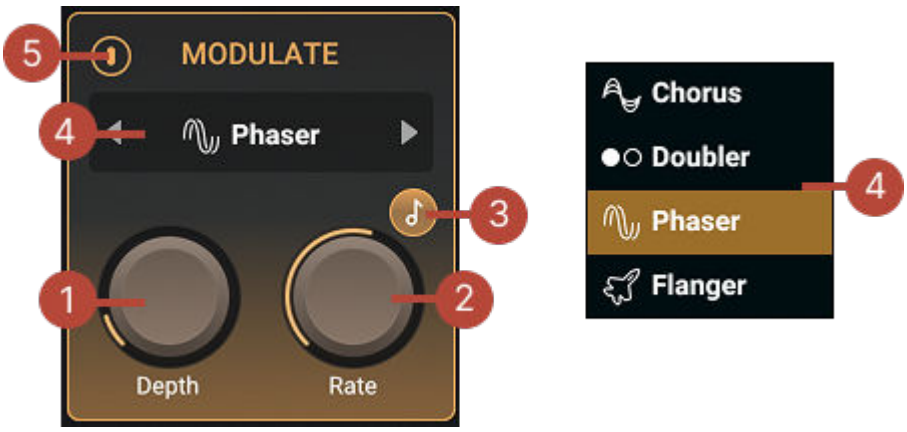
The Delay effect records the input signal and plays it back after a set period of time, creating echoes or repetitions of the original sound. By adjusting parameters like delay time, feedback, and mix, you can create anything from subtle spatial enhancement to rhythmic, repeating patterns that add movement and depth to a mix.



1. **Time**: Sets the interval between the original sound and its delayed repeat. Short times create tight, slapback-style echoes, while longer times produce distinct, drawn-out repeats that can create rhythmic patterns or spacious, atmospheric effects.
2. **Time Tempo-sync:** When enabled, the Delay Time locks to the host DAW's tempo, allowing echoes to follow musical divisions like quarter notes, eighth notes, or dotted values, ensuring they stay perfectly in time with your project. In free mode (disabled), the Time control is set manually in seconds for more flexible, non-tempo-based adjustments.
3. **Feedback**: Controls the number of delay repeats by feeding the delayed signal back into the input. Low feedback settings create just a few echoes, while higher settings produce longer, evolving repeats that can build into dense, atmospheric textures.
4. **Ping-Pong**: When enabled this pans delay lines left and right in the stereo field.
5. **Mode**: Picker for the 4 modes in the Delay module. You can carousel through the list using the left and right arrows or click directly on the list to reveal the menu of mode options:
    a. **Classic**: A clean, traditional delay that delivers clear, natural repeats ideal for rhythmic echoes or subtle space.
    b. **Reverse**: Plays the delayed signal backward, creating a distinctive, swelling effect that feels otherworldly or experimental.
    c. **Crunch**: Adds character and grit to the repeats with subtle saturation or distortion, perfect for lo-fi or textured echoes.
    d. **Modulation**: Applies pitch variations to the delayed signal, producing a rich, swirling, and dynamic echo.
6. **Enable/Disable:** Bypasses the sound of the Delay module. This will bypass all EQ nodes enabled for the Delay module. The EQ bands that are enabled for Delay will be visibly disabled.

Modulate

Modulate is a multi-effect modulation unit offering chorus, doubler, phaser, and flanger effects to add movement, width, and character to your sound.



1. **Depth**: Controls the intensity of the modulation effect, determining how much the signal is shifted or varied.
2. **Rate:** Adjusts the speed of the modulation cycle, from slow, sweeping movements to fast, shimmering effects.
3. **Rate Tempo-sync**: When enabled, the modulation rate locks to the host DAW's tempo for perfectly timed rhythmic movement. In free mode (disabled), the Rate control is set manually in seconds for more flexible, non-tempo-based adjustments.
4. **Mode**: Picker for the 4 modes in the Modulate module. You can carousel through the list using the left and right arrows or click directly on the list to reveal the menu of mode options:
    a. **Chorus**: Thickens the sound by creating detuned, slightly delayed copies of the signal.
    b. **Doubler**: Widens the stereo field by simulating multiple voices or takes.
    c. **Phaser**: Creates sweeping, notched filter effects for a classic swirling sound.
    d. **Flanger**: Produces a dramatic, jet-like sweeping effect with pronounced peaks and dips.
5. **Enable/Disable:** Bypasses the sound of the Modulate module. This will bypass all EQ nodes enabled for the Modulate module. The EQ bands that are enabled for Modulate will be visibly disabled.

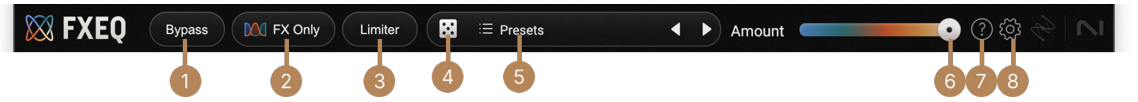
Lo-fi

The Loft Module recreates the nostalgic tone and imperfections of vintage playback mediums like vinyl, cassette, and tape. It combines tonal shaping with lo-fi textures to add warmth, grit, and character to your audio.

1. **Wear**: Controls the amount of high-frequency rolloff and distortion that result from the natural wear and flattening of vinyl record grooves.
2. **Wobble**: Controls the depth of pitch variation. Increasing the value intensifies the pitch fluctuations, creating more noticeable warble and movement.
3. **Crush**: Simulates the gritty, lo-fi artifacts produced by sampling vinyl through vintage hardware samplers, adding texture and character to the sound.
4. **Mode**: Picker for the 4 modes in the Lo-fi module. You can carousel through the list using the left and right arrows or click directly on the list to reveal the menu of mode options.
    a. **Radio**: This mode emphasizes the midrange frequencies (around 1 kHz to 5 kHz) while cutting both the low and high ends. The result would be a focused, mid-forward sound with less low-end warmth and reduced high-end brightness. It would likely sound a bit “boxy” or “telephone-like,” with the midrange being the most prominent part of the signal.
    b. **Cassette**: This mode emphasizes the upper midrange frequencies (around 1 kHz to 5 kHz) while slightly reducing the lower mids and rolling off both the extreme lows and highs. The resulting sound would feel more present and forward, with added clarity and bite, while losing some low-end warmth and airy top-end sparkle. It’s a shape often used to bring out detail in instruments like guitars or vocals, giving them a more focused and cutting quality.
    c. **Vinyl**: This mode emphasizes the midrange (roughly 500 Hz to 5 kHz) while rolling off both low and high frequencies more aggressively. The result would be a warm, vintage tone with reduced deep bass and softened highs, mimicking the limited frequency response of vinyl playback. It has a slightly “rounded” character that brings forward the body of the sound while leaving out the extreme clarity or punch.
    d. **Tape**: This mode emphasizes the low-mid frequencies around 200 Hz while rolling off both the deep lows and the high frequencies. The result is a warm, bass-forward tone with a slightly muffled top end, reminiscent of older playback systems or worn analog media. It gives audio a rounded, full-bodied character while reducing brightness and air.
5. **Enable/Disable:** Bypasses the sound of the Lo-fi module. This will bypass all EQ nodes enabled for the Lo-fi module. The EQ bands that are enabled for Lo-fi will be visibly disabled.

7. Header

The Header gives you access to presets, global functions, and the Options window.



1. **Bypass**: Deactivates the processing of the plugin, letting you to hear the unaffected input signal.

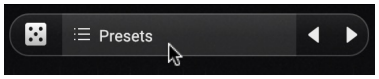
   > ⓘ This is not a true bypass - FXEQ will continue to report its latency to the DAW even when deactivated.

2. **FX Only**: Mutes the dry signal in FXEQ, allowing only the wet FX paths to be heard. This is especially useful when placing FXEQ on a return, send, or bus track in your DAW so that you have independent fader control over the dry and wet signal.
3. **Limiter**: A zero-latency limiter designed to prevent clipping when multiple FX modules are active or when the input signal is particularly loud.
4. **Random preset**: Selects a random preset from the stock library of factory presets.
5. **Preset selector**: Shows the name of the current preset. Clicking the name opens the drop-down menu that lets you browse and manage presets. By clicking on the left and right arrows you can load the previous or next preset in the list, respectively. For more information, refer to Presets.
6. **Amount**: Adjusts the overall intensity of all visible EQ bands, including those that are disabled. Since each EQ band's gain setting is a wet control for its corresponding FX module, this parameter scales the effect from 100% to 0%. When set below 100%, the EQ band curve visually separates from its node to indicate reduced intensity.
7. **Options**: Opens the Options window that shows the software version and gives access to options including tooltips and usage data, as well as your license. For more information, refer to Options.
8. **Help (?)**: Opens the FXEQ online manual in your web browser.

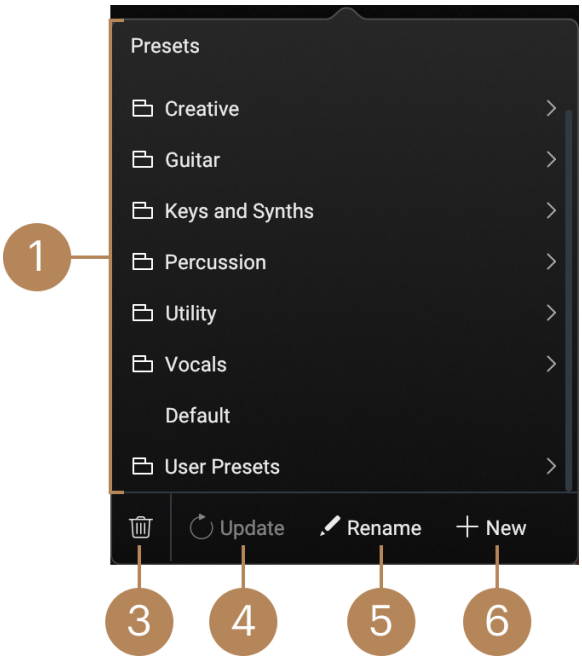
Presets

The Preset selector lets you browse and manage presets.

▶ To open the Preset selector, click the preset name in the Header.



The Preset selector consists of the following elements and controls:

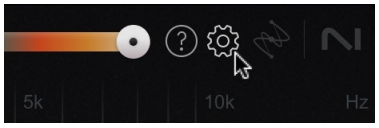


1. **Preset list**: Shows all presets, sorted by category. Clicking a category shows the presets in this category. Clicking a preset loads all of its settings.
2. **User Presets**: Shows all user presets. User presets are saved in the following user preset folders.
   - macOS: */Users/<user name>/Documents/iZotope/FXEQ/Presets*
   - Windows: *Users\<user name>\Documents\iZotope\FXEQ\Presets*
3. **Delete**: Deletes the selected user preset. If a factory preset is selected, this function is not available and grayed out.
4. **Update**: Saves any changes you have made to the selected user preset. If a factory preset is selected, or the preset's settings have not been changed, this function is not available and grayed out.
5. **Rename**: Renames the selected user preset. If a factory preset is selected, this function is not available and grayed out.
6. **New**: Saves a new user preset in the user preset folder.

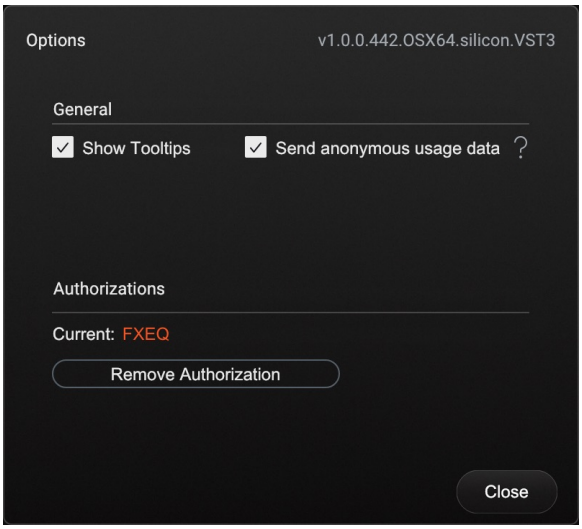
Options

The Options window lets you check the plugin's software version and gives you access to options including tooltips and usage data, as well as your license.

▶ To open the Options window, click the Options button (cog wheel icon) in the Header.



The following options are available:



- **General**:
  - **Show tooltips**: Activates or deactivates the tooltips in the user interface. When activated, hovering over a control shows a brief description of its functionality.
  - **Send anonymous usage data**: Activates or deactivates anonymous usage data tracking. When activated, this information helps us improve the software.
- **License**:
  - **Current**: Shows the current license status of the plugin.
  - **Remove Authorization:** Removes the current product authorization, letting you authorize the plugin using another serial number.